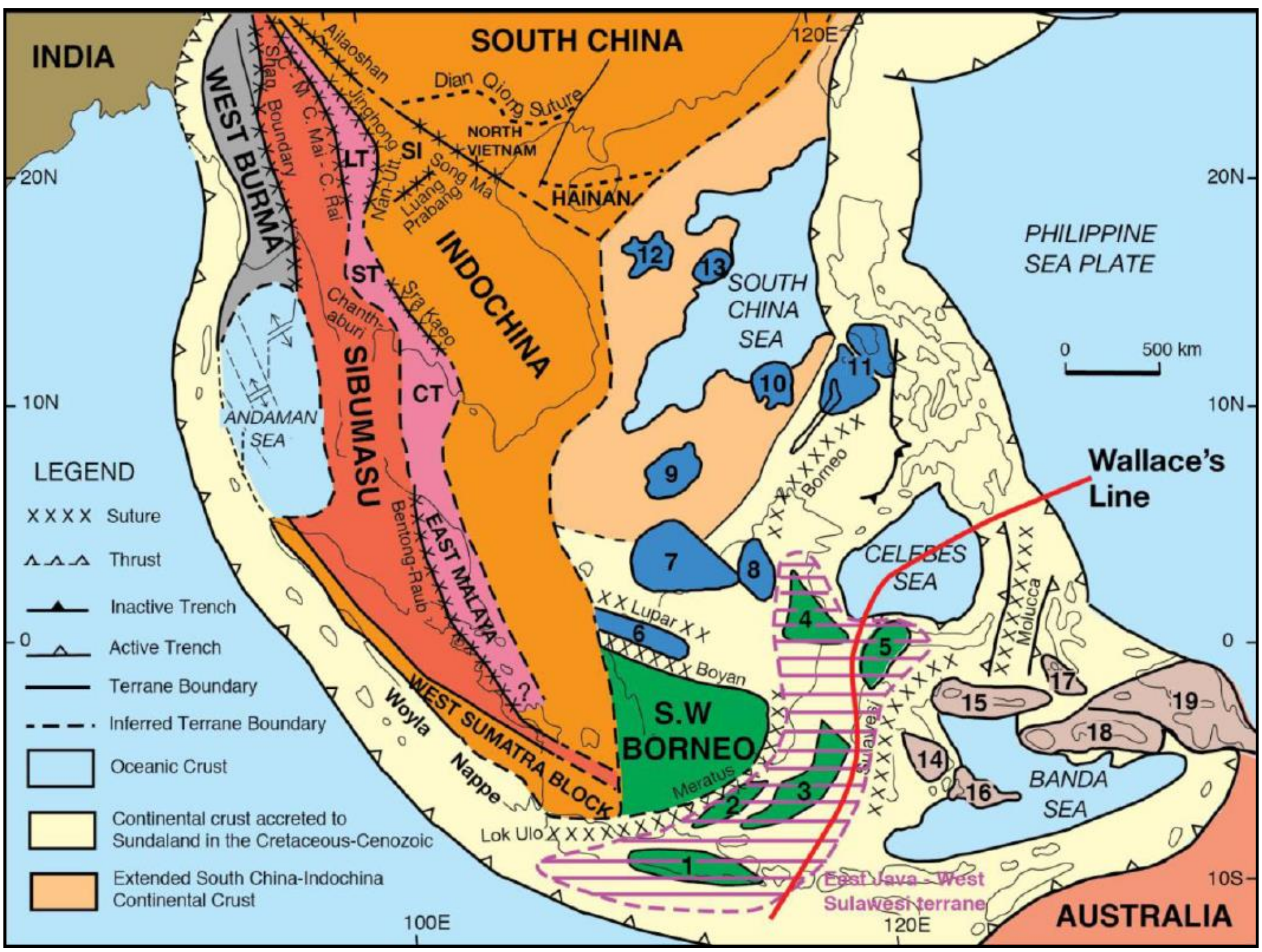
Bibliography of Indonesian Geology

BIBLIOGRAPHY OF THE GEOLOGY OF INDONESIA AND SURROUNDING AREAS

Edition 7.0, July 2018

J.T. VAN GORSEL

IXa. CIRCUM-INDONESIA- NW (SE Asia)



(Metcalfe 2013)

IXa. CIRCUM-INDONESIA- NW (SE Asia)

This chapter IXa of Bibliography 7.0 contains 521 pages with 4109 references on the geology of areas surrounding Indonesia in the SE Asia region (not including North Borneo, Papua New Guinea and SE Asia Regional, which are grouped with other Indonesia chapters). It contains 9 sub-chapters.

Additional Circum-Indonesia papers from the Australia-Pacific sides East, SE and South of Indonesia are listed in a separate Volume IXb, which is subdivided in 4 chapters: SW Pacific (incl. New Caledonia, Solomon Islands), NE Indian Ocean, NW Australia margin and NE Australia margin).

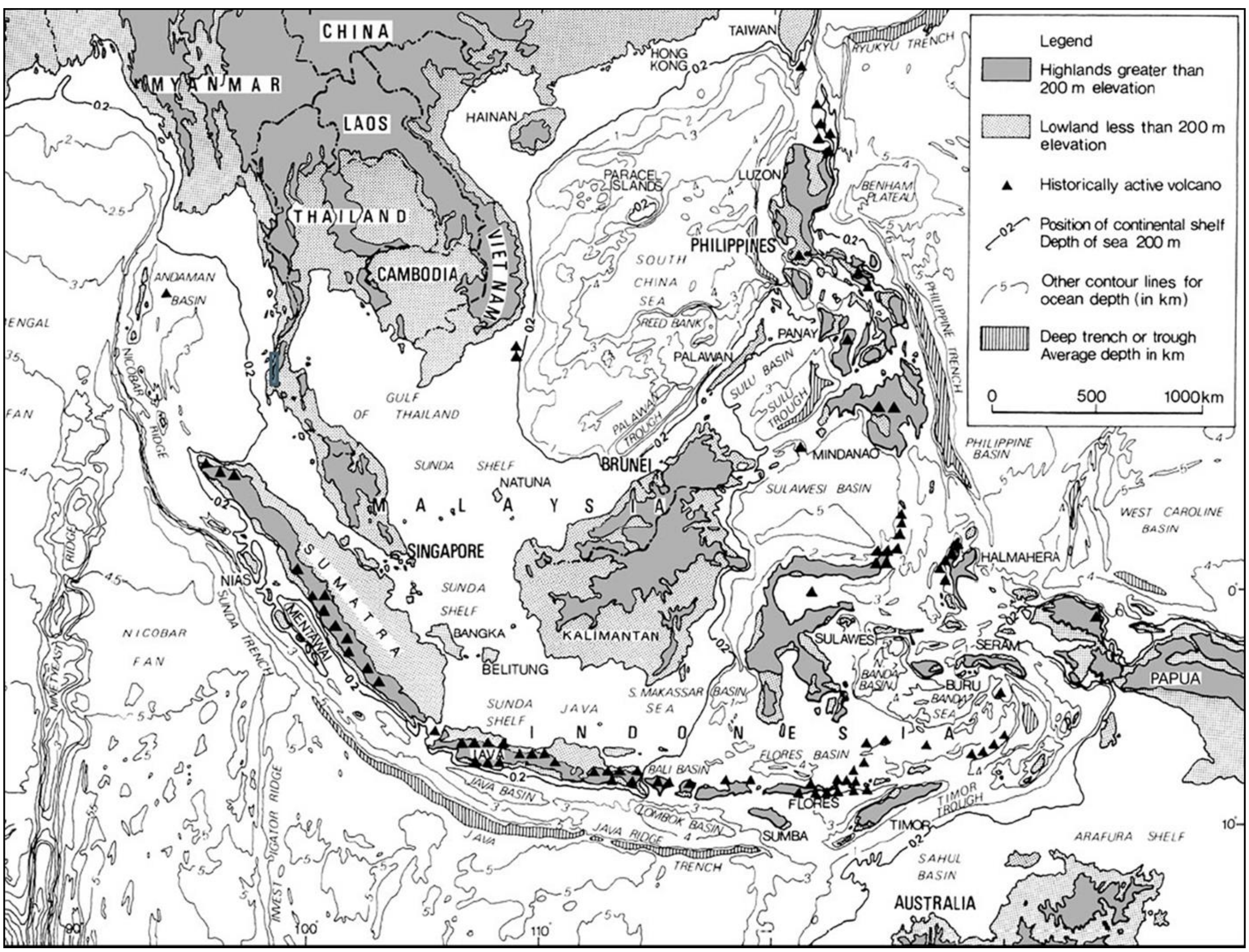
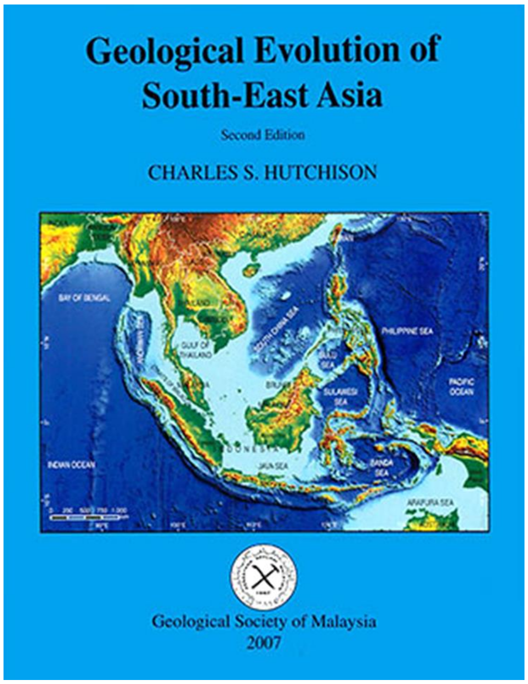


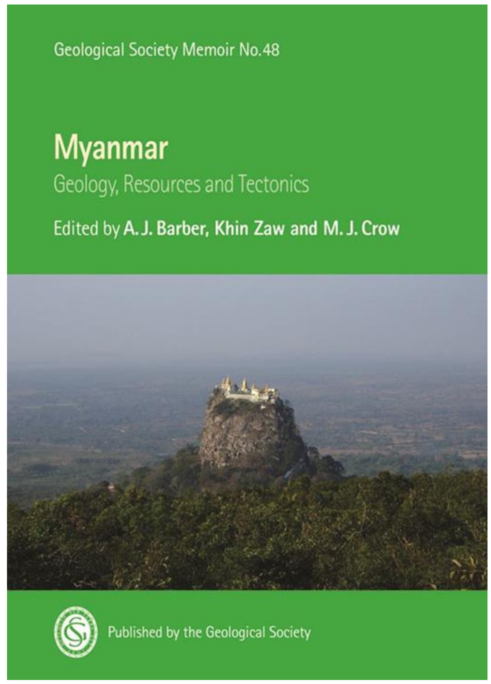
Figure IX.1. Geography and major physiographic features of Southeast Asia (Huchison 2005)

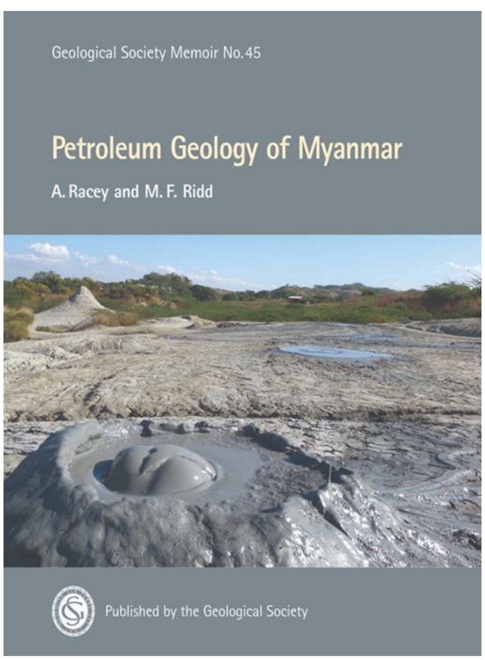
The reason for including these titles in this Bibliography of Indonesia geology is because the regional geology of Indonesia can be better understood with knowledge of the geology across its borders. Many similarities exist between the geology of parts of Indonesia and adjacent regions.

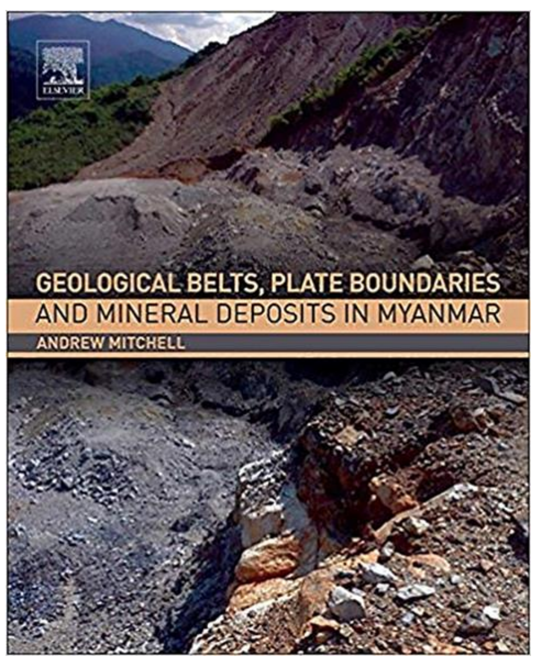
Circum-Indonesia regions listed in this volume with similar, contiguous geology in the Indonesian region include:

- *Andaman Sea Region* — *ties to: Sumatra forearc region*
- *Malay Peninsula, Singapore* — *ties to: Sumatra, Tin Islands, SW Borneo?*
- *Thailand* — *ties to: Sumatra*
- *Myanmar SW Yunnan* — *ties to: Sumatra*
- *Cambodia, Vietnam, Laos, SE China* — *ties to: Sunda Shelf, NW Borneo*
- *Malay Basin, Gulf of Thailand* — *ties to: North Sumatra, Natuna*
- *South China Sea* — *ties to: Sunda Shelf, North Borneo*
- *The Philippines* — *ties to: North Borneo, Sulawesi, North Moluccas*









Some recommended recent books on SE Asia: Hutchison (2007), Barber et al. (2017), Racey and Ridd (2015), Mitchell (2018)

IX.1. Andaman Sea region

Sub-chapter IX.1. of Bibliography 7.0 contains 244 references on the geology of the Andaman Sea region. An elegant review paper on the region is Curray (2005).

The area of the Andaman islands and Andaman Sea continuation of the forearc and volcanic arc regions of the Sumatra/ Sunda Arc subduction system. Subduction in this sector is highly oblique, which led to diminished volcanic arc activity and to the development of a Neogene back-arc oceanic spreading center/ pull-apart basin at the NE ternmination of the Great Sumatra Fault zone, between the volcanic arc and the Malay Peninsula/ Peninsular Thailand (Figure IX.1.1; Sibumasu Terrane).

The Andaman islands are emergent parts of the Andaman- Nicobar Ridge, an outer arc accretionary prism of the Sunda Arc subduction zone. It contains Paleogene (Andaman Flysch) and Neogene bathyal turbiditic deposits and fragments of Cretaceous-age Neotethyan ophiolites, which presumably are a continuation of the ophiolites of the Naga Hills at the Eastern margin of the Indian Plate and similar ophiolites on the Sumatran outer arc islands (Acharyya and Sengupta (1990, 1991).

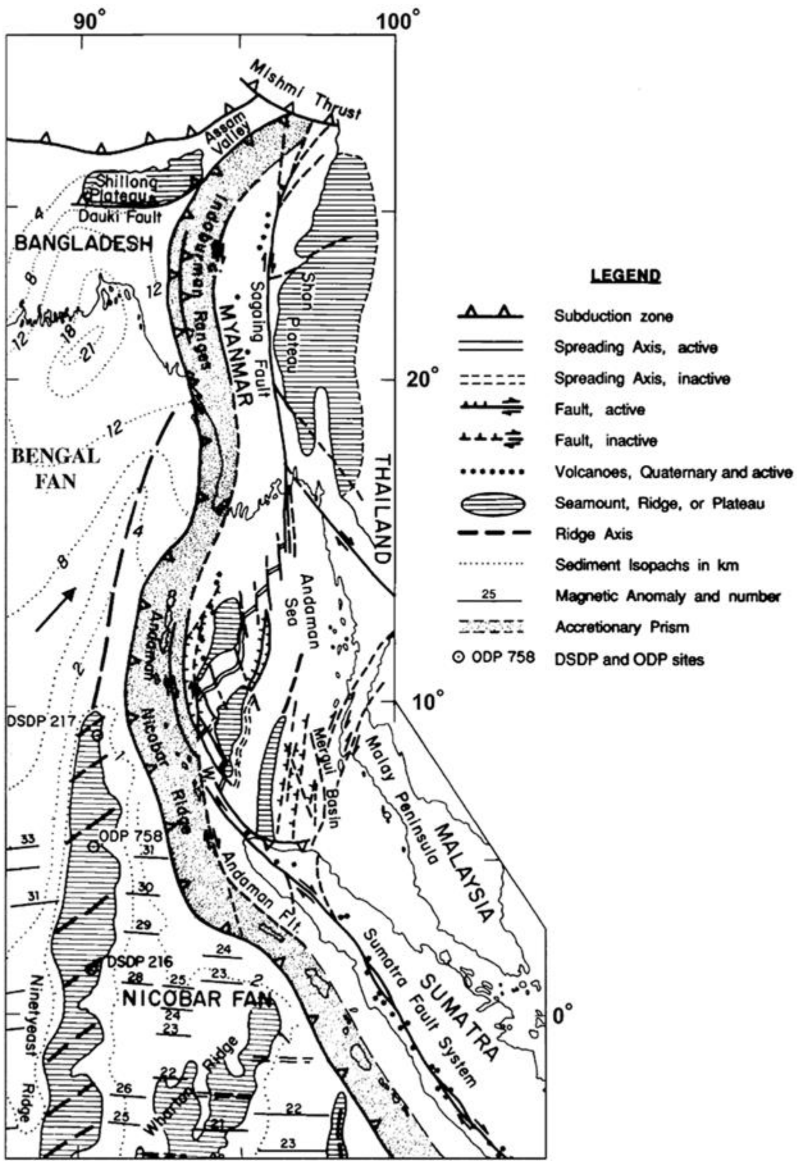


Figure IX.1.1. Tectonic map of the Andaman Sea/ NE Indian Ocean region (Curray 2005).

There is some active or recent arc volcanism at the Barren Island and Narcondam volcanoes, which rise from 1000- 2300m deep seafloor of the Andaman Sea.(Streck et al. 2010, Bandopadhyay 2017).

IX. 2. Malay Peninsula, Singapore

Sub-chapter IX.2 of Bibliography 7.0 contains 624 references on the geology of the Malay Peninsula and adjacent Singapore. This is a subset of a more extensive collection of papers. Classic textbooks on the Malay Peninsula are by Gobbett and Hutchison (1973) and Hutchison and Tan (eds.) (2009).

The Malay Peninsula is essentially an orogenic belt, formed during the collision of the Sibumasu and Indochina (Malacca) continental plates in Middle-Late Triassic time, that closed the Paleotethys Ocean along the Bentong-Raub suture. Exposures are mainly Triassic and older rocks, primarily granites belonging to different belts of subduction-related and post-collisional magmatism (Figure IX.2.1; Searle et al. 2012):

- latest Triassic Main Range granitoid province with abundant tin mineralization, related to crustal thickening close to the suture zone after the Sibumasu collision.
- the East Malaya belt of subduction related I-type granites is generally older (Permian- Middle Triassic) and is not tin-bearing.

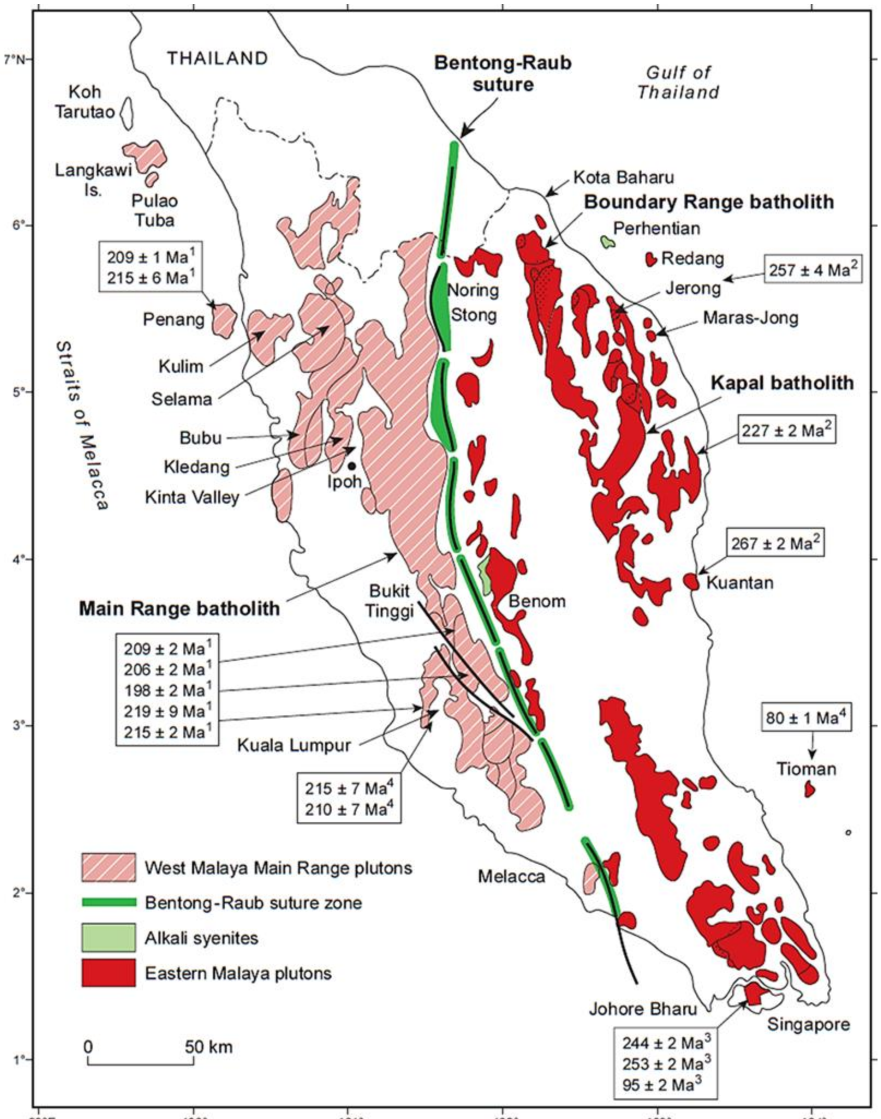


Figure IX.2.1. Malay Peninsula Main Range and Eastern belts of Triassic granites and Paleotethys suture zone (Searle et al 2012).

The Sibumasu terrane in the Western part of the Peninsula contains a relatively complete Paleozoic shelfal marine succession, including earliest Permian glacial diamictites, attesting to the block's position at the margin of Gondwana at that time.

IX. 3. Thailand

Sub-chapter IX.3 of Bibliography 7.0 contains 1145 references on the geology of Thailand. The geology of Thailand is complex and the amount of literature is large. A major recent review is the book by Ridd, Barber and Crow (eds.) (2011).

As in the Malay Peninsula, basement of Thailand is composed of two major continental plates, the elongate Sibumasu terrane in the West and Indochina in the East (Figure IX.3.1). Both terranes separated from the Gondwana supercontinent, but the Indochina terrane broke up and drifted towards low latitudes much earlier (Devonian break-up?) than the Sibumasu terrane (Early Permian break-up), and therefore has a warmer Carboniferous- Permian paleoclimate record than Sibumasu.

The collision of the two plates that amalgamated in Late Triassic time is called the Indosinian Orogeny and represents closing of the Paleotethys Ocean after long-lived subduction under the Indochina plate.

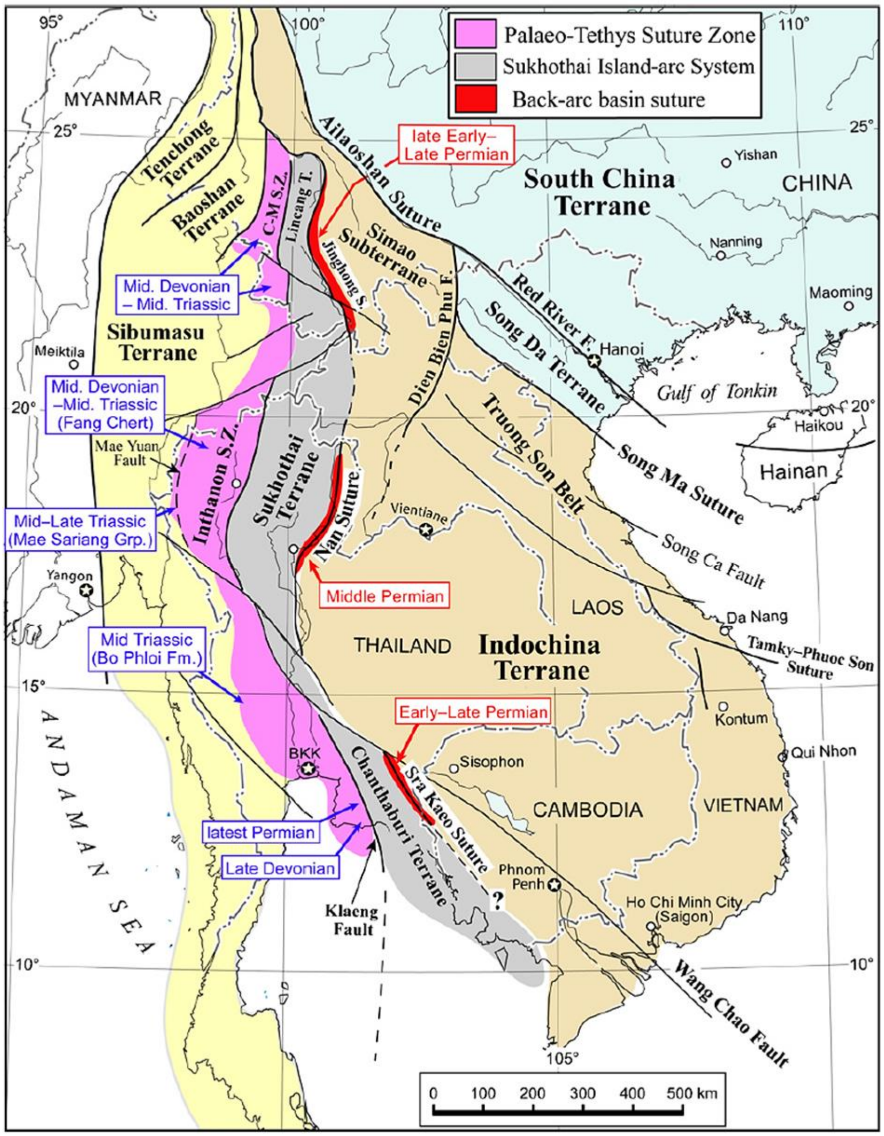


Figure IX.3.1. Tectonic subdivision of mainland Southeast Asia, showing the Palaeo-Tethys suture zone (Inthanon and Changning-Menglian SZ) and back-arc marginal basin sutures East of the Sukhothai volcanic arc terrane (Sone and Metcalfe 2008).

The switch from Eastward subduction of the oceanic Paleotethys plate to collision was probably around the Middle- Late Triassic boundary (~237 Ma; Wang et al. 2016), which is reflected in the change from thin distal pelagic sediments to thick Middle-Late Triassic syn-orogenic turbiditic sediments with Ladinian- Carnian *Halobia*.

The N-S trending Paleotethys suture zone in Thailand includes:

1. the main Paleotethys suture (Chiang Mai- Chiang Rai suture/ Inthanon zone of NW Thailand, which continues North into the Changning-Menglian zone in Yunnan, SW China;
2. a volcanic arc terrane (Sukhothai terrane) that rifted off Indochina
3. remnants of a closed Permian oceanic backarc basin between the Sukhothai Arc and the Indochina terrane (Nan-Uttaradit and Sa Kaeo sutures) (Ueno and Hisada 2001).

The Paleotethys suture in Thailand and the Malay Peninsula is characterized by remnants of ocean floor, including ophiolitic rocks, pelagic sediments (radiolarian cherts), ocean floor basalts and Permian carbonate seamounts (Feng et al. 2008). Numerous studies on radiolarian cherts document ages of ocean floor sediments as ranging from Late Devonian to Middle Triassic (works by Q. Feng, Basir Jasin et al. (op. div.), Sashida et al., Spiller and Metcalfe (2005), Hara et al. 2008, 2010, Saesaengseerung et al., Kamata et al., Thassanapak et al., Wonganan et al., Yang et al., etc.)

Like the Malay Peninsula, granites are widespread across Thailand, and have been divided into the Western (mainly Cretaceous- mid-Tertiary), Central (mainly Permian- Triassic) and Eastern provinces (mainly Late Triassic) (Cobbing et al. 1986, Charusisri et al. 1993, Hutchison, 2007).

A belt of Late Triassic (~230-220 Ma) post-collisional granites can be traced from NW to SE Thailand along the East side of the main Paleotethys suture, in the Sukhothai- Chanthaburi zone. These formed in thickened crust after the assemblage of Indochina and Sibumasu blocks. This granite belt can be linked to the North into NW Laos and SW China, and to the South with the East Malay Peninsula granites and the Indonesian Tin Islands (e.g. Qian et al. 2017))

Widespread Late Eocene- Oligocene extension created a series of mainly N-S trending intra-cratonic sedimentary basins, associated with exhumation of metamorphic core complexes (Doi Inthanon and Doi Suthep in North Thailand; e.g. Gardiner et al. 2016)

Cretaceous evaporite basin of NE Thailand- South Laos

Evaporite deposits are extremely rare in SE Asia, but one of the world's largest salt deposits is in the Upper Cretaceous of the Khorat Basin of NE Thailand, where the halite dominated Maha Sarakham Formation evaporites range in thickness from 250-1100m. The basin probably was connected in the North with the Sakhon Nakhon evaporite basin, which straddles into southern Laos.

The exact age of the evaporites has long been questionable. They overlie the non-marine Khok Kruat Formation, with vertebrate fossils dated as Aptian-Albian. Proposed age ranges include:

- Mid-Albian- Cenomanian (palynological analysis by Racey and Goodall, 2009);
- Cenomanian- Campanian (isotopes study by Hansen et al. 2016);
- ~Turonian- Maastrichtian (magnetostratigraphic study in South Laos by Zhang et al. 2018).

Time-equivalent eolian sandstones support a period of (subtropical?) arid desert climate around Cenomanian and/or younger Cretaceous time in NE Thailand (Hasegawa et al. 2010).

IX. 4. Myanmar (Burma), NE India, SW Yunnan (= Sibumasu- West Burma plates)

Sub-chapter IX.4 of Bibliography 7.0 contains 474 references on the geology of Myanmar and adjacent Yunnan Provine of southern China. Good recent reviews of Myanmar geology are the books by Barber, Khin Zaw and Crow (eds.) (2017) and Mitchell (2018). For petroleum geology of Myanmar see the book by Racey and Ridd (2015).

Myanmar is located West of Thailand, and the geology of East Myanmar is (Shan Plateau) is in many ways similar to the Sibumasu-terrane geology of Western Thailand in the East. West Myanmar is composed of younger terranes, in the collision zone between Sibumasu terrane and the collided India Plate.

Myanmar has one of the oldest oil-producing areas in the world, with shallow onshore oil production in young anticlinal structures in the Central Burma Depression since the 1850's. Today the main exploration activity is in the Andaman Sea offshore NW Myanmar, for deep water biogenic gas fields in young submarine fan systems of the Bengal Fan (Racey and Ridd 2015).

IX. 5. Cambodia, Vietnam, Laos, SE China (= Indochina Plate)

Sub-chapter IX.5 of Bibliography 7.0 contains 310 references on the geology of Cambodia, Vietnam, Laos and SE China.

The countries in this chapter are all located on the Indochina Plate (Figure IX.3.1).

IX. 6. Malay Basin, Gulf of Thailand

Sub-chapter IX.6 of Bibliography 7.0 contains 195 references on the geology of the offshore basins in the Gulf of Thailand/ Sunda Shelf area.

This area is is located on the Indochina Plate basement. The main interest in this area is the presence of numerous oil and gas fields in Late Paleogene- Neogene intra-continental rift basins.

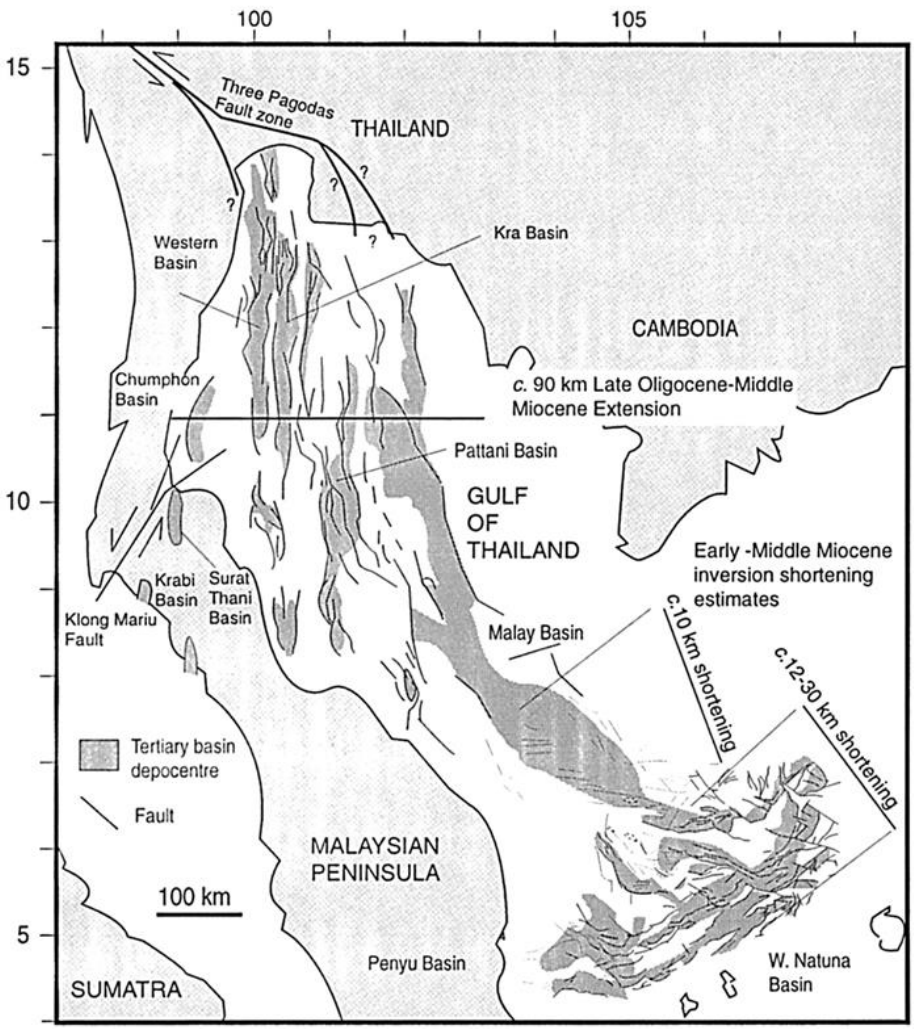


Figure IX.6.1. Main Oligocene-Miocene rift basins in the Gulf of Thailand and Sunda Shelf, showing the North Gulf of Thailand basins (including Pattani), the Malay Basin and the West Natuna basin (Morley 2001).

In the Thailand sector (both onshore and offhore) rift basins are mainly relatively narrow N-S trending half-grabens, that may preferentially have formed on the Triassic Inthanon suture zone (Paleotethys suture; Morley 2011). Basin fill is almost entirely non-marine and hydrocarbons are mainly gas.

The larger Malay (and West Natun) basin contains numerous oil and gas fields in Oligocene- Miocene sandstone reservoirs, that are sourced mainly from Eocene- Oligocene lacustrine shales. For more detailed reviews see Petronas (1999) The petroleum geology and resources of Malaysia.

. ***IX. 7. South China Sea***

Sub-chapter IX.7 of Bibliography 7.0 contains 341 references on the geology of the South China Sea area.

The South China Sea is an unusually broad Early Oligocene- Early Miocene extensional area, with oceanic seafloor spreading in its central parts from ~32-33 Ma until ~20 or 16 Ma (Briais et al. 1993, Barckhausen and Roeser 2004, Barckhausen et al. 2014, Li et al. 2015).

This rifting separated the Palawan Block (Philippines) from the South China continental margin, and the collision of this block with the North Borneo subduction zone is what ended seafloor spreading.

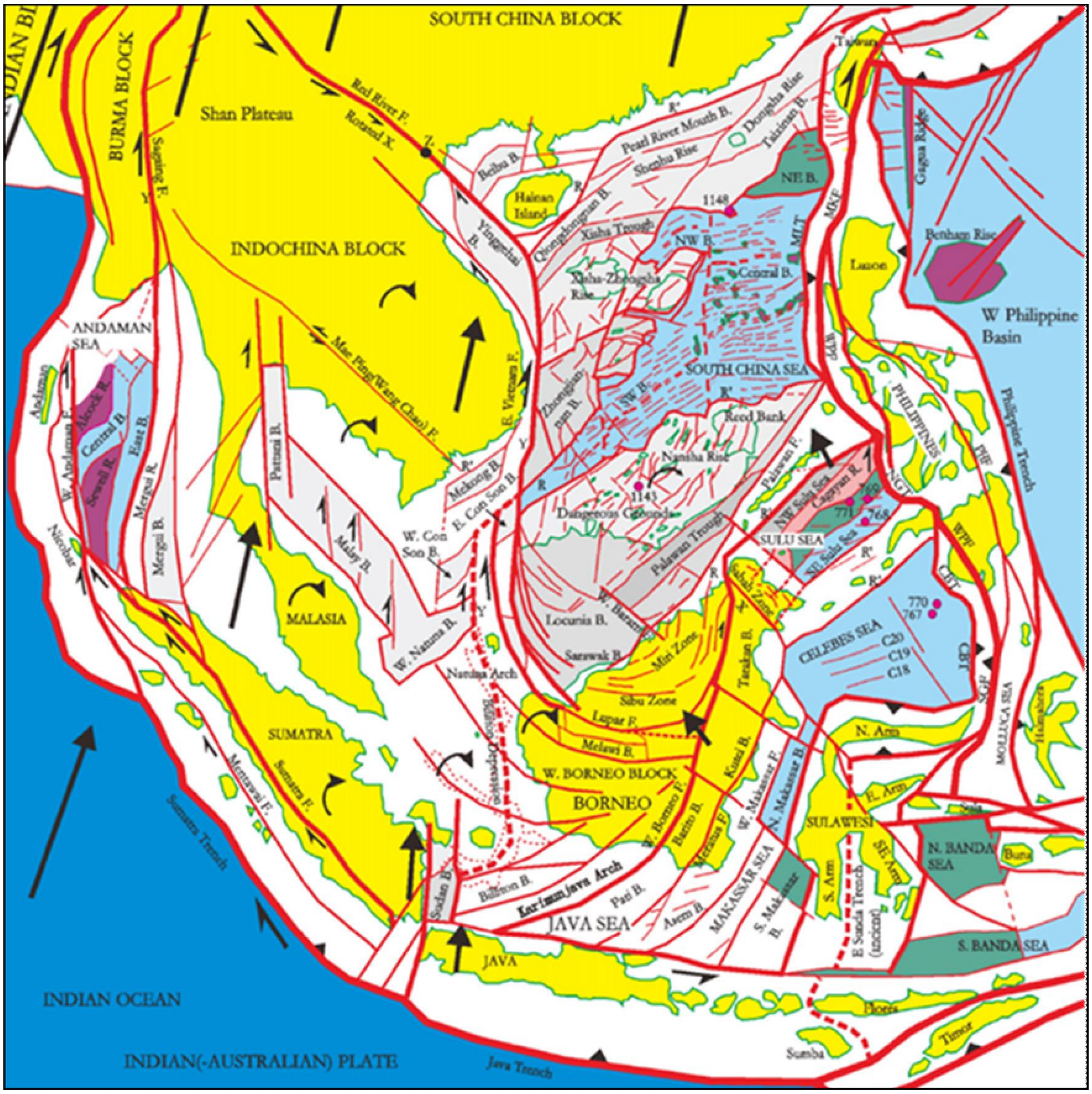


Figure IX.7.1. Tectonic setting of the South China Sea marginal oceanic basin as proposed by Xu et al.(2014). Light blue denotes marginal basin oceanic crust.

IX. 8. Philippines (General, Palawan, Luzon)

Sub-chapter IX.8 of Bibliography 7.0 contains 666 references on the geology of The Philippines.

The geology of The Philippines in complicated, and mostly a young amalgamation of Cenozoic volcanic arc and ophiolite terranes; flanked by active subduction zones.

Two main tectonic domains may be distinguished in The Philippines (Figures IX.8.1, IX.8.2):

1. in East the Philippine Mobile Belt, that continues North from the North Moluccas in Eastern Indonesia;
2. in West an assembly of continental blocks (part of the Eurasian margin: Palawan Block, Borneo), volcanic arcs and remnant arcs and Cenozoic marginal ocean basins (South China Sea, Sulu Sea, Celebes Sea), located North of Sulawesi and Borneo (Dimalanta and Yumul 2015) (see also Chapter IX.9).

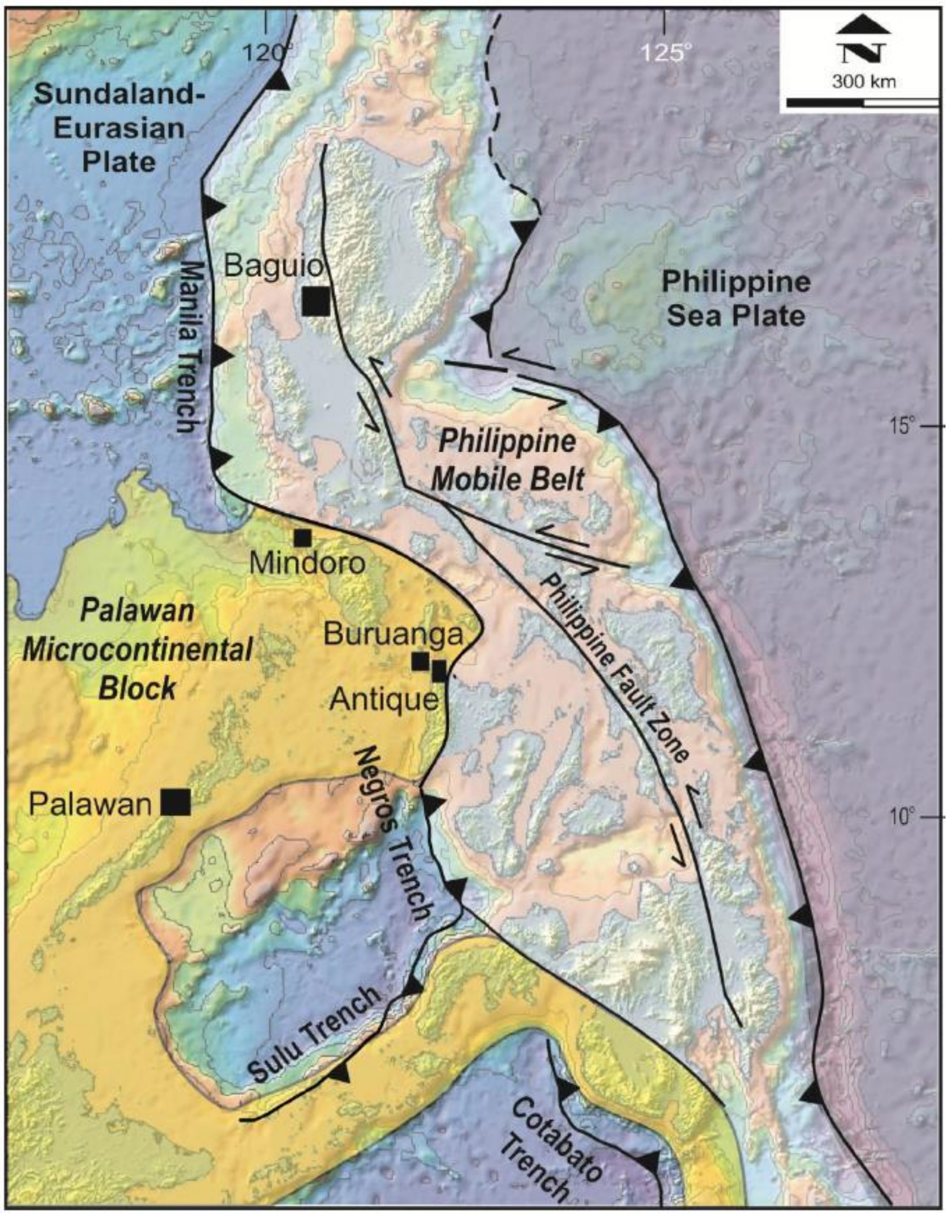


Figure IX.8.1. Principal tectonic domains of The Philippines: (1) In East the Philippine Mobile Belt and (2) in West continental blocks that are part of the Eurasian margin (Palawan Block, Borneo) and Cenozoic marginal ocean basins of the South China Sea, Sulu Sea, Celebes Sea (Dimalanta and Yumul 2015).

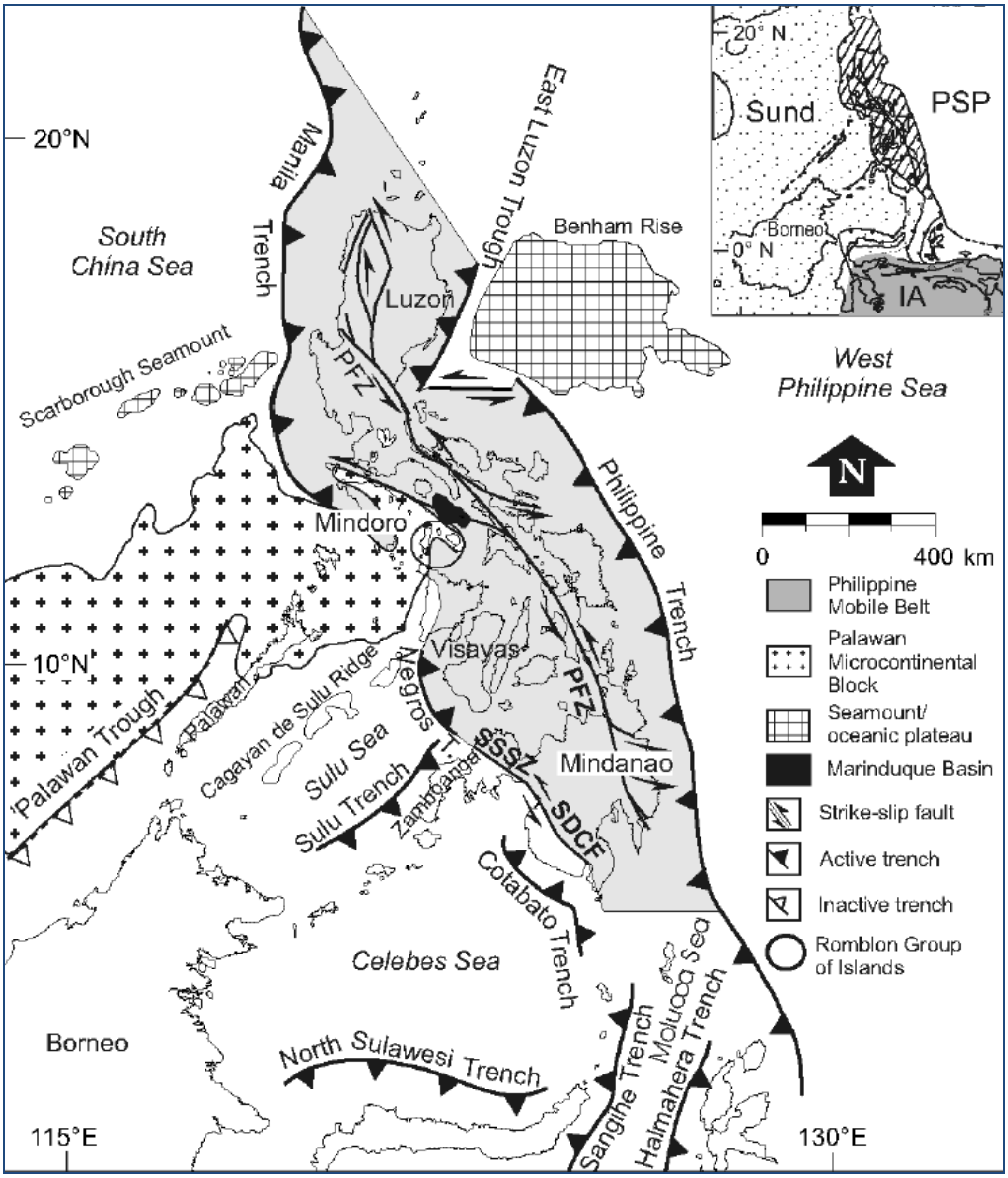


Figure IX.8.2. Major tectonic provinces of The Philippines (Yumul et al. 2005). Note indentations of subduction Trenches in West (Palawan microcontinental block collision) and East (Benham Rise oceanic plateau collision).

IX. 9. South Philippines (Celebes Sea, Sulu Sea, Sandakan)

Sub-chapter IX.9 of Bibliography 7.0 contains 92 references on the geology of South Philippines areas around the two relatively small Cenozoic oceanic marginal basins (Celebes Sea, Sulu Sea) and surrounding magmatic arcs (North Sulawesi, Sulu island arc, Sangihe island arc) (Figure IX.9.1). These include older arc/sliver terranes (Cagayan Ridge). Both of the marginal basins were originally larger than today, due to partial closing by subduction under adjacent volcanic arcs.

Key general papers on these basins include Silver and Rangin (1991, 1995), Rangin and Silver (1991).

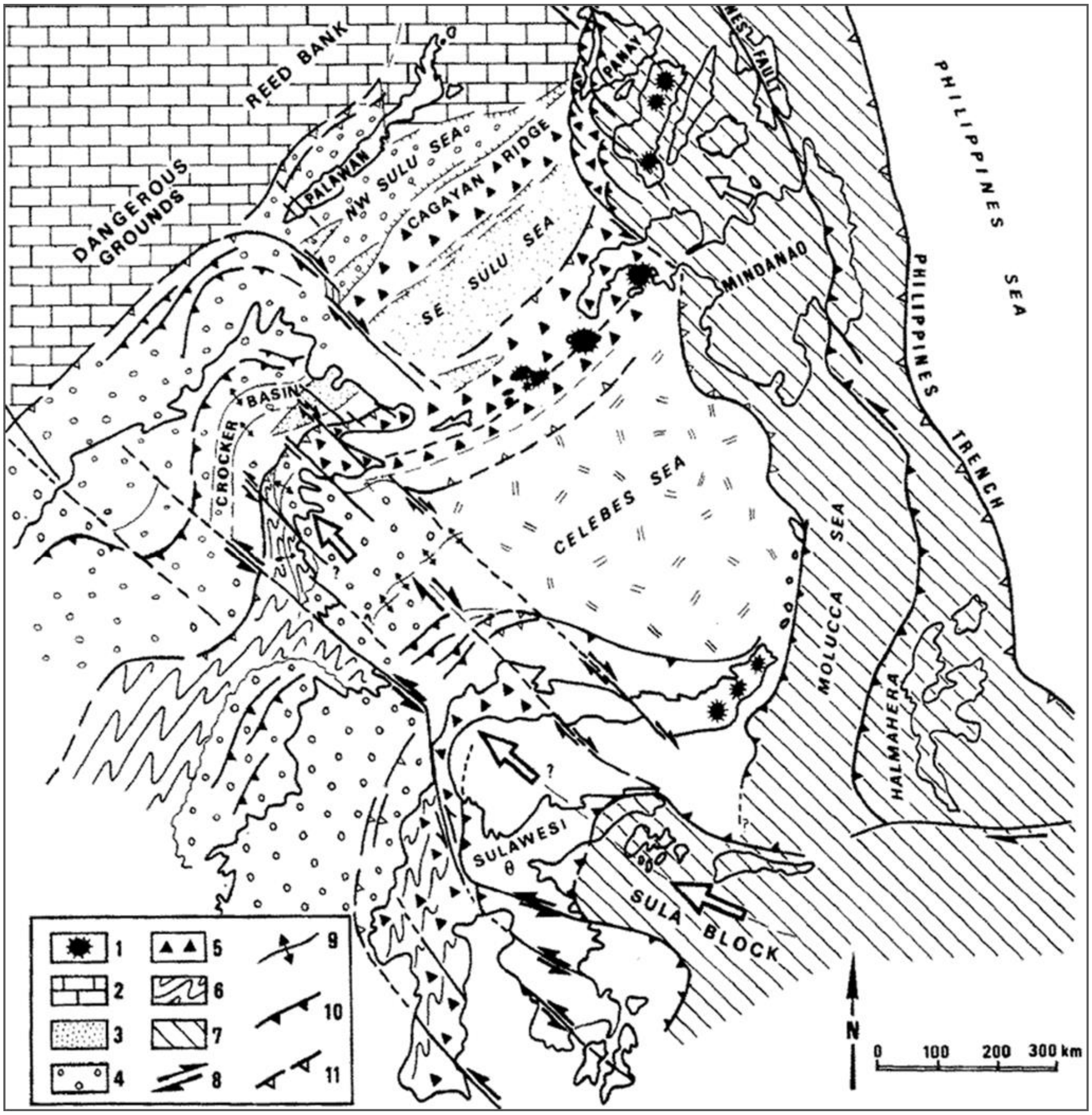


Figure IX.9.1. Celebes Sea and Sulu Sea structural setting (Rangin 1989).

Celebes Sea

As discussed in chapter IV.4- Makassar Straits, the Celebes Sea formed as a back-arc marginal basin during Middle- Late Eocene S-SE directed rollback of the North-dipping subduction zone of the Eocene 'Great Indonesian Arc'. Most of the basin is >4 km deep, and deeper than 5 km in the North Sulawesi and Cobatoba Trenches (Figure IX.9.1).

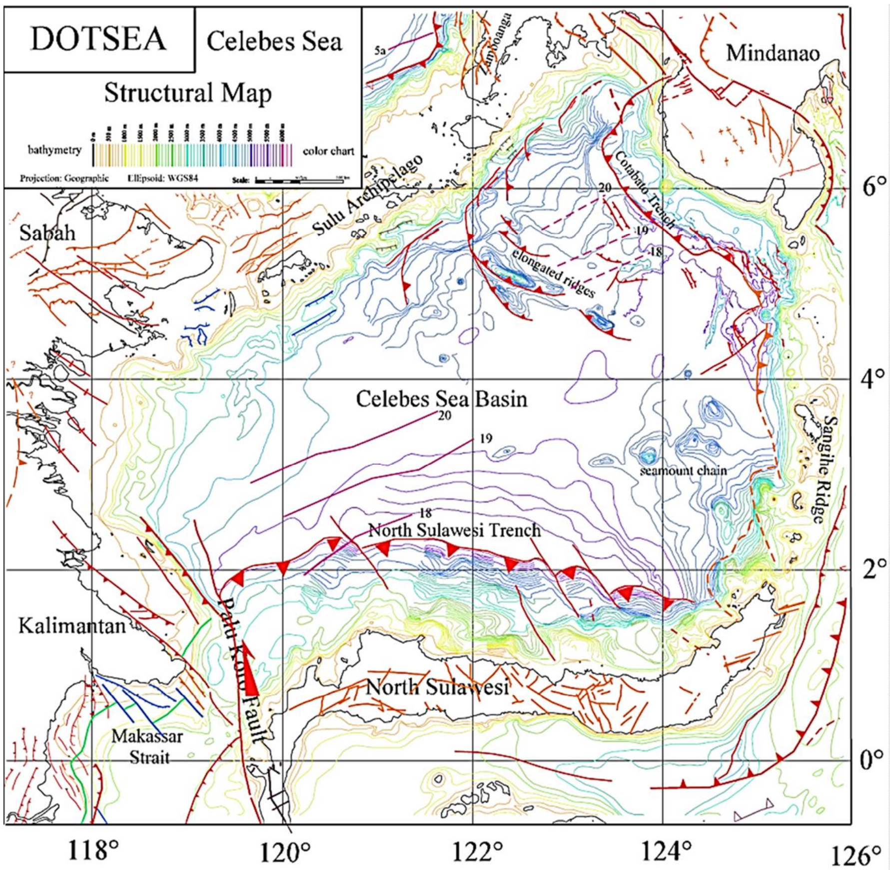
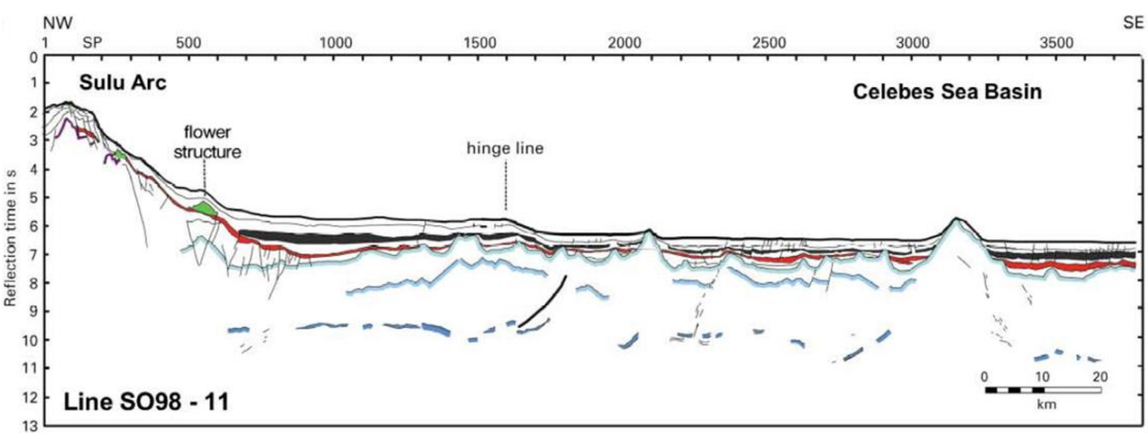


Figure IX.9.1. Regional setting of the Celebes Sea, North of Borneo and Sulawesi, South of the Philippines. (Pubellier et al 2005).

Volcanic seamounts, not covered by younger sediments, are common on the Celebes Sea seafloor (Figure IX.9.2).



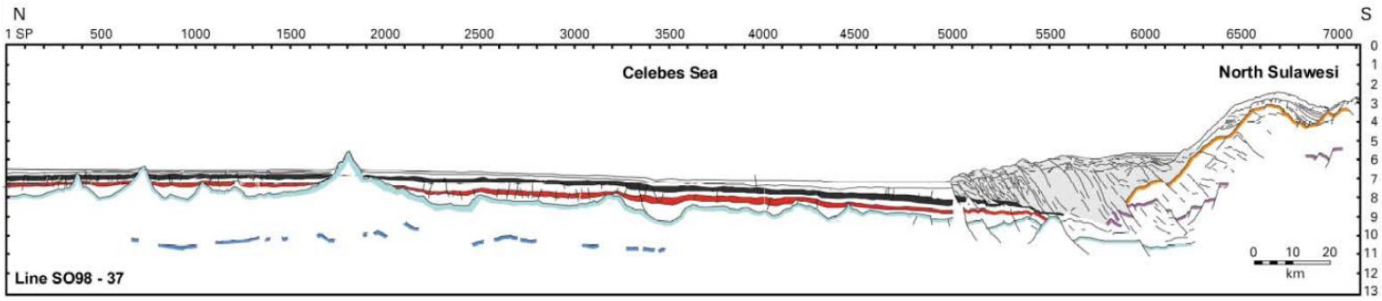


Figure IX.9.2. Two segments of seismic line SO98 interpretation across the Celebes Sea from Sulu Arc in NNW (top figure) to North Sulawesi accretionary prism in SSE (bottom figure) (Schluter et al. 2001).

The Celebes Sea marginal basin was initially thought to be floored by Cretaceous oceanic crust based on water depth and interpretation of seafloor magnetic anomalies and thought to represent a trapped remnant of a Cretaceous ocean (Lee and McCabe 1986). However, the magnetic lineation patterns were re-interpreted as Middle Eocene anomalies C20-C18 by Weissel (1980; with minor revision by Gaina and Muller 2007; Figure IX.9.3.) and this predicted Middle Eocene age was confirmed by coring at ODP Sites 767 and 770 (Silver et al. 1990, 1991, etc.).

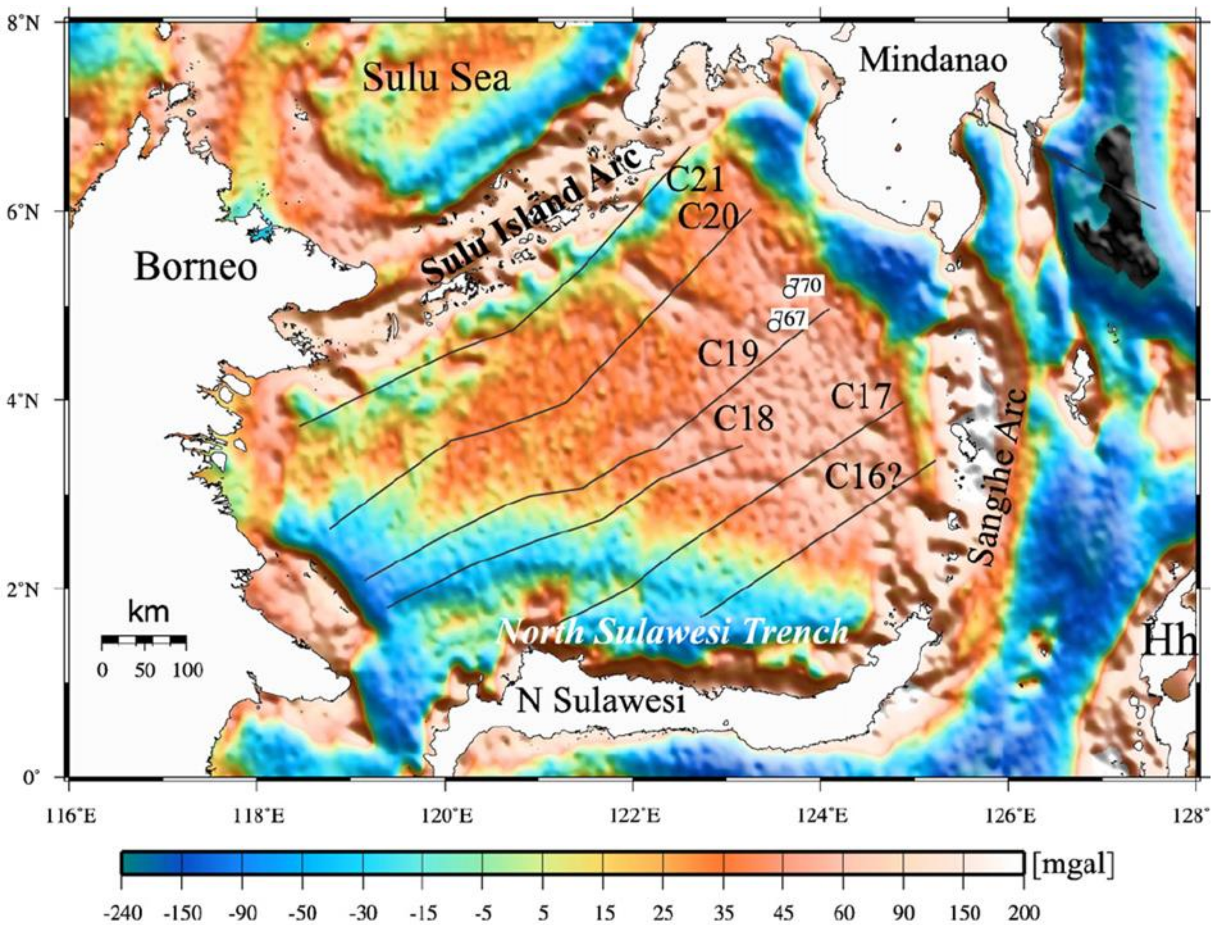


Figure IX.9.3. Celebes Sea setting and satellite gravity (Gaina & Muller, 2007). Also showing interpreted Middle Eocene-age seafloor age isochrons (C21-C16?), from magnetic lineations and ODP Sites 767 and 770 drilling results.

Celebes Sea oceanic crust becomes systematically younger in SW direction, from Early Lutetian to Early Priabonian (= ~48-35 Ma; Gaina and Muller, 2007), suggesting either asymmetric seafloor spreading, or, more likely, that more than half of the original Celebes Sea basin floor has already been consumed by subduction at the North Sulawesi Trench.

Seismic tomography and recent earthquake activity confirm a clear South-dipping subducted slab under North Sulawesi down to ~400km depth (>500km long), reflecting southward subduction at least since Late Miocene time (ties to peak arc volcanism in North Sulawesi arc 7- 4 Ma).

In addition to South-directed subduction, Celebes Sea crust is also consumed by subduction in:
- NE: by ongoing subduction at the Cotobato Trench off SW Mindanao (Figure IX.9.1).
- NW: by Early- Middle Miocene subduction under the Sulu Arc (driving Sulu Sea opening).

Cenozoic sediment fill in most of the Celebes Sea is relatively thin, particularly the condensed calcareous pelagic mudstones sequence from late Middle Eocene to late Early Miocene. During Middle- Late Miocene there was an increase in quartz-rich turbidites deposition, peaking at ~10 Ma, probably triggered by collisional uplift events in East Borneo (e.g. Nichols and Hall 1999).

At the west side of the Celebes Sea basin is the major Tarakan delta system of NE Kalimantan, much of which appears to be built on oceanic crust.

Sulu Sea

The Sulu Sea basin is another backarc marginal basin and is the result of splitting and SE-directed rollback of the Sulu Ridge volcanic arc, above the NW-dipping subduction zone of the Celebes Sea plate, in Early Miocene time (Silver et al. 1991, Hutchison 1992) (Figure IX.9.4).

The late Early- early Middle Miocene-age oceanic crust of the Sulu Sea is thus >20 My younger than the adjacent Celebes Sea Basin. No clear magnetic anomalies have been identified in the Sulu Sea basement.

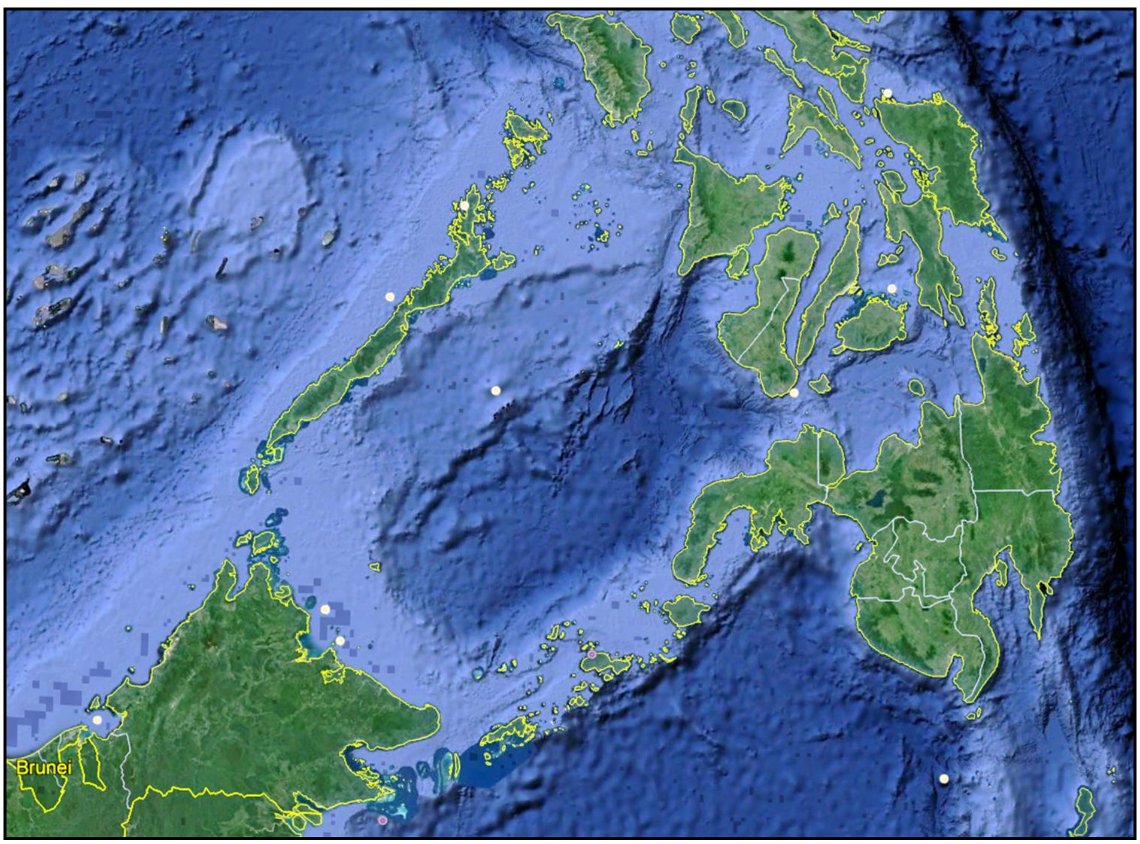


Figure IX.9.4. Bathymetry of the Sulu Sea, NE of Sabah (Google Earth).

The Sulu Sea arc-splitting history left behind an inactive arc segment at the NW side, named the Cagayan Ridge (became inactive around 18 Ma; Hsu et al. 1991). Along the NW margin of the Sulu basin (NW of the inactive Cagayan arc ridge) is the complex Sabah- Palawan-Sulu collisional belt, which contains Early Cretaceous-age ophiolites.

The SE margin of Sulu Sea basin is now being subducted under the Sulu volcanic arc, probably since latest Miocene time (Muller 1991).

Deposition within the Sula Basin is mainly pelagic in late Early Miocene. There is a major increase in sedimentation rate in Middle-Late Miocene time with widespread turbidites, probably due to collisional events in North Borneo (Nichols 1990, Bertrand et al. 1991, 1996)

The Sandakan Basin at the SW side of the Sulu Sea has been target of hydrocarbon exploration and yielded mostly minor gas discoveries (Graves and Swauger 1997). The basin is essentially a Middle Miocene- Recent depocenter of deltaic and deepwater clastic deposition along the NE Sabah margin, and is probably underlain by Sulu Sea oceanic crust (e.g. Pederson 1996, Oke et al. 2014, Jong and Futulan 2015, Murray 2015).

IXa. CIRCUM-INDONESIA (SE Asia)

IX.1. Andaman Sea Region

Acharyya, S.K. (1991)- Late Mesozoic- Early Tertiary basin evolution along the Indo-Burmese range and Andaman Island. In: S.K. Tandon et al. (eds.) Sedimentary basins of India, p. 104-130.

Acharyya, S.K. (1997)- Stratigraphy and tectonic history reconstruction of the Indo-Burma-Andaman mobile belt. Indian J. Geology 69, p. 211-234.

Acharyya, S.K. (2007)- Collisional emplacement history of the Naga-Andaman ophiolites and the position of the eastern Indian suture. J. Asian Earth Sci. 29, 2-3, p. 229-242.
(Dismembered Late Mesozoic ophiolites in 2 belts along E margin of Indian Plate: (1) E Belt follows magmatic arc of C Burma Basin high gravity, mafic and continental metamorphic rocks and two closely juxtaposed sutures); (2) W Belt along E margin of Indo-Burma Range and Andaman outer island arc (negative gravity anomalies; rootless ophiolites over Eo-Oligocene flysch); with two sets of ophiolites accreted in E Cretaceous and M Eocene in this belt, inferred to be nappes from E Belt, emplaced during Late Oligocene collision between Burmese and Indo-Burma-Andaman microcontinents. Andaman Islands ophiolites belong to W Belt, formerly interpreted as upthrust oceanic crust, accreted due to prolonged subduction to W of island arc, but subduction began only in Late Miocene and could not have produced ophiolitic rocks accreted in E Eocene)

Acharyya, S.K., K.K. Ray & S. Sengupta (1990)- Tectonics of the ophiolite belt from Naga Hills and Andaman Islands, India. Proc. Indian Academy Sci. (Earth Planetary Sci.) 99, p. 187-199.
(Ophiolitic rocks of Naga Hills-Andaman belt rootless slices, gently dipping over Paleogene flysch. Blueschists in ophiolite melange indicates involvement in subduction process. Subduction initiated prior to M Eocene as proved by lower age limit of ophiolite-derived cover sediment and olistostromal trench sediment. In Late Oligocene terminal collision between India and Sino-Burmese blocks, basement slivers from Sino-Burmese block, accreted ophiolites and trench sediments thrust W-ward as nappe and emplaced over down-going Indian plate. Root-zone of ophiolite nappe (suture) marked by partially-exposed E ophiolite belt of same age and gravity high passing through C Burma-Sumatra-Java. Subduction W of Andaman islands began only in Late Miocene, later than emplacement of ophiolites. Post-collisional N-ward movement of Indian plate developed leaky dextral transcurrent faults and caused Neogene-Quatemary volcanism in C Burma)

Acharyya, S.K., K.K. Ray & D.K. Roy (1989)- Tectono-stratigraphy and emplacement history of the ophiolite assemblage from the Naga Hills and Andaman island arc. J. Geol. Soc. India 33, p. 4-18.

Acharyya, S.K., K.K. Ray & S. Sengupta (1991)- The Naga Hills and Andaman ophiolite belt, their setting, nature and collisional emplacement history. Physics and Chemistry of the Earth 18, 1, p. 293-315.
(Indo-Burmese Range and Andaman-Nicobar Island Arc trend of ophiolite occurrences (dismembered mafic-ultramafic rocks with associated oceanic pelagic sediments). They occur as thrust slices at highest tectonic levels, overlying distal shelf sediments of Eocene- Oligocene age. Ophiolites unconformably overlain by M-L Eocene ophiolite-derived clastics. Ophiolites remnants of one or several intra-continental ocean basin(s), created during Cretaceous rifting of Greater India from Gondwana)

Alam, M., M.M. Alam, J.R. Curray, M.L.R. Chowdhury & M.R. Gani (2003)- An overview of the sedimentary geology of the Bengal Basin in relation to the regional tectonic framework and basin-fill history. Sedimentary Geology 155, p. 179-208.
(Bengal Basin at junction of three interacting plates: Indian, Burma and Tibetan (Eurasian) Plates. Major switch in sedimentation pattern during M Eocene- E Miocene as result of collision of India with Burma and Tibetan Blocks. By M Miocene, with continuing collision events and uplift in Himalayas and Indo-Burman Ranges a huge influx of clastic sediments came into basin from NE and E. From Pliocene onwards, large amounts of sediment filling basin from W and NW)

Alam, M.A., D. Chandrasekharam, O. Vaselli, B. Capaccioni, P. Manetti & P.B. Santo (2004)- Petrology of the prehistoric lavas and dyke of the Barren Island, Andaman Sea, Indian Ocean. Proc. Indian Academy Sci. (Earth Planetary Sci.) 113, 4, p. 715-721.
(online at: https://www.ias.ac.in/article/fulltext/jess/113/04/0715-0721)
(Quaternary volcanics of Barren Island (Andaman Sea, Indian Ocean) evolved from source similar to that of Sunda Arc lavas of Sumatra/Java and is part of the same Neogene Inner Volcanic Arc)

Allen, R., A. Carter, Y. Najman, P.C. Bandopadhyay, H.J. Chapman, M.J. Bickle, E. Garzanti et al. (2008)- New constraints on the sedimentation and uplift history of the Andaman-Nicobar accretionary prism, South Andaman Island In: A.E. Draut et al. (eds.) Formation and applications of the sedimentary record in arc collision zones. Geol. Soc. America (GSA), Spec. Paper 436, p. 223-255.
(Andaman-Nicobar Ridge accretionary complex part of Sunda subduction zone. Tertiary rocks exposed on Andaman Islands preserve record of tectonic evolution of surrounding region. Poor biostratigraphic age control (mainly barren). Oldest unit pre-Late Cretaceous ophiolite, Late Cretaceous- Paleocene pelagic cherts-shales, arc-derived Eocene Mitakhari Gp coarse clastics, Late Eocene?-Oligocene continental-derived Andaman Flysch, major uplift episode around 20 Ma, shallow marine volcanics-rich Miocene-Pliocene Archipelago group)

Andreason, M.W., B. Mudford & J.E.S. Onge (1997)- Geologic evolution and petroleum systems of the Thailand Andaman Sea basin. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Int. Conf. Petroleum Systems of SE Asia & Australia, Jakarta 1997, Indon. Petroleum Assoc. (IPA), p. 337-350.
(Thailand Andaman Sea sector 12 exploratory wells, including two gas discoveries. Two back-arc basins, Mergui and N Sumatra basin N extension with >10,500' sediment. Miocene reefs and Oligo- Miocene fluvio-deltaics and turbidites major explorationy plays)

ASCOPE (1985)- The stratigraphic correlation study of the Andaman Sea- Strait of Malacca. CCOP Techn. Paper TP/4, 28p.

Aung Khin, J. (1990)- The geology of the Andaman Sea. In:Proc. 8th Offshore SE Asia Conf., Singapore 1990, SE Asia Petroleum Expl. Soc. (SEAPEX) 9, p. 81-88.
(Brief review of Andaman Sea basins. Divided into Martaban fore-arc basin in N, North Sumatra backarc basin in S)

Awasthi, N., J. Ray, A. Laskar, Y. Amzad & M.Yadava (2013)- Chronology of major terrace forming events in the Andaman islands during the last 40 kyr. J. Geol. Soc. India 82, 1, p. 59-66.
(Andaman and Nicobar Islands part of accretionary prism along Andaman subduction zone. Quaternary coral reef coastal terraces up to 5m above s.l. (50m on Interview Island), tied to earthquake/ tsunami activity)

Awasthi, N., J.S. Ray & and K. Pande (2015)- Origin of the Mile Tilek Tuff, South Andaman: evidence from 40Ar-39Ar chronology and geochemistry. Current Science 108, 2, p. 205-210.
(online at: www.currentscience.ac.in/Volumes/108/02/0205.pdf)
(Mile Tilek Tuff ~40m thick bedded dacitic-rhyolitic tuff deposit on S Andaman is one of several volcanic ash deposits in Andaman- Nicobar Islands that are evidence of large-scale volcanic eruption in SE Asia. Assumed ages Mio-Pliocene (~25-2 Ma), but new 40Ar-39Ar age for whole rock 0.73± 0.16 Ma. Chemically typical of subduction zone magmatism. Sr-Nd isotopes (87Sr/86Sr = 0.7073 and d Nd <0.9) suggest continental crustal contamination of magma, pointing to source volcano in Sumatra, possibly Ranau volcano in S Sumatra)

Ayyadurai, V., R. Nainar & C. Ojha (2015)- Mud volcanoes show gas hydrate potential in India's Andaman Islands. Oil and Gas J. 113, 2, p. 44-53.
(Minutes after M9.0 Sumatra-Andaman earthquake in 2004, mud volcanoes erupted on Diglipur Island in N Andaman. Eruptions activity linked to hydrocarbons)

Badve, R.M. & P. Kundal (1986)- Marine Cretaceous algae from the Baratang Formation, Andaman Islands, India. Bull. Geol. Min. Soc. India 54, p. 149-158.

(7 types of ?Cretaceous algae in calcareous sst in Baratang Gp, most of them new: Cayeuxia, Ethelia, Baratangia, Peyssonella, Permocalculus, Halimeda, etc. (possibly Paleogene?))

Badve, R.M. & P. Kundal (1987)- Solenoporacean algae from Paleocene to Oligocene rocks of Baratang Island Andaman, India. J. Geol. Soc. India 13, 4, p. 81-88.

Badve, R.M. & P. Kundal (1988)- *Distichoplax* Pia from Baratang Island, Andaman, India. Biovigyanam 14, p. 95-102.
(Distichoplax biserialis algae in Lower Eocene-Oligocene calcareous sst of Port Blair Gp, Baratang Island)

Badve, R.M. & P. Kundal (1998)- Dasycladacean algae from Palaeocene to Oligocene rocks of Baratang Island, Andaman, India. J. Geol. Soc. India 51, p. 485-492.
(Calcareous sst in Baratang Gp (Lw Paleocene- Lw Eocene) and Port Blair Group (M Eocene- Oligocene) yielded 4 dasyclad algae: Broeckella, Dissocladella, Neomeris and Trinocladus. Tethyan affinities)

Ball, V. (1888)- The volcanoes of Barren Island and Narcondam in the Bay of Bengal. Geol. Magazine 9, p. 404-408.

Bandopadhyay, A. & R.R. Bandyopadhyay (1999)- Subsea channels and incidence of thermogenic hydrocarbons in the mid-proximal Bengal Fan, West of the Andaman-Nicobar Islands. Marine Georesources Geotechn. 17, p. 1-16.

Bandopadhyay, P.C. (2005)- Discovery of abundant pyroclasts in Namunagarh grit, South Andaman; evidence for architectural element volcanism and active subduction during the Paleogene in the Andaman area. J. Asian Earth Sci. 25, p. 95-107.
(Late Eocene Namunagarh Grit clastics of S Andaman island mainly immature, locally pebbly greywacke sandstones. Abundant juvenile vesiculated fragments, pumice clasts, etc., suggest pyroclastic origin. Coarse-grained facies emplaced as debris flows, finer-grained facies turbidites, deposited in forearc environment on accretionary complex. Derived from andesitic arc volcanoes on W margin of Burma-Malaya continent in Eocene-Oligocene, indicating active subduction)

Bandopadhyay, P.C. (2012)- Re-interpretation of the age and environment of deposition of Paleogene turbidites in the Andaman and Nicobar Islands, Western Sunda Arc. J. Asian Earth Sci. 45, 2, p. 126-137.
(Andaman Flysch in different areas deposited in different tectonic and sedimentary environments and at different times: Late Paleocene in N Andaman, Oligocene in S Andaman island)

Bandopadhyay, P.C. (2017)- Inner-arc volcanism: Barren and Narcondam islands. In: P.C. Bandopadhyay & A. Carter (eds.) The Andaman- Nicobar accretionary ridge: geology, tectonics and hazards, Geol. Soc., London, Mem. 47, Chapter 12, p. 167-192.
(Barren and Narcondam young volcanic islands of volcanic belt that extends from Java in E to Burma in N. Below Narcondam probably continental or transitional crust, below Barren Island oceanic lithosphere)

Bandopadhyay, P.C. & A. Carter (2017)- Introduction to the geography and geomorphology of the Andaman-Nicobar Islands. In: P.C. Bandopadhyay & A. Carter (eds.) The Andaman- Nicobar accretionary ridge: geology, tectonics and hazards, Geol. Soc., London, Mem. 47, Chapter 2, p. 9-18.
(online at: http://mem.lyellcollection.org/content/memoirs/47/1/9.full.pdf)
(Introduction to Andaman islands in NE Indian Ocean are segment of tectonically active accretionary wedge of Sunda subduction system, with dismembered ophiolites, volcanic arc rocks, trench-slope deposits, submarine fan turbidites, pelagic sediments, etc.)

Bandopadhyay, P.C. & A. Carter (2017)- Geological framework of the Andaman- Nicobar Islands. In: P.C. Bandopadhyay & A. Carter (eds.) The Andaman- Nicobar accretionary ridge: geology, tectonics and hazards, Geol. Soc., London, Mem. 47, Chapter 6, p. 75-93.

(Andaman-Nicobar archipelago at W margin of Andaman Sea is sediment-dominated accretionary wedge (outer-arc). Andaman accretionary ridge two distinct terranes, juxtaposed and telescoped into N-S trending fold-thrust belt along E margin of Indo-Australian oceanic plate. Pre-Cretaceous meta-sedimentary rocks, U Cretaceous ophiolites and Paleogene- Neogene sediments indicate rapid changes in lithology, sedimentology, environments and paleogeographic setting)

Bandopadhyay, P.C. & A. Carter (2017)- Mithakhari deposits. In: P.C. Bandopadhyay & A. Carter (eds.) The Andaman- Nicobar accretionary ridge: geology, tectonics and hazards, Geol. Soc., London, Mem. 47, Chapter 8, p. 111-132.
(Mithakhari Melange composed of conglomerates, sandstones, andesitic tuff, siltstone, mudstones, shale, carbonaceous shale and limestones. Coherent and chaotic units with olistoliths of pre-ophiolite metasediments, ophiolitic ultramafics and basalts and pelagic-hemipelagic sediments. Active andesite volcanism on arc massif E of Andaman arc on W margin of Burma-Thai-Malaya peninsula in Eocene- Oligocene, before opening of Andaman Sea in M Miocene)

Bandopadhyay, P.C. & A. Carter (2017)- Submarine fan deposits: petrography and geochemistry of the Andaman Flysch. In: P.C. Bandopadhyay & A. Carter (eds.) The Andaman- Nicobar accretionary ridge: geology, tectonics and hazards, Geol. Soc., London, Mem. 47, Chapter 9, p. 133-140.
(Andaman Flysch of Oligocene age marine turbidites from axially fed submarine fan. Intermittently exposed across entire chain of Andaman- Nicobar Islands)

Bandopadhyay, P.C. & A. Carter (2017)- The Archipelago Group: current understanding. In: P.C. Bandopadhyay & A. Carter (eds.) The Andaman- Nicobar accretionary ridge: geology, tectonics and hazards, Geol. Soc., London, Mem. 47, Chapter 11, p. 153-166.
(Neogene Archipelago Group overlies Oligocene and older turbidites and tectonic melanges of ophiolite and Mithakhari rocks. Deposited in intertidal and subtidal, nearshore and offshore shelfal environments)

Bandopadhyay, P.C., U. Chakrabarti & A. Roy (2009)- First report of trace fossils from Palaeogene succession (Namunagarh grit) of Andaman and Nicobar islands. J. Geol. Soc. India 73, 2, p. 261-267.
(Namunagarh Grit of Late Eocene age in S Andaman island is submarine fan deposit with trace fossils Thalassinoides, Teichichnus and Lorenzinia. Associated with M-L Eocene (displaced) larger foraminifera Nummulites atacicus, Pellatispira and Biplanispira)

Bandopadhyay, P.C. & M. Ghosh (1998)- Facies, petrology and depositional environment of the Tertiary sedimentary rocks, around Port Blair, South Andaman. J. Geol. Soc. India 52, p. 53-66.

Bandopadhyay, P.C. & B. Ghosh (2015)- Provenance analysis of the Oligocene turbidites (Andaman Flysch), South Andaman Island: a geochemical approach. J. Earth System Science 124, 5, p. 1019-1037.
(online at: www.ias.ac.in/article/fulltext/jess/124/05/1019-1037)
(Oligocene turbidites of Andaman Flysch along E coast of S Andaman Island. Geochemistry of av. 71% SiO2, etc., close to granite field. Combined geochemical, petrographic and paleocurrent data indicate mainly plutonic-metamorphic provenance, possibly Shan-Thai continental block of NE and E Myanmar)

Bandopadhyay, S., M.R. Subramanyam & N. Sharam (1973)- The geology and mineral resources of the Andaman and Nicobar Islands. Geol. Survey of India, Records 105, 2, p. 25-68.

Banerjee, D. (1967)- Upper Cretaceous microflora from middle Andaman Isles (India). Review Palaeobotany Palynology 5, p. 211-216.
(Baratang Fm of Middle Andaman Isles with mixed of Tertiary and Upper Cretaceous forms, the latter being more common (see also Mandal et al. 2003))

Banerji, P.K., D. Halder & G. Ghosh (1981)- Metallogenesis in the Cretaceous embryonic ophiolites of Andaman-Nicobar island arc and its northern prolongation into the mountains along the Indo-Burman border. In: Int. Symp. Metallogeny of mafic and ultramafic complexes, etc., Athens 1980, 2, p. 21-38.

Banghar, A.R. (1987)- Seismo-tectonics of the Andaman- Nicobar Islands. Tectonophysics 133, p. 95-104.
(Epicentres of 345 earthquakes between 1967 1982 mainly shallow focus, deepest 250km. Orientation of slip vectors deduced from thrusting mechanisms consistent with NE- directed underthrusting of Indian Ocean under Andaman-Nicobar Islands)

Bawden, M. (2011)- Andaman Sea Basin, India: hydrocarbon prospectivity from newly reprocessed seismic data. Proc. 2011 SE Asia Petroleum Expl. Soc. (SEAPEX) Conf., Singapore, 13, p. 1-16. *(Abstract + Presentation)*

Bhatta, K. & B. Ghosh (2014)- Chromian spinel-rich black sands from eastern shoreline of Andaman Island, India: Implication for source characteristics. J. Earth System Science 123, 6, p. 1387-1397.
(Black sands rich in chromian spinel in pockets along E shoreline of Andaman Island, near exposures of peridotites and volcanics of Cretaceous Andaman ophiolite. Volcanic chromian spinels relatively fresh, with geochemical characters of MORB of spreading centers. Peridotitic chromian spinels rounded and altered, and indicating depleted lherzolite and depleted harzburgite source of ophiolite suite)

Carter, A.& P.C. Bandopadhyay (2017)- Seismicity of the Andaman-Nicobar Islands and Andaman Sea. In: P.C. Bandopadhyay & A. Carter (eds.) The Andaman- Nicobar accretionary ridge: geology, tectonics and hazards, Geol. Soc., London, Mem. 47, Chapter 14, p. 205-213.
(Seismicity across Andaman-Nicobar island arc and Andaman Sea. Magnitudes of displacements varied from dip-slip on S (Sumatran) segment to dip-slip and strike-slip on Andaman-Nicobar segment. Andaman section more steeply dipping slab and thicker sediment cover compared to Sumatra where coupling with overlying plate is stronger. Seismicity in Andaman Sea spreading centre consistent with normal faulting and dyke injection)

Cawthern, T. (2013)- Reconstructing the Late Miocene to Recent volcanic, geologic, and oceanographic evolution in the Andaman Sea and Northern Bay of Bengal, Northeast Indian Ocean. Ph.D. Thesis University of New Hampshire, p. 1-118.
(Reconstruction of volcanic, geologic, and oceanographic evolution in the Andaman Sea and N Bay of Bengal in last -9.4 Myrs. Geochemistry of volcanic ashes from Andaman Sea suggests they were derived from N Sumatra source)

Chakraborty, A.A. & A.K. Ghosh (2015)- *Acrobotrys disolenia* Haeckel from the Late Miocene of Andaman and Nicobar Islands. Current Science 108, 11, p. 1990-1993.
(On radiolarian species from Late Miocene of Neill Island, Andaman Islands. Previous records of A. disolenia mainly from DSDP/ODP cores of Pacific Ocean and South China Sea)

Chakraborty, A.A. & A.K. Ghosh (2016)- Ocean upwelling and intense monsoonal activity based on late Miocene diatom assemblages from Neil Island, Andaman and Nicobar Islands, India. Marine Micropaleontology 127, p. 26-41.
(Late Miocene (Tortonian) diatoms from Neil Island with 82 taxa/ 35 genera. Two groups, dominated by (1) Thalassionema nitzschioides and T. longissima and (2) Actinocyclus ellipticus, Azpeitia nodulifera, Coscinodiscus asteromphalus and C. radiatus. Dominance of upwelling diatom taxon Thalassionema nitzschioides confirms strong Late Miocene monsoonal activity in study area)

Chakraborty, P.P. & P.K. Khan (2009)- Cenozoic geodynamic evolution of the Andaman-Sumatra subduction margin: current understanding. Island Arc 18, 1, p. 184-200.
(Review of Andaman-Sumatra margin. Subduction-related deformation along trench active since Cretaceous. Oblique subduction in N Sumatra-Andaman sector formed sliver plate between subduction zone and right-lateral fault system. Sliver fault, initiated in Eocene. N-S-trending dismembered ophiolite slices of Cretaceous age at different structural levels with Eocene trench-slope sediments, were uplifted and emplaced by E-dipping thrusts to shape outer-arc prism. Strike-slip faults controlled subsidence and development of forearc basins with Oligocene-Pliocene siliciclastic-carbonate sediments. Opening of Andaman Sea back-arc in two phases:

early (~11 Ma) stretching and rifting, followed by spreading since 4-5 Ma. Inner-arc volcanism in Andaman region extends to E Miocene. Arc volcanism since Miocene evolution from felsic to basaltic composition)

Chakraborty, P.P. & T. Pal (2001)- Anatomy of a submarine fan with detached lobe: Upper Eocene- Oligocene Andaman Flysch Group, Andaman Islands, India. Gondwana Research 4, 3, p. 477-486.
(Three facies associations in Andaman Flysch Gp represent two parts of submarine, inner fan and depositional lobe in middle fan. Paleocurrent patterns and high percentages of quartz suggest dual sediment supply)

Chakraborty, P.P., T. Pal, G.T. Dutta & K.S. Gupta (1999)- Facies pattern and depositional motif in an immature trench-slope basin, Eocene Mithakhari Group, Middle Andaman, India. J. Geol. Soc. India 53, 3, p. 271-284.
(Eocene Mithakhari Gp of Middle Andaman eight different lithofacies of different paleogeographic significance and indicating sedimentation in small isolated basins in immature trench-slope setting.. Lying unconformably on oceanic basement (ophiolite slices?))

Chandra, A. & R.K. Saxena (1998)- Lithostratigraphy of the Car Nicobar Island, Andaman and Nicobar Islands, India. Geophytology 26, p. 33-38.

Chandra, A., R.K. Saxena & A.K.Ghosh (1999)- Coralline algae from the Kakana Formation (Middle Pliocene) of Car Nicobar Island, India and their implication in biostratigraphy, palaeoenvironment and palaeobathymetry. Current Science 76, p. 1498-1502.

Chandrasekharam, D., A.P. Santo, B. Capaccioni, O. Vaselli, M.A. Alam, P. Manetti & F. Tassi (2009)- Volcanological and petrological evolution of Barren Island (Andaman Sea, Indian Ocean). J. Asian Earth Sci. 35, p. 469-487.
(online at: http://www.cec.uchile.cl/~ayaz/jaes.pdf)
(Barren Island only active volcano in Andaman Islands sector of Sunda arc system. Horseshoe-shaped caldera probably formed by giant lateral landslide of original volcanic cone. Compositional varies from low-K basalts to basaltic andesites)

Chatterjee, A.K. (1964)- The Tertiary fauna of Andamans. Repts. 22nd Sess. Int. Geological Congress, India 1964, VIII, sect. 8, p. 303-328.
(Paleocene-Recent sequence, including Eocene-Miocene larger forams)

Chopra, N.N. (1985)- Gas hydrate an unconventional trap in fore-arc regions of Andaman offshore. Bull. Oil and Natural Gas Corporation (ONGC) 22, 1, p. 41-54.

Clift, P.D. (2017)- Regional context of the geology of the Andaman-Nicobar accretionary ridge. In: P.C. Bandopadhyay & A. Carter (eds.) The Andaman- Nicobar accretionary ridge: geology, tectonics and hazards, Geol. Soc., London, Mem. 47, Chapter 3, p. 19-26.
(Andaman- Nicobar accretionary ridge along N extension of Java-Sumatra convergent margin is forming by accretion and underplating of sediments off-scraped from obliquely colliding Bengal Fan. Net accretion low (~28%; rest subducted mostly into upper mantle). Subduction initiated at ~95 Ma, but large-scale subduction accretion likely accelerated in E Miocene)

Cochran, J.R. (2010)- Morphology and tectonics of the Andaman Forearc, northeastern Indian Ocean. Geophysical J. Int. 182, 2, p. 631-651.
(online at: https://academic.oup.com/gji/article/182/2/631/568764)
(Description of Andaman Sea accretionary prism and outer arc ridge, a series of forearc basins and major N-S faults, developed as result of highly oblique subduction at W Sunda Trench)

Curray, J.R. (1999)- A new look at present tectonics and opening history of the Andaman Sea. American Assoc. Petrol. Geol. (AAPG) Bull. 83, 13 (Supplement), p. *(Abstract only)*

(Andaman Sea active backarc basin behind Sunda subduction. Oblique convergence formed sliver plate between subduction zone and right lateral fault system after Oligocene. Eocene India- Asia hard collision started rotation and bending of W Sunda Arc. Sliver faulting started in Oligocene on W Andaman fault from off Sumatra through Andaman Sea into Sagaing fault. Late Oligocene Mergui Basin opening by extension of continental crust. E Miocene/ 25 Ma, backarc spreading started forming sea floor which became Alcock and Sewell Rises. From M Miocene/~15 Ma, these features separated from continental slope C Andaman Basin)

Curray, J.R. (2005)- Tectonics and history of the Andaman Sea region. J. Asian Earth Sci. 25, p. 187-232.
(Major review of Andaman Sea geology. Andaman Sea active backarc basin above and behind Sunda subduction zone where convergence is highly oblique. Sliver plate formed between subduction zone and right-lateral fault system (Sagaing Fault, etc.). Late Paleocene collision of Greater India-Asia started CW rotation and bending of N and W Sunda Arc. Series of extensional pull-apart basins opened by the combined backarc extension and strike-slip motion: Mergui Basin (started at 32 Ma), Alcock and Sewell Rises (23 Ma), East Basin (15 Ma). Alcock and Sewell Rises separated by formation of C Andaman Basin, and faulting moved onshore from Mentawai Fault to Sumatra Fault System of Sumatra (NB: ages revised from earlier Curray publications)

Curray, J.R. (2014)- The Bengal depositional system: from rift to orogeny. Marine Geology 352, p. 59-69.
(Bengal Depositional system one of greatest sediment accumulations in world, extends from alluvial-lacustrine sediments of lower Ganges and Brahmaputra Rivers, across Bengal Delta, Bangladesh continental shelf and slope to Bengal Fan. history from Mesozoic breakup of E Gondwanaland, N-ward drift of India, collision with S margin of Asia, rotation and bending of W Sunda Arc, and penetration of Indian continental mass into S Asia. Sources and provenance of sediments changed with ultimate uplift of Tibetan Plateau and Himalayas)

Curray, J.R. (2015)- Discussion: óõIs spreading prolonged, episodic or incipient in the Andaman Sea? Evidence from deepwater sedimentationò by C.K. Morley and A. Alvey. J. Asian Earth Sci. 111, p. 113-119.
(Disputes Morley and Alvey (2015) conclusion that crust of Alcock and Sewell Rises is continental, but is oceanic, thickened by back arc volcanism. Andaman Sea spreading not necessarily episodic, but sedimentation is episodic, caused by Plio-Pleistocene sea level fluctuations)

Curray, J.R., F.J. Emmel & D.G. Moore (2003)- The Bengal Fan: morphology, geometry, stratigraphy, history and processes. Marine Petroleum Geol. 19, p. 1191-1223.

Curray, J.R., D.G. Moore, L.A. Lawver, F.J. Emmel, R.W. Raitt, M. Henry & R. Kieckhefer (1979)- Tectonics of the Andaman Sea and Burma. In:J.S. Watkins et al. (eds.) Geological and geophysical investigations of continental margins, American Assoc. Petrol. Geol. (AAPG), Mem. 29, p. 189-198.

Curray, J.R. & T. Munasinghe (1989)- Timing of intraplate deformation, northeastern Indian Ocean. Earth Planetary Sci. Letters 94, p. 71-77.
(Seismic stratigraphy and deep sea drilling demonstrated two unconformities (E Eocene and latest Miocene age) can be traced over much of NE Indian Ocean. Eocene event major hiatus in sedimentation following collision of India with Asia. Miocene event was onset of N-S compression in Indian plate during rapid uplift in Tibet and Himalayas)

Das, S., S. Mohan, R.S. Waraich, N. Singh & S. Bankwal (2010)- Exploration targets with speculative petroleum system in different arc setups of Andaman Basin, India. Proc. 8th Int. SPG Conf. Exp. on Petroleum Geophysics, Hyderabad, p-126, p. 1-9.
(online at: https://www.spgindia.org/2010/126.pdf)
(On hydrocarbon prospectivity in three tectonic settings of Andaman basin (fore arc, volcanic arc, back arc))

Dasgupta, S. & M. Mukhopadhyay (1993)- Seismicity and plate deformation below the Andaman arc, northeastern Indian ocean. Tectonophysics 225, p. 529-542.

Dasgupta, S., M. Mukhopadhyay, A. Bhattacharya & T.K. Jana (2003)- The geometry of the Burmese-Andaman subducting lithosphere. J. Seismology 7, 2, p. 155-174.

Devdas, V., S. Varghese, M. Kartikeyan & M.S. Pathan (2016)- The morphological setup of Andaman-Nicobar trench and accretionary prism: a study using multibeam bathymetry. Indian J. Geosciences 69, 3-4, p. 215-222.

Diehl, T., F. Waldhauser, J.R. Cochran, K.A.K. Raju, L. Seeber, D. Schaff & E.R. Engdahl (2013)- Back-arc extension in the Andaman Sea: tectonic and magmatic processes imaged by high-precision teleseismic double-difference earthquake relocation. J. Geophysical Research, Solid Earth, 118, 5, p. 2206-2224.
(online at: http://www.ldeo.columbia.edu/~felixw/papers/Diehl_etal_JGR2013.pdf)
(Relocated earthquake solutions show active normal faulting in NE-SW trending, obliquely opening Andaman spreading center)

Eguchi, T., S. Uyeda & T. Maki (1979)- Seismotectonics and tectonic history of the Andaman Sea. Tectonophysics 57, p. 35-51.
(Andaman Sea active spreading supported by seismicity and focal-mechanism solutions. NE Indian Ocean mid-oceanic ridge collided with W end of Sunda Trench in M or Late Miocene (10-20 Ma). Ridge-trench collision released much of compressional stress in back-arc area and continued N-ward movement of India exerted drag on the back-arc region, causing opening of Andaman Sea. Andaman Sea formed by oblique extensional rifting associated with both ridge subduction and deformation of back-arc area due to nearby continental collision)

Ehrenberg, C.G. (1850)- Uber ein weit ausgedehnte Felsbildung aus kieselschaligen Polycistinen auf den Nicobaren-Inseln als erstes Seitenstuck des Polycystinen-Gesteins von Barbados der Antillen. Berliner Monatsberichte/ Verhandlungen Kon. Preussische Akademie Wissenschaften zu Berlin 1850, p. 476-478.
(online at: https://www.biodiversitylibrary.org/item/41527#page/482/mode/1up)
('On an extensive rock formation composed of siliceous Polycystina on the Nicobar Islands, etc.'. Brief note on Islands Car Nicobar and Comarta with core of syenitic and serpentiniferous gabbro, covered by(?) marls-calcareous siltstones rich in Polycystina (= radiolaria). Over 100 species (one of first reports of radiolaria-rich (Miocene?) rocks from Andaman-Nicobar Islands))

Frerichs, W.E. (1971)- Paleobathymetric trends of Neogene foraminiferal assemblages and sea floor tectonism in the Andaman Sea area. Marine Geology 11, p. 159-173.
(Benthic foraminifera from Miocene samples recovered from floor of Andaman Sea indicate deposition in water depths significantly deeper than depths from which they were dredged. Benthic foraminifera in Pliocene samples indicate depths similar to water depths from which they were dredged, suggesting uplift, probably beginning in M Miocene and culminating in Pliocene)

Gahalaut, V.K. & K. Gahalaut (2007)- Burma plate motion, J. Geophysical Reserach 112, B10, B10402, 9p.

Gahalaut, V.K., B. Kundu, S.S. Laishram, J. Catherine, A. Kumar, M.D. Singh, R.P. Tiwari, R.K. Chadha, S.K. Samanta, A. Ambikapathy, P. Mahesh, A. Bansal & M. Narsaiah (2013)- Aseismic plate boundary in the Indo-Burmese wedge, northwest Sunda Arc. Geology 41, 2, p. 235-238.
(GPS measurements across Sagaing fault suggest ~20 mm/yr of relative plate motion of ~36 mm/yr between India and Sunda plates accommodated at Sagaing fault through dextral strike-slip motion. Steeply dipping Churachandpur-Mao fault in Indo-Burmese Wedge accommodates remaining ~18 mm/yr through dextral strike-slip)

Garzanti, E., M. Limonta, A. Resentini, P.C. Bandopadhyay, Y. Najman, S. Ando & G. Vezzoli (2013)- Sediment recycling at convergent plate margins (Indo-Burman Ranges and Andaman-Nicobar Ridge). Earth-Science Reviews 123, p. 113-132.
(Large subaerially exposed subduction complexes formed by tectonic accretion above trenches choked with thick sections of remnant-ocean turbidites. Study of petrographic and heavy mineral suites of modern sands derived from Indo-Burman-Andaman-Nicobar subduction complex show 'subduction complex provenance', mainly consisting of detritus recycled from turbiditic rocks, with local supply from obducted ultramafic and mafic rocks of forearc or recycled paleovolcanic to neovolcanic sources)

Gee, E.R. (1926)- The geology of the Andaman and Nicobar islands, with special reference to Middle Andaman island. Records Geol. Survey India 59, 2, p. 208-232.
(Middle Andaman island core of serpentinites-peridotites, covered by Eocene sediments (incl. Assilina). Both island groups similar)

Ghosh, A.K. & S. Sarkar (2013)- Facies analysis and paleoenvironmental interpretation of Piacenzian carbonate deposits from the Guitar Formation of Car Nicobar Island, India. Geoscience Frontiers 4, 6, p. 755-764.
(online at: www.sciencedirect.com/science/article/pii/S1674987113000285)
(Piacenzian (late Pliocene) Guitar Fm carbonates in Car Nicobar Island (S of Andaman Islands) rich in coralline algae. Deposited in shallow marine, reefal setting)

Ghosh, B., D. Bandyopadhyay & T. Morishita (2017)- Andaman- Nicobar ophiolites, India: origin, evolution and emplacement. In: P.C. Bandopadhyay & A. Carter (eds.) The Andaman- Nicobar accretionary ridge: geology, tectonics and hazards, Geol. Soc., London, Mem. 47, Chapter 7, p. 95-110.
(Andaman- Nicobar ophiolites discontinuous bodies along E margin of Andaman- Nicobar Islands. Composed of mantle rocks overlain by crustal rocks with thin transition zone. Mantle peridotites and volcanic rocks great variability, demonstrating influence of subduction-related magmatism and origin in supra-subduction zone. Final emplacement unlike typical Tethyan-type ophiolites because, before final emplacement over Indo-Burma-Andaman microcontinent subduction margin charged with thick sediments from delta systems to N that accreted at leading age of overriding plate)

Ghosh, B. & K. Bhatta (2014)- Podiform chromitites in lherzolitic mantle rocks (Andaman ophiolite, India): the role of magma/rock interaction and parental melt composition. Bull. Soc. Geologique France 185, 2, p. 123-130.
(Podiform chromitites from lherzolite-dominant mantle sequence of Andaman ophiolite, India, described. Mantle host rocks for chromitite pods show features of melt-mantle interaction. High-Cr chromitites have arc-spinel trend and suggest supra-subduction zone setting. Low-Cr chromitites reported elsewhere MORB-spinel trend)

Ghosh, B., T. Morishita & K. Bhatta (2012)- Detrital chromian spinels from beach placers of Andaman Islands, India: a perspective view of petrological characteristics and variations of the Andaman ophiolite. Island Arc 21, p. 188-201.
(Abundant detrital chromian spinels in black sands along E coast of Andaman Islands, derived from nearby Andaman ophiolite outcrops. Chemical compositions suggest depleted signatures, suggesting all Andaman Cretaceous ophiolite massifs affected under island-arc conditions (relatively less depleted to North))

Ghosh, B., T. Morishita & K. Bhatta (2013)- Significance of chromium spinels from the mantle sequence of the Andaman Ophiolite, India: paleogeodynamic implications. Lithos 164, p. 86-96.
(Andaman Ophiolite (between Rutland Island in S and N Andaman in N) with chromian spinels from mantle representing four major groups. Similar geodynamic setting to present-day also existed during Cretaceous period, with fore-arc at Rutland Island and back-arc at N Andaman)

Ghosh, B., T. Morishita, B. Sen Gupta, A. Tamura, S. Arai & D. Bandyopadhyay (2014)- Moho transition zone in the Cretaceous Andaman ophiolite, India: a passage from the mantle to the crust. Lithos 198-199, p. 117-128.
(Outcrop in S Andaman represents transition to arc crustal section of Cretaceous (~95 Ma) Andaman ophiolite, marked by olivine-rich troctolite, wehrlite, pyroxenite and gabbroic rocks)

Ghosh, B., S. Mukhopadhyay, T. Morishita, A. Tamura S. Arai, D. Bandyopadhyay et al. (2018)- Diversity and evolution of suboceanic mantle: constraints from Neotethyan ophiolites at the eastern margin of the Indian plate. J. Asian Earth Sci. 160, p. 67-77.
(Four Neotethyan Cretaceous ophiolite bodies (Nagaland, Manipur, Andaman island and Rutland island) along E margin of Indian plate, all belonging to W ophiolite belt of Indo-Burman Ranges (continuation of Sumatran fore-arc). Gross similarities with Philippine Sea samples. Geotectonic setting between Mid-ocean ridge and back-arc affinity. Plagiogranites of arc affinity suggest later arc event or back-arc origin of ophiolites)

Ghosh, B., T. Pal, A. Bhattacharya & D. Das (2009)- Petrogenetic implications of ophiolitic chromite from Rutland Island, Andaman- a boninitic parentage in supra-subduction setting. Mineralogy and Petrology 96, p. 59-70.
(Chromitite in mantle ultramafic tectonite and crustal ultramafic cumulates of Rutland Island (S of S Andaman) plot in field of supra-subduction zone peridotites)

Gokarn, S.G., G. Gupta, S. Dutta & N. Hazarika (2006)- Geoelectric structure in the Andaman Islands using magnetotelluric studies. Earth Planets and Space 58, 2, p. 259-264.
(online at: www.journalarchive.jst.go.jp/...)
(Magnetotelluric studies over M Andaman islands delineated a NNE-SSW trending suture, along which 4-10km thick Andaman flysch and underlying igneous crust subduct W-wards along thrust with dip angle of ~60°)

Goli, A. & D.K. Pandey (2014)- Structural characteristics of the Andaman Forearc inferred from interpretation of multichannel seismic reflection data. Acta Geologica Sinica (English Ed.) 88, 4, p. 1145-1156.
(online at: www.geojournals.cn/...)

Guha, D.K. (1968)- On the Ostracoda from the Neogene of Andaman Islands. J. Geol. Soc. India 9, 1, p. 58-66.
(32 species of ostracods from Andaman Islands. Most recorded earlier from Miocene - Recent of SE Asia; one new species, Paracytheridea andamanensis)

Gupta, S. M. & M.S. Srinivasan (1992)- Late Miocene radiolarian biostratigraphy and paleoceanography of Sawai Bay Formation, Neill Island, Andamans, India. Micropaleontology 38, 3, p. 209-235.
(Late Miocene radiolarian zones Stichocorys peregrina, Didymocyrtis penultima and D antepenultima in mudstones of Sawai Bay Fm, Neill Island, Andamans. Cluster analysis of 45 taxa suggest colder and warmer periods due to monsoonal upwelling during warmer periods (5.0-6.3 and 8.5-7.7 Ma). Basinal shallowing during Late Miocene)

Gururaja, M.N. & B.R.J.Rao (1976)- Upper Eocene foraminifera from South Andaman Island. Proc. 6th Indian Colloqium Micropaleont. Stratigraphy, Hyderabad, p. 122-125.
(Namunagarh Grit of S Andaman Island with Late Eocene (displaced) larger foraminifera Nummulites atacicus, Pellatispira and Biplanispira)

Guzman-Speziale, M. (1990)- Seismicity and active tectonics of the Western Sunda Arc. Ph.D. Thesis New Mexico State University, Las Cruces, p. 1-232.
(Seismicity of Andaman Sea, Burmese Arc W Sunda Arc area of oblique convergence. Subducted Indian-Australian slab extends to depth of 160km in N portion of W Sunda Arc (Burmese Arc) with dip from 50° in N to ~30° in S. Along Andaman Arc subducted slab also reaches 160km, with dip of ~40°)

Guzman-Speziale, M. & J.F. Ni (1993)- The opening of the Andaman Sea- where is the short-term displacement being taken up. Geophysical Research Letters 20, 24, p. 2949-2952.

Guzman-Speziale, M. & J.F. Ni (1996)- Seismicity and active tectonics of the Western Sunda Arc. In: A. Yin & T.M. Harrison (eds.) Tectonic evolution of Asia, Cambridge University Press, Cambridge, p. 63-84.

Haldar, D. (1984)- Some aspects of the Andaman ophiolite complex. Records Geol. Survey India 115, 2, p. 1-11.

Harding, T.P. (1983)- Divergent wrench fault and negative flower structure, Andaman Sea. In: A.W. Bally (ed.) Seismic expression of structural styles: a picture and work atlas, American Assoc. Petrol. Geol. (AAPG), Studies in Geology 15, 3, p. 1-8.

Imbus, S.W., F.H. Wind & D. Ephraim (1999)- Origin and occurrence of CO_2 in the eastern Andaman Sea, offshore Myanmar. In: C.A. Caughey & J.V.C. Howes (eds.) Proc. Conf. Gas habitats of SE Asia and Australasia, Jakarta 1998, Indon. Petroleum Assoc. (IPA), p. 99-111.

(M Miocene gas accumulations in E Andaman Sea have 10-90% C02. Gas composition and isotopes indicate crustal(3He/4He), principally inorganic (d13C >-10) origin for Miocene C02. In Plio- Pleistocene prospects CO_2 may be less, due to Late Miocene calcareous shale seal/ source rock)

Ingersoll, R. V. & C.A. Suczek (1979)- Petrology and provenance of Neogene sand from Nicobar and Bengal fans, DSDP sites 211 and 218. J. Sedimentary Petrology 49, 4, p. 1217-1228.
(Bengal-Nicobar submarine fan complex with sands sourced from gneissic, sedimentary, and metasedimentary terranes of Himalayas. Neogene sands from DSDP sites 211 and 218 reveal very uniform compositions, with typical QFL percentages 55-30-15. Andesitic volcanic lithic grains are absent)

Jacob, K. (1954)- The occurrence of radiolarian cherts in association with ultra-mafic intrusives in the Andaman Islands and its significance in sedimentary tectonics. Records Geol. Survey India 83, 2, p. 397-422.
(Ophiolites of Andaman Islands associated with Eocene radiolarian cherts, deposited in abyssal environment)

Jafar, S.A. (1985)- Discovery of mixed coccoliths from mud volcanoes of Baratang Island, Andamans, India. Current Science 54, 4, p. 170-173.
(Coccoliths from mud volcanoes in W Baratang Island with mixed coccolith assemblages, with latest Eocene as youngest elements. Also common complete Campanian- Danian section suggested present in subsurface)

Jafar, S.A. & O.P. Singh (1999)- Late Miocene coccoliths from Neill Island, Andam Sea, India. J. Palaeontol. Soc. India 44, p. 119-134.
(online at: http://palaeontologicalsociety.in/vol44/v8.pdf)
(Late Miocene Discoaster berggreni (CN9A)/ lower Discoaster quinqueramus zone (NN11) from Neill Island)

Jafri, S.H. (1986)- Occurrence of Hagiastrids in chert associated with Port Blair series, South Andaman, India. J. Geol. Soc. India 28, p. 41-43.
(online at: www.geosocindia.org/index.php/jgsi/article/download/65972/51585)
(18 species of hagiastrid radiolarians from radiolarian ribbon chert at base of (M Eocene?) Port Blair series of S Andaman interpreted to be of E Cretaceous age. Chert inlier in (imbricated?) Eocene sedimentary sequence))

Jafri, S.H., V. Balaram & P.K. Govil (1993)- Depositional environments of Cretaceous radiolarian cherts from Andaman-Nicobar Islands, northeastern Indian Ocean. Marine Geology 112, p. 291-301.
(Cretaceous radiolarian cherts associated with pillow basalts, ultramafic rocks and turbidites in outer arc of Andaman- Nicobar Islands. Tuffaceous radiolarian claystones derived from mixed continental-basaltic source, close to continental margins, bedded radiolarian argillaceous cherts derived from distal continental source in hemipelagic environment. Radiolarian chert sequences scraped off subducting Indian plate and now part of Andaman-Nicobar ophiolite complex. No biostrat)

Jafri, S.H., V. Balaram & S.L. Ramesh (1990)- Geochemistry of Andaman-Nicobar island basalts: a case for a possible plume origin. J. Volcanology Geothermal Res. 44, p. 339-347.
(Pillow basalts of S Andaman island associated with tectonised ultramafics, radiolarian cherts and deformed sedimentary rocks part of outer sedimentary arc of Andaman-Nicobar islands. Basalts tholeiitic, similar to plume-type basalts. Scraped off subducting Indian plate due to NNE movement of Indian plate)

Jafri, S.H., S.N. Charan & P.K. Govil (1995)- Plagiogranite from the Andaman ophiolite belt, Bay of Bengal, India. J. Geol. Soc., London, 152, p. 681-687.
(Plagiogranites on E margin of South Andaman intrude gabbros associated with pillow basalt, East Coast volcanic rocks, radiolarian cherts, conglomerate and grit. Plagiogranite intruded gabbro of Andaman ophiolite probably in Mid-Eocene (subsequent zircon dating by Sarma et al. 2010 suggest Late Cretaceous 94 Ma age))

Jafri, S.H. & J.M. Sheikh (2013)- Geochemistry of pillow basalts from Bompoka, Andaman-Nicobar islands, Bay of Bengal, India. J. Asian Earth Sci. 64, p. 27-37.
(Pillow basalts in Bompoka island (Nicobar islands) part of Sunda-Burmese forearc, are fractured, filled by late-stage calcite and zeolites and are overlain by the Archipelago Group sediments. Formed from N-MORB-

like mantle source in trench-distal back-arc basin, probably near leading edge of Eurasian continent in Cretaceous, prior to current Andaman-Java active subduction)

Jafri, S.H., M.V. Subba Rao & S.L. Ramesh (2006)- Occurrence of ash beds in radiolarian cherts from South Andaman Island, Bay of Bengal, India: evidence for Late Cretaceous explosive volcanism. Current Science 91, 12, p. 1614-1615.
(online at: www.currentscience.ac.in/Downloads/article_40794.pdf)
(Ash layers in radiolarian cherts in S Andaman Island suggests Late Cretaceous explosive volcanic activity)

Jha, P., D. Ros, A.d. Alessandrini & M. Kishore (2010)- Speculative petroleum system and play model of East Andaman Basin from regional geology and basin evolution concepts: addressing the exploration challenges of an extreme frontier area. 8th Biennial SPG Int. Conf. Petroleum Geophysics, Hyderabad 2010, P-261, 8p.
(online at: https://www.spgindia.org/2010/261.pdf)
(Recent ENI exploration activities in deepwater East Andaman Basin revealed presence of unexplored rift set-up, on trend with North Sumatra and Mergui rift basins)

Jha, P., D. Ros & M. Kishore (2012)- Seismic and sequence stratigraphic framework and depositional architecture of shallow and deepwater postrift sediments in East Andaman Basin: an overview. GEO India Conf. 2011, New Delhi, 10p. *(Extended Abstract)*
(online at: www.searchanddiscovery.com/documents/2012/50566jha/ndx_jha.pdf)
(Deepwater East Andaman Basin along W flank of NE-SW trending Mergui Ridge with Eo-Oligocene rift section overlain by up to 2500m of M Miocene and younger post-rift with typical deepwater depositional architecture. NE-SW trending sea-floor spreading centre came into existence at C Andaman Basin area)

Jintasaeranee, P., W. Weinrebe, I. Klaucke, A. Snidvongs & E.R. Flueh (2012)- Morphology of the Andaman outer shelf and upper slope of the Thai exclusive economic zone. J. Asian Earth Sci. 46, p. 78-85.
(Detailed bathymetry and subbottom profiler recordsof outer shelf and upper slope of Thai exclusive economic zone)

Jourdain, A., S.C. Singh, J. Escartin, Y. Klinger, K.A. K. Raju & J. McArdle (2016)- Crustal accretion at a sedimented spreading center in the Andaman Sea. Geology 44, p. 351-354.
(Seismic images across sedimented slow-spreading Andaman Sea spreading center. Faults in axial valley steep dips (65°-75°) in staircase pattern forming axial graben, with base coinciding with shallow-dipping (30°) reflection, defining zone of extension and magmatism. Sill-sediment sequences away from axis rotated and buried due to subsidence and faulting, forming upper oceanic crust. Gabbroic lower oceanic crust separated from mantle by complex Moho transition zone, probably containing dunite lenses)

Karunakaran, C., M.B. Pawde, V.K. Raina, K.K. Ray & S.S. Saha (1964)- Geology of South Andaman Island, India. Repts. 22nd Int. Geological Congress, New Delhi 1964, 11, p. 79-100.
(incl. presence of Paleocene limestone pebbles with Distichoplax biserialis)

Karunakaran, C., K.K. Ray & S.S. Saha (1964)- A new probe into the tectonic history of the Andaman and Nicobar Islands, India. Repts. 22nd Int. Geological Congress, New Delhi 1964, 4, p. 507-515.

Karunakaran, C., K.K. Ray & S.S. Saha (1964)- Sedimentary environment of the formation of the Andaman flysch, Andaman Islands, India. Repts. 22nd Int. Geological Congress, New Delhi 1964, 15, p. 226-232.

Karunakaran, C., K.K. Ray & S.S. Saha (1968)- Tertiary sedimentation in the Andaman-Nicobar geosyncline. J. Geol. Soc. India 9, p. 32-39.
(Andaman orthogeosyncline continuous with Assam-Burma in N and Indonesian geosyncline in S. Andaman-Nicobar islands constitute non-volcanic outer arc of East Indian Orogen, with continuous history of sedimentation from sometime in U Cretaceous to Recent)

Karunakaran, C., K.K. Ray, C.R. Sen, S.S. Saha & S.K. Sarkar (1975)- Geology of Great Nicobar island. J. Geol. Soc. India 16, 2, p. 135-142.
(Geology of Great Nicobar Island similar to geology of Andaman Islands)

Khan, P.K. & P.P. Chakraborty (2005)- Two-phase opening of Andaman Sea; a new seismotectonic insight. Earth Planetary Sci. Letters 229, 3-4, p. 259-271.
(Reconstruction of Benioff zone for Burma-Java subduction margin between 2°-17° N reveals two episodes of plate geometry change, expressed as abrupt change in subduction angle. Deformation events on subducting Indian plate 4-5 and 11 Ma old. 11 Ma event recorded from S part of area correlated with early stretching and rifting phase, 4-5 Ma event interpreted as major forcing behind spreading phase of Andaman Sea. Initial Andaman Sea opening concealed in E-M Miocene forearc subsidence history. Late Miocene-Pliocene pull-apart opening and spreading possibly initiated near W part of Mergui- Sumatra region)

Khin, Aung J. (1990)- The geology of the Andaman Sea basin.In: 8th Offshore SE Asia Conf., Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) 9, Singapore, OSEA90177, p. 81-88.
(Brief review of Andaman Sea basin and hydrocarbon potential)

Koley, T., C.S. Anju, S. Parhi & S. Das (2017)- Report of foraminifera in the Andaman Flysch Group of rocks in South Andaman and its implication. Indian J. Geosciences 70, 2, p. 161-168.

Koley, T. & K.M. Wanjarwadkar (2013)- First report of *Ranikothalia* Caudri from Middle Andaman Island, India and its significance. J. Geol. Soc. India 81, p .549-555.
(First record of U Paleocene 'Tethyan' Ranikothalia in in lower argillaceous facies of Mithakhari Group (Lipa Black Shale) in NE part of Middle Andaman Island. Three species R. sidensis, R. cf. nuttalli, R. cf. tobleri. Associated with Discocyclina (also earlier reports of Paleocene limestone on Andaman Islands reported occurrences of Daviesina, Miscellanea, Distichoplax))

Kumar, A. (2011)- Geochemical and isotopic studies of rocks from the Barren Island Volcano and Andaman subduction zone, India. Ph.D. Thesis, Maharaja Sayajirao University of Baroda, Vadodara, India, p. 1-218.

Kumar, S. (1981)- Geodynamics of Burma and Andaman-Nicobar region, on the basis of tectonic stresses and regional seismicity. Tectonophysics 79, p. 75-95.
(Well-defined zones of seismicity dipping 30-50° from Andaman trench to depth of ~180 km under Andaman Islands. Change in nature of volcanism from andesite (S) to basalt (N) in Burma suggested stress field changed from compressional to tensional)

Kumar, S. (1990)- Gravity anomalies, seismicity, subducting slab folding and surface deformations in the orogenic belts- an example from the Andaman-Nicobar region. J. Geodynamics 12, p. 39-63.

Kundal, P. & K.M. Wanjarwadkar (2002)- On stratigraphy, age and depositional environment of algal limestone of Middle Andaman Island, Andaman, India. Gondwana Geol. Mag. 17, 2, p. 103-108.
(Occurrence of Daviesina spp. in limestone exposed as detached mounds near Burmadera, Tugapur and Buddanala in Middle Andaman island suggests Thanetian age)

Kundal, P. & K.M. Wanjarwadkar (2003)- Dasycladacean algae from Late Paleocene limestone of Middle Andaman Island, Andaman, India: implication to paleoenvironments, paleobathymetry and stratigraphy. Gondwana Geol. Mag., Spec. Vol. 6, p. 277-288.
(Late Paleocene algal limestone of Burma Dera Mb of U Cretaceous- Eocene Baratang Fm of Middle Andaman Island with 6 species of dasycladacean algae, incl. Acroporella, Cymopolia spp., Furcoporella, Trinocladus, etc.. Associated with foram Daviesina spp. Tropical assemblage with Tethyan affinities)

Limonta, M., A. Resentini, A. Carter, P.C. Bandopadhyay & E. Garzanti (2017)- Provenance of Oligocene Andaman sandstones (Andaman-Nicobar Islands): Ganga-Brahmaputra or Irrawaddy derived?. In: P.C.

Bandopadhyay & A. Carter (eds.) The Andaman- Nicobar accretionary ridge: geology, tectonics and hazards, Geol. Soc., London, Mem. 47, Chapter 10, p. 141-152.
(Oligocene flysch exposed in Andaman-Nicobar Islands dominated by strong continental crust signal with minor arc contribution, similar to Paleogene Bengal Fan sediments. Type section on S Andaman closer affinity to provenance of modern Irrawaddy)

Ling, H.Y., R. Chandra & S.G. Karkare (1996)- Tectonic significance of Eocene and Cretaceous radiolaria from South Andaman Island, Northeast Indian Ocean. In: A. Yao et al. (eds.) Proc. INTERRAD VII Conf., Island arc 5, 2, p. 166-179.
(Basement rocks of Andaman-Nicobar Islands consist of U Cretaceous serpentinites, ophiolites and radiolarian cherts. Cherts from SE South Andaman Island with radiolarian faunas of Campanian (Dictyomitra torquata, Pseudoaulophacus lenticulatus, Alievium galloway, etc.) and M Eocene (Podocyrtis faciolata, Eusyringiuiia jstuligerum) age. Similar Eocene assemblage on Nias Island. Overlying sediments in N and Middle Andaman include E-M Eocene larger foraminifera Nummulites biarritzensis and Assilina granulosa)

Ling, H.Y., V. Sharma, S. Sing, D. Mazumdar & A.K. Mahapatra (1995)- Cretaceous and Middle Eocene radiolarian from ejected sediments of mud volcanoes of Baratang Island in the Andaman Sea. J. Geol. Soc. India 38, p. 463-469.

Ling, H.Y. & M.S. Srinivasan (1993)- Significance of Eocene radiolaria from Port Blair Group of South Andaman Island, India. J. Palaeont. Soc. India 38, p. 1-5.
(online at: http://palaeontologicalsociety.in/vol38/v1.pdf)
(M Eocene radiolaria in chert in Port Blair Fm, overlying Late Cretaceous or Early Eocene ultramafic 'basement' on S Andaman. Similar to M Eocene radiolarians of Nias (Ling & Samuel, 1998))

Liu, C.S., J.R. Curray & J.M. McDonald (1983)- New constraints on the tectonic evolution of the eastern Indian Ocean. Earth Planetary Sci. Letters 65, p. 331-342.
(Magnetic anomalies suggest Wharton Ridge fossil spreading ridge beneath Nicobar Fan in NW Wharton Basin, which was part of plate boundary between Indian and Australian plates and ceased spreading shortly after anomaly 20 (45.6 Ma). Indian, Australian, and Antarctic plates were moving relative to one another from about 90 to 45 Ma. At anomaly 19 time (45 Ma) Australia and India became single plate)

Luhr J.F. & D. Haldar (2006)- Barren Island volcano (NE Indian Ocean): island-arc high-alumina basalts produced by troctolite contamination; J. Volcanology Geothermal Res. 149, p. 177-212.

Madhavan, B.B, G. Venkataraman, S.D. Shah & B.K. Mohan (1997)- Revealing the geology of the Great Nicobar Island, Indian Ocean, by the interpretation of airborne synthetic aperture radar images. Int. J. Remote Sensing 18, 13, p. 2723-2742.
(N-S trending folds and thrusts on Great Nicobar Island, with fold axis spacing of 1-2km)

Mahapatra, A.K. & V. Sharma (1994)- Trissocyclid radiolaria from the late Early Miocene sequence of Colebrook, North Passage and Great Nicobar Islands, northeast Indian Ocean. Micropaleontology 40, 2, p. 157-168.
(35 Trissocyclid species from outcrop sections six sections on Colebrook, North Passage and Great Nicobar islands. Belong to Stichocorys wolffii and Calocycletta costata Zones)

Makar, P.S. et al. (1984)- Geochemical studies of fine-grained sediments of offshore Andaman wells for evaluation of hydrocarbon source potential. Petroleum Asia J. 6, 4, p. 175-185.

Malik, J.N., C. Banerjee, A. Khan, F.C. Johnson, M. Shishikura, K. Satake & A.K. Singhvi (2015)- Stratigraphic evidence for earthquakes and tsunamis on the west coast of South Andaman Island, India during the past 1000 years. Tectonophysics 661, p. 49-65.
(Stratigraphic records from W coast of S Andaman Island with evidence of three historical transoceanic tsunamis during past 1000 yrs: (I) predating AD 800, 35-40 cm t fine gravel to coarse sands with broken shell

fragments ; (II) ~AD 660-800, 20-25cm coarse sand and broken shell fragments; (III) ~AD 1120-1300, 50 cm thick sand. December 2004 tsunami resulted in deposition of 15cm m-c sand)

Mandal, J., A. Chandra & A.P. Bhattacharyya (2003)- Palynology of the Baratang Formation, Andaman-Nicobar Islands and the significance of reworked palynomorphs. The Palaeobotanist 52, p. 97-112.
(Spores-pollen and dinoflagellate cysts data from Baratang Fm of Baratang Island indicate Early- Late Eocene ages and close relationship between Andaman and Myanmar floras. Associated with common reworked Permian, Triassic and Jurassic-Cretaceous palynomorphs of Gondwanan affinity, suggesting Chindwin Basin of Myanmar mainly supplied reworked palynomorph-bearing sediments)

Martin, K.M., S.P.S. Gulick, J.A. Austin., K. Berglar, D. Franke & Udrekh (2014)- The West Andaman Fault: a complex strain-partitioning boundary at the seaward edge of the Aceh Basin, offshore Sumatra. Tectonics 33, 5, p. 786-806.
(W Andaman Fault in NW Sumatra forearc region predominantly strike-slip in nature, and likely part of system of faults (incl. Sumatran, Mentawai Faults) that accommodate shear component of oblique subduction. Location of fault in forearc may be controlled by contrast between marginal plateau and forearc basin)

Maung, H. (1987)- Transcurrent movements in the Burma-Andaman Sea region. Geology 15, 10, p. 911-912.
(N-ward movement of Indian plate caused Indoburman Ranges accretionary prism to decouple from Burma plate along Kabaw fault, and Burma plate decoupled from E Highlands of Burma along Sagaing fault. Double arc formed by Indoburman Ranges and Andaman-Nicobar-Sumatra islands was formerly one large single arc)

Maurin, T. & C. Rangin (2009)- Impact of the 90°E ridge at the Indo-Burmese subduction zone imaged from deep seismic reflection data. Marine Geology 266, 1, p. 143-155.
(As result of Indo-Burmese active hyper-oblique subduction, part of Bay of Bengal presently subducting E-ward below Burmese microplate)

Misra, T.C. & T.K. Roy (1984)- Exploration in Andaman forearc basin: its evaluation, facies trend and prospects- a review. Proc. 5th Offshore South East Asia Conf. (OFFSEA 84), Singapore 1984, South East Asia Petroleum Expl. Soc. (SEAPEX), p. 4/66- 4/83.
(Andaman Sea forearc basin with subduction complex accretionary prisms and ponded Neogene sediments. Oldest exposed rocks in Andaman Islands Upper Cretaceous oceanic sediments with radiolarian chert, overlain by Upper Cretaceous- Oligocene greywacke turbidites. Late Oligocene unconformity followed by Neogene clastics and carbonates. Low heatflow)

Mitra, D. (2005)- Late Oligocene and Miocene evolution of the carbonate system in the Gulf of Martaban (northern Andaman Sea): effects of eustacy, tectonics, and siliciclastic input; comparison with the Maldives carbonate system. M.Sc. Thesis Rice University, Houston, p. 1-142. *(Unpublished)*
(Gulf of Martaban Field 13x18 km isolated carbonate platform in Myanmar part of N Andaman Sea, formed on top of E-dipping (20-24°), faulted accretionary basement that influenced Late Oligocene Lower Martaban Limestone growth. At Oligocene-Miocene boundary ~20m thick siliciclastics (age ~23 Ma/ Mi-1 SB?), temporarily inhibiting carbonate growth. Followed by growth of E Miocene U Martaban Lst platform, first aggradation, then backstepping and drowning at ~18 Ma. With common rhodoliths; red algae near top)

Moeremans, R.E. & S.C. Singh (2015)- Fore-arc basin deformation in the Andaman-Nicobar segment of the Sumatra-Andaman subduction zone: insight from high-resolution seismic reflection data. Tectonics 34, 8, p. 1736-1750.
(Deep seismic reflection data across the Andaman-Nicobar fore-arc basin, from 8°N to 11°N. Despite obliquity of subduction fore arc is dominated by compression, suggesting strong slip partitioning)

Mohan, K., S.G.V. Dangwal, S. Sengupta & A.G. Desai (2006)- Andaman Basin- a future exploration target. The Leading Edge 25, 8, p. 964-967.
(Summary of Andaman Sea basin evolution and exploration potential. Eocene-Recent basinal area >1200km from Sumatra into Myanmar. No significant hydrocarbon discoveries yet)

Morley, C.K. (2016)- Cenozoic structural evolution of the Andaman Sea: evolution from an extensional to a sheared margin. In: M. Nemcok et al. (eds.) Transform margins: development, controls and petroleum systems, Geol. Soc., London, Spec. Publ. 431, p. 39-61.
(Andaman Sea developed from margin where Palaeogene back-arc collapse closed mid-Cretaceous back-arc oceanic basin, and resulted in collision between island arc crust to W and W margin of Sundaland. Subsequent E-W to WNW-ESE extension in Late Eocene–Oligocene resulted in highly extended continental crust under Alcock and Sewell rises and E Andaman Basin, and moderately extended crust in Mergui-N Sumatra Basin. As India coupled with W Myanmar, margin became dominated by dextral strike-slip and NNW–SSE transtensional deformation during Miocene)

Morley, C.K. (2017)- Cenozoic rifting, passive margin development and strike-slip faulting in the Andaman Sea: a discussion of established v. new tectonic models. In: P.C. Bandopadhyay & A. Carter (eds.) The Andaman- Nicobar accretionary ridge: geology, tectonics and hazards, Geol. Soc., London, Mem. 47, Chapter 4, p. 27-50.
(Andaman Sea evolved from near-pure extension (WNW-ESE) in Late Palaeogene, to oblique extension (NNW-SSE) in Neogene, to strike-slip-dominated deformation in Late Miocene-Recent, probably reflecting switch from slab rollback-driven extension to India coupling with Myanmar. Possible revisions to traditional models for Andaman Sea: (1) Alcock and Sewell rises may be hyperextended continental or island arc crust, not Miocene oceanic crust; (2) E Andaman Basin mainly underlain by strongly necked to hyper-extended continental crust, not oceanic crust; or (3) C Anadaman Basin oceanic crust of Miocene, not Pliocene-Recent age)

Morley, C.K. & A. Alvey (2015)- Is spreading prolongeded, episodic or incipient in the Andaman Sea? Evidence from deepwater sedimentation. J. Asian Earth Sci. 98, p. 446-456.
(C Andaman Basin generally accepted to be site of continuous sea floor spreading since E Pliocene (~4.0 Ma). Seismic lines across E half of spreading centre show 100's m of sediment up to Central trough, suggesting either spreading in central basin was episodic or Central trough is incipient spreading centre in hyper-thinned continental or island arc crust. Gravity indicates C Andaman Basin is oceanic crust, but adjacent Alcock and Sewell Rises and E Andaman Basin are extended continental crust (see also Discussion by Curray (2015))

Morley, C.K. & A. Alvey (2016)- Reply to discussion óóIs spreading prolonged, episodic or incipient in the Andaman Sea? Evidence from deepwater sedimentationò by J.R. Curray 2015. J. Asian Earth Sci. 115, p. 62-68.
(Thick sediment section in axial trough of Andaman Sea spreading center incompatible withrapid influxes of sediment, but more indicative of Miocene spreading, with recently renewed, activity, if at all. Nature of crust adjacent to spreading centre remains uncertain)

Morley, C.K. & M. Searle (2017)- Regional tectonics, structure and evolution of the Andaman-Nicobar Islands from ophiolite formation and obduction to collision and back-arc spreading. In: P.C. Bandopadhyay & A. Carter (eds.) The Andaman- Nicobar accretionary ridge: geology, tectonics and hazards, Geol. Soc., London, Mem. 47, Chapter 5, p. 51-74.
(Proposed model for Cretaceous- Cenozoic development of Sumatra-Andaman-Myanmar region suggests continuity of single continental mass between Myanmar and Sumatra during Cenozoic, E Cenozoic ophiolite emplacement as imbricate slices in accretionary complex and no emplacement of a major overthrusting oceanic slab. Subsequent collisional deformation further dismembered ophiolites. ~30° CW rotation of SE Asia occurred following Asia- India collision, accompanied by transition from paired Andean-type magmatic belt to regional oblique-slip and strike-slip tectonics. In Neogene Andaman sea region became dominantly transtensional, while Myanmar in Late Neogene became transpressional)

Mukhopadhyay, B., S. Dasgupta & P. Mukherjee (2016)- Slab tear and tensional fault systems in the Sundaï Andaman Benioff zone: implications on tectonics and potential seismic hazard. Geomatics Natural Hazards Risk 7, 3, p. 1129-1146.
(online at: www.tandfonline.com/doi/full/10.1080/19475705.2015.1011242)
(Multiple transverse slab tear faults and longitudinal trench-parallel extensional faults on top part of Benioff zone in Sunda-Andaman arc)

Mukhopadhyay, M. (1984)- Seismotectonics of subduction and back-arc thrusting under the Andaman Sea. Tectonophysics 108, p. 229-239.

Mukhopadhyay, M. (1988)- Gravity anomalies and deep structure of the Andaman arc. Marine Geoph. Researches 9, 3, p. 197-210.
(Active subduction of Indian plate beneath Andaman arc along E-dipping Benioff zone extends to depth of ~150 km; deepest part of Benioff zone below Andaman volcanic arc. Overriding Burma plate at least 50 km thick. Andaman volcanic arc split by Andaman back-arc spreading ridge, active since at least 11 Ma)

Mukhopadhyay, M., P.P. Chakraborty & S. Paul (2003)- Facies clustering in turbidite successions: case study from Andaman flysch group, Andaman Islands, India. Gondwana Research 6, p. 918-925.
(Bed thickness data of two turbidite sections in Oligocene Andaman Flysch Group at Corbyn's Cove, S Andaman and Kalipur section, N Andaman (forearc submarine fan system))

Nakanart, A. & N. Mantajit (1983)- Stratigraphic correlation of the Andaman Sea. In: Conf. Geology and Mineral Resources of Thailand, Bangkok 1983, p. 171-177.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1983/10594.pdf)
(Correlation between Oligocene- Recent sediments of N Sumatra Basin and Straits of Malacca- Andaman Sea)

Oldham, R.D. (1885)- Notes on the geology of the Andaman Islands. Records Geol. Survey India 18, 3, p. 135-145.

Padmakumari, V.M. & S.M. Ahmad (2004)- Ash layer at ~8 Ma in ODP Site 758 from the Bay of Bengal: evidence from Sr, Nd isotopic compositions and rare earth elements. Current Science 86, 9, p. 1323-1325.
(Late Miocene volcanic ash layer in deep marine sediments of N Indian Ocean ODP Site 758 dated at ~8.2 Ma, compositionally similar to Toba tuffs and probably derived from Indonesian arc)

Pal, T. (2011)- Petrology and geochemistry of the Andaman ophiolite: melt-rock interaction in a suprasubduction-zone setting. J. Geol. Soc., London, 168, p. 1031-1045.
(Andaman ophiolite (Cretaceous-Paleocene) occurs as thrust slices in outer arc of Andaman-Java subduction zone. Mantle sequence of layered serpentinized lherzolite and harzburgite, intrusive and extrusive rocks. Geochemistry indicates mid-ocean ridge basalt- suprasubduction zone setting. MORB mantle of subducting Indian plate accreted into mantle wedge, then melting of accreted mantle first produced boninite melt, followed by tholeiitic melt)

Pal, T. & A. Bhattacharya (2010)- Greenschist-facies sub-ophiolitic metamorphic rocks of Andaman Islands, Burma- Java subduction complex. J. Asian Earth Sci. 39, 6, p. 804-814.
(Greenschist facies metabasics (actinolite schist) and metasediments (garnetiferous quartzo-feldspathic mica-chlorite schist, etc.) at sole of ophiolite slices and as blocks in melange zone under Andaman ophiolite. Top part of subducting slab and overlying trench sediments metamorphosed and dislocated by thrusts in accretionary prism. Metamorphism and uplift of metamorphic rocks with ophiolite slices between Cretaceous and Oligocene, later than emplacement of ophiolites of Sumatra and Java)

Pal, T., P.P. Chakraborty, T.D. Gupta & C.D. Singh (2003)- Geodynamic evolution of the outer-arc-forearc belt in the Andaman islands, the central part of the Burma-Java subduction complex. Geol. Magazine 140, 3, p. 289-307.
(Andaman Islands, part of Burma-Java subduction complex, expose outer-arc accretionary prism and forearc Oligocene-Pliocene turbidites. N-S-trending dismembered ophiolite slices of Cretaceous age at different levels with Eocene trench-slope sediments, uplifted and emplaced by E-dipping thrusts. Metapelites and metabasics of greenschist to amphibolite grade in melange zone of ophiolites. Eocene Mithakhari Group represents pelagic trench sediments and clastics derived from ophiolites. Eocene sediment deposited in isolated basins of immature trench-slope setting. Deposition of Oligocene Andaman Flysch Gp in forearc setting. Mio-Pliocene

Archipelago Gp siliciclastic turbidites and subaqueous pyroclastic flow deposits in lower part and carbonate turbidites in upper part, suggesting deposition in shallower forearc compared to Oligocene)

Pal, T., T.D. Gupta, P.P. Chakraborty & S.C.D. Gupta (2005)- Pyroclastic deposits of Mio-Pliocene age in the Arakan Yoma- Andaman- Java subduction complex, Andaman Islands, Bay of Bengal, India. Geochemical J. 39, p. 69-82.
(online at: www.terrapub.co.jp/journals/GJ/pdf/3901/39010069.pdf)
(400m thick Archipelago Group Mio-Pliocene sequence of bedded tuff alternating with non-volcanogenic turbidites on Andaman Islands, overlying Andaman Flysch. Interpreted as tuffs from subaerial eruptions that landed in water and behaved as cold subaqueous flow. No lithic volcanic fragments. Origin of Andaman tuffs in convergent margin)

Pal, T., S.K. Mitra, S. Sengupta, A. Katari, P.C. Bandopadhyay & A.K. Bhattacharya (2007)- Dacite-andesites of Narcondam Volcano in the Andaman Sea; an imprint of magma mixing in the inner arc of the Andaman-Java subduction system. J. Volcanology Geothermal Res. 168, p. 93-113.
(Narcondam volcano along with active Barren volcano lies in chain of inner arc volcanoes extending from Burma to Indonesia. Dacite, amphibole-andesite, and andesite are products of magma mixing)

Pandey, J., R.P. Agarwal, A. Dave, A. Maithani, K.B. Trivedi, A.K. Srivastava & D.N. Singh (1992)- Geology of Andaman. Bull. Oil. Nat. Gas Comm. (ONGC) 29, 2, p. 19-103.
(ONGC review of geology and stratigraphy of Andaman Islands)

Pedersen, R.B., M.P. Searle, A. Carter & P.C. Bandopadhyay (2010)- U-Pb zircon age of the Andaman ophiolite: implications for the beginning of subduction beneath the Andaman-Sumatra arc. J. Geol. Soc., London, 167, p. 1105-1112.
(Andaman ophiolite complex forms basement of Andaman Islands. N Andaman Island with harzburgite and lower crustal gabbros. Campanian radiolaria from cherts overlying ophiolite. U-Pb zircon age of trondhjemitic rock in S Andaman Island 95 Ma, remarkably similar to ophiolites in Oman (~93-98 Ma) and Troodos, Cyprus (92 Ma). Andaman volcanic arc built on Cenomanian ophiolite-oceanic crust and subduction initiated at this time along Tethys, from Cyprus through Oman to Andaman Islands)

Peter, G., L.A. Weeks & R.E. Burns (1966)- A reconnaissance geophysical survey in the Andaman Sea and across the Andaman Nicobar island arc. J. Geophysical Research 71, 2, p. 495-509.
(Major tectonic trends of N Sumatra and S Burma Range can be linked through Andaman Sea on the basis of magnetic gravity and seismic data)

Polachan, S. (1988)- The geological evolution of the Mergui Basin, S.E. Andaman Sea, Thailand. Ph.D.Thesis University of London, p. 1-231. *(Unpublished)*

Polachan, S. & A. Racey (1993)- Lower Miocene larger foraminifera and petroleum potential of the Tai Formation, Mergui Group, Andaman Sea. In: B.K. Tan et al. (eds.) 7th Reg. Congress Geology Mineral and Energy Resources of SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 487-496.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1993/7613.pdf)
First record of Tertiary larger foraminifera in Thailand, on Thai side of offshore Mergui Basin. Tai Fm reefal limestones unconformably on pre-Late Eocene quartz-chlorite schist in Central High of Mergui Basin. Three units at type locality: basal anhydrite, dolomite, shale and sandstone; middle coral/algal reefal limestones, and upper calcarenites interbedded with silty shales and sandstones. Middle and upper units with Lepidocyclina (N.) japonica, Spiroclypeus yabei, Miogypsina, Miogypsinoides, etc. (= E Miocene, Upper Te; JTvG))

Polachan, S. & A. Racey (1994)- Stratigraphy of the Mergui Basin, Andaman Sea: implications for petroleum exploration. J. Petroleum Geol. 17, 4, p. 373-406.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/1994/2545.pdf)
Nine Late Oligocene- Pleistocene formations described from Mergui Basin, Andaman Sea, a transtensional back-arc basin, formed in Oligocene due to onset of oblique convergence between Indian and SE Asian plates.

Major similarities between Mergui Basin and petroleum-rich N Sumatra Basin. Twelve non-commercial exploration wells drilled by Esso, Union and Placid in 1970's-1980's. Oldest formation Late Oligocene Ranong Fm sandstones, in B1 unconformably on Late Cretaceous quartz monzonite (K/Ar age 75 Ma))

Radhakrishna, M., S. Lasitha & M. Mukhopadhyay (2008)- Seismicity, gravity anomalies and lithospheric structure of the Andaman arc, NE Indian Ocean. Tectonophysics 460, 1, p. 248-262.
(Andaman arc nearly 1100 km long active plate margin between India and Burma plates where oblique Benioff zone develops down to 200km depth. Slab gravity high of 85 mgal E of Nicobar Island, where gravity high follows Nicobar Deep. Double peaked gravity low demarcates Andaman trench-arc system. Gravity models favor presence of oceanic crust below Andaman-Nicobar Outer Arc Ridge)

Rai, J. (2006)- Late Miocene siliceous endoskeletal dinoflagellates from the Sawai Bay Formation, Neill Island, Andaman Sea, India. J. Micropalaeontology 25, 1, p. 37-44.
(online at: https://www.j-micropalaeontol.net/25/37/2006/jm-25-37-2006.pdf)
(Rare siliceous spicules of endoskeletal dinoflagellates (Actiniscus spp.) in Late Miocene Sawai Bay Fm on Neill Island (E of South Andaman Island). Associated with calcareous nannofossils of Discoaster berggrenii subzone (CN9A/ NN11))

Rajendran, C.P., K. Rajendran, V. Andrade & S. Srinivasalu (2013)- Ages and relative sizes of pre-2004 tsunamis in the Bay of Bengal inferred from geologic evidence in the Andaman and Nicobar Islands. J. Geophys. Research, Solid Earth 118, p. 1345-1362.
(Geologic evidence along N part of 2004 Aceh-Andaman rupture suggests region generated five tsunamis in prior 2000 years. 2004 tsunami deposits mainly organic debris, sand sheets, coral debris and boulder deposits. Distant and geomorphologically sheltered sites higher potential for tsunami deposit preservation)

Rajendran, K. & H.K. Gupta (1989)- Seismicity and tectonic stress field of a part of the Burma-Andaman-Nicobar Arc. Bull. Seismological Soc. America 79, 4, p. 989-1005.
(Direction of maximum compression in Burma- Andaman- Nicobar region NE-SW to N-S, compatible with postulated motion of Indian Plate)

Raju, D.S.N. & L. Chidambaram (1986)- Cretaceous and Cenozoic foraminiferal biostratigraphy of offshore deep well sections, East coast of Andaman islands. 12th Indian Colloquium on Micropaleontology and Stratigraphy, New Delhi, p.

Raju, D.S.N. & P.K. Mishra (1991)- Miogypsinidae from the Andaman Basin, India. J. Palaeont. Soc. India 36, p. 15-30.
(online at: http://palaeontologicalsociety.in/vol36/v2.pdf)
(11 species of Miogypsinidae reported from 10 offshore wells E of Andaman Island. Oldest forms Late Oligocene Miogypsinoides complanata, youngest M Miocene Miogypsina antillea)

Raju, K.A.K. (2005)- Three-phase tectonic evolution of the Andaman backarc basin. Current Science 89, 11, p. 1932-1937.
(online at: www.iisc.ernet.in/currsci/dec102005/1932.pdf)
(Andaman bacarc basin 3-phase tectonic evolution: Late Oligocene spreading centre jump, M Miocene- E Pliocene rifting and extension, followed by true seafloor spreading since 4 Ma)

Raju, K.A.K., T. Ramprasad, P.S. Rao, B.R. Rao & J. Varghese (2004)- New insights into the tectonic evolution of the Andaman basin, northeast Indian Ocean. Earth Planetary Sci. Letters 221, p. 145-162.
(Seafloor spreading in Andaman backarc basin started at ~4 Ma, rather than 11 Ma postulated previously. Extrusive tectonics prompted extension and rifting along plane joining Sagaing (Myanmar) and Semangko (Sumatra) fault systems. Seafloor spreading in past 4 Myr resulted in formation of deep Andaman backarc basin. This phase also experienced W-ward propagation of spreading center)

Raju, K.A.K., D. Ray, A. Mudholkar, G.P.S. Murty, V.K. Gahalaut, K. Samudrala et al. (2012)- Tectonic and volcanic implications of a cratered seamount off Nicobar Island, Andaman Sea. J. Asian Earth Sci. 56, p. 42-53.
(Seamount with well-developed crater at summit near center of Nicobar earthquake swarm. Rocks dredged from crater dacite, rhyolite and andesite, with veneer of ferromanganese oxide. First documentation of submarine arc-volcanism in Andaman Sea, E of Nicobar Island)

Rangin, C. (2012)- Cenozoic geodynamic evolution of the Burma-Andaman platelet. AAPG Int. Conv. Exhib., Singapore 2012, Search and Discovery Art. 30258, 18p. *(Presentation Abstract)*
(online at: www.searchanddiscovery.com/documents/2012/30258rangin/ndx_rangin.pdf)

Rao, N.P., C.N. Rao, P. Hazarika, V.M. Tiwari, M.R. Kumar & A. Singh (2011)- Structure and tectonics of the Andaman subduction zone from modeling of seismological and gravity data. In: E. Sharkov (ed.) Frontiers in tectonic research- general problems, sedimentary basins and island arcs, p. 249-268.
(online at: http://cdn.intechopen.com/pdfs/17113/..)

Rao, P.B.V.S., M. Radhakrishna, K. Haripriya, B.S. Rao & D. Chandrasekharam (2016)- Magnetic anomalies over the Andaman Islands and their geological significance. J. Earth System Science 125, 2, p. 359-368.
(online at: www.ias.ac.in/article/fulltext/jess/125/02/0359-0368)
(Regional magnetic survey over Andaman Islands shows intermediate-high amplitude magnetic anomalies over areas of exposed ophiolite rocks along E coast of North, Middle and South Andaman Islands. 2D modelling along E-W profiles indicate ophiolite bodies extend to ~5-8 km depth and correlate with mapped fault zones)

Ray, D., S. Rajan & R. Ravindra (2012)- Role of subducting component and sub-arc mantle in arc petrogenesis: Andaman volcanic arc. Current Science 102, 4, p. 605-609.
(online at: www.currentscience.ac.in/Volumes/102/04/0605.pdf)
(Trace element ratios of arc lavas from Barren and Narcondam volcanoes of Andaman Islands group: Narcondam lavas (mostly andesitic) with subduction component of sediment fluid and melt. Barren Island lavas (mostly basaltic) ratios, indicative of subduction component from altered ocean crust)

Ray, J.S., K. Pande & N. Awasthi (2013)- A minimum age for the active Barren Island volcano, Andaman Sea. Current Science 104, 7, p. 934-939.
(online at: www.currentscience.ac.in/Volumes/104/07/0934.pdf)
(Barren Island of Andaman Sea is only active volcano in Indian territory. Tephra (ash) layers in Andaman Sea sediment core, 32 km to SE, with tephra layers as old as ~70 ka, and with plagioclase separatesas old as 1.8 ± 0.4 Ma, possibly represents age of older rocks in plumbing system of volcano)

Ray, J.S., K. Pande & R. Bhutani (2015)- 40Ar/39Ar geochronology of subaerial lava flows of Barren Island volcano and the deep crust beneath the Andaman Island Arc, Burma Microplate. Bull. Volcanology 77, 57, p. 1-10.
(Andaman Island Arc part of Indonesian volcanic arc system, contains only one active subaerial magmatic center, Barren Island volcano (two dormant volcanoes N of Barren Island, Narcondam in Andaman Sea and Mt. Popa in Myanmar). Age of oldest subaerial lava flows 1.58 Ma. Compositions of xenoliths indicate derivation from lower (oceanic) crustal olivine gabbro and suggest genetic relationship between arc crust and ophiolitic basement of Andaman accretionary prism)

Ray, K.K. (1982)- A review of the geology of Andaman and Nicobar Islands. Geol. Survey India, Misc. Publ. 42, 2, p. 110-125.

Ray, K.K. (1985)- East coast volcanics- a new suite in the ophiolite of Andaman Islands. Records Geol. Survey India 116, 2, p. 83-87.

Ray, K.K., S. Sengupta S. & J. van den Hul (1988)- Chemical characters of volcanic rocks of Andaman ophiolite, India. J. Geol. Soc., London, 145, p. 393-400.

(Northernmost of Indonesia Arc outer arc ridge is in Andaman islands, where ophiolitic rocks occur as dismembered slices emplaced over Eocene-Oligocene turbidites. Volcanic members of ophiolitic suite pillow basalts, basaltic andesites and acid differentiates, with chemical characters comparable to MAR basalts at 45°N; REE patterns and acid differentiates suggest they represent marginal basin crust)

Ridd, M.F. (1971)- Faults in Southeast Asia and the Andaman rhombochasm. Nature 229, 2, p. 51-52.
(On presence of Andaman rhombochasm between sinistral Thai-Burma fault and dextral Sumatra fault)

Rodolfo, K.S. (1967)- Marine geology of the Andaman Basin, northeastern Indian Ocean. Ph.D. Thesis University of Southern Calfornia, Los Angeles, p. 1-316.

Rodolfo, K.S. (1969)- Sediments of the Andaman basin, Northeastern Indian Ocean. Marine Geology 7, p. 371-402.

Rodolfo, K.S. (1969)- Bathymetry and marine geology of the Andaman Basin and tectonic implications for Southeast Asia. Geol. Soc. America (GSA) Bull. 80, p. 1203-1230.
(Andaman Sea Basin large rhombochasm formed by Late Miocene- Recent rifting. E margin is Malay continental margin, composed of Paleozoic-Mesozoic rocks with thin Cenozoic sediment veneer. W boundary is Andaman-Nicobar Ridge, with U Cretaceous serpentinite-ophiolite-radiolarite core overlain by >3000m Paleocene-Miocene graywackes and shales. In-between are C Andaman Trough, two 220km long elongate basaltic seamounts and system of rift valleys and smaller volcanic seamounts. Maximum depths of Andaman Basin 4400m. Sediments in Central Trough 1.5 km thick)

Rose, K.K., J.E. Johnson, M.E. Torres, W. Hong, L. Giosan, E.A. Solomon et al. (2014)- Anomalous porosity preservation and preferential accumulation of gas hydrate in the Andaman accretionary wedge, NGHP-01 site 17A. Marine Petroleum Geol. 58, A, p. 99-116.
(In addition to pressure, temperature and salinity, additional parameters appear to influence concentration of gas hydrate in host sediments. Site 17A in Andaman Sea illustrates importance of grain-scale heterogeneities in controlling distribution of gas hydrate accumulations in marine sediments)

Roy, D.K., S.K. Acharyya, K.K. Ray, T.C. Lahari & M.K. Sen (1988)- Nature of occurrence, age and depositional environments of the oceanic pelagic sediments associated with the ophiolite assemblage from South Andaman Islands, India. Indian Minerals 42, 1, p. 31-56.

Roy, S.K. (1992)- Accretionary prism in Andaman forearc. Geol. Survey India, Spec. Publ. 29, p. 273-278.

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(online at: www.iagi.or.id/fosi/berita-sedimentologi-no-35-palaeogene-of-the-eastern-margin-of-sundaland-part-1.html)
(Soft-sediment deformation in Late Eocene- Oligocene Andaman Flysch of uplifted accretionary prism of Andaman and Nicobar Islands interpreted as indicators of earthquake activity)

Roy, S.K. & S.D. Sharma (1993)- Evolution of Andaman forearc basin and its hydrocarbon potential. In: S.K. Biswas et al. (eds.) Proc. 2nd Seminar on Petroliferous basins of India, 1, Indian Petroleum Publ., p. 407-435.

Roy, T.K. (1983)- Geology and hydrocarbon prospects of Andaman-Nicobar Basin. In: L.L. Bhandari et al. (eds.) Petroliferous basins of India, Petroleum Asia J. 6, 4, p. 37-65.

Roy, T.K. & N.N. Chopra (1987)- Wrench faulting in Andaman forearc basin, India. Proc. Offshore Technology Conf. (OTC) 19, Houston, p. 393-404.

Sachin, R., S. Verma & T. Pal (2017)- Petrochemical and petrotectonic characterisation of ophiolitic volcanics from Great Nicobar island Andaman-Sumatra belt. J. Geol. Soc. India 90, 1, p. 85-92.

(Great Nicobar island ophiolite restricted to E coast, as small isolated outcrops in Oligocene sediments terrain. Only upper part of ophiolite suite, with pillow basalts, massive andesite and pyroclastic andesite. In Andaman Islands dismembered ophiolite with complete ophiolite stratigraphy within Eocene sediments. Ophiolitic rocks in Great Nicobar island similar to Sunda outer arc ridge)

Saha, A., A. Dhang, J. Ray, S. Chakraborty & D. Moecher (2010)- Complete preservation of ophiolite suite from South Andaman, India: a mineral-chemical perspective. J. Earth System Science 119, 3, p. 365-381.
(online at:www.ias.ac.in/jess/jun2010/jess102.pdf)
(Complete preservation of ophiolite suite from Port Blair to Chiriyatapu in SE part of S Andaman island. Serpentinite at base overlain unconformably by cumulate ultramafic-mafic members, cut by basaltic dykes and capped by pillow basalts interlayered with arkosic sediments (nothing on ages of ophiolite complex))

Saha, A., M. Santosh, S. Ganguly, C. Manikyamba, J. Ray & J. Dutta (2018)- Geochemical cycling during subduction initiation: evidence from serpentinized mantle wedge peridotite in the south Andaman ophiolite suite. Geoscience Frontiers (Beijing), 21p. *(in press)*
(online at: https://www.sciencedirect.com/science/article/pii/S167498711830032X)
(Serpentinized Cretaceous- Paleocene peridotites (dunites) exposed in S Andaman representing tectonized mantle section of e ophiolite suite. Geochemical features suggest contributions from boninitic mantle melts and substantiate subduction initiation process by rapid slab roll-back with extension/ seafloor spreading in intra-oceanic forearc regime)

Sahu, V.K., V.K. Gahalaut, S. Rajput, R.K. Chadha, S.S. Laishram & A. Kumar (2006)- Indo-Burmese arc region: implications from the Myanmar and Southeast Asia GPS measurements. Current Science 90, 12, p. 1688-1693.
(GPS observations suggest plate motion of 36 mm/yr between India and Sundaland is partitioned almost equally between Sagaing fault and Indo-Burmese arc through episodic dextral motion. E-ward motion of Indian plate generally compensated by E-ward motion of S China plate. Almost no subduction along Indo-Burmese arc)

Sarkar, S. & A.K. Ghosh (2014)- Evaluation of coralline algal diversity from the Serravallian carbonate sediments of Little Andaman Island (Hut Bay), India. Carbonates and Evaporites 30, 1, 13p.
(Palaeodiversity of coralline algae in Serravallian Long Fm reefal carbonates of SE Little Andaman Island (Hut Bay). Nine genera, incl. Lithothamnium, Lithoporella, Corallina, etc.)

Sarkar, S., A.K. Ghosh & G.M.N Rao (2016)- Coralline algae and benthic foraminifera from the long formation (middle Miocene) of the Little Andaman Island, India: biofacies analysis, systematics and palaeoenvironmental implications. J. Geol. Soc. India 87, 1, p. 69-84.
(M Miocene (Serravallian) algal-foraminiferal carbonates of Long Fm Little Andaman Island. Dominance of coralline algae and larger foraminifera (incl. miogypsinids, Katacycloclypeus) indicates deposition in upper photic zone)

Sarma, D.S., S.H. Jafri, I.R. Fletcher & N.J. McNaughton (2010)- Constraints on the tectonic setting of the Andaman ophiolites, Bay of Bengal, India, from SHRIMP U-Pb zircon geochronology of plagiogranite. J. Geology 118, p. 691-697.
(Andaman ophiolites regarded as accreted and uplifted oceanic basement rocks thrust over Paleogene flysch deposited in Andaman fore-arc basin. U-Pb zircon mean age of ~93.6 Ma for plagiogranite in gabbro of Andaman ophiolites and East Coast Volcanics, interpreted as age of crystallization. Ophiolitic rocks must be older and likely obducted onto leading edge of Eurasian continent in E Cretaceous)

Sastri, V.V. & T.S. Bedi (1962)- On the occurrence of *Miogypsina, Cycloclypeus, Orbulina* in the Miocene of the Andaman islands. Current Science India 31, p. 20-21.
(Brief communication reporting first find of M Miocene foraminifera association of Miogypsina and Orbulina in calcareous sandstones of Strait and Nicholson Islands, Middle and S Andaman Islands)

Saxena, R.K., A.K Ghosh & A. Chandra (2005)- Calcareous algae from the limestone unit of Hut Bay Formation (Late Middle Miocene) of Little Andaman Island, India. In: J.P. Keshri & A. Kargupta (eds.) Glimpses of Indian phycology, Bishen Singh Mahendra Pal Singh Press, Dehra Dun, p. 275-301.
(Late M Miocene calcareous algae assemblage from limestone in Hut Bay Fm of Little Andaman Island with 13 species of coralline red algae (Lithophyllum, Lithothamnion, Amphiroa, etc.) and Halimeda-type green algae)

Satyavani, N., K. Sain & V. Jyothi (2014)- Gas hydrate occurrences in the Andaman offshore, India- seismic inferences. J. Indian Geophys. Union 18, 4, p. 440-447.
(online at: http://www.igu.in/18-4/3-paper.pdf)
(Seismic data in Andaman offshore E of Andaman islands shows prominent bottom-simulating reflector (BSR) at ~575m below seafloor, indicating presence of zone of gas hydrates and free gas below BSR)

Satyavani, N., K. Sain, M. Lall & B. Kumar (2008)- Seismic attribute study for gas hydrates in the Andaman Offshore India. Marine Geophysical Researches 29, 3, p. 167-175.
(Seismic data of Andaman Sea indicate presence of gas hydrates and underlying free gas. Prominent bottom-simulating reflection (BSR) with reverse polarity around 650-700 ms)

Scaife, S. & A. Billings (2010)- Offshore exploration of the Andaman Sea, GEO ExPro 7, 5, p. 30-34.
(Brief regional overview based on reprocessing of 1982-2001 seismic in Andaman Sea, E of Andaman islands. 13 wells in basin, only one (AN 1-1) flowed gas from Miocene limestone)

Scaife, S. & A. Billings & R. Spoors (2010)- A re-evaluation of vintage Andaman offshore seismic datasets, Proc. GEO-India, New Delhi 2011, AAPG Search and Discovery 10322, 5p. *(Extended Abstract)*
(online at: www.searchanddiscovery.com/documents/2011/10322scaife/ndx_scaife.pdf)

Schwager, C. (1866)- Fossile Foraminiferen von Kar Nikobar. In: Reise der Osterreichischen Fregatte Novara um die Erde in den Jahren 1857, 1858, 1859, Geol. Theil, 2, Staatsdruckerei, Vienna, p. 187-268.
('Fossil foraminifera from Kar-Nikobar'. First or one of earliest studies on foraminifera from SE Asia. From Austrian Novara Expedition 1857-1859 Reports. Taxonomy updated by Srinivasan & Sharma (1980))

Shankar, U. & M. Riedel (2013)- Heat flow and gas hydrate saturation estimates from Andaman Sea, India. Marine Petroleum Geol. 43, p. 434-449.
(Gas hydrate recovered along E coast of Andaman Islands at Site NGHP-01-17, mainly in volcanic ash layers. Gas hydrate saturation values up to ∼85% of pore spaces from ∼270m below seafloor to base of gas hydrate stability zone (~600m below seafloor). Bottom-simulating reflector imaged along several seismic lines, with depth of BSR >600m on line over Site NGHP-01-17, one of deepest BSRs observed worldwide. BSR-derived heat flow values ∼12- 41.5 mW/m2. Variable BSR depths in Andaman Sea controlled mainly by overall low geothermal gradients, with lower heat flow values over topographic highs)

Shankar, U., K. Sain & M. Riedel (2014)- Assessment of gas hydrate stability zone and geothermal modeling of BSR in the Andaman Sea. J. Asian Earth Sci.79, p. 358-365.
(Widespread bottom simulating reflectors (BSRs) seen on seismic profiles in Andaman Sea. BSR occurs where water depth >1000m, and identified by cross-cutting relationships with dipping reflectors. BSR represents base of gas hydrate stability field, which ranges from ~518-861m below sea floor, depending on water depths. In situ measurement at site 17 shows low geothermal gradient of 19 °C/km, responsible for deepest BSR in world)

Sharma, V., J. Daneshian & D.L. Bhagyapati (2011)- Early Neogene radiolarian faunal turnover in the northern Indian Ocean: evidence from Andaman-Nicobar. J. Geol. Soc. India 78, 2, p. 157-166.
(Two intervals of faunal turnover suggested by E-M Miocene radiolarians from Andaman-Nicobar, in Stichocorys wolffii -Calocycletta costata -Dorcadospyris alata zones: (1) latest E Miocene (upward increase in cold water species and decreasing diversity; (2) in M Miocene Dorcadospyris alata Zone at ~14.8-12.7 Ma, faunal turnover correlated with M Miocene cooling)

Sharma, V. & G.K. Sharma (1989)- Late Miocene to Early Pliocene radiolarian biostratigraphy of Neill Island, Andaman Sea. J. Geol. Soc. India 34, p. 76-82.

Sharma, V. & S. Singh (1997)- Late Neogene radiolarian events in Andaman-Nicobar Islands, Northeast Indian Ocean. Micropaleontology 43, p. 21-28.
(11 radiolarian events identified in Late Miocene - E Pliocene of Andaman-Nicobar islands)

Sharma, V., S. Singh & N. Rawal (1999)- Early Middle Miocene radiolaria from Nicobar Islands, Northeast Indian Ocean. Micropaleontology 45, 3, p. 251-277.
(Neogene of Andaman and Nicobar Islands deep water marine facies rich in Radiolaria. Nicobar islands Nancowry and Kamorta radiolarian assemblages with 120 species of Dorcadospyris alata Zone (~15-13 Ma))

Sharma, V. &, M.S. Srinivasan (2007)- Geology of Andaman-Nicobar: the Neogene. Capital Publishing Co., New Delhi, p. 1-163.

Sheth, H.C., J.S. Ray, R. Bhutani, A. Kumar & R.S. Smitha (2009)- Volcanology and eruptive styles of Barren Island: an active mafic stratovolcano in the Andaman Sea, NE Indian Ocean. Bull. Volcanology 71, 9, p. 1021-1039.
(online at: http://www.mantleplumes.org/WebDocuments/shethetal2009-bv.pdf)
(Barren Island little known volcano in Andaman Sea, and northernmost active volcano of Great Indonesian arc. Recent eruptions (1991, 1994-95, 2005-06) produced aa lava flows of basalt and basaltic andesite and tephra)

Shrivastava, J.P. & V. Sharma (2014)- Compositional variation in magma through Early Neogene in the Northeast Indian Ocean: a testimony from glass shards. J. Geol. Soc. India 84, 2, p. 181-186.
(Volcanic ash/ glass shards widely distributed in E Miocene marine succession of Andaman-Nicobar Islands, also few records from early M Miocene (~21-15 Ma). Range in composition from basalt to rhyolite. Andesite/ basalt-andesite most common, implying island arc tectono-magmatic setting, possibly in Indonesian region)

Singh, O.P. & S.A. Jafar (1995)- Late Miocene discoasters from Sawai Bay Formation, Neill Island, Andaman Sea, India. The Palaeobotanist 44, p. 189-206.
(21 species of Late Miocene discoasters from Sawai Bay Fm. Discoster berggrenii and D quinqueramus common forms. Calcareous nannofossil subzone CN9A = lower NN11)

Singh, O.P., S.M. Subramanya & V. Sharma (2000)- Early Neogene multiple microfossil biostratigraphy, John Lawrence island, Andaman Sea. Micropaleontology 46, p. 343-352.
(Planktic foraminifera, calcareous nannofossils and radiolaria examined from E Neogene of John Lawrence Island, Andaman Sea. Planktonic foraminifera referable to upper Globigerinatella insueta and lower Praeorbulina glomerosa zones (E-M Miocene boundary). Nannofossil assemblages assigned to Helicosphaera ampliaperta (NN4) Zone, radiolarians to Calocycletta costata Zone)

Singh, S.C. & R. Moeremans (2017)- Anatomy of the Andaman-Nicobar subduction system from seismic reflection data. In: P.C. Bandopadhyay & A. Carter (eds.) The Andaman- Nicobar accretionary ridge: geology, tectonics and hazards, Geol. Soc., London, Mem. 47, Chapter 13, p. 193-204.

Singh, S.C., R. Moeremans, J. McArdle & K. Johansen (2013)- Seismic images of the sliver strike-slip fault and back thrust in the Andaman-Nicobar region. J. Geophysical Research, Solid Earth, 118, p. 5208-5224.
(Great Sumatra Fault defines present day plate boundary between Sunda Plate in N and Burmese Sliver Plate in S. Continues N of Banda Aceh in Andaman Sea for >700 km until it joins Andaman Sea Spreading Centre. Two strands between Banda Aceh and Nicobar Island: a transpression in S, and deep narrow active rift system in N with volcanoes in center, suggesting volcanic arc is coincident with rifting. N of Nicobar Island active Andaman-Nicobar strike-slip fault, cuts through rifted deep basin; volcanic arc lies just E of rift. W margin of this basin seems to be rifted continental margin, tilted W, and flooring Andaman-Nicobar fore-arc basin)

Spicak, A. & J. Vanek (2013)- Earthquake clustering in the tectonic pattern and volcanism of the Andaman Sea region. Tectonophysics 608, p. 728-736.
(Earthquake swarms of S Andaman Sea zone induced by intrusions of subduction-generated calc-alkaline magmas, in N zone by intrusions of basaltic magmas associated with seafloor spreading. Earthquake swarm occurrence defines brittle, seismogenic layer at depths of 9-35 km)

Srinivasan, M.S. (1977)- Standard planktonic foraminiferal zones of the Andaman-Nicobar Late Cenozoic. Recent Researches in Geology 3, p. 23-79.

Srinivasan, M.S. (1980)- Early Neogene volcanism in Southeast Asia: evidence of ash beds from Andaman-Nicobar. In: T. Kobayashi, R. Toriyama et al. (eds.) Symposium on the geology and paleontology of SE Asia, Tsukuba 1978, Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 21, p. 227-234.
(Tephra and ash layers common in E Miocene, mainly around N4-N5 boundary, also in early M Miocene (N8) of E Andaman islands. Low volcanic activity in M-L Miocene in Andaman region. Likely sources island arc volcanoes of Narcondam and Barren Islands to NE in Andaman Sea and Indonesian volcanoes in SE (see aloso Shrivastava and Sharma 2014))

Srinivasan, M.S. (1984)- The Neogene of Andaman Nicobar. In: N. Ikebe & R. Tsuchi (eds.) Pacific Neogene datum planes, University of Tokyo Press, p. 203-207.

Srinivasan, M.S. (1986)- Neogene reference sections of Andaman-Nicobar: their bearing on volcanism, sea-floor tectonism and global sea-level changes. In: N.C. Ghose & S. Varadarajan (eds.) Ophiolites and Indian Plate margin, p. 295-308.

Srinivasan, M.S. (1988)- Late Cenozoic sequences of Andaman-Nicobar islands; their regional significance and correlation. Indian J. Geology 60, 1, p. 11-34.

Srinivasan, M.S. & R.J. Azmi (1976)- Contribution to the stratigraphy of Neill Island, Ritchieҩs Archipelago, Andaman Sea. In: M.S. Srinivasan (ed.) Proc VI Indian Colloquium on Micropaleontology and Stratigraphy, Devijyoti Press, Varanasi, p. 283-301.

Srinivasan, M.S. & R.J. Azmi (1976)- New developments in the Late Cenozoic lithostratigraphy of Andaman-Nicobar Islands, Bay of Bengal. In: M.S. Srinivasan (ed.) Proc VI Indian Colloquium on Micropaleontology and Stratigraphy, Devijyoti Press, Varanasi, p. 302-327.

Srinivasan, M.S. & R.J. Azmi (1979)- Correlation of late Cenozoic marine sections in Andaman-Nicobar, northern Indian Ocean and the equatorial Pacific. J. Paleontology 53, p. 1401-1415.
(Andaman-Nicobar Islands contain almost complete E Miocene- Quaternary sequence of tropical planktonic foraminiferal zones. Many of the 24 Andaman-Nicobar datum levels comparable with those established for equatorial Pacific, but some are different)

Srinivasan, M.S. & B.K. Chatterjee (1981)- Stratigraphy and depositional environments of Neogene limestones of Andaman-Nicobar Islands, Northern Indian Ocean. J. Geol. Soc. India 22, 11, p. 536ї546.
(On rel. widespread E Miocene- Pleistocene limestones of Andaman-Nicobar islands)

Srinivasan, M.S. & A. Dave (1984)- Neogene sequences of Long Island: their bearing on the Late Miocene paleoceanography of the Andaman Sea. In: R.M. Badva et al. (eds.) Proc. 10th Indian Coll. Micropaleontology and Stratigraphy, Pune 1982, p. 433-444.

Srinivasan, M.S. & V. Sharma (1969)- The status of late Tertiary foraminifera of Car Nicobar described by Schwager in 1866. Micropaleontology 15, p. 107-110.
(Brief revision of taxonomy of Late Tertiary foraminifera described by Schwager (1866) from Car Nicobar Island samples collected during 1858 Novara Expedition)

Srinivasan, M.S. & V. Sharma (1969)- Miocene foraminifera from Hut Bay, Little Andaman Island, Bay of Bengal. Cushman Found. Foraminiferal Research 20, 3, p. 102-105.
(Brief paper listing 86 species of bathyal (probably >600m water depth) small benthic and 25 species of planktonic forams(70% of fauna) in Late Miocene (Tortonian) of Little Andaman Island)

Srinivasan, M.S. & V. Sharma (1973)- Stratigraphy and microfauna of Car-Nicobar, Bay of Bengal. J. Geol. Soc. India 14, 1, p. 1-11.

Srinivasan, M.S. & V. Sharma (1980)- Schwager's Car Nicobar foraminifera in the reports of the Novara Expedition: a revision. Today & Tomorrow's Publ., New Delhi, p. 1-83.
(Revision of taxonomy of deep marine foraminifera originally described in classic work of Schwager (1866) on material collected by Austrian Novara Expedition in 1858, probably from E Pliocene (N19) Sawai Bay Fm)

Srinivasan, M.S. & S.S. Srivastava (1975)- Late Neogene biostratigraphy and planktonic foraminifera of Andaman- Nicobar Islands, Bay of Bengal. In: T. Saito & L.H. Burckle (eds.) Late Neogene Epoch boundaries, Micropaleontology Press, Spec. Publ. 1, p. 124-161.

Srisuriyon, K. & C.K. Morley (2014)- Pull-apart development at overlapping fault tips, oblique rifting on a Cenozoic continental margin, Northern Mergui Basin, Andaman Sea. Geosphere 10, p. 1, p. 80-106.
(online at: https://pubs.geoscienceworld.org/gsa/geosphere/article/10/1/80-106/132158)
(N Mergui Basin contains ENE-WSW to NE-SW striking normal fault-bound basins and NNW-SSE trending strike-slip faults. Two largest strike-slip faults (Manora with 4.5 km offset and Mergui with ~8 km of offset) pass into extensional or transtensional basins at tips, consistent with dextral offset. Strike-slip and extensional faulting. N part of Mergui Basin developed relatively late, in E Miocene, following WNW-ESE extension in Oligocene in S Mergui Basin, indicating rotation in extension direction to NNW-SSE with time. Basin part of major transtensional system involving Sumatra, W Andaman and Sagaing faults that accommodated N motion of W Myanmar as India moved N relative to SE Asia)

Srivastava, D.K. (2010)- Tectonic evolution of Andaman Arc system and its hydrocarbon prospectivity. In: S. Ibotombi (ed.) Indo-Myanmar Ranges in the tectonic framework of the Himalaya and Southeast Asia, Proc. National Seminar 2008, Geol. Soc. India, Bangalore, Mem. 75, p. 45-54.

Streck, M.J., F. Ramos, A. Gillam, D. Haldar & R.A. Duncan (2010)- The intra-oceanic Barren Island and Narcondam Arc volcanoes, Andaman Sea: implications for subduction inputs and crustal overprint of a depleted mantle source. In: J. Ray et al. (eds.) Topics in Igneous Petrology, Springer Verlag, p. 241-273.
(Active Barren Island and Pleistocene Narcondam volcanoes are only two subaerially exposed Andaman arc volcanoes, rising from 1000- 2300m deep seafloor of Andaman Sea, and associated with subduction of Indian plate beneath Burma plate. Lavas at Barren Island basalt to andesite, Narcondam volcano andesite to silicic andesite/dacite. Isotopic values from Barren Island likely caused by assimilation of extended continental crust and/or sediments from Irrawaddy Delta fan at Myanmar continental margin)

Subba Rao, P.B.V., M. Radhakrishna, K. Haripriya, B. Someswara Rao & D. Chandrasekharam (2016)- Magnetic anomalies over the Andaman Islands and their geological significance. J. Earth System Science 125, 2, p. 359-368.
(online at: www.ias.ac.in/article/fulltext/jess/125/02/0359-0368)
(Andaman Islands part of outer-arc accretionary complex of Andaman-Sumatra active subduction zone. Regional magnetic survey revealed intermediate-high amplitude magnetic anomalies, correlatable with areas of exposed ophiolite rocks along E coast of N, M and S Andaman Islands. Modelling indicates ophiolite bodies extend to depth of ~5-8 km and spatially correlate with mapped fault/thrust zones)

Subrahmanyama, C., R. Gireesh, S. Chand, K.A.K. Raju & D.G. Rao (2008)- Geophysical characteristics of the Ninetyeast Ridge-Andaman island arc/trench convergent zone. Earth Planetary Sci. Letters 266, p. 29-45.

(Ninetyeast Ridge strongly positive gravity anomalies and causing prominent break in continuity of gravity low of Andaman island arc trench. Ninetyeast Ridge is at starting phase of collision with island arc and may not have started affecting subduction process itself)

Thompson, P. (2018)- From Indonesia to Myanmar: a review of seismic images across the Indo-Australian/ Sunda plate margin: The anatomy of a subduction zone in space & time. Third AAPG/EAGE/MGS Oil and Gas Conf., Yangon 2017, Search and Discovery Art. 30552, p. 1-43.
(online at: http://www.searchanddiscovery.com/documents/2018/30552thompson/ndx_thompson.pdf)
(Series of 11 previously published seismic profiles across Sunda subduction thrench- accretionary prism-forearc from North Sumatra- Andaman Islands- Myanmar. Plate margin changes from subduction margin in S to transform margin in N. May have been wholly subduction margin until ~25Ma)

Tipper, G.H. (1911)- The geology of the Andaman Islands with references to the Nicobars. Mem. Geol. Survey India 35, 4, p. 195-222.
(Incl. occurrence of 'jaspers', quartzites, and pink and white porcellaneous limestones, sometimes as isolated exposures in Eocene, but occasionally in association with serpentines)

Valdiya, K.S. (2015)- Andaman island arc and back-arc sea. In: The making of India- Geodynamic evolution, 2nd Ed., Soc. Earth Scientists Series, Springer, p. 707-722.
(850km-long chain of islands between Bay of Bengal and Andaman Sea central part of 5000-km-long Myanmar-Indonesia Mobile Belt, related to active subduction zone. Andaman Island Arc two parallel arcuate belts: W arc of >300 islands of Andaman, Nicobar and Mentawai groups, made of U Cretaceous-Tertiary flysch, with ophiolites at various structural levels. Etc.)

Venkatesan, M.I., E. Ruth, P.S. Rao, B.N. Nath & B.R. Rao (2003)- Hydrothermal petroleum in the sediments of the Andaman Backarc Basin, Indian Ocean. Applied Geochem. 18, 6, p. 845-861.
(Recent sediment cores of Andaman Basin between Andaman Nicobar islands and Malay Peninsula analyzed for biomarkes. Hydrocarbons of hydrothermal origin present, derived from predominantly marine organic matter with some terrestrial input. Thermal maturity of bitumen comparable to or lower than that of other hydrothermal regions such N Juan de Fuca Ridge, Guaymas Basin and Escanaba Trough)

Verma, R.K., M. Mukhopadhyay & N.C. Bhuin (1979)- Seismicity, gravity and tectonics in the Andaman Sea. In: S. Uyeda, R.W. Murphy & K. Kobayashi (eds.) Geodynamics of the Western Pacific, Proc. Int. Conf. Geodynamics of the Western Pacific- Indonesian Region, J. Physics of the Earth 26, Suppl., p. 233-248.
(online at: https://www.jstage.jst.go.jp/article/jpe1952/26/Supplement/26_Supplement_S233/_pdf)
(Early paper documenting active subduction zone of Indian Ocean Plate under Andaman Sea Basin)

Wang, H, F. Lv, G. Fan, C. Mao & H. Ma (2011)- Geological conditions and accumulation mechanism of shallow biogenic gas reservoirs in Andaman Basin. AAPG Ann. Conv. Exh., Houston 2011, Search and Discovery Art., 16p. *(Abstract + Presentation)*
(online at: www.searchanddiscovery.com/documents/2011/10343wang/ndx_wang.pdf)
(Many shallow biogenic gas reservoirs in Miocene-Pleistocene strata in Andaman offshore area. Large biogenic gas field Zawtika 1A in Block M09 discovered in 2007, with >2 TCF proven gas reserves. Reservoirs Miocene-Pliocene delta front sandstonesat 750-1580m depth, and shallower biogenic gas reservoirs in Pleistocene with burial depths <500m)

Weeks, L.A., R.N. Harbison & G. Peter (1967)- The island arc system in Andaman Sea. American Assoc. Petrol. Geol. (AAPG) Bull. 51, 9, p. 1803-1815.
(Early sparker survey in Andaman Sea delineated continuation to N of Sumatra volcanic arc system over 1100 km (foredeep, outer sedimentary island arc, inner volcanic arc with rift valley and backdeep))

Zaw, K., S.K. Acharyya & H. Maung (1989)- Comments and Reply on "Transcurrent movements in the Burma-Andaman Sea region". Geology 17, 1, p. 93-98.
(Commentary and Reply on Maung (1987) paper)

Zhang, P., L. Mei, P. Xiong, X. Hu, R. Li & H. Qiu (2017)- Structural features and proto-type basin reconstructions of the Bay of Bengal basin: a remnant ocean basin model. J. Earth Science 28, 4, p. 666-682.
(online at: http://en.earth-science.net/PDF/20170721112257.pdf)
(Bay of Bengal Basin remnant ocean basin between E continental margin of India to W and Sunda trench-arc system to E. Prominent down flexure structures caused by huge amount of Bengal fan turbidite sediments accumulation. Transition from ocean basin to remnant ocean basin in Late Oligocene)

IX.2. Malay Peninsula, Singapore

Abdullah, I. (2004)- On the presence of pre-Carboniferous metasediments in the Eastern Belt: a structural view. Bull. Geol. Soc. Malaysia 49, p. 79-84.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm2004014.pdf)
Oldest rocks of Peninsular Malaysia E Belt Carboniferous in low-grade metaclastic facies, unconformably overlain by Late Permian continental deposits with plants, intruded by Permo-Carboniferous mafic-intermediate igneous rocks, followed by Late Permian-E Triassic biotite granite, Late Triassic granite and Jurassic-Cretaceous dolerite dykes. Most metasediments two episodes of folding. In certain areas three generations of folding, older phase probably developed in mid- Devonian)

Abdullah, N.T. (2009)- Mesozoic stratigraphy. In: C.S. Hutchison & D.N.K. Tan (eds.) Geology of Peninsular Malaysia, University of Malaya and Geol. Soc. Malaysia, Kuala Lumpur, p. 87-131.
(Mesozoic on Malay Peninsula mainly Triassic (incl. 'Tethyan' limestones and redbeds) and U Jurassic- Lower Cretaceous redbeds. U Cretaceous absent)

Abdullah, N.T. & A.H. Rahman (2009)- Discovery of Upper Permian carbonates from the Kenong Wildlife Reserve, Pahang, Malaysia. Bull. Geol. Soc. Malaysia, 38, p. 79-89.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1995008.pdf)
(Outcrops of U Permian in N Pahang, C Malay Peninsula. Late Permian carbonates in Kenong Reserve associated with marine shales and common volcanoclastics of M Permian- M Triassic 'Guang Musang Fm'. With common algae, rare, rel. advanced Palaeofusulina, Reichelina, Colaniella cf. parva, Paraglobivalvulina)

Abdullah, W.H. & P. Abolins (1998)- Organic petrological and organic geochemical characterisation of the Tertiary coal-bearing sequence of Batu Arang, Selangor, Malaysia. J. Asian Earth Sci. 16, 4, p. 351-367.
(Selangor Batu Arang Tertiary coal-bearing sequence with oil shales dominated by Botryococcus-derived telalginite and Pediastrum-derived lamalginite. Coals hypautochthonous in origin, mainly duroclarite-type. Both thermally immature. Remarkably, oleanane and bicadinanes, linked to angiosperm plants, not observed)

Adenan, N.B., C.A. Ali & K.R. Mohamed (2014)- Diagenetic history of the Chuping Limestone at Bukit Tengku Lembu, Perlis, Malaysia. Geol. Soc. Malaysia, Nat. Geoscience Conf. (NGC) 2014, Trengganu, P025, p. 86-94.
(also in Sains Malaysiana 46, 6 (2017), p. 887–895. Diagenetic processes in E Permian- Late Triassic Chuping Lst in Perlis, NW Malay Peninsula (= Ratburi Lst of Thailand): (1) early marine diagenesis (fibrous rim calcite cements); (2) burial diagenesis (mechanical compaction, formation of stylolites, cementation, dolomitization); (3) meteoric phreatic cementation)

Agematsu, S. (2010)- Establishment of the Lower to Middle Ordovician biostratigraphy on the Langkawi Islands, Malaysia. J. Geography (Chigaku Zasshi) 119, 5, p. 872-877.
(online at: https://www.jstage.jst.go.jp/article/jgeography/119/5/119_5_872/_pdf)
(Japanese with English summary. 18 species of late Early- early M Ordovician conodonts in Kaki Bukit Fm in Langoon Island, NE Langkawi Islands, deposited on shelfal carbonate platform. E Ordovician conodonts from SE Asia belong to Australian province)

Agematsu, S., K. Sashida & A.B. Ibrahim (2008)- Biostratigraphy and paleobiogeography of Middle and Late Ordovician conodonts from the Langkawi Islands, northwestern peninsular Malaysia. J. Paleontology 82, p. 957-973.
(M-Upper Ordovician limestones of Langkawi Islands 20 species of conodonts in four biostratigraphic zones. M Ordovician fauna belongs to low-latitude Australian Province (part of Sibumasu Block). M Arenigian deposited on shallow-water shelf, Late Arenigian- M Darriwilian limestones formed in hemipelagic deeper-water conditions)

Alexander, F.E.S. (1950)- The geology of Singapore and surrounding islands. In: Report on the availability of granite on Singapore and the surrounding islands, Appendix 1, Singapore Government Press, 24p.

Alexander, J.B. (1959)- Geology and palaeontology in Malaya: Pre-Tertiary stratigraphic succession in Malaya. Nature 183, p. 230-231.
(Early summary of Cambrian- Cretaceous stratigraphy of Malay Peninsula)

Alexander, J.B. (1968)- The geology and mineral resources of Bentong, Pahang and adjoining portions of Selangor and Negri Sembilan, incorporating an account of the prospecting and mining activities of the Bentong district. Geol. Survey Dept. West Malaysia, Ipoh, Mem. 13, p. 1-250.
(Strata dip generally WNW and are tightly folded. Oldest rocks (Schist Series) are schists and phyllites lying immediately E of Main Range granite. They are overlain by Older Arenaceous Series (Bentong Gp quartzite, conglomerate, shales and bedded radiolarian chert, followed by Calcareous Series (Raub Group mudstone with intermediate tuffs and lenses of crystalline limestone) and Younfer Arenaceous Series (Lipis Gp). Pyroclastics and lavas are referred to Pahang Volcanic Series. Main Range granite mainly biotite alkali granite)

Alexander, J.B., V. Sethaput, T.H. Holland, M.S. Krishnan & K. Jacob (1956)- Malaya/ Thailand/ Burma. Lexique Stratigraphique International, Int. Geological Congress, Commision de Stratigraphie, Paris, III, Asie 6B-6C-6D, p. 1-115.
(Stratigraphic lexicon of Malaya, Thailand and Myanmar)

Ali, M.A.M., E. Willingshofer, L. Matenco, T. Francois, T.P. Daanen, T.F. Ng, N.I. Taib & M.K. Shuib (2016)- Kinematics of post-orogenic extension and exhumation of the Taku Schist, NE Peninsular Malaysia. J. Asian Earth Sci. 127, p. 63-75.
(Triassic Indosinian orogen in Peninsular Malaysia with significant post-orogenic extension. Taku Schist, Kemahang granite and Gua Musang sediments of N Peninsular Malaysia (E of Bentong-Raub suture?). Three phases of compressional deformation, with metamorphism of Taku mica schist to amphibolite facies, mainly from Paleozoic clastic sediments with some mafic intercalations, equivalent to ones exposed in Bentong-Raub suture zone. Serpentinites near W contact between schist and overlying Gua Musang Fm M Permian- U Triassic forearc basin clastics and volcanics. Triassic Kemahang granite syn-kinematic (~227 Ma). Shortening followed by extension in NW-SE direction, resulting in large Taku detachment (age of exhumation uncertain). Extension probably reactivated former subduction plane as detachment and exhumed previously buried and metamorphosed rocks)

Alkhali, H.A. & C.W. Sum (2015)- The Kati Formation: a review. In: M. Awang et al. (eds.) 3rd Int. Conf. Integrated Petroleum Engineering and Geosciences (ICIPEG2014), Kuala Lumpur 2014, Springer Verlag, p. 303-312.
(Review of stratigraphic nomenclature of intensely folded Permo-Carboniferous deep marine shales and sandstones of Kati Fm of W Malay Peninsula. Estimated thickness 800-900m. More intensely folded and probably older than Triassic Semanggol Fm; interpreted as equivalent of Kubang Pasu Fm in NW and Kenny Hill Fm of KL area. Flute casts suggest source from N-NW)

Almashoor, S.S. (1996)-The Benta migmatite complex revisited. Warta Geologi 22, 3, p. 227. *(Abstract)*
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1996003.pdf)
(Abstract only. Re-interpretation of Hutchison 1971; see also Umor & Almashoor 2000))

Altermann, W., N.A. Harbury, M.E. Jones, M.G. Audley-Charles, K.R. Mohamed & I. Metcalfe (1991)- Discussion on structural evolution of Mesozoic Peninsular Malaysia. J. Geol. Soc., London 148, p. 417-419.
(Discusssion of Harbury, Jones et al. (1990) paper and replies. Mainly on age of Raub Bentong suture)

Anaschinda, P. (1978)- Tin mineralization in the Burmese-Malayan Peninsula- a plate tectonic model. In: P. Nutalaya (ed.) Proc. 3rd Reg. Conf. Geol. Mineral Res. SE Asia (GEOSEA III), Bangkok 1978, p. 293-299.
(Early plate tectonic model of Malay Peninsula granite belts, with Late Triassic collision of W and E Malaya blocks along Bentong- Raub ophiolite belt)

Arbain, N.A., Q.L. Xiang & A.A Ghani (2017)- Geochemistry of Ordovician to Silurian felsic volcanic from Gerik, Peninsular Malaysia. Proc. 30th Nat. Geosc. Conf. Exhib. (NGC 2017), Kuala Lumpur, PDRG13-77, Warta Geologi 43, 3, p. 309. *(Abstract only)*
(online at: https://gsmpubl.files.wordpress.com/2017/09/ngsm2017_032.pdf)
(Record of Late Ordovician- E Silurian (~488-450 Ma) rhyolitic volcanics in W Belt of Malay Peninsula (Sibumasu Terrane). Geochemistry of S-type arc volcanics)

Ariffin, K.S. (2009)- Sediment hosted primary tin deposit associated with biotite granite and fault zone at Gunung Paku, Klian Intan, Upper Perak, Malaysia. Resource Geology 59, 3, p. 282-294.
(Gunung Paku in Perak is primary tin deposit in Malaysia, mined for >200 years. Located in W Tin belt of Peninsular Malaysia, associated with biotite granite (184-230 Ma; Late Triassic- E Jurassic) of Main Range Granitoid. Primary tin mineralization associated with sheet-like quartz vein systems parallel to strike of host rocks, formed in low-metamorphic metasediments rock of Paleozoic Baling Fm. Mineralized veins range from quartz-cassiterite, quartz-tourmaline-cassiterite to complex quartz-cassiterite-polymetallic sulfide veins)

Ariffin, K.S. (2012)- Mesothermal lode gold deposit Central Belt Peninsular Malaysia, In: I.A. Dar (ed.) Earth Sciences, Intechopen, p. 313-342. *(online at: http://cdn.intechopen.com/pdfs/27599/InTech-Mesothermal_lode_gold_deposit_central_belt_peninsular_malaysia.pdf)*
(Gold mineralization in Malay Peninsula Central Belt are low mesothermal lode gold deposits associated with accretionary prism along Raub-Bentong Suture. Mineralization took place in Permo- Late Triassic island arc system during collision of Sibumasu block underneath E Malaya (Indochina))

Ariffin, K.S. & N.J. Hewson (2007)- Gold-related sulfide mineralization and ore genesis of the Penjom gold deposit, Pahang, Malaysia. Resource Geology 57, 2, p. 149-169.
(Penjom gold deposit ~20km E of Raub-Bentong Suture zone, Kuala Lipis, Pahang. Within C Belt of Permian-Lower Triassic Padang Tungku Fm argillaceous marine clastics with thin limestones and Pahang Volcanic Series intermediate to acid volcaniclastics and subordinate rhyolitic lava sequences. Intruded by tonalite and quartz porphyry. Penjom gold deposit associated with Tertiary, volcanic and hydrothermal activity)

Asama, K. (1973)- Lower Carboniferous Kuantan Flora, Pahang, West Malaysia. In: T. Kobayashi (ed.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 11, p. 109-118.
(Lower Carboniferous (Visean) flora from Raub series near Kuantan, East coast Malay Peninsula. This warm-humid 'Kuantan flora' is on East Malaya/ Indochina Block and contains Lepidodendron spp., Stigmaria, etc.))

Asnachinda, P. (1978)- Tin mineralization in the Burmese-Malayan Peninsula. In: P. Nutalya (ed.) Proc. 3rd Regional Conf. Geology and Mineral Resources of SE Asia (GEOSEA III), Bangkok, p. 293-299.

Aung, A.K. & J. Azmi (2014)- *Yatsengia jengkaensis*- a new yatsengiid rugose coral from the ñJenga Pass Limestoneò, Pahang, central Peninsular Malaysia. Warta Geologi 40, 1-2, p. 1-6.
(online at: www.gsm.org.my/products/702001-100339-PDF.pdf)
(Yatsengia jengkaensis n.sp. rugose coral from early M Permian (Wordian) Jengka Pass Limestone, ~24km E of Temerloh and 8km E of Bukit Kepayang, Pahang, C Peninsular Malaysia (= W margin of Indochina Plate). Jengka Fm steeply folded. Associated with fusulinds Neoschwagerina katoi, Verbeekina verbeeki, Sumatrina annae, Pseudofusulina, indicating M Permian age. Also with corals Michelinia cf. indica and Parawentzelella socialis and dasyclad algae Mizzia sp.)

Aung, A.K., Ng T. Fatt, K.K. Nyein & M.H. Zin (2013)- New Late Permian rugose corals from Pahang, peninsular Malaysia. Alcheringa 37, p. 1-13.
(Late Permian rugose solitary corals Iranophyllum aequabilis and I. pahangense from limestone lens in Gua Musang Fm, Selborne Estate, Padang Tengku, Pahang (C Peninsular Malaysia), belonging to Waagenophyllidae (Waagenophyllum, Iranophyllum). Associated with rich Late Permian Paleofusulina-Colaniella- Reichelina foraminiferal fauna, indicating Changhsingian age)

Aung, A.K., Ng T. Fatt, & K.K. Nyein (2012)- The first record of the Late Permian waagenophyllid rugose corals from Pahang, Central Peninsular Malaysia. Geol. Soc. Malaysia, Nat. Geoscience Conf., Kuching 2012, Paper A1, p. 7-8. *(Extended Abstract)*
(Late Permian solitary waagenophyllid rugose corals from limestone unit of Gua Musang Fm in Selbourne Estate, Padang Tengku area, Pahang, C Peninsular Malaysia. One new genus, 5 new species. First record of Iranophyllum in Malaysia. See also Aung et al. 2013)

Aung, A.K., Meor H.A. Hassan & Ng T. Fatt (2013)- Discovery of Late Devonian (Frasnian) conodonts from the ñSanai limestoneò, Guar Jentik, Perlis, Malaysia. Bull. Geol. Soc. Malaysia 59, p. 93-99.
(onine at: www.gsm.org.my/products/702001-100325-PDF.pdf)
(First record of Late Devonian (Frasnian) conodonts (Ancyrodella, Ancyrognathus, Palmatolepis, Polygnathus, Icriodus, Ozarkodina and Belodella) of linguiformis Zone from U Sanai Lst, Perlis, Malaysia. Limestone dips 60° NE, is pelagic with common tentaculitids, straight nautiloids, trilobites and bivalves. Sanai Lst limited distribution in Malaysia. Frasnian conodonts comparable to fauna (linguiformis Zone) of NW Thailand)

Aung, A.K. & M.K. Shuib (2013)- Similarities in Middle-Late Permian fossils from Myanmar and Malaysia and its paleogeographic implications. In: Proc. Nat. Geoscience Conf., Ipoh 2013, Geol. Soc. Malaysia, B14, p. 87-88. *(Abstract only)*
(online at: www.gsm.org.my/products/702001-101658-PDF.pdf)
(M-L Permian rugose corals from 'Plateau Limestone' of Myanmar (Sibumasu Block) include Thomasiphyllum ('Cimmerian' province) and Wentzellophyllum, suggesting mixed Cimmerian (Sibumasu) and Cathaysian provinciality in M Permian and imply M Permian Paleo-Tethys is only narrow seaway that probably closed by collision in Late Permian)

Aung, A.K., K. Simon & Ng T. Fatt (2011)- Permian foraminiferal assemblages from the limestone unit of the Gua Musang Formation in the Padang Tengku area, Pahang, Malaysia. Proc. 24th Ann. National Geoscience Conference 2011 (NGC2011), Johor Baru, P2-19, p. 142. *(Abstract)*
(online at: http://geology.um.edu.my/gsmpublic/NGC2011/NGC2011_Proceedings.pdf)
(Permian Gua Musang Fm limestone in Selbourne Estate, 4 km NW of Padang Tengku, Pahang, C Malay Peninsula, with 18 smaller foram genera: Tetrataxis, Reichelina, Climacammina, Geinitzina, Dagmarita, Pachyphloia, Globivalvulina, Paleotextularia, Ozawainella, Pseudokahlerina, Colaniella, Langella, etc. Fusulinids absent. Similar assemblages in M-U Permian of E Malay Peninsula, Phra Nang Bay of Peninsular Thailand, Plateau Limestone of E Myanmar, etc. Assemblages assigned to late M- early Late Permian)

Aw, P.C. (1990)- Geology and mineral resources of the Sungai Aring Area, Kelantan Darul Naim. Geol. Survey Malaysia District Mem. 21, p. 1-116.

Aw, P.C., K. Ishii & Y. Okimura (1977)- On *Palaeofusulina- Colaniella* fauna from the Upper Permian of Kelantan, Malaysia. Trans. Proc. Palaeontological Soc. Japan, N.S, 104, p. 407-417.
(https://www.jstage.jst.go.jp/article/prpsj1951/1977/104/1977_104_407/_pdf)
(First record of uppermost Permian fusulinids (Palaeofusulina cf. bella, Reichelina, also Colaniella media and C. parva) in Malay Peninsula. In folded, WSW-dipping argillo-tuffaceous limestone interbedded with tuffs of Sungei Paloh, Lebir River area of S Kelantan, S of Kotabaru (= W margin of E Malaya Block?). Overlain by E Triassic with bivalve Claraia)

Aziz Ali, C., M.S. Leman & K.R. Mohamed (2004)- Fasies karbonat dan diagenesis di dalam batu kapur Bukit Biwah dan Bukit Taat, Kenyir, Ulu Terengganu. Bull. Geol. Soc. Malaysia 49, p. 61-65.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm2004011.pdf)
Carbonate facies and diagenesis of M Permian shallow marine limestones in Terengganu province, NE Malay Peninsula)

Aziz Ali, C. & K.R.Mohamed (2013)- Microfacies and diagenesis in the Setul Limestone in Langkawi and Perlis. Bull. Geol. Soc. Malaysia 59, p. 59-66.
(online at: http://gsmpubl.files.wordpress.com/2014/08/bgsm2013010.pdf)

(Ordovician - E Devonian Setul Limestone outcrops in E Langkawi and Perlis seven microfacies. Depositional environments tidal flats to lagoon and shallow subtidal carbonate ramp. Diagenetic environments freshwater phreatic zone, marine phreatic zone, mixing zone and deep burial zone)

Azman, A.G. (2000)- The Western Belt granite of Peninsular Malaysia: some emergent problems on granite classification and its implication. Geosciences J. 4, 4, p. 283-293.
(Western Belt granites of Malay Peninsula considered as exclusively 'S' type granites, but consists of mixed 'I' and 'S' type features. This implies W Belt granites not solely derived from metasediments, but mixed origin of crustal material such as metapelites, greywackes and meta-igneous rocks)

Baioumy, H. & Y. Ulfa (2016)- Facies analysis of the Semanggol Formation, South Kedah, Malaysia: a possible Permian-Triassic boundary section. Arabian J. Geosciences 9, 8, 530, p. 1-16.
(NW Malay Peninsula outcrop sections of deep-marine Late Permian- Triassic Semanggol Fm. Common volcanogenic material in Late Permian, probably from E China)

Baioumy, H., Y. Ulfa, M. Nawawi, E. Padmanabhan & M.N.A. Anuar (2016)- Mineralogy and geochemistry of Palaeozoic black shales from Peninsular Malaysia: implications for their origin and maturation. Int. J. Coal Geology 165, p. 90-105.
(19 Cambrian- Permian black shale-bearing formations form 25% of sediment cover in Malay Peninsula. Compositions indicate changes in degree of weathering of sediment-source of shales and relatively wet climate in Cambrian, dry in Ordovician, wet from Silurian- Carboniferous, dry in Carboniferous-Permian and relatively wet in Permian. Black shales deposited under reducing conditions. Possible Devonian anoxia. Majority of Paleozoic black shales in Peninsular Malaysia anchimetamorphic and overmature)

Basori, M.B.I. (2014)- Geology and genesis of volcanic-hosted massive sulfide deposits in the Tasik Chini District, Central Peninsular Malaysia. Ph.D. Thesis, University of Tasmania, p. 1-365.
(online at: http://eprints.utas.edu.au/22747/)
(Two polymetallic volcanic-hosted massive sulphide deposits in Tasik Chini district ~250km E of Kuala Lumpur in Pahang, in felsic volcano-sedimentary sequence of E Permian island arc of East Malaya Block. E Permian U-Pb zircon ages of from Bukit Botol (~273, 286, 292 Ma) and Bukit Ketaya (286, 288 Ma) deposits. Also widespread Triassic volcanic- plutonic rocks (Eastern Granite Belt), with zircon ages ~233-242 Ma (Ladinian-Carnian). Massive sulphide deposits are 'kuroko-type' volcanic-hosted seafloor deposits)

Basori, M.B.I., M.S. Leman & K. Zaw (2018)- Implications of U-Pb detrital zircon geochronology analysis for the depositional age, provenance, and tectonic setting of continental Mesozoic formations in the East Malaya Terrane, Peninsular Malaysia. Geological J., p. *(in press)*
(U-Pb geochronology of detrital zircons in continental Late Jurassic or older formations of Peninsular Malaysia (E Malaya Terrane). Bertangga Fm zircon populations Jurassic (139-194 Ma), Permo-Triassic (226-274 Ma), Ordovician-Devonian (372-459 Ma), Neoproterozoic (631-876 Ma), and Mesoproterozoic-Palaeoproterozoic (1.5- 2.6 Ga). Gerek Fm significant Carboniferous grains. Detrital zircons correlate well with regional tectonic uplift and erosion to tectonic stability of East Malaya Terrane basin in Mesozoic)

Basori, M.B.I., K. Zaw, R.R. Large & W.F.W Hassan (2017)- Sulfur isotope characteristics of the Permian VHMS deposits in Tasik Chini district, Central Belt of Peninsular Malaysia. Turkish J. Earth Sciences 26, 1, p. 91-103.
(Sulfur isotope data from E Permian volcanic-hosted massive sulfide deposits of Tasik Chini district in Central Belt of Malay Peninsula suggest source of ore fluids is seawater-dominated with minor magmatic input)

Basori, M.B.I., K. Zaw, S. Meffre & R.R. Large (2016)- Geochemistry, geochronology, and tectonic setting of early Permian (~290 Ma) volcanic-hosted massive sulphide deposits of the Tasik Chini district, Peninsular Malaysia. Int. Geology Review 58, p. 929-948.
(Tasik Chini district in C Belt of Malay Peninsula hosts Bukit Botol and Bukit Ketaya VHMS deposits. Hosted by Permian felsic volcanics. Four mineralization zones: (1) stringer sulphide; (2) massive sulphide; (3) barite; and (4) Fe-Mn and Fe-Si zones. U-Pb zircon dating of rhyolites E Permian ages (~286-292 Ma). Differences

between E Permian host and later Triassic igneous rocks due to tectonic progression from volcanic arc to collisional setting)

Basori, M.B.I., K. Zaw, S. Meffre, R.R. Large& W.F.W. Hassan (2016)- Pb-isotope compositions of the Tasik Chini volcanic-hosted massive sulfide deposit, Central Belt of Peninsular Malaysia: implication for source region and tectonic setting. Island Arc 26, 2, e12177, 8p.
(Lead isotopes of sulfides and host volcanic rocks of Permian Tasik Chini volcanic-hosted massive sulfide deposit. Range of lead isotopic compositions reflect mixing of bulk crust/juvenile arc and minor mantle sources, are typical for VHMS deposits in island arc- back arc setting)

Batchelor, D.A.F. (1987)- The age of Malaysian fluvial tin placers. In: N. Thiramongkol (ed.) Proc. Workshop on Economic geology, tectonics, sedimentary processes and environment of the Quaternary in Southeast Asia, Haid Yai, Thailand 1986, IGCP 218/ Chulalongkorn University, Bangkok, p. 103-123.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1986/5083...)
(Latest Pliocene- M Pleistocene period principal phase of economic tin placer development. Old Alluvium placers formed during E Pleistocene interglacial period when increasing and more regular precipitation and sealevel rise initially caused increased sediment supply with subsequent stream entrenchment. Present environments unfavorable for tin placer formation)

Batchelor, D.A.F. (1988)- Dating of Malaysian fluvial tin placers. J. Southeast Asian Earth Sci. 2, 1, p. 3-14.
(Richest fluvial and piedmont fan tin placers in Malaysia formed mainly in 'Boulder Beds', 'Old Alluvium' and 'Transitional Unit' (YU) regional lithostratigraphic units. TU deposited during early Brunhes Normal Polarity Epoch, OA and BB during Matuyama Reversed Epoch (0.73-2.48 Ma). Latest Pliocene- M Pleistocene period principal phase of economic tin placer formation. Bulk of OA placers formed in Lower Pleistocene interglacial period. M Pleistocene age for TU placers)

Batchelor, D.A.F. (1994)- Geological characteristics of the Pulai alluvial gold deposit, South Kelantan, Malaysia. J. Southeast Asian Earth Sci. 10, p. 101-108.
(also in Proc. GEOSEA VI Conf. Jakarta 1987. Pulai area in Central Tectonic Belt, Peninsular Malaysia. Fluvial gold placer deposit along 17km of upper Galas River. Gold probably genetically tied to acid intrusions, with important primary sources near Kelantan-Pahang border, 3-5 km SE of Pulai village. Small granite stocks 3 km W of Pulai additional likely source. Area gold mined by Chinese settlers since late 1800's)

Batchelor, D.A.F. (2015)- Clarification of stratigraphic correlation and dating of Late Cainozoic alluvial units in Peninsular Malaysia. Bull. Geol. Soc. Malaysia 61, p. 75-84.
(online at: www.gsm.org.my/products/702001-101674-PDF.pdf)
(Review of Late Pliocene- Quaternary alluvial deposits that overlie M Pliocene 'Sundaland Regiolith' red-yellow lateritic soil development in Malay Peninsula. Old Alluvium/ Simpang Fm older than 775 ka, supported by presence of tektites (~785ka) within tin-bearing beds of Gambang tinfield in Pahang)

Batten, R.L. (1972)- Permian gastropods and chitons from Perak, Malaysia. Part 1. Chitons, bellerophontids, euomphalids and pleurotomarians. Bull. American Museum Natural History 147, 2, p. 1-44.
(online at: http://digitallibrary.amnh.org/dspace/handle/2246/1103)
(One of richest Permian gastropod faunas of Asia 92 species) in H.S. Lee No. 8 opencast tin mine near Kampar, Perak. Associated with fusulinids, all with Tethyan affinities (but on Sibumasu Terrane?; JTvG))

Batten, R.L. (1979)- Permian gastropods from Perak, Malaysia. Part 2. The trochids, patellids, and neritids. American Museum (Natural History) Novitates, 2685, p. 1-26.
(online at: http://digitallibrary.amnh.org/dspace/handle/2246/5386)
(Continuation of Batten (1972). Rich Permian gastropod fauna from white limestone in H.S. Lee Mine 8 near Kampar, Perak, associated with corals, scaphopods, bivalves, brachiopods, cephalopods and fusulinids. Fusulinids suggest Late Artinskian- E Guadalupian age, Misellina claudiae zone (Jones et al. 1966). Neritacean species similar to those found in Sicily, Timor and Sumatra and identified as typical Tethyan)

Batten, R.L. (1985)- Permian gastropods from Perak, Malaysia. Part 3. The murchisoniids, cerithiids, loxonematids, and subulitids. American Museum (Natural History) Novitates, 2829, p. 1-26.
(online at: http://digitallibrary.amnh.org/dspace/handle/2246/3583)
(*(Final part of 3-part study of rich Permian gastropod fauna from H.S. Lee Mine 8 near Kampar, Perak)*

Bean, J.H. (1969)- The iron-ore deposits of West Malaysia, including geology of the Bukit Besi ore-deposits. Geol. Survey West Malaysia, Ipoh, Econ. Bull. 2, p. 1-194.

Bean, J.H. (1972)- Geology, petrography and mineral resources of Pulau Tioman, Pahang. Geol. Survey Malaysia, Map Bull. 5, p. 1-92.

Becher, H.M. (1893)- The gold- quartz deposits of Pahang (Malay Peninsula). Quart. J. Geol. Soc., London 49, p. 84-88.
(Gold-quartz veins of Pahang cut Paleozoic slates, with some sandstones, and dark-coloured, impure limestone-beds strata, strike ~N-S; steep dips, mostly to East, overlain by crystalline limestones)

Bergstrom, S.M ; S. Agematsu & B. Schmitz (2010)- Global Upper Ordovician correlation by means of ŭ13C chemostratigraphy: implications of the discovery of the Guttenberg ŭ 13 C excursion (GICE) in Malaysia. Geol. Magazine 147, 5, p. 641-651.
(Ordovician succession on Langgun, Langkawi Islands, off NW Malay Peninsula (Sibumasu Block), shows presence of Late Ordovician Guttenberg Carbon Excursion (GICE) known from Yangtze Platform, S China, just above conodont Baltoniodus alobatus Subzone and near first appearance of Hamarodus europaeus)

Bignell, J.D. (1972)- The geochronology of the Malayan granites. D. Phil. Thesis, University of Oxford, p. 1-323. *(Unpublished)*

Bignell, J.D. & J.B. Snelling (1977)- The geochronology of Malayan granite. Overseas Geol. Min. Res. Inst. Geol. Science, London, 47, p. 358-359.
(Include Late Triassic ages for biotite granite at Langkawi island (Rb/Sr ages 217± 8 Ma and 209± 6 Ma)

Bignell, J.D. & N.J. Snelling (1977)- K-Ar Ages on some basic igneous rocks from Peninsular Malaysia and Thailand. Bull. Geol. Soc. Malaysia 8, p. 89-93.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1977005.pdf)
(K-Ar age data from igneous rocks of E Pahang and Trengganu (Jurassic, Cretaceous Pleistocene), Johore (E Paleocene) and Ko Kut, Gulf of Thailand (Late Miocene basalt))

Boucot, A.J., J.G. Johnson & C.R. Jones (1966)- Silurian brachiopods from Malaya. J. Paleontology 40, 5, p. 1027-1031.
(Four Silurian brachiopod species of genera Capelliniella, 'Conchidium', Cymbidium, and Atrypella described from Kuala Lumpur dolomitic limestones. Cosmopolitan species)

Bradford, E.F. (1961)- The occurrence of tin and tungsten in Malaya. Proc. 9th Pacific Science Congress Bangkok 1957, 12, p. 378-398.
(online at: http://archive.org/details/geologyandgeophy032600mbp)

Bradford, E.F. (1972)- The geology and mineral resources of the Gunung Jerai area, Kedah. Geol. Survey Malaysia Memoir 13, p. 1-242.

Burton, C.K. (1965)- Wrench faulting in Malaya. J. Geology 73, 5, p. 781-798.
(Propose major Bok Bak wrench fault zone, running for >650 miles NW-SE across Malay Peninsula from Baling area in NW to Pulau Tinggi in SE. Offsetting older N-S structural zones, with probable 32-36 miles of sinistral displacement (but Raj (1982) questions SE extension of Bok Bak fault beyond E Kedah/ NW Perak))

Burton, C.K. (1967)- Dacryoconarid tentaculites in the Mid-Paleozoic euxinic facies of the Malaysian geosyncline. J. Paleontology 42, 2, p. 449-454.
(45 localities with fossil tentaculites in strongly folded black shales of Mahang Fm (= Baling Fm= Sentul Fm) in NW Malay Peninsula. E-M Devonian aspect, but associated with Ordovician trilobites and Lower Silurian graptolites. Malayan tentaculites-bearing black shales in 'miogeosynclinal euxinic facies'. Called Nowakia acuaria and placed in E Devonian (Emsian) by Agematsu et al. 2006; JTvG)

Burton, C.K. (1967)- Graptolite and tentaculite correlation and palaeogeography of the Silurian and Devonian in the Yunnan- Malayan geosyncline. Trans. Proc. Palaeontological Soc. Japan 65, p. 27-46.
(online at: www.palaeo-soc-japan.jp/download/TPPSJ/TPPSJ_NS65.pdf)
(Siluran- M Devonian black shales with graptolites and tentaculites present from NW Malay Peninsula (Langkawi, Kedah, Perak, etc.) into Burma, W-most Thailand and Yunnan, SW China (=Sibumau terrane))

Burton, C.K. (1967)- The Mahang Formation: a mid-Palaeozoic euxinic facies from Malaya- with notes on its conditions of deposition and palaeogeography. Geologie en Mijnbouw 46, 5, p. 167-187.
(online at: https://drive.google.com/file/d/0B7j8bPm9Cse0Vi1nOGd3aklrUDA/view)
(On Silurian- M Devonian Mahang Fm thin-bedded black carbonaceous shales from NW corner of Malay Peninsula with graptolites (monograptus spp., Climacograptus spp., etc.), tentaculids, radiolaria and trilobites)

Burton, C.K. (1970)- The palaeotectonic status of the Malay Peninsula. Palaeogeogr. Palaeoclim. Palaeoecology 7, p. 51-60.
(Malay Peninsula believed to formerly border E side of Indian shield, from which it detached as Gondwanaland disintegrated, with Bay of Bengal a sphenochasm formed by same phase of continental drift (this model never generally accepted; JTvG))

Burton, C.K. (1970)- The geology and mineral resources of the Baling area, Kedah and Perak, West Malaysia. Geological Survey Malaysia District, Mem. 12, p. 1-150.

Burton, C.K. (1972)- Outline of the geological evolution of Malaya. J. Geology 80, p. 293-309.
(Malay Peninsula cratonized by Late Triassic orogeny and plutonism and Malaya became part of Sunda Shield. Record starts with Cambrian- Silurian orthoquartzite-carbonate facies. Geosynclinal conditions started in Ordovician, with eugeosynclinal zone in E, miogeosynclinal in W. Ordovician- Lower Devonian euxinic facies passes up into M Devonian- E Carboniferous flysch. M- Late Carboniferous orogeny with granite emplacement. Permian widespread shallow-water limestone. Geosynclinal conditions restored in E Triassic, with tectonic and plutonic activity. Near end-Triassic intensive orogenic-plutonic revolution, finally stabilizing peninsula. Emplacement of late granitic stocks, with tin mineralization. Uplift and warping near end- Mesozoic)

Burton, C.K. (1973)- Geology and mineral resources. Johore Bahru- Kulai area, South Johore. Geol. Survey Malaysia Map Bull. 2, p. 1-72.

Burton, C.K. (1986)- The Baling group/Bannang Sata group of the Malay/Thai Peninsula. J. Southeast Asian Earth Sci. 1, 2, p. 93-106.
(Review of stratigraphy of Cambrian- Devonian shelfal marine deposits of NW Malay Peninsula- SW Thailand border area)

Burton, C.K. (1988)- Geology and mineral resources of the Bedung area, Kedah, West Malaysia. Geol. Survey of Malaysia, Map Bull. 7, p. 1-103.
(Bedung geological map in NW part of Malay Peninsula at scale 1:63,360. Folded Ordovician- Devonian Mahang Fm black shales with graptolites, tentaculites, etc., in NW and Triassic Semanggul Fm flysch-type clastics locally with Daonella or Halobia in E)

Campi, M.J., G.R. Shi & M.S. Leman (2002)- The *Leptodus* shales of central Peninsular Malaysia: distribution, age and palaeobiogeographical affinities. J. Asian Earth Sci. 20, 6, p. 703-717.

('Leptodus Shales' is M Permian argillaceous facies rich in brachiopods in C Belt of Peninsular Malaysia. Sediments often highly tuffaceous and in N Pahang associated with pyroclastic volcanics of probable island-arc origin. Probably represent deposits on W continental shelf of Eastern Belt/ Indochina Block. Faunas of Paleo-Equatorial affinity and closest to faunas in Indochina (S China, Cambodia, Japan))

Campi, M.J., G.R. Shi & M.S. Leman (2005)- Guadalupian (Middle Permian) brachiopods from Sungai Toh, a *Leptodus* Shale locality in the central belt of Peninsular Malaysia. Palaeontographica A 273, 3-6, p. 97-160.
(Rich M Permian brachiopod fauna of 48 species from Sungai Toh, Pahang State, in Central Belt of Malay Peninsula, characterised by Permian tuffaceous sediments and limestone. Lower Horizon with mixed plant and invertebrate assemblage, incl. brachiopods Urushtenoidea, Leptodus richthofeni, etc. Upper Horizon more abundant brachiopods: 57 species, incl. Vediproductus, Permianella, Tranrennatia, Leptodus richthofeni, Leptodus cf. tenuis, etc. Age Capitanian (late Guadalupian) possibly Wuchiapingian. Strong Paleo-equatorial affinities, but some elements more typical of cooler peri-Gondwana)

Chakraborty, K.R. (1994)- How wide and oceanic was Palaeotethys?: evidence from Peninsular Malaysia. Warta Geologi (Newsl. Geol. Soc. Malaysia) 20, 3, p. 224-225. *(Abstract)*
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1994003.pdf)
(E and W blocks of Peninsular Malaysia were not separated by vast oceanic Palaeotethys. If vestiges of oceanic crust can be seen in serpentinites of Bentong-Raub suture zone, then linearity and persistent narrowness (< 15km in most places) of zone point to no more than very narrow seaway)

Chakraborty, K.R. & I. Metcalfe (1988)- Deformation and age of limestone at Sungai Bilut near Raub, Pahang. Warta Geologi 14, 3, p. 115-123.
(Polyphase deformation of thin-bedded Devonian or basal Carboniferous limestone-shale in Raub Gp, S of Raub. Conodont Color Alteration Index 5 (= 300-480°; low metamorphic))

Chakraborty, K.R. & I. Metcalfe (1995)- Structural evidence for a probable Paleozoic unconformity at Kg. Kuala Abang, Trengganu. Warta Geologi 21, 3, p. 141-146.

Chen, B., M.K. Shuib & T.T. Khoo (2002)- Dating the Kenny Hill Formation: spores to the fore. Warta Geologi 28, 5, p. 189-191.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm2002005.pdf)
(First palynology on poorly-fossiliferous Kenny Hill Fm in Kuala Lumpur area, which overlies Silurian Kuala Lumpur Limestone. Sample with spores Leiotriletes, Punctatisporites, Dictyotriletes, Verrucosisporites microtuberculatus, Lycospora, Acanthotriletes suggest Carboniferous or Permian age)

Chu, L.H., F. Chand & D.S. Singh (1988)- Primary tin mineralization in Malaysia: aspects of geological setting and exploration strategy. In: C.S. Hutchison (ed.) Geology of tin deposits in Asia and the Pacific, Selected papers from Int. Symp. Geology of tin deposits, Nanning, China, 1984, Springer Verlag, Berlin, p. 593-613.

Chu, L.H. & D.S. Singh (1986)- The nature and potential of gold mineralization in Kelantan, Peninsular Malaysia. In: G.H. Tan & S. Paramanthan (eds.) Proc. GEOSEA V Congress, Kuala Lumpur 1984, 1, Bull. Geol. Soc. Malaysia 19, p. 431-440.
(https://gsmpubl.files.wordpress.com/2014/09/bgsm1986032.pdf)
(On primary gold-silver quartz vein mineralization at Ulu Sokor are, Kelantan Province, NE Malay Peninsula)

Cocks, L.R.M., R.A. Fortey & C.P. Lee (2005)- A review of Lower and Middle Palaeozoic biostratigraphy in west peninsular Malaysia and southern Thailand in its context within the Sibumasu Terrane. J. Asian Earth Sci. 24, p. 703-717.
(Review of Cambrian- Devonian stratigraphy of S Thailand and NW Peninsular Malaysia (Sibumasu plate). Single depositional basin in shallow-water and cratonic areas of S Thailand, Langkawi, and mainland Kedah and Perlis, in contrast to deeper-water basin of N Perak. Area was part of Paleozoic Sibumasu Terrane, which also included C and N Thailand, E Burma (Myanmar) and part of SW China (Yunnan). Ordovician-Devonian limestones paraconformably overlain by Late Devonian Langun Redbeds)

Courtier, D.B. (1974)- Geology and mineral resources of the neighborhood of Kulim, Kedah. Geol. Survey Malaysia Map Bull. 3, p. 1-50.

Cox, L.R. (1936)- On a fossiliferous Upper Triassic shale from Pahang, Federated Malay States. Ann. Mag. Natural History, ser. 10, 17, p. 213-221.
(Fossils from marly shale at Sungei Taba, N of Raub gold mine, Pahang, dominated by bivalves, mainly Myophoria spp., also Grammotodon malayensis, Modiolus raubensis n.sp.. Age interpreted to be pre-Rhaetian Triassic, but subsequent studies on ammonites (Sato 1963) and bivalves (Tamura 1973) suggest M Triassic age)

Cottam, M.A., R. Hall & A.A. Ghani (2013)- Late Cretaceous and Cenozoic tectonics of the Malay Peninsula constrained by thermochronology. J. Asian Earth Sci. 76, p. 241-257.
(Thermochronological analyses of granites from Malay Peninsula record thermal history in Late Mesozoic-Cenozoic: significant period of thermal perturbation between ~100-90 Ma, lesser perturbation between ~51-43 Ma, regional exhumation of Malay Peninsula in Late Cretaceous (~66-85 Ma), rapid regional exhumation in Late Eocene-Oligocene (30-46 Ma))

Crawford, A.R. (1972)- A displaced Tibetan massif as a possible source of some Malayan rocks. Geol. Magazine 109, 6, p. 483-489.
(Commentary on Burton (1970) and Ridd (1971) suggestion of the westerly origin from India of sediments now in NW Malaya. Instead, Tibetan massif could have provided material now forming part of Malaya)

Cummings, R.H. (1965)- Notes on the Malaysian limestones. Overseas Geology and Mineral Resources 9, 4, p. 418-426.
(Incl. first record of M Permian fusulinids Neoschwagerina and Padangia from Sungei Jengka, 2 km SW of Jengka Pass, Malay Peninsula (Indochina Plate))

Daanen, T. (2015)- On the structure and tectonic evolution of the Taku Schists and their surrounding units, Kelantan, NE Malaysia. M.Sc. Thesis, University of Utrecht, p. 1-72.
(online at: http://dspace.library.uu.nl/handle/1874/316231)
(Taku Schists in Kelantan, in Central Belt of NE Malay Peninsula, in asymmetric anticline, with steeply dipping E flank. Protoliths of schists quartz-rich E-M Permian sediments, accumulated on fore-arc of Sukhothai volcanic arc, with regional contractional event during Triassic collision of Sibumasu Terrane and Sukhothai Arc. Contact with surrounding sediments in SE mylonitic, indicating severe shearing. Stretching lineations developed throughout Taku Schists, show dominant tectonic movement top down to SE (130E). Eocene dextral transtension moves E Malaya Block to SE and causes local exhumation in core complex)

Darbyshire, D.P.F. (1988)- Geochronology of Malaysian granites. Natural Environment Research Council (NERC), Isotope Geology Centre, Open File Report 88/3, p. 1-59.

De Coo, J.C.M. & O.E. Smit (1975)- The Triassic Kodiang Limestone formations in Kedah, West Malaysia. Geologie en Mijnbouw 54, p. 169-176.
(online at: https://drive.google.com/file/d/0B7j8bPm9Cse0YnpiMFZmQWo5MUE/view)
(Many isolated limestone hills on coastal plain of NW Malay Peninsula, mainly of Paleozoic age (Permian Chuping Fm, E Paleozoic Setul Fm). S and E of Kodiang (30km N of Alor Star, Kedah) also U Triassic limestone, first identified by Ishii & Nogami (1966). Thickness at composite stratotype of Kodiang Lst in 7 hills of Bukit Kecil and Bukit Kalong ~125 m or more. Composed of algal stromatolites, intraformational breccias, limestone conglomerates, black mudstones with radiolarian chert and limestone turbidites; deposited in shelf, slope and basinal environments. Paleoslope was dipping to E. With simple foraminifera, incl. Nautiloculina and Ophthalmidium. Conodonts incl. Gladigondolella tethydis, suggest mainly Ladinian- E Carnian age range (Koike 1973). Kodiang Lst may be lateral equivalent of much thicker flysch sediments of SemanggolFm in E)

Dodge, N.N. (1977)- Mineral production on the East Coast of Malaya in the nineteenth century. J. Malaysian Branch Royal Asiatic Society 50, p. 89-110.

(Before widespread tin production along W coast after 1850, Malaya's main mineral product for centuries was gold from E coast, mainly produced by Chinese. Extraction of gold restricted to narrow belt from Patani in NE, down into interiors of Perak, Kelantan and Pahang and then through Negri-Sembilan into Malacca. No maps)

Drahman, F.A. & J.A. Gamez Vintaned (2017)- Stratigraphy and palaeoichnology of ñBlack Shaleò facies: chert unit of the Semanggol Formation, Perak. In: M. Awang et al. (eds.) Proc. Int. Conf. Integrated Petroleum Engineering and Geosciences (ICIPEG2016), Kuala Lumpur 2016, Springer Verlag, p. 605-613.
(Black shales of chert unit of Semanggol Formation.exposed at Bukit Putus in abandoned quarry in Bukit Merah (NNW of Taiping, Perak). Chert unit repotedly deposited in deep oceanic basin. Black shale possibly shallower facies, with several levels with abundant Claraia (E Triassic pectinid bivalve))

Dzulkafli, M.A., Basir Jasin & M.S. Leman (2012)- Radiolaria berusia Perm Awal (Sakmarian) dari singkapan baru di Pos Blau, Ulu Kelantan dan kepentingannya. Bull. Geol. Soc. Malaysia 58, p. 67-73.
(online at: www.gsm.org.my/products/702001-100348-PDF.pdf)
('Early Permian (Sakmarian) radiolarians from a new outcrop at Pos Blau, Ulu Kelantan and their significance'. Sakmarian radiolaria from chert beds from new outcrop in or near Bentong-Raub suture zone, with 28 species/ 13 genera, representing two radiolarian assemblage zones: Pseudoalbaillella lomentaria (E Sakmarian) and Pseudoalbaillella scalprata m. rhombothoracata (Late Sakmarian). Radiolarian cherts interbedded with shale and interpreted as continental margin chert association)

Edwards, W.N. (1926)- Carboniferous plants from the Malay States. J. Malayan Branch Royal Asiatic Soc. 4, 2, p. 171-172.
(First record of Permo-Carboniferous plant fossils from 'Raub series' shale with thin ash beds at Sungei Chiku, Kelantan, Malay Peninsula. Incl. Pecopteris cf. cyathea (somewhat similar to P. verbeeki Gothan & Jongmans from Sumatra) and Cordaites sp.)

Edwards, W.N. (1933)- Triassic wood from the Malay States. J. Malayan Branch Royal Asiatic Soc. 11, 2, p. 236-241.
(Probably Late Triassic-age wood collected by Scrivenor from 2 localities on Malay Peninsula: (1) Sungei Tranang, Kelantan with Dadoxylon sp. and (2) Jerantut, Pahang with silicified log of Dadoxylon sclerosum from sandy beds overlying andesite. Apparent absence of growth rings)

Elliott, C.F. (1968)- Three new Tethyan Dasycladaceae (calcareous algae). Palaeontology 11, p. 491-497.
(online at: http://cdn.palass.org/publications/palaeontology/volume_11/pdf/vol11_part4_pp491-497.pdf)
(Incl. new taxa Epimastopora malaysiana n.sp. from M Permian of H.S. Lee Mine 8, Kinta Valley, Perak)

Endut, Z., R. Hasnur, S. Mohamed, S. Ismail and A. Prihananto (2014)- Geology of the Penjom gold deposit, Kuala Lipis, Pahang, Malaysia. In: I. Basuki & A.Z. Dahlius (eds.) Sundaland Resources, Proc. Indon. Soc. Econ. Geol. (MGEI) Ann. Conv., Palembang, p. 301-308.
(Penjom gold deposit at W side of C Belt of Malay Peninsula is largest gold mine in Malaysia. Host rock Late Permian turbiditic sequence. Intruded by felsic tonalitic intrusives. Both host rocks and tonalite intrusives folded during main Late Triassic orogeny along Bentong-Raub Suture. Mineralization at Penjom and other vein-hosted deposits such as at Bukit Koman, Raub along Bentong-Raub Suture in Late Triassic- E Jurassic)

Endut, Z., T.F. Ng, J.H. Abdul Aziz, S. Meffre & C. Makoundi (2015)- Characterization of galena and vein paragenesis in the Penjom gold mine, Malaysia: trace elements, lead isotope study and relationship to gold mineralization episodes. Acta Geologica Sinica (English Ed.) 89, 6, p. 1914-1925.
(Penjom Gold Mine 30 km E of Bentong-Raub Suture, near W boundary of C Belt in Peninsular Malaysia. Gold mineralization in vein system with pyrite, arsenopyrite, and minor base metals including galena. Galena crystallized from two different ore fluids, probably at different times. Pb isotopic ratios suggest derivation from arc rocks associated with continental crust)

Endut, Z., T.F. Ng, J.H. Abdul Aziz & G.H. Teh (2015)- Style of veins in Penjom Gold Mine, Malaysia- implications for gold mineralisation and structural episodes. In: Proc. PACRIM 2015 Congress, Hongkong,

Australasian Inst. of Mining and Metallurgy (AusIMM), Melbourne, Publ. Ser. 2/2015, p. 507-514. *(Extended Abstract)*
(Gold mineralisation at Penjom gold deposit in C Belt of Peninsular Malaysia (Bentong-Raub Suture zone) hosted in quartz-carbonate veins of two main types: shear and extension veins)

Endut, Z., T.F. Ng, J.H. Abdul Aziz & G.H. Teh (2015)- Structural analysis and vein episode of the Penjom gold deposit, Malaysia: implications for gold mineralisation and tectonic history in the Central Belt of Malaysia. Ore Geology Reviews 69, p. 157-173.
(Central Belt of Peninsular Malaysia characterised by numerous vein-hosted gold deposits particularly in 50 km wide corridor on E side of Bentong-Raub Suture. Mineralised quartz-carbonate veins of Penjom Gold deposit, S of Kuala Lipis, in U Permian clastic sedimentary host rocks. K/Ar ages of alteration sericite related to mineralisation ~197-191 Ma (E Jurassic). Veins formed under compressional- transpressional regime with later displacement in transtensional- extensional regime)

Fitch, F.H. (1952)- The geology and mineral resources of the neighbourhood of Kuantan, Pahang. Geol. Survey of Malaya, Mem. 6, p. 1-146.
(Incl. Lower Carboniferous argillaceous and calcareous facies, unconformably overlain by ?Triassic arenaceous series, ?Cretaceous tin-bearing biotite granite, etc.)

Fletcher, W.K. & C.H. Loh (1996)- Transport of cassiterite in a Malaysian stream: implications for geochemical exploration. J. Geochemical Exploration 57, p. 9-20.

Fletcher, W.K. & C.H. Loh (1997)- Transport and deposition of cassiterite by a Malaysian stream. J. Sedimentary Res. 67, p. 763-775.

Fontaine, H., C. Chonglakmani, S. Piyasin, Ibrahim B. Amnan & H.P. Khoo (1993)- Triassic limestone within and around the Gulf of Thailand. In: B.K. Tan et al. (eds.) Proc. 7th Conf. Geology, Mineral and Energy Res. SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 83-95.
(Presence of Early- Late Triassic limestones at Peninsular Thailand and NW Peninsular Malaysia. Many previously included in Permian. Similar to 'Chuping Lst' and 'Kodiang Lst'. Post Triassic fracturing and karstification. Many contain Aulatortus, Tubiphytes, Thaumatoporella parvovesiculifera, etc.)

Fontaine, H. & Ibrahim bin Amnan (1994)- The importance of Triassic limestone in the Central Belt of Peninsular Malaysia. In: P. Angsuwathana et al. (eds.) Proc. Int. Symp. Stratigraphic correlation of Southeast Asia, Bangkok 1994, Dept. Mineral Resources and IGCP 306, p. 195-205.
(More than 20 occurrences of Triassic-age limestone in Central Belt of Peninsular Malaysia, including Singapore. Generally poor in macrofossils)

Fontaine, H. & Ibrahim bin Amnan (1995)- Biostratigraphy of the Kinta Valley, Perak. Bull. Geol. Soc. Malaysia 38, p. 159-172.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1995015.pdf)
(Review of fossils from thick limestone-dominated M Ordovician- M Permian stratigraphy of Kinta Valley area near Ipoh, Perak, NW Malay Peninsula. Ordovician-Silurian graptolite shale, Ordovician, Devonian, Carboniferous and Permian limestones, etc. (= part of 'Sibumasu' Paleozoic stratigraphy; JTvG). Re-description of fusulinids (Pseudofusulina krafftі, Cancellina (Maklaya) ex gr. pamirica) from H.S. Lee mine, here believed to signify Bolorian, M Permian age)

Fontaine, H. & Ibrahim B.A. (1999)- Carboniferous of Malaysia: biostratigraphy and paleogeography. In: B. Ratanasthien & S.L. Rieb (eds.) Proc. Int. Symposium on Shallow Tethys 5, Chiang Mai University, p. 26-44.

Fontaine, H., Ibrahim B. Amnan, H.P. Khoo, D.T. Nguyen & D. Vachard (1994)- The *Neoschwagerina* -zone and the *Lepidolina-Yabeina* -zones in Malaysia and the Dzhulfian-Dorashamian in Malaysia: the transition to the Triassic. Geological Survey of Malaysia (Ipoh), Geol. Papers 4, p. 1-74.

Fontaine, H., Ibrahim.B. Amnan, H.P. Khoo & D. Vachard (1990)- More Triassic foraminifera from Peninsular Malaysia. United Nations CCOP Techn. Bull. 21, p. 73-83.
(Anisian smaller benthic foraminifera from Bukit Tunjang (should be Bt Tunjung) limestone quarry, Kedah. Tubipytes locally abundant. Forams rel. rare, common Tolypammina, also Meandrospira dinarica)

Fontaine, H., Ibrahim B. Amnan & D. Vachard (1999)- Kinta Valley displays startling lithology and biostratigraphy. In: 23rd Ann. Conf. Geol. Survey Malaysia, Melaka 1992, 29p.

Fontaine, H., Ibrahim B. Amnan & D. Vachard (1999)- Important discovery of late Early Permian limestone in Southern Terengganu, Peninsular Malaysia. In: G.H. Teh (ed.) Proc. 9th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA ô98), Kuala Lumpur 1998, Bull. Geol. Soc. Malaysia 43, p. 453-460.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1999045.pdf)
(Small exposures of dark late E Permian shallow marine limestone, 500m from granite, in Seri Bandi area, NE Malay Peninsula. Thickness 90-300m. With stromatolites, algae (Mizzia, Permocalculus), common Tubiphytes, calcispherids, smaller foraminifers (Tetrataxis, Endothyra) and common fusulinids (incl. primitive verbeekinids (Pamirina leveni, Misellina), Levenella, Brevaxina, Toriyamaya, Chalaroschwagerina, Leeina). Indicate late E Permian (=Artinskian-Kungurian) biozones in rocks previously considered of E Carboniferous age)

Fontaine, H., Ibrahim B.A. & D. Vachard (2003)- Carboniferous corals from the Kuantan area, Peninsular Malaysia, and associated microfauna: peculiar faunas for Southest Asia and puzzling faunas for stratigraphy. Minerals and Geoscience Dept. Malaysia, Techn. Papers 2, p. 69-99.

Fontaine, H., Ibrahim B.A. & D. Vu Khuc (1995)- Triassic limestones of southwest Kelantan (East and South of Pos Blau) and North Pahang (Merapoh Area), Peninsular Malaysia. In: Proc. IGCP Symposium on Geology of SE Asia, Hanoi, J. Geology B, 5-6, Hanoi, p. 16-
(Triassic limestones widespread in Central Belt of Peninsular Malaysia. Beds gently undulating. New limestone localities of Anisian age in C part of Malay Peninsula contain locally rich Daonella lindstroemi and low-diversity foram fauna of Glomospira, Endothyra, Meandrospira and Pilamminella, also algae Tubiphytes and Solenopora)

Fontaine, H. & H.P. Khoo (1990)- A review of paleontology and biostratigraphy of the Kelantan State. In: H. Fontaine (ed.) Ten years of CCOP research on the Pre-Tertiary of East Asia, CCOP Tech. Publ. 20, p. 111-142.
(Kelantan State in N C Malay Peninsula with two major sequences: (1) Carboniferous- Triassic marine, unconformably overlain by (2) Jurassic- Cretaceous non-marine. Permian forams from SE Kelantan described by Vachard (1990) in same volume)

Fontaine, H., H.P. Khoo & D. Vachard (1988)- Discovery of Triassic fossils at Bukit Chuping, in Gunung Sinyum area and at Kota Jin, Peninsular Malaysia. J. Southeast Asian Earth Sci. 2, p. 145-162.
(Some poorly fossiliferous limestones of Peninsular Malaysia, previously considered to be Permian, yielded Triassic algae (Thaumatoporella parvovesiculifera) and foraminifera (Pilammina gemerica, Aulatortus sinuosus, Paleolituonella meridionalis) indicating Ladinian-Carnian age. New foram Malayspirina fontainei described. Strong affinity with Alpine- European faunas)

Fontaine, H. & K.W. Lee (1993)- A Triassic limestone (ôPandan limestoneö) discovered by drilling in Singapore. CCOP Newsletter 18, p. 9-19.
(About 200m Late Triassic Pandan Limestone with corals in borehole at Pandan Reservoir, in lower part of Jurong Fm)

Fontaine, H., M. Lys & Nguyen Duc Tien (1988)- Some Permian corals from East Peninsular Malaysia: associated microfossils, palaeogeographic significance. J. Southeast Asian Earth Sci. 2, p. 65-78.
(M and Late Permian corals from three localities on E Malay Peninsula: (1) Bukit Kepayang quarry (Kampong Awah) andesite with dark limestone blocks with Waagenophyllum and Ipciphyllum, fusulinid forams (Neoschwagerina, Sumatrina, Verbeekina, etc.), also Mizzia, Hemigordiopsis, etc.; (2) Jengka Pass black shale with limestone lenses with Michelinia and fusulinids a.a.; (3) Bukit Biwah M Permian massive

limestone with Parawentzelella and algae. Assemblages of E Malay Peninsula corals and fusulinids different, more abundant and more diverse than NW of Malay Peninsula (= W margin of E Malaya/ Indochina Plate)

Foo, B.N. (1979)- A comparative study of paragenesis, geochemistry and fluid inclusions of selected primary tin deposits of West Malaysia. Ph.D. Thesis Imperial College, University of London, p. 1-534.
(online at: https://spiral.imperial.ac.uk/handle/10044/1/35018)
(Paragenetic tin mineralisation sequence and relation to host rocks and structures at two main hypogene tin deposits in Eastern Belt of SE Asian Tin Province in Malay Peninsula (Hantu and Gakak Mines at Sungei Lembing, Pahang, and Waterfall Mine at Pelapah Kanan, Johore. Mineralization preferentially in brittle calcareous Carboniferous-Permian metasediments)

Foo Khong Yee (1983)- The Palaeozoic sedimentary rocks of Peninsular Malaysia- stratigraphy and correlation. In: P. Nutalaya (ed.) Proc. Workshop Stratigraphic correlation of Thailand and Malaysia, Haad Yai 1983, Geol. Soc. Thailand and Geol. Soc. Malaysia, p. 1-19.
(online at: https://gsmpubl.files.wordpress.com/2014/10/sctm_01.pdf)
(Paleozoic rocks account for 25% of outcrop of Malay Peninsula. W and NW zones with Lower Paleozoic sediments and conformable Late Cambrian-Permian section. In C and E zones of peninsula outcrops of Carboniferous-Permian only)

Francois, T., M.A.M Ali, L. Matenco, E. Willingshofer, T.F. Ng, N.I. Taib & M.K. Shuib (2017)- Late Cretaceous extension and exhumation of the Stong and Taku magmatic and metamorphic complexes, NE Peninsular Malaysia. J. Asian Earth Sci. 143, p. 296-314.
(Stong and Taku magmatic and metamorphic complexes of N Peninsular Malaysia part of Late Paleozoic-Triassic Indosinian orogeny, dismembered during Cretaceous thermal event that formed large Late Santonian - E Maastrichtian extensional detachment, associated with crustal melting, emplacement of syn-kinematic plutons and widespread migmatisation. Formation of detachment and first phase of Late Cretaceous cooling followed by renewed Eocene - Oligocene exhumation (see also Ali et al. 2016))

Gazdzicki, A. & O.E. Smith (1977)- Triassic foraminifera from the Malay Peninsula. Acta Geologica Polonica 27, 3, p. 319-332.
(online at: https://geojournals.pgi.gov.pl/agp/article/view/9556/8105)
(First report on 52 species of smaller foraminifera from Middle and early Late Triassic Kodiang Lst Fm at Bukit Kechil, 2.5 km S of Kodiang, NW Malay Peninsula. With Endothyra malayensis n.sp., Glomospira densa, Glomospirella grandis, Meandrospira pusilla, G. gemerica, Agathammina austroalpina, Ophthalmidium, Tolypammina gregaria, Endothyranella lombardi, Endothyra kuepperi, Involutina communis and I. gaschei, etc., indicating E Anisian-Ladinian age. Also some loose samples with Carnian- Norian Aulatortus assemblage. Faunas similar to contemporaneous assemblages of Tethyan Realm, incl. Birma, Iran, etc.)

Gebretsadik, H.T., C.W. Sum& A.W. Hunter (2015)- Preservation of marine chemical signatures in Upper Devonian Carbonates of Kinta Valley, Peninsular Malaysia: implications for chemostratigraphy. In: M. Awang et al. (eds.) Proc. Int. Conf. Integrated Petroleum Engineering Geosciences (ICIPEG), Kuala Lumpur 2014, Springer Verlag, p. 291-302.
(Kinta Limestone important Silurian-Permian unit in W Belt of Malay Peninsula. Diagenesis obscured many primary sedimentary and geochemical features. Nearly pure limestones have rel. low Mn/Sr values (1.83-3.14), suggesting minor postdepositional alteration and likely preservation of original marine compositions)

Ghani, A.A. (2000)- The Western Belt granite of Peninsular Malaysia: some emergent problems on granite classification and its implication. Geosciences J. 4, 4, p. 283-293.
(Peninsular Malaysian Western Belt granites considered as constituting exclusively 'S' type granites, but commonly mixed 'I' and 'S' type features. W Belt granite not solely derived from metasediments, but probably mixed origin of crustal material such as metapelites, greywackes and meta-igneous rocks)

Ghani, A.A. (2001)- Some problems with the classification of the óSô type granite with particular reference to the Western Belt granite of Peninsular Malaysia. In: G.H. Teh et al. (eds.) Proc. Geol. Soc. Malaysia Ann. Geol. Conference 2001, Pangkor Island, p. 123-130.
(online at: https://gsmpubl.files.wordpress.com/2014/10/agc2001_20.pdf))
(Peninsular Malaysian granites grouped into two provinces, W and E Belt granites. W Belt considered as 'S' type granites, but granites show mixed 'I' and 'S' type features. W Belt granite not solely derived from metasediments, but more likely mixed crustal material such as metapelites, greywackes and metaigneous rocks)

Ghani, A.A. (2003)- Geochemistry of tourmaline-bearing granite from Maras-Jong, Terengganu, Peninsular Malaysia. Bull. Geol. Soc. Malaysia 46, p. 19-24.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm2003004.pdf)
(Maras-Jong granite at East Coast Province, E Malay Peninsula, many similarities to the S-type granite, but is felsic I-type granite)

Ghani, A.A. (2004)- Chemical characteristics of some of the granitic bodies from Terengganu area, Peninsular Malaysia. In: GSM Ann. Geol. Conf. 2004, Kangar, Perlis, Bull. Geol. Soc. Malaysia 49, p. 31-35.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm2004006.pdf)
(Study of four Permian-Triassic granitic batholiths from Eastern granitic belt in Terengganu area: Maras Jong pluton, Jerong batholith, Perhentian pluton and Kapal batholith. All granites are high K calc alkali)

Ghani, A.A. (2005)- Highly evolved S type granite: Selim Granite, Main Range Batholith, Peninsular Malaysia. Bull. Geol. Soc. Malaysia 51, p. 95-101.
(online at: www.gsm.org.my/products/702001-100540-PDF.pdf)
(Selim granite of Western Belt in NW Malay Penisula consists coarse grained porphyritic biotite granite to m-f grained granite.Highly evolved with high SiO_2 (>75%))

Ghani, A.A. (2005)- Geochemical characteristics of S- and I-type granites: example from Peninsular Malaysia granites. In: GSM Ann. Geol. Conf. 2005, Seremban, Bull. Geol. Soc. Malaysia 51, p. 123-134.
(online at: www.gsm.org.my/products/702001-100538-PDF.pdf)

Ghani, A.A. (2009)- Volcanism. In: C.S Hutchison & D.N.K. Tan (eds.) Geology of Peninsular Malaysia, University of Malaya/ Geol. Soc. Malaysia, Kuala Lumpur, p. 197-210.

Ghani, A.A. (2009)- Plutonism. In: C.S Hutchison & D.N.K. Tan (eds.) Geology of Peninsular Malaysia, University of Malaya/ Geol. Soc. Malaysia, Kuala Lumpur, p. 211-231.

Ghani, A.A. & S.L. Chung (2013)- Ar Ar geochronology of volcanic rocks from Eastern Part of Peninsular Malaysia. In: Proc. Nat. Geoscience Conf., Ipoh 2013, Geol. Soc. Malaysia, B20, p. 95-96. *(Abstract only)*
(Along E margin of Bentong-Raub suture, from W Pahang to Kelantan State, elongate strip of Permian and Triassic volcanics, possibly extending to Bangka and Billiton, along W edge of Indochina Terrane. Andesitic and acidic volcanism in Permian, acidic volcanism predominates in Triassic. Hornblende separates from basalt/andesite at Kampung Awah give age of 266 Ma (M Permian). Sibu Island, SE Johore, ages around Carboniferous-Permian boundary (~298-336 Ma) from bedded pyroclastic rocks. Rhyolitic tuff from nearby Tinggi island significantly younger (mid-Cretaceous; ~85-122 Ma)

Ghani, A.A., F.I. Hazad, A. Jamil, Q.L Xiang, W.N.A.W. Ismail, S.L. Chung, Y.M. Lai, M.H. Roselee et al. (2014)- Permian ultrafelsic A-type granite from Besar Islands group, Johor, Peninsular Malaysia. J. Earth System Science 123, 8, p. 1857-1878.
(Granitic rocks of Malay Peninsula traditionally divided into two provinces: (1) W Province S-type granites coarse, tin-mineralised, continental collision granite; (2) E Province granite is bimodal I-type dominated by granodiorite and associated gabbroic of arc type granite. Highly felsic A-type granite occurs in Besar, Tengah, and Hujung islands off SE coast of peninsula (SiO_2 content 76- 78%). Shallow level of emplacement. A-type granite can be related to extensional back arc basin in Indo-China terrane during earliest Permian)

Ghani, A.A., C.H. Lo & S.L Chung (2013)- Basaltic dykes of the Eastern Belt of Peninsular Malaysia: the effects of the difference in crustal thickness of Sibumasu and Indochina. J. Asian Earth Sci. 77, p. 127-139.
(Jurassic (~179 Ma) and Cretaceous (~79-129 Ma) basaltic dykes of Peninsular Malaysia confined to E Belt (Indochina/E Malaya block), not in W Belt (Sibumasu Block). Most dykes attributed to difference of crustal thickness between E and W belt (W Belt crust 13 km thicker than E and C belts, and more difficult to fracture))

Ghani, A.A., C.H. Lo & S.L Chung (2014)- Geochronology of volcanic and plutonic rocks from the islands off Pahang and east Johor, Peninsular Malaysia. Geol. Soc. Malaysia, Nat. Geoscience Conf. (NGC) 2014, Trengganu, P059, p. 99-100. *(Extended Abstract)*
(Ages of igneous rocks of islands off coast Johor-Pahang, SE Peninsular Malaysia, beteween 80-300 Ma. U Pb zircon age of granites of P. Tengah and P. Besar 280-282 Ma (E Permian), granite/diorite from Pemanggil and Tioman 80 Ma. Ar/Ar ages of pyroclastics from Sibu mainly ~297 Ma, from Tinggi ~85-120 Ma)

Ghani, A.A., V. Ramesh, B.T, Yong & T.T. Khoo (2004)- Geochemistry and petrology of syenite, monzonite and gabbro from the Central Belt of Peninsular Malaysia. In: GSM Ann. Geol. Conf. 2004, Kangar, Perlis, Bull. Geol. Soc. Malaysia 49, p. 25-30.
(online at: www.gsm.org.my/products/702001-100571-PDF.pdf)
(Benom Igneous Complex C Belt ofMalay Peninsula rocks intruding into M-U Triassic sediments of Semantan Fm. Composition ranges from granitic to syenitic to monzonitic and gabbroic. Range of SiO2 for gabbro 46.5-49.1%, syenite 52.9 -56.9% and monzonite 56.6-64.7%. High alkali content, shoshonitic with I type characteristics. Also high Ba and Sr (mantle material?)

Ghani, A.A., M. Searle, L. Robb & S.L. Chung (2013)- Transitional I-S type characteristics in the Main Range Granite, Peninsular Malaysia. J. Asian Earth Sci. 76, p. 225-240.
(Dominantly Late Triassic (~200-220 Ma) Main Range Granite of Peninsular Malaysia, located W of Paleo-Tethyan Bentong-Raub suture zone and host of large tin province, regarded as S-type granite, but also many features of I-type granites (large scale of plutonism, primary titanite and amphibole, etc.). Moderately peraluminous nature of bulk of Main Range Granite, without cordierite, Fe-Mg garnet or sillimanite, consistent with derivation from metasedimentary protolith that was undersaturated with respect to Al2SiO5)

Ghani, A.A., I. Yusoff, Meor H.A. Hassan & R. Ramli (2013)- Geochemical study of volcanic and associated granitic rocks from Endau Rompin, Johor, Peninsular Malaysia. J. Earth System Science 122, 1, p. 65-78.
(online at: www.ias.ac.in/jessci/feb2013/65.pdf)
(Late Permian-Triassic Jasin felsic volcanics (dacite/rhyolite and andesite) and Besar batholith (~214 Ma) granitic magmas from W of Johor National Park, Endau Rompin, probably from different sources. Granite produced by partial melting of quartz feldspathic rocks containing amphibole among residual phase. Magmas generated at different time during subduction of Sibumasu beneath Indochina block)

Gobbett, D.J. (1966)- The brachiopod *Stringocephalus* from Malaya. J. Paleontology 40, 6, p. 1345-1348.
(Stringocephalus perakensis n. sp. from alluvial tin-mining area, Kinta valley, Perak, NW Malay Peninsula, indicating marine Givetian (M Devonian). Associated fauna: dasycladacean algae, stromatoporoids, tabulate corals, Murchisonia sp.)

Gobbett, D.J. (1968)- The Permian system in Malaya. Bull. Geol. Soc. Malaysia 1, p. 17-22.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1967002.pdf)
(Shallow marine limestones, shales and volcanics represent complete Permian sequence in Malaya. Correlations mainly by fusulinid foraminifera)

Gobbett, D. J. (1972)- Geological map of the Malay Peninsula. Geol. Soc. Malaysia, scale 1:1,000,000.

Gobbett, D.J. & C.S. Hutchison (eds.) (1973)- Geology of the Malay Peninsula. Wiley, New York, p. 1-438.
(Classic textbook of geology of Malay Peninsula. See also updated edition by Hutchison & Tan(2009))

Goh Sing Thu, D.W. Heacock & D.E. Loveless (1983)- Exploration, development, and reservoir engineering Studies for the Tapis Field offshore Peninsular Malaysia. J. Petroleum Technology 35, 6, p. 1051-1060.
(Tapis field 1969 discovery by Esso in Malay Basin, S China Sea, 209 km off E coast of peninsular Malaysia. Produces from Miocene Group J (Tapis Fm) sandstone reservoirs that contain rim-type oil accumulations with associated gas caps. Three primary reservoirs, J20, J25, J30, are shoreface/barrier bar deposits separated by shale sequences)

Gowda, S.S. (1965)- Age of the Temerloh Limestone (Calcareous Series) of Malaya. Bull. Geol. Soc. India 2, p. 58-61.
(Early description of M Permian corals, fusulinid forams (incl. Neoschwagerina, Sumatrina annae, Verbeekina verbeeki, Hemigordiopsis) and algae (incl. Mizzia velebitana, Macroporella, Tubiphytes, Archaeolithoporella, etc.) from Kampong Awah area, Pahang, C Malay Peninsula (see also Cummings 1965, Jones et al. 1966, Ishii et al. 1966, Fontaine et al. 1988))

Grubb, P.L.C. (1968)- Geology and bauxite deposits of the Pengerang area, southeast Johore. Mem. Geol. Survey Dept. West Malaysia 14, p. 1-125.

Gupta, A., A. Rahman, P.P. Wong & J. Pitts (1987)- The old alluvium of Singapore and the extinct drainage system to the South China Sea. 12, 3. p. 259-275.
(Old Alluvium of Singapore mainly matrix-supported pebbly sand and appears to be proximal braided river alluvium of possible Pleistocene age. Mixed provenance of granitic and low-grade metamorphic origin. Believed to be deposited during low sea levels, in environment of high relief, seasonal rainfall and active erosion. Such conditions may have prevailed over much of SE Asia at time of deposition of Old Alluvium)

Hada, S. (1966)- Discovery of Early Triassic ammonoids from Gua Musang, Kelantan, Malaya. J. Geosciences, Osaka City University 9, 4, p. 111-122.
(online at: http://dlisv03.media.osaka-cu.ac.jp/infolib/user_contents/kiyo/DBe0090007.pdf)
(Rel. poorly preserved E Triassic ammonites from Gua Panjang, 5 mi S of Gua Musang rail station, Kelantan, incl, Owenites, Arctoceras, Paranannites, Prosphingites and Pseudosageceras (= middle Lower Triassic Meekoceras glacilitatis Zone))

Haile, N.S. (1971)- Quaternary shorelines in West Malaysia and adjacent parts of the Sunda Shelf. Quaternaria 15, p. 333-343.
(Review of former relative sea levels in Malay Peninsula and adjacent marine areas. Well established Holocene level of ~ +6 m. Levels down to -100m shown by depths of fluvial alluvium and erosional submarine morphology. No convincing evidence for former levels higher than + 6 m)

Haile, N.S. (1975)- Postulated Late Cainozoic high sea levels in the Malay Peninsula. J. Malaysian Branch Royal Asiatic Soc. 48, 1, p. 78-88.

Haile, N.S. (1980)- Palaeomagnetic evidence from the Ordovician and Silurian of northwest Peninsular Malaysia. Earth Planetary Sci. Letters 48, p. 233-236.
(Paleomagnetic work on 37 samples from Ordovician- Silurian Setul Lst of Langkawi Islands, off NW Peninsular Malaysia, suggests paleolatitude of Langkawi at 43° (S or N))

Haile, N.S., R.D. Beckinsale, K.R. Chakraborty, H.H. Abdul & T. Hardjono (1983)- Paleomagnetism, geochronology and petrology of the dolerite dykes and basaltic flows from Kuantan, West Malaysia. Bull. Geol. Soc. Malaysia 16, p. 71-85.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1983007.pdf)
(Cretaceous Kuantan basalt dykes, central E coast Malay Peninsula, K-Ar dated at ~104 Ma. Paleomagnetism study shows suggests ~30° CCW rotation since mid-Cretaceous. Paleomagnetic pole similar to that from U Jurassic- Lw Cretaceous redbeds of Malaya and U Cretaceous of W Kalimantan, suggesting CCW rotation on S-ward movements of all these regions since Cretaceous)

Haile, N.S. & Khoo Han Peng (1980)- Palaeomagnetic measurements on Upper Jurassic to Lower Cretaceous sedimentary rocks from Peninsular Malaysia. Bull. Geol. Soc. Malaysia 12, p. 75-78.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1980006.pdf)
(Paleomagnetic data from 3 sites of U Jurassic- Lw Cretaceous redbeds in Pahang and Johore indicate these areas were ~8° N of present position and rotating clockwise and moving N. Since Late Cretaceous Malay Peninsula rotated CCW and moved S to present position)

Haile, N.S., P.H. Stauffer, D. Krishnan, T.P. Lim & Ong G.B. (1977)- Palaeozoic redbeds and radiolarian chert: reinterpretation of their relationships in the Bentong and Raub areas, West Pahang, Peninsular Malaysia. Bull. Geol. Soc. Malaysia 8, p. 45-60.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1977002.pdf)
(Foothils Range in Bentong-Raub area E of Main Range in Pahang composed of 3 rock units: (1) earliest Devonian or older schist, (2) E Devonian chert-argillite with radiolarians and Lower Devonian graptolites and (3) Devonian- E Carboniferous fluvial redbed conglomerates. Also serpentinites in parts of Range)

Halim, R.A.A., N.A.N. Tan, H. Zainal & Meor H.A. Hassan (2017)- Carboniferous plant fossils from the Kubang Pasu Formation, Pokok Sena, Kedah. Proc. 30th Nat. Geosc. Conf. Exhib. (NGC 2017), Kuala Lumpur, PDRG08-59, Warta Geologi 43, 3, p. 305. *(Abstract only)*
(online at: https://gsmpubl.files.wordpress.com/2017/09/ngsm2017_032.pdf)
(Kubang Pasu Fm near Pokok Sena, Kedah, thick interbedded marine shale-sandstone. Shale intervals with trilobite Chlupacula (previously known as Macrobole kedahensis), bivalve Posidonia/Posidonomya becheri, etc., indicating E Carboniferous age. Locally abundant plant fossils, incl. leaves identified as Sphenophyllum cf. miravallis. Possibly oldest plant fossils from W Belt of Malay Peninsula)

Hamada, T. (1968)- Ambocoeliids from Red Beds in the Malayan Peninsula. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press 5, p. 13-25.
(Ambocoeliid brachiopods Echinocoeliopsis, 'Emanuella', etc. in Devonian red beds (base Kubang Pasu Fm) of Langkawi and Perlis and Kedah, NW Malay Peninsula. See also Kobayashi & Hamada 1973)

Hamada, T. (1969)- Late Paleozoic brachiopods from red beds in the Malayan Peninsula. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 6, p. 251-264.
(Fauna of small brachiopods, trilobites, ostracodes, etc, associated with bivalve 'Posidonia' (= Posidonomya) from Langgun Redbeds of Langkawi Islands, NW Malaysia, which unconformably overlie E Silurian rocks. Mainly endemic assemblage with many new species, incl. rhynchonellid Langkawia n.gen. Age believed to be around Devonian-Carboniferous boundary)

Hamada, T. (1969)- Devonian brachiopods from Kroh, Upper Perak in Malaysia (Malaya). In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 7, p. 1-13.
(8 species of brachiopods from late Early-M Devonian Tentaculites (Novakia acuaria) shale from S of Kroh, NW Malay Peninsula, incl. Orbiculoidea, Plectodonta, etc.)

Hamada, T. (1984)- Older and Middle Palaeozoic brachiopods of Thailand and Malaysia. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 25, p. 183-186.
(Brief review of Ordovician- Devonian brachiopods of W Thailand- Malay Peninsula)

Hamada, T., H. Igo, T. Kobayashi & T. Koike (1975)- Older and Middle Palaeozoic formations and fossils of Thailand and Malaysia. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 15, p. 1-39.

Hamzah, U. & Ng Chiang Seng (1995)- Fosil kayu dan beberapa fosil tumbuhan dari Sg. Berok, Gua Musang, Kelantan. Warta Geologi 21, 4, p. 247-253.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1995004.pdf)

('Wood and some plant fossils from Sg. Berok, Gua Musang, Kelantan'. Wood and plant fossils from Gua Musang Fm in Kelantan, N C Malay Peninsula. Two localities, Post Blau and SW of Sungai Berok, Gua Musang, with Cordaites sp., Araucarioxylon sp., Pecopteris sp. and Sphenopteris sp.. Age Permian-Triassic)

Harbury, N.A., M.E. Jones, M.G. Audley-Charles, I. Metcalfe & K.R. Mohamed (1990)- Structural evolution of Mesozoic Peninsular Malaysia. J. Geol. Soc., London, 147, p. 11-26.
(Upper Paleozoic- Mesozoic of Peninsular Malaysia two important compressional events: Late Permian and mid- to Late Cretaceous. Late Paleozoic compressional event was major orogenic phase with emplacement of Permo-Triassic granite plutons that form eastern and main ranges. No indications of Triassic orogenic compression. Raub-Bentong line was important fault zone active in Mesozoic but is not major tectonic suture since Late Paleozoic (Proposed timing of orogenesis questioned by Hutchison & Sivam 1992; JTvG))

Harun, Z. (2002)- Late Mesozoic-Early Tertiary faults of Peninsular Malaysia. In: Proc. GSM Annual Geol. Conf. 2002, Kota Bharu, Bull. Geol. Soc. Malaysia 45, p. 117-120.
(online at: www.gsm.org.my/products/702001-100734-PDF.pdf)
(Samples of sheared granite from two fault zones (Bukit Berapit and Bukit Tinggi Faults). K-Ar dating of whole rock gave isotope ages for timing of fault movements at ~84, 53 and 46 Ma. Possibly tie to Late Cretaceous event of ~NW-trending sinistral strike-slip faulting and E-M Eocene movements from India- S Asia collision)

Harun, Z. & B. Jasin (1999)- Implications of the Bok Bak Fault movements on the structure and lithostratigraphy of the Pokok Sena area. In: G.H. Teh (ed.) Proc. 9th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA ô98), Kuala Lumpur 1998, Bull. Geol. Soc. Malaysia 43, p. 145-153.
(online at: www.gsm.org.my/products/702001-100826-PDF.pdf)
(Strike-slip fault in area of Paleozoic sediments in NW Malay Peninsula)

Harun, Z. & B. Jasin (2000)- The occurrence of thrusts in north Kedah and Perlis. In: Proc. Annual Geol. Conf. 2000, Geol. Soc. Malaysia, Pulau Pinang, p. 117-120.
(online at: https://gsmpubl.files.wordpress.com/2014/10/agc2000_02.pdf)
(Several thrust faults observed at localities in Kedah and Perlis (NW corner Malay Peninsula). Faults high angle, dipping E, displacing Lower Paleozoic Mahang and Setul Fms onto E Permian Kubang Pasu Fm)

Harun, Z. & B. Jasin (2003)- Some radiolarians from Dengkil, Selangor. Bull. Geol. Soc. Malaysia 46, p. 133-136.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm2003022.pdf)
(Assemblage of E Carboniferous radiolarians in chert sequence, exposed SW of Dengkil, Selangor. Associated with siliceous mudstone or shale, without volcanics (passive continental shelf?). Possibly part of Kenny Hill Fm. Incl. Astroentactinia sp., Entactinosphaera palimbola and Duplexia? parviperjorata)

Harun, Z., B. Jasin, N. Mohsin & A. Azami (2009)- Thrust in the Semanggol Formation, Kuala Ketil, Kedah. Bull. Geol. Soc. Malaysia 55, p. 61-66.
(online at: www.gsm.org.my/products/702001-100460-PDF.pdf)
N-directed thrusting in Permo-Triassic Semanggol Fm bedded chert unit. Rocks generally strike from ENE to ESE and gently to steeply (20°-78°) dipping to S. Cherts with late E Permian- M Triassic radiolarians. Interpreted as localised transpressional deformation during latest movement of Bok Bak fault zone)

Haseldonckx, P. (1977)- The geology of Pulau Tekong, Singapore. Bull. Geol. Soc. Malaysia 8, p. 75-87.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1977004.pdf)
(Geological reconnaissance of Tekong Island in Straits of Johore. Oldest rocks folded Lower Triassic? quartzites and slates, subjected to thermal metamorphism. Overlain by U Triassic molasse facies clastics. No fossils or other age dating obtained)

Hashim, A.S.H. (1985)- Discovery of an ammonoid (*Agathiceras* sp.) and crinoid stems in the Kenny Hill Formation of Peninsular Malaysia, and its significance. Warta Geologi 11, 5, p. 205-212.

(Discovery of poorly preserved ammonoid (Agathiceras sp.) and crinoid fragments in poorly fossiliferous Kenny Hill Fm N of Sepang area, Selangor, near C Malay Peninsula W Coast indicates age of formation is at least in part E-M Permian)

Hassan, S.N. & Basir Jasin (2004)- Kajian awal radiolaria berusia Trias dari Formasi Semanggol di Bukit Lada, Kedah. In: GSM Ann. Geol. Conf. 2004, Kangar, Perlis, Bull. Geol. Soc. Malaysia 49, p. 67-70.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm2004012.pdf)
('Preliminary studies of Triassic-age radiolarian from the Semanggol Fm in Bukit Lada, Kedah'. Fifteen species of radiolarians from Bukit Lada, Kedah with Busuanga., Cryptosphenidium, Cryptosphenidium verrucosum, Eptingium manfredi, Parasepsagon spp.., Pseudostylosphaera spp. and Triassocampe deweveri. Presence of T.e deweveri and E. manfredi robustum zones indicate M Triassic (Anisian- Ladinian) age of chert)

Hassan, W.F.W. & H.S. Purwanto (2002)- Type deposits of primary gold mineralization in the Central Belt of Peninsular Malaysia. In: G.H. Teh (ed.) GSM Annual Geological Conference, Kota Bharu 2002, Bull. Geol. Soc. Malaysia 45, p. 111-116.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm2002016.pdf)
(Three types of gold mineralizations in Central Belt: in quartz veins (dominant), in massive sulphides(kuroko-type marine deposit) and in skarn. Gold-bearing quartz veins in steeply dipping N-S fault and shear zones)

Henney, P.J., M.T. Styles, P.D. Wetton & D.J. Bland (1995)- Characterization of gold from the Penjom area, near Kuala Lipis, Pahang, Malaysia. British Geol. Survey, Overseas Geol. Series, Techn. Report WC/95/21, p. 1-67.
(online at: www.bgs.ac.uk/research/international/dfid-kar/WC95021_col.pdf)
(Penjom area near Kuala Lipis with gold in quartz veins in shales and phyllites of Permian Padang Tenku Fm. In tract of Paleozoic continental margin sediments, between the W and E ranges of Triassic granites. Main Au-Ag vein sulpides with galena, chalcopyrite and sphalerite)

Hosking, K.F.G. (1973)- The primary tin mineralisation patterns of West Malaysia. In: B.K. Tan (ed.) Proc. Reg. Conference on the Geology of SE Asia, Kuala Lumpur 1972, Bull. Geol. Soc. Malaysia 6, p. p. 297-308.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1973020.pdf)
(Tin deposits on Malay Peninsula related to exposed granites. Two major tin belts (1) Main Range and (2) East coast granites. Deposits mainly along flanks of major acid intrusives. Main Range tin mineralisation more strongly developed alongW flank than along its E flank)

Hosking, K.F.G. & P.R. Stauffer (1970)- Tektites from the stanniferous placers of eastern Pahang. Newsletter Geol. Soc. Malaysia 22, p. 1-4.
(online at: www.gsm.org.my/products/702001-101619-PDF.pdf)
(Two black glass tektites from Quaternary tin placers at Sungei Reman and Gambang, E Pahang, Malay Peninsula. First finds since Scrivenor 1931. Tektites possibly near base of tin deposits)

Hotson, M., Khin Zaw, G.J.H. Oliver, S. Meffre & T. Manaka (2011)- U-Pb Zircon geochronology of granitoids from Singapore. In: 8th Meeting Asia Oceania Geological Soc. (AOGS), Taipei, p. *(Abstract)*
(Gabbro, granodiorite and granite samples from Singapore Island dated using zircon U-Pb method as Late Permian- E Triassic (~254 - 230 Ma), although one granodiorite sample gave anomalous mid-Cretaceous age of 94.6 ± 0.8 Ma)

Huang, K.L., H. Baioumy, J.M. Lim, L.Y.S. Lim, S. Yong, T. Rajoo & D.M. Hareedranathan (2017)- Sedimentology of black shale in turbidite at Semanggol Formation. In: 79th EAGE Conf. Exhib., Paris 2017, p.
(Black shales in Triassic turbiditic Semanggol Fm deposited in outer fan environment. Organic matter terrigenous-derived)

Hutchison, C.S. (1961)- The basement rocks of Malaya and their palaeo-geographic significance in Southeast Asia. American J. Science 259, 3, p. 181-185.

(Petrology of schists in NE Malaya, deduced to be of Precambrian age and of igneous origin (now probably considered to to be of Late Paleozoic age; JTvG))

Hutchison, C.S. (1964)- A gabbro-granodiorite association in Singapore Island. Quart. J. Geol. Soc. 120, p. 283-296.
(?Jurassic age orogenic granodiorite, part of Thai-Malayan tin-bearing granite belt, intruded into gabbro)

Hutchison, C.S. (1968)- Physical and chemical differentiation of West Malaysian Limestone Formations. Geol. Soc. Malaysia. Bull. 1, p. 45-56.
(online at: www.gsm.org.my/products/702001-101383-PDF.pdf)
(Difficult to differentiatiate Malayan limestones basedon mineralogy and petrography, and must therefore continue to be based on fossils)

Hutchison, C.S. (1968)- Dating tectonism in the Indosinian-Thai-Malayan orogen by thermoluminescence. Geol. Soc. America (GSA) Bull. 79, 3, p. 375-386.
(Thermoluminescence 'ages' of limestones from Thai-Malayan geosyncline (Ordovician- Triassic) not related to stratigraphic age, but to tectonic and magmatic events in Mesozoic Indosinian-Thai-Malayan orogeny)

Hutchison, C.S. (1971)- The Benta migmatite complex, petrology of two important localities. Geological Soc. Malaysia Bull. 4, p. 49-70.
(online at: www.gsm.org.my/products/702001-101363-PDF.pdf)
(Exposures of foliated gneiss, monzonite and migmatite near Benta quarry, Sungei Lipis, Pahang. Origin of Benta rocks considered to be deep seated, anatectic. No genetic relationship to Benom granite implied (see also Almashoor 1996)

Hutchison, C.S. (1973)- Volcanic activity. In: D.J. Gobbett & Hutchison (eds.) Geology of the Malay Peninsula (West Malaysia and Singapore), Wiley, New York, p. 177-214.

Hutchison, C.S. (1973)- Plutonic activity. In: D.J. Gobbett & Hutchison (eds.) Geology of the Malay Peninsula (West Malaysia and Singapore), Wiley, New York, p. 215-252.

Hutchison, C.S. (1973)- Metamorphism. In: D.J. Gobbett & Hutchison (eds.) Geology of the Malay Peninsula (West Malaysia and Singapore), Wiley, New York, p. 253-303.

Hutchison, C.S. (1973)- Synthesis of crustal evolution in the Malay Peninsula. In: D.J. Gobbett & Hutchison (eds.) Geology of the Malay Peninsula (West Malaysia and Singapore), Wiley, New York, p. 330-334.

Hutchison, C.S. (1977)- Granite emplacement and tectonic subdivision of Peninsular Malaysia. Bull. Geol. Soc. Malaysia 9, p. 187-207.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1977030.pdf)
(Large granitic batholiths of mainly Permian and Triassic age characterize Main Range and Eastern Belt of Malay Peninsula. Main Range granites intruded into continental sialic basement (isoclinally folded phyllitic rocks), without notable contact aureoles. This and large difference between Rb-Sr (peaks at 300, 210 Ma) and K-Ar radiometric ages (av. 190 Ma) suggest emplacement at >4 km depth and main uplift by several km, in Jurassic and Cretaceous. Eastern Belt granites mainly Triassic (peak ~220 Ma), also Permian ages, and have concordant Rb-Sr and K-Ar radiometric ages. Eastern Belt stable area since Triassic. Local post-orogenic Late Cretaceous (60-90 Ma) granites, without tin mineralization)

Hutchison, C.S. (2009)- Bentong-Raub suture. In: C.S. Hutchison & D.N.K. Tan (eds.) Geology of Peninsular Malaysia, University of Malaya and Geol. Soc. Malaysia, Kuala Lumpur, p. 43-53.
(Description of 'Bentong-Raub ophiolite line', which separates W from E peninsular Malaysia. It represents suture zone with remnants of Lower Devonian- U Permian Paleotethys Ocean, which closed in Triassic with collision of Sibumasu (in W) and Indochina (E) blocks. Paleotethys deposits include Lower Devonian slaty shales with graptolite and shales with cherts with U Devonian- Permian radiolaria)

Hutchison, C.S. (2009)- Tectonic evolution. In: C.S. Hutchison & D.N.K. Tan (eds.) Geology of Peninsular Malaysia, University Malaya and Geol. Soc. Malaysia, Kuala Lumpur, p. 309-330.

Hutchison, C.S. (2009)- Mineral deposits. In: C.S. Hutchison & D.N.K. Tan (eds.) Geology of Peninsular Malaysia, University Malaya and Geol. Soc. Malaysia, Kuala Lumpur, p. 331-364.
(Malaysia produced 70% of world's tin in world in last century, with 95% from E-M Pleistocene 'Old Alluvium' placer deposits in coastal regions (with 770ka Australasian tektites at base of tin-bearing beds of Gambang tinfield in Pahang). Eastern and Western tin granite belts. Permo-Triassic iron ores. Small gold mines immediately E of Raub-Bentong suture zone. Some Tungsten, bauxite)

Hutchison, C.S. & S.P. Sivam (1992)- Discussion on structural evolution of Mesozoic Peninsular Malaysia. J. Geol. Soc. London, 149, p. 679-680.
(Dispute conclusions of Harbury et al. (1990) proposing pre-Triassic age of 'Indosinian orogeny'. In Peninsular Malaysia and NE Thailand Khorat Basin Late Triassic (Carnian-Norian) flysch unconformable over vertically bedded Late Permian limestones and clastics, followed by Jurassic-Cretaceous molasse, demonstrating Triassic age of folding)

Hutchison, C.S. & Snelling, N.J. (1971)- Age determination on the Bukit Paloh adamellite. Bull. Geol. Soc. Malaysia 4, p. 97-100.
(Bukit Paloh adamellite in Pahang probably Late Carboniferous age, intruded into Lower Carboniferous (Visean) strata)

Hutchison, C.S. & D.N.K. Tan (eds.) (2009)- Geology of Peninsular Malaysia. University of Malaya and Geol. Soc. Malaysia, Kuala Lumpur, p. 1-479.
(Major and most recent book on geology of Malay Peninsula)

Ibrahim, A.M. (1999)- Geochemistry of selected Upper Paleozoic Kuantan Group and Triassic carbonaceous sediments of Pahang and South Terengganu, West Malaysia. Masters Thesis, University of Malaya, Kuala Lumpur, p. 1-222.
(online at: http://studentsrepo.um.edu.my/1416/)

Ichikawa, K. K. Ishii & S. Hada (1966)- On the remarkable unconformity at the Jengka Pass, Pahang, Malaya. J. Geosc., Osaka City University, 9, 4, p. 123-130.
(online at: http://dlisv03.media.osaka-cu.ac.jp/infolib/user_contents/kiyo/DBe0090008.pdf)
(Steeply dipping M Permian clastics and limestones with fusulinids (Yabeina, Sumatrina annae, Verbeekina verbeeki, Schwagerina; Ishii 1966) and brachiopods, in W part of E Malaya Block. Unconformably overlain by gently dipping conglomeratic sst and mudstone of Jengka Pass Fm, containing bivalves (Aequipecten), brachiopods, Isocrinus and plants (Sagenopteris, Equisitites), likely of Late Triassic age (possibly Jurassic))

Ichikawa, K. & E.H. Yin (1966)- Discovery of Early Triassic bivalves from Kelantan, Malaya. J. Geosc., Osaka City University 9, p. 101-106.
(online at: http://dlisv03.media.osaka-cu.ac.jp/infolib/user_contents/kiyo/DBe0090006.pdf)
(Presence of bivalve Claraia intermedia multistriata n.ssp. and Eumorphotis cf. multimformis in Scythian shales 10km SSW of Gua Musang)

Idris, M.B. & M.S. Azlan (1989)- Biostratigraphy and paleoecology of fusulininids from Bukit Panching, Pahang. Bull. Geol. Soc. Malaysia 24, p. 87-99.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1989b08.pdf)
(U Carboniferous Panching Lst near Kuantan, E Malay Peninsula, formerly believed to be massive, folded and ~600m thick now interpreted as tightly folded and 88m thick. U Carboniferous conodonts identified by Metcalfe (1980). Five local foraminifera zones, incl. Eostafella, etc. fusulinid larger forams)

Idris, M.B. & C.N. Hashim (1988)- An Upper Permian fossil assemblage from Gunung Sinyum and Gunung Jebak Puyoh Limestone, Pahang. Warta Geologi 14, 5, p. 199-203.
(online at: www.gsm.org.my/products/702001-101505-PDF.pdf)
(Two prominent limestone hills 50km N of Temerloh, Pahang, surrounded by younger sediments of Semantan Fm, with conodonts Neogondolella rosenkrantzi and N. serrata serrata, indicative of U Permian (Capitanian). Also forams Parafusulina, Schubertella, etc.)

Idris, M.B. & S.M. Zaki (1986)- A Carboniferous shallow marine fauna from Bukit Bucu, Batu Rakit, Trengganu. Warta Geologi (Newsl. Geol. Soc. Malaysia) 12, 6, p. 215-219.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1986006.pdf)
(Sediments at Bukit Bucu, Batu Rakit N of Terengganu with U Carboniferous fauna of trilobites (Paladin ophistops= U Carboniferous), brachiopods (Brachythyrina strangwaysi, Chonetinella), bryozoans (Fenestella retiformes), crinoids ('Poterocrinus') and bivalves (Edmondia). These shallow marine invertebrates also reported from Kelantan, Pahang Darul Makmur and Thailand)

Igo, H. (1964)- Permian fossils from northern Pahang, Malaya. Japanese J. Geology Geography 35, p. 57-71.
(Description of Permian corals from N Pahang, associated with late M Permian fusulinids Yabeina, Verbeekina and Sumatrina annae, Kahlerina)

Igo, H. (1964)- Permian fossils from northern Pahang, Malaya. In: T. Kobayashi (ed.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 191-208.
(Same paper as Igo (1964) above. Permian NE corner of Pahang province, C Malay Peninsula. Silicified black limestone from Ulu Sungei Atok with diverse fusulinid forams (Climacammina, Pseudofusulina, Verbeekina verbeeki, Sumatrina annae, Yabeina, etc.; similar to Guguk Bulat fauna, W Sumatra)), corals (Wentzellella malayensis n.sp., Sinopora). Grey shale from Sungei Spia with brachiopod Spirifirellina, Neospirifer)

Igo, H. (1967)- Some Permian fusulinids from Pahang, Malaya. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 3, p. 30-38.
(M Permian fusulinid limestones in intensely folded clastic- andesitic volcanics series from Jengka Pass area and Kampong Awah quarry, Pahang, C Malay Peninsula. With Neoschwagerina, Verbeekina, Sumatrina, Chusenella, Yabeina, Pseudofusulina (very similar to fauna of Padang Highlands, Sumatra; see also Cummings 1965, Gowka 1967, etc.))

Igo, H. & T. Koike (1967)- Ordovician and Silurian conodonts from the Langkawi Islands, Malaya, Part I. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 3, p. 1-29.
(Simple cone-type conodonts from Ordovician- Silurian Setul Limestone of Langgon Island, NE Langkawi. Most species similar to species known from Europe and North America)

Igo, H. & T. Koike (1968)- Ordovician and Silurian conodonts from the Langkawi Islands, Malaya, Part II. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 4, p. 1-21.
(Additional types of conodonts from Ordovician- Silurian Setul Lst of Langgon Island, NE Langkawi. 41 species described. Silurian conodonts not described from Asia before)

Igo, H. & T. Koike (1968)- Carboniferous conodonts from Kuantan, Malaya. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 5, p. p. 26-30.
(Five species of conodonts from described from Bukit Charas, N Pahang, E Malay Peninsula (part of Indochina Plate). Dominated by cosmopolitan forms Idiognathoides and Hindeodella, also Spathognathodus, Ozarkodaina, indicating E Namurian age (rich brachiopod fauna from area described by Muir-Wood, 1948))

Igo, H. & T. Koike (1973)- Upper Silurian and Lower Devonian conodonts from the Langkawi islands, Malaysia, with note on conodont fauna of the Thung Song Limestone, Southern Thailand and the Setul

Limestone, Perlis, Malaysia. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 13, p. 1-22.
(Similar 'Setul Fm' U Silurian- Lw Devonian dark grey limestones on Langkawi islands, NW Malay Peninsula and peninsular Thailand. Nearby Silurian bituminous graptolite shales. Conodont faunas include Spathognathodus steinhornensis repetitor similarities with Alps and Neningha Lst of N New South Wales and lower part of Mount Holly Bed of Queensland)

Igo, H., T. Koike & E.H. Yin (1966)- Triassic conodonts from Kelantan, Malaya. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 2, p. 157-171.
(Folded limestones from S Kelantan, central part of Malay Peninsula include white-grey Permian limestone with common fusulinids and grey M Triassic limestones rich in ammonoids and conodonts (dominated by Hindeodella spp and Hibbardella sp))

Igo, H., S.S. Rajah & F. Kobayashi (1979)- Permian fusulinaceans from the Sungei Sedili area, Johore, Malaysia. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 20, p. 95-118.
(Low diversity fusulinid assemblages from massive lenticular Sumalayang Lst in NW-dipping argillaceous rocks of Dohol Fm (~30 miles N of Singapore; southernmost Permian limestone of Malay Peninsula). With fusulinids signifying late Early Permian- early M Permian age: Misellina, Cuniculinella globosa, Eoparafusulina malayensis, Parafusulina granum-avenae (very similar to Sumatra forms), P. johorensis n.sp. and other spp. and rare Monodiexodina kattaensis and M. shiptoni (but: Ueno (2003, p. 14) and Ueno et al. (2014) question Monodiexodina identification and re-assign to Pseudofusulina; JTvG). Many faunal similarities with 'Tethyan?' Pamir faunas))

Ingham, F.T. & E.P. Bradford (1960)- The geology and mineral resources of the Kinta Valley, Malaya Geol. Survey, Ipoh, Geol. Survey District Mem. 9, p. 1-347.
(Kinta Valley of W Central Malay Peninsula largest alluvial tin-producing area in world. Not much detail on stratigraphy: Kinta Valley sequence mainly 700m of Carboniferous- Lower Permian limestone, poor in fossils, and surrounded by post-Triassic granite intrusive complexes. Triassic arenaceous series. With 1:63,360 scale geologic map)

Ishida, K. & F. Hirsch (2011)- The Triassic conodonts of the NW Malayan Kodiang Limestone revisited: taxonomy and paleogeographic significance. Gondwana Research 19, 1, p. 22-36.
(Revision of M - early L Triassic conodonts from NW Malaya Kodiang Lst. Pseudofurnishius murcianus confers S Tethyan low-latitude character to Kodiang Lst, part of Cimmerian terranes that in Triassic formed diagonal partition between gradually closing Paleo-Tethys and widening Neo-Tethys, stretching E to Malaya (Shan Thai Terrane). Only E edge collided with Eurasia in Late Triassic, forming Sundaland platform. Jurassic Neo-Tethys ocean extended S of consolidated SE Asia block and Cimmerian terranes)

Ishida, K. A. Nanba, F. Hirsch, T. Kozai & A. Meesook (2006)- New micropalaeontological evidence for a Late Triassic Shan-Thai orogeny. Geosciences J. 10, 3, p. 181-194.
(Shan-Thai block is remnant of Paleotethys in SE Asia. Nan-Uttaradit/Nan-Chantaburi and Bentong-Raub sutures commonly proposed as main Paleotethyan suture, but Mae Sariang Zone suture further W advocated here as main suture. Triassic chert-sequence in Mae-Sot and Umphang, NW Thailand, with M and Late Triassic (Ladinian- Norian-Rhaetian) radiolarians, overlain by 'Jurassic base-conglomerate' and Toarcian- E Bajocian shelf deposits. Chert clasts in conglomerate with same Norian-Rhaetian radiolarians, suggesting age of collision is latest Triassic)

Ishihara, S. (2008)- Granite series, type and concentration of HREE in the Malay Peninsula Region. . Proc. Int. Symposia on Geoscience resources and environments of Asian terranes (GREAT 2008), 4th IGCP 516 and 5th APSEG, Bangkok 2008, p. 31-35.
(online at: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.535.6633&rep=rep1&type=pdf)
(Reinterpretion of S/I type granites of Permo-Triassic and Cretaceous-Tertiary in Malay Peninsula region. Rare earth elements tend to be concentrated in ilmenite-series felsic I-types originated in granitic protolith)

Ishihara, S., H. Sawata, S. Arpornsuwan, P. Busaracome & N. Bungrakearti (1979)- The magnetite-series and ilmenite-series granitoids and their bearing on tin mineralization, particularly of the Malay Peninsula region. Bull. Geol. Soc. Malaysia 10, p. 103-110.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1979004.pdf)
(140 granitoids studied in S half Malay Peninsula. Late Paleozoic- E Mesozoic granitoids of Main Range and also E belt mainly composed of ilmenite-series granitoids (91%), and associated with tin deposits. Small plutons of Central intrusive belt and Cretaceous granitoids generally magnetite-series, and without tin)

Ishii, K.I. (1966)- On some fusulinids and other foraminifera from the Permian of Pahang, Malaya. J. Geosciences Osaka City University 9, p. 131-142.
(online at: http://dlisv03.media.osaka-cu.ac.jp/infolib/user_contents/kiyo/DBe0090009.pdf)
(Grey upper Middle Permian (Wordian) limestones within andesitic series from two localities: ENE of Jengka Pass (steeply dipping interbedded limestones and clastics) and Kampung Awah quarry (thin grey limestones in thick andesitic pyroclastic- volcanic series). Both with primitive Yabeina (Y. asiatica n.sp.), Sumatrina annae, Verbeekina verbeeki, Neoschwagerina douvillei, Schwagerina, etc. Also small forams Pachyphloia, Hemigordiopsis, Glomospira, Tetrataxis, etc. (Pahang series = W part of E Malaya terrane?; related to Guguk Bulat fauna of W Sumatra?; JTvG))

Ishii, K. (1966)- Preliminary notes of the Permian fusulinids of the H. S. Lee Mine No. 8 Limestone near Kampar, Perak, Malaya. J. Geosciences Osaka City University 9, p. 145.
(online at: http://dlisv03.media.osaka-cu.ac.jp/infolib/user_contents/kiyo/DBe0090010.pdf)
(Short note on E Permian H.S. Lee limestone with fusulinid foraminifera in H.S. Lee No. 8 Mine, W Malay Peninsula (Sibumasu Terrane). Basal fusuline limestone assigned to Pseudofosulina kraffti zone, overlying grey-white limestone rich in gastropods, etc., assigned to Misellina claudiae zone (~Sakmarian- Artinskian age?))

Ishii. K., M. Kato, K. Nakamura & Y. Nogami (1972)- Permian brachiopods from Bukit Tungku, Lembu, Perlis, Malaya. J. Geosciences Osaka City University 15, 3, p. 65-76.
(online at: http://dlisv03.media.osaka-cu.ac.jp/infolib/user_contents/kiyo/DBe0150003.pdf)
(Tungku Lembu hill in NW Malay Peninsula near Thai border (= Sibumasu terrane), with brachiopods in sandstone near base of M Permian limestone: Derbyia?, Monticulifera, Cancrinella cancrini, etc. (from same range Newton 1926 described Fusulina granum-avenae which probably belongs to M Permian Monodiexodina))

Ishii, K. & Y. Nogami (1966)- Discovery of Triassic conodonts from the so-called Palaeozoic limestones in Kedah, Malaya. J. Geosciences Osaka City University 9, p. 93-95.
(online at: http://dlisv03.media.osaka-cu.ac.jp/infolib/user_contents/kiyo/DBe0090005.pdf)
(First report of Triassic conodonts in Kodiang Lst in limestone hills near Kodiang station, Kedah, NW Malay Peninsula. With two M-U Triassic conodont assemblages: Gladigondolella cf. abneptis and Gladigondolella tethydis faunules (see also Nogami 1968, Koike 1973, 1982))

Ismail, H.H., M. Madon & Z.A. Abu Bakar (2007)- Sedimentology of the Semantan Formation (Middle-Upper Triassic) along the Kerak- Kuantan highway, Central Pahang. Bull. Geol. Soc. Malaysia 53, p. 27-34.
(online at: www.gsm.org.my/products/702001-100507-PDF.pdf)
(M-L Triassic Semantan Fm probably deeper marine 'flysch-type' slope to outer fan deposits in foreland basin associated with closure of Paleo-Tethys during final E-ward subduction of West Malaya lithosphere beneath East Malaya. Mudstone layers with (displaced) bivalves Entolium, Neoschizodus, Costatoria pahangensis, Costatoria chegarpahangensis, supporting M-U Triassic age. Widespread volcanic and tuffaceous sediments indicate proximity to volcanic arc. No isoclinal folding or imbrication of strata.)

Ismail, H.H., M. Madon & Z.Affendi Abu Bakar (2008)- Distal turbidites of the Semantan Formation (Middle-Upper Triassic) in the Central Pahang, Peninsular Malaysia. In: Petroleum Geology Conf. Exh. (PGCE) 2008, Kuala Lumpur, p. 187-189.
(Extended Abstract only. Outcrop study of deep-marine M-U Triassic Semantan Fm near Temerloh. Shale-

dominated section deposited in distal parts of submarine fans and basin plain, in remnants of closing Paleo-Tethys Ocean ocean in Central Belt of Peninsular Malaysia)

Iwai, J. (1972)- Reconnaissance of Mesozoic stratigraphy in Central Pahang, Malaysia. Part 2. Between Mentakab and Jerantut, and from Temerloh to the Jengka Pass. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 10, p. 243-256.
(Triassic stratigraphy in C part of Malay Peninsula. Rocks generally tuffaceous and M Triassic age. Between Mentakab and Jerantut two clastic units: (1) lower, 1400m thick 'flysch-type' shales-sands with some tuffs; (2) upper part ~1000m thick, mainly arenaceous with conglomerates (= Semanggol/ Semantan Fm?; JTvG))

Jaafar, A. (1976)- Geology and mineral resources of the Karak and Temerloh areas, Pahang. Geol. Survey Malaysia, District Mem. 15, p. 1-127.
(*Includes discovery of Lower Devonian graptolite shale S of Karak, which represents oldest known Paleotethys Ocean rocks. Semantan Fm new name for thick series of marine Triassic clastics and rhyolitic tuffs with Daonella in W and shallower Myophoria sandstone facies in E)*

Jamil, A. & A.A. Ghani (2014)- Petrology, geochemistry & geochronology of Jerai Granite, Kedah. Geol. Soc. Malaysia, Nat. Geoscience Conf. (NGC) 2014, Trengganu, p. 76-83.
(online at: http://geology.um.edu.my/gsmpublic/NGC2014/PDFs/5%20-%20Oral2.pdf)
(New U-Pb zircon ages for Jerai Granite (biotite-muscovite granite, tourmaline granite and pegmatite): 205.5± 2.0 Ma and 204.6± 4.3 Ma (latest Triassic). Transitional I-S type granite. W of, but part of syncollisional Main Range batholith of W Malay Peninsula, formed by partial melting of Sibumasu crust subducted beneath Paleo-Tethys accretionary complex, intruded W of Bentong-Raub Suture zone (previously dated as ~135 Ma))

Jamil, A., A.A. Ghani, K. Zaw, S. Osman & L.X. Quek (2016)- Origin and tectonic implications of the ∼200 Ma, collision-related Jerai pluton of the Western Granite Belt, Peninsular Malaysia. J. Asian Earth Sci. 127, p. 32-46.
(Triassic granitoids (~200–225 Ma) widespread in W Belt of Peninsular Malaysia. Jerai granitic pluton in NW Malay Peninsula at NW part of S-type Main Range granite batholith. Mainly biotite-muscovite granite, also tourmaline granite. U-Pb zircons ages ~204-205 ± 4Ma. Represents latest magmatic event of continental Sibumasu- Indochina collision)

Jantan, A., Basir Jasin, I. Abdullah, U. Said & A.R. Samsudin (1989)- The Semanggol Formation- lithology, facies association and distribution and probable basin setting. Geol. Soc. Malaysia, Ann. Geol. Conf. '89, Warta Geologi, 15, 1, p. 28. *(Abstract only)*
(Triassic Semanggol Fm rocks interpreted as submarine fan deposits in half-grabens, with source area in E and basinal area in W in some areas, but from W in others)

Jantan, A., Basir Jasin, I. Abdullah, A. R. Samsudin & U. Said: (1987)- Note on the occurrence of limestone in the Semanggol Formation, Kedah, Peninsular Malaysia. Warta Geologi 13, 4, p. 151-159.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1987004.pdf)
(First report of thin, lenticular (pelagic) micritic limestone in Semantan Fm, at Kuala Nerang, Kedah, NW Malay Peninsula. Associated with bedded cherts. Conodonts identified by Metcalfe suggest Late Ladinian- E Carnian age)

Jasin, Basir (1991)- Significance of *Monodiexodina* (Fusulininacea) in geology of Peninsula Malaysia. Bull. Geol. Soc. Malaysia 29, p. 171-181.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1991015.pdf)
(late E Permian- early Late Permian Monodiexodina rare genus of Permian fusulinids and restricted to narrow sliver from C Afghanistan in W to Malaysia and Japan in E. In Malaysia present on Sibumasu Block, overlying glacio-marine pebbly mudstones (M. sutschanica and M. shiptoni) and also on E Malaya Block Sumalayang Lst (M. shiptoni and M. kattaensis), associated with many other species of fusulinids)

Jasin, Basir (1994)- Middle Triassic radiolaria from the Semanggol Formation, northwest Peninsular Malaysia. Warta Geologi 20, 4, p. 279-284.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1994004.pdf)
(13 species of radiolaria in chert from gently folded Semanggol Fm outcrops in N and S Kedah areas, NW Malay Peninsula. Assemblages with Pseudastylosphaeracoccostyla, Pseudostylosphaera spp., Parasepsagon spp., Eptigium manfredi, Triassocampe deweveri, etc., indicating Anisian- Ladinian (M Triassic) age range (Sashida et al 1992, 1993 also reported Permian rads from Semanggol Fm) (see also Jasin 1997, Jasin et al. 2005))

Jasin, Basir (1995)- Occurrence of bedded radiolarian chert in the Kubang Pasu Formation, North Kedah, Peninsular Malaysia. Warta Geologi (Newsletter Geol. Soc. Malaysia) 21, 2, p. 73-79.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1995002.pdf)
(E Carboniferous radiolarians from bedded continental margin chert of Kubang Pasu Fm. in NW Malay Peninsula dominated by Entactinia variospina and Callella sp. (Sibumasu Terrane; more recent study see Jasin & Harun 2001))

Jasin, Basir (1996)- Discovery of Early Permian radiolaria from the Semanggol Formation, Northwest Peninsular Malaysia. Warta Geologi (Newsletter Geol. Soc. Malaysia) 22, 4, p. 283-287.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1996004.pdf)
(Radiolarians from chert sequence at Bt Kampung Yoi and Bt Larek indicates latest Wolfcampian, E Permian Pseudoalbaillella scalprata m. rhombothoracata Zone. Age of Semanggol Fm now E Permian- M Triassic)

Jasin, Basir (1996)- Rijang beradiolaria Semenanjung Malaysia: kewujudan, usia dan sekitaran pengendapan. Sains Malaysiana 25, 2, p. 103-113.
('Radiolarian chert of Peninsular Malaysia: occurrence, age and depositional environment'. Chert-clastic associations common in Peninsular Malaysia and represent continental margin settings (E Carboniferous Kubang Pasu chert, E Permian Ulu Kelantan chert, Late Permian- M Triassic Semanggol chert). Carnian-Norian Kodiang chert-limestone represents subsidence environment. Late Permian Jengka area chert-pyroclastic association represents island-arc environment)

Jasin, Basir (1997)- Permo-Triassic radiolaria from the Semanggol Formation, northwest Peninsular Malaysia. J. Asian Earth Sci. 15, p. 43-53.
(32 species of radiolaria from 20 chert samples of folded/faulted Semanggol Fm in N and S Kedah. Early and Late Permian and M Triassic assemblages, indicating chert sequence in Semanggol Fm ranges from E Permian- M Triassic. With Albaiella, Pseudoalbaiella, Follicucullus, Triassocampe, etc.. Associated terrigenous detritus suggest deep continental margin setting. M Triassic cherts interfingers with Ladinian-Norian mudstone with Posidonia kedahensis, Halobia comata, etc.)

Jasin, Basir (1999)- Significance of radiolarian chert in the northwest zone of Peninsular Malaysia. In: Proc. Dynamic stratigraphy and tectonics of Peninsular Malaysia, Seminar II- The Western Belt and Paleozoic of Peninsular Malaysia and neighbouring areas, p. 1-18.

Jasin, Basir (2008)- Some Permian radiolarians from Bukit Yoi, Pokok Sena, Kedah. Bull. Geol. Soc. Malaysia 54, p. 53-58.
(online at: http://geology.um.edu.my/gsmpublic/BGSM/bgsm54/bgsm2008009.pdf)
(2m thick chert sequence in Semanggol Fm at N slope of Bukit Yoi, S of Pokok Sena, near Thailand border. Interbedded with siliceous and tuffaceous mudstone. Three E-M Permian radiolarian assemblage zones identified: Pseudoalbaillella scalprata. rhombothoracata (late Sakmarian, late E Permian), P. longtanensis Zone and P. globosa Zone (Kungurian-Roadian, M Permian))

Jasin, Basir (2010)- Warisan geologi Negeri Perlis. Bull. Geol. Soc. Malaysia 56, p. 87-93.
(online at: http://geology.um.edu.my/gsmpublic/GSM_Bulletin/GSM_Bulletin56_Paper13.pdf)
('Geological heritage of Perlis State'. Overview of geology of Perlis province, NW Malay Peninsula and need for protection of sites. 'Sibumasu Blocks' sequence of Cambrian-Triassic sediments, including Ordovician-

Devonian Setul Fm with stromatolites, trilobites, graptolites, tentaculites and brachiopods, Carboniferous-Permian Kubang Pasu Fm with bivalves, corals, brachiopods, cephalopods and trilobites and E Permian Monodiexodina shiptoni fusulinid forams ('anti-tropical' genus, also in Sibumasu- Cimmerian terranes; JTvG)).

Jasin, Basir (2013)- *Posidonia* (Bivalves) from northwestern Peninsular Malaysia and its significance. In: Proc. Nat. Geoscience Conf., Ipoh 2013, Geol. Soc. Malaysia, B05, p. 69-71. *(Extended Abstract)*
(online at: www.gsm.org.my/products/702001-101658-PDF.pdf)
(Planktonic bivalve Posidonia common in Kubang Pasu and Singa Fms in NW Peninsular Malaysia and Langkawi Islands (= Sibumasu terrane). Probably Early Carboniferous age. Most of Posidonia in Malaysia closely related to Posidonia becheri (=Posidonomya; see Jasin 2015))

Jasin, Basir (2013)- Chert blocks in Bentong-Raub Suture Zone: a heritage of Palaeo-Tethys. Bull. Geol. Soc. Malaysia 59, p. 85-91.
(online at: www.gsm.org.my/products/702001-100326-PDF.pdf)
(Bentong-Raub Suture Zone is Triassic collision zone between Sibumasu and E Malaya terranes. Remnants of closed E-M Devonian- Permian Paleo-Tethys Ocean include blocks of oceanic sedimentary rocks such as bedded chert blocks in several localities. Radiolarian assemblages in cherts: (1) E Frasnian, (Late Devonian) Trilonche minax Zone, (2) Tournaisian (E Carboniferous) Albaillella deflandrei Zone and (3) Permian radiolarians, incl. M Permian/ Wordian Follicucullus monacanthus Zone)

Jasin, Basir (2015)- *Posidonomya* (Bivalvia) from Northwest Peninsular Malaysia and its significance. Sains Malaysiana 44, 2, p. 217-223.
(online at: www.ukm.my/jsm/pdf_files/SM-PDF-44-02-2015/08%20Basir%20Jasin.pdf)
(Thin-shelled pseudopelagic bivalve Posidonomya common in NW Malay Peninsula, in redbeds of Langkawi Island (Singa Fm) and Perlis and Kedah (Kubang Pasu Fm; above Tournaisian radiolarian cherts). Two taxa: Posidonomya becheri and P. cf. kochi (von Koenen). Occurrence of Posidonomya indicates E Carboniferous age of lower Kubang Pasu/ Singa Fms. Part of widespread tropical-subtropical Paleo-Tethys domain)

Jasin, Basir & C.A. Ali (1997)- Lower Permian Radiolaria from the Pos Blau area, Ulu Kelantan, Malaysia. J. Southeast Asian Earth Sci. 15, p. 327-337.
(22 radiolaria species from 30m folded chert sequence in roadcut near Pos Blau, Ulu Kelantan, Malay Peninsula. Located near E margin of Bentong suture and above andesitic volcanics and sheared olistostrome unit. Fauna represents upper Pseudoalbaillella lomentaria Zone, upper Wolfcampian (= Sakmarian; Lower Permian). Associated with ammonoid Agathiceras)

Jasin, Basir & C.A. Ali (1997)- Significance of Early Carboniferous radiolaria from Langkap, Negeri Sembilan, Malaysia. Bull. Geol. Soc. Malaysia 41, p. 109-125.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1997028.pdf)
(Thin-bedded folded-sheared mudstone in Langkap chert in Bentong Gp in S-C Malay Peninsula, with 34 radiolarian taxa, incl. Albaillella comuta, A. deflandrei and A. undulata, indicating A. deflandrei Zone of Late Tournaisian age. Assemblage similar to W Europe and suggests deposition in equatorial regions of Tethys. (Late Devonian and E Carboniferous radiolaria from Langkap also studied by Spiller and Metcalfe (1995))

Jasin, Basir, C.A. Ali & K. Roslan Mohamed (1995)- Late Triassic radiolaria from the Kodiang Limestone, northwest Peninsular Malaysia. J. Southeast Asian Earth Sci. 12, p. 31-39.
(Cherty packstone-wackestone in Bukit Kodiang quarry, Kedah, NW Malay Peninsula. With Late Triassic (Late Carnian- M Norian) radiolarian assemblage, not well preserved, 18 species (see also Jasin & Harun 2001))

Jasin, Basir, A. Bashardin & Z. Harun (2013)- Middle Permian radiolarians from the siliceous mudstone block near Pos Blau, Ulu Kelantan and their significance. Bull. Geol. Soc. Malaysia 59, p. 33-38.
(online at: www.gsm.org.my/products/702001-100333-PDF.pdf)
(Large siliceous sediment block in melange in Bentong-Raub Suture, exposed near Pos Blau, Ulu Kelantan, N central Malay Peninsula. Steeply dipping to SE; lower part ribbon chert, upper part interbedded siliceous

mudstone and tuffaceous mudstone. Fourteen radiolaria taxa, divided into two zones, Pseudoalbaillella fusiformis and Follicucullus monacanthus, indicating M Permian age. Tuffaceous material related to volcanic activity on E Malaya terrane. Tuffaceous sediments became widespread in Late Permian and Triassic)

Jasin, Basir, A. Bashardin, N. Jamaluddin & N. Ishak (2010)- Occurrence of slate in Perlis and its significance. Bull. Geol. Soc. Malaysia 56, p. 75-78.
(online at: www.gsm.org.my/products/702001-100384-PDF.pdf)
(>100m thick unfossiliferous slate exposed at Bukit Tuntung, Pauh, Perlis, NW Malay Peninsula. Overlain by bedded chert of Kubang Pasu Fm with Tournaisian (basal Carboniferous) radiolarians)

Jasin, Basir & Z. Harun (2001)- Some Triassic radiolarians from the Kodiang Limestone, northwest Peninsular Malaysia. In: G.H. Teh et al. (eds.) Proc. Geol. Soc. Malaysia Ann. Geol. Conference 2001, Pangkor, p. 105-109.
(online at: https://gsmpubl.files.wordpress.com/2014/10/agc2001_17.pdf)
(Kodiang Lst of NW Malay Peninsula yielded Late Permian- and early Late Triassic conodonts (Metcalfe 1984, 1992). New samples from clastic-chert sequence at base of Bukit Kechil with 11 taxa of radiolarians. Presence of Entactinia chiakensis, E. nikorni, Thaisphaera minuta, Cenosphaera andoi and Pantanellium? virgeum suggestive of Parentactinia nakatsugawaensis Zone, late Spathian age (E Triassic). Overlying limestone at Bukit Kechil with M Triassic conodonts (Koike 1973) and foraminifera (Gazdzicki & Smit 1977))

Jasin, Basir & Z. Harun (2001)- Some radiolarians from bedded chert of the Kubang Pasu Formation. In: G.H. Teh et al. (eds.) Proc. Geol. Soc. Malaysia Ann. Geol. Conference 2001, Pangkor, p. 110-114.
(online at: https://gsmpubl.files.wordpress.com/2014/10/agc2001_18.pdf)
(Radiolarians from chert sequence at Bukit Binjal, Kedah, incl. Entactinia variospina, Callela hexatinian, C. cf. parvispinosa, Treanosphaera hebes, Duplexia parviperforata, etc. Assemblage indicates Late Tournaisian (E Carboniferous) age. Chert deposited on outer shelf of passive margin during high siliceous productivity)

Jasin, Basir & Z. Harun (2004)- Discovery of some Early Carboniferous radiolarians from North Perak and their significance. Bull. Geol. Soc. Malaysia 49, p. 19-24.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm2004004.pdf)
(Albaillella deflandrei radiolarian assemblage from foldd bedded chert at NW Malay Peninsula- Thailand border area indicates Tournaisian, E Carboniferous age. Presumably from S side of Paleotethys Ocean (Sibumasu). Tournaisian radiolarian cherts widespread in Paleo-Tethys ocean)

Jasin, Basir & Z. Harun (2007)- Stratigraphy and sedimentology of the chert unit of the Semanggol Formation. Bull. Geol. Soc. Malaysia 53, p. 103-109.
(online at: http://geology.um.edu.my/gsmpublic/v53/Pdf%20individual%20papers/16%20Paper.pdf)
(Semanggol Fm outcrops in NW Malay Peninsula. Deep marine clastics with cherts with 5 Permian and 4 E-M Triassic radiolarian biozones. Common tuffaceous material in lower Semanggol Fm, older than Sakmarian, E Permian. Thickness of formation hard to determine due to intense folding-thrusting)

Jasin, Basir & Z. Harun (2009)- Radiolarian biostratigraphy of Peninsular Malaysia- an update. In: 11th Reg. Congress Geology, Mineral and Energy Resources of Southeast Asia (GEOSEA 2009), Kuala Lumpur, p. 57-58. *(Abstract)* *(online at: www.gsm.org.my/products/702001-101669-PDF.pdf)*
(16 radiolarian assemblage zones from Late Devonian- Late Triassic on Malay Peninsula)

Jasin, Basir & Z. Harun (2011)- Radiolarian biostratigraphy of Peninsular Malaysia- an update. Bull. Geol. Soc. Malaysia 57, p. 27-38.
(online at: http://geology.um.edu.my/gsmpublic/BGSM/bgsm57/bgsm2011005.pdf)
(Deep marine radiolarian cherts common in Late Paleozoic- E Mesozoic of W belt of Peninsular Malaysia. Sixteen radiolarian assemblage zones recognized, from Frasnian (Late Devonian)- Triassic. Most of Permo-Triassic biozones identified from Semanggol Fm)

Jasin, Basir & Z. Harun (2011)- Lower Carboniferous (Tournaisian) radiolarians from Peninsular Malaysia and their significance. Bull. Geol. Soc. Malaysia 57, p. 47-54.
(online at: http://geology.um.edu.my/gsmpublic/BGSM/bgsm57/bgsm2011007.pdf)
(Tournaisian radiolarians widespread in Peninsular Malaysia especially in W Belt, due to high radiolarian productivity during Tournaisian, related to upwelling of cold dense bottom water, which developed at glacial N Gondwana. Chert is marker bed for Tournaisian age and defines base of Kubang Pasu Fm)

Jasin, Basir, Z. Harun & Siti N. Hassan (2003)- Black siliceous deposits in Peninsular Malaysia: their occurrence and significance. Bull. Geol. Soc. Malaysia 46, p. 149-154.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm2003025.pdf)
(Paleozoic black radiolarian cherts in NW Malay Peninsula in Setul, Mahang (Ordovician-Silurian), Kubang Pasu (Carboniferous) Fms. Related to high plankton productivity. Lithologic association of chert represents passive continental margin association, with episodic supply of terrigenous material from continent)

Jasin, Basir, Z. Harun & U. Said (2004)- Some Devonian radiolarians from chert blocks in the Bentong-Raub Suture Zone, Pahang. Bull. Geol. Soc. Malaysia 48, p. 81-84.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm2004a16.pdf)
(Ten radiolarian species from chert blocks along Bentong-Raub road (mainly Trilonche spp. and Stigmosphaerostylus herculea), representing Famennian (Late Devonian) age)

Jasin, Basir, Z. Harun & U. Said (2005)- Triassic radiolarian biostratigraphy of the Semanggol Formation, South Kedah, Peninsular Malaysia. Bull. Geol. Soc. Malaysia 51, p. 31-39.
(online at: http://gsmpubl.files.wordpress.com/2014/09/bgsm2005005.pdf)
(27 taxa of E-M Triassic radiolaria from outcrop of chert units in Semanggol Fm, 4.5 km E of Kuala Ketil, S Kedah, NW Peninsular Malaysia. Four assemblage zones, Entactinosphaera chiakensis (late Spathian), Triassocampe coronata (M Anisian), Triassocampe deweveri (late Anisian) and Oertlispongus inaequispinosus (E Ladinian))

Jasin, Basir, Z. Harun, U. Said & S. Saad (2005)- Permian radiolarian biostratigraphy of the Semanggol Formation, south Kedah, Peninsular Malaysia. Bull. Geol. Soc. Malaysia 51, p. 19-30.
(online at: http://gsmpubl.files.wordpress.com/2014/09/bgsm2005004.pdf)
(37 taxa of Permian radiolaria from Semanggol Fm interbedded siliceous shale-chert-tuff in outcrop 4.5 km E of Kuala Ketil, S Kedah, NW Maly Peninsula. Five radiolarian zones recognized (Pseudoalbaillella scalprata, Folliculus monacanthus, F. porrectus, Neoalbaillella ornithoformis and N. optima), ranging in age from late E Permian (Sakmarian)- Late Permian)

Jasin, Basir, W.F.W. Hassan & M.S. Leman (1992)- The occurrence of bryozoan bed in the Singa Formation, Bukit Durian Perangin, Langkawi. Warta Geologi 18, 2, p. 29-35.
(online at: www.gsm.org.my/products/702001-101484-PDF.pdf)
(A 1m thick bed of E Permian thin-bedded bryozoan-bearing limestone and calcareous sandstone at Bukit Durian Perangin, 14km N of Kuah, Langkawi. Located near top of glacio-marine clastic Singa Fm, probably in transition zone to overlying Chuping Lst. Bryozoan genera Fenestella, Polypora, Dyscritella and Streblascopora exilis indicate Artinskian age, E Permian (similar to Late Artinskian assemblage described by Sakagami (1970) from nearby Ko Muk Island, SW Thailand))

Jasin, Basir, A. Jantan, I. Abdullah & U. Said (1987)- Volcanic ash beds at Kampung Temong, Kuala Kangsar, Perak. Warta Geologi 13, 5, p. 205-211
(online at: www.gsm.org.my/products/702001-101511-PDF.pdf)
(2.5m thick Quaternary volcanic ash on Malay Peninsula composed of 6 reverse-graded ash layers 0.2-0.7m thick. Believed to be derived from Toba eruptions in North Sumatra at ~75,000 years ago)

Jasin, Basir & L.T. Koay (1990)- Permian fusulinids from Bukit Wang Pisang, Perlis. Sains Malaysiana 19, 1, p. 35-44.

(Late Early Permian fusulinid Monodiexodina shiptoni from transitional beds between Kraeng Krachan Gr. clastics and overlying Ratburi Lst-equivalent in NW Malay Peninsula (= 'anti-tropical' genus from Kungurian or Artinskian of Sibumasu Terrane; JTvG))

Jasin, Basir, P. Pengajian, S. Sekitaran & D.S. Alam (2006)- Some deep water Middle Triassic foraminifera from the Semanggol Formation. Bull. Geol. Soc. Malaysia 52, p. 27-33.
(M Triassic benthic foraminifera from Semanggol Fm siliceous mudstones at Bukit Lada and Merbau Pulas include Pseudonodosaria densa. P. lata, P. obconica, P. simpsonensis, Prodentalina spp, Cryptoseptida, Protonodosaria spp., Associated with radiolaria Eptingium manfredi, etc. Indicate deep marine depositional environment above calcite compensation depth)

Jasin, Basir, U. Said & R. Abdul Rahman (1995)- Late Middle Permian radiolaria from the Jengka area, central Pahang, Malaysia. J. Southeast Asian Earth Sci. 12, p. 79-83.
(Nine species of radiolarians from tin, bedded chert in quarry in folded Semantan Fm(?)N of Jengka Pass, at E side of Central basin of Malay Peninsula. Assemblage with Entactinia spp., Hegleria spp., Follicucullus spp. and Pseudobaillella indicative of late M Permian Follicucullus japonicus Zone. Assemblage similar to those described from China and Japan)

Jennings, J.R. & C.P. Lee (1985)- Preliminary note on the occurrence of Carboniferous-age coals and in situ plant fossils in eastern Peninsular Malaysia. Warta Geologi 11, 3, p. 117-121.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1985003.pdf)
(On Carboniferous 'Cathaysian' plant fossils from E Pahang and Terengganu, on E Malaya Block, Malay Peninsula. With cf. Lepidodendron, cf. Archaeocalamites sp., Sphenophyllum tenerrimum, Sphenopteris spp., etc., interpreted as late Lower Carboniferous age (see also Asama 1973, Ohana et al. 1991))

Jones, C.R. (1966)- Geologic map of Pulau Langkawi. Geol. Survey of Malaysia, scale 1:63,360.

Jones, C.R. (1967)- Graptolites of the *Monograptus hercynicus* type recorded from Malaya. Nature 215, 5100, p. 497.
(Brief note on presence of graptolites at many localities of NW Malay Peninsula (Kedah, Perak, Pahang) and Langkawi island, presumed to be of Silurian and E Devonian ages. Presence of monograptids of Monograptus hercynicus type suggestive of Early Devonian, as is presence of associated tentaculitid Nowakia acuaria)

Jones, C.R. (1968)- Lower Paleozoic rocks of Malay Peninsula. American Assoc. Petrol. Geol. (AAPG) Bull. 52, 7, p. 1259-1278.
(Lower Paleozoic in W part of Malay Peninsula comprises U Cambrian-Lower Devonian sediments, including Ordovician- Silurian shelf carbonates, Silurian euxinic facies graptolite argillite and thick flysch-type sequence to East. Acid pyroclastic rocks and ophiolitic igneous rocks associated with eugeosynclinal trough deposits)

Jones, C.R. (1970)- On a Lower Devonian fauna from Pahang, West Malaysia. Bull. Geol. Soc. Malaysia 3, p. 63-75.
(Foothils Formation of W Pahang contains shales with reticulate sponges, brachiopods (Orbuciloidea sinensis) and graptolites. Monograptus cf. praehercycnicus indicates early Lower Devonian age)

Jones, C.R. (1973)- Lower Palaeozoic. In: D.J. Gobbett & Hutchison (eds.) Geology of the Malay Peninsula (West Malaysia and Singapore), Wiley, New York, p. 25-60.
(Lower Paleozoic of Malay Peninsula includes well-developed Ordovician-Silurian Setul Lst in NW, mainly argillaceous Mahang Fm with Silurian- E Devonian graptolites and tentaculites in Kedah, etc.)

Jones, C.R. (1973)- The Siluro-Devonian graptolites of the Malay Peninsula. Inst. Geol. Sciences (Great Britain), Overseas Geology and Mineral Resources, 44, p. 1-28.

Jones, C.R. (1978)- The geology and mineral resources of Perlis, north Kedah, and the Langkawi Islands. Geol. Survey Malaysia, District Mem. 17, p. 1-257.

Jones, C.R., D.J. Gobbett & T. Kobayashi (1966)- Summary of fossil record in Malaya and Singapore 1900-1965. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 2, p. 309-359.
(Substantial review of mainly U Cambrian- Triassic marine fossils known from Malay Peninsula in 1965, compiled from publications, Geological Survey and British Museum files)

Jones, W.R. (1916)- The origin of the secondary stanniferous deposits of the Kinta District, Perak (Federated Malay States). Quart. J. Geol. Soc. London 72, p. 165-194.

Jusop, S. (2017)- Pyritization of coastal sediments in the Kelantan Plains as evidence for the sea level rise in the Malay Peninsula during the Holocene. Bull. Geol. Soc. Malaysia 64 (Geol. Soc. Malaysia 50th Anniversary Issue 2), p. 59-63.
(online at: www.gsm.org.my/products/702001-101718-PDF.pdf)
(Widespread pyritization (2-3%) of low-lying plains in Malay Peninsula linked to inundation by seawater due to sea level rise of 3-5m, ~43,000 years ago))

Kadir, A.A., B.J. Pierson, Z.Z.T. Harith & Chow W.S. (2009)- Kinta Valley Limestone: clues for a new play? AAPG Convention, Denver, Search and Discovery Article 1019826, p. *(Abstract and Presentation)*
(online at: www.searchanddiscovery.com/documents/2009/10198kadir/ndx_kadir.pdf)
(Karst hills of Ordovician-Permian limestone in Kinta Valley, Malay Peninsula, remnants of large Paleozoic carbonate complex on Sibumasu terrane. Limestones interbedded with sandstone, siltstone and carbonaceous shale over thickness of up to 3000m (??). Slumps and breccia beds indicate slope deposition, slumping to West and N-S platform margin orientation. Potential unexplored new carbonate play E of Malay Peninsula)

Kadir, A.A., B.J. Pierson, Z.Z.T. Harith & Chow W.S. (2010)- Elements of Paleozoic hydrocarbon plays around Peninsular Malaysia. Proc. 46th CCOP Ann. Sess., Vung Tau 2009, p. 18-29.
(Presence of effective Paleozoic hydrocarbon system in Peninsular Malaysia- Malay Basin cannot be ruled out. Permian limestones rel. common in Peninsular Malaysia and may extend offshore, but many are affected by contact metamorphism from Triassic granites)

Kato, M. & Y. Ezaki (1986)- Permian corals from Pahang and Trengganu, Malaysia. J. Fac. Science, Hokkaido University, Ser. 4, 21, 4, p. 645-668.
(online at: http://eprints.lib.hokudai.ac.jp/dspace/bitstream/2115/36745/1/21_4_p645-668.pdf)
(M Permian corals in black limestone breccia associated with andesites in Kampong Awah Quarry, Pahang, C Malay Peninsula. Assigned to Yabeina and Neoschwagerina Zones. Six species, including Waagenophyllum, Michelinia, Wentzelloides, Ipciphyllum, etc., all Tethyan elements (=Cathaysian; E Malaya Plate; JTvG))

Khan, A.A. & M.K. Shuib (2016)- A review of the Bentong-Raub suture vis-a-vis new insight of the tectonic evolution of Malay Peninsula, South East Asia. Acta Geologica Sinica (English Ed.) 90, 5, p. 1865-1886.
(Raub-Bentong suture does not fit model of subduction-related collision, but evolved from transpression tectonics after closure and exhumation of inland basin that underwent back-arc extension during Triassic)

Kimura, T. & C.R. Jones (1967)- Geological structures in the northeastern and southern parts of the Langkawi Islands, North-west Malaya. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 3, p. 123-134.
(Langkawi Islands off NW coast Malay Peninsula with complete Late Cambrian- Permian section, intruded by Mesozoic granites. Thrust zones between upper and lower Paleozoic. Probably multiple periods of folding)

Khoo, Han Peng (1983)- Mesozoic stratigraphy in Peninsular Malaysia. In: P. Nutalaya (ed.) Proc. Workshop Stratigraphic correlation of Thailand and Malaysia, Haad Yai 1983, Geol. Soc. Thailand and Geol. Soc. Malaysia, p. 370-383.
(online at: https://gsmpubl.files.wordpress.com/2014/10/sctm_26.pdf)

(Mesozoic of Malay Peninsula in two separate belts: (1) NW corner and (2) N-S axial region. Two main sequences, mainly Triassic flysch sequence and Late Jurassic- E Cretaceous molasse sequence. In NW corner M-L Triassic Kodiang Lst is time equivalent of deeper marine Semanggol Fm with Halobia, Daonella)

Khoo, K.K. (1978)- Serpentinite occurrence at Telok Mas, Melaka. Warta Geologi (Geol. Soc. Malaysia Newsletter) 4, 1, p. 1-6.
(online at: www.gsm.org.my/content.php?id=54&pid=702001-101569)
(Serpentinite in drill core ~11km SE of Malacca town. First in situ occurrence reported W of Main Range)

Khoo, T.T. (1984)- The terrane of the Patani Metamorphics. Bull. Geol. Soc. Malaysia 17, p. 79-95.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1984006.pdf)
(Regional metamorphic terrane in W Kedah, trending NW-SE, ~30km wide>and >650 km2 in size. Regional metamorphism is believed to have ended by M Carboniferous followed by emplacement of Jerai granite in M-L Carboniferous. Onset of regional metamorphism believed to be E Devonian (NB: Jerai granite dated as 204-206 Ma by Jamil and Ghani 2014; typical latest Triassic Main Range granite; JTvG))

Khoo, T.T. (1984)- Evidence of polymetamorphism in the Rebak Islands, Langkawi, Kedah. Bull. Geol. Soc. Malaysia 17, p. 265-281.
(online at: www.gsm.org.my/products/702001-101151-PDF.pdf)
(Clastics of Rebak islands (SW Langkawi) underwent low-grade regional metamorphism followed by contact metamorphism from granitic source (tourmalinization and pyritization evidence of metasomatism))

Khoo, T.T. & S.P. Lim (1983)- Nature of the contact between the Taku Schists and adjacent rocks in the Manek Urai area, Kelantan and its implications. Bull. Geol. Soc. Malaysia 16, p. 139-158.
(online at: www.gsm.org.my/products/702001-101170-PDF.pdf)
(Taku Schists widespread (750 km2) in N Kelantan Province, NE Malay Peninsula. Contact between schist and adjacent rocks interpreted to be conformable (but tectonic disconformity suggestd by Hutchison 1973). Age of protoliths Permo-Triassic, possibly also older. Age of regional metamorphism may be E-M Triassic, uplift likely in Late Triassic)

Khoo, T.T. & B.K. Tan (1983)- Geologic evolution of Peninsular Malaysia. In: T. Thanasuthipitak et al. (eds.) Proc. Workshop on Stratigraphic correlation of Thailand and Malaysia, Haad Yai 1983, Geol. Soc. Thailand and Geol. Soc. Malaysia, 1, p. 253-290.
(online at: https://gsmpubl.files.wordpress.com/2014/10/sctm_15.pdf)
(Peninsular Malaysia three longitudinal belts, E, C and W, each with own geological development. Post mid-Permian deposition of carbonates and clastics and whole region uplifted by culminating late Triassic orogenic event which affected entire peninsula. Aborted rift model for the tectonic development of Central Belt. Etc.)

Khoo, T.T., B.S. Yaw, T. Kimura & J.H. Kim (1988)- Geology and palaeontology of the Redang islands, Trengganu, Peninsular Malaysia. J. Southeast Asian Earth Sci. 2, p. 123-130.
(Redang islands highly folded clastic sediments, contact metamorphosed by granitic intrusion. Fluvial-nearshore Redang beds and deeper marine Pinang beds. Fossil plants in Redang beds include Calamites, Pecopteris, Cordaites and Taenopteris, resembling Late Carboniferous-Permian species)

Kobayashi, T. (1959)- On some Ordovician fossils from the northern Malaya and her adjacence. J. Fac. Science, University of Tokyo, 2, 11, p. 387-407.
(Early study of Ordovician fossils from NW Malay Peninsula/ Langkawi. Incl. gastropod Teiichispira zonata)

Kobayashi, T. (1963)- On the Triassic *Daonella* beds in central Pahang, Malaya (Contributions to the geology and Palaeontology of Southeast Asia 3). Japanese J. Geology Geography 34, p. 101-112.
(Daonella faunas with 5 species incl. D. indica, D. lommeli, D. pichleri and D. pahangensis n.sp., from Temerloh area, Pahang, Central Malay Peninsula. Triassic shales of Temerloh associated with Pahang Volcanics tuffs. Typical Tethyan fauna, mainly of Ladinian age. Similar distribution to Myophoria sandstones across Malay Peninsula)

Kobayashi, T. (1963)- *Halobia* and some other fossils from Kedah, northwest Malaya (Contributions to the geology and Palaeontology of Southeast Asia 4). Japanese J. Geology Geography 34, p. 113-128.
(Occurrence of Ladinian-Norian hemipelagic bivalves Posidonia kedahensis n.sp., Halobia talauana Wanner, Halobia parallella Kobayashi and Halobia comata Bittner in Semanggol Fm, NW Malay Peninsula)

Kobayashi, T. (1964)- On the Triassic *Daonella* Beds in Central Pahang, Malaya. In: T. Kobayashi (ed.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 53-68.
(Same paper as Kobayashi 1963. Five species of Daonella (one new species Daonella pahangensis) from M Triassic shales NW of Temerloh. Same paper as Kobayashi 1963)

Kobayashi, T. (1964)- *Halobia* and some other fossils from Kedah, northwest Malaya. In: T. Kobayashi (ed.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 69-87.
(Same paper as Kobayashi 1963. Occurrence of Ladinian-Norian hemipelagic bivalves Posidonia kedahensis n.sp., P. siamensis, P. cf. japonica, Halobia talauana Wanner, H. charlyana, H. parallella Kobayashi and Halobia comata Bittner, Daonella indica, etc., in Semanggol Fm, NW Malay Peninsula))

Kobayashi, T. (1984)- On the geological history of Thailand and West Malaysia. In: T. Kobayashi, R. Toriyama & W. Hashimoto (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 25, p. 3-42.
(Stratigraphy-oriented review of Paleozoic- Recent of Thailand-Malay Peninsula area)

Kobayashi, T., C.K. Burton, A. Tokuyama & E.H. Yin (1967)- The *Daonella* and *Halobia* facies of the Thai-Malay Peninsula compared with those of Japan. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 3, p. 98-122.
(M-L Triassic mollusc-bearing beds in Malay Peninsula E and W zones. Daonella and Halobia widespread in deep-water W zone, from S Thailand through Kedah to N Perak ('Semanggol Fm'). Daonella Beds mainly Ladinian, Halobia beds mainly Carnian- E Norian. E zone on E side of Main Range, from Kelantan via Pahang and Johore to Singapore, characterized mainly by nearshore Myophoria sandstones)

Kobayashi, T. & T. Hamada (1964)- On a new Malayan species of *Dalmanitina*. In: T. Kobayashi (ed.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 221-235.
(Early Silurian (Landoverian) trilobite Dalmanitina malayensis n.sp. from Langkawi Island. Comparable to D. hastingsi from basal Silurian of Shan States, Myanmar)

Kobayashi, T. & T. Hamada (1966)- A new proetoid trilobite from Perlis, Malaysia (Malaya). In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 2, p. 245-250.
(New trilobite Cyrtosymbole (Waribole) perlisensis from Kubang Pasu Fm in Perlis, NW Malay Peninsula (probably E Carboniferous age))

Kobayashi, T. & T. Hamada (1970)- A Cyclopygid-bearing Ordovician faunule discovered in Malaya. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 8, p. 1-16.

Kobayashi, T. & T. Hamada (1971)- Agnostoid trilobites in a Devonian formation in West Malaysia. Proc. Japan Academy 47, 4, p. 396-400.
(online at: www.journalarchive.jst.go.jp/...)

Kobayashi, T. & T. Hamada (1971)- Silurian trilobites from the Langkawi islands, West Malaysia, with notes on the Dalmanitidae and Raphiophoridae. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 9, p. 87-134.

Kobayashi, T. & T. Hamada (1972)- A unique trilobite assemblage of the Devonian Kroh fauna in West Malaysia, with notes on the *Tentaculites* facies and the older Palaeozoic faunal sequence in Thailand-Malaya.

In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 10, p. 1-34.
(Trilobite assemblage from Kroh, Upper Perak, NW Malay Peninsula with 13 species, incl. Pseudotrinodus spp., Perakaspis spp., Blanodalmanites spp., etc.. Associated with tentaculites (Nowakia acauria))

Kobayashi, T. & T. Hamada (1973)- Cyrtosymbolids (Trilobita) from the Langgon red beds in northwest Malaya, Malaysia. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 12, p. 1-28.
(Trilobites associated with brachiopods from 4 localities U Devonian- Lower Carboniferous Langgun Fm marine red mustones of NW Malay Peninsula and Langkawi. Four species, incl. Cyrtosymbole (Waribole) perlisensis, Macrobole kedahensis, etc.)

Kobayashi, T. & T. Hamada (1978)- Upper Ordovician trilobites from the Langkawi islands, Malaysia. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 19, p. 1-27.

Kobayashi, T. & T. Hamada (1979)- Permo-Carboniferous trilobites from Thailand and Malaysia. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 20, p. 1-21.
(New collections of trilobites from U Carboniferous- Lw Permian from Loei District. Seven new species of M-L Permian trilobites Paladin, Thaiaspis, etc. described. Also two M Permian pygidia from N Pahang, Malay Peninsula: Ditomopyge sp and a Neoproetus from near Kuala Lipis, Pahang)

Kobayashi, T. & T. Hamada (1981)- Trilobites of Thailand and Malaysia. Proc. Japan Academy, Ser. B, 57, 1, p. 1-6.
(online at: www.jstage.jst.go.jp/article/pjab1977/57/1/57_1_1/_pdf)
(Brief review of 11 occurrences of Late Cambrian- Permian trilobites from Thailand and Malaysia (mainly from Sibumasu terrane?))

Kobayashi, T. & T. Hamada (1984)- Trilobites of Thailand and Malaysia. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 25, p. 273-284.
(Same paper as Kobayashi & Hamada (1981))

Kobayashi, T., C.R. Jones & T. Hamada (1964)- On the Lower Silurian shelly fauna in the Langkawi Islands, northwest Malaysia. In: T. Kobayashi (ed.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 209-220.
(Pulau Langgon (Langkawi Islands) with >2400' thick Setul Fm limestone-dominated section. With detrital bands with graptolites (Climacograptus), trilobites (Dalmanitina malayensis), etc.)

Kobayashi, T., G.A. Sai & K.N. Murthy (1984)- On the geological age of the Tanjong Malim Limestone in Peninsular Malaysia. Proc. Japan Academy 55, B, 6, p. 259-263.
(online at: https://www.jstage.jst.go.jp/article/pjab1977/55/6/55_6_259/_pdf)
(Macrofossils in limestone intercalated with argillaceous rocksand quartzite at Tanjung Malim, 80km NNW of Kuala Lumpur. thermally metamorphosed by Triasic granite intrusion. Fossils incl. straight nautiloids (Endoceras, Orthoceras, Ormoceras) and gastropods (Lophospira). Most likely of M Ordovician age)

Kobayashi, T. & M. Tamura (1968)- *Myophoria* (s.l.) in Malaya with a note on the Triassic Trigoniacea. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 5, p. 88-137.
(Taxonomic review of 13 species of M-U Triassic Trigoniacea bivalves from 'Myophoria Sandstone belt' in Central Belt at E side of Main Range of Malay Peninsula (Chegar Perah, Temerloh, Jurong-Singapore, Kuala Lipis). Presence of Neoschizodus, Myophoria, Costatoria (7 species, incl. C. myophoria, C. pahangensis, C. chegarpahangensis n. sp.), Elegantinia, etc. (Deposits now called Semantan Fm, viewed as M-U Triassic foreland or fore-arc basin along W side of E Malaya Terrane (Ismail 2007); Myophorids from Padang Beds of Sumatra limited to 3 Norian species of Costatoria))

Kobayashi, T. & M. Tamura (1968)- Upper Triassic pelecypods from Singapore. In: T. Kobayshi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 5, p. 138-150.
(Rel. poorly preserved Late Triassic neritic bivalves from Jurong Industrial Estate, SW Singapore. With 17 species, incl. Halobia ex. gr. verbeeki, Costatoria cf. myophoria and other spp., Cassianella cf. verbeeki, Pecten (Entolium?), Cardium scrivenori n.sp. (with affinities to Cardium martini of Sumatra), etc., probably of Early Norian age. Fauna similar to Katialo Fauna of Sumatra described by Krumbeck 1914(?) and also to Mount Faber, Singapore, fauna described by Newton (1923))

Koike, T. (1973)- Triassic conodonts from Kedah and Pahang, Malaysia. In: T. Kobayshi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 12, p. 91-113.
(Triassic conodonts from N Kedah, Bukit Kecil (probably Ladinian, with Epigondiella mungoensis, Paragondolella polygnathiformis, Neogondolella, etc.) and Bukit Kodiang (E Carnian?; mainly P. polygnathiformis). Also samples from chert of Semanggol Fm at Tawar (S Kedah; within late Ladinian- E Carnian) and 3 km NW of Kampong Awah (C Pahang; E Carnian))

Koike, T. (1982)- Triassic conodont biostratigraphy in Kedah, West Malaysia. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 23, p. 9-52.

Kon'no, E. (1967)- Some younger Mesozoic plants from Malaya. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 3, p. 135-164.
(Nine fossil plants from 'Gagau Flora' from 'post-orogenic' Gagau/ Tebak Fm clastics from 3 areas in median zone of Malay Peninsula, incl. in Gunong Gagau area of N Pahang. Most likely age early E Cretaceous, possibly including Late Jurassic. Descriptions of Equisetites, Gleichenites, Ptilophyllum, Frenelopsis, etc. Floral affinity with East Asia, very different from India flora. See also Kon'no 1968, Smiley 1970)

Kon'no, E. (1968)- Addition to some younger Mesozoic plants from Malaya. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 4, p. 139-155.
(Nine fossil plants of E Cretaceous 'Gagau Flora', newly collected from Sungei Pertang, Kelantan, incl. Gleichenoides spp., Otazamites, Pelourdea, Cupressinocladus, Conites, etc.)

Kon'no, E. & K. Asama (1970)- Some Permian plants from the Jengka Pass, Pahang, West Malaysia. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 8, p. 97-132.
(U Permian 'Cathaysian' flora with 24 species, incl. Bicoemplectopteris hallei (also common in Cathaysian Gigantopteris flora of S China)

Kon'no, E. & K. Asama (1975)- Younger Mesozoic plants from Ulu Endau, Pahang, West Malaysia. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 16, p. 91-102.

Kon'no, E., K. Asama & S. Rajah (1970)- The Late Permian Linggiu flora from the Gunung Blumut area, Johore, Malaysia. Bull. Nat. Science Museum, Tokyo, 13, 3, p. 491-580.
(Rel. rich early Late Permian flora from C Johore, SE part of Malay Peninsula. In ~1000-2000' thick Linggiu Fm folded sand-shale-volcanics series. 35 species, many index fossils of North Cathaysian Gigantopteris-Lobatannularia spp. Fauna (correlative with Upper Shihhotse Series of N Cathaysia). Also Pecopteris, Rahajia, Taenioperis, etc.. Only 5 species in common with Jambi flora of Sumatra, which is deemed to be older (Artinskian; tied to Shansi series of N Cathaysia, but lacks some key taxa of that flora))

Kon'no, E., K. Asama & S. Rajah (1971)- The Late Permian Linggiu flora from the Gunung Blumut area, Johore, Malaysia. In: T. Kobayshi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 9, p. 1-85.
(Same paper as Kon'no et al. (1970). Linggiu flora from C Johore with 35 early Late Permian species characteristic of N Cathaysian Gigantopteris- Lobatannularia assemblage. Different from nearby, older Permian Jambi Flora)

Koopmans, B.N. (1965)- Structural evidence for a Palaeozoic orogeny in northwest Malaya. Geol. Magazine 102, p. 501-520.
(Lower Paleozoic rocks in Langkawi Islands subjected to late Silurian-Devonian 'Langkawi folding phase' (dynamo-metamorphic slates in SE with NNW cleavage; in unmetamorphosed N part of area cross-folding with NW trend superimposed on NNE trending folds). In U Paleozoic sediments such deformations are missing: Permian and Carboniferous only slightly warped around Jurassic granite batholith. Lack of Devonian strata in Thailand and incompleteness of Devonian sequence in Malaya may indicate Langkawi folding phase not restricted to Langkawi Islands (comparable to U Paleozoic unconformity in N Sumatra, described by Zwierzycki 1919, Klein 1917?) (see also critique of Burton (1966), who argues for ' Langkawi folding phase' of M-U Carboniferous age)

Koopmans, B.N. (1966)- Palaeozoic orogeny in North-West Malaya- a reply. Geol. Magazine 103, 6, p. 565-567.
(Reply to critique of Burton (1966))

Koopmans, B.N. (1968)- The Tembeling Formation- a litho-stratigraphic description (West Malaysia). Bull. Geol. Soc. Malaysia 1, p. 23-43.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1967003.pdf)
(Tembeling Fm 'molasse facies' fluviatile-deltaic lacustrine post-orogenic sediments in E Malay Peninsula. Thickness at type section in Pahang >3000m. Age probably late Triassic- Jurassic. Incl. thick polymict conglomerates, argillaceous red-beds, etc. Unconformably overlies Carboniferous, Permian and Triassic rocks. Folded Tembeling Fm unconformably overlain by flat-lying beds of Late Jurassic- E Cretaceous Gagau Gp)

Koraini, A.M., Z. Konjing & M. Malihan (2012)- Tertiary palynomorph assemblage from eastern Chenor, Pahang. Bull. Geol. Soc. Malaysia 58, p. 37-42.
(online at: www.gsm.org.my/products/702001-100353-PDF.pdf)
(Palynological assemblages from clastic sediments in outcrop in C Pahang dominated by Late Miocene or younger palynomorphs such as Lanagiopollis emarginatus, Stenochlaenidites papuanus, Discoidites borneensis, Taxodiaceae, etc.. Suggestive of ephemeral peat swamp and riparian fringe type environment)

Krahenbuhl, R. (1991)- Magmatism, tin mineralization and tectonics of the Main Range, Malaysian Peninsula: consequences for the plate tectonic model of Southeast Asia based on Rb-Sr, K-Ar and fission track data. Bull. Geol. Soc. Malaysia 29, p. 1-100.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1991010.pdf)
(Malaysian Peninsula divided by suture into 2 different magmatic provinces. Major magmatic event in Main Range Late Permian. Also common Later Triassic post-collision granites, with major tin mineralization. Apatite fission track data show rapid Oligocene (33-24 Ma) exhumation of Malay Peninsula Tin granites, etc.)

Kumar, S.C. (1981)- Gabbroic rocks from the southern Malay Peninsula and their relation to similar rocks of other orogenic zones. Geol. Soc. Malaysia, Bull. 14, p. 75-100
(online at: www.gsm.org.my/products/702001-101197-PDF.pdf)
(Linden (NW of Johore) and Gombak (Singapore) gabbroic stocks outcrop as two discrete bodies in S tip of Malay Peninsula. Together with gabbroic rocks in Billiton Island represent elements of Eastern volcanic-plutonic belt, active from Carboniferous- Late Triassic)

Kummel, B. (1960)- Anisian ammonoids from Malaya. Breviora 124, p. 1-8.
(online at: www.archive.org/details/breviora121178harv)
(M Triassic ammonites from folded dark grey shales 10.5 miles SSW of Kuala Lipis, Pahang, central Malay Peninsula (= E Malaya/ Indochina terrane?: JTvG). Contains Tethyan species Paraceratites trinodosus, Sturia sansovinii, Acrochordiceras and Ptychites)

Kwan, T. S., R. Krahenbuhl & E. Jager (1992)- Rb-Sr, K-Ar and fission track ages for granites from Penang Island, West Malaysia: an interpretation model for Rb-Sr whole-rock and for actual and experimental mica data. Contrib. Mineralogy Petrology 111, 4, p. 527-542.
(Penang Island NW extension of Peninsular Malaysia Western Magmatic Belt. Three granite emplacement episodes: ~307 Ma (Late Carboniferous), ~251 Ma (Permian-Triassic boundary) and ~211 Ma (Late Triassic). Late-Triassic hydrothermal system responsible for Rb-Sr and K-Ar biotite age resetting of older granites. Change in tensional regime since Oligo-Miocene, accompanied by SW tilting of island)

Kwan, T.S. & F.L. Yap (1986)- The pattern of K/Ar ages of biotites from the granites of Penang: its interpretation in the light of available Rb/Sr and U/Pb data. In: G.H. Teh & S. Paramananthan (eds.) Proc. 5th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA V), Kuala Lumpur 1984, 1, Bull. Geol. Soc. Malaysia 19, p. 281-289.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1986021.pdf)
(Rb/Sr whole-rock and zircon U/Pb data indicate granites of Penang Island emplaced in late Triassic between 222 Ma and 209 Ma. K/Ar analysis of 31 biotite samples show younger apparent ages, decreasing to SSE from 209 Ma to 160 Ma. Trend of younging apparent ages suggests rejuvenation on regional scale

Lane, H.R., K.J. Muller & W. Ziegler (1979)- Devonian and Carboniferous conodonts from Perak, Malaysia. Geologica et Palaeontologica 13, p. 213-222.
(Devonian and Carboniferous conodonts from J.K.R. quarry in S part Gunung Kanthan, Peral, NW Malay Peninsula)

Laveine, J.P. & A.H. Hussin (2003)- The Carboniferous flora of Eastern Peninsular Malaysia. Revue Paleobiologie, Geneve, 22, 2, p. 811-830.
(Carboniferous floras of E Peninsular Malaysia and NE Thailand typical Euramerican aspect. Indochina Block (NE Thailand) and probably also E Malaya Block (E Peninsular Malaysia) in terrestrial connection with N Palaeotethyan land mass, most probably S China Block, at least since E Carboniferous)

Lee, C. (1980)- Two new Permian ammonoid faunas from Malaysia. In: T. Kobayashi, R. Toriyama et al. (eds.) Symposium on the geology and paleontology of SE Asia, Tsukuba 1978, Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 21, p. 63-72.
(Two new E-M Permian ammonoid occurrences on: (1) Prostacheoceras, Neocrimites and Adrianites from Lee Mines in Perak, NW Malay Peninsula (Artinskian), and (2) Agathiceras suessi, Adrianites eleans and Popanocera from S. Cheroh, Pahang, C Malay Peninsula (Wordian). Faunas transitional between those from Sicily and Bitauni-Basleo, Timor)

Lee, C.P. (1983)- Stratigraphy of the Tarutao and Machinchang Formations. In: P. Nutalaya (ed.) Proc. Workshop Stratigraphic correlation of Thailand and Malaysia, Haad Yai 1983, Geol. Soc. Thailand and Geol. Soc. Malaysia, p. 20-38.
(online at: https://gsmpubl.files.wordpress.com/2014/10/sctm_02.pdf)
Review of ~3000m thick mainly shallow marine clastic sections of age-equivalent Cambro-Ordovician Machinchang Fm (NW Malaysia, Langkawi island) and Tarutao Fm (SW Thailand, Ko Tarutao). Somewhat thicker and coarser in S. Overlain by Ordovician limestones of Setul Fm (part of 'Sibumasu Terrane'; similar to Arafura- W Papua stratigraphy?; JTvG))

Lee, C.P. (1993)- Fossil localities in Malaysia: their conservation and significance. Background Paper, Malaysan National Conservation Strategy, Economic Planning Unit, Kuala Lumpur, p. 1-35.
(online at: http://repository.wwf.org.my/technical_reports/...)
(Overview of significant fossil localities on Malay Peninsula, Sarawak and Sabah)

Lee, C.P. (2001)- Scarcity of fossils in the Kenny Hill Formation and its implications. Gondwana Research 4, 4, p. 675-677.

(Permian Kenny Hill Fm is 1200-1500m thick sequence of clastic sediments W and S of Kuala Lumpur. Part of Sibumasu terrane, just W of Bentong Raub suture. Except for single find of E-M Permian ammonoid, Agathiceras no datable body fossils reported. Shallowing-upward succession, reflecting closing of Raub suture)

Lee, C.P. (2001)- Occurrences of *Scyphocrinites* loboliths in the Upper Silurian Upper Setul limestone of Pulau Langgun, Langkawi, Kedah and Guar Sanai, Berseri, Perlis. Proc. Geol. Soc. Malaysia Ann. Geol. Conf., Pangkor Island 2001, Perak, p. 99-104.
(online at: https://gsmpubl.files.wordpress.com/2014/10/agc2001_16.pdf)
(Scyphocrinites loboliths (bulbous floats attached to roots of Late Silurian- E Devonian crinoid) in U Silurian U Setul Lst of Pulau Langgun, Langkawi and inh quarry at Guar Sanai, near Guar Jentik, Berseri, Perlis)

Lee, C.P. (2004)- Palaeozoic. In: C.P. Lee et al. (eds.) Stratigraphic Lexicon of Malaysia, Geol. Soc. Malaysia, p. 3-26.
(online at: https://gsmpubl.files.wordpress.com/2014/09/lexicon.pdf)
(Paleozoic sedimentary rocks ~25% of outcrop of Malay Peninsula. In Sarawak only pre-Upper Carboniferous Tuang formation and U Carboniferous- Lower Permian Terbat Fms. No Paleozoic rocks known from Sabah. Paleozoic formations of Peninsular Malaysia in 3-4 NW/N trending zones. Lower Paleozoic rocks confined to W part of peninsula)

Lee, C.P. (2005)- Discovery of plate-type scyphocrinoid loboliths in the uppermost Pridolian- lowermost Lochkovian Upper Setul limestone of Peninsular Malaysia. Geological Journal 40, 3, p. 331-342.
(Floats attached to roots of Late Silurian to Early Devonian crinoids up to 16cm in diameter in top part of U Setul Limestone of Langgun, Langkawi Island, and Guar Jentik on adjacent NW Malay Peninsula (Sibumasu Terrane))

Lee, C.P. (2006)- The Cambrian of Malaysia. Palaeoworld 15, p. 242-255.
(Cambrian of Malaysia best represented by few 1000m thick quartzose Machinchang Fm in Langkawi, Kedah, NW Peninsular Malaysia. Basal part prograding prodelta clastics, middle part estuarine channel-fills and upper shoreface, beach, etc. deposits, youngest member shoreface to lagoonal. Grades upward into Ordovician Setul Fm limestone)

Lee, C.P. (2009)- Palaeozoic stratigraphy. In: C.S. Hutchison & D.N.K. Tan (eds.) Geology of Peninsular Malaysia, University Malaya and Geol. Soc. Malaysia, Kuala Lumpur, p. 55-86.
(Paleozoic rocks outcrop over ~25% of Malay Peninsula. Peninsula subdivided into 3 belts and a NW Domain. W and NW domains are 'Gondwanan' Late Cambrian- Triassic stratigraphy (incl. thick Ordovician- Devonian limestones and Carboniferous- E Permian glacial diamictites). C and E belts are 'Cathaysian', highly deformed marine Carboniferous- Permian sediments (including Permian fusulinid limestone and shale with Gigantopteris flora), unconformably overlain by U Triassic- Lw Jurassic redbeds)

Lee, C.P. (2013)- Review of the Palaeozoic stratigraphy of the Langkawi Islands, Malaysia. Berita Sedimentologi 27, p. 5-14.
(online at: www.iagi.or.id/fosi/files/2013/08/BS27-Sumatera_Final.pdf)
(Langkawi, off NW Malay Peninsula, part of W Belt ('Sibumasu' microcontinent), with rel. complete Paleozoic section exposed. Machinchang Fm Cambrian quartzose sandstones, Setul Fm Ordovician- E Devonian limestones, Singa Fm Carboniferous- E Permian marine clastic with glacial diamictite, Chuping Fm E-M Permian limestone with fusulinids, Late Triassic and Late Cretaceous granite)

Lee, C.P. & H.H. Meor (2005)- Contributions from the geology of Northeast Langkawi to refining the Mid-Palaeozoic stratigraphy and palaeogeography of Peninsular Malaysia. Malaysian J. Science 24 (Langkawi Spec. Issue), p. 9-14.
(New stratigraphic nomenclature based on observations on Pulau Langgun. Kilim brachiopod beds clues to Late Paleozoic glacial event, indicating proximity of Langkawi to Gondwana during that time)

Lee, C.P., M.S. Leman, K. Hassan, B.M. Nasib & R. Karim (2004)- Stratigraphic lexicon of Malaysia. Geol. Society Malaysia, Kuala Lumpur, p. 1-162.
(online at: www.gsm.org.my/products/702001-100847-PDF.pdf)

Lee, C.Y. (1998)- The Bukit Arang Tertiary Basin in Chuping, Perlis. Bull. Geol. Soc. Malaysia 42, p. 179-186.
(online at: www.gsm.org.my/products/702001-100847-PDF.pdf)
(Bukit Arang small Late Tertiary Basin in N Malay Peninsula-Thailand border area. Thickness from gravity data up to 800m thick. Underlain by Carboniferous clastics of Kubang Pasu Fm. May be correlated with Batu Arang Tertiary Basin of Late Oligocene- Late Miocene age in Selangor and other Tertiary basins in peninsula)

Leman, M.S. (1990)- Permian Productidina of Britain and Malaysia. Ph.D. Thesis, Durham University, p. 1-286.
(online at: http://etheses.dur.ac.uk/6293/1/6293_3648.PDF)

Leman, M.S. (1993)- Upper Permian brachiopods from northwest Pahang, Malaysia. In: T. Thanasuthipitak (ed.) Int. Symposium Biostratigraphy of mainland Southeast Asia: facies and paleontology (BIOSEA), Chiang Mai 1993, 1, p. 202-218.
(U Permian- M Triassic Gua Musang Fm in NW Pahang in central belt of Malay Peninsula (= W margin of E Malaya Block?) with rich U Permian 'S Tethyan' brachiopod assemblages, in tuffaceous shales. Most of fauna warm water olhaminids and may be regarded as 'Leptodus Shale', which seems to have flourished on shallow shelf or on volcanic islands. Two zones: Oldhamina dicipens and Haydenella minuta (Leptodus shale of C Malay Peninsula also described by Muir-Wood 1948). Associated with pectinid bivalves, one fusulinid horizon and rare plant remains (incl. Lobatanularia, Taenopteris, Pecopteris= Cathaysian?))

Leman, M.S. (1994)- The significance of Upper Permian brachiopods from Merapoh area, northwest Pahang. Bull. Geol. Soc. Malaysia 35, p. 113-121.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1994011.pdf)
(Rich U Permian brachiopod-dominated shelly fauna in M Permian- E Triassic Gua Musang Fm of Merapoh area, NW Pahang, C Malay Peninsula, wit 40 species, incl. Leptodus nobilis, L. cf. catenata. and Oldhamina decipiens. With horizon of 'U Permian Leptodus Shale', which developed on shallow carbonate and volcanic highs during period of active volcanism (Capitanian?))

Leman, M.S. (1995)- Permian ammonoids from Kuala Betis area, Kelantan and their paleogeographic significance. Bull. Geol. Soc. Malaysia 38, p. 153-158.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1995014.pdf)
(Two new Permian ammonoid localities in tuffaceous mudstones in Gua Musang Fm metasedimentary-pyroclastic sequence in Kuala Betis area, SW Kelantan. Fauna with Agathiceras cf. suessi, Adrianites, Popanoceras., Propinacoceras, Hoffmannia, etc. and small orthoconic cephalopods. Assemblages resemble M Permian Sg Cheroh cephalopod fauna and are associated with deep water sediment in Bentong (Paleotethys) suture zone. Similarities with Italian Socio, Timor Basleo fauna and other ammonoid occurrences in Europe, N Africa and W Asia indicate oceanic link between these pelagic faunas in M Permian)

Leman, M.S. (1996)- The occurrence of brachiopods from pebbly mudstone near Kilim, Langkawi: their age, paleobiogeography and paleoclimatic implication. Warta Geologi 22, 2, p. 100-102. *(Conference Abstract)*
(online at: www.gsm.org.my/products/702001-101460-PDF.pdf)
(Gondwanan cold water brachiopod assemblage of 8 species in upper Singa Fm in Kilim quarry, Langkawi islands. Includes Spirelytha, Sulciplica, Bandoproductus, etc. Indicating late E Permian (Sakmarian) age. Same species also reported from Ko Muk (Thailand))

Leman, M.S. (1997)- The age and paleobiogeography of brachiopod fauna discovered in pebbly mudstone at Kilim, Langkawi. Bull. Geol. Soc. Malaysia 40, p. 233-240.
(online at: www.gsm.org.my/products/702001-100877-PDF.pdf)
(Rich, thick-shelled cold water brachiopod assemblage near top of pebbly mudstone of Singa Fm in Kilim area, E Langkawi, with Spirelytha buravasi, Sulciplica thailandica, Lamniplica cf sapa, Rhynchopora, Streptorhynchus, Arctitreta, etc. Similar to assemblage described by Waterhouse(1982) from Ko Muk, Thailand.

Presence of Bandoproductus monticulus suggests E Permian (Late Asselian- Sakmarian) age. Kilim brachiopod fauna close affinity with other E Permian south temperate or peri-Gondwana fauna. Faunas support marine glacial diamictite origin for pebbly mudstone)

Leman, M.S. (1997)- Batuan Formasi Singa di Pulau Langkawi. In: I. Komoo et al. (eds.) Geological heritage of Malaysia: conservation geology for ecotourism, LESTARI UKM, p. 185-207.
('Rocks of the Singa Formation on Langkawi Island')

Leman, M.S. (2000)- Langkawi dropstones: outstanding glaciogenic sedimentological features in Malaysia. In: I. Komoo & H.D. Tjia (eds.) Geological heritage of Malaysia: resource development for conservation and nature tourism. LESTARI UKM, p. 59-82

Leman, M.S. (2003)- An Early Permian (Early Sakmarian) brachiopod fauna from the Sungai Itau Quarry and its relationship to other Early Permian brachiopod horizons in Langkawi, Malaysia. Bull. Geol. Soc. Malaysia 46, p. 155-160.
(online at: www.gsm.org.my/products/702001-100666-PDF.pdf)
(Rich brachiopod bed with 12 species in quarry at Kampung Sllngai Itau, Langkawi, right above beds previously interpreted as E Permian deglaciation deposits. Fauna dominated by spinose genus Spirelytha spp., large thick-shelled Sulciplica thailandica and Bandoproductus cf. monticulus. Assigned to upper Arctitreta-Bandoproductus Zone of E Permian (E Sakmarian))

Leman, M.S. (2004)- Mesozoic. In: C.P. Lee et al. (eds.) Stratigraphic Lexicon of Malaysia, Geol. Soc. Malaysia, p. 37-64.
(online at: https://gsmpubl.files.wordpress.com/2014/09/lexicon.pdf)

Leman, M.S., I. Komoo, K. Roslan, C.A. Ali & T. Unjah (2007)- Geopark as an answer to geoheritage conservation in Malaysia- The Langkawi Geopark case study. Bull. Geol. Soc. Malaysia 53, p. 95-102.
(online at: http://geology.um.edu.my/gsmpublic/v53/Pdf%20individual%20papers/15%20Paper.pdf)
(On preservation of famous 'Sibumasu' Paleozoic section outcrops of Langkawi island, off Malay Peninsula)

Leman, M.S., K.R. Mohamed & M. Sone (2000)- On the new Permian Bera Formation from the Bera District, Pahang, Malaysia. In: G.H. Teh et al. (eds.) Proc. Geol. Soc. Malaysia Ann. Geol. Conf. 2000, Pulau Pinang, p. 151-158.
(online at: https://gsmpubl.files.wordpress.com/2014/10/agc2000_21.pdf)
(New Bera Formation introduced for M Permian strata exposed in Bera District, Pahang, C Malay Peninsula. Lithology mainly shale, siltstone and sandstone, deposited in shallow marine environment. With ammonoid Agathiceras, trilobite Pseudophillipsia, brachiopods incl. lyttoniid genus Gubleria (similar to Leptodus nobilis; see also Sone et al. 2001). Upper part of Bera Fm equivalent to limestones at Jengka Pass and Kampung Awah with late M Permian fusulinid foraminifera)

Leman, M.S., N. Ramli, S. Mohamed & C. Molujin (2004)- The discovery of Late Permian (early Changshingian) brachiopods from Penjom, Pahang Darul Makmur. Geol. Soc. Malaysia Bull. 48, p. 91-95.
(online at: www.gsm.org.my/products/702001-100582-PDF.pdf)
(Late Permian brachiopod fauna with Peitichia kwangtungensis and Semibrachythyrina rhombiformis in dark grey calcareous shale dipping ~45° to WSW, nearPenjom gold mine, SW of Kuala Lipis)

Leman, M.S. & G. Shi (1998)- The Permian of Langkawi Islands and North West Peninsular Malaysia with comments on the significance of the Kisap Thrust. In: G.R. Shi et al. (eds.) Strzelecki Int. Symp. Permian of Eastern Tethys: biostratigraphy, palaeogeography and resources, Proc. Royal Soc. Victoria 110, p. 405-418.
(W part of Peninsular Malaysia part of Shan-Tai/ Sibumasu block. Carboniferous- Permian sequences deposited in two paleogeographically distinct settings: (1) West Langkawi (with Carboniferous- Lw Permian Singa Fm glacio-marine pebbly mudstone) and (2) Perlis-Kedah (Carboniferous- Lw Permian shallow water Kubang Pasu Fm in W (with E Permian Monodiexodina fusulinid fauna) and deep-water Semanggol Fm in E, no well-defined glacial diamictites, transitional climate between typical cold Gondwana and warm Cathaysian faunas. Two

terranes brought close to each other by post-Permian Kisap Thrust, thrusting E block (Perlis-Kedah) over W block (W Langkawi))

Leman, M.S. & M. Sone (2001)- Conglomerate from Setia Jasa near Temerloh, Pahang, Peninsular Malaysia: its stratigraphic position and depositional environment. In: G.H. Teh et al. (eds.) Proc. Geol. Soc. Malaysia Ann. Geol. Conference 2001, Pangkor Island, p. 115-119.
(online at: https://gsmpubl.files.wordpress.com/2014/10/agc2001_19.pdf)
(Thick series of conglomerate, tuffaceous sandstone and shale in Setia Jasa area, E of Temerloh, C Malay Peninsula. Anisian (early M Triassic) age is indicated by presence of ammonoid Paraceratites sp. in lower shale bed. Also bivalves Costatoria and Neoschizodus and some plant fragments. Clasts mainly tuffaceous sandstone. Possibly deposited in deep marine environment and probably part of Semantan Fm)

Leman, M.S. & M. Sone (2002)- A Permian phillipsid trilobite from Peninsular Malaysia. Geosciences J. 6, 2, p. 125-129.
(Pygidia of trilobite Pseudophillipsia reported from M Permian Bera Fm sand-shale, Pahang, Central Malay Peninsula, with rich brachiopod fauna of E Capitanian age. Resembles slightly younger Capitanian species of N Laos, suggesting faunal link between Indochina and Peninsular Malaysia (E Malaya terrane) in Capitanian)

Leman, M.S. & A. Yop (2002)- Early Permian sequence from Sungai Itau quarry, Langkawi: its age, depositional environment and palaeoclimatic implication. In: G.H. Teh (ed.) GSM Annual Geological Conf., Kota Bharu 2002, Bull. Geol. Soc. Malaysia 45, p. 163-170.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm2002025.pdf)
(Thick bedded sandstones and mudstones with fossiliferous calcareous horizons in quarry in Kampung Sungai !tau, Langkawi. Lower sandstone interbedded with black pebbly mudstone (diamictite), indicating glaciation. Deposition took place on outer shelf. Overlying silty shale yields E Permian (late Asselian- E Sakmarian) brachiopod assemblage of Gondwanan affinity with Spirelytha spp., Sulciplica, Spiriferella, etc.)

Leonova, T.B., M.S. Leman & G.R. Shi (1999)- Discovery of an Early Permian (Late Sakmarian) ammonoid from Langkawi Island, Malaysia. Alcheringa 23, p. 277-281.
(Ammonite Metalegoceras sp. from thin-bedded sands-shales in uppermost part of Singa Fm at Batu Asah, NW part of Kuah town, S Langkawi. Confirms Sakmarian (E Permian) age suggested by brachiopods)

Li, B., S.Y. Jiang, H.Y. Zou, M.Yang & J.Q. Lai (2015)- Geology and fluid characteristics of the Ulu Sokor gold deposit, Kelantan, Malaysia: implications for ore genesis and classification of the deposit. Ore Geology Reviews 64, p. 400-424.
(Ulu Sokor in Central Gold Belt one of largest gold deposits in Malaysia. Three major orebodies related to N-S and NE-striking fractures in fault zones in Permian-Triassic meta-sedimentary and volcanic rocks of E Malaya Block. Gold mineralization quartz-dominant vein systems with sulfides and carbonates. Hydrothermal alteration and mineralization during three stages. Classified as orogenic gold deposit)

Liew, T.C. (1983)- Petrogenesis of the Peninsular Malaysia granitoid batholiths. Ph.D. Thesis, Australia National University (ANU), Canberra, p. 1-291. *(Unpublished)*

Liew, T.C. & M.T. McCulloch (1985)- Genesis of granitoid batholiths of Peninsular Malaysia and implications for models of crustal evolution: evidence from Nd-Sr isotopic and U-Pb zircon study. Geochimica Cosmochimica Acta, 49, p. 587-600.
(Nd, Sr and U-Pb isotopic data for Late Triassic W Coast Province batholiths and Permian-Triassic E Coast Province batholiths of Peninsular Malaysia. U-Pb zircon inheritance ages interpreted to correspond to Mid-Proterozoic (~1300-1900 Ma) ‘crust formation’ ages of continental fragments represented by W Coast and E Coast batholithic provinces. Absence of Archean signatures)

Liew, T.C. & R.W. Page (1985)- U-Pb zircon dating of granitoid plutons from the West coast of Peninsular Malaysia. J. Geol. Soc., London, 142, p. 515-526.

(U-Pb zircon dating of granitoid plutons from W Coast Province of Malaysia yields ages of 198-220 Ma (Late Triassic), older than previous K-Ar mica ages. U-Pb zircon ages are considered to represent best estimate of intrusive ages of plutons. Zircons from some plutons yield ages of ~1500-1700 Ma, dating source-derived, inherited zircon components, suggesting W Coast Province S-type granitoids derived from sedimentary sources recycled, at least in part, from mid-Proterozoic crystalline basement sources)

Lim, K.K. & N.T. Abdullah (1994)-. Development of Permian volcaniclastics limestone succession at Gua Bama, Pahang Darul Makmur. Warta Geologi 20, 3, p. 243-244. *(Abstract only)*
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1994003.pdf)
(Late Permian volcanic and volcaniclastic facies interfingering with minor limestone reported to be ubiquitous from Padang Tengku to Terengan catchment area. Limestone sequence at Gua Bama underlain by stratified volcaniclastics (crystal tuffs). With Tubiphytes and colaniellid foraminifera, indicating Late Permian age)

Lim Teng Chye, S., M. Sharafuddin, M. Sulaiman, G.H. Teh & J.H.A. Aziz (2001)- Geology, structure, mineralization and geochemistry of the Penjom gold deposit, Penjom, Pahang. Proc. Geol. Soc. Malaysia Annual Geological Conf., Pangkor Island, p. 59-63.
(online at: https://gsmpubl.files.wordpress.com/2014/10/agc2001_10.pdf)
(Penjom Gold Mine near Bentong-Raub suture in Permian tuffs and sediments of Padang Tengku Fm, striking E-W with 30° dip S, close to E boundary with Triassic. Gold mineralization associated with early felsite sills)

Logan, J.R. (1849)- The rocks of Pulo Ubin. With some remarks on the formation and structure of hydrogene rocks and on the metamorphic theory. Verhandelingen Bataviaasch Gen. Kunsten en Wetenschappen 22, 44p.
(Early paper on geology of Palau Ubin, off Singapore, published in Batavia)

Logan, J.R. (1851)- Notices of the geology of the Straits of Singapore. Proc. Geol. Soc. London 7, p. 310-344.
(Early description of sedimentary and plutonic rocks of Singapore archipelago and southernmost Malay Peninsula. With one map)

Loke, M.H., C.Y. Lee & G. van Klinken (1983)- Interpretation of regional gravity, and magnetic data in Peninsular Malaysia. Bull. Geol. Soc. Malaysia 16, p. 1-21.
(online at: www.gsm.org.my/products/702001-101180-PDF.pdf)
(Gravity maximum of up to 20 mgals, and broad magnetic minimum over Central Belt, indicating underlying denser and more basic upper crust. Gravity minimum over Main Range and smaller gravity minimum over E Belt granites, due to lower densities of granite batholiths than surrounding rocks)

Long, X.Q., A.A. Ghani, M. Saidin & Z.Z.T. Harith (2016)- Durbachite-like melagranite in Taiping Pluton of Bintang Batholith, Peninsular Malaysia. Bull. Geol. Soc. Malaysia 62, p. 1-6.
(online at: https://gsmpubl.files.wordpress.com/2017/04/bgsm2016001.pdf)
(Triassic (218 ± 1.3 Ma) ultrapotassic durbachite-type rocks (K-Mg rich melagranite)in Taiping Pluton, Bintang Batholith, NW Malay Peninsula. Petrogenesis believed to require crustal component and enriched lithospheric mantle source. Taiping Pluton on Sibumasu plate, emplaced during Sibumasu-Indochina collision)

Lye, Y.H. (1984)- Studies of pegmatitic cassiterites from the Gunung Jerai (Kedah), Bakri (Johore) and Kathu Valley (Phuket) regions. Geol. Soc. Malaysia Bull. 17, p. 107-161.
(online at: www.gsm.org.my/products/702001-101157-PDF.pdf)

MacDonald, S. (1968)- The geology and mineral resources of north Kelantan and north Trengganu. Mem. Geol: Survey Dept. West Malaysia 10, p. 1-202.

Madon, M. (2010)- Submarine mass-transport deposits in the Semantan Formation (Middle-Upper Triassic), central Peninsular Malaysia. Bull. Geol. Soc. Malaysia 56, p. 15-26.
(online at: http://geology.um.edu.my/gsmpublic/BGSM/bgsm56/bgsm2010003.pdf)
(Exposures of M-U Triassic Semantan Fm along East Coast Highway between Karak and Kuantan of Triassic flysch basin that once separated W and E Malaya. E-ward change from distal to proximal facies)

Madon, M. (2017)- A brief review of gravity and magnetic data for Malaysia. Warta Geologi 43, 2, p. 41-49.
(online at: https://gsmpubl.files.wordpress.com/2017/09/ngsm2017_02.pdf)
(Brief review of main sources of public domain gravity- magnetic data for Malaysia and surrounding region)

Madon, M., Z. Affendi Abu Bakar & H.H. Ismail (2010)- Jurassic-Cretaceous fluvial channel and foodplain deposits along the Karak-Kuantan Highway, central Pahang (Peninsular Malaysia). Bull. Geol. Soc. Malaysia 56, p. 9-14.
(Fluvial succession of probable Jurassic-Cretaceous age Gagau Group along Karak-Kuantan highway, C Pahang. Depositional environment, unmetamorphosed nature and low structural dips compared to surrounding rocks, suggest they are 'post-orogenic' continental deposits)

Mahmoodi, I. & E. Padmanabhan (2017)- Exploring the relationship between hydrocarbons with total carbon and organic carbon in black shale from Perak, Malaysia. Petroleum and Coal 59, 6, p. 933-943.
(online at: https://www.vurup.sk/wp-content/uploads/2017/12/PC_6_2017_Mahmoodi_82cor1.pdf)
(Organic geochemistry of Paleozoic black shale from U Carboniferous Batu Gajah Fm, Ipoh, Malay Peninsula)

Makoundi, C. (2012)- Geology, geochemistry and metallogenesis of selected sediment-hosted gold deposits in the central gold belt, Peninsular Malaysia. M.Sc. Thesis, University of Tasmania, p. 1-206.
(online at: http://eprints.utas.edu.au/14712/)
(On Tersang, Selinsing and Penjom gold deposits at E side of Bentong-Raub suture zone, Pahang, C Malaysia. Tersang gold deposit hosted in Triassic sandstone, intruded by Late Triassic (219 Ma) alkali rhyolite. Penjom gold deposit hosted in Permian tuffaceous clastics, intruded by rhyodacitic and trachyandesitic igneous rocks)

Makoundi, C. (2016)- Geochemistry of Phanerozoic carbonaceous black shales, sandstones and cherts in Malaysia: insights into gold source rock potential. Ph.D. Thesis, University of Tasmania, p. 1-318.
(online at: https://eprints.utas.edu.au/23088/1/Makoundi_whole_thesis.pdf)
(Trace element geochemistry of Paleozoic- M Triassic marine black shales from central gold belt/E Malaya and Sibumasu terranes as possible sources of orogenic gold deposits)

Makoundi, C., K. Zaw, R.R. Large, S. Meffre, C.K. Lai & T.G. Hoe (2014)- Geology, geochemistry and metallogenesis of the Selinsing gold deposit, central Malaysia. Gondwana Research 26, p. 241-261.
(Selinsing gold deposit orogenic gold deposit E of Bentong-Raub Suture Zone, in Carboniferous Raub Gp (meta-)sedimentary units. Deposits affected by later Triassic deformation and metamorphism due to collision of Sibumasu Terrane with Sukhothai Arc. Zircon dating of host rocks indicates Carboniferous (~331-300 Ma) maximum depositional age. Selinsing similar to other SE orogenic gold deposits, like Sepon (Laos), Langu (Thailand), Modi Taung and Meyon (Myanmar) and Phuoc Son (C Vietnam))

Malaysian and Thai Working Groups (2006)- Geology of the Gubir-Sadao transect area along the Malaysia-Thailand Border. Malaysia-Thailand Border Joint Geological Survey Committee (MT-JGSC), Minerals and Geoscience Dept. Malaysia and Dept. Mineral Resources Papers, p. 1-32.
(online at: www.dmr.go.th/download/Malaysia_Thai/Sadao.pdf. Mainly on Carboniferous- Triassic stratigraphy of border area))

Malaysian-Thai Working Groups (2009)- Geology of the Pengkalan Hulu-Betong transect area along the Malaysia-Thailand Border. Malaysia-Thailand Border Joint Geological Survey Committee (MT-JGSC), Minerals and Geoscience Dept. Malaysia Geol. Papers 7, p. 1-84.

Malaysian and Thai Working Groups (2009)- Geology of the Bukit Batu Puteh- Satun transect area along the Malaysia- Thailand border. Malaysia-Thailand Border Joint Geological Survey Committee (MT-JGSC), Minerals and Geoscience Dept. Malaysia Geol. Papers 8, Kuala Lumpur, p. 1-111.
(online at: www.dmr.go.th/download/Malaysia_Thai/Satun.pdf)
(Geological mapping and transect of Ordovician- Triassic rocks in outcrops of NW Malay Peninsula- SW Peninsular Thailand border area. With many outcrop, rock and fossil photos)

Malaysian-Thai Working Group (2012)- Litho- and biostratigraphic correlations of chert beds in various rock units along the Malaysia- Thailand border. The Malaysia-Thailand Border Joint Geological Survey Committee (MT-JGSC), Min. Geosc. Dept. Malaysia and Dept. Mineral Resources, Bangkok, p. 1-73.
(online at: www.dmr.go.th/download/Malaysia_Thai/Biostratigraphic_chert.pdf)
(Carboniferous-Triassic chert horizons and radiolarians in Malaysia-Thailand border area. Fifteen radiolarian assemblage zones identified on Malaysian side, ranging in age from Carboniferous-Triassic. Deep sea deposition on Peninsular Malaysia terminated at end of Triassic due to tectonic uplift episode)

McElhinny, M.W., N.S. Haile & A.R. Crawford (1974)- Palaeomagnetic evidence shows Malay Peninsula was not a part of Gondwanaland. Nature 252, 5485, p. 641-654.
(Paleomagnetic results suggest Malay Peninsula was at 15° N in Late Paleozoic, incompatible with once forming part of Gondwanaland. In Cretaceous Peninsula was not finally welded to Asian mainland)

Meng, C.C. & M.Pubellier (2015)- Geological structures of the Kinta Valley revisited using drainage anomalies. In: M. Awang et al. (eds.) 3rd Int. Conf. Integrated Petroleum Engineering and Geosciences (ICIPEG2014), Kuala Lumpur 2014, Springer Verlag, p. 267-276.
(Kinta Valley Paleozoic limestone-shale and Late Triassic granitic intrusions covered >50% by thin alluvium. Severely deformed. NE-SW and N-S drainage anomalies may reflect slight or large normal faults. Shortening by thrust faults and subsequent extension may be rooted in lower ductile crust beneath large granitic plutons)

Meng, C.C., M. Pubellier, A. Abdeldayem & Chow W.S. (2016)- Deformation styles and structural history of the Paleozoic limestone, Kinta Valley, Perak, Malaysia. Bull. Geol. Soc. Malaysia 62, p. 37-45.
(online at: www.gsm.org.my/products/702001-101695-PDF.pdf)
(Paleozoic limestone of Kinta Valley narrow deformed strip between Late Triassic- E Jurassic batholiths of N Malay Peninsula. Deformation events: (1) early extension (Permian-Triassic intra-basin extension); (2) early compression indicated by conjugate strike-slip faults; (3) compression with thrusts and folds (coeval with late stages of granite emplacement); (4) ductile high temperature normal shear near contact with granites, and (5) late extension with large normal faults (Tertiary basins formation or Late Miocene-Quaternary uplift))

Meor, H.Hassan (2003)- Sedimentology and palaeontology of the Devonian red beds of northwest Peninsular Malaysia. Seminar Penyedelikan Jangka Pedek (Vot G), 4p.
(online at: http://eprints.um.edu.my/691/1/paper144.pdf)
(Mid- Late Devonian redbeds throughout Perlis, Kedah and Langkawi islands, probably prodelta deposits)

Meor, H.Hassan (2013)- Post-conference field excursion to Northwest Peninsular Malaysia. Third Int. Conference on Palaeontology of South East Asia (ICPSEA 3), p. 1-28.
(online at: http://umexpert.um.edu.my/file/publication/00006513_97630.pdf)
(Fieldtrip guide to Paleozoic of NW Malay Peninsula. 'Gondwanan' stratigraphy including E Permian Singa Fm glaciomarine deposits (on Langkawi Island only) and U Kubang Pasu Fm with Kungurian-Roadian Monodiexodina fusulinid forams. Youngest Paleozoic unit is Permian Chuping Lst)

Meor, H.Hassan, A.K. Aung, R.T. Becker, N.A. Abdul Rahman, T.F. Ng, A.A. Ghani & M.K. Shuib (2014)- Stratigraphy and palaeoenvironmental evolution of the mid- to upper Palaeozoic succession in Northwest Peninsular Malaysia. J. Asian Earth Sci. 83, p. 60-79.
(online at: https://umexpert.um.edu.my/file/publication/00004083_104753.pdf)
(Revised Devonian-Permian stratigraphy in NW Peninsular Malaysia. E Devonian Timah Tasoh Fm black mudstone with graptolites and tentaculitids overlain by Sanai Lst with Late Devonian conodonts (Frasnian- E Famennian) or by Late Tournaisian chert of Telaga Jatoh Fm. Overlying Kubang Pasu Fm clastics include (1) Late Visean Chepor Mb with glacial marine deposits (with new ammonoid species, Praedaraelites tuntungensis, possibly of Visean age); (2) Carboniferous-Permian Kubang Pasu Fm clastics; (3) Kungurian uppermost Kubang Pasu Fm shallow marine clastics. Permian Chuping Lst. Mid-Paleozoic unconformity separates Early-Late Devonian from overlying Late Devonian-Carboniferous deposits, probably marking initiation of rifting on Sibumasu, which led to separation of Sibumasu from Australian Gondwana in Late Sakmarian (E Permian))

Meor, H.Hassan, A.K. Aung, R.T. Becker, N.A. Abdul Rahman, T.F. Ng, A.A. Ghani & M.K. Shuib (2014)- Carboniferous (Mississippian) dropstones and diamictite from the Chepor Member, basal Kubang Pasu Formation: earliest record of glacial-derived deposits in Peninsular Malaysia. Geol. Soc. Malaysia, Nat. Geoscience Conf. (NGC) 2014, Trengganu, P046, p. 38-39. *(Extended Abstract)*
(Pebbly mudstone and diamictite intervals in Chepor Mb (= basal unit of of Kubang Pasu Fm) in Perlis, NW Malay Peninsula (= Sibumasu Terrane). Trilobite Weyeraspis sp. and ammonoid Praedaraelaites tuntungensis indicate Visean age (E Carboniferous) and is earliest glacial marine conditions on Peninsular Malaysia)

Meor, H.Hassan, B.D. Erdtmann, X.F. Wang & C.P. Lee (2013)- Early Devonian graptolites and tentaculitids in northwest Peninsular Malaysia and a revision of the Devonian-Carboniferous stratigraphy of the region. Alcheringa 37, p. 49-63.
(E Devonian tentaculitids described from new outcrops in black carbonaceous shales of Timah Tasoh Fm in Perlis, NW Peninsular Malaysia. Occurrences of graptolite Monograptus langgunensis and tentaculitid Nowakia (Turkestanella) acuaria acuaria give E Devonian (late Pragian or E Emsian) age for black shales. Probably rel. deep marine outer shelf or continental margin deposits of Sibumasu Terrane)

Meor, H.Hassan & C.P. Lee (2002)- Stratigraphy of the Jentik Formation, the transitional sequence from the Setul Limestone to the Kubang Pasu Formation at Guar Sanai, Kampung Guar Jentik, Beseri, Perlis- a preliminary study. GSM Annual Geological Conf. 2002, Kota Bharu, Bull. Geol. Soc. Malaysia 45, p. 171-178.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm2002026.pdf)
(Devonian of NW Malay Peninsula. New name Jentik Fm for ~300m thick E Devonian- E Carboniferous deep marine clastic sequence between Late Silurian U Setul Lst and Kubang Pasu Fm. Includes black dacryoconarid shales and Langgun Red Beds)

Meor, H.Hassan & C.P. Lee (2003)- On the occurrence of *Pleurodictyum* in the Jentik Formation of Kampung Guar Jentik, Beseri, Perlis. Warta Geologi 29, 3, p. 89-92.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm2003003.pdf)
(First report of small tabulate corals in M-L Devonian Langgun/ Jentik Fm redbeds of Perlis district, NW Peninsular Malaysia. In marine red mudstone below Jentik Fm black shales with dacryoconarids and trilobites)

Meor, H.Hassan & C.P. Lee (2003)- The Sanai Limestone Member- a Devonian limestone unit in Perlis. Bull. Geol. Soc. Malaysia 46, p. 137-141.
(Sanai Lst proposed for thin pelagic limestone near top Jentik Fm. Underlain by M or Late Devonian red mudstone, overlain by mudstones interbedded with cherts. Lithology micritic limestone with thin shale partings and abundant conodonts, styliolinids, straight-cone nautiloids and trilobites. Occurrence of conodont Palmatolepis glabra indicates Late Devonian, Famennian age)

Meor, H.Hassan & C.P. Lee (2004)- The depositional environment of the Mid-Palaeozoic red beds at Hutan Aji, Perlis and its bearing on global eustatic sea level change. Bull. Geol. Soc. Malaysia 48, p. 65-72.
(Late Devonian- E Carboniferous red mudstones and sandstones widely distributed in NW Peninsular Malaysia. Sequence at Bumita Quarry indicative of marine prodelta-delta front environment. Major mid-Paleozoic paraconformity observed on Shan-Thai/Sibumasu Terrane between M-Famennian Sanai Lst and E Carboniferous cherts may have been caused by global regression)

Meor, H.Hassan & C.P. Lee (2005)- The Devonian- Lower Carboniferous succession in northwest Peninsular Malaysia. J. Asian Earth Sci. 24, 6, p. 719-738.
(New stratigraphic nomenclature for ~600m of Devonian- Carboniferous shallow marine deposits of Sibumasu continental margin: mainly clastic transitional sequence between underlying Mempelam Lst and overlying Kubang Pasu/Singa Fm in NW Malaysia. Timah Tasoh Fm 40m tentaculitid shales at base (with E Devonian Monograptus yukonensis and Nowakia) and 36m of light argillo-arenites. Chepor Fm 90m M-L Devonian red mudstone- sst. Sanai Lst with Famennian conodonts. Binjal Fm mudstone and turbiditic sst, Telaga Jatoh Fm radiolarian chert. Wang Kelian Fm thick E Carboniferous (Visean) prodelta- basinal marine red mudstones-sst. Major regressive event in latest Devonian)

Meor, H.A.Hassan, Y.A. Mustafa, M.Z.Z. Zakaria & A.A. Ghani (2015)- First record of *Homoctenus* (Tentaculitoidea, Homoctenida) from the Late Devonian of northwest Peninsular Malaysia. Alcheringa 39, 4, p. 550-558.
(online at: http://repository.um.edu.my/101072/1/Meoretal15.pdf)
(First record of pelagic homoctenid tentaculitoid genus Homoctenus from Malay Peninsula, in U Devonian Sanai Lst in Perlis. Closely related to Homoctenus tenuicinctus. Associated with rich Frasnian conodont assemblage, (Late Devonian; Palmatolepis linguiformis Zone)

Meor, H.A.Hassan, B.S. Yeow, C.P. Lee & A.H. Abdul Rahman (2013)- Facies analysis of the uppermost Kubang Pasu Formation, Perlis: a wave- and storm-influenced coastal depositional system. Sains Malaysiana 42, 8, p. 1091-1100.
(online at: www.ukm.my/jsm/pdf_files/SM-PDF-42-8-2013/08%20Meor%20Hakif%20Amir.pdf)
(Facies analysis of E Permian uppermost Kubang Pasu Fm in Perlis, NW corner of Malay Peninsula (Sibumasu Terrane; with underlying diamictite). Several coarsening upward facies successions, from offshore bioturbated mudstone into lower shoreface facies association. Gradual transition from siliciclastics to overlying Chuping Lst carbonates (with Monodiexodina grainstone in transition zone) probably related to post rift subsidence and tectonic quiescence due to separation of Sibumasu from Gondwana in Permian)

Meor, H.A.Hassan, N.N.S.A. Zamruddin, B.S. Yeow & A.S.S.A. Zamad (2017)- Sedimentology of the Permian *Monodiexodina*-bearing bed of the uppermost Kubang Pasu Formation, northwest Peninsular Malaysia: Interpretation as storm-generated, transgressive lag deposits. Bull. Geol. Soc. Malaysia 64 (Geol. Soc. Malaysia 50th Anniversary Issue 2), p. 51-58.
(online at: www.gsm.org.my/products/702001-101719-PDF.pdf)
(Late E Permian fusulinid Monodiexodina commonly as dense accumulations associated with marine siliciclastics. Monodiexodina-bearing bed of top Kubang Pasu Fm of Perlis (NW Malay Peninsula, Sibumasu terrane) 0.5-1.5m thick, above ~15m coastal marine coarsening upward succession. Composed of Monodiexodina tests, bryozoa (Rhombopora sp.), brachiopods, crinoid ossicles and 6-27% f quartz. Bed with giant symmetrical ripples and smaller ripples, interpreted as transgressive deposit overlying flooding surface, with mainly wave- and storm-generated facies formed by wave ravinement)

Metcalfe, I. (1979)- Carboniferous conodonts from Perak, Malaysia. Geol. Soc. Warta Geologi (Newsl. Malaysian Geological Society) 5, 3, p. 35-39.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1979003.pdf)
(Carboniferous (Namurian) conodonts from Idiognathoides noduliferus- Streptognathodus lateralis zone in quarry in N part of Gunung Kanthan, Perak (also M Devonian conodonts near base of section; Lane et al. 1979))

Metcalfe, I. (1980)- Upper Carboniferous conodont faunas of the Panching Limestone, Pahang, West Malaysia. Palaeontology 23, p. 297-314.
(online at: www.palass-pubs.org/palaeontology/pdf/Vol23/Pages%20297-314.pdf)
(Panching Lst of Pahang, E Malay Peninsula, rich conodont faunas around L-U Carboniferous boundary)

Metcalfe, I. (1980)- Ordovician conodonts from the Kaki Bukit area, Perlis, West Malaysia. Warta Geologi 6, 3, p. 63-68.
(https://gsmpubl.files.wordpress.com/2014/09/ngsm1980003.pdf)
(Ordovician conodonts from Setul Lst of Perlis, NW corner of Malay Peninsula. Incl. Serratognathus bilobatus, Loxodus bransoni, Scolopodus spp.)

Metcalfe, I. (1980)- Palaeontology and age of the Panching Limestone, Pahang, West Malaysia. In: T. Kobayashi, R. Toriyama et al. (eds.) Symposium on the geology and paleontology of SE Asia, Tsukuba 1978, Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 21, p. 11-18.

(Carboniferous Panching Lst in Kuantan Group Pahang, NW of Kuantan, Pahang, E Malay Peninsula (on East Malaya Block). Conodont fauna represents Namurian Idiognathoides noduliferus- Streptognathus lateralis zone of Britain (conflicts with Muir-Wood 1948 Visean age interpretation of Panching Limestone))

Metcalfe, I. (1981)- A late Wolfcampian (Early Permian) conodont fauna from Perak, Peninsular Malaysia. Warta Geologi 7, 3, p. 76-79.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1981003.pdf)
(Conodonts from limestones of JKR Quarry at Gunung Kantham, Perak NW Malay Peninsula. Fauna with Anchignathodus minutus and Neogondolella bisseli indicates late Wolfcampian N. bisseli- Sweetognathus whitei Zone, ranging in age from late Early Devonian- E Permian)

Metcalfe, I. (1981)- Permian and Early Triassic conodonts from Northwest Peninsular Malaysia. Bull. Geol. Soc. Malaysia 14, p. 119-126.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1981006.pdf)
(Limestones exposed at Gunung Keriang, Kedah, have E Permian (Wolfcampian) Neogondolella bisselli-Sweetognathus whitei and E Triassic (Smithian) Neospathodus waageni Zones conodonts. Kodiang Lst at Bukit Hantu near Kodiang, Kedah, yielded Late Permian Neogondolella rosenkrantzi-Neospathodus divergens Zone and E Triassic conodonts)

Metcalfe, I. (1983)- Observations on the ornamentation and ultra-structure of some well preserved, specimens of *Idiognathoides noduliferus inaequalis* Higgins (Pennsylvanian conodont). Bull. Geol. Soc. Malaysia 16, p. 31-36.
(online at: www.gsm.org.my/products/702001-101178-PDF.pdf)
(Pennsylvanian conodont from Panching Limestone of Pahang, Malay Peninsula)

Metcalfe, I. (1983)- Devonian conodonts from Batu Gajah, Perak, Peninsular Malaysia. Warta Geologi 9, 4, p. 152-154.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1983004.pdf)
(Brief note on presence of M Devonian conodont Polygnathus linguiformis in limestones in Lee Fatt No. 1 tin mine at Batu Gadjah, S Kinta Valley, which is older than previously suggested. Conodont Colour Alteration Index of 5 indicates limestones were heated to 300-400°C)

Metcalfe, I. (1984)- The Permian-Triassic boundary in northwest Malaya. Warta Geologi 10, p. 139-147.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1984004.pdf)

Metcalfe, I. (1987)- Permian and Early Triassic conodonts from an olistostrome near Raub, Pahang and their implications. Laporan Teknik Fakulti Sains Fizis dan Gunaan, Universiti Kebangsaan Malaysia 1, p. 100-106.
(Diamictites in Raub area (Raub-Bentong Line), Pahang, with clasts up to several m (incl. limestones with Late Permian conodonts Neogondella, etc.) in sheared muddy matrix. Interpreted as olistostrome associated with active normal faults along W margin of Central graben of Malay Peninsula. 'Tethyan' conodonts in diamictite matrix late Early Triassic age (Neospathodus spp., etc), with reworked Permian and earliest Triassic species)

Metcalfe, I. (1987)- An occurrence of sheared diamictite near Genting Sempah. Warta Geologi 13, p. 97-103.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1987003.pdf)
(Diamictite along Kuala Lumpur- Karak highway, 2 km SW of Genting Sempah, turbiditic beds now in tectonic melange or sheared olistostrome. Similar diamictites also in Raub-Bentong-Karak area where they define narrow zone along Bentong-Raub line. Diamictites in Raub area dated as probably late E Triassic; Genting Sempah diamictite may form part of this E Triassic melange/olistostrome belt)

Metcalfe, I. (1989)- Triassic sedimentation in the central basin of Peninsular Malaysia. In: T. Thanasuthipitak & P. Onchanum (eds.) Proc. Int. Symposium Intermontane basins, geology and resources, Chiang Mai University, Department of Geological Sciences, p. 173-186.
(C Basin of Malay Peninsula extensional graben on E Malaya Block, bound in W by faults of Bentong-Raub Line and in E by Lebir fault zone. Triassic faulting along Raub-Bentong produced graben with 2-3 km of

marine Triassic, followed by 1.5- 2 km of non-marine Jurassic- E Cretaceous Tembeling Gp. E Triassic includes olistostrome with Permian limestone clasts, etc. In C part of graben deeper marine Semanggol Fm with Claraia in E Triassic and Posidonia, Daonella, Halobia in pelagic interbeds in M-L Triassic volcanics-rich turbidites (no Triassic volcanics on adjacent Sibumasu Block). Basin margin shallow marine fauna with myophoriid bivalves (Costatoria). Triassic folded in single folding phase, with NNW-SSE trending folds)

Metcalfe, I. (1990)- Triassic conodont biostratigraphy in the Malay Peninsula. Bull. Geol. Soc. Malaysia 26, p. 133-145.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1990011.pdf)
(Conodonts representative for all Triassic stages, except Rhaetian, found in Malay Peninsula. Best known sequence of Triassic conodonts in Kodiang Lst of Kedah)

Metcalfe, I. (1990)- Lower and Middle Triassic conodonts from the Jerus Limestone, Pahang, Peninsular Malaysia. J. Southeast Asian Earth Sci. 4, 2, p. 141-146.
(Steeply dipping, dark grey Jerus Limestone, Cheroh, Pahang (just E of Raub-Bentong suture?), previously considered part of Permo-Carboniferous Raub Group yielded rich Lower and Middle Triassic conodont faunas (late Dienerian Neospathodus pakistanensis Zone, with common Neospathodus spp.))

Metcalfe, I. (1990)- Stratigraphic and tectonic implications of Triassic conodonts from Northwest Peninsular Malaysia. Geol. Magazine 127, p. 567-578.
(Chuping Lst of NW Malay Peninsula with Late Triassic (E Norian) conodonts and spans late E Permian- Late Triassic. Part equivalent to Kodiang Lst (Late Permian- Triassic) in Kedah and similar limestones in S Thailand and N Sumatra. Early Late Triassic (Carnian) conodonts also in pelagic limestones associated with bedded cherts of Semanggol Fm. Triassic of Malay Peninsula three regions: (1) elongate carbonate platform complex on Sibumasu block (Chuping Lst, Kodiang Lst); (2) pelagic/ turbidite basinal sequence (Semanggol Fm; foredeep or intracratonic pull-apart basin) and (3) volcanic-sourced volcaniclastic basinal sequence on E Malaya block (Semantan Fm and equivalents; forearc/ intra-arc or post-orogenic rift))

Metcalfe, I. (1992)- Lower Triassic (Smithian) conodonts from northwest Pahang Peninsular Malaysia. J. Micropalaeontology 11, 1, p. 13-19.
(online at: https://www.j-micropalaeontol.net/11/13/1992/jm-11-13-1992.pdf)
(Lower Triassic conodonts from limestones (possibly submarine slump) along new Kuala Lipis -Gua Musang highway, NW Pahang, NW Peninsular Malaysia. (in Central Basin, E of Bentong-Raub suture). Co-occurrence of Neospathodus triangularis, Platyvillosus costatus), Neospathodus dieneri and Platyvillosus hamadai indicates Scythian age. P. hamadai unknown from Peri-Gondwana, supporting pre-E Triassic rifting of W Malay Peninsula (Sibumasu) from Gondwana)

Metcalfe, I. (1992)- Upper Triassic conodonts from the Kodiang Limestone, Kedah, Peninsular Malaysia. J. Southeast Asian Earth Sci. 7, p. 131-138.
(Conodonts from Kodiang Lst at Kedah, NW corner of Peninsular Malaysia (= Sibumasu Terrane). Document presence of U Carnian- Lower Norian and conodonts, incl. Epigondolella spp. and Metapolygnathus spp. Faunas correlate with similar faunas from Chuping Lst of Perlis, Malaysia, and limestones from Lake Toba area and Sungei Kalue, N Sumatra)

Metcalfe, I. (1993)- Permian conodonts from the Raub Gold Mine, Pahang, Peninsular Malaysia. Warta Geologi 19, 3, p. 85-88.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1993003.pdf)
(Isoclinally folded sediments of 'Raub Group' at Raub Gold Mine, Pahang, with conodont Neogondolella rosenkrantzi, indicating Late Permian age. Overlain by less-deformed M-U Triassic Semantan Fm, suggesting structural discontinuity which may correspond to age of suturing of Sibumasu and East Malaya blocks)

Metcalfe, I. (1995)- Mixed Permo-Triassic boundary conodont assemblages from Gua Sei and Kampong Gua, Pahang, Peninsular Malaysia. In: Contr. First Australian Conodont Symposium (AUSCOS 1), Sydney 1995, Courier Forschunginstitut Senckenberg, Frankfurt, 182, p. 487-495.

(Merapoh Lst at Kampong Gua and Gua Sei, Pahang, C Peninsular Malaysia, previously assigned to Carboniferous, with E Triassic (Griesbachian) conodont assemblages (Clarkina changxingensis, Hindeodus spp., incl. H. latidentatus))

Metcalfe, I. (1999)- Geological origins and natural resources. In: A. Kaur & I. Metcalfe (eds.) The shaping of Malaysia, Macmillan Press Ltd, p. 11-41.
(online at:http://library.perdana.org.my/Digital_Content/NLM/pnm_bk/M959.5SHA.pdf)

Metcalfe, I. (2002)- Devonian and Carboniferous conodonts from the Kanthan Limestone, Peninsular Malaysia and their stratigraphic and tectonic implications. In: L.V. Hills et al. (eds.) The Carboniferous and Permian of the World, Canadian Soc. Petrol. Geol. Mem. 19, p. 552-579.
(Lower Devonian- Lower Permian Gunong Kanthan Lst in Kinta Valley area, Perak, formed in shallow passive margin sequence of Sibumasu block, when still attached to E Gondwana. Conodonts from Devonian Carboniferous part suggest E and M Devonian and Tournaisian and Visean ages (Polygnathus spp., Gnathodus spp., Tortodus, etc.. Color Alteration Index 5-8 suggest limestone has been heated to 300-400°C)

Metcalfe, I. (2003)- Colour and textural alteration of Paleozoic and Triassic conodonts from Peninsular Malaysia: implications for tectonic evolution and hydrocarbon generation. Courier Forschungsinstitut Senckenberg, Frankfurt 245, p. 261-280.
(Color Alteration Index of conodonts in Malay Peninsula ranges from 1.5- 8, with lowest values in NW Malay Peninsula, highest near granitoid intrusives. Paleozoic conodonts of Sibumasu terrane background CAI 5 (= 7500-10000m overburden?). Lowest Triassic values of 1.5-2.5 in Sibumasu Kodiang-Chuping Lst, equivalent to maturation in oil window. High Triassic values of CAI 5 from E-M Triassic limestones along W margin of Central Belt (reflecting heating by Main Range granitoids?) and M Triassic limestones-cherts from Semanggol Fm in Kedah (implying overburden of 7500- 10,000m, but unrealistic?))

Metcalfe, I. (2013)- Tectonic evolution of the Malay Peninsula. J. Asian Earth Sci. 76, p. 195-213.
(Malay Peninsula three N-S belts: (1) W Belt part of Sibumasu Terrane, derived from Gondwana margin in late E Permian, (2) C and E Belts represent Sukhothai Arc, built in Late Carboniferous- E Permian on margin of Indochina Block and separated from Indochina by back-arc spreading in E Permian. Bentong-Raub suture is boundary between Sibumasu Terrane in W and Sukhothai Arc in E, and preserves remnants of Devonian-Permian Paleo-Tethys ocean basin destroyed by subduction beneath Indochina Block/ Sukhothai Arc, which produced Permian-Triassic andesitic volcanism and I-Type granitoids of C and E Belts of Malay Peninsula. Collision between Sibumasu and Sukhothai Arc began in E Triassic times, completed by Late Triassic. Triassic cherts and turbidites of Semanggol Fm deposited in foredeep basin on leading edge of Sibumasu and uplifted accretionary complex. Collisional crustal thickening produced Main Range Late Triassic- E Jurassic S-type granitoids of W Belt and Bentong-Raub suture zone. Sukhothai back-arc basin closed in M-L Triassic. Jurassic- Cretaceous continental red beds cover sequence. Late Cretaceous tectono-thermal event affected Malay Peninsula with faulting, granitoid intrusions and re-setting of paleomagnetic signatures)

Metcalfe, I. (2016)- A new Lower Triassic (Induan) Jerus Limestone locality in northwest Pahang, Peninsular Malaysia: conodont fauna, depositional and tectonic settings. Island Arc 25, 2, p. 126-136.
(Limestones N of Raub, sandwiched between Bentong-Raub suture and W margin of Sukhothai Arc terrane, yield late Dienerian (late Induan) conodont fauna. With Neospathodus dieneri and Neospathodus pakistanensis. Interpreted as N-ward extension of Jerus Limestone, interpreted as hemipelagic deposit in foredeep or forearc on top of accretionary complex in E-M Triassic (see also Metcalfe 1990))

Metcalfe, I. (2017)- Devonian and Carboniferous stratigraphy and conodont biostratigraphy of the Malay Peninsula in a regional tectonic context. Stratigraphy 14, p. 259-283.
(Devonian- Carboniferous stratigraphy of Malay Peninsula tied to Sibumasu Terrane in W and Sukhothai Arc (Indochina) block in E . Bentong-Raub Suture is former Devonian-Triassic Paleo-Tethys Ocean. Devonian-Carboniferous sediments/ faunas of W belt support placement of Sibumasu Terrane on Paleozoic margin of Australian Gondwana until E Permian (Sakmarian). Carboniferous sediments of E Belt deposited on margin of equatorial Indochina Block, on which Sukhothai Arc was constructed)

Metcalfe, I. & K.R. Chakraborty (1988)- Diamictite along the eastern margin of the Central Basin of the Malay Peninsula. Warta Geologi 14, p. 191-198.
(online at: www.gsm.org.my/products/702001-101505-PDF.pdf)
(Diamictite unit of probable E Triassic age in E part of Central Basin, E of Bentong-Raub suture, with clasts on steeply dipping, sheared muddy matrix. Interpreted as olistostrome, formed along fault scarps of developing graben)

Metcalfe, I. & K.R. Chakraborty (1994)- A stratigraphic log of Semantan Formation along part of the Mentakab-Temerloh bypass, Pahang. Bull. Geol. Soc. Malaysia 35, p. 37-46.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1994005.pdf)
(Thickness of M-U Triassic Semantan Fm in Malay Peninsula central basin ~2km. Continuous stratigraphic sequence of 1.25 km logged along Mentakab bypass. Consistent W-ward dip, no evidence of isoclinal folding or imbricate thrusts, so not part of accretionary prism but part of forearc or intra-arc basin constructed over accretionary wedge. Horizons with bivalves (mainly Posidonia, some Daonella) and ammonite (Arpadites), all suggestive of M Triassic age. Interbedded tuffs and mudstones, deposited by turbidity currents; dominant flow to W?. Overall fining-upward indicates waning of coarser volcaniclastic material supply during M Triassic)

Metcalfe, I., K.R. Chakraborty, C.A.Foss & H.T. Samsudin (1985)- A Middle Triassic fauna from the Bt. Jeram Padang Ridge at Bahau, Negri Sembilan, Peninsular Malaysia. Warta Geologi 11, 3, p. 111-115.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1985003.pdf)
(Bukit Jeram Padang Ridge SE of Bahau with folded clastics with M Triassic 'Myophoria biofacies' bivalves, incl. Costatoria malayensis, C. chegarperahensis and Neoschizodus ovatus elongatus)

Metcalfe, I. & A.H. Hussin (1995)- Implications of new biostratigraphic data for stratigraphic correlation of the Permian and Triassic in Peninsular Malaysia. Bull. Geol. Soc. Malaysia 38, p. 173-177.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1995016.pdf)
(Review and correlation chart of Permian-Triassic sediments of Malay Peninsula. Western belt mainly Permian- Triassic Kodiang and Chuping limestones, Raub Bentong suture Permian bedded cherts, Central Belt mainly clastics, with Late Permian and Triassic limestones, Eastern Belt almost no limestones. Semanggol Fm usually considered to be entirely of Triassic age, but also contains Lw, M and U Permian radiolaria)

Metcalfe, I., M. Idris & J.T. Tan (1980)- Stratigraphy and palaeontology of the Carboniferous sediments in the Panching areas, Pahang, West Malaysia. Bull. Geol. Soc. Malaysia 13, p. 1-26.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1980008.pdf)
(New lithostratigraphy proposed for Carboniferous of Panching area, Pahang: (1) Charu Fm shallow marine clastics with Visean- basal Namurian brachiopods; (2) Panching Lst reefal limestone with Namurian fauna (believed to be Visean by Toriyama 1984; JTvG); (3) Sagor Fm ?Late Carboniferous shallow marine clastics with rare limestone lenses)

Metcalfe, I., S.P. Sivam & P.H. Stauffer (1982)- Stratigraphy and sedimentology of Middle Triassic rocks exposed near Lanchang, Pahang, Peninsular Malaysia. Bull. Geol. Soc. Malaysia 15, p. 19-30.
(online at: www.gsm.org.my/products/702001-101189-PDF.pdf)
(M Triassic Semantan Fm outcrops E of Lanchang in C Malay Peninsula NE of Kuala Lumpur. NW dipping tuffs, mudstones with locally common bivalves (Daonella lommeli, D. sakawana, Posidonia) and ammonoids, (Arpadites). Also locally common plant fragments (unidentifiable). Mainly marine gravity flows, derived entirely from volcanic source, with downslope transport directions to W or SW (contemporaneous shallow marine Myophoria sandstone ~5-10km E of Lanchang section))

Mohamed, K.R., N.A.M. Joeharry, M.S. Leman & C.A. Ali (2016)- The Gua Musang Group: a newly proposed stratigraphic unit for the Permo-Triassic sequence of Northern Central Belt, Peninsular Malaysia. Bull. Geol. Soc. Malaysia 62, p. 131-142.
(online at: https://gsmpubl.files.wordpress.com/2017/04/bgsm2016012.pdf)

(Permian- Triassic Gua Musang Fm, Telong Fm, Aring Fm and Nilam Marble reflect lateral facies changes within newly defined Gua Musang Gp of argillites-carbonates-volcanics in Central Belt of Malay Peninsula)

Muir-Wood, H.M. (1948)- Malayan Lower Carboniferous fossils and their bearing on the Visean palaeogeography of Asia. British Museum (Natural History), London, p. 1-118.
(Lower Carboniferous brachiopod-dominated macrofauna from 4 localities in Kuantan district, E side of Malay Peninsula. With appendices on Carboniferous Lepidodendroid remains by W.N. Edwards, bryozoa, mollusca and crinoidea by K.P. Oakley, corals by S. Smith and trilobites by C.J. Stubblefield. No indications of Permo-Carboniferous glacial beds in area. Many brachiopods similarities to W European species)

Muller, K.J. (1967)- Devonian of Malaya and Burma. In: Int. Symposium of the Devonian system, 1, Canadian Soc. Petrol. Geol., Special Publ., p. 565-568.
(Devonian rocks widespread in Malay Peninsula and Myanmar, but not yet recognized in Thailand)

Nakazawa, K. (1973)- On the Permian fossils from Jengka Pass, Pahang, Malay Peninsula. Tohoku University, Sci. Rep., 2nd ser. (Geol.), Spec. Vol. 6 (Hatai Memorial Volume), p. 277-296.
(online at: ir.library.tohoku.ac.jp/re/bitstream/10097/28985/1/KJ00004163218.pdf)
(Permian at Jengka Pass 160 km NE of Kuala Lumpur, upper M Permian limestone with corals and abundant fusulinids (Yabeina asiatica fauna), overlain by U Permian sandstone-shale with brachiopods, bivalves. Unconformably overlain by M-U Triassic (supposed Cathaysian/ E Malaya-Indochina block; JTvG))

Nakazawa, K. (2002)- Permian bivalves from the H.S. Lee Formation, Malaysia. Paleontological Research (Palaeontol. Soc. Japan) 6, 1, p. 67-72.
(online at: https://ia600205.us.archive.org/27/items/biostor-118094/biostor-118094.pdf)
(Three bivalve species from Permian H.S. Lee Fm at H.S. Lee No. 8 flooded tin mine in Perak: Sanguinolites ishii, Megalodon yanceyi and Myalina cf. wyomingensis)

Newell, R.A. (1971)- Characteristics of the stanniferous alluvium in the southern Kinta valley, West Malaysia. Bull. Geol. Soc. Malaysia 4, p. 15-37.
(online at: www.gsm.org.my/products/702001-101365-PDF.pdf)
(Kinta Valley near Kampar, Perak, flanked by granite ranges (Main Range to East) and Late Paleozoic sediments. Up to >100' fluvial/alluvial deposits, with basal granite wash which is main placer ore zone of tin mines in valley. Heavy mineral content average 0.59% (0.05- 3.2%), generally highest in coarsest sands)

Newton, R.B. (1900)- On marine Triassic lamellibranchs discovered in the Malay Peninsula. Proc. Malacol. Soc. London, 4, p. 130-135.
(Late Triassic sandstone rich in bivalve shells in from Kuala Lipis, Pahang. Mainly Myophoria spp., also Chlamys valoniensis, Pteria (=Avicula) pahangensis, Gervillia. (Pteroperna malayensis Newton=also Gervillia?; JTvG)

Newton, R.B. (1906)- Notice on some fossils from Singapore. Geol. Magazine (5), 3, p. 487-496.
(First record of Mesozoic fossils from Singapore. Jurassic fauna dominated by marine bivalves, also fragments of land plants)

Newton, R.B. (1923)- On marine Triassic shells from Singapore. Ann. Mag. Natural History 9, p. 300-321.
(Discovery of Triassic fauna in Singapore by Scrivenor. Mainly bivalve molluscs in friable sandstone, a.o. with Myophoria spp., Palaeocardita, Gervillia. Fauna regarded as Late Triassic age. Singapore beds extension of Myophoria Sst of Pahang, first described by Newton in 1900)

Newton, R.B. (1925)- On marine Triassic fossils from the Malayan Provinces of Kedah and Perak. Geol. Magazine 62, p. 76-85.
(Triassic fauna from black shales in Kedah and Semanggol, Perak: small bivalves (Posidonomya, Halobia moussoni) and indeterminate ammonites (probably Juvavites or Anatomites and Hammoceras; Kummel 1960). Probably older than Myophoria fauna of Kedah)

Newton, R.B. (1926)- On *Fusulina* and other organisms in a partially calcareous quartzite from near the Malayan-Siamese frontier. J. Natural History, Ser. 9, 17, 97, p. 49-64.

Ng, S.W.P., S.L. Chung, L.J. Robb, M.P. Searle, A.A. Ghani, M.J. Whitehouse, G.J.H. Oliver, M. Sone, N.J. Gardiner & M.H. Roselee (2015)- Petrogenesis of Malaysian granitoids in the Southeast Asian tin belt: Part 1. Geochemical and Sr-Nd isotopic characteristics. Geol. Soc. America (GSA) Bull. 127, 9-10, p. 1209-1237.
(Malaysian granitoids of SE Asian tin belt traditionally divided into Permian- Late Triassic 'I-type'-dominated arc-related E Province (Indochina terrane) and Late Triassic 'S-type'-dominated collision-related Main Range province (Sibumasu terrane), separated by Bentong-Raub Paleo-Tethyan suture that closed in Late Triassic. This model is oversimplified. Incorporation of sedimentary-sourced melts in E Province is insignificant, but more common sedimentary protolith in melt ore in Main Range, leading to more significant tin endowment)

Ng, S.W.P., M.P. Searle, M.J. Whitehouse, S.L. Chung, L.J. Robb, A.A. Ghani & M. Sone (2012)- High-spatial resolution SIMS U-Pb zircon dating on Malay tin granites: new insights to crustal evolution of the Malaysian Peninsula. AGU Fall Mtg., San Francisco 2012, V23A-2794 *(Poster Abstract)*
(SE Asian tin granite province previously recognized as comprising three distinct granitic belts (1) M Permian-Late Triassic E Province with mainly subduction-related I-type granites with Cu-Au deposits, (2) Late Permian-E Jurassic Main Range Province mainly S-type granites with Sn-W deposits; (3) Late Triassic- Cretaceous W Province mixed I- and S-type granites with Sn-W deposits. Ages based mainly on Rb-Sr and K-Ar whole rock geochronology, no longer considered suitable for crystallization ages of granites due to unstable behaviour of isotopes in hydrothermal systems. New SIMS dates reveal W-ward younging trend across Malay Peninsula: E Province granites in E Malaysia formed by subduction processes between 220-285 Ma; Main Range Province S-type granites ages between 206-226 Ma (Late Triassic). Some young Cretaceous zircon rim ages. Granites in Malaysia cannot be simply categorized as I, S or A-type. Tin mineralization not restricted to S-type granites)

Ng, S.W.P., M.J. Whitehouse, M.P. Searle, L.J. Robb, A.A. Ghani, S.L. Chung, G.J.H. Oliver, M. Sone, N.J. Gardiner & M.H. Roselee (2015)- Petrogenesis of Malaysian granitoids in the Southeast Asian tin belt: Part 2. U-Pb zircon geochronology and tectonic model. Geol. Soc. America (GSA) Bull. 127, 9-10, p. 1238-1258.
(New U-Pb zircon ages for 39 granitoids across Malay tin-bearing granite province. Two belts: (1) Mostly I-type granitoids from E Malay province span 289-220 Ma (pre-collisional, subduction-related Andean-type magmas formed during E-ward subduction of Paleo-Tethys beneath Indochina in Permian- M-L Triassic; General westerly younging magmatic trend across Malay Peninsula considered to reflect steepening and roll-back of Bentong-Raub subduction zone during closure of Paleo-Tethys); (2) W Main Range Province granitoids all Late Triassic (227-201 Ma; syn- and post-collisional crustal melting of Sibumasu crust in Late Triassic; Tin mineralization mainly associated with this phase). Two models for Triassic evolution: (1) with second Late Triassic- Jurassic or E Cretaceous E-dipping subduction zone W of Sibumasu; (2) W-ward underthrusting of Indochina beneath W Malaya Main Range province. Cretaceous granitoids reflect localized crustal melting)

Niko, S., M. Sone & M.S. Leman (2005)- A new Permian species of *Mooreoceras* (Cephalopoda: Orthocerida) from northwestern Peninsular Malaysia. Proc. Japan Academy 81, B, p. 329-333.
(online at: www.jstage.jst.go.jp/article/pjab/81/8/329/_pdf)
(New late E Permian (Kungurian?) orthocerid cephalopod species Mooreoceras sibumasuense from basal Chuping Fm in Bukit Tungku Lembu in Perlis, NW Malaysia. Associated with Monodiexodia fusulinids, and part of Sibumasu Terrane. Most Permian Mooreoceras species confined to Australian Gondwana- Sibumasu; also M. sp in Atahoc Fm of Timor)

Niko, S., M. Sone & M.S. Leman (2007)- Two new species of orthocerid cephalopods from the Carboniferous Panching Limestone, West Malaysia. Paleontological Research (Palaeont. Soc. Japan) 11, 4, p. 331-336.
(Two new species of orthocerid cephalopods Kionoceras and Dolorthoceras from Bashkirian (Late Carboniferous) Panching Lst in Pahang, NE Malay Peninsula)

Niko, S., M. Sone & M.S. Leman (2017)- Late Silurian cephalopods from Langkawi, Malaysia, with peri-Gondwanan faunal affinity. J. Systematic Palaeontology, p. 1-16. *(in press)*

(online at: https://umexpert.um.edu.my/file/publication/00011532_136895.pdf)
(Nine species of latest Silurian orthocerid cephalopods from U Setul Lst of Langgun, Langkawi Islands, incl. orthoceratids (Michelinoceras cf. michelini, Kopaninoceras setulense n.sp., Mimogeisonoceras? langgunense n.sp., Kionoceras?, Orthocycloceras), arionoceratids (Arionoceras mahsuri n.sp., Caliceras mempelamense n.sp.) and geisonoceratid Murchisoniceras? sp.. Assemblage belongs to newly defined Kopaninoceras Fauna, widely distributed along N margin of Gondwana and around Prototethys Ocean)

Ogura, Y. (1972)- *Psaronius* from Linggiu, Johore, Malaya. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 10, p. 117-124.
(Permian plant Psaronius johorensis (fern stem) from Linggiu flora, S part Malay Peninsula. See also Kon'no et al. 1971)

Ohana, T., T. Kimura & T.T. Khoo (1991)- Further discovery of some Carboniferous plant fossils from Tanjung Mat Amin, Trengganu, Peninsular Malaysia. J. Southeast Asian Earth Sci. 6, p. 93-101.
(New locality with Carboniferous 'Euramerican' plant fossils Rhacopteris, Sphenopteridium and Sphenopteris at Tanjung Mat Amin, Trengganu. Belong to Kuantan Flora, which was widespread in E Belt of Peninsular Malaysia N of Pahang River. Kuantan Flora indicates warm-humid, low latitudes during Carboniferous)

Oliver, G. & A. Prave (2013)- Palaeogeography of Late Triassic red-beds in Singapore and the Indosinian Orogeny. J. Asian Earth Sci. 76, p. 214-224.
(300m thick section of red-bed facies of U Triassic Jurong Fm on Sentosa Island, Singapore. Overall coarsening and thickening-upward pattern lacustrine mudstones in lower 100m to fluvial sequence. Detrital zircon U-Pb ages vary from 2.7 Ga- 209 Ma, mainly Permo-Triassic, with significant populations at ~245 Ma and 220 Ma. Deposited in half graben formed in hanging wall of Bukit Timah Fault when C Peninsular Malaysia went into extension following climax of Indosinian Orogeny in Late Triassic)

Oliver, G.J.H., K. Zaw & M.D. Hotson (2011)- Dating rocks in Singapore: plate tectonics between 280 and 200 million years ago. Innovation Magazine 10, 2, p. 22-25.

Oliver, G., K. Zaw, M. Hotson, S. Meffre & T. Manka (2013)- U-Pb zircon geochronology of Early Permian to Late Triassic rocks from Singapore and Johor: a plate tectonic reinterpretation. Gondwana Research 26, p. 132-143.
(U-Pb zircon geochronology of Permian- M Triassic granitoids from Singapore and Johor: rhyolite from Pulau Sibu 276 Ma (Permian), gabbros from Singapore 260-249 Ma (Late Permian), granites from Singapore 249-230 Ma (E Triassic) and rhyolite from Telkuma 238 Ma. Detrital zircon ages from Late Triassic Jurong Fm conglomerate from Singapore show Carboniferous- Late Triassic spikes at 350, 245 and 217 Ma. Plate tectonic evolution of Malaysian Peninsula region: active E Permian- M Triassic tin-bearing magmatic arc in E Malaysian Peninsula part of Indochina during Paleo Tethys Ocean subduction. Granitoid ages decrease from E to W. Late Triassic Sibumasu collision with Indochina (Indosinian Orogeny) caused W Belt (Sibumasu) to overthrust C Belt (Indochina) along Bentong Raub Suture. Lower half of thickened crust (tin-bearing Indochina Plate) partially melted and predominantly S-type tin-bearing granites intruded into upper crust (Sibumasu))

Ong, S.T. & B. Jasin (2007)- Discovery of a Lower Devonian Dacryoconarid bed from Hill B, Guar Jentik, Perlis: its significance and implications. Bull. Geol. Soc. Malaysia 53, p. 1-6.
(online at: http://geology.um.edu.my/gsmpublic/v53/Pdf%20individual%20papers/1%20Paper%20.pdf)
(Lower Devonian 'Tentaculites limestone' from Perlis, NW-most Malay Peninsula)

Ooi, P.C., S.N.F. Jamaludin & A.H.A. Latif (2017)- Fracture network analysis of metasedimentary rock in East Coast Terengganu- an analogue to fractured Basement in Malay Basin. In: M. Awang et al. (eds.) Proc. Int. Conf. Integrated Petroleum Engineering and Geosciences (ICIPEG2016), Kuala Lumpur 2016, Springer Verlag, p. 453-467.
(Outcrop study of Carboniferous metasediments at Kuala Abang, E coast of Terengganu, as analogue for fractured basement in Malay Basin (Puteri Field))

Othman, A.R. (2012)- Fosil moluska Trias Akhir dari kawasan Binjui, Kedah. Warta Geologi (Newsl. Geol. Soc. Malaysia) 38, 2, p. 27-34.
(online at: https://gsmpubl.files.wordpress.com/2014/09/warta38_21.pdf)
('Late Triassic molluscan fossils from Binjui area, Kedah'. Fossils ammonoids Frankites apertus, Zestoceras birwicki, Anolcites anguinus and bivalve Halobia charlyana in Semanggol Fm in road-cut near Binjui, Kedah, W Malay Peninsula. Assemblage characteristic of Lower Carnian (Upper Triassic))

Othman, A.R. & M.S. Leman (2009)- The discovery of Middle Triassic bivalve *Daonella pahangensis* Kobayashi from Aring, Kelantan. Warta Geologi (Newsl. Geol. Soc. Malaysia) 35, 3, p. 111-114.
(online at: https://gsmpubl.files.wordpress.com/2014/09/warta35_3.pdf)
(Single specimen of bivalve Daonella pahangensis (Kobayashi) from Telong Fm near Aring, Gua Musang. First discovery of species besides those in Kobayashi (1964) from Temerloh, Pahang. Tethyan species, probably of Ladinian, Middle Triassic age)

Othman, A.R. & M.S. Leman (2010)- Fosil ammonoid berusia Trias Tengah dari Aring, Kelantan, Malaysia. Bull. Geol. Soc. Malaysia 56, p. 53-59.
(online at: https://gsmpubl.files.wordpress.com/2014/08/bgsm2010008.pdf)
('Middle Triassic ammonoid fossils from Aring, Kelantan, Malaysia'. Two localities with 13 species from Telong Fm on N Malay Peninsula. Assemblages represent 'Paleo-Tethys' ammonoid Zones Balatonicus Subzone of Balatonites Zone (M Anisian) and Regoledanus Subzone of Protrachyceras Zone (Late Ladinian). Area can be correlated to Sukhothai Terrain of Shan-Thai (=Sibumasu) Block, belonging to Cathaysian domain)

Othman, A.R. & M.S. Leman (2011)- Fosil bivalvia *Daonella* dari Sg. Jentar, Mentakab, Pahang. Warta Geologi (Newsl. Geol. Soc. Malaysia) 36, 3-4, p. 221-227.
('Daonella bivalve fossils from Sg. Jentar, Mentakab, Pahang'. M Triassic Daonella bivalve fossils from tuffaceous shale of Semantan Fm near Mentakab, Pahang, in Eastern Triassic Rocks Zone. Five species, assigned to U Ladinian Daonella lommeli Zone. Species commonly found in deep marine environment)

Othman, A.R. & M.S. Leman (2012)- Rekod penemuan fosil Trias bivalvia *Daonella* dari Aring, Kelantan. Warta Geologi (Newsl. Geol. Soc. Malaysia) 38, 1, p. 4-10.
(online at: https://gsmpubl.files.wordpress.com/2014/09/warta38_1.pdf)
('Note on discovery of the Triassic bivalve Daonella from Aring, Kelantan'. M Triassic (U Ladinian) bivalves Daonella lommeli and D. cf. pichleri in Telong Fm gray mudstone near Aring, Gua Musang. Located in Eastern Triassic Rocks Zone. Associated with M Triassic ammonoids (Frankites spp., Sirenotrachyceras, Zestoceras spp., Clionites, Megaphyllites, Joannites). Bivalves restricted to Paleo-Tethys Ocean. Discovery of species in Kelantan shows that deep marine Semantan basin extended from Singapore to S Kelantan)

Othman, A.R. & M.S. Leman (2013)- Kajian semula fosil ammonoid Trias dari Yong Peng, Johor. Warta Geologi 39, 3-4, p. 59-61.
(online at: https://gsmpubl.files.wordpress.com/2014/09/warta-39_34.pdf)
('A revision of the Triassic ammonoid fossils from Yong Peng, Johor'. U Triassic ammonoids from Semantan Fm in Yong Peng area, Johor, S C Malay Peninsula. Include 'Tethyan' Frankites apertus and Sirenotrachyceras thusneldae, indicating Carnian canadensis subzone (fauna originally included in study by Sato (1964))

Otofuji, Y., Y.T. Moriyama, M.P. Arita, M. Miyazaki, K. Tsumura, Y. Yoshimura, M.K. Shuib, M. Sone, M. Miki, K. Uno, Y. Wada & H. Zaman (2017)- Tectonic evolution of the Malay Peninsula inferred from Jurassic to Cretaceous paleomagnetic results. J. Asian Earth Sci. 134, p. 130-149.
(Magnetization in Jurassic-Cretaceous red bed sandstones of Tembeling Gp indicates two-stages of tectonic movement in S Malay Peninsula: (1) CW rotation of 61° ± 12° accompanied by 13° ± 8° S-ward displacement after Cretaceous (caused by indentation of India into Asia after 55 Ma); and (2) subsequent CCW rotation of 18° ± 5° to present position (collision of Australian Plate with SE Asia after 30-20 Ma))

Ozawa, T. (1976)- Late Visean *Eostaffella* (Fusulininan Foraminifera) from West Malaysia. In: T. Kobayashi & W. Hashimoto (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 17, p. 117-128.

(First record of early fusulinid foram genus Eostaffella from Late Visean limestone of Bukit Charas, 23 km NW of Kuantan, Pahang, Malay Peninsula (brachiopods from same locality described by Muir-Wood 1948, conodonts by Igo & Koike 1968, foraminifera by Mamet & Saurin 1970, etc.))

Parham, P.R. (2016)- Late Cenozoic relative sea-level highs and record from Peninsular Malaysia and Malaysian Borneo: implications for vertical crustal movements. Bull. Geol. Soc. Malaysia 62, p. 91-115.
(online at: https://gsmpubl.files.wordpress.com/2017/04/bgsm2016012.pdf)
(Peninsular Malaysia no evidence to indicate Relative Sea Level ever higher than M Holocene maximum (~+5m at ~7 ka). RSL record of Malaysian Borneo more complex, even W Sarawak on Sundaland. Possible strandplain deposits over coarse alluvium in Kuching area could reflect last interglacial highstand deposition but more likely result of uplift. Ongoing subsidence of coastal plain from Kuching to Bintulu mainly due to sediment loading. N of Lupar Line, coast and interior from Bintulu to Bongawan, Sabah, has undergone Quaternary uplift. Geomorphic indicators and lack of emergent RSL indicators along W Sabah coast, N of Bongawan, suggest ongoing subsidence. RSL record from E Sabah very complex)

Parham, P.R., Y. Saito, N. Sapon, R. Suriadi & N.A. Mochtar (2014)- Evidence for ca. 7 ka maximum Holocene transgression on the Peninsular Malaysia east coast. J. Quaternary Science 29, 5, p. 414-422.
(Coral and shelly marine deposits up to 50cm above mean sea level in NE Peninsular Malaysia, with radiocarbon ages 7238-6909 yrs BP. Maximum transgression at ~7 ka, relative sea 1.4- 3m above present)

Penrose, R.A.F. (1903)- The tin deposits of the Malay Peninsula with special reference to those of the Kinta District. J. Geology 11, 2, p. 135-154.
(Brief review of early tin operations on Malay Peninsula, which are mainly W of Main range. Cassiterite derived from granites, but mined mainly from alluvial placers. Most mines operated by Chinese)

Pfeiffer, D. (1975)- The hydrogeologic map of the islands of Singapore, 1: 100,000. Geol. Jahrbuch C, 9, p. 3-14.

Pierson, J.B., A.K. Askury, W.S. Chow & Z.T.H. Zuhar (2009)- Palaeozoic hydrocarbon plays in and around Peninsular Malaysia: any chance of exploration success? PETRONAS Techn. J. 2, p. 16-25.

Pierson, J.B., A.K. Askury, W.S. Chow & Z.T.H. Zuhar (2009)- Paleozoic sedimentary sequences exposed in the Kinta Valley: possible clues to a Paleozoic hydrocarbon system in and around Peninsular Malaysia? Platform (Universiti Teknologi Petronas) 7, 1, p. 56-65.
(Paleozoic sediments exposed in Kinta Valley suggest presence of source rocks, reservoirs and seals in Paleozoic interval. Limestone hills part of Paleozoic carbonate complex that covered large parts of SE Asia. Permian carbonate reservoirs may be found in E and off E coast of Peninsular Malaysia)

Pierson, J.B., S. Kassa, H. Tsegab, A.A. Kadir, Chow W.S., A. W. Hunter & Z.T. Harith (2011)- Sedimentology of the Paleozoic limestone of the Kinta Valley, Peninsular Malaysia. In: First EAGE South-East Asia Regional Geology Workshop, Ipoh 2011, 5p. *(Extended Abstract)*
(Limestone hills of Kinta Valley remnants of extensive Paleozoic carbonate complex. Altered by contact metamorphism of Triassic granite intrusion, but in N part of valley rel. unaltered. Mainly thin-beeded micritic limestone. Slump folds and breccias suggestive of marine slope deposition. Direction of slumping mainly toW, implying platform margin and lagoon facies should be E of Kinta Valley)

Pimm, A.C. (1967)- Triassic volcanic rocks in East and West Malaysia. Bull. Geol. Survey Dept. Borneo Region, Malaysia, 8, p. 36-40.
(Predominantly basic-acid lavas in E Malaysia and intermediate-acid pyroclastics in W Malaysia are associated with Triassic neritic sediments. Volcanic rocks in these areas do not belong to same province but are related to separate tectonic belts in Sunda Region)

Pour, A.B. & M. Hashim (2015)- Structural mapping using PALSAR data in the Central Gold Belt, Peninsular Malaysia. Ore Geology Reviews 64, p. 13-22.

(SAR radar mapping of structural features in Central Gold Belt, mainly E of Bentong-Raub Suture Zone, identified high potential areas for gold prospecting. Four sets of lineaments, trending N-S, NE-SW, NNW-SSE and ESE-WNW)

Pour, A.B., M. Hashim, C. Makoundi & K. Zaw (2016)- Structural mapping of the Bentong-Raub suture zone Using PALSAR remote sensing data, Peninsular Malaysia: implications for sediment-hosted/orogenic gold mineral systems exploration. Resource Geology 66, 4, p. 368-385.
(Bentong-Raub Suture between Gondwana-derived Sibumasu terrane and Sukhothai Arc genetically related to the sediment-hosted/orogenic gold deposits associated with major lineaments in Central Gold Belt of Peninsular Malaysia)

Quek, L.X., A.A. Ghani, S.L. Chung, S. Li, Y.M. Lai, M. Saidin, M.H.A. Hassan et al. (2017)- Mafic microgranular enclaves (MMEs) in amphibole-bearing granites of the Bintang batholith, Main Range granite province: evidence for a meta-igneous basement in Western Peninsular Malaysia. J. Asian Earth Sci. 143, p. 11-29.
(Mafic microgranular enclaves in Late Triassic amphibole-bearing I-type Bintang granite of Main Range granite province. MMEs slightly older zircon age (224 ± 1 Ma) than granite host (216 ± 1Ma). Oldest inherited zircons 2.0 and 1.3 Ga, oldest xenocrystic zircons 2.5 and 1.5 Ga. Rocks generated from similar, ancient source in basement (E Proterozoic- Late Archean (~2.5 Ga) meta-igneous rock))

Rahman, A.H. & M.K. Shuib (1999)- The Upper Paleozoic Singa-Kubang Pasu megasequence: Some thoughts on basin initiations, depositional and tectonic history. In: Proc. GSM Dynamic stratigraphy & tectonics of Peninsular Malaysia, Second Seminar- The Western belt and Palaeozoic of Peninsular Malaysia and neighbouring areas, Kuala Lumpur, p. 58-67

Rahman, A.H. & M.K. Shuib (2000)- The Mesozoic of the Central Belt of the Malay Peninsula- Part I: Stratigraphy and depositional sequence. In: Proc. Geol. Soc. Malaysia Conf. Dynamic stratigraphy and tectonics of Peninsular Malaysia, Third Seminar, The Mesozoic of Peninsular Malaysia, Kuala Lumpur 2000, p. 55-73.
(see Shuib & Abd Rachman & (2000) for Part II)

Raj, J.K. (1998)- A reappraisal of the Bok Balt fault zone. Warta Geologi 8, 2, p. 36-41.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1982002.pdf)

Raj, J.K. (1998)- Tectonic evolution of the Tertiary basin at Batu Arang, Selangor Darul Ehsan, Peninsular Malaysia. Bull. Geol. Soc. Malaysia 42, p. 197-210.
(online at: www.gsm.org.my/products/702001-100845-PDF.pdf)
(Small Tertiary Batu Arang basin on W Central Malay Peninsula, N of Kuala Lumpur. Estimated area ~15km2, depth 1000-1500'. Up to 265m basal clastics with coal, overlain by 'Boulder beds'. Unconformably overlie steeply dipping Permian meta-sediments)

Raj, J.K., Abdul Hadi Abd. Rahman & M.K. Shuib (1998)- Tertiary basins of inland Peninsular Malaysia: review and tectonic evolution. Bull. Geol. Soc. Malaysia 42, p. 211-216.
(online at: www.gsm.org.my/products/702001-100844-PDF.pdf)
(Unlike Malaysia offshore regions, Tertiary sediments rare on Malay Peninsula. Seven small basins identified, all <300-400m thick, most with lignite seams)

Raj, J.K., D.N.K. Tan & W.H. Abdullah (2009)- Cenozoic stratigraphy. In: C.S. Hutchison & D.N.K. Tan (eds.) Geology of Peninsular Malaysia, University Malaya and Geol. Soc. Malaysia, Kuala Lumpur, p. 133-173.
(Malay Peninsula almost entirely emergent during Cenozoic, with thin Cenozoic deposits mainly along W and E coasts. Isolated small Tertiary pull-apart basins. Batu Arang basin, Selangor, with 7-15m thick Eo-Oligocene thermally immature coal beds and lacustrine oil shale. E-M Pleistocene Simpang Fm (Old Alluvium) aggraded to 70m above s.l. Patches of up to 9m thick rhyolitic ash probably form Toba volcano, Sumatra)

Rajah, S.S. (1969)- Younger Mesozoic sedimentary rocks, State of Johore, West Malaysia. American Assoc. Petrol. Geol. (AAPG) Bull. 53, p. 2187-2189.
(Flat-lying, post-orogenic, fluvio-deltaic Tebak Fm (possibly same as Gagau, Panti Fms) of Johore Province, W Malaysia, most likely Lower Cretaceous age, and predominantly arenaceous)

Rajah, S.S. (1970)- Limestone occurrences in Johore. Bull. Geol. Soc. Malaysia 3, p. 131-133.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1970010.pdf)
(First record of E-M Permian limestones with fusulinids from Sungei Sedili and Sungei Lenggor areas in S part Malay Peninsula)

Rajah, S.S. (1979)- The Kinta tinfield, Malaysia. Bull. Geol. Soc. Malaysia 11, p. 111-136.
(online at: www.gsm.org.my/products/702001-101229-PDF.pdf)
(Kinta tinfield in Perak, NW Malay Peninsula, one of world's richest fields. Mainly in placer deposits in area with Triassic-Jurassic? granites intruded into steeply dipping, N/NW striking Silurian-Permian sediments (incl. Permian limestones)

Rajah, S.S., F. Chand & D. Santokh-Sing (1977)- The granitoids and mineralization of the Eastern Belt of Peninsular Malaysia. Bull. Geol. Soc. Malaysia 9, p. 209-232.
(online at: www.gsm.org.my/products/702001-101290-PDF.pdf)
(Malay Peninsula 3 mineral belts: Western Tin belt, Central Gold and base metal belt and Eastern Tin belt. Eastern Belt granites emplaced in Upper Carboniferous- U Jurassic, peaking in U Permian. Invaded country rocks tightly folded and weakly regionally metamorphosed. Tin, tungsten and iron mineralization in marginal and apical parts of plutons)

Rajah, S.S. (1986)- Bauxite in the Kuantan area, Peninsular Malaysia. In: G.H. Teh & S. Paramananthan (eds.) Proc. 5th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA V), Kuala Lumpur 1984, 1, Bull. Geol. Soc. Malaysia 19, p. 315-325.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1986024.pdf)
(Significant reserves of ferruginous bauxite in Kuantan area, E part of Malay Peninsula. Bauxite is tropical laterite, formed by decomposition of underlying Kuantan basalt of probable Miocene or younger age)

Rajah, S.S. & E.H. Yin (1980)- Summary of the geology of the Central Belt, Peninsular Malaysia. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University Tokyo Press, 21, p. 319-342.
(Comprehensive review of geology of Central Belt. Mainly Permian and Triassic sediments and intrusive rocks)

Rao, C.P. (1988)- Paleoclimate of some Permo-Triassic carbonates of Malaysia. Sedimentary Geology 60, p. 163-171.
(Study of Permian and Triassic carbonates of Malaysia. Permian Chuping Lst at Langkawi (= part of Sibumasu terrane; JTvG) with common brachiopods with oxygen/carbon isotope signature similar to E Australian faunas. Paleoclimate was cool- temperate ('Gondwanan'). Permian Summalayang Lst of NE Malay Peninsula rich in fusulinids, but no corals, etc., Foramol facies and predominantly Mg calcite mineralogy reflect temperate climate. Late Triassic Kodiang Lst with corals, algae, stromatolites, etc., and formed in tropical setting)

Rastall, R.H (1927)- The geology of the Kinta Valley. Mining Magazine 36, p. 328-338.

Rastall, R.H (1927)- The limestone of the Kinta Valley, Federated Malay States. Geol. Magazine 64, p. 410-432.
(Kinta Valley with steep hills of thick, probably Permo-Carboniferous limestone. No biostrat)

Rastall, R.H (1931)- The metamorphic rocks of Gunong Terendum, Kinta Valley, Federated Malay States. Geol. Magazine 68, p. 193-206.
(?Triassic schist, in vertical contact with ?Permo-Carboniferous limestone, both with veins of granite)

Richardson, J.A. (1939)- The geology and mineral resources of the neighbourhood of Raub, Pahang with an account of the geology of the Raub Australian Gold Mine. Geol. Survey Dept., Federated Malay States, Singapore, Mem. 3, p. 1-166.

Richardson, J.A. (1946)- The stratigraphy and structure of the Arenaceous Formation of the Main Range Foothills, F.M.S.. Geol. Magazine 83, 5, p. 217-229.
(Unfossiliferous Triassic? Arenaceous Formation E of Main Range Granite of Malay Peninsula, associated with amphibolites (following Raub-Bentong suture?; JTvG))

Richardson, J.A. (1947)- The origin of the amphibole-schist series of Pahang, Malaya. Geol. Magazine 84, p. 241-249.
(Amphibole-Schist Series confined to Malay Peninsula E of Main Range, and is most abundant in NW Pahang. Associated with serpentine. Parent rocks may have been sediments or pyroclastics of Permo-Carboniferous. Associated with Arenaceous Formation of Main Range Foothills, quartzites, quartzite-conglomerates, shales, cherts, phyllites, quartz- and mica-schists, which may be either Triassic or perhaps older than adjacent Permocarboniferous shales and limestones)

Richardson, J.A. (1947)- Facies changes and lithological variation in the Permo-Carboniferous Formation of North-West Pahang and South-West Kelantan, Malaya. Geol. Magazine 84, 5, p. 281-288.
(Facies change and lithological variation traceable in outcrop of Permocarboniferous rocks exposed over large jungle area of NW Pahang and SW Kelantan. Three major facies: (1) calcareous facies; (2) argillaceous facies (incl. mixed shale-rhyolite tuff sub-facies); (3) volcanic facies (Pahang Volcanic Series); mainly rhyolite and andesite tuffs)

Richardson, J.A. (1950)- The geology and mineral resources of the neighbourhood of Chegar, Perah and Merapoh, Pahang. Geol. Survey Dept., Federated Malay States, Ipoh, Mem. 4, p. 1-162.

Richter, B., E. Schmidtke, M. Fuller, N. Harbury & A.R. Samsudin (1999)- Paleomagnetism of Peninsular Malaysia. J. Asian Earth Sci. 17, p. 477-519.
(Paleomagnetic results from Peninsular Malaysia. Peninsular Malaysia in low N latitudes since Late Triassic. Jurassic- Paleocene counterclockwise (CCW) rotations, while clockwise rotations (CW) predominant in older rocks. 'S Sundaland' block (Malay Peninsula, Borneo, Sulawesi, Celebes Sea) rotated ~30°- 40° CCW between Late Eocene (~40-45 Ma) and M Miocene (~10-15 Ma). Regional CCW rotations not consistent with extrusion tectonic models)

Rishworth, D.E.H. (1974)- The Upper Mesozoic terrigenous Gagau Group of Peninsular Malaysia. Geol. Survey Malaysia, Kuala Lumpur, Spec. Paper 1, p. 1-78.
(Gagau Gp thick sequence of non-marine clastic sediments in isolated areas of E Malay Peninsula. Rel. gently dipping and unconformable over highly folded Permian- Triassic strata. Plant remains suggest mainly Late Jurassic- E Cretaceous age. Two formations, unfossiliferous Badong Conglomerate (400-500m) overlain by Lotong Sandstone (600m), locally with plant remains (Equisetites, Gleichenoides, Otozamites, Frenelopsis, etc.; first described by Kon'no 1967, 1968) and rare small chitinous bivalves. With volcanic interbeds. Gagau Gp similar to rocks of Khorat Plateau (NE Thailand) and also Bintan Fm of Bintan Island (Indonesia, SE of Singapore))

Roe, F.W. (1951)- The geology and mineral resources of the Fraser's Hill area, Selangor, Perak and Pahang, Federation of Malaya, with an account of the mineral resources. Geol. Survey Dept. Federation of Malaya, Mem. 5, p. 1-138.
(Pahang area with extensive Main Range granites, Pahang Volcanics. Widespread tin mining)

Roe, F.W. (1953)- The geology and and mineral resources of the neighbourhood of Kuala Selangor and Rasa, Selangor, Federation of Malaya, with an account of the geology of Batu Arang coal-field. Geol. Survey Dept. Federation of Malaya, Mem. 7, p. 1-163.

Roselee, M.H., A.A. Ghani, S.L. Chung, M.R. Umor & L.X. Quek (2016)- óA-typeô signature of volcanics suite from Teluk Ramunia, Southeastern of Johor, Peninsular Malaysia: Geochemical evidence of Paleo-Tethys slab rollback extension. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 739-742.
(Triassic (Late Carnian; 229, 231 Ma) volcanics of SE tip ofMalay Peninsula)

Roselee, M.H., A.A. Ghani & M.R. Umor (2016)- Petrology and geochemistry of igneous rocks from southern Tioman Island, Pahang, Peninsular Malaysia. Bull. Geol. Soc. Malaysia 62, p. 79-89.
(online at: https://gsmpubl.files.wordpress.com/2017/04/bgsm2016011.pdf)
(Plutonic (hornblende diorite, biotite granite) and volcanic rocks (rhyolite-dacite; andesite on other part of island) in S part of Tioman Island, E of Pahang coast. Late Cretaceous granite (~80 Ma) intruded Tioman Volcanics (~88.9 Ma). Biotite granite formed in calc-alkaline volcanic arc setting (Neotethys subduction?))

Roslan, K. (1988)- The stratigraphy and sedimentology of Triassic rocks of Peninsular Malaya. Ph.D. Thesis University College, London, p. 1-344. *(Unpublished)*

Roslan, M.H.K., C.A. Ali & K. Roslan Mohamed (2016)- Fasies dan sekitaran sedimen Formasi Singa di Langkawi, Malaysia. Sains Malaysiana 45, 12, p. 1897-1904.
(online at: www.ukm.my/jsm/pdf_files/SM-PDF-45-12-2016/14%20Mohamad%20Hanif%20Kamal.pdf)
('Facies and sedimentary environment of the Singa Formation of Langkawi, Malaysia'. Depositional model of Carboniferous- E Permian shallow marine clastics of Singa Fm, widespread on Langkawi. With pebbly mudstone facies indicative of cold climate)

Runnegar, B. & D. Gobbett (1975)- *Tanchintongia* gen.nov., a bizarre Permian myalinid bivalve from West Malaysia and Japan. Palaeontology 18, 2, p. 315-322.
(online at: http://palaeontology.palass-pubs.org/pdf/Vol%2018/Pages%20315-322.pdf)
(New large, thick-shelled myalinid bivalve species and genus Tanchintongia perakensis from open-cut tin mine H.S. Lee No. 8, Kinta Valley, Perak. Associated with E Permian ammonoids and Pseudofusulina (tropical E Permian alatoconchid, also discussed in Isozaki et al. 2009))

Ryall, P.J.C. (1982)- Some thoughts on the crustal structure of Peninsular Malaysia: results of a gravity traverse. Bull. Geol. Soc. Malaysia, 15, p. 9-18.
(online at: www.gsm.org.my/products/702001-101190-PDF.pdf)
(Gravity profile across Malay Peninsula from Kuala Lumpur to Selangor)

Saaid, N.S.M. & Basir Jasin (2014)- Litho and biostratigraphy of the Tournaisian chert, the Kubang Pasu Formation of the Kedah and Perlis, Malaysia. Geol. Soc. Malaysia, Nat. Geoscience Conf. (NGC) 2014, Trengganu, P045, p. 35-36. *(Abstract)*
(Kubang Pasu Fm of NW Peninsular Malaysia equivalent to Singa Fm of Langkawi Island. Current age interpretation of formation E Carboniferous- E Permian. Age of lower boundary based on widespread Tournaisian radiolarian chert (with Stigmosphaerostylus variospina, S. vulgaris, Astroentactinia multispinosa))

Said, Uyop (1997)- Palinologi batuan Jura-Kapur Taman Negara. In: I. Komoo et al. (eds.) Warisan Geologi Malaysia, Lestari, Universiti Kebangsaan Malaysia, p. 249-368.
('Palynology of Jurassic- Cretaceous rocks of Taman Negara'. Cretaceous palynology of non-marine Tembeling Gp in C part of Malay Peninsula))

Said, Uyop (2002)- Palynomorph assemblage from Keratong, Pahang: its age and emergence of angiospermlike pollen. GSM Annual Geological Conf. 2002, Kota Bharu, Bull. Geol. Soc. Malaysia 45, p. 179-185.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm2002027.pdf)
(Palynomorph assemblage from outcrop at Felda Keratong, SE Pahang, resembles Paradoxa Assemblage, of late E Cretaceous (Barremian-Albian) suggested age. Occurrence of monosulcate pollen Clavatipollenites hughesii indicates emergence of angiosperms during deposition of these sediments)

Said, Uyop & Che Aziz Ali (2000)- On the palynomorph assemblage from the Panti Sandstone, Kota Tinggi, Johor. In: G.H. Teh et al. (eds.) Proc. Geol. Soc. Malaysia Ann. Geol. Conf. 2000, Pulau Pinang, p. 137-141.
(online at: https://gsmpubl.files.wordpress.com/2014/10/agc2000_19.pdf)
(Palynomorphs from Panti Sst in quarry N of Kota Tinggi, Johor, which overlies older granite body. Most common palynomorphs Classopollis, Cicatricosisporites, Aequitriradites, Ischyosporites and Ephedripites. Age Lower Cretaceous (Berriasian-Valanginian) and climate during was warm and dry)

Said, Uyop, M. Malihan & Z. Konjing (2007)- Neocomian palynomorph assemblage from Central Pahang, Malaysia. Bull. Geol. Soc. Malaysia 53, p. 21-25.
(online at: http://geology.um.edu.my/gsmpublic/v53/Pdf%20individual%20papers/5%20Paper0.pdf)
(Road-cuts in central Pahang with distinct palynomorph assemblage with Cicatricosisporites australiensis, C. ludbrookiae, Biretisporites eneabbaensis and Baculatisporites comaumensis. Assigned to lowest speciosus Assemblage zone (Valanginian- Hauterivian))

Said, Uyop & S. Salehudin (2001)- A palynological study on an Early Cretaceous rock sequence at Bukit Belah, Batu Pahat, Johor. In: G.H. Teh et al. (eds.) Proc. Geol. Soc. Malaysia Ann. Geol. Conf., Pangkor 2001, p. 91-97.
(online at: https://gsmpubl.files.wordpress.com/2014/10/agc2001_15.pdf)
(New outcrops at Bukit Belah, N of Batu Pahat, Johor, with Late Jurassic- E Cretaceous plant fossils attributed to Gleichenites pantiensis, Frenelopsis malaiana, Cupressinocladus acuminifolia, Otozamites malayana and Ptilophyllum spp.. Palynomorphs include Cicatricosisporites australiensis, C. ludbrooki and Reticulatisporites pudens suggesting E Cretaceous age, probably Speciosus Assemblage (Valanginian- ?Hauterivian))

Sakagami, S. (1963)- Bryozoa from Pulau Jong, the Langkawi Islands, Northwest Malaya. Japanese J. Geology Geography 34, p. 205-209.

Sakagami, S. (1964)- Bryozoa from Pulau Jong, the Langkawi Islands, Northwest Malaya. In: T. Kobayashi (ed.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 135-141.
(Same paper as Sakagami (1963). Short paper on 4 species of Permian(Artinskian- Kungurian) bryozoa from Jong Island, Langkawi islands: Cyclotrypa, Fistulipora, Polypora aff. timorensis, P. gigantea)

Sakagami, S. (1970)- On the Paleozoic bryozoa of Japan and Thai-Malayan districts. J. Paleontology 44, 4, p. 680-692.

Sakagami, S. (1972)- Carboniferous bryozoa from Bukit Charas, near Kuantan, Pahang, Malaya. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 10, p. 35-62.
(24 species of Visean bryoza from E part Malay Peninsula)

Sakagami, S. (1973)- Some Permian Bryozoa from Pahang, Malaysia. In: T. Kobayshi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 12, p. 63-73.
(M Permian bryoza from limestone blocks in andesite volcaniclastic matrix in Kampong Awah quarry, Pahang and Jenka Pass: Fistulipora, Araxopora, Clausotrypa, etc. Associated with fusulinids Yabeina asiatica, Neoschwagerina cheni, N. douvillei, Sumatrina annae, Verbeekina verbeeki, Chusenella tingi, suggesting early M Permian (Wordian) age (= part of Sukhothai Arc, just E of Raub Bentong suture?; JTvG))

Sakagami, S. (1976)- Palaeobiogeography of the Permian bryozoa on the basis of the Thai-Malayan district. In: T. Kobayshi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 14, p. 155-172.
(121 species of Lower Permian and 7species of Upper Permian bryozoa known from Thai-Malayan region. Thai-Malayan bryozoa are common with those of Timor, W Australia and the Urals)

Samsudin, A.R., Basir Jasin, I. Abdullah, A. Janlan & U. Said (1991)- Beberapa aspek geologi batuan klastik Trias zone barat Semenanjung Malaysia. Sains Malaysiana 20, 1, p. 55-74.

('Some aspects of the geology of Triassic clastic rocks in the western zone of Malaysia')

Samsudin, A.R., N S. Ahmad, N.D. Johari & U. Hamzah (2014)- Geophysical evidences of a possible meteorite impact crater at Langkawi Island, Kedah, Malaysia. Electronic J. Geotechn. Engin. (EJGE) 19, Bund. R, p. 4741-4749.
(Semi-circular rim structure on Langkawi island previously identified by Tjia (2001) as possible remnant of impact crater. Gravity and magnetic surveys over ~35 km2 area shows low gravity negative anomaly of ~1.5 km in diameter. Modelled as simple type crater with ~1500m of low density sedimentary fill)

Sarkar, S.S. (1972)- On *Posidonia* from Rebak Island, Langkawi, West Malaysia. Geol. Soc. Malaysia Newsl. 37, p. 5-9.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1972005.pdf)
(E Carboniferous thin-shelled bivalve molluscs from Rebak, Langkawi Islands. New species: Posidonia elongata, P. dilatata, P. intermedia, P. conspicua (= Posidonomya; see also Basir Jasin 2013, 2015))

Sashida, K., S. Adachi, H. Igo, T. Koike & A.B. Ibrahim (1995)- Middle and Late Permian radiolarians from the Semanggol Formation, northwest Peninsular Malaysia. Trans. Proc. Palaeontological Soc. Japan 177, p. 43-58.
(online at: http://ci.nii.ac.jp/naid/110002703388/en)
(Semanggol Fm in NW Malay Peninsula subdivided into lower Chert, middle Rhythmite (with Triassic Daonella and Halobia) and upper Conglomerate Members. Allochthonous siliceous limestone block in lower Chert Member at Bukit Barak, 25km NE of Alor Setar, with late M Permian radiolarians, including Follicucullus monacanthus. Late Permian radiolarians of Neoalbaillella optima and N. ornithoformis assemblages in chert beds of same member at Bukit Nyan, E of Alor Setar. Permian radiolarian faunas similar to Japan, Philippines, and S China. Eight species and five unidentified species of radiolaria described)

Sato, T. (1964)- Ammonites du Trias de la Malaisie. In: T. Kobayashi (ed.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 43-51.
('Ammonites from the Triassic of Malaysia'. Three new localities with Triassic ammonites in Peninsular Malaysia:(1) Yong Peng (Johore; Carnian with Paratrachyceras, Joannites, Lobites), (2), (3) Temerloh and Kulal Lipis (Anisian-Ladinian, with Paraceratites aff. trinodosu, Arpadites))

Sautter, B. (2017)- Influence de lôheritage structural sur le rifting: exemple de la marge Ouest de La Sonde. Doct. Thesis Ecole Normal Superiere, Universite de Paris, p.
('Influence of pre-existing structural fabric on rifting: example from the western margin of Sunda Plate')

Sautter, B., M. Pubellier, P. Jousselin, P. Dattilo, Y. Kerdraon, C.M. Choong & D. Menier (2017)- Late Paleogene rifting along the Malay Peninsula thickened crust. Tectonophysics 710-711, p. 205-224.
(Continental core of Malay Peninsula relatively undeformed after Triassic Indosinian orogeny. Thick crustal mega-horst bounded by shear zones (Ranong, Klong Marui, Main Range Batholith Fault Zones), initiated in latest Cretaceous and reactivated in Late Paleogene. Extension localized on sides with Late Cretaceous deformation. In W continental shelf three major crustal steps (crustal-scale tilted blocks bounded by deep-rooted normal faults; Mergui Basin). To E rift systems with large tilted blocks (W Thai, Songkhla, Chumphon) which may reflect large crustal boudins. Central domain extension limited to narrow N-S half grabens. Rifted basins resemble N-S en-echelon structures along large NW-SE shear bands. Deep Andaman, Malay and Pattani basins on weaker crust inherited from Gondwanan continental blocks (Burma, Sibumasu, Indochina))

Schwartz, M.O. & A.K. Askury (1989)- Geological, geochemical, and fluid inclusion studies of the tin granites from the Bujang Melaka pluton, Kinta Valley, Malaysia. Economic Geology 84, p. 751-779.
(Bujang Melaka pluton of Kinta Valley has area of 20x10 km, and belongs to Permo-Triassic Main Range batholith, or W granite belt of PeninsularMalaysia. Mainly S-type biotite granites, emplaced into Devonian-Lower Permian sediments.

Savage, H.E.F. (1938)- The geology of the neighbourhood of Sungai Siput, Perak, Federated Malay States, with an account of the mineral deposits. Geol. Survey Dept. Fed. Malay States, new ser., Mem. 1, p. 1-46.
(online at: http://myrepositori.pnm.gov.my/bitstream/123456789/2825/1/MN1100008_FAMD.pdf)

Scrivenor, J.B. (1908)- Note on the sedimentary rocks of Singapore. Geol. Magazine Dec. 5, 7, p. 289-291.
(Early note on sediments of Singapore. Steeply dipping NW-SE striking sandstone and conglomerates with red and grey shales at Blakang Mati island contain chert pebbles, probably an extension of Late Triassic Tembeling Series of Pahang, Malay Peninsula, which are probably unconformable on Raub series)

Scrivenor, J.B. (1909)- Obsidianites in the Malay Peninsula. Geol. Magazine 6, 9, p. 411-413.
(Obsidianites of probable meteoric origin(tektites) and similar to material from Billiton and Java described by Verbeek, also known from tin-ore bearing alluvium of Pahang and Negri Sembilan on Malay Peninsula)

Scrivenor, J.B. (1910)- The rocks of Pulau Ubin and Pulau Nanas (Singapore). Quart. J. Geol. Soc. (London) 66, p. 420-434.
(Rocks of Singapore islands mainly granites and tuffs)

Scrivenor, J.B. (1912)- The Gopeng beds of Kinta (Federated Malay States). Quart. J. Geol. Soc. (London) 68, p. 140-163.
(Remains of 'ancient Gondwanaland tin-field' near Gopeng tin mining center at E side Kinta Valley, older than Mesozoic granite of Main range of Peninsula, altered by it, and further enriched in tin-ore by it near contact. Steeply dipping Gopeng Beds overlie Permo-Carbononiferous limestone, and include polymict boulder clays that were deposited under glacial conditions and probably equivalents of (E Permian) Bacchus Marsh and Murree marine beds of Australia (now viewed as Quaternary alluvial deposits (Hutchison & Tan 2009))

Scrivenor, J.B. (1913)- The geology and mining industry of the Kinta District, Perak, Federated Malay States, with a geological sketch map. F.M.S. Government Printing Office, Kuala Lumpur, p. 1-91.
(online at: https://books.google.com/books...)
(Much of Kinta District in Perak occupied by granite of Main Range. Also Paleozoic limestone and 'Gondwana rocks': clays and boulder clays (probably of glacial origin), phyllites and quartzites. Kinta Valley with steep Carboniferous limestone hills, etc. Many tin mines in alluvial deposits)

Scrivenor, J.B. (1913)- The geological history of the Malay Peninsula. Quart. J. Geol. Soc. (London) 69, p. 343-371.
(Early summary of Malay Peninsula geology. Sparsely illustrated)

Scrivenor, J.B. (1923)- The structural geology of British Malaya. J. Geology 31, 7, p. 556-570.
(Early essay on geology of Malay Peninsula)

Scrivenor, J.B. (1924)- The geology of Singapore Island, with a geological sketch map. J. Malayan Branch, Royal Asiatic Society 2, p. 1-8.
(Brief account of geology of Singapore Islands. Greater part Singapore is built on locally steeply dipping sandstone and shale, probably of Triassic age, intruded by granites)

Scrivenor, J.B. (1925)- Summary of the geological history of British Malaya and British Borneo. Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kol., Geol. Serie 8 (Verbeek volume), p. 441-447.

Scrivenor, J.B. (1926)- The palaeontology of British Malaya. J. Malayan Branch, Royal Asiatic Society 4, p. 173-184.
(On fossils collected in Malay Peninsula since 1900: Triassic Myophoria sandstone, Jurassic and Late Triassic marine molluscs from Singapore, radiolarian cherts, Carboniferous plants, Permian fusulinids in NW Malay Peninsula, etc.)

Scrivenor, J.B. (1928)- The geology of Malayan ore deposits. Macmillan, London, p. 1-216.
(Review of mineral deposits of Malaysia, mainly gold and tin)

Scrivenor, J.B. (1928)- Geological map of British Malaya, issued as Folio II of the general geological map of the Netherlands East Indies, scale 1:1000.000. Jaarboek Mijnwezen Nederlandsch-Indie 54 (1925), Verhandelingen 2, p. 81-96.
(Overview map of Malay Peninsula and Riau Islands, with very brief explanatory notes)

Scrivenor, J.B. (1929)- Radiolaria-bearing rocks in the Malay Peninsula. De Mijningenieur 10, 11, p. 238-239.
(Brief review of radiolarian rocks of Malay Peninsula. Present in numerous localities of Malay Peninsula, often in steeply dipping deformed series. Bulk of radiolarian rocks at base of Triassic series of quartzites and shales and above Carboniferous limestone; some chert horizons may be younger)

Scrivenor, J.B. (1931)- The geology of Malaya. Macmillan and Co., London, p. 1-250.
(First textbook on geology of Malay Peninsula)

Scrivenor, J.B. (1941)- Geological research in the Malay Peninsula and Archipelago. Geol. Magazine 78, 2, p. 125-150.
(Review of status of geological research in Malay Peninsula and Indonesian Archipelago)

Scrivenor, J.B. & W.R. Jones (1919)- The geology of south Perak, North Selangor and the Dindings. Geological Department Federated Malay States, Kuala Lumpur, 212p.

Seong, K.T. (1990)- K-Ar dating of micas from granitoids in the Kuala Lumpur-Seramban area. Bull. Geol. Soc. Malaysia 26, p. 77-96.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1990008.pdf)
(Granitoids near Kuala Lumpur part of Main Range. U-Pb zircon ages of 211 and 215 Ma suggest Late Triassic empacement age. K-Ar ages similar and also younger ages, suggesting partial resetting in Cretaceous)

Serra, C. (1968)- Sur quelques empreintes Mesozoiques de Malaisie. Archives Geol. Vietnam 11, p. 43-51.
('On some Mesozoic imprints of Malaysia'. Poorly preserved plant fossils, Ptilophyllum, Zamites and Klukia? collected from middle part of Tembeling Fm, N of Maran, Pahang. Affinities with Rhaetian and Liassic species. Also Paracalamites, probably of Triassic age described from N of Mentakab, Pahang)

Sevastjanova, I. (2007)- Detrital heavy minerals from the Malay Peninsula. M.Sc. Thesis, Royal Holloway, University of London, p. 1-155. *(Unpublished)*

Sevastjanova, I., B. Clements, R. Hall, E.A. Belousova, W.L. Griffin & N. Pearson (2011)- Granitic magmatism, basement ages, and provenance indicators in the Malay Peninsula: insights from detrital zircon U-Pb and Hf-isotope data. Gondwana Research 19, 4, p. 1024-1039.
(Malay Peninsula two continental blocks, Sibumasu and E Malaya, with two granitoids provinces: Main Range and Eastern. U-Pb analyses on zircons from Malay Peninsula river sands suggest three Permian-Triassic episodes of granitoids intrusives, two in E Province: (a) Permian, crustally-derived (~280 Ma), (b) E-M Triassic, Eastern Province, mixed mantle-crust sources (~220-250 Ma), (c) Late Triassic Main Range, crustally-derived (~180-220 Ma). Sibumasu- E Malaya collision probably in Late Permian-E Triassic. Mainly Paleoproterozoic basement ages for Sibumasu (1.9-2.0 Ga) and East Malaya (1.7-2.0 Ga) blocks)

Shah, A.K. & M.A.K. Azizi (1995)- An overview of the mineralization and mineralogical characteristics of the goldfields from Central Belt of Peninsular Malaysia., Proc. Int. Conf. Geology, Geotechnology and Mineral Res. of Indochina (GEOINDO 2005), Khon Khean, p. 188-199.

Sharma, J.S., J. Chu & J. Zhao (1999)- Geological and geotechnical features of Singapore: an overview. Tunneling and Underground Space Technology 14, 4, p. 419-431.

(One-third of Singapore Island underlain by Triassic Bukit Timah granite and Gombak norite in center and N. In W common intensely folded (strike NW-SE), low-metamorphic Late Triassic or E-M Jurassic Jurong Fm sediments (incl. Late Triassic Pandan Limestone in borehole at Pandan Reservoir in lower part))

Shi, G.R., M.S. Leman & B.K. Tan (1997)- Early Permian brachiopods from upper Singa Formation of Langkawi Island, northwestern Peninsular Malaysia: biostratigraphical and biogeographical implications. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, 1, p. 62-72.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1997/7641.pdf)
(Two assemblages of E Permian (Sakmarian) brachiopods from pebbly mudstones and associated bryozoan limestones of U Singa Fm of Langkawi island, incl. Kasetia, Bandoproductus, Stenoscisma, Sulciplica, Spinomartinia prolifica, etc.. Comparable to peri-Gondwanan assemblages now in Cimmerian terranes (S Thailand, Lhasa, Baoshan, SE Pamir). Transitional between cool Gondwanan and warm Cathaysian faunas)

Shi, G.R. & J.B. Waterhouse (1991)- Early Permian brachiopods from Perak, West Malaysia. J. Southeast Asian Earth Sci. 6, p. 25-39.
(New Permian brachiopod fauna of probable Sakmarian (E Permian) age from Nam Loong 1 Mine of Kinta Valley, W of Kampar, Perak, on Sibumasu Terrane. Material collected by Gobbett below fossiliferous H.S. Lee Beds (Pseudofosulina kraffti and Misellina claudiae fusulinid zones; Ishii 1966). Nam Loong beds ~150m thick, with crinoid limestone of at base, overlain by brachiopod limestone)

Shuib, M.K. (2000)- Synsedimentary tectonic control of the Permo-Triassic Central Basin sedimentation. In: G.H. Teh et al. (eds.) Proc. Geol. Soc. Malaysia Ann. Geol. Conf. 2000, Pulau Pinang, p. 45-49.
(online at: https://gsmpubl.files.wordpress.com/2014/10/agc2000_07.pdf)
(Sediments in C basin 2 depositional sequences: (1) Permian-E Triassic continental sediments at base, grading into shallow marine to deeper marine at top, marking opening of basin; (2) (M - Late Triassic deep marine turbidites and volcaniclastics grading upward into shallow marine sediments, marking rifting of basin followed by closure. Evidences for syn-sedimentary tectonism: slumps, normal and strike-slip faults, syn-sedimentary folds and shale injection structures. Permo-Triassic Central Basin N-S graben-like configuration with Bentong-Raub Zone as W margin and Lebir Fault Zone in E. Deep basin in central areas represented by Semantan Fm. Dextral transpressive and transtensive faults suggest basin is strike-slip control basin)

Shuib, M.K. (2000)- The olistostromes in the Bentong Area, Pahang and their tectonic implications. In: G.H. Teh et al. (eds.) Proc. Geol. Soc. Malaysia Ann. Geol. Conf. 2000, Pulau Pinang, p. 51-55.
(online at: https://gsmpubl.files.wordpress.com/2014/10/agc2000_08.pdf)
(Two types of (Permian?) olistostromes in Bentong area: (1) intercalated with cherts (deep marine gravity flow deposits) and (2) intercalated with sandstone/shale layers (may be shallow marine to continental sediments). Deformed by sub-vertical strike-slip faults. Interpreted as deep continental margin deposits along Bentong-Raub Zone suture zone, inverted by Late Triassic time (no mention of possibility of glacio-marine facies))

Shuib, M.K. (2000)- Syndepositional deformation in the Permo-Triassic and Latest Triassic to Cretaceous Central belt of Peninsular Malaysia. In: Proc. Geol. Soc. Malaysia Conf. Dynamic stratigraphy and tectonics of Peninsular Malaysia, Third Seminar, The Mesozoic of Peninsular Malaysia, Kuala Lumpur 2000, p. 30-47.

Shuib, M.K. (2000)- The Mesozoic tectonics of Peninsular Malaysia. In: Proc. Geol. Soc. Malaysia Conf. Dynamic stratigraphy and tectonics of Peninsular Malaysia, Third Seminar, The Mesozoic of Peninsular Malaysia, Kuala Lumpur 2000, p. 106-126.

Shuib, M.K. (2009)- Structures and deformation. In: C.S. Hutchison & D.N.K. Tan (eds.) Geology of Peninsular Malaysia, University Malaya and Geol. Soc. Malaysia, p. 271-308.

Shuib, M.K. & A.A. Ghani (1998)- 'Mantle plume' type magmatism in the Central Belt of Peninsular Malaysia and its tectonic implications. Bull. Geol. Soc. Malaysia 42, p. 365-371.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm2003058.pdf)

(Central Belt granitoids just E of Bentong-Raub Line, with distinct geochemical characteristics. Late Jurassic-Lower Cretaceous K/Ar ages, but also more reliable Rb/Sr age of 207 Ma (latest Triassic) for Benom Pluton. High Ba and Sr values may result from penetration of lower lithosphere by mantle material ('mantle plume' type magmatism). Bimodal magmatism, with significant time (up to 30 Myrs) between first mafic magmatism and later felsic magmatism. C Belt plutons post-orogenic and penecontemporaneus with rapid post-orogenic uplift and erosion with development of Jurassic-Cretaceous continental deposits of C Basin Model proposed involves oblique convergence of two tectonic provinces of Peninsular Malaysia, followed by slab breakoff leading to linear belt of single plutons characterized by high-K, shoshonitic granitoids with high Ba and Sr)

Shuib, M.K. & A.Hadi Abd Rahman (1999)- A five-fold stratigraphic and tectonic subdivision of the Malay Peninsula and the implications on its tectonic evolutionary history. In: Proc. First Seminar Problem & issues relating to the stratigraphy and tectonic of Peninsular Malaysia, Kuala Lumpur 1999, Geol. Soc. Malaysia, p. 38-64.

Shuib, M.K. & A.Hadi Abd Rahman (2000)- The Mesozoic of the Central Belt of the Malay Peninsula- Part II: Basin configuration and tectonism. In: Proc. Geol. Soc. Malaysia Conf. Dynamic stratigraphy and tectonics of Peninsular Malaysia, Third Seminar, The Mesozoic of Peninsular Malaysia, Kuala Lumpur 2000, p. 74-95.
(see Abd Rachman & Shuib (2000) for Part I)

Singh, D.S., L.H. Chu, L.H. Teoh, P. Loganathan, E.J. Cobbing & D.I.J. Mallick (1984)- The Stong Complex: a reassessment. Bull. Geol. Soc. Malaysia 17, p. 61-77.
(online at: www.gsm.org.my/products/702001-101160-PDF.pdf)
(Stong Complex of plutonic and metamorphic rocks in NW Kelantan with three granitoid components. Earliest two phases Triassic or younger deformed; third phase undeformed Late Cretaceous (64, 67 Ma) pink granites)

Smiley, C.J. (1970)- Later Mesozoic flora from Maran, Pahang, West Malaysia, Part 1: Geological considerations. Bull. Geol. Soc. Malaysia 3, p. 77-88.
(online at: www.gsm.org.my/products/702001-101372-PDF.pdf)
(Plant fossils from Tembeling Fm 4 mi N of Maran, C Malay Peninsula. Include tree fern Gleichenoides spp., conifer Frenelopsis and others. Maran florules identical to Gagau flora from N Pahang (Kon'no 1967, 1968) and resemble Neocomian species from other areas. Probably represents open forest flora under climate with distinct dry season)

Smiley, C.J. (1970)- Later Mesozoic flora from Maran, Pahang, West Malaysia, Part 2: Taxonomic considerations. Bull. Geol. Soc. Malaysia 3, p. 89-113.
(online at: www.gsm.org.my/products/702001-101371-PDF.pdf)
(16 plant megafossil species in Maran area: 5 pteridophytes (Gleichenoides, Equisetites), 5 cycadophytes (Olozamites, Ptilophyllum, Zamites, 1 conifer (Frenelopsis). No records of Ginkgophytes or Angiosperms (Dicotyledons) in Neocomian floras of W Malaysia)

Snelling, N.J., J.D. Bignell & R.D. Harding (1968)- Ages of Malayan granites. Geologie en Mijnbouw 47, 5, p. 538-539.
(online at: https://drive.google.com/file/d/0B7j8bPm9Cse0dzhzY3RmVEdvWFk/view)
(Summary of results of Rb-Sr whole rock age determinations on Malayan granites. Ages of intrusion Late Carboniferous (280-300 Ma), M Triassic and Late Cretaceous (~70 Ma). Triassic granites intruded in two episodes at ~230 Ma and 200 Ma. Most K-Ar ages on micas disturbed by younger intrusions and events)

Sone, M. & M.S. Leman (2000)- Some mid-Permian fossils from Felda Mayam, Central Peninsular Malaysia. Proc. Geol. Soc. Malaysia Ann. Conf. 2000, Pinang, p. 143-150.
(online at: https://gsmpubl.files.wordpress.com/2014/10/agc2000_20.pdf)
(Small suites of early M Permian ammonoids (Agathiceras, Bamyaniceras), brachiopods (Dicystoconcha, Leptodus), bivalves, crinoids and plants (Taeniopteris) from Felda Mayam area, C Pahang. Represents N-most extent of Bera Fm. Permianellid brachiopod genus recorded in Malaysia for first time. Age Roadian-Wordian. Brachiopod assemblage suggests warm-water Tethyan affinities)

Sone, M. & M.S. Leman (2005)- Permian linoproductoid brachiopod *Permundaria* from Bera South, Peninsular Malaysia. J. Paleontology 79, 3, p. 601-606.
(Permundaria is uncommon genus confined to M- early Late Permian Tethys Sea. New species Permindaria perplexus in Wordian, Middle Permian Bera Fm, Pahang, Malay Peninsula (genus also recorded from Jambi, C Sumatra as Strophomena analoga; Meyer 1922))

Sone, M. & M.S. Leman & M. Ehiro (2001)- Middle Permian cephalopods from central Peninsular Malaysia: implications for faunal migration through the southern Tethys. J. Asian Earth Sci. 19, 6, p. 805-814.
(Wordian (early M Permian) cephalopod fauna in steeply dipping shales- tuffaceous sandstones at Bera South, S Pahang, dominated by Agathiceras. Also ammonoids Tauroceras, Bamyaniceras and Pronoritidae and nautiloids Tainoceras and Orthocerida. Presence of Tauroceras. aff. scrobiculatum suggests correlation with S Tethys strata of NE Iraq, N Oman and Sicily)

Sone, M., M.S. Leman & I. Metcalfe (2004)- Triassic nautiloid *Sibyllonautilus* from Gua Bama, Peninsular Malaysia and its regional stratigraphic implications. Alcheringa 28, 2, p. 477-483.
(Coiled nautiloid suggesting Late Permian- earliest Triassic (Lopingian- Anisian) age for Gua Bama sponge-algal reefal limestone section, just E of Bentong-Raub suture, NW Pahang, Peninsular Malaysia. Overlies Permian tuffaceous Leptodus brachiopod shales)

Sone, M., M.S. Leman & G.R. Shi (2001)- Middle Permian brachiopods from central Peninsular Malaysia- faunal affinities between Malaysia and west Cambodia. J. Asian Earth Sci. 19, p. 177-194.
(Moderately diverse M Permian brachiopod fauna from Bera District, C Pahang, 'Central Basin' of Peninsular Malaysia (on E Malaya Plate). In N Bera Fm associated with Late Permian andesitic volcanics. Near top of section fusulinids Sumatrina, Verbeekina, etc. and common Leptodus-like lyttonid brachiopods here called Gubleria. Brachiopods 19 species, typically warm-water Tethyan. Strong linkage to Yabeina beds of Sisophon Lst, W Cambodia. Possible E Capitanian (M Permian) age)

Sone, M., I. Metcalfe & M.S. Leman (2003)- Palaeobiogeographic implications of Middle Permian brachiopods from Johore (Peninsular Malaysia). Geol. Magazine 140, 5, p. 523-538.
(New M Permian brachiopods fauna from folded tuffaceous sandstone at Sermin, N Johore, with Pseudoleptodus, Neochonetes, etc., associated with ammonoid Agathiceras sp.. Fauna lacks diagnostic Cathaysian taxa, but has minor Sibumasu elements. Locality just E of Bentong-Raub suture on E Malaya terrane of Cathaysian province, suggesting species interchange between shallow waters of E Malaya and Sibumasu across Paleo-Tethys. Sibumasu, Timor (Bitauni) and W Irian Jaya dominantly Gondwanan affinity and cooler, higher latitude than E Malaya)

Sone, M., I. Metcalfe & M.S. Leman (2008)- Search for the Permian-Triassic boundary in central Peninsular Malaysia: preliminary report. Permophiles 51, p. 32-34.
(online at: http://permian.stratigraphy.org/files/20121027153250868.pdf)
(Permian- Triassic transition in C Malay Peninsula present in basal parts of Gua Bama and Gua Sei limestones. Conodonts Isarcicella isarcica and Hindeodus parvus indicate basal Triassic age of limestone overlying Upper Permian Colaniella-bearing limestone and lyttonoid brachiopod (Leptodus) shales)

Sone, M., I. Metcalfe & M.S. Leman (2011)- Where is the Permian-Triassic boundary (PTB) in central Peninsular Malaysia? Proc. 24th Ann. National Geoscience Conference 2011 (NGC2011), Johor Baru, P2-25, p. 152. *(Abstract only)*
(online at: http://geology.um.edu.my/gsmpublic/NGC2011/NGC2011_Proceedings.pdf)
(Permian- Triassic boundary defined by first appearance of conodont species Hindeodus parvus, now indicated to be 252.3 Ma by zircon U-Pb dating. In Pahang, C Peninsular Malaysia, several limestone sections contain Permian- Triassic boundary, incl. Gua Bama and Gua Sei)

Spiller, F.C.P. (1996)- Late Paleozoic radiolarians from the Bentong-Raub suture zone, Peninsular Malaysia. The Island Arc 5, 2, p. 91-103.

(Radiolarians from deep marine siliceous sediments from melange from Bentong-Raub suture zone contain 7 radiolarian zones from 10 localities: Late Devonian (Famennian), E Carboniferous (Tournaisian and Visean) and E Permian. Suggests ocean existed between Sibumasu and East Malaya terranes from at least Late Devonian- late E Permian time)

Spiller, F.C.P. (2002)- Radiolarian biostratigraphy of Peninsular Malaysia and implications for regional palaeotectonics and palaeogeography. Palaeontographica Abt. A, 266, p. 1-91.

Spiller, F.C.P. & I. Metcalfe (1995)- Late Palaeozoic radiolarians from the Bentong-Raub suture and the Semanggol Formation of Peninsular Malaysia- initial results. J. Southeast Asian Earth Sci. 11, 3, p. 217-224.
(Cherts and tuffaceous siltstones from Bentong-Raub suture zone, Peninsular Malaysia, with Late Devonian and E Carboniferous radiolarians. Cherts deposited in Paleo-Tethys ocean between Sibumasu and East Malaya. Also radiolarians from siliceous Semanggol Fm of NW Peninsular Malaysia (Sibumasu Block), with E and Late Permian and M Triassic ages, extending age of Semanggol Fm down to E Permian and confirms presence of deep-marine basin in NW Malay Peninsula during Permian)

Spiller, F.C.P. & I. Metcalfe (1995)- Paleozoic and Mesozoic radiolarian biostratigraphy of Peninsular Malaysia. Proc. IGCP Symposium on Geology of SE Asia, Hanoi, J. Geology, ser. B, 5-6, p. 75-93.
(Similat to Spiller & Metcalfe 1995. Late Devonian- late E Permian radiolaria from highly deformed pelagic marine sediments in ~13-18 km wide tectonic melange/ imbricate thrust slices of Raub-Bentong suture (Paleotethys) of Malay Peninsula)

Stait, B.A. & C.F. Burrett (1982)- *Wutinoceras* (Nautiloidea) from the Setul Limestone (Ordovician) of Malaysia. Alcheringa 6, p. 193-196.
(Common straight nautiloid Wutinoceras robustum in Ordovician Setul Limestone of Langkawi islands)

Stauffer, P.H. (1969)- Tin mineralisation and faults in the Kuala Lumpur region. Newsletter Geol. Soc. Malaysia 20, p. 5-7.
(Tin mineralisation in KL area may be related to fault zones, especially WNW trending faults, which may sinistrally offset primary tin lodes by ~70 km)

Stauffer, P.H. (1971)- Quaternary volcanic ash at Ampang, Kuala Lumpur; West Malaysia. Newsletter Geol. Soc. Malaysia 33, p. 5-8.
(White fine-grained and rhyolitic ash layer, 0.45m thick, in sequence of alluvium and peat exposed by tin mining. Correlated with ash previously reported from Perak and Pahang (= Young Toba Tuff?; JTvG))

Stauffer, P.H. (1973)- The Kuala Lumpur fault zone- a proposed major strike-slip fault across Malaya. Geol. Soc. Ma1aysia Newsletter 15, p. 2-4.

Stauffer, P.H. (1973)- Kenny Hill Formation. In: D.J. Gobbett & C.S. Hutchison (eds.) Geology of the Malay Peninsula, John Wiley Interscience, New York, p. 87-91.
(Thick, gently folded, unfossiliferous ?Permian clastics formation near Kuala Lumpur)

Stauffer, P.H. (1974)- Malaya and Southeast Asia in the pattern of continental drift. Bull. Geol. Soc. Malaysia 7, p. 89-138.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1973026.pdf)
(Review of early plate tectonic models of SE Asia)

Stauffer, P.H. (1974)- Petrology of some Malayan conglomerates and their implications. Geol. Soc. Malaysia Newsl. 47, 1, p. 7-8. *(Abstract only)*
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1974002.pdf)
(Submarine channel fill in (E Permian, glacio-marine) Singa Fm at Pulau Singa Besar, Langkawi, evidently, emplaced by mass flow, possibly in deep water. It is highly calareous and contains shell fragments, implying resedimentation from shallow marine waters. Megaclasts include variety of rock types: sandstone, fossiliferous

limestone, shales, acid tuffs and ignimbrites and acid plutonics. Relative absence of metamorphic rocks suggests plutonics formed crystalline basement beneath sediments)

Stauffer, P.H. (1980)- The Singa Formation: is it a glacial deposit? Warta Geologi (Geological Soc. Malaysia Newsletter) 6, p. 33-34. *(Abstract only)*
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1980002.pdf)
(Singa Fm in Langkawi forms most of clastic interval between Lower Paleozoic (Setul Fm.) and Permian (Chuping/Jong Fm.) carbonates. Generally unfossiliferous, fine-grained and carbonaceous, but with numerous scattered pebbles and boulders. Pebbly mudstone facies part of 2000 km long facies belt. Clasts of plutonic rock are exotic, as no pre-Carboniferous acid plutons known in Malaya, S Thailand or Sumatra. Most likely of glacial origin, at Gondwana margin (see also Stauffer & Lee 1986))

Stauffer, P.H. (1984)- Distribution of tektite finds in Malaysia and immediately adjacent territories. Federation Museums Journal, Kuala Lumpur, 29, p.

Stauffer, P.H. & N.J. Snelling (1977)- A Precambrian trondhjemite boulder in Palaeozoic mudstones of NW Malaya. Geol. Magazine 114, 6, p. 479-482.
(Possible Precambrian-age leucotonalite clasts with K-Ar age of 1029 ± 15 Ma in 'pebbly mudstone' of E Permian Singa Fm of Pulau Tepor, SW Langkawi Islands, NW Malaysia)

Sulaiman, A.. K. Hassan & H.D.Tjia (2003)- The Holocene optimum in Malaysia. Minerals and Geoscience Department Malaysia, Technical Papers 2, p. 37-67.
(In Peninsular Malaysia Holocene climate optimum coincides with peak of Holocene transgression. Between ~6500- 4000 years BP sea levels of >2 m above present known from many localities in Peninsular Malaysia (~4m above sealevel at ~ 5 ka))

Suntharalingam, T. (1968)- Upper Palaeozoic stratigraphy of the area west of Kampar, Perak. Bull. Geol. Soc. Malaysia 1, p. 1-15.
(online at: www.gsm.org.my/products/702001-101386-PDF.pdf)
(Marine sediments of Kampar area, W Central Malay Peninsula, estimated to be >5500' thick, divided into six units of M Devonian- M Permian ages, dominated by oolitic-shelly limestones, with thick dolomites in lower unit (= part of Sibumasu Block Late Paleozoic))

Suntharalingam, T. (1983)- Cenozoic stratigraphy of Peninsular Malaysia. In: P. Nutalaya (ed.) Proc. Workshop Stratigraphic correlation of Thailand and Malaysia, Haad Yai 1983, Geol. Soc. Thailand and Geol. Soc. Malaysia, p. 149-158.
(online at: https://gsmpubl.files.wordpress.com/2014/10/sctm_08.pdf)

Surjono, S.S & M.S. Leman (2010)- Origin of the Late Paleozoic metamorphic rocks in East Johor, Peninsular Malaysia. J. Southeast Asian Applied Geol. (UGM) 2, 2, p. 70-80.
(Late Carboniferous low-grade metasediments widely distributed in E Johor and extend N to N Terengganu area. Protolith >5000m thick shallow marine clastics, formed in rift-passive margin at W side of W Indochina-E Malaya continental block during rifting of this block from Gondwanaland)

Surjono, S.S., M.S. Leman, C. Aziz Ali & K.R. Mohamed (2004)- A review of the Palaeozoic lithostratigraphy of East Johor, Malaysia. Bull. Geol. Soc. Malaysia 49, p. 71-78.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm2004013.pdf)
(E Johore, SE Malay Peninsula, Carboniferous metasediments unconformably overlain by Permian clastics, E-M Permian limestones and ?Late Permian volcanics, intruded by Triassic-Jurassic granites)

Surjono, S.S., M.S. Leman, K.R. Mohamed & C. Aziz Ali (2007)- The Paleozoic continental rudaceous rock in East Johor. Proc. Joint Conv. 32nd HAGI, 36th IAGI and 29th IATMI, Bali 2007, JCB2007-095, p. 1-13.

Surjono, S.S., M.S. Leman, K.R. Mohamed & C. Aziz Ali (2009)- The occurrence of Palaeozoic conglomeratic rocks in East Johor, Peninsular Malaysia. J. Southeast Asian Applied Geol. (UGM) 1, 2, p. 49-59.
(online at: https://jurnal.ugm.ac.id/jag/article/view/7227/5666)
(Conglomeratic rocks in East Johor, SE Malay Peninsula, in three formations, believed to be of Late Carboniferous- Late Permian age. Formations near E coast interpreted as fan delta and braided stream deposits. In C Johor deposited by debris flows in shallow marine environment. Permian conglomerates with volcanic clasts, probably deposited in forearc environment)

Tamura, M. (1968)- *Claraia* from North Malaya, with a note on the distribution of *Claraia* in Southeast Asia. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 5, p. 78-87.
(Two species of E Triassic (M Scythian) thin-shelled marine bivalve Claraia from folded limestone-shale series in N Pahang and S Kelantan, C Malay Peninsula: C. intermedia multistriata and C. griesbachi concentrica (latter species also described from Timor by Krumbeck 1924))

Tamura, M. (1970)- Pteriacea from Malayan Triassic. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 8, p. 133-149.
(Species of Pteria, Cassianella, Hoernesia and Bakevellia from Chegar Perah, Kuala Lipis, Temerloh and Fort Iskandar, Pahang. Temerloh faunas may be slightly younger, but others of M Triassic affinites)

Tamura, M. (1973)- Pectinids from Malayan Triassic. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 12, p. 115-131.
(M Triassic pectinid bivalves from 'Myophoria sandstone' from central- east parts of Malay Peninsula. With Chlamys, Entolium, etc.)

Tamura, M. (1973)- Some Triassic bivalves from Malaya. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 12, p. 133-148.
(Descriptions of bivalve molluscs of M Triassic, mainly Chegar Perah area (not incl. myophoriids and pectiniids described by Tamura 1970, 1973). Nuculana, Palaeonucula, Grammatodon, Pinna, etc.)

Tamura, M., W. Hashimoto, H. Igo, T. Ishibashi, J. Iwai, T. Kobayashi, T.Koike, K.Pitakpaivan, T. Sato & E.H. Yin (1975)- The Triassic system of Malaysia and adjacent areas. In: T. Kobayashi, & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 15, p. 103-149.

Tan, B.K. (1981)- On the supposed existence of the Kisap thrust in the Langkawi Islands, Northwest Peninsular Malaysia. Bull. Geol. Soc. Malaysia 14, p. 127-134.
(online at: www.gsm.org.my/products/702001-101194-PDF.pdf)
(Kisap thrust described by Koopmans (1965) in E part of Langkawi islands is only large thrust fault described in Peninsular Malaysia, but existence of large scale thrusting questionable. Nature of contact between Lower and U Paleozoic rocks interpreted as thrust cannot be satisfactorily resolved at present)

Tan, B.K. (1981)- Structures in Peninsular Malaysia and their interpretations. Bull. Geol. Soc. Malaysia 15, p. 1-7.
(online at: www.gsm.org.my/products/702001-101191-PDF.pdf)

Tan, B.K. (1984)- The tectonic framework and evolution of the Central Belt and its margins, Peninsular Malaysia. Bull. Geol. Soc. Malaysia 17, p. 307-322.
(online at: www.gsm.org.my/products/702001-101149-PDF.pdf)
(On difficulties in defining boundaries of Central Belt of Malay Peninsula, and interpretation of Bentong-Raub suture as graben instead of suture zone)

Tan, B.K. (1996)- 'Suture zones' in peninsular Malaysia and Thailand: implications for palaeotectonic reconstruction of Southeast Asia. J. Southeast Asian Earth Sci. 13, p. 243-249.

(Critical review of suture zones postulated in many paleotectonic reconstructions (Bentong-Raub and Kuala Lebir fault zone in Peninsular Malaysia and Chiang Mai-Chiang Rai, Nan-Uttaradit, etc. in Thailand)

Tan, B.K. & T.T. Khoo (1978)- Review of the development in the geology and mineral resources of Malaysia and Singapore. In: P. Nutalaya (ed.) Proc. 3rd Regional Conf. Geology and Mineral Resources of SE Asia (GEOSEA III), Bangkok, Asian Inst. Techn., p. 655-671.

Tan, B.K. & T.T. Khoo (1981)- Ultramafic rocks in Peninsular Malaysia and their tectonic implications. In: P. Nutalya (ed.) Proc. 4th Regional Conf. Geology and Mineral Resources of Southeast Asia (GEOSEA IV), Manila 1981, Geol. Soc. Philippines, p. 259-264.
(Argue that serpentinised ultramafics in Bentong-Raub zone not remnants of ancient oceanic lithosphere)

Tan, B.K. & T.T. Khoo (1993)- Clinopyroxene composition and tectonic setting of the Bentong-Raub belt, Peninsular Malaysia. In: B.K. Tan et al. (eds.) Proc. 7th Conf. Geology, Mineral and Energy Res. SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 539-545.
(Bentong Raub belt is N-S trending topographically negative feature across Malay Peninsula from Tomo in S Thailand to Malacca, with small bodies of serpentinized mafic and ultramafic rocks. Clinopyroxenes from pyroxenite, metagabbro and amphibolite indicate alkaline character, suggesting continental rather than subduction zone origin)

Tan, B.K. & S.P. Sivam (1971)- A fossil "Portuguese Man-of-War" (Velellidae) from the Paleozoic of the Raub area, Pahang, West Malaysia. Newsletter Geol. Soc. Malaysia 33, p. 8-12.
(Well preserved imprints of jellyfish occur in metasedimentary rocks of probable Carboniferous age along Cheroh River)

Tan, D.N.K. (1980)- Siliceous deposits of Malaysia. Geol. Survey Malaysia, Geological Papers 3, p. 100-113.
(Review of chert occurrences in Peninsular Malaysia (mainly Lower Paleozoic- Lower Mesozoic) and W Sarawak- E Sabah (some U Carboniferous- Lower Permian, mainly Mesozoic, some Tertiary)

Tate, R.B., D.N.K.Tan & T.F. Ng (2008)- Geological map of Peninsular Malaysia, scale 1:1,000,000. Geol. Soc. Malaysia and University Malaya.

Taylor, D. (1986)- Some thoughts on the development of the alluvial tinfields of the Malay-Thai Peninsula. In: G.H. Teh & S. Paramananthan (eds.) Proc. 5th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA V), Kuala Lumpur 1984, 1, Bull. Geol. Soc. Malaysia 19, p. 375-392.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1986028.pdf)
(Three categories of economic cassiterite placers in SE Asia: (1) 'kulit' residual deposits, formed in situ, without major lateral transport or sorting; (2) 'kaksa' washed-out residual deposits where coarser and heavier minerals remain close to source while finer and lighter minerals are removed; (3) 'mintjan' transported deposits. Phuket-Takuapa area of Thailand cassiterite derived largely from pegmatites and yields essentially kaksa placers. West Coast Tin Belt of Malay Peninsula and island of Bangka contain wide diversity of primary ore types all closely related to granite contacts. In Kuala Lumpur Tinfield tin roughly equally divided between kaksa placers close to granite contact and mintjan placers up to 25 km away. Substantial part of primary tin mineralisation in East Coast Tin Belt and in Belitung is exogranitic and characterized by fine cassiterite)

Teh, G.H. (1981)- The Tekka tin deposit, Perak, Peninsular Malaysia. Bull. Geol. Soc. Malaysia 14, p. 101-118.
(online at: www.gsm.org.my/products/702001-101196-PDF.pdf)
(Tekka deposit is hard-rock tin deposit in Kinta Valley. Cassiterite in mineralized veins (5mm- 1m thick) in granites and schists, associated with Triassic Main Range biotite granite. Early high T mineralization with cassiterite, columbite/tantalite and wolframite, followed by late stage low T minerals galena and stibnite)

Teoh, L.H. (1992)- Geology and mineral resources of the Sungai Tiang area, Kedah Darulman. Geol. Survey of Malaysia, Map Report 5, p. 1-93.

(Geology of area in Kedah, NW Malay Peninsula, with Paleozoic- Mesozoic section including folded possibly 800m thick Permo-Triassic Semanggol Fm)

Thomas, H.D. & C.T. Scrutton (1969)- Palaeozoic corals from Perak, Malaya, Malaysia. Overseas Geol. Min. Res. 10, 2, p. 164-171.
(In old Wen Yoon Yuen tin mine pit, near Batu Gajah town, Kinta Valley, NW Malay Peninsula, solitary corals identified as Siphonophyllia cf. gigantea and Zaphrentites sp., indicating E Carboniferous (Tournaisian-Visean) age. Also Late Ordovician coral Quepora sp. and M Silurian- E Devonian Heliolites barrandei, Favosites allani and Favosites sp. from two tin mines near Kanthan, Kinta)

Tjia, H.D. (1972)- Strike-slip faults in West Malaysia. Proc. 24th Sess. Int. Geological Congress, Montreal, sect. 3, Tectonics, p. 255-262.

Tjia, H.D. (1978)- Structural geology of Peninsular Malaysia. In: P. Nutalaya (ed.) Proc. 3rd Regional Conf. Geology Mineral Resources of SE Asia (GEOSEA III), Bangkok, p. 673-682.

Tjia, H.D. (1986)- Geological transport directions in Peninsular Malaysia. In: G.H. Teh & S. Paramananthan (eds.) Proc. GEOSEA V Conf., Kuala Lumpur 1984, 2, Bull. Geol. Soc. Malaysia 20, p. 149-177.
(Fold asymmetry, isoclinal folds and low-angle reverse faults are indicators of structural transport direction. All domains of Peninsular Malaysia suggest E-ward transport in oldest rocks (Lower Paleozoic), followed by movement to S (U Paleozoic), then in general W-ward direction (Late Triassic- E Jurassic))

Tjia, H.D. (1987)- Olistostrome in the Bentong area, Pahang. Warta Geologi 13, p. 105-111.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1987003.pdf)
(Steeply E-dipping metasediments including olistostrome horizons with large blocks in Raub- Bentong suture zone. Associated with serpentinite bodies)

Tjia, H.D. (1989)- The Bentong suture. In: B. Situmorang (ed.) Proc. 6th Regional Conf. Geology Mineral Hydrocarbon Resources of Southeast Asia (GEOSEA VI), Jakarta 1987, IAGI, p. 73-85.
(Bentong suture or Raub-Bentong Line in Peninsular Malaysia is N-S trending, 13 km wide zone of deformed rocks. Two main belts: in W pre-Silurian quartz-graphite schists, in East E Silurian- Permian clastic-chert unit with small occurrences of serpentinite, crystalline limestone (incl. Permian fusulinid Lst) and red clastics. Also few 100m wide zones of olistostrome. Probably Paleozoic accretionary prism. Earliest vergence E- SE (= W-ward subduction); later vergence in opposite direction (= generally viewed as Paleotethys suture))

Tjia, H.D. (1989)- Tectonic history of the Bentong-Bengkalis suture. Geologi Indonesia (IAGI) 12, 1 (Katili Volume), p. 89-111.

Tjia, H.D. (1996)- Tectonics of deformed and undeformed Jurassic-Cretaceous strata of Peninsular Malaysia. Bull. Geol. Soc. Malaysia 39, p. 131-156.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1996014.pdf)
(Jurassic-Cretaceous strata in Peninsular Malaysia occur as folded sequences (Tembeling Gp, Koh Fm, Bertangga Sst) but also as undeformed, slightly tilted strata (Gagau Gp, Ulu Endau Fm, Panti San))

Tjia, H.D. (1999)- Geological setting of Peninsular Malaysia. In: Petronas (1999) The petroleum geology and resources of Malaysia, p. 141-169.
(Review of regional geology of Malay Peninsula. Part of Sundaland. Two main basement domains: Mergui in W, Indosinia in E, separated by Bentong-Bengkalis suture zone. Oldest dated rocks of Cambrian age, in NW domain. Straits of Malacca with 15 Oligocene-Miocene grabens/ half-grabens in 4 N-S trending belts. Etc.)

Tjia, H.D. (1999)- Pre-Tertiary hydrocarbon potential. In: Petronas (1999) The petroleum geology and resources of Malaysia, p. 605-635.
(Review of Pretertiary stratigraphy and structure of Malaysia. Pre-Permian deposits low or no hydrocarbon prospectivity. Permian sediments marine, including common limestone.M Triassic common flysch deposits. End

Triassic- Jurassic start of continental deposition. Locally thick U Jurassic- Lower Cretaceous Tembeling Gp (6800m) in intermontane basins. No known hydrocarbon seeps associated with Paleozoic-Mesozoic rocks. Triassic locally moderately high TOC, but generally overmature. Other formations low in organic matter.Potential for hydrocarbons in Pretertiary of Malacca Straits, etc., sourced from Tertiary rifts))

Tjia, H.D. (2000)- Tectonics of deformed and undeformed Jurassic-Cretaceous strata of Peninsular Malaysia. In: Dynamic stratigraphy and tectonics of Peninsular Malaysia, Geol. Soc. Malaysia, 3rd Seminar- The Mesozoic of Peninsular Malaysia, p. 1-29.

Tjia H.D. & S.S. Almashoor (1996)- The Bentong Suture in southwest Kelantan, Peninsular Malaysia. Bull. Geol. Soc. Malaysia, 39, p. 195-211.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1996017.pdf)
(Bentong Suture in SW Kelantan 18 km wide. W border is injection complex with Titiwangsa granitoids, E border consists of bedded chert. Seven imbricated tectonic units, each comprising schist, phyllite, olistostrome, mudstone and chert form suture zone. A single serpentinite body between two of tectonic units. Units stacked at moderate - vertical dips, with SW vergence. E border zone has younger, postdocking chaotic assemblage with common large Permian crystalline limestone clasts, probably also olistostrome. Interpreted as accretionary prism composed of suture rocks that originated in E-M Paleozoic marine or oceanic region that closed by E Triassic through NE-ward subduction of sliver of Gondwana plate in W with Cathaysian plate in E)

Tjia, H.D. & Anizan Isahak (1990)- Permian glacigenic deposits at Salak Tinggi, Selangor. Sains Malaysiana 19, 1, p. 43-64.

Tjia, H.D. & M.M. Zain (2002)- Shock structures in Peninsular Malaysia: evidence from Kedah and Pahang. Geol. Soc. Malaysia Ann. Geol. Conf. 2002, Kota Bharu, Kelantan, p. 103-109.
(online at: www.gsm.org.my/products/702001-100736-PDF.pdf)
(Double Mahsuri Rings in S C Langkawi are impact structures. Each ring 2.4 km across, with depths of 45-107m and part of series of 4 structures, representing serial impacts of extraterrestrial projectiles arriving from SW. Age post Triassic-Jurassic granite, but could be of Neogene age)

Tjia, H.D. & H. Zaitun (1985)- Regional structures of Peninsular Malaysia. Sains Malaysiana 14, p. 95-107.
(Fontaine & Ibrahim 1995: suggest two geologic domains in W Malay Peninsula, 'W Peninsular Malaysia' and 'NW Peninsular Malaysia')

Tokuyama, A. (1961)- On some Triassic pelecypods from Pahang Province, Malaya. Trans. Proc. Palaeontological Soc. Japan 9, 44, p. 175-181.
(M Triassic bivalves from two localities in Lower Myophoria sandstone in Pahang. Three Myophoria species, also Neoschizodus laevigatus)

Tsegab, H., W.S. Chow, A.Y. Gatovsky, A.W. Hunter, J.A. Talib & S. Kassa (2017)- Higher-resolution biostratigraphy for the Kinta Limestone and an implication for continuous sedimentation in the Paleo-Tethys, Western Belt of Peninsular Malaysia. Turkish J. Earth Sciences 26, p. 377-394.
(online at: http://journals.tubitak.gov.tr/earth/issues/yer-17-26-5/yer-26-5-3-1612-29.pdf)
(Kinta Limestone in C part of W Belt of Peninsular Malaysia (=Sibumasu terrane) extensively altered by diagenesis, making age determinations challenging. Three boreholes (total 360m) drilled at either end of Kinta Valley. Conodonts incl. Pseudopolygnathus triangulus and Declinognathodus noduliferus, indicate Late Devonian (Famennian)- Late Carboniferous (Bashkirian) age)

Tsegab, H., W.S. Chow & J.A. Talib (2017)- Lithostratigraphy of Paleozoic carbonates in the Kinta Valley, Peninsular Malaysia: analogue for Paleozoic successions. In: M. Awang et al. (eds.) Proc. Int. Conf. Integrated Petroleum Engineering and Geosciences (ICIPEG2016), Kuala Lumpur 2016, Springer Verlag, p. 559-567.
(W zone of Malay Peninsula (= Sibumasu terrane) with extensive Paleozoic carbonate sediments, incl. Kinta Limestone (Silurian-Permian))

Tsegab, H., Chow W. Sum & A.W. Hunter (2015)- Preservation of marine chemical signatures in Upper Devonian carbonates of Kinta Valley, Peninsular Malaysia: implications for chemostratigraphy. In: M. Awang et al. (eds.) Proc. ICIPEG 2014 Conf., Singapore, Springer, p. 291-302.

Ulfa, Y., M.H. Hafizzy & M. Farhan (2012)- Structural characteristics of the Semanggol Formation along the East-West Highway Route 67 Baling Area, Kedah, Malaysia. Eksplorium 33, 2, p. 83-96.
(online at: http://jurnal.batan.go.id/index.php/eksplorium/article/view/2659/2447)
(Structural deformation in 6 outcrops in Permian-Triassic Semanggol Fm in NW Malay Peninsula. Regional strike NE-SW, with most dips to SE)

Umor, M.R., A.A. Ghani, H. Mohamad, M.S. Leman, K. Zaw & A. Hussin (2011)- Re-evaluation of geochemical classification of the Western Belt, Central Belt and Eastern Belt granitoids, Malaysia Peninsular and their tectonic implications. Proc. Int. Conf. Geology, geotechnology and mineral resources of Indochina (GEOINDO 2011), Khon Kaen, p. 22-27.
(online at: http://home.kku.ac.th/geoindo2011/A1-1-116.pdf)
(Three granite belts in Peninsular Malaysia: W, C and E. W Belt mainly granites, mainly S-type, suggesting syncollision emplacement. C Belt granitoids mafic-intermediate and minor felsic rock, high-K calc-alkali to shoshonite, I-type and S-type granites in syn-collision setting. E Belt granitoids similar to C Belt granites but calc-alkali to high-K calc-alkali series, I-type granite affinity and classified as volcanic arc granite)

Vachard, D. (1990)- Fusulinoids, smaller foraminifera and pseudo-algae from southeastern Kelantan (Malaysia) and their biostratigraphic and paleogeographic value. In: H. Fontaine (ed.) Ten years of CCOP research on the Pre-Tertiary of East Asia, CCOP Tech. Publ. 20, p. 143-167.
(Eight Carboniferous- Permian fusulinid biozones in SE Kelantan. M Carboniferous with Pseudostaffella, Fusulinella, Beedeina, Ozawainella, etc.; Late Carboniferous- earliest Permian (Asselian- Sakmarian) not represented (= plant fossil interval?). Upper Lower Permian with Darvasites. Basal U Permian (Lower Murghabian) with Neoschwagerina simplex and Verbeekina verbeeki. U Murgabian- Midian with Yabeina, Lepidolina. Uppermost Permian with Colaniella media and Palaeofusulina bella. Faunas similar to E Tethys assemblages of S China, Japan, Vietnam, Thailand, etc.)

Van Bemmelen, R.W. (1940)- On the origin of some granites from Singapore. De Ingenieur in Nederlandsch-Indie (IV) 7, 2, p. 23-35.
(Description of granites that form core of Singapore island. Intrusive into clastic sediments with Triassic fossils. Mainly discussion on genesis of granites)

Van der Wal, J.L.N. (2015)- The structural evolution of the Bentong-Raub Zone and the Western Belt around Kuala Lumpur, Peninsular Malaysia. M.Sc. Thesis, University of Utrecht, p. 1-109.
(online at: http://dspace.library.uu.nl/handle/1874/316232)
(Four deformation phases in Bentong-Raub suture zone. D1: NE-SW shortening during accretionary wedge formation during N-ward subduction of PaleoTethys Ocean beneath Indochina, with greenschist facies metamorphism; D2: Deformation and burial-related sub-greenschist facies metamorphism of Triassic forearc basin; D3: Contact metamorphism in metasediments during intrusion of Triassic S-type Main Range Granites, followed by steep normal faulting; D4: strike-slip shearing in Paleogene, related to Eocene formation of offshore sedimentary basins due to Indian-Eurasian collision and subsequent CW rotation of SE Asia)

Webby, B.D., D. Wyatt & C. Burrett (1985)- Ordovician stromatoporoids from the Langkawi Islands, Malaysia. Alcheringa 9, 2, p. 159-166.
(Four species of labechiid stromatoporoids from ~1100m thick Ordovician Lower Setul Lst of Langkawi Island, including Labechia variabilis and Rosenella woyuensis. Reported previously from M Ordovician of N China and New South Wales)

Weir, J. (1925)- On some specimens of fossiliferous sandstone from Pahang, Malay Peninsula. Geol. Magazine 62, 8, p. 347-350.

(On Upper Triassic Myophoria Sst of Newton (1900, 1925) from Kuala Lipis, Pahang and Singapore. Several Myophoria spp., also poorly preserved Halobia)

Willbourn, E.S. (1917)- The Pahang Volcanic series. Geol. Magazine (VI), 4, 10, p. 447-462.
(Part 1 of 2 on Late Carboniferous- Permian andesitic Pahang Series of Malay Peninsula. Mainly developed in Pahang Province, also in Singapore, Johore, Negri Sembilan and Perak. Composed of andesitic and rhyolitic lavas, tuffs and porphyric intrusives. Associated with serpentinite, but relations not cleaar.)

Willbourn, E.S. (1917)- The Pahang Volcanic series. Geol. Magazine (VI), 4, 11, p. 503-514.
(Continuation of Willbourn (1917) paper above. Descriptions of andesitic and rhyolitic tuffs and breccias of Pahang Series. Comparison with 'Permo-Carboniferous' volcanic rocks of Guai Mts, S Sumatra shows differences. Majority of tuffs and lavas are interstratified with Raub shales, and fossil evidence proves that some of them are of Permian age, some Raub limestones possible Upper Carboniferous age)

Willbourn, E.S. (1922)- An account of the geology and mining industries of South Selangor and Negri Sembilan. Geological Department Federated Malay States, Kuala Lumpur, 115p.

Willbourn, E.S. (1925)- The volcanic rocks of the Malay Peninsula and a comparison with their equivalents in the surrounding regions. Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kol., Geol. Serie 8 (Gedenkboek Verbeek), p. 601-616.
(In Verbeek Memorial Volume. No maps. Includes chapter on comparison of Pahang volcanic series with Permo-Carboniferous volcanic rocks of Gumai Mts, S Sumatra, as described by Tobler 1912 (looks like the two are not very similar; JTvG))

Willbourn, E.S. (1936)- A short account of the geology of those tin-deposits of Kinta that are mined by alluvial methods. J. Engineering Assoc. Malaysia. 4, p. 255-264.

Wong, R.H.F. (1999)- Petroleum resources, Peninsular Malaysia. In: Petronas (1999) The petroleum geology and resources of Malaysia, p. 253-272.

Wong, P.K., F. Hassan & T.E. Yancey (1973)- Newly recognized structural and stratigraphic features in the eastern part of the Langkawi Islands, West Malaysia. Geol. Soc. Malaysia Newsletter 43, p. 5-10.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1973004.pdf)

Wongwanich, T., D. Wyatt, B. Stait & C Burrett (1983)- The Ordovician system in southern Thailand and northern Malaysia. In: P. Nutalaya (ed.) Proc. Workshop Stratigraphic correlation of Thailand and Malaysia, Haad Yai 1983, Geol. Soc. Thailand and Geol. Soc. Malaysia, p. 77-95.
(online at: https://gsmpubl.files.wordpress.com/2014/10/sctm_04.pdf)
(Ordovician sediments known from W and Peninsular Thailand, and in adjacent Langkawi Island off NW Malay Peninsula. Parts of (Shan-Tai/ Sibumasu Terrane. Oldest faunas of U Cambrian and E Ordovician ages)

Wyatt, D.J. (1983)- Lithostratigraphy and sedimentology of the Ordovician Lower Setul Limestone, Langkawi Islands, Malaysia. Thesis, University of Tasmania, p. 1-125.

Yaacub, S.N. & U. Said (2002)- Plant fossils from Bukit Belah, Batu Pahat, Johor. In: Geol. Soc. Malaysia Ann. Geol. Conf. 2002, Bull. Geol. Soc. Malaysia, 45, p. 287-292.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm2002044.pdf)
(Late Jurassic-Early Cretaceous plant fossils from 'post-orogenic' fluvial deposits in outcrop at Bukit Belah, Batu Pahat, Johor, S Malay Peninsula. Include Gleichenites (Gleichenoides) gagauensis, G. pantiensis, Ptilophyllum cf. pterophylloides and Otozamites gagauensis (similar to 'Gagau' and Ulu Endau floras described by Kon'no 1967, 1968, Smiley 1970 and Kon'no and Asama 1975))

Yanagida, J. & P.C. Aw (1979)- Upper Carboniferous, Permian and Triassic brachiopods from Kelantan, Malaysia. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 20, p. 119-141.

Yanagida, J. & S. Sakagami (1971)- Lower Carboniferous brachiopods from Sungei Lembing district, NW of Kuantan, Malaysia with a brief note on the bryozoans in association with brachiopods. Mem. Fac. Science Kyushu University, Ser. D (Geology), 21, p. 75-91. *(also in Geology and Palaeontology of SE Asia 11?)*
(Seven species of brachiopods from siltstones of Lower Carboniferous Calcareous Series of E Pahang. Assemblage strong affinity with M Visean fauna of Russian Central Asia and N America)

Yancey, T.E. (1972)- Devonian fossils from Pulau Rebak Besar, Langkawi Islands, West Malaysia. Geol. Soc. Malaysia Newsletter 37, p. 10-12.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1972005.pdf)
(Red mudstones below Singa Fm tilloid-bearing sediments yield uppermost Devonian marine fossils (Meor & Lee (2004) interpreted beds of nearby NW Peninsular Malaysia as Late Devonian- earliest Carboniferous))

Yancey, T.E. (1975)- Evidence against Devonian unconformity and Middle Paleozoic age of Langkawi folding phase in Northwest Malaya. American Assoc. Petrol. Geol. (AAPG) Bull. 59, 6, p. 1015-1019.
(No Devonian unconformity in NW Peninsular Malaysia/ Langkawi Islands. Age of Langkawi folding phase probably post-Early Permian and pre-Early Triassic (This is on Sibumasu Blocks and coincides with collision with E Malaya block; JTvG))

Yancey, T.E. (1985)- Bivalvia of the H.S. Lee Formation (Permian) of Malaysia. J. Paleontology 59, 5, p. 1286-1297.
(Bivalves of upper 15m of H.S. Lee Fm section at H.S. Lee No. 8 tin mine, Kinta Valley, 35km S of Ipoh, Perak, Malaysia, most diverse Permian (Artinskian) mollusc-dominated biota in Tethyan province. Bivalves dominated by giant clams of family Alatoconchidae. Also highly diverse bellerophontid and other gastropods. With Shikamaia perakensis, Saikraconcha, Prospondylus, Grammatodon obsoletiformis, Pernopecten, etc. One new genus Permartella with three new species)

Yap, F.L. (1986)- Age determination on the Kuantan granite and dolerite dykes. In: G.H. Teh & S. Paramananthan (eds.) Proc. 5th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA V), Kuala Lumpur 1984, 2, Bull. Geol. Soc. Malaysia 20, p. 415-422.
(Rb/Sr age of granite in Kuantan area (E coast Malay Peninsula) ~292 ±12 My (E Permian))

Yap, S.F. & U. Said (2002)- Palynological study on a rock sequence at Bandar Tenggara, Johore. GSM Annual Geological Conf. 2002, Kota Bharu, Bull. Geol. Soc. Malaysia 45, p. 185-189.
(online at: www.gsm.org.my/products/702001-100723-PDF.pdf)
(Outcrop of Tertiary sediments at Bandar Tenggara, Johore, ~45 km SE of Keluang, with plant fossils and rich palynomorph assemblage. Presence of Verrucatosporites usmensis, Spinizonocolpites baculatus, Alnipollenites, Psilatricolporites operculatus, etc., suggests Late Eocene V. usmensis zone. Fresh water algae Pediastrum sp., with Striatricolpites catatumbus, Stenochlaena, Laevigatosporites and Deltoidosporas, indicate freshwater swamp environment)

Yeap, C.H. (1980)- A comparative study of Peninsular Malaysia granits with special reference to tin mineralisation. Ph.D. Thesis, University of Malaya, Kuala Lumpur, p. 1-395. *(Unpublished)*

Yeap, E.B. (1979)- Primary mineralization of the Kuala Lumpur tin field, Selangor, Peninsular Malaysia. Ph.D. Thesis, University of Malaya, Kuala Lumpur, p. 1-300. *(Unpublished)*

Yeap, E.B. (1993)- Tin and gold mineralizations in peninsula Malaysia and their relationships to the tectonic development. In: B.K. Tan et al. (eds.) 7th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 329-348.

(Tin and gold mineralizations in Peninsular Malaysia several juxtaposed and overlapping belts. Tin deposits genetically related to Late Triassic S-type granites)

Yeap, E.B. (2000)- The prospects for hardrock gold and tin deposits in Malaysia. In: G.H. Teh et al. (ed.) Geol. Soc. Malaysia Ann. Geol. Conf. 2000, Pulau Pinang, p. 325-332.
(online at: https://gsmpubl.files.wordpress.com/2014/10/agc2000_46.pdf)
(Tin and gold mineralization in Peninsular Malaysia in parallel belts, related to tectonic setting. Sarawak and Sabah hosts to gold deposits related to magmatism. Primary tin deposits in two belts (W and E) of Peninsular Malaysia in aplite, cassiterite-magnetite skarn, cassiterite pegmatites, etc. Gold mineralization dominated by Mesozoic mesothermal veins in folded and partly metamorphosed Paleozoic-Triassic rocks. Primary gold mineralization in 4 distinct N-S belts. old mineralization in Bau, Sarawak, epithermal Au-Ag-As-Sb-Pb-S vein type, associated with Miocene dacitic intrusives. Sabah, gold commercially produced from Mamut Cu-Au porphyry deposit, genetically related to Kinabalu granodiorite-diorite)

IX.3. Thailand

Achache, J. & V. Courtillot (1985)- A preliminary Upper Triassic paleomagnetic pole for the Khorat plateau (Thailand): consequences for the accretion of Indochina against Eurasia. Earth Planetary Sci. Letters 73, 1, p. 147-157.
(Paleomagnetic results from U Triassic (Norian) Huai Hin Lat Fm at base of Khorat Group in C Thailand suggest this unit remained at tropical northern latitudes since Late Triassic. Comparison with Eurasian poles reveals 1650 ± 850 km of SW-NE convergence and 15° ± 10° of CCW rotation between 205-160 Ma (NB: results questioned by Opdyke and Chen and Coutillot 1989: results probably Cenozoic remagnetization)

Adachi, S., H. Igo, A. Ampornmaha & N. Nakornsri (1993)- Triassic coral buildups observed in the Chaiburi Formation near Phattalung, Peninsular Thailand. Annual Report Inst. Geoscience University of Tsukuba 19, p. 27-31.
(Small coral buildups up to 10m thick in upper part Phanomwand Limestone Mb of Chaiburi Fm near Phatthalung in S Thailand (on Sibumasu Terrane). Fauna dominated by sponges and Tubiphytes. With foram Ophthalmidium tori, suggesting Carnian age (Flugel, 2002))

Agematsu, S., K. Sashida, S. Salyapongse & A. Sardsud (2006)- Lower Devonian tentaculite bed in the Satun area, southern peninsular Thailand. J. Asian Earth Sci. 26, p. 605-611.
(Lower Devonian (Emsian) tentaculite fauna including Nowakia acuaria in black shale in basal part of siliciclastic sequence N of Satun, southern peninsular Thailand. Similar E Devonian black tentaculites shale present from N Thailand to NW Malaysia (Langkawi Islands and Mahang-Baling))

Agematsu, S., K. Sashida, S. Salyapongse & A. Sardsud (2006)- Ordovician-Silurian boundary graptolites of the Satun area, southern peninsular Thailand. Paleontological Research 10, 3, p. 207-214.
(online at: www.jstage.jst.go.jp/article/prpsj/10/3/207/_pdf)
(Black shale N of Satun, S Peninsular Thailand, lies upon Upper Ordovician limestone and rich in graptolites, including Normalograptus pseudovenustus, index species for interval around Ordovician-Silurian boundary)

Agematsu, S., K. Sashida, S. Salyapongse & A. Sardsud (2006)- Ordovician conodonts from the Thong Pha Phum area, western Thailand. J. Asian Earth Sci. 26, p. 49-60.
(Ordovician conodont biostratigraphy of ~500m thick limestones in Tha Manao Fm in W Thailand with four E-M Ordovician conodont zones: Juanognathus variaviris, Walliserodus comptus, Juanognathus jaanussoni–Histiodella holodentata and Plectodina onychodonta Zone. Faunas are similar to those from Midcontinent Province, N China, E Australia, and Argentina)

Agematsu, S., K. Sashida, S. Salyapongse & A. Sardsud (2006)- Lower and Middle Ordovician conodonts from the Thung Song and Thung Wa areas, southern peninsular Thailand. Paleontological Research 10, 3, p. 215-231.
(online at: https://www.jstage.jst.go.jp/article/prpsj/10/3/10_3_215/_pdf)
(15 species of E-M Ordovician (M Arenigian- E Caradocian) conodonts from Thung Song Gp in S Peninsular Thailand. Affinities with faunas in Australia, S China, Argentina and N America midcontinent)

Agematsu, S., K. Sashida, S. Salyapongse & A. Sardsud (2007)- Ordovician conodonts from the Satun area, Southern Peninsular Thailand. J. Paleontology 81, p. 19-37.
(Well-preserved U Ordovician conodonts from micritic limestone of Thung Song Gp in Satun area of S peninsular Thailand near Malaysian border. Faunas have N Atlantic Realm affinities, some of these faunas also reported from S China. Conodont-bearing limestone deposited on continental margin of NE Gondwana)

Agematsu, S., K. Sashida, S. Salyapongse & A. Sardsud (2008)- Early Ordovician conodonts from Tarutao Island, southern Peninsular Thailand. Palaeontology 51, 6, p. 1435-1453.
(online at: http://onlinelibrary.wiley.com/doi/10.1111/j.1475-4983.2008.00810.x/epdf)
(E Ordovician conodont faunas from E Tremadocian - M Arenig Thung Song Gp limestone (1000m thick) on SE Tarutao Island, SW side of Peninsular Thailand. 14 known and 8 undescribed species. Three zones: Rossodus

manitouensis, Utahconus tarutaoensis and Filodontus tenuis. Deposited on deeper shelf; S2 member limestone-shale shallow marine)

Agematsu, S., K. Sashida & A. Sardsud (2008)- Reinterpretation of Early and Middle Ordovician conodonts from the Thong Pha Phum area, western Thailand, in the context of new material from western and northern Thailand. Paleontological Research 12, 2, p. 181-195.
(E and M Ordovician conodonts Thong Pha Phum and Kanchanaburi areas in W Thailand and Li area in N Thailand. Two zones, Triangulodus larapintinensis and Aurilobodus leptosomatus. Two regression events in latest E Ordovician and earliest M Ordovician)

Agematsu, S., K. Sashida & A. Sardsud (2013)- A new Middle Ordovician conodont fauna from the Thong Pha Phum Area of Western Thailand. Paleontological Research (Palaeont. Soc. Japan) 17, 2, p. 179-188.
(New M Ordovician conodonts from Thong Pha Phum area, central W Thailand. Nine species, incl. first report of Eoplacognathus suecicus, Pygodus lunnensis, Protopanderodus calceatus, Protopanderodus cooperi, and P. graeai in Thailand, indicating cool-water fauna in W and in southern peninsular Thailand in M-L Ordovician)

Ahrendt, H., C. Chonglakmany, B.T. Hansen & D. Helmcke (1993)- Geochronological cross section through Northern Thailand. In: B.K. Tan et al. (eds.) 7th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 207-217.
(Isotopic age determinations in N Thailand, mainly S and SE of Chiang Mai. Zircons from crystalline basement W of Tak indicate maximum age of ~200 Ma for last amphibolite facies overprint instead of Precambrian. Tertiary K-Ar ages of ~30 Ma on mica from crystalline rocks interpreted as cooling ages, pointing to strong uplift in mid-Tertiary)

Ahrendt, H., B.T. Hansen, A. Lumjuan, A. Mickein & K. Wemmer (1997)- Tectonometamorphic evolution of NW Thailand deduced from U/Pb- Sm/Nd and K/Ar isotope investigations. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, p. 314-319.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1997/7641.pdf)
(U-Pb zircon analyses of gneisses of crystalline basement of NW Thailand show age of high-grade metamorphic event is ~197-202 Ma, suggesting no Precambrian metamorphic events and gneisses are not original basement of Paleozoic and Mesozoic strata. Younger high-grade overprints. K/Ar cooling ages around U Cretaceous (79-66 Ma) in W and Late Oligocene- E Miocene (25-18 Ma) in E, suggesting two-stage uplift. Two granite groups: Triassic and Tertiary cooling ages)

Aihara, K. K. Takemoto, H. Zaman, H. Inokuchi, D. Miura, A. Surinkum, A. Paiyarom et al. (2007)- Internal deformation of the Shan-Thai block inferred from paleomagnetism of Jurassic sedimentary rocks in Northern Thailand. J. Asian Earth Sci. 30, p. 530-541.
(Clockwise rotation of ~20° in S and N Shan-Thai block due to collision of India. Larger local internal CW deformation in central part of Shan-Tai block)

Ainsworth, B.R., M. Sanlung & S.T.C. Duivenvoorden (1999)- Correlation techniques, perforation strategies, and recovery factors; an integrated 3-D reservoir modelling study, Sirikit field, Thailand. American Assoc. Petrol. Geol. (AAPG) Bull. 83, p. 1535-1551.
(Sirikit oil field of Phitsanulok basin producing since 1982. 130 wells, oil-in-place >800 MMBO. Reservoirs mainly lacustrine mouth-bar and fluvial deposits. Discussion of lithostratigraphic vs. chronostratigraphic mouth-bar correlation techniques between adjacent wells)

Alderson, A., N.J.L. Bailey & A. Racey (1994)- Palynology and geochemistry of Mesozoic source rocks from southern Peninsula Thailand: implications for petroleum exploration. In: P. Angsuwathana et al. (eds.) Proc. Int. Symposium Stratigraphic correlation of Southeast Asia, Bangkok 1994, Dept. Mineral Resources and IGCP 306, p. 276-281.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1994/6953.pdf)

(Oil-prone Mesozoic source rock in fluvial-coastal deposits in Peninsular Thailand SE of Phuket. Presence of palynomorphs Callialisporites dampieri and Aequitriradites spinulosus suggest Early Cretaceous (?Late Jurassic) age. In correlative deposits also crocodiles, turtles, Estheria and plant fossils (Asama et al. 1981). For additional palynogy data see Lei Zuoqi (1993))

Almeras, Y. (1988)- Jurassic brachiopods from the Klo-Mae-Sot area. CCOP Techn. Bull. 20, p. 211-217.
(Descriptions of five rel. non-diagnostic E-M Jurassic rhynchonellids from Klo Tho, NW Thailand)

Altermann, W.W. (1986)- The Upper Palaeozoic pebbly mudstone facies of peninsular Thailand and western Malaysia- continental margin deposits of Palaeoeurasia. Geol. Rundschau 75, 2, p. 371-381.
(Questions the glacial origin of Carboniferous-Lower Permian 'pebbly mudstones' of Phuket Group/ Singha Fm of S Thailand/ NW Malaysia. See also comments by Stauffer & Lee 1986)

Altermann, W.W. (1989)- The Permo-Carboniferous facies development in Thailand: a plate-tectonic discussion. Compte Rendu 11th Congres Int. Stratigraphie Geologie du Carbonifere, Beijing 1987, 4, p. 119-126.
(online at: http://epub.ub.uni-muenchen.de/5586/1/5586.pdf)
(N-S trending pelagic basin separated Shan Thai and Indosinia cratons in Carboniferous- Permian. Deposition of ribbon cherts from pre-Asselian- Kubergandian. M Permian flysch sedimentation. Basin was E-vergent, isoclinally folded and overthrusted. Parts of basin metamorphosed into greenschist facies. In E margin Kubergandian- Midian molasse deposited from new rising fold belt. Total width of basin <200 km. Folding affected marginal marine basin and was caused by W-directed subduction under volcanic arc. W of arc, pebbly mudstones deposited on trench slope or continental margin of Paleoeurasia. Deposition of mixtites continued through Carboniferous- Lower Permian and came to end with uplift of Shan-Thai Craton and onset of subduction under Petchabun marginal basin. Subduction W of area of pebbly mudstones and directed to E)

Altermann, W.W. (1989)- Facies development in the Permian Phetchabun Basin, Central Thailand. Verlag Wissenschaft und Bildung, Berlin, p. 1-234.
(online at: https://epub.ub.uni-muenchen.de/5585/1/5585(1).pdf)
(Part I on N-S trending Permian Phetchapun Basin (E of Sukhothai, W of Loei) separates Shan Tai craton (Sibumasu) in W from Indochina craton in E. E-M Permian overall coarsening-upward cycle: Early Permian mainly pelagic deposits with ribbon cherts. M Permian flysch sedimentation, with molasse deposits in E margin. Tectonic interpretation is folded marginal marine basin, with folding caused by W-directed subduction (A-subduction) under volcanic arc. Part II on pebbly mudstones in Peninsular Thailand and W Malaysia)

Altermann, W.W. (1991)- New Permo-Carboniferous geochemical data from central Thailand: implication for a volcanic arc model. Palaeogeogr. Palaeoclim. Palaeoecology 87, p. 191-210.
(On implications for SE Asia geotectonic reconstructions of new data on Late Carboniferous- M Permian quartz- keratophyric to spilitic volcanics from C Thailand. Volcanic rocks associated with platform carbonates and deep basin sediments suggest Late Paleozoic volcanic arc and subduction zone in West)

Ampaiwan, T., P. Churasiri & C. Kunwasi (2003)- Palynology of coal-bearing units in the Mae Ramat Basin, Tak Province, Northern Thailand: implications for the paleoclimate and the paleoenvironment. Natural History J. Chulalongkorn University 3, 2, p. 19-40.
(online at: http://www.thaiscience.info/journals/Article/NHCU/10439719.pdf)
(Palynology of lacustrine shale core from Mae Ramat Basin. Exact age of sequence cannot be assigned, but was deduced from paleoclimate and time ranges of fossils as E Miocene)

Ampaiwan, T., K.I. Hisada & P. Charusiri (2009)- Lower Permian glacially influenced deposits in Phuket and adjacent islands, peninsular Thailand. Island Arc 18, 1, p. 52-68.
(Dropstones and dump structures from E Permian (Asselian- Lower Sakmarian) diamictite-bearing sequence at Phuket and adjacent islands suggests sediments originated as glaciomarine (Basal Ko Sire Fm, up to 400m thick) and debris-flow deposits (Ko He Fm; ~400m thick). Diamictite clasts 70% quartzite, remainder granite/

gneiss, shale, carbonate, vein quartz and diamictite. Evidence of glacially influenced environment supports paleogeographic interpretation of Sibumasu block at NW Australian margin of Gondwana)

Ampornmaha, A. (1995)- Triassic carbonate rocks in the Phattalung area, Peninsular Thailand. J. Southeast Asian Earth Sci. 11, 3, p. 225-236.
(Carbonates near Phatthalung and others areas in Peninsular Thailand known as Permian Rat Buri Lst, but of Triassic age and here renamed Chaiburi Fm. Three members: (1) basal Dienerian- Smithian dolomite with conodonts Neospathodus kummeli, N. waageni, etc.; (2) bedded limestone with thin chert layers and nodules with latest Spathian- M Anisian Neospathodus timorensis, N. kockeli and Neogondolella bulgarica; (3) Carnian massive limestone with coral buildups)

Anderson, K. (2017)- Pennsylvanian- Early Permian Pha Nok Khao platform margin evolution and paleoecology of carbonate buildups, Loei-Phetchabun foldbelt, NE Thailand. Ph.D. Thesis University of Western Australia, Perth, p. 1-271.
(online at: http://research-repository.uwa.edu.au/files/16863899/THESIS_DOCTOR_OF_PHILOSOPHY_ANDERSON_Kaylee_Dawn_2017_Part_1.pdf)

Aranyakanon, P. (1955)- Diamond discovery in Phangnga and Phuket, South Thailand. Royal Department of Mines, Bangkok, Report of Investigation 1, p. 35-36.
(Diamonds present in tailings at dredgings at Phuket Tin Dredging and Kamunting Tin Dredging. Originate either from conglomerates of Phuket Series or pegmatitie dikes in tin granites. No ultrabasic rocks nearby)

Aranyakanon, P. (1961)- The cassiterite deposit of Haad Som Pan Ranong Province, Thailand. Ph.D. Thesis University of Durham 1960, Dept. Mineral Resources, Bangkok, p. 1-182.
(online at: http://library.dmr.go.th/library/DMR_Technical_Reports/1961/883.pdf)

Aranyakanon, P. (1969)- Tin deposits in Thailand. In: Second Technical Conf. on Tin, Bangkok 1969, 1, p. 83-102.
(online at: http://library.dmr.go.th/library/DMR_Technical_Reports/1980/5551.pdf)

Aranyakanon, P., W. Jantaranipa, P. Vichit & P. Suthakorn (1976)- Tin exploration in the Adang-Rawee Archipelago area, Satun Province, southern Thailand. Dept. Mineral Resources, Economic Geology Spec. Issue 2, Bangkok, p. 143-161.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/1980/5554.pdf)
(Results of 1972-1974 survey for tin, off W coast of Satun, ~170km SE of Phuket. Most core holes did not reach likely tin placers)

Aranyakanon, P. & C. Nilkuha (1955)- Radioactive minerals from Tin and Tungsten mines in Thailand. Royal Dept. of Mines, Bangkok, Report of. Investigation 1, p. 41-47.
(Monazite present at several localities in Thailand, but rel. small occurrences. No Uranium)

Aranyakanon, P. & P. Vichit (1983)- The gem deposits of Thailand. In: Proc. Conf. Geology and Mineral Resources of Thailand, Bangkok, p. 280-290.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1983/10601.pdf)
(Main gems of Thailand are ruby and sapphire. Deposits common in N, NE, SE and W-C part of country, mostly in alluvial deposits associated with basalt flows)

Arboit, F., K. Amrouch, A.S. Collins, R. King & C. Morley (2015)- Determination of the tectonic evolution from fractures, faults, and calcite twins on the southwestern margin of the Indochina Block. Tectonics 34, 8, p. 1576-1599.
(Analyses of fractures, striated faults in Permian carbonates of Khao Khwang Fold-Thrust Belt in C Thailand. Five tectonic stages; first three predate main Indosinian deformation event, later two stages after or during, the

main folding (N-S compression) and Cenozoic E-W composite strike-slip/contractional stage, related to India-Asia collision)

Arboit, F., K. Amrouch, C.K. Morley, A.S. Collins & R. King (2017)- Palaeostress magnitudes in the Khao Khwang fold-thrust belt, new insights into the tectonic evolution of the Indosinian orogeny in central Thailand. Tectonophysics 710-711, p. 266-276.
(Calcite twinning analysis in Khao Khwang fold-thrust belt in Saraburi Province, C Thailand, to quantify palaeostresses magnitudes since onset of Indosinian orogeny. Foldbelt located on SW margin of Indochina Block. M Permian structural regime likely dominated by foreland flexure or extension due to back-arc rifting. Thrusting/folding in KKFTB began in E Triassic. Possibly later reactivation coeval with phase of fold tightening in Late Triassic after Sibumasu-Indochina collision. Maximum depositional ages of syntectonic sediments in foredeep 251 ± 3 Ma, and foreland 205 ± 6 Ma)

Arboit, F., A.S. Collins, R. King, C.K. Morley & R. Hansberry (2014)- Structure of the Sibumasu-Indochina collision, central Thailand: a section through the Khao Khwang Fold and thrust belt. J. Asian Earth Sci. 95, p. 182-191.
(Triassic Indosinian orogeny in Thailand often interpreted without considering tectonic evolution of portion of Indochina Block margin formed by Khao Khwang Platform area of Saraburi Group, C Thailand. Area represents thin-skinned fold-thrust belt with several large thrusts dominantly ~N-propagating deformation in Triassic. Foldbelt represents significant kink in collision between Sibumasu and Indochina)

Arboit, F., A.S. Collins, C.K. Morley & K. Amrouch (2016)- Detrital zircon analysis of the southwest Indochina terrane, central Thailand: unravelling the Indosinian orogeny. Geol. Soc. America (GSA) Bull. 128, 5-6, p. 1024-1043.
(Zircon age assemblages from Khao Khwang fold-thrust belt of C Thailand with common age peak at ~450 Ma (Late Ordovician). Samples also grains of 0.2-0.3, 0.4-0.6, 1.0-1.3, 1.7-1.8 and 2.2-2.7 Ga. Probable sediment sources Indochina basement and/or continental crust in terranes amalgamated to Indochina at that time. Detrital zircons as young as 205± 6 Ma show parts of Saraburi Gp no older than Late Triassic. Propose depositional model of Permian rift or passive margin setting that evolved into piggyback and foredeep basins during folding-thrusting in Triassic)

Arboit, F., A.S. Collins, C.K. Morley, F. Jourdan, R. King, J. Foden & K. Amrouch (2016)- Geochronological and geochemical study of mafic and intermediate dykes from the Khao Khwang fold-thrust belt: implications for petrogenesis and tectonic evolution. Gondwana Research 36, p. 111-128.
(Late Permian- Late Triassic dyke swarms in Khao Khwang fold-thrust belt at SW margin of Indochina Terrane in C Thailand. Three groups. Mafic dykes share geochemical characteristics with Chiang Khong volcanic suite in Sukhothai terrane and Loei volcanic belt in N Indochina and likely emplaced in similar orogenic setting. Group III rocks intruded from E Triassic (255± 6 Ma) to Late Triassic (207± 2 Ma), and probably sourced from more crustally contaminated magma)

Archbold, N.W. (1999)- Additional records of Permian brachiopods from near Rat Buri, Thailand. Proc. Royal Soc. Victoria 111, p. 71-86.
(Permian brachiopods from Ratburi Lst of NE Peninsular Thailand, which overlies Phuket Gp 'pebbly mudstones'. Referred to Ufimian (=Roadian) stage)

Arsairai, B. (2014)- Depositional environment and petroleum source rock potential of the Late Triassic Huai Hin Lat Formation, Northeastern Thailand. Doct. Engin. Thesis, Sunaree University of Technology, p. 1-310.
(online at: http://sutir.sut.ac.th:8080/sutir/bitstream/123456789/5758/1/Fulltext.pdf)
(Organic-rich shales of Late Triassic Huai Hin Lat Fm in Sap Phlu and Na Pho Song basins include excellent gas source rocks)

Arsairai, B., A. Wannakomol, Q. Feng & C. Chonglakmani (2016)- Paleoproductivity and paleoredox condition of the Huai Hin Lat Formation in northeastern Thailand. J. Earth Science (China) 27, 3, p. 350-364.
(online at: http://en.earth-science.net/PDF/20160612012847.pdf)

(Lacustrine facies of Late Triassic Huai Hin Lat Fm at Khorat Plateau of NE Thailand believed to be one of main source rocks of gas. Organic matter mainly of AOM and acritarchs, with TOC of 2-7%. Mainly Type I and II kerogens with some Type III as indicated by phytoclasts, spores, and pollen)

Asama, K. (1966)- Permian plants from Phetchabun, Thailand and problems of floral migration from Gondwanaland. Bull. Nat. Science Museum, Tokyo, 9, p. 171-211. *(in Japanese?)*
(Re-evalution of Permian floras of Phetchabun(Indochina Plate), described by Kon'no (1964) as Cathaysian with Gondwanan elements Glossopteris and Paleovittaria. Asama interpreted only Cathaysian flora, suggesting similarities to Jambi flora of SW Sumatra)

Asama, K. (1966)- Permian plants from Phetchabun, Thailand and problems of floral migration from Gondwanaland. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 2, p. 197-244.
(Re-evalution of Permian floras of Phetchabun, described by Kon'no (1964) as Cathaysian with Gondwanan elements Glossopteris and Paleovittaria. Asama interpreted only Cathaysian flora. Similarities to Jambi flora of SW Sumatra (6 genera (but no species?) in common, incl. Sphenophyllum, Alethopteris, Pecopteris, Taeniopteris, Cordaites. With discussion on Permo-Carboniferous floral provinces)

Asama, K. (1973)- Some younger Mesozoic plants from the Lom Sak Formation, Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 13, p. 39-46.
(Plant fossils from C Thailand identified as Sequoia ambigua and Pterophyllum sp., interpreted to be probably of Cretaceous age (but vertebrate fossils suggest Late Triassic age of rocks; Buffetaut et al., 1984))

Asama, K (1982)- *Araucarioxylon* from Khorat, Thailand. In: T. Kobayashi (ed.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press 23, p. 57-64.

Asama, K, J. Iwai, M. Veeraburus & A. Hongnusonthi (1968)- Permian plants from Loei, Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 4, p. 82-99.
(Typical Gigantopteris flora in continental facies U Permian of Loei area, NNE ofPhetchabun, NE Thailand (= W margin Indochina terrane). 16 species of Sphenophyllum, Pecopteris, Bicoemplectopteris, Gigantonuclea, Taeniopteris, etc. (but no Gigantopteris) (more locality information in Iwai et al. 1966))

Asama, K, N. Nakornsri, C. Hinthong & S. Sinsakul (1981)- Some younger Mesozoic plants from Trang, southern Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 22, p. 35-47.
(Probably E Cretaceous-age plant fossils of Filicales, Bennettales and Coniferales groups from Peninsular Thailand, SE of Phuket)

Asnachinda, P. & S. Pitragool (1978)- Review of non-metallic mineral deposits of Thailand. In: P. Nutalya (ed.) Proc. 3rd Regional Conf. Geology and Mineral Resources of SE Asia (GEOSEA III), Bangkok, p. 795-804.

Assavapatchara, S., P. Charusiri, V. Chutakositkanon, K. Hisada & K. Ueno (2006)- On the lithostratigraphy of Permian rocks in Thailand: implications for depositional environments and tectonic settings. J. Geol. Soc. Thailand 1, p. 27-48.
(online at: www.eatgru.sc.chula.ac.th/Thai/research/pdf/paper/70.pdf)
(Review of limestone-dominated Permian sections in Thailand)

Assavapatchara, S. & L. Raksaskulwong (2010)- Geologic investigation at Paklay- Kenthao area, Lao PDR. In: P. Puncharoen (ed.) Proc.Thai-Lao Techn. Conf. on Geology Mineral Resources, Bangkok, p. 197-217.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2010/25987.pdf)
(Correlation of Silurian-Cretaceous stratigraphy between Paklay- Kenthao area in Laos and Loei-Phitsunulok-Uttaradit region of N Thailand. No maps)

Assavarittiprom, V., B. Chaisilboon & S. Polachan (1995)- Review on petroleum exploration in Northeastern Thailand. Proc. Int. Conf. Geology Geotechnology and Mineral Resources of Indochina (GEO-INDO '95), Kon Khaen, p. 541-550.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1995/7459.pdf)
(First exploration well in Khorat Plateau drilled by Unocal in 1971 (dry). Esso drilled 13 wells in 1982- 1990, mainly dry holes, but 1981 gas discovery at Nam Phong (developed in late 1990's). Seven more wells drilled in 1991-1994, also mainly dry. Still remaining potential in Permian and Triassic sequences)

Atherton M.P., M.S Brotherton & C. Mahawat (1992)- Integrated chemistry, textures, phase relations and modelling of a composite granodioritic-monzonitic batholith, Tak, Thailand. J. Southeast Asian Earth Sci. 7, p. 89-112.

Baird, A. (1992)- The sedimentology and diagenesis of the Ratburi Limestone, northern peninsular Thailand. Ph.D. Thesis Royal Holloway and Bedford New College, University of London, p. 1-318. *(Unpublished)*

Baird, A. & D. Bosence (1993)- The sedimentological and diagenetic evolution of the Ratburi Limestone, Peninsular Thailand. In: B.K. Tan et al. (eds.) 7th Reg. Congress Geology, Mineral and Energy Res. SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 173-180.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1993/7599.pdf)
(Ratburi Lst in Peninsular Thailand is warm-water carbonate deposit in platform setting, suggesting that after deposition of glacial pebbly mudstones in rift setting in earliest Permian, the Shan Thai (=Sibumasu) craton moved to lower latitudes by late M- early Late Permian. Platform topography and facies distribution controlled by extensional tectonics. Early dolomitisation, followed by karstification, in response to uplift of Late Permian Indosinian orogeny. Petroleum potential from long karst history (Late Permian- present day) and source potential of platform carbonate mudstone. E-dipping subduction of Indian Ocean Plate resulted in granite magmatism in peninsula during Cretaceous)

Baird, A., O. Dawson & D. Vachard (1993)- New data on biostratigraphy of the Permian Ratburi limestone from north peninsular Thailand. In: T. Thanasuthipitak (ed.) Proc. Int. Symposium Biostratigraphy of mainland Southeast Asia: facies & paleontology (BIOSEA), Chiang Mai 1993, Chiang Mai University, 2, p. 243-260.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1993/6790.pdf)
(Ratburi Lst of Peninsular Thailand deposited on broad carbonate platform that covered Shan-Tai (Sibumasu) Terrane. With rel. low diversity fusulinid forams (Nankinella, Staffella, Eopolydiexodina afghanensis and rare Parafusulina, Pseudofusulina, Chusenella), typical hemigordiopsid small forams (Hemigordius reicheli, Hemigordiopsis renzi, Baisalina, Shanita amosi) and Sphairionia sikuoides, suggesting age range of late Murgabian- Midian (late M- early Late Permian))

Bal, A.A., H.M. Burgisser, D.K. Harris, M.A. Herber, S.M. Rigby, S. Thumprasertwong & F.J. Winkler (1992)- The Tertiary Phitsanulok lacustrine basin, Thailand. In: Proc. Conf. Geological resources of Thailand: potential for future development, Dept. Mineral Resources, Bangkok 1992, p. 247-258.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1992/6223.pdf)
(Phitsanulok basin N-S intra-cratonic rift formed by E-W extension related to India- Asia collision. Located in zone between Shan-Tai and Indochina cratonic plates. Early extension Late Oligocene- E Miocene, followed by later transpressional phase with basic volcanism. Basin center is Sukhothai depression, with 8 km of alluvial-lacustrine sediments)

Barber, A.J., M.F. Ridd & M.J. Crow (2011)- The origin, movement and assembly of the pre-Tertiary tectonic units of Thailand. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, p. 507-537.

Barr, S.M. & P. Charusiri (2011)- Volcanic rocks. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, p. 415-439.

(Widely distributed volcanic rocks in Thailand, from five Late Paleozoic- Mesozoic belts in Sukhothai and Phetchabun foldbelts to more widely scattered Late Cenozoic basaltic volcanism. Radiometric dating of young basalts is difficult)

Barr, S.M. & M.A. Cooper (2013)- Late Cenozoic basalt and gabbro in the subsurface in the Phetchabun Basin, Thailand: implications for the Southeast Asian Volcanic Province. J. Asian Earth Sci. 76, p. 169-184.
(Fragments of basaltic and gabbroic rocks in cuttings from exploration wells in Na Sanun area, Phetchabun Basin, C Thailand, represent flows and sills in lacustrine and fluvial sediments of E-M-Miocene Wichian Buri Group. Basaltic flows ages of ~2, 16, 18 and 24 Ma, and within-plate tholeiitic-alkalic characteristics)

Barr, S.M. & D.E. James (1990)- Trace element characteristics of Upper Cenozoic basaltic rocks of Thailand, Kampuchea and Vietnam. J. Southeast Asian Earth Sci. 4, p. 233-242.
(U Cenozoic basaltic rocks of SE Asia classified as nephelinite, basanite, trachybasalt, alkali basalt, basaltic trachyandesite, etc. Classified as continental (within-plate) alkalic or tholeiitic volcanics)

Barr, S.M. & A.S. MacDonald (1978)- Geochemistry and petrogenesis of Late Cenozoic alkaline basalts of Thailand. Bull. Geol. Soc. Malaysia 10, p. 25-52.
(online at: www.gsm.org.my/products/702001-101285-PDF.pdf)
(Pleistocene(?) basalts of Thailand small plugs, vents and flows. Part of large NW-SE trending alkaline basalt province through Thailand, Cambodia, Laos, Vietnam, increasing in volume to SE. Thai basalts mainly in two groups: basanitoid (formed by partial melting in mantle at high P, followed by rapid ascent; with gem-quality corundum and zircon) and hawaiitic.Also rare tholiitic basalts. Possibly related to rifting of S China Sea and associated basins (unlikely?; JTvG))

Barr, S.M. & A.S. MacDonald (1987)- Nan River suture zone, northern Thailand. Geology 15, p. 907-910.
(Nan River suture zone in N Central Thailand is belt of ophiolitic mafic- ultramafic rocks and Pha Som Gp metasedimentary rocks (epidote-crossite blueschists), probably pre-Permian in age. Nan River belt part of (Paleotethys) suture between Indosinian and Shan-Thai cratonic blocks)

Barr, S.M. & A.S. MacDonald (1991)- Toward a late Palaeozoic-early Mesozoic tectonic model for Thailand. J. Thai Geosciences 1, p. 11-22.
(Sukhothai terrane, located between Shan-Thai and Indochina, accreted to Indochina in M Permian, while Shan-Thai followed in Late Triassic)

Barr, S.M., A.S. Macdonald, D.R. Dunning & W. Yaowanoiyothin (1993)- The Doi-Inthanon metamorphic core complex in NW Thailand: age and tectonic significance. In: B.K. Tan et al. (eds.) 7th Reg. Congress Geology Mineral and Energy Resources of SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 117-125.
(Doi Inthanon complex in belt of high-grade gneissic rocks along W mountain ranges of Thailand. Dome-shaped orthogneissic core, mantled by mylonitic paragneisses, separated by detachment surfaces from cover of mainly E Paleozoic low-grade to unmetamorphosed sediments. Zircon from core orthogneiss suggests derivation from Late Triassic- E Jurassic granitic protolith, with high-grade metamorphism in Late Cretaceous. Development of complex between Late Cretaceous and Miocene, in response to major crustal thinning)

Barr, S.M., A.S. Macdonald, D.R. Dunning, P. Ounchanum & W.Yaowanoiyothin (2000)- Petrochemistry, U-Pb (zircon) age, and paleotectonic setting of the Lampang volcanic belt, northern Thailand. J. Geol. Soc. London 157, p. 553-563.
(Two NE-trending belts of subaerial dacitic-rhyolitic flows and tuffs nearLampang, N Thailand. Rhyolite from Doi Luang belt yielded U-Pb zircon age of 240 Ma (M-Triassic). Lampang volcanic belt can be traced to N into Lincang-Jinghong volcanic belt in S China, and formed at M-Triassic convergent plate margin. Data constrain timing of final amalgamation between Indochina- Shan-Thai terranes to M Triassic or younger)

Barr, S.M., A.S. MacDonald, N.S. Haile & P.H. Reynolds (1976)- Paleomagnetism and age of the Lampang basalt (northern Thailand) and the age of the underlying pebble tools. J. Geol. Soc. Thailand 2, 1, p. 1-10.

(online at: http://library.dmr.go.th/Document/J-Index/1976/36.pdf)
(Quaternary Lampang basalt flows in area of ~200 km2 in NW Thailand. Overlie gravels with Early Paleolithic pebble tools. Reversed-to-normal magnetic polarity change recorded within basalt series, probably Matuyama-Brunhes boundary of 0.69 Ma (now assumed to be closer to 0.78 Ma; JTvG). Pebble tools must be older)

Barr, S.M., A.S. Macdonald, B.V. Miller, R. Reynolds, B.P. Rhodes & B. Yokart (2002)- New U- Pb and 40Ar/39Ar Ages from the Doi Inthanon and Doi Suthep metamorphic core complexes, Northwestern Thailand. In: N. Mantajit (ed.) Proc. Symposium on Geology of Thailand, Bangkok 2002, Dept. Mineral Resources, p. 284-294.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2002/6405.pdf)
(Fission Track ages of extensional metamorphic core complexes in gneiss belt of NW Thailand (W of Chiang Mai) show mainly E Miocene (21-16 Ma) exhumation/ uplift/ cooling ages of Doi Inthanon complex, suggesting response to indentation of SE Asia by India. Zircon dates of ~200-212 Ma from gneiss regarded as igneous protolith ages))

Barr, S.M., A.S. Macdonald, P. Ounchanum & M.A. Hamilton (2006)- Age, tectonic setting and regional implications of the Chiang Khong volcanic suite, northern Thailand. J. Geol. Soc. London 163, p. 1037-1046.
(NE part of Tak-Chiang Khong volcanic belt in Sukhothai terrane of N Thailand mainly subaerial andesitic-rhyolitic tuffs, with Triassic U-Pb zircon age of 233 Ma (Carnian). Suite correlated with ~240 Ma Lampang volcanics to SW in Tak-Chiang Khong belt, and Lincang-Jinghong belt in Yunnan (W Simao block). Correlations support placement of Paleo-Tethys suture to W of Sukhothai terrane (see also Srichan et al 2009))

Barr, S.M., A.S. Macdonald & W. Yaowanoiyothin (1985)- Occurrence of blueschist in the Nan River mafic-ultramafic belt, northern Thailand. Warta Geologi (Newsl. Geol. Soc. Malaysia) 11, 2, p. 47-50.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1985002.pdf)
(Doi Phuk Sung area, Nan Province, N Thailand with crossite schists (blueschists), associated with metagabbro, hornblendite, pyroxenite, garnet amphibolite, and serpentinite in sequence of SSW-dipping sheet-like units, which may have been repeated by thrusting)

Barr, S.M., C. Tantisukrit, W. Yaowanoiyothin & A.S. Macdonald (1990)- Petrology and tectonic implications of Upper Palaeozoic volcanic rocks of the Chiang Mai belt, northern Thailand. J. Southeast Asian Earth Sci. 4, p. 37-47.
(Chiang Mai volcanics in N-C Thailand small areas of basaltic volcanic rocks in Permo-Carboniferous sediment sequences. No apparent relationship to plate margin (subduction) environment)

Bassoulet, J.P. (1988)- Preliminary note on some Jurassic microfossils (foraminifers, algae) from Thailand. In: H. Fontaine & V.Suteethorn (eds.) Late Paleozoic and Mesozoic fossils of West Thailand and their environments, Comm. Co-Ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Bangkok, Techn. Bull. 20, p. 142-151.
(Marine Jurassic rel. widespread in N, W and NW Thailand M Jurassic Kanchanaburi Lst platform facies already described by Kemper (1976), with new species of foraminifera Lucasella and Haurania. Other species present include Gutnicella kaempferi, G. parva, Mesoendothyra, Timidonella sarda and dasyclad alga Holosporella siamensis Von Pia)

Bassoulet, J.P. (1994)- *Bosniella fontainei* nov. sp. (Foraminifere, Biokovinidae) du Jurassique moyen de Thailande. Geobios 27, 4, p. 403-411.
('Bosniella fontainei nov. sp. (Foraminifera, Biokovinidae) from the Middle Jurassic of Thailand'. New small benthic foram species from M Jurassic carbonate platform facies in Kanchanaburi Province near Myanmar border in NW Thailand. Associated with bivalve Parvamussium donaiense and foram Timidonella sarda (age probably Late Toarcian- Aalenian; Fontaine et al. 2009))

Bastin, H., E. Braun, A. Hess, K.E. Koch, V. Stein, D. Stoppel & R. Wolfart (1970)- Silurian and Early Devonian biostratigraphy in northwestern Thailand. Newsletters Stratigraphy 1, 2, p. 25-32.

(Silurian and E Devonian graptolites from Paleotethys suture zone melange between Shan-Tai (=Sibumasu) and Indochina terranes)

Baum, F. & K.E. Koch (1968)- Ein Beitrag zur stratigraphischen Neuordnung des Palaozoikums in Sud-Thailand. Geol. Jahrbuch 86, p. 879-884.
('A contribution to the stratigraphic revision of the Paleozoic of Thailand'. Incl. occurrences of E Devonian graptolites Monograptus spp.)

Baum, F., E. von Braun, A. Hess, K.E. Koch, G. Kruse, H. Quarch & M. Siebenhuner (1970)- On the geology of northern Thailand. Beihefte Geol. Jahrbuch, Heft 102, p. 1-23.
(Review of 1966-1968 work on Geologic Map of N Thailand by German Geological Mission. Summary of Precambrian- ?Jurassic stratigraphy. Precambrian gneiss overlain by ~500m Cambrian quartzites, ~100m Ordovician limestone, 500m Silurian- Devonian shale, sand and limestones. Lower Carboniferousin flysch facies, U Carboniferous intermediate volcanic and igneous rocks, Permian clastics and several 100m thick reefal limestones, etc.)

Beauvais, L. (1988)- Jurassic corals and coral-bearing limestones of Thailand and Burma. Comm. Co-Ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Bangkok, Techn. Bull. 20, p. 152-203.
(Lower, Middle and Upper Jurassic limestones present in Thailand, but no true coral reef limestones; mainly of microbial origin. Corals from 4 levels, incl. Montlivaltia numismalis. Jurassic microfacies of Thailand and Sumatra similar but not identical. Incl. rare calcisponge Cladocoropsis miriabilis and algae Salpingoporella pygmaea at Pa La Tha, S of Umphang, Tak Province, W Thailand (Sibumasu Block))

Beauvais, L. (1988)- Revision of the corals from the Kamawkala Limestone (Burmo-Thai frontier) described in 1930 by J.W. Gregory. In: H. Fontaine & V.Suteethorn (eds.) Late Paleozoic and Mesozoic fossils of West Thailand and their environments, Comm. Co-Ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Bangkok, Techn. Bull. 20, p. 204-210.
(Fossils from Kamawkala Lst in Thai- Myanmar border area previously interpreted as probale Triassic, but corals here re-identified as Thalamocoenia, Stereocoenia, Stylosmilia, etc. are M-L Jurassic taxa)

Beauvais, L. & H. Fontaine (1993)- *Montlivaltia numismalis* (DôOrbigny): a Middle Jurassic coral newly found in west Thailand. In: T. Thanasuthipitak (ed.) Proc. Int. Symp. Biostratigraphy of mainland Southeast Asia: facies and paleontology (BIOSEA), Chiang Mai 1993, 1, p. 63-70.
(Scleractinian coral species Montlivaltia numismalis in black shale S of Mae Sot, W Thailand. Well known from Bathonian (M Jurassic) of Europe (also known from Timor, Seram. Bangka, etc. and usually assigned Late Triassic age?))

Beckinsale, R.D., S. Suensilpong, S. Nakapadungrat & J.N. Walsh (1979)- Geochronology and geochemistry of granite magmatism in Thailand in relation to a plate tectonic model. J. Geol. Soc., London, 136, p. 529-537.
(Rb-Sr ages of granites in Thailand suggest phases at ~240 Ma (Lower Triassic), ~210 Ma (U Triassic), ~130 Ma (Lower Cretaceous) and ~90 Ma (U Cretaceous). K-Ar ages for mica separates commonly grossly discordant (up to 150 Ma younger than corresponding Rb-Sr whole rock age). Grouped into I-types or S-types, related respectively to subduction of oceanic lithosphere and continent-continent or continent-magmatic arc collisions. Major tin deposits of Thailand associated with Triassic and M Cretaceous S-type granites)

Benammi, M., Y. Chaimanee, J.J. Jaeger, V. Suteethorn & S. Ducrocq (1999)- Paleontology and magnetostratigraphy of the Eocene Krabi basin (Southern Thailand). In: G.H. Teh (ed.) Proc. 9th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA ô98), Kuala Lumpur 1998, Bull. Geol. Soc. Malaysia 43, p. 545-553.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1999055.pdf)
(Eocene Krabi basin in Peninsular Thailand with 6 reptile genera and 31 mammal species. Nearly all vertebrates from lignite levels, indicating tropical climate. Mammal fauna can be related to Late Eocene and/or E Oligocene forms from Europe, N Africa and Asia. Proposed age for mammal fauna Late Eocene (~37-34 Ma). Paleomagnetic work suggests probable correlation for Krabi section with chron C13r (33.5-34.7 Ma))

Benammi, M., Y. Chaimanee, J.J. Jaeger, V. Suteethorn & S. Ducrocq (2001)- Eocene Krabi basin (southern Thailand): paleontology and magnetostratigraphy. Geol. Soc. America (GSA) Bull. 113, 2, p. 265-273.
(Krabi section from Krabi basin ~105 m of siltstones, sandstones, claystones, lignites, and limestones. Mammalian biostratigraphy indicates Late Eocene age, but correlation of magnetostratigraphy to Geomagnetic Polarity Time Scale suggests age of section between 31-34 Ma (E Oligocene))

Benammi, M., Y. Chaimanee, J. Urrutia-Fucugauchi & J.J. Jaeger (2004)- Magnetostratigraphic study of the continental sedimentary sequence of Chiang Muan Basin, northern Thailand: implication for the age of the first Miocene hominoids from Thailand. Int. Geology Review 46, p. 646-654,

Benammi, M., J. Urrutia-Fucugauchi, L.M. Alva-Valdivia, Y. Chaimanee, S. Triamwichanon & J.J. Jaeger (2002)- Magnetostratigraphy of the middle Miocene continental sedimentary sequences of the Mae Moh Basin in northern Thailand: evidence for counterclockwise block rotation. Earth Planetary Sci. Letters 204, p. 373-383.
(Magnetostratigraphic study in Mae Moh basin, N Thailand, documents CCW vertical axis rotation of ~13° with respect to expected Miocene direction derived from Eurasian polar wander curve. Not consistent with previously reported paleomagnetic data and may be due to local tectonics. Polarity sequence of nine magnetozones correlated to chron C5ABn–C5An2n, between 13.5 and 12.1 Ma)

Bhongsuwan, T. & P. Ponathong (2002)- Magnetic characterization of the Thung-Yai Redbed of Nakhon Si Thammarat Province, Southern Thailand, and magnetic relationship with the Khorat Redbed. Science Asia 28, p. 277-290.
(online at: http://scienceasia.org/2002.28.n3/v28_277_290.pdf)
(Paleomag analysis of U Jurassic - Lower Cretaceous Thung-Yai redbeds. Paleopole position is at Plat/Plon = 57.8°N/184.6°E, which overlaps well with pole position derived from Khorat redbeds, indicating that S Thailand (Shan-Thai/ Sibumasu block) and Khorat Plateau (Indochina block) have not moved relative to each other since U Jurassic- Lower Cretaceous)

Blum, J.D., D.A. Papanastassiou, C. Koeberl & G.J.Wasserburg (1992)- Nd and Sr isotopic study of Australasian tektites: new constraints on the provenance and age of the target materials. Geochimica Cosmochimica Acta 56, 1, p. 483-492.
(Nd and Sr isotopic studies of Australites tektites suggest source material derived mainly from Proterozoic crustal terrane. Sr analyses of Muong Nong-type layered indochinite tektites from NE Thailand yield isochron age of ~170 Ma, possibly time of deposition of sedimentary target rocks. Compositional layering in Muong Nong-type tektites may reflect compositional variability of Jurassic sediments. Impact site may be in area of Jurassic sedimentary bedrock, near N Cambodia, S Laos or SE Thailand)

Boonchai, N., P.J. Grote & P. Jintasakul (2009)- Paleontological parks and museums and prominent fossil sites in Thailand and their importance in the conservation of fossils. In: J.H. Lipps & B.R.C. Granier (eds.) Paleoparks and the protection and conservation of fossil sites worldwide, Carnets de Geologie, Book 2009/03, Chapter 7, p. 75-95.
(online at: http://paleopolis.rediris.es/cg/CG2009_BOOK_03/CG2009_BOOK_03_Chapter07.pdf)
(Incl. Petrified Forest Park in Tak Province, NW Thailand. Large silicified tree trunks, ~800,000 years old)

Boonchaisuk, S., W. Siripunvaraporn & Y. Ogawa (2013)- Evidence for middle Triassic to Miocene dual subduction zones beneath the Shan-Thai terrane, western Thailand from magnetotelluric data. Gondwana Research 23, p. 1607-1616.
(Kanchanaburi province, W Thailand, on Shan-Thai terrane. Late Triassic W-ward subduction in E, where Lampang- Chiang Rai block subducted under Shan-Thai terrane. In E Tertiary W Burma terrane subducted under Shan-Thai. Two deep conductive zones interpreted as mafic/ultramafic rocks, tied to subducted slabs)

Boonsener, M. & K. Sonpirom (1997)- Correlation of Tertiary rocks in northeast Thailand In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Dept. Mineral Resources, Bangkok, 2, p. 656-661.

Boonsoong, A. (2007)- Petrography and geochemistry of the Chanthaburi-Trat basalt, Thailand. In: W. Tantiwanit (ed.) Int. Conf. on Geology of Thailand: Towards sustainable development and sufficiency economy (GEOTHAIœ07), Bangkok, Dept. Mineral Resources, p. 242-250.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2007/12729.pdf)
(Late Cenozoic (24 -<0.5 Ma) basalts in mainland SE Asia (Vietnam, China, Thailand, Malaysia) interpreted to have erupted in continental rift environments. Chanthaburi-Trat basalts transitional between trachybasalts and basanites. Magma was generated in continental rift environment, in fertile mantle at ~35km depth).)

Boonsoong, A., Y. Panjasawatwong & K. Metparsopsan (2011)- Petrochemistry and tectonic setting of mafic volcanic rocks in the Chon Daen-Wang Pong area, Phetchabun, Thailand. Island Arc 20, 1, p. 107-124.
(Mafic volcanic rocks and hypabyssal rocks in Chon Dean-Wang Pong area possibly S extension of western Loei volcanic Sub-belt, NE Thailand. Possibly Permian-Triassic age and formed in volcanic arc setting)

Booth, J.E. (1998)- The Khorat Plateau of NE Thailand- exploration history and hydrocarbon potential. In: Offshore South East Asia Conf.1998 (OSEA98), Singapore, SE Asia Petroleum Expl. Soc. (SEAPEX), p. 169-203.
(Khorat Basin at N edge Indochina Plate, with stacked Permo-Carboniferous, Triassic, Mesozoic and Tertiary basins. To date Permian platform carbonates ony productive (gas) reservoir. Oldest well penetration is E Carboniferous (329 Ma) granite in Yang Talat 1. Etc.)

Booth, J. (2011)- The Nakhon Thai Ranges fold-belt in Northern Thailand- evolution of a Late Palaeozoic play from concept to drillable prospect. Proc. 4th Petroleum Forum: Approaching to the 21st Petroleum concession bidding round, Bangkok 2011, Department of Mineral Fuels, p. 90-112.
(online at: www.dmf.go.th/cms/assets/1/The%204th%20(DMF)%20Petroleum%20Forum%20Proceeding.pdf)
(Exploration blocks in N Thailand highlands between Tertiary Phetchabun- Wichan Buri and Phitsanulok basins, W side of Khorat Plateau. Potential gas play in fractured Permian carbonates)

Booth, J. (2011)- The Nakhon Thai Ranges fold-belt in northern Thailand- evolution of a Late Palaeozoic play from concept to drillable prospects. Proc. 2011 SE Asia Petroleum Expl. Soc. (SEAPEX) Conf., Singapore, 22, 38p. *(Abstract + Presentation)*
(Similar to Booth 2011, above)

Booth, J. & N. Sattayarak (2011)- Subsurface Carboniferous- Cretaceous geology of NE Thailand. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, p. 185-222.

Boucot, A.J., C.H.C. Brunton, M.R. House & P. R. Racheboeuf (2000)- Namurian fossils (brachiopods, goniatites) from Satun Province, Southern Thailand. J. Paleontology 78, 6, p. 1072-1085.
(Previously unknown Namurian (M Carboniferous) goniatite and brachiopod fauna from Satun area (= Sibumasu terrane). Goniatites aided in age assignment of fauna. Two new brachiopod genera. Brachiopod fauna unlike any known previously from Asia)

Boucot, A.J., L.R.M. Cocks & P.R. Racheboeuf (1999)- Early Devonian brachiopods from Satun Province, Southern Thailand. J. Paleontology 73, 5, p. 850-859.
(Twelve species of brachiopods from E Devonian (Emsian) Pa Samed Fm mudstones of S Thailand (= Shan Tai/ Sibumasu Block). Represent deeper-water benthic assemblages. Assemblages affinities to Old World Realm, but cannot be assigned to particular biogeographic region)

Brooks, J. (1987)- Development of the Sirikit oil field, Thailand. In: M.K. Horn (ed.) Trans. Fourth Circum Pacific Energy and Mineral Resources Conf., Singapore 1986, p. 35-42.

(Sirikit field is 1981 Shell oil discovery in Miocene fluvial-lacustrine K and L sands of Phitsanoluk intra-cratonic basin of C Thailand. Recoverable oil ~34-40 MBO. Crude oil waxy (pour point 35°C), but light (40° API) and no sulphur)

Brown, G.F., S. Buravas, J. Charaljavanaphet, N. Jalichandra, W.D. Johnston, V. Sresthaputra & G.C. Taylor (1951)- Geologic reconnaissance of the mineral deposits of Thailand. U.S. Geol. Survey (USGS) Bull. 984, p. 1-183.
(online at: http://pubs.usgs.gov/bul/0984/report.pdf)

Buffetaut, E. (1982)- Mesozoic vertebrates from Thailand and their paleo-biological significance. Terra Cognita 2, 1, p. 27-34.

Buffetaut, E. (1983)- Mesozoic vertebrates from Thailand: a review. In: 2nd Symp. Mesozoic terrestrial ecosystems, Jadwisin 1981, Acta Palaeontologica Polonica 28, 1-2, p. 43-53.
(online at: www.app.pan.pl/archive/published/app28/app28-043.pdf)
(Late Triassic (?Norian) fauna from basal Khorat Group at Chulabhorn Dam includes fishes, stegocephalian and phytosaurs. Phu Kradung Fm (?Liassic) yielded jaw of mesosuchian crocodile. Dinosaur remains (sauropods and theropods) in various places in Jurassic and Cretaceous rocks. Laurasian affinities, suggesting collision of SE Asian blocks with mainland Asia Late Triassic or earlier)

Buffetaut, E., G. Dyke, V. Suteethorn & H. Tong (2005)- First record of a fossil bird from the Early Cretaceous of Thailand. Comptes Rendus Palevol 4, 8, p. 681-686.
(First known occurrence of Mesozoic fossil bird from NE Thailand and SE Asia: left humerus from non-marine E Cretaceous Sao Khua Fm)

Buffetaut, E. & R. Ingavat (1980)- A new crocodilian from the Jurassic of Thailand, *Sunosuchus thailandicus* n. sp. (Mesosuchia, Goniopholididae), and the palaeogeographical history of South-East Asia in the Mesozoic. Geobios 13, 6, p. 879-889.
(Crocodilian jaw fragment from Jurassic Phu Kradung Fm of Thailand is new species Sunosuchus thailandicus. Interpreted to belong to family Goniopholididae (Mesosuchia), of Laurasian affinity and known only from continental Late Jurassic of N C China)

Buffetaut, E. & R. Ingavat (1981)- The significance of the crocodilian *Sunosuchus thailandicus* from the Jurassic of Northeastern Thailand. Proc. Fourth Reg. Conf. on the Geology of Southeast Asia, p. 325-327.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_2/1981/7471.pdf)
(Goniopholidid crocodile Sunosuchus thailandicus from the Jurassic Phu Kradung Fm, Khorat Gp, of NE Thailand previously known only from N Central China)

Buffetaut, E. & R. Ingavat (1982)- Phytosaur remains (Reptilia, Thecodontia) from the Upper Triassic of North-Eastern Thailand. Geobios 15, 1, p. 7-15.
(Late Triassic vertebrate fragments of phytosaurs (related to Belodon, Rutiodon) at Chulabhorn Dam suggest NE Thailand already biogeographically part of Laurasia in Late Triassic)

Buffetaut, E. & R. Ingavat (1983)- Vertebrates from the continental Jurassic of Thailand. CCOP Techn. Bull. 16, p. 68-74.
(Thailand is only place in SE Asia with Jurassic continental vertebrates, mainly from Khorat Plateau in NE (incl. E Jurassic crocodile Sunosuchus, Late Jurassic dinosaurs and crocodilians), but also from Ko Kut island in Gulf of Thailand (Lepidotus fish and shark remains). Probably Laurasian affinities)

Buffetaut, E. & R. Ingavat (1983)- *Goniopholis phuwiangensis* nov. sp., a new mesosuchian crocodile from the Mesozoic of north-eastern Thailand. Geobios 16, p. 79-91.
(Remnant of goniopholid crocodilian from non-marine late Jurassic-E Cretaceous Sao Khua Fm of Khorat Group at NW Khorat Plateau similar to material from N America and Europe suggests Late Jurassic- Early Cretaceous age for Sao Khua Fm. Presence indicative of Laurasian faunal affinities)

Buffetaut, E. & R. Ingavat (1984)- The lower jaw of *Sunosuchus thailandicus*, a mesosuchian crocodilian from the Jurassic of Thailand. Palaeontology 27, 1, p. 199-206.
(online at: http://palaeontology.palass-pubs.org/pdf/Vol%2027/Pages%20199-206.pdf)
(E Jurassic crocodile jaw from Phu Kradung Fm of lower Khorat Group in NE Thailand)

Buffetaut, E. & R. Ingavat (1985)- The Mesozoic vertebrates of Thailand. Scientic American 253, p. 80-87.
(Popular review of vertebrate faunas from Late Triassic- middle Cretaceous laccustrine and fluvial deposits of NE Thailand (mainly Khorat Plateau))

Buffetaut, E. & R. Ingavat (1986)- The succession of vertebrate faunas in the continental Mesozoic of Thailand. In: G.H. Teh & S. Paramananthan (eds.) Proc. 5th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA V), Kuala Lumpur 1984, 1, Bull. Geol. Soc. Malaysia 19, p. 167-172.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1986013.pdf)
(Common continental vertebrate fossils in Late Triassic - E Cretaceous of Thailand, mainly Khorat Plateau of NE Thailand. Best assemblages from Late Triassic Huai Hin Lat Fm (with phytosaurs, turtles, stegocephalians and fishes) and late Jurassic Sao Khua Fm (with dinosaurs, crocodilians, turtles and fishes))

Buffetaut, E. & R. Ingavat (1986)- Unusual theropod dinosaur teeth from the Upper Jurassic of Phu Wiang, northeastern Thailand. Revue Paleobiologie 5, p. 2, 217-220.
(With Siamosaurus suteethorni n.sp.)

Buffetaut, E., R. Ingavat & M. Martin (1984)- Fossil vertebrates and the Late Triassic age of the Lom Sak Formation of Central Thailand. J. Geol. Soc. Thailand 7, p. 19-24.
(online at: http://library.dmr.go.th/library/J-Index/1984/27.pdf)
(Lom Sak Fm near Lom Sak, Changwat Petchabun, C Thailand with (Late) Triassic vertebrate remains: Semionotus actinopterigian fish scales and phytosaur reptile tooth. Formation previously assigned to Cretaceous based on plant fossils, but probably underlies Jurassic redbeds of Khorat Fm)

Buffetaut, E., S. Suteethorn, V. Suteethorn, U. Deesri & H Tong (2013)- Preliminary note on a small ornithopod dinosaur from the Phu Kradung Formation (terminal Jurassic- basal Cretaceous) of Phu Noi, north-eastern Thailand. J. Science Technology Mahasarakham University 33, 4, p. 344-347.
(online at: http://research.msu.ac.th/msu_journal/upload/journal_file/jfile_no34_44342.pdf)

Buffetaut, E. & V. Suteethorn (1993)- The dinosaurs of Thailand. J. Southeast Asian Earth Sci. 8, p. 77-82.
(Dinosaur record from continental rocks of Khorat Plateau includes footprints of small dinosaurs in M-L Jurassic Phra Wihan Fm, varied dinosaur assemblage from Late Jurassic Sao Khua Fm dominated by sauropods, theropod footprints from E Cretaceous Phu Phan Fm and theropods and primitive ceratopsian Psittacosaurus in Aptian-Albian Khok Kruat Fm)

Buffetaut, E.H. & V. Suteethorn (1998)- The biogeographical significance of the Mesozoic vertebrates from Thailand. In: R. Hall & J.D. Holloway (eds.) Biogeography and geological evolution of SE Asia, Backhuys Publ., Leiden, p. 83-90.
(online at: http://searg.rhul.ac.uk/publications/books/biogeography/biogeog_pdfs/Buffetaut.pdf)
(Late Triassic (Norian)- Early Cretaceous non-marine vertebrate faunas of Thailand are mainly on Indochina Block. Jurassic assemblages similar on Indochina and Shan-Thai blocks, suggesting these were already in contact at that time. Thailand faunas show relationships to Eurasian and Chinese faunas)

Buffetaut, E.H. & V. Suteethorn (1999)- The dinosaur fauna of the Sao Khua Formation of Thailand and the beginning of the Cretaceous radiation of dinosaurs in Asia. Palaeogeogr. Palaeoclim. Palaeoecology 150, p. 13-23.
(On diverse pre-Aptian, Early Cretaceous dinosaur remains from Sao Khua Fm, Khorat Gp, NE Thailand)

Buffetaut, E.H. & V. Suteethorn (2007)- A sinraptorid theropod (Dinosauria: Saurischia) from the Phu Kradung Formation of northeastern Thailand. Bull. Soc. Geologique France 178, p. 497-502.
(Theropod tibia from Phu Kradung Fm of NE Thailand referred to family Sinraptoridae. Previously known only from Late Jurassic of SW China, but E Cretaceous age suggested by palynomorphs)

Buffetaut, E.H., V. Suteethorn, G. Cuny, H. Tong, J. Le Loeuff, S. Khansubha & S. Jongautchariyakul (2000)- The earliest known sauropod dinosaur. Nature 407, 6800, p. 72-74.
(Incomplete sauropod skeleton from fluvial Late Triassic NamPhong Fm at Phu Nok Khian hill near Ban Non Thaworn village, Khorat Plateau, NE Thailand: Isanosaurus attavipachi gen. et sp. nov.)

Buffetaut, E.H., V. Suteethorn & S. Khansubha (2007)- The ceratopsian dinosaur *Psittacosaurus* in the Early Cretaceous of Southeast Asia: a review of old and recent finds. In: W. Tantiwanit (ed.) Int. Conf. on Geology of Thailand: Towards sustainable development and sufficiency economy (GEOTHAIö07), Bangkok, Dept. Mineral Resources, p. 338-343.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2007/12744.pdf)
(Ceratopsian dinosaur Psittacosaurus first found in SE Asia in Aptian Khok Kruat Fm of NE Thailand. Subsequently, psittacosaurids also reported from S Laos)

Buffetaut, E.H., V. Suteethorn, J. Le Loeuff, G. Cuny, H. Tong & S. Khansubha (2002)- A review of the sauropod dinosaurs of Thailand. In: N. Mantajit (ed.) Proc. Symposium on Geology of Thailand, Bangkok 2002, Dept. Mineral Resources, p. 95-101.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2002/6379.pdf)
(Record of sauropod dinosaurs from NE Thailand starts in Late Triassic (Isanosaurus attavipachi, Nam Phong Fm) and ends in M Cretaceous)

Buffetaut, E.H., V. Suteethorn, J. Le Loeuff, S. Khansubha, H. Tong & K. Wongko (2005)- The dinosaur fauna from the Khok Kruat Formation (Early Cretaceous) of Thailand. In: L. Wannakao (ed.) Proc.Int. Conf. Geology, Geotechnology and Mineral Resources of Indochina (GEOINDO 2005), Khon Kaen, p. 575-581.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2005/9379.pdf)
(Aptian Khok Kruat Fm of non-marine Mesozoic Khorat Gp of NE Thailand with abundant, diverse dinosaurs, including saurischians (theropods and sauropods) and ornithischians (ceratopsians and ornithopods) (teeth, partial skeletons, footprints). Dinosaur assemblage from Khok Kruat Fm different from slightly older Sao Khua Fm, which is dominated by sauropods without ornithischians)

Buffetaut, E.H., V. Suteethorn, V. Martin, T. Chaimanee & H. Tong-Buffetaut (1993)- Biostratigraphy of the Mesozoic Khorat Group of northeastern Thailand: the contribution of vertebrate palaeontology. In: T. Thanasuthipitak (ed.) Int. Symposium Biostratigraphy of mainland Southeast Asia: facies and paleontology (BIOSEA), Chiang Mai 1993, 1, p. 51-62.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1993/6792.pdf)
(Fossil vertebrates from non-marine Khorat Gp of NE Thailand with Late Triassic (Norian) fish, amphibians, reptiles, M Jurassic crocodilian Sunosuchus, Late Jurassic crocodilians and sauropod dinosaurs and Aptian-Albian shark Thaiodus and dinosaur Psittacosaurus)

Buffetaut, E.H., V. Suteethorn, V. Martin, H. Tong ,T. Chaimanee & S. Triamwichanon (1995)- New dinosaur dicoveries in Thailand. Int. Conf. Geology, Geotechnology and Mineral Resources of Indochina (Geo-Indo '95), Khon Kaen, p. 157-161.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1995/7426.pdf)

Buffetaut, E., V. Suteethorn & H. Tong (1996)- The earliest known tyrannosaur from the Lower Cretaceous of Thailand. Nature 381, 6584, p. 689-691.
(New incomplete skeleton of large theropod from E Cretaceous (Berriasian- Barremian) Sao Khua Fm of NE Thailand described as Siamotyrannus isanensis. May be early representative of Tyrannosauridae (20 My older than earliest known tyrannosaurids))

Buffetaut, E.H., V. Suteethorn & H. Tong (2006)-Dinosaur assemblages from Thailand: a comparison with Chinese faunas. In: J.C. Lu et al. (eds.) Papers Heyuan Int. Dinosaur Symposium, Beijing 2005, Geological Publishing House, p. 19-37.

Buffetaut, E., V. Suteethorn & H. Tong (2009)- An early ćostrich dinosaurô (Theropoda: Ornithomimosauria) from the Early Cretaceous Sao Khua Formation of NE Thailand. In: E. Buffetaut et al. (eds.) Late Palaeozoic and Mesozoic ecosystems in SE Asia, Geol. Soc., London, Spec. Publ. 315, p. 229-243.
(Remnants of new taxon of ornithomimosaur, Kinnareemimus khonkaenensis n. gen., n.sp.)

Buffetaut, E.H., V. Suteethorn, H. Tong, Y. Chaimanee & S. Khansubha (1997)- New dinosaur discoveries in the Jurassic and Cretaceous of northeastern Thailand. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, 1, p. 177-187.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1997/7641.pdf)
(New dinosaur finds in Late Jurassic- M Cretaceous of NE Thailand)

Buffetaut, E.H., V. Suteethorn, H. Tong, G. Cuny & L. Cavin (2003)- A pterodactyloid tooth from the Sao Khua Formation (Early Cretaceous) of Thailand. Mahasarakham University J. 22, Special Issue, p. 92-98.

Buffetaut, E.H., V. Suteethorn, H. Tong & A. Kosir (2005)- First dinosaur from the Shan-Thai block of SE Asia: a Jurassic sauropod from the southern peninsula of Thailand. J. Geol. Soc., London, 162, 3, p. 481-484.
(Vertebra collected from Jurassic non-marine Khlong Min Fm of S Thailand referred to sauropod dinosaur family Euhelopodidae, apparently endemic to E Asia in Jurassic- E Cretaceous. Occurrence in Shan-Thai Block supports idea of a collision of the Shan-Thai Block with Indochina Block before Jurassic)

Buffetaut, E.H., H. Tong & V. Suteethorn (1994)- First post-Triassic labyrinthodont amphibian in Southeast Asia: a temnospondyl intercentrum from Jurassic of Thailand. Neues Jahrbuch Geol. Palaont., Monatshefte 7, p. 385-390.

Bunjitradulya, S. (1978)- A review of the Lower Paleozoic rocks of Thailand. In: P. Nutalya (ed.) Proc. 3rd Regional Conf. Geology and Mineral Resources of SE Asia (GEOSEA III), Bangkok, Asian Inst. Techn., p. 721-730.
(Many metamorphic rocks of Thailand assumed to be of E Paleozoic age, but may be incorrect. Lower Paleozoic sediments mainly along W side of Thailand (= Sibumasu Block). Incl. Late Cambrian sandstones, Ordovician limestones, Silurian graptolite shale, Devonian limestone, etc.)

Bunopas, S. (1976)- On the stratigraphic successions in Thailand- a preliminary summary. J. Geol. Soc. Thailand 2, 1, p. 31-58.
(online at: http://library.dmr.go.th/Document/J-Index/1976/38.pdf)
(Review of Precambrian- Cenozoic successions and fossil content in Thailand)

Bunopas, S. (1981)- Paleogeographic history of western Thailand and adjacent parts of South-East Asia- a plate tectonics interpretation. Ph.D. Thesis Victoria University of Wellington, New Zealand, p. 1-810.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/1981/29786_1.pdf and
http://library.dmr.go.th/Document/DMR_Technical_Reports/1981/29786_2.pdf)

Bunopas, S. (1982)- Palaeogeographic history of Western Thailand and adjacent parts of Southeast Asia- a plate tectonics interpretation. Geol. Survey Paper No. 5. Dept. Mineral Resources, Bangkok, p. 1-810.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/1982/4573.pdf
(Reprint of Bunopas (1982) thesis. Milestone study of W Thailand paleogeography and tectonics)

Bunopas, S. (1983)- Paleozoic succession in Thailand. In: P. Nutalaya (ed.) Proc. Workshop Stratigraphic correlation of Thailand and Malaysia, Haad Yai 1983, Geol. Soc. Thailand and Geol. Soc. Malaysia, p. 39-76.
(online at: www.gsm.org.my/file/SCTM_03.pdf)

(Rel. complete sequence of Paleozoic rocks, mainly of marine origin, outcrops outside Khorat Plateau, both in Shan- Thai and Indochina microcontinents)

Bunopas, S. (1990)- Tektites- their origin and the continental catastrophic destruction in NE Thailand and Indochina. Proc. 16th Conf. Sciences and Technology of Thailand, Bangkok, p. 512-513.
(see also Bunopas, Wasson et al. 1999a,b)

Bunopas, S. (1992)- Regional stratigraphic correlation in Thailand. In: Nat. Conf. Geologic resources of Thailand potential for future development, DMR, Bangkok, p. 189-208.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1992/6197.pdf)
(Review of new Paleozoic- Cenozoic stratigraphic nomenclature in 7 stratigraphic belts of Thailand: (1) Archeotectonics- Precambrian- Lower Paleozoic Shan-Thai and Indochina part of Australian Gondwana; (2) Paleotectonics; Shan Thai and possibly Indochina rifting in Paleozoic, >180° CW rotation as it moved from S to N Hemisphere and collided with. each other near end-Triassic; (3) Mesotectonics; latest Triassic- Jurassic post-orogenic stage, with early M Cretaceous CW rotation, causing folding along W mountains and downwarping of Khorat Plateau with evaporite deposition; (4) Neotectonics; Cenozoic extension))

Bunopas, S. (1994)- Regional stratigraphy, paleogeographic and tectonic events of Thailand and continental Southeast Asia. In: P. Angsuwathana et al. (eds.) Proc. Int. Symp. Stratigraphic correlation of Southeast Asia, Bangkok 1994, Dept. Mineral Resources, p. 2-24.
(online at: http://library.dmr.go.th/library/6936.pdf)
(Four major tectonic events in geologic evolution of Thailand and parts of SE Asia)

Bunopas, S., H. Fontaine, S. Salyapongse & D. Vachard (1983)- Permian paleogeography in Southeast Thailand evidenced by new discoveries. J. Geol. Soc. Thailand 6, p. 17-21.
(online at: http://library.dmr.go.th/library/J-Index/1983/85.pdf)
(Complete sequence of Permian fossils now known from Thailand. New Permian limestone localities described from E Thailand near Cambodia border (incl. M Permian Ipciphyllum timoricum). In E Thailand limestones dominant, in W dominantly shale with rare limestones)

Bunopas, S., S. Khositanont & J.T. Wasson (1997)- Evidences of the Early Quaternary global disaster and destruction from extraterrestrial impacts of comet in NE Thailand and South Indochina within the Australasian tektites field: the last mass extinction. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, 1, p. 434-435. *(Extended Abstract)*
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_3/2540_1/8440.pdf)
(Extinction of many mammals and marsupials and formerly widespread Dipterocaryoxylon plant in S and E Asia, up to 10m thick structureless atmospheric sand and loess across Khorat Plateau, etc. all related to ~700,000 yr Pleistocene Australasian tektite field/ asteroid impact))

Bunopas, S. & P. Vella (1978)- Late Palaeozoic and Mesozoic structural evolution of northern Thailand, a plate tectonics model. In: P. Nutalya (ed.) Proc. 3rd Regional Conf. Geology and Mineral Resources of SE Asia (GEOSEA III), Bangkok, p. 133-140.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1978/7404.pdf)
(Probably first plate tectonic reconstruction of Thailand. Four N-S trending tectonic belts)

Bunopas, S. & P. Vella (1983)- Tectonic and geologic evolution of Thailand. In: P. Nutalaya (ed.) Proc. Workshop Stratigraphic correlation of Thailand and Malaysia, Haad Yai 1983, Geol. Soc. Thailand and Geol. Soc. Malaysia, p. 307-322.
(online at: https://gsmpubl.files.wordpress.com/2014/10/sctm_18.pdf)
(Thailand consists of two microcontinents: Shan-Tai (=Sibumasu) and Sukhothai foldbelt in W and Indochina and eastern foldbelt in E. Both cratonic fragments derived from Australian Gondwana in Paleozoic, and sutured in M-L Triassic. Gulf of Thailand formed by Late Cretaceous- E Tertiary rifting- spreading)

Bunopas, S. & P. Vella (1983)- Opening of the Gulf of Thailand, rifting of continental Southeast Asia, and Late Cenozoic tectonics. J. Geol. Soc. Thailand 6, 1, p. 1-12.
(online at: http://library.dmr.go.th/Document/J-Index/1983/83.pdf0
(Gulf of Thailand floored by up to 7km of mainly fresh-water sediments, including beds of Oligocene age or older, with marine deposition from Pliocene onward. Extension E-W, at right angles to normal faults.)

Bunopas, S. & P. Vella (1992)-Geotectonics and geologic evolution of Thailand. In: Nat. Conf. Geologic resources of Thailand: potential for future development, Bangkok, p. 209-228.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1992/6198.pdf)
(Review of Thailand tectonic history. Seven major stratigraphic belts in Thailand (5 on Shan Thai, 2 on Indochina Block. Paleomagnetic data suggest >180° CW rotation of Shan-Thai (= Sibumasu) between Carboniferous and Triassic, after rifting from Gondwana)

Bunopas, S., P. Vella, C. Burrett, H. Fontaine, S. Hada, P. Haines, S. Khositanont, P. Chintasakul, P. Chaodamrong, P. Charusiri & K.T. Howard (2007)- Australasian cometary impact, 0.8 Ma catastroloess buried alive Miocene, Pliocene faunas in Thailand and Central Australia, and tektite-bearing flood deposits in NE Thailand. New world's discovery extinction age in Thailand (Indochina) and Australia impact fields. In: W. Tantiwanit (ed.) Int. Conf. on Geology of Thailand: towards sustainable development and sufficiency economy (GEOTHAIõ07), Bangkok, Dept. Mineral Resources, p. 30-43.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2007/12701.pdf)
(Review of Australasia Comet Impact event at ~0.8 Ma, which caused mass extinction, forest fires, floods, >12m thick 'catastroloess', etc., from SE Asia to Australia. Named 'Buntharik Event')

Bunopas, S., J.T. Wasson, P. Vella, H. Fontaine, S. Hada, C. Burrett, T. Suphajanya & S. Khositanont (1999)- Catastrophic loess, mass mortality and forest fires suggest that a Pleistocene cometary impact in Thailand caused the Australasian tektite field. J. Geol. Soc. Thailand, 1999, 1, p. 1-17.
(online at: http://library.dmr.go.th/Document/J-Index/1999/138.pdf)
(Common fires, local extinction of trees and mammals and presence of thick catastrophic loess all tied to Australasian tektite impact event at ~0.77 Ma. Sandpits at Udon in NE Thailand, possibly 300-500km from possible impact site, with piles of burnt and petrified logs and trees pushed down abruptly. Associated with mammal fossils and buildup of >12m thick 'catastroloess' (airfall sands/ debris))

Bunopas, S., J.T. Wasson, P. Vella, H. Fontaine, S. Hada, C. Burrett, T. Suphajanya & S. Khositanont (1999)- Early Quaternary global terrestrial impact of a whole comet in the Australasian tektite field, newest apparent evidences discovery from Thailand and East Asia. In: G.H. Teh (ed.) Proc. 9th Reg. Congress Geology, Mineral Energy Resources SE Asia (GEOSEA õ98), Kuala Lumpur 1998, Bull. Geol. Soc. Malaysia 43, p. 533-575.
(online at: www.gsm.org.my/products/702001-100784-PDF.pdf)
(Additional evidence of ~0.77 Ma catastrophic comet impact event in Thailand and E Asia, linked to Pleistoceen Australasian tektite field, and here named Buntharik Event. Multiple impact craters in 800 x 1140 km wide impact center from Hainan, Vietnam, NE Thailand to Cambodia)

Bunopas, S., J.T. Wasson, P. Vella, H. Fontaine, S. Hada, C. Burrett, T. Suphajanya & S. Khositanont (1999)- Ancient analogs of burial alive extinction of the mastodons in catastroloess in Thailand, and of the last dinosaurs (in eggs) in Gobi desert: further on tektites. In: Symposium Mineral, energy and water resources of Thailand: towards the year 2000, Bangkok, p. 168-177.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1999/6614.pdf)
(Quaternary sudden mass extinction of mastodons, stegodons and other mammals and reptiles, buried alive under catastroloess in sandpits of Khorat, NE Thailand. Associated with common burnt and abruptly felled trees and tied to Buntharik Impact Event, which generated widespread tektites. Caused E Quaternary extinction across >1/4 of globe. Probably multiple impact craters in NE Thailand- E Cambodia-SE Laos- Hainan)

Bunopas, S., N. Yaemniyoun & S. Khositanont (1999)- Catastroloess and its derivatives, the life time sustainable contruction was originally high atmospheric settling in the Quaternary cometary impact in Thailand

and Asia. In: Proc. Symposium Mineral, energy and water resources of Thailand: towards the year 2000, Bangkok 1999, p. 142-151.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1999/6611.pdf)
(Widespread yellow fine construction sands across NE Thailand are derivatives of Pleistocene catastrophic loess that originally formed 10-50m thick blanket across Thailand (not windblown sands). With microtektites, formed at ~0.770 Ma, and tied to comet impact. Covers tektite horizons, burnt petrified trees, burnt trees, ancient elephants, etc., and also E Quaternary tin placers)

Bunpitaksakul, T., K. Jankae & S.Pisutha-Arnond (2009)- Geological study of oil sand from Lower Mae Sot Formation, Fang Basin, Changwat Chiang Mai. Bull. Earth Sci. Thailand (BEST), 2, p. 90-92.
(Brief paper on geochemical and petrological characteristics of oil sand in (Miocene?) Mae Sot Fm in Fang Song intermontane basin, N Chiang Mai province. Oils sourced from lacustrine and floodplain environments)

Buravas, S.C. (1952)- Preliminary notes on the geology of Thailand. Thai Science Bull. 7, p. 7-43

Buravas, S.C. (1957)- Age of the Mae Soon Oil Field of Fang Basin, Chiang Mai Province. In: Proc. Conference on the Geology of Thailand, 2, p. 61-65.
(Tertiary oil-bearing deposits of Fang Basin with freshwater molluscs Viviparus and Unio, and plant remains. Preliminary spores-pollen identifications suggest Oligocene age

Burrett, C.F., S.P. Carey & T. Wongwanich (1986)- A Siluro-Devonian carbonate sequence in northern Thailand. J. Southeast Asian Earth Sci. 1, 4, p. 215-220.
(220m thick Silurian-M Devonian calcarenites-calcisiltites at Mae Ping, S of Chiang Mai, NW Thailand. Overlie tentaculitid shale. Most common and abundant fossils orthoconic nautiloids similar to Parakionoceras, also known from S Europe and Australia. Conodont fauna near base with Ozarkodina excavata, indicating Lower Silurian-M Devonian age)

Burrett, C., H. Thassanapak & M. Udchachon (2015)- Upper Devonian (Famennian) conodonts from radiolarian cherts, Loei Terrane, Loei Province, Northeast Thailand. Research and Knowledge 1, 2, p. 26-32.
(online at: https://rk.msu.ac.th/wp-content/uploads/2016/02/rkv2-03-indd-5.compressed.pdf)
(Conodonts from radiolarian cherts in Loei Terrane, NE Thailand (W margin Indochina block), include Palmatolepis triangularis, P. minuta ssp and polygnathids, indicating Famennian crepida Zone age. Cherts ~20 My younger than Givetian reef limestones and unlikely deposited in major ocean, but rather in deep marine basin close to volcanic arc)

Burrett, C., M. Udchachon, H. Thassanapak & A. Chitnarin (2015)- Conodonts, radiolarians and ostracodes in the Permian E-Lert Formation, Loei Fold Belt, Indochina Terrane, Thailand. Geol. Magazine 152, 1, p. 106-142.
(Conodonts rare in Permian carbonates of Indochina block, but abundant conodonts and ostracodes in carbonate turbidites of E-M Permian E-Lert Fm, deposited on margins of inter-platform Nam Duk Basin, W side of Khorat Plateau. Conodonts typically Tethyan, incl. Hindeodus, Mesogondolella, Sweetognathus, etc., and indicating late Kungurian-Roadian age. Overlying siliceous shales and chert with radiolaria of latest Kungurian- earliest Roadian age. Ostracodes 23 species)

Burri, P. (1989)- Hydrocarbon potential of Tertiary intermontane basins of Thailand. In: T. Thanasuthipitak & P. Ounchanum (eds.) Int. Symposium on Intermontane basins: geology and resources, Chiang Mai, p. 3-12.

Burton, C.K. (1974)- Peninsular Thailand. In: A.M. Spencer (ed.) Mesozoic-Cenozoic orogenic belts, Geol. Soc., London, Spec. Publ. 4, p. 301-315.
(Older overview of Triassic-Jurassic Yunnan-Malayan orogeny of W Thailand in terms of geosynclinal theory)

Burton, C.K. (1974)- The Satun Group (Nai Tak Formation and Thong Song Limestone) of Peninsular Thailand. Sains Malaysiana 3, p. 15-34.

Burton, C.K. (1986)- The Kanchanaburi supergroup of Peninsular and Western Thailand. In: G.H. Teh & S. Paramananthan (eds.) Proc. 5th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA V), Kuala Lumpur 1984, 2, Bull. Geol. Soc. Malaysia 20, p. 311-361.
(online at: www.gsm.org.my/products/702001-101421-PDF.pdf)
(Extensive review of Paleozoic stratigraphy of W and Peninsular Thailand (= Sibumasu Terrane). Carboniferous- Lower Permian Phuket Group deposited as turbiditic series in opening graben, etc.)

Burton, C.K. & J.D. Bignell (1969)- Cretaceous-Tertiary events in Southeast Asia. Geol. Soc. America (GSA) Bull. 80, p. 681-688.
(Granites NE of Gulf of Thailand mainly Triassic or older age. Granites from Malay-Thai Peninsula reveal widespread Cretaceous-Tertiary activity)

Busse, A.G., B. Orberger, S. Pitragool, L. Zenker & G. Friedrich (1990)- Preliminary petrographic and geochemical investigations on mafics and ultramafics from the Phrae Nan chromite mining district in comparison to the Ban Pak Nai area: The Nan river suture zone, northern Thailand. In: T. Thanasuthipitak & P. Ounchanum (eds.) Proc. Int. Symp. Intermontane basins: geology and resources, Chiang Mai, p. 493-501.

Canham, A.C., M.A. Love, A. Racey & S. Polachan (1996)- Stratigraphy and reservoir potential of the Mesozoic Khorat Group, NE Thailand: Part 2: Diagenesis and reservoir quality. J. Petroleum Geol. 19, 3, p. 321-338.
(Khorat Gp Cretaceous continental redbeds, unconformably over lithologically similar U Triassic Nam Phong Fm. Reservoir quality decreases with increasing age due to burial compaction and diagenesis. Maximum burial depth >7 km. Porosities from 11% (U Khorat Gp)- 4.9% (Nam Phong Fm). Ratio of secondary grain-dissolution porosity to primary porosity increases with age. Part 1 see Racey et al., 1996)

Cappetta, H., E. Buffetaut & V.Suteethorn (1990)- A new hybodont shark from the Lower Cretaceous of Thailand. Neues Jahrbuch Geol. Palaont., Monatshefte 11, p. 659-666.
(Lower Cretaceous freshwater shark fossils from Khorat Gp of Thailand, incl. Thaiodus ruchae n.sp.. Thaiodus also known from Lhasa Block (Tibet) (see also Cuny et al. 2003, 2004, 2006))

Cappetta, H., E. Buffetaut, G. Cuny & V.Suteethorn (2006)- A new elasmobranch assemblage from the Lower Cretaceous of Thailand. Palaeontology 49, 3, p. 547-555.
(online at: http://onlinelibrary.wiley.com/doi/10.1111/j.1475-4983.2006.00555.x/pdf)
(New elasmobranch shark teeth from diverse freshwater fauna from fluvial Khok Kruat Fm in Khok Pha Suam, SE part of Khorat Plateau, NE Thailand. Incl. Thaiodus ruchae, Acrorhizodus khoratensis, Hybodus, etc.)

Carey, S.P., C.F. Burrett, P. Chaodumrong, T. Wongwanich & C. Chonglakmani (1995)- Triassic and Permian conodonts from the Lampang and Ngao Groups, northern Thailand. Courier Forschungsinstitut Senckenberg 182, p. 497-513.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/1995/4991.pdf)
(Limestones of Triassic Lampang Gp and Permian-Triassic Ngao group (in NE margin of Shan-Tai terrane or Sukhothai terrane) with 3 conodont assemblages: (1)U Permian Neogondella bitteri, (2) Lower Triassic Neospathodus pakistanensis and (3) U Triassic (Norian) Epigondella triangularis))

Caridroit, M. (1993)- Permian radiolaria from NW Thailand. In: T. Thanasuthipitak (ed.) Int. Symposium Biostratigraphy of mainland Southeast Asia: facies and paleontology (BIOSEA), Chiang Mai 1993, 1, Chiang Mai University, p. 83-96.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1993/7485.pdf)
(Permian and Triassic radiolaria from Chiang Dao region, NW Thailand, an area SW of Nan from which U Silurian- Triassic deep water radiolarian-bearing rocks are known, and where nappe sheets are indicated. With descriptions of Permian radiolaria (Folliculus, Albailella, etc.))

Caridroit, M., D. Bohlke, A. Lamchuan, D. Helmcke & P. de Wever (1993)- A mixed radiolarian fauna (Permian/Triassic) from clastics of the Mae Sariang area, northwestern Thailand. In T. Thanasuthipitak (ed.)

Proc. Int. Symposium on Biostratigraphy of Mainland Southeast Asia: facies and paleontology (BIOSEA), Chiang Mai, 2, p. 401-413.
(online at: www.mnhn.fr/mnhn/geo/PDW/Caridroit%20et%20al%201993.pdf)
(Sequence of red conglomerates/ sandstones/shales unconformably over highly deformed U Paleozoic beds W of Amphoe Mae Sariang not of M Triassic age but latest Triassic or younger. Pebbles include metamorphic quartz and reworked chert clasts with M-L Permian and M Triassic radiolarian assemblages)

Caridroit, M., H. Fontaine, V. Suteethorn & D. Vachard (1990)- New paleontological data on the Carboniferous and Permian of NW Thailand. In: Ten years of CCOP research on the Pre-Tertiary of East Asia, CCOP, Spec. Vol., p. 337-351.
(Microfaunas from 40 new localities of Visean- Late Permian limestones in NW Thailand)

Caridroit, M., D. Vachard & H. Fontaine (1992)- Datations par radiolaires (Carbonifere, Permien et Trias) en Thailande nord-occidentale. Mise en evidence de nappes de charriage et d'olistostromes. Comptes Rendus Academie Sciences, Paris, ser. II, 315, 4, p. 515-520.
('Radiolarian age datings (Carboniferous, Permian and, Triassic) in NW Thailand; evidence of nappes and olisthostromes'. Paleozoic stratigraphy in NW Thailand described as single Ordovician- Permian marine succession, tectonized in Triassic time, but ages from radiolarite dating (Carboniferous- Triassic) demonstrate existence of separate sedimentary basin far from detrital sources and of Carboniferous- Triassic limestones. Present structural imbrication of radiolarites with limestones and detritic series interpreted in terms of tectonic nappes with considerable shortening, and olistostrome deposits)

Carter, A. & C.S. Bristow (2003)- Linking hinterland evolution and continental basin sedimentation by using detrital zircon thermochronology: a study of the Khorat Plateau Basin, eastern Thailand. Basin Research 15, p. 271-285.
(Khorat Plateau Basin, E Thailand, U-Pb and fission-track (FT) zircon data from Phu Kradung Fm age peaks at 141 ± 17 and 210 ±24 Ma (FT) and 2456, 2001, 251 and 168 Ma (U-Pb). FT data record post-metamorphic cooling, U-Pb data record zircon growth events. U-Pb zircon ages consistent with Qinling Orogenic Belt as source for Khorat Basin sediments. Zircon FT cooling peaks between 114 ±6 (Phra Wihan Fm) and 141 ±17 Ma (Phu Kradung Fm), corresponding to Late Jurassic-E Cretaceous reactivation event, which affected Qinling Belt. Early Cretaceous erosion from collision between Lhasa Block and Eurasia)

Carter, A., C.S. Bristow & A. Hurford (1995)- Constraints on the thermal history and provenance of the Khorat Group in Thailand using Fission Track Analysis. In: Proc. IGCP Symposium on Geology of SE Asia, Hanoi 1995, J. Geology B, 1995, 5/6, p. 342-353.
(Khorat Gp on Khorat Plateau up to 4000m thick redbed sequence of Cretaceous age. Zircon fission track data show two age peaks: major Late Triassic (~195 Ma), lesser ~109, 135, 158 Ma age peaks. Increase in zircon ages through Khorat Gp suggests progressive unroofing in foreland basin)

Cavin, L., E. Buffetaut, K. Lauprasert, J. Le Loeuff, P. Lutat, M. Philippe, U. Richter & H. Tong (2004)- A new fish locality from the continental Late Jurassic- Early Cretaceous of north-eastern Thailand. Revue Paleobiologie, Spec. Vol. 9, p. 161-167.
(Phu Nam Jun in Khorat Plateau of NE Thailand with 124 specimens of fish, all but two Lepidotes buddhabutrensis)

Cavin, L., U. Deesri & V. Suteethorn (2008)- The Jurassic and Cretaceous bony fish record (Actinopterygii, Dipnoi) from Thailand. In: L. Cavin et al. (eds.) Fishes and the break-up of Pangaea, Geol. Soc., London, Spec. Publ. 295, p. 125-139.
(16 species of bony fish in Jurassic and Cretaceous continental deposits of Thailand. e assemblages provide few paleogeographical indications at present, except for evidence of relationships with China and C Asia)

Cavin, L., U. Deesri & V. Suteethorn (2013)- Osteology and relationships of *Thaiichthys* nov. gen.: A Ginglymodi from the Late Jurassic - Early Cretaceous of Thailand. Palaeontology 56, 1, p. 183-208

(Well-preserved freshwater fish Thaiichthys buddhabutrensis, n. gen.,from Late Jurassic- E Cretaceous of Thailand)

Cavin, L., U. Deesri & V. Suteethorn (2014)- Ginglymodian fishes (Actinopterygii, Holostei) from Thailand: an overview. J. Science Technol. Mahasarakham University (MSU) 33, 4, p. 349-356.
(online at: http://research.msu.ac.th/msu_journal/upload/journal_file/jfile_no34_44342.pdf)
(Ginglymodian fishes are relatively common in Mesozoic of Thailand. Two genera and three species identified so far (Thaiichthys buddhabutrensis, Isanichthys palustris), but many more taxa present. Known Isanichthys species restricted to N margin of Tethys in M Jurassic- basal Cretaceous time)

Cavin, L. & V. Suteethorn (2006)- A new semionotiform (Actinopterygii, Neopterygii) from Upper Jurassic-Lower Cretaceous deposits of north-east Thailand with comments on the relationships of semionotiforms. Palaeontology 49, 2, p. 339-353.
(online at: http://onlinelibrary.wiley.com/doi/10.1111/j.1475-4983.2006.00539.x/epdf)
(New semionotiform freshwater fish, Isanichthys palustris, from Late Jurassic- E Cretaceous Phu Kradung Fm, NE Thailand)

Cavin, L., V. Suteethorn, E. Buffetaut, S. Chitsin, K. Lauprasert, J. Le Loeuff, P. Lutat, M. Philippe, U. Richter & H. Tong (2004)- A new fish locality from the continental Late Jurassicï Early Cretaceous of northeastern Thailand. Revue Paleobiologie 9, p. 160-167.

Cavin, L., V. Suteethorn, E. Buffetaut & H. Tong (2007)- A new Thai Mesozoic lungfish (Sarcopterygii, Dipnoi) with an insight into post-Palaeozoic dipnoan evolution. Zool. J. Linnean Society 149, 2, p. 141-177.
(online at: https://watermark.silverchair.com/j.1096-3....)
(New species of freshwater dipnoi/ lungfish (Ferganoceratodus martini) from Late Jurassic or basal Cretaceous upper Phu Kradung Fm of Phu Nam Jun, Kalasin Province, NE Thailand (Khorat Gp). Comprises almost complete skull roof, jaws and some postcranial remains)

Cavin, L., V. Suteethorn, S. Khansubha, E. Buffetaut & H. Tong (2003)- A new Semionotid (Actinopterygii, Neopterygii) from the Late Jurassic- Early Cretaceous of Thailand. Comptes Rendus Palevol, p. 291-297.
(New semionotid fish, Lepidotes buddhabutrensis n. sp., from continental Late Jurassic- E Cretaceous Phu Kradung Formation, Phu Nam Jun, Khorat Plateau, NE Thailand)

Cavosie, A.J., N.E. Timms, T.M. Erickson & C. Koeberl (2018)- New clues from Earth's most elusive impact crater: evidence of reidite in Australasian tektites from Thailand. Geology 46, 3, p. 203-206.
(Former presence of reidite (high-P polymorph of zircon) detected in zircon grains in Muong Nong-type tektites from Thailand. Preserved microstructures and dissociation of zircon to ZrO2 and SiO2 require pressure of >30 GPa and T >1673°C, the most extreme conditions reported for Australasian tektites so far)

Chakrabarti A.K. (1976)- The oil shale deposits of Thailand. Economic Geology 71, 4, p. 812-813.
(Brief discussion of Late Tertiary oil-shale deposits in several areas of Thailand. Most important deposit at Mae Sod in NW Thailand (20-25% oil by weight); others are Li (Lamphum Province), Ko Kha District (Lampang) and Krabi (S Peninsular region). Thickness up to 20'. With fish fossils of family Cyprinidae)

Chantong, W. & J. Booth (2007)- Is the Kuchinarai Group of the Khorat Plateau a good source of hydrocarbons? In: W. Tantiwanit (ed.) Int. Conf. on Geology of Thailand: Towards sustainable development and sufficiency economy (GEOTHAIõ07), Bangkok, Dept. Mineral Resources, p. 132 *(Abstract only)*
(Late Triassic Kuchinarai Gp synrift clastics and volcanoclastics in half-grabens/ grabens that formed after Indosinian Orogeny I (age based on palynology from exploration wells). Most rift basins bounded by NW-SE and W-E faults to S. Graben fill three main sequences: (1) upper claystone- shale, (2) middle dark lacustrine shale with minor siltstone- sandstone, (3) lower basal conglomerates and volcanoclastics. Petroleum wells shows shales ofM Kuchinarai Gp have 1.0-3.7% TOC and are potentially good oil-gas source)

Chantong, W., P. Srisuwon, C. Kaewkor, C. Praipipan & S. Ponsri (2013)- Distributions of the Permo-Carboniferous rocks in the Khorat Plateau Basin. In: Proc. 2nd Lao-Thai Technical Conference on geology and mineral resources, Vientiane, p. 73-80.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/2013/36770.pdf)
(Permian carbonate major petroleum reservoir in Khorat Plateau. 47 wells drilled, two producing gas fields (Nam Phong and Sin Phu Horm) from reservoirs in Permo-Carboniferous carbonate platform, with thrust fault resulting in fracture development. Dong Mun Gas field in development, in carbonate reef with karst topography. 18 separate isolated carbonate platforms identified from seismic)

Chaodumrong, P. (1992)- Stratigraphy, sedimentology and tectonic implications of the Lampang Group, central North Thailand. Ph.D. Thesis, University of Tasmania, p. 1-230.
(online at: http://eprints.utas.edu.au/18810/1/whole_ChaodumrongPol1992_thesis.pdf)
(Triassic Lampang Gp in Sukhothai foldbelt deposited on E side of Shan Thai terrane (= Sibumasu) in Lampang and Phrae forearc basins, above W-ward subduction of Indochina under Shan-Thai terrane. Collision in Late Triassic. Both sub-basins with similar deepening-upward megasequence, starting with fan-delta red beds, grading upward to ramp carbonates (with common oolites and oncolites) and submarine fan sediments with Halobia, etc.. Volcaniclastics dominate most Lampang sandstones. Source areas changed from active magmatic arc in Hong Hoi and Pha Daeng Fms to combination magmatic arc and recycled orogen in Wang Chin Fm as result of interaction between ShanThai and W-ward subducting Indochina terrane)

Chaodumrong, P. (1994)- Sedimentology and tectonic implication of Triassic submarine fans, Lampang group, central north Thailand. In: P. Angsuwathana et al. (eds.) Proc. Int. Symp. Stratigraphic correlation of Southeast Asia, Bangkok, 1994, Dept Mineral Resources and IGCP 306, p. 208-225.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1994/6948.pdf)
(Triassic Lampang Gp in central N Thailand deposited in two adjacent subbasins in fore-arc basin of Shan-Thai (= Sibumasu) terrane). Mainly mud-rich submarine fans, with Daonella, Halobia, etc. Provenance change from active magmatic arc in Hong Hoi Fm to combined active arc- recycled orogen during Wang Chin Fm, probably due to interaction of Shan-Thai Plate and W-ward subducting Indochina terranes, with collision ending in Late Triassic)

Chaodumrong, P. (2007)- Stratigraphy and tectonic evolution of Thailand. In: W. Tantiwanit (ed.) Int. Conf. on Geology of Thailand: Towards sustainable development and sufficiency economy (GEOTHAIŏ07), Bangkok, Dept. Mineral Resources, p. 319-321. *(Extended Abstract*
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2007/12740.pdf)
(Thailand consists of two major Gondwana derived, Shan-Thai to W and Indochina to E, amalgamated along Nan-Uttaradit suture in Late Triassic. Indochina terrane drifted away from Gondwana in Late Devonian, as suggested by radiolarian assemblages from chert in suture zone. Shan-Thai terrane was adjacent to NW Australian part of Gondwana until E Permian, based on stratigraphic and faunal affinities from Cambrian- E Permian. Discovery of Devonian- M Triassic deep sea thin-bedded chert and Cathaysian fauna in Carboniferous-Permian limestones in N Thailand, formerly mapped as part of Shan-Thai terrane)

Chaodumrong, P. (2012)- Stratigraphy and tectonic subdivisions of Thailand. Proc. 12th Regional Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA 2012), Bangkok, p. 111-114. *(Extended Abstract)*
(Three tectonostratigraphic Gondwana-derived terranes in Thailand, from E to W: (1) Indochina (with Loei-Phetchabun fold belt on W margin), (2) North Thailand (Sukhothai fold belt + Inthanon zone; with Cathaysian Late Carboniferous- Permian seamount limestones)) and (3) Shan-Thai (=Sibumasu))

Chaodumrong, P. (2013)- Lexicon of stratigraphic names of Thailand. Dept. Mineral Resources, Bangkok, p. 1-265.
(Listing of formal and informal stratigraphic names in Thailand from Precambrian-Cenozoic)

Chaodumrong, P. & C.F. Burrett (1992)- Revised stratigraphy of the Lampang Group and provenance of volcanoclastic sandstones. In: Technical Ann. Mtg. Volcanic and volcanoclastic rocks of Thailand, Chiang Mai University, 28p.
(see also Chaodumrong & Burrett (1997))

Chaodumrong, P. & C.F. Burrett (1997)- Early Late Triassic continental colliding between Shan- Thai and Indochina terranes as indicated by occurrence of fan delta red beds of Pha Daeng Formation Central North Thailand. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, 1, p. 143-157.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1997/7632.pdf)
(In Lampang basin of C N Thailand 200-700m thick early Late Triassic shallow marine 'red bed' fan delta deposits, sourced from active magmatic arc in extensional forearc basin on Shan-Thai (Sibumasu) terrane during collision with W-dipping Indochina terrane. With marine mudstone with M Carnian ingularis fauna. Paleocurrents mainly from W and S)

Chaodumrong, P. & C.F. Burrett (1997)- Stratigraphy of the Lampang Group in central north Thailand: new version. CCOP Techn. Bull. 26, p. 65-80.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/1997/4982.pdf)
(Triassic Lampang Gp in central N Thailand formed in two sub-basins, Lampang in W and Phrae in E. Lampang sub-basin formed in Early Triassic to early Late Triassic and contains Daonella, Paratrachyceras, Costatoria and Claraia. Phrae sub-basin formed from in Late Triassic and contains mainly Halobia)

Chaodumrong, P. & Y. Chaimanee (2002)- Tertiary sedimentary basins in Thailand. In: The Symposium on Geology of Thailand, Bangkok, p. 156-169.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2002/6389.pdf)
(At least 70 named Tertiary intermontane and rift basins in Thailand, with many similarities. Tied to N-ward movement of India. Basins in S formed earlier than in N, in W earlier than E. Alluvial facies dominant in lower and upper parts, flluvio-lacustrine and swamp facies common in middle part)

Chaodumrong, P. & P. Rao (1992)- Depositional environments of Triassic carbonates, Lampang group, central north Thailand. In: C. Piencharoen (ed.) Proc. Nat. Conf. Geologic resources of Thailand: potential for future development, Bangkok, Dept Mineral Resources, p. 355-367.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1992/6235.pdf)
(Carbonate facies of Triassic Lampang Gp. Six carbonate units in mainly siliciclastic sequence. Carbonate ramp model with 14 microfacies types. Shallow ramp/shoal facies with common oncolites and some oolites)

Chaodumrong, P., Y. Ukakimapan, S. Snansieng, S. Janmaha, S. Prididtan & N. Sae Leow (1983)- A review of the Tertiary sedimentary rocks of Thailand. In: P. Nutalaya (ed.) Proc. Workshop Stratigraphic correlation of Thailand and Malaysia, Haad Yai 1983, Geol. Soc. Thailand and Geol. Soc. Malaysia, p. 159-187.
(online at: https://gsmpubl.files.wordpress.com/2014/10/sctm_09.pdf)
(In Thailand 61 small intermontane and larger basins, with mainly lacustrine and fluvial sediments)

Chaodumrong, P., X. Wang & S. Shen (2007)- Permian lithostratigraphy of the Shan-Tai terrane in Thailand: revision of the Kaeng Krachan and Ratburi Groups. In: W. Tantiwanit (ed.) Int. Conf. on Geology of Thailand: Towards sustainable development and sufficiency economy (GEOTHAIô07), Bangkok, Dept. Mineral Resources, p. 229-236.
(online at: http://library.dmr.go.th/library/Proceedings/M_1/2007/12727.pdf)
(Revision of Permian stratigraphy of clastics-dominated E Permian (Asselian-Kungurian) Kaeng Krachan Gp and overlying M-U Permian carbonates of Roadian-Wuchiapingian Ratburi Gp. Ratburi Gp contains fusulinids Pseudofusilina and Eopolydiexodina sp. and small foram Shanita. Can be traced from Malaysia, through peninsular Thailand, Myanmar, W Yunnan to Lhasa)

Charoentitirat, T. (2002)- Permian fusulinodean biostratigraphy and carbonate development in the Indochina Block of Thailand with their paleogeographic implication. Doct. Thesis, University of Tsukuba, p. . *(Unpublished)*

Charoentitirat, T. (2002)- Late Middle Permian Fusulinoidean zonations from Changwat Sra Kaeo, East Thailand. In: N. Mantajit (ed.) Proc. Symposium on Geology of Thailand, Bangkok 2002, Dept. Mineral Resources, p. 77-81.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2002/6377.pd)
(Common fusulinids in Khao Taa Ngog Fm in Sta Keao area of E Thailand. Two zones, Colania douvillei and Lepidolina multiseptata- M. douvillei zones)

Charoentitirat, T. (2005)- Development of Indochina carbonates during Late Paleozoic time based on fusulinoidean data. In: K. Ueno et al. (eds.) Proc. First Int. Symp. Geological anatomy of East and South Asia, paleogeography and paleoenvironment in Eastern Tethys (IGCP 516), Tsukuba, p. *(Abstract?)*

Charoentitirat, T. & S. Chantraprasert (2012)- Fusulinacean biostratigraphy from limestone blocks within Nan-Uttaradit suture, Thailand. Proc. First Int. Symposium of IGCP-589, Xi'an, China 2012, Acta Geologica Sinica 33, Suppl. 1, p. 74 *(Abstract)*
(online at: http://igcp589.cags.ac.cn/pdf/33-Charoentitirat%20Thasinee(news).pdf)
(Nan-Uttaradit Suture former back-arc basin between Sukhothai Zone and Indochina Block. Scattered Permian limestone blocks in intensely folded shales-tuffs in Nan area with Middle and early Late Permian fusulinid fauna (Neoschwagerina, Pseudodoliolina, Colania, Lepidolina, Colaniella). Earlier reports of late Early Permian fusulinids and M Triassic radiolaria show existence of Nan back-arc basin from late E Permian (Artinskian)- M Triassic. Fusulinids similar to Indochina Block)

Charoentitirat, T., K. Lousuwan, P. Ampaiwan, A.T. Nguyen, P.T.L. Phung, S. Thanudamrong, C.K. Morley & J. Warren (2012)- Relationships between fluid chemistry and the creation of fractured carbonate-hosted fields in Thailand (analogs for Phu Horm and Nang Nuan Fields). Proc. 12th Regional Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA 2012), Bangkok, p. 92 *(Abstract only)*
(Permian limestones in Saraburi and Chum Phae areas with isotope trends reflecting regional burial related to Indosinian orogeny and later catagenic fluid migration event, possibly tied to Paleogene transpression. Same catagenic fluids associated with reservoir-creating fracture system in nearby Phu Horm gas field)

Charusiri, P. (1989)- Lithophile metallogenetic epochs of Thailand: a geological and geochronological investigation. Ph.D. Thesis, Queen's University, Kingston, p. 1-809.

Charusiri, P., A.H. Clark, E. Farrar, D. Archibald & B. Charusiri (1993)- Granite belts in Thailand: evidence from the 40Ar/39Ar geochronological and geological syntheses. In: B.K. Tan et al. (eds.) 7th Reg. Congress Geology, Mineral Energy Resources of SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 127-136.
(Three granitoid belts of Thailand formed in different geotectonic environments: (1) E Belt formed in M-U Triassic (245-210 Ma; no Permian ages; I-type granitoids formed by subduction under Shan-Thai and Indo-China microcontinents), (2) C Belt in Late Triassic- E Jurassic (220-180 Ma; S-type granitoids result of Shan-Thai/Indo-China microcontinental plate collision), and (3) W Belt in Late Cretaceous- M Tertiary (80-50 Ma; S-type granitoids result of Shan-Thai/ W Burma collision)

Charusiri, P., V. Daorerk & D. Archibald, K. Hisada & T. Ampaiwan (2002)- Geotectonic evolution of Thailand: a new synthesis. J. Geol. Soc. Thailand 1, p. 1-20.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2005/6785.pdf)
(Thailand two major terranes, Shan Tai and Indochina, which amalgamated in Late Triassic. In M Paleozoic two smaller terrnanes between Shan-Tai and Indochina: 'Nakhon Thai' ocean floor to E and 'Lampang- Chiang Rai' volcanic arc to W. Late Triassic- E Jurassic thrusting of Shan-Tai over Lampang-Chiang Rai, E Lampang-Chiang Rai over Nakhon Thai, W Nakhon Thai over W Indochina, etc., followed by Jurassic-Cretaceous

continental sedimentation over Lampang-Chiang Rai, Nakhon Thai and W and SW Indochina. M-L Miocene mantle-derived, gem-bearing basalts, possibly linked to late regional uplift. Etc.)

Charusiri, P., S. Imsamut, Z. Zhuang, T. Ampaiwan & X. Xu (2006)- Paleomagnetism of the earliest Cretaceous to early late Cretaceous sandstones, Khorat Group, Northeast Thailand: implications for tectonic plate movement of the Indochina block. Gondwana Research 9, p. 310-325.
(Paleomagnetic study of samples from earliest Cretaceous to early Late Cretaceous sandstones of Khorat Gp in Indochina block suggest paleolatitude similar to today. Major displacement of Indochina along Red River and associated faults by ~950 km with 16-17° CW rotation relative S China plate in earliest Cretaceous. Indochina plate rotated 20-25° CW since very Late Cretaceous-E Neogene, may be due to India-Asia collision)

Charusiri, P., S. Kosuwan & S. Imsamut (1997)- Tectonic evolution of Thailand: from Bunopas (1981)'s to a new scenario. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, 1, p. 414-420.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1997/7645.pdf)

Charusiri, P., S. Kosuwan, A. Lumjuan & B. Wechbunthung (1999)- Review of active faults and seismicity in Thailand. In: G.H. Teh (ed.) Proc. 9th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA ô98), Kuala Lumpur 1998, Bull. Geol. Soc. Malaysia 43, p. 653-665.
(online at: www.gsm.org.my/products/702001-100776-PDF.pdf)
(Thailand rel. low seismicity. Fault activities more or less linked to extrusion tectonics caused by India-Asia collision in mid-Tertiary. Five major fault zones: N, WNW, C Peninsular, S Peninsular, and ENE FZ)

Charusiri, P., W. Lunwongsa & P. Laochu (2003)- Geophysical investigations at Khao Nang Klu lead deposit, Ban Kli Ti, Kanchanaburi, Western Thailand: implications for tectonic structures ore locallization and exploration. Science Asia 29, p. 265-277.
(online at: www.scienceasia.org/2003.29.n3/v29_265_277.pdf)

Charusiri, P., W. Pongsapich, V. Daorerk & B. Charusiri (1992)- Anatomy of Chantaburi granites: geochronology, petrochemistry, tectonics and associated mineralization. In: C. Piencharoen (ed.) Proc. Nat. Conf. Geologic resources of Thailand: potential for future development, Bangkok, Dept. Min. Resources, p. 383-392.
(online at: www.geo.sc.chula.ac.th/eatgru/Thai/research/pdf/paper/11.pdf)
(Chantaburi granites I-type and intruded in U Paleozoic- Lower Triassic, emplaced at ~195-209 Ma (= ~Triassic-Jurassic boundary), overprinted by Paleogene thermal event. Nearby Early Eocene S-type intrusions)

Charusiri, P., W. Pongsapich & S. Vedchakanchana (1986)- Petrological & geochemical studies of granites of Kathu Plutons of Phuket Island, Southern Thailand. In: G.H. Teh & S. Paramananthan (eds.) Proc. 5th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA V), Kuala Lumpur 1984, 1, Bull. Geol. Soc. Malaysia 19, p. 261-280.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1986020.pdf)
(C part of Phuket Island is covered with Cretaceous- Tertiary granitic rocks of Kathu Plutons. Five types of granites. Tin deposits mainly in greisenized mica granites and pegmatites)

Charusiri, P. & S. Pum-Im (2009)- Cenozoic tectonic evolution of major sedimentary basins in Central, Northern, and the Gulf of Thailand. Bull. Earth Sci. Thailand (BEST), 2, p. 40-62.
(online at: www.eatgru.sc.chula.ac.th/Thai/research/pdf/paper_2/95.pdf)
(In Thailand all major N-S trending Cenozoic basins are pull-apart basins developed during Late Eocene- E Oligocene (55-35 Ma) rifting as result of 'extrusion tectonics' of SE Asian block along major NE-SW trending fault zones. Basins fill started with localized lacustrine and alluvial deposits in Oligocene, followed by fluvial-alluvial deposits in lower unit (<100-2500m thick), transgressive fluvial and marginal marine deposition (<500-1000m thick) in middle, and capped by overall regressive fluvial- alluvial deposits in upper unit)

Charusiri, P., T. Pungrassami & G. Sinclair (2006)- Classification of rare-earth element (REE) deposits in Thailand: a genetic model. J. Geol. Soc. Thailand 1, p. 57-66.
(online at: http://library.dmr.go.th/Document/J-Index/2005-2006/2848.pdf)
(Rare Earth minerals in Thaialnad mainly monazite, and also xenotime and microlite. Primary REE deposits associated with tin granitoids of S-type affinity and mainly in Cretaceous- Tertiary Western Granitoid Belt. Alluvial placersnear weathered granites may yield variable amounts of REE ores, mainly near granitoid terraces of western Gulf of Thailand, possibly also along Andaman Sea)

Charusiri, P., T. Rewbumroong , K. Rittidate & N. Srinak (2014)- Tectonic evolution of Cenozoic basins in Thailand with special emphasis on Mae Moh Basin, northern Thailand. In: Development of the Asian Tethyan Realm, Proc. 3rd Int. Symposium Int. Geosciences Program (IGCP) Project 589, Tehran 2014, p. 68-70. *(Abstract)*
(N-S trending Cenozoic basins of Thailand inferred to have developed in Late Eocene- E Oligocene as result of extrusion tectonics of SE Asian block, along major NE-SW trending fault zones. Most basins regarded as pull-apart basins. Deposition started with localized lacustrine and alluvial deposition in Oligocene, followed by fluvial and marginal marine deposits. Four main tectonic episodes: (1) pull-apart and transtensional rifting (55-30 Ma), marked at end by M Tertiary unconformity; (2) quiescent thermal subsidence event (30-15 Ma) involving widespread transpression and extensive delta progradation; (3) transpression wrenching event (15-7 Ma) due to on-going dextral shear along major NW-trending fault zones, with subsequent basin inversion and folding; end marked by late M Miocene unconformity; (4) post-rifting (7 Ma- Recent))

Charusiri, P., C. Sutthirat, C. Plathong & W. Pongsapich (2004)- Geology and petrochemistry of basaltic Rocks at Khao Kradong, Burirum, NE Thailand: implications for rock wool potentials and tectonic setting. J. Scient. Res. Chulalongkorn University 29, 2, p. 81-103.
(Khao Kradong in Burirum national park in NE Thailand is small basaltic volcanic cone in Cenozoic basaltic terrain of ~30 km2. Age from whole-rock Ar/Ar dating 1 Ma. Rocks transitional from hawaiite to alkali olivine basalt. Part of Cenozoic basalts of continental-rift origin of Laos-Cambodia- Vietnam)

Charusiri, P., C. Sutthirat & V. Daorerk (2009)- Introduction to Rare-Earth metal resources in Thailand. 6th Int. Conf. Materials Engineering for Resources (ICMR) 2009, Akita, Keynote Session, A1-3, p. 73-78.
(online at: www.eatgru.sc.chula.ac.th/Thai/research/pdf/paper/93.pdf)
(Monazite and xenotime significant rare earth minerals occurring with tin-tungsten deposits in granites and pegmatites and in Quaternary fluvial and beach deposits. Ilmenite- series granites more rare earth minerals than magnetite - series granites. Weathering crust of granites-pegmatites of important economic significance. In S Thailand highest RE metal contents 0.092%. Important secondary provinces in Songkhla and Yala of S Thailand with up to 0.045% monazite and 0.196% xenotime)

Chavasseau, O., Y. Chaimanee, C. Yamee, P. Tian, M. Rugbumrung, B. Marandat & J.J. Jaeger (2009)- New Proboscideans (Mammalia) from the Middle Miocene of Thailand. Zool. J. Linnean Soc. 155, 3, p. 703-721.
(online at: https://academic.oup.com/zoolinnean/article/155/3/703/2627128)
(M Miocene proboscidean fauna of NW Thailand E of Chiang Mai five taxa (4 elephantoids, 1 deinothere), dominated by Stegolophodon and Gomphotherium. Thai proboscidean asssemblage mainly endemic, although Gomphotherium cf. browni denotes faunal affinities with Pakistan)

Chen, Y. & V. Courtillot (1989)- Widespread Cenozoic(?) remagnetisation in Thailand and its implications for the India-Asia collision. Earth Planetary Sci. Letters 93, 1, 113-122.
(Paleomagnetic study of Devonian- Jurassic sites of Khorat plateau and reappraisal of published data from Triassic-Cretaceous show most of Indochina block suffered complete remagnetization after Triassic and possibly after Cretaceous, most likely during India- Eurasia collision. Paleodirections associated with remagnetization consistent with Thailand as part of Eurasia that suffered some 20° of CW rotation)

Cheneval, J., L. Ginsburg & C. Mourer-Chauvire (1984)- Discovery of an avifauna from the Miocene of Northern Thailand. Comptes Rendus Academie Sciences Paris 299, Serie II, 19, p. 1369-1372.

Cheneval, J., L. Ginsburg & C. Mourer-Chauvire & B. Ratanasthien (1991)- The Miocene avifauna of the Li Mae Long locality, Thailand: systematics and paleoecology. J. Southeast Asian Earth Sci. 6, 2, p. 117-126.
(Miocene bird fossils from Li Mae Long includes anhinga, heron, lesser flamingo (Phoeniconaias siamensis n. sp.), etc.. Probably in large swampy depression surrounded by humid forests, under warm climate)

Chenrai, P. (2012)- Paleocurrent analysis of the Sao Khua Formation, Khorat Group, Nong Bua Lamphu region, NE Thailand. Arabian J. Science Engineering 37, 1, p. 115-120.
(Paleocurrent analysis in sandstones of E Cretaceous Sao Khua Fm of Khorat Plateau shows paleocurrent trend of sand channels dominantly NE; probabl yin braided channel environment)

Chinbunchorn, N., S. Pradidtan & N. Sattayarak (1989)- Petroleum potential of Tertiary intermontane basins in Thailand. In: T. Thanasuthipitak & P. Ounchanum (eds.) Int. Symp. Intermontane basins: geology and resources, Chiang Mai, p. 29-42.

Chinoroje, O. (1993)- Petrographic studies of Permian carbonates in Southern Thailand. In: B.K. Tan et al. (eds.) 7th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 161-171.
(Petrography of M-U Permian carbonates from Peninsular Thailand (Ratburi, Prachuab Khirikhan, Ko Ang Thong and Surat Thani-Phang Nga). Six facies in interior-platform setting. Bioclastic grains stromatolite, green algae, tabulate corals, solitary corals, crinoids, foraminifera (Shanita, Hemigordius), brachiopods, bryozoan, etc.. Non-bioclastic grains ooids, peloids and intraclasts)

Chinoroje, O. & M.R. Cole (1995)- Permian carbonates in the Dao Ruang 1 exploration well- implications for petroleum potential, Northeast Thailand. Proc. Int. Conf. Geology, Geotechnology and Mineral Resources of Indochina (Geo-Indo '95), Khon Kaen University 1995, p. 563-576.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1995/7461.pdf)
(Texaco 1993 Doa Ruang 1 well in NE Thailand penetrated ~3000' of late E- early M Permian Ratburi Fm carbonates, overlying Permian? andesitic volcanics. With significant gas shows, but low, non-commercial flow rates due to poor reservoir quality. Potential massive dolomite reservoir not encountered)

Chitnarin, A., S. Crasquin, T. Charoentitirat, P. Tepnarong & N. Thanee (2012)- Ostracods (Crustacea) of the Early-Middle Permian from Central Thailand (Indochina block). Part I. Order Palaeocopida. Geodiversitas 34, 4, p. 801-835.
(online at: http://sciencepress.mnhn.fr/sites/default/files/articles/pdf/g2012n4a5.pdf)
(E-M Permian shallow marine ostracods from W margin of Indochina block, C Thailand. Samples from 12 limestone localities in Loei, Phetchabun and Nakhon Sawan-Lopburi contain 39 species of Palaeocopida, families Aparchitidae, Kloedenellidae, Knoxitidae, Paraparchitidae, Kirkbyidae, Amphissitidae, Youngiellidae, Hollinellidae, and Coelonellidae. Podocopida will be described in second paper. Eight new species)

Chitnarin, A., S. Crasquin, C. Chonglakmani, J. Broutin, P.J. Grote & N. Thanee (2008)- Middle Permian ostracods from Tak Fa Limestone, Phetchabun Province, Central Thailand. Geobios 41, 3, p. 341-353.
(First Permian ostracod fauna described from M Permian Tak Fa Lst of Khao Khwang carbonate platform in Phetchabun province, C Thailand. Shallow marine, nearshore assemblages. 15 species mainly endemic, except one, which shows paleobiogeographic links between C Thailand and S China)

Chonglakmani, C. (1981)- The systematics and biostratigraphy of Triassic bivalves and ammonoids of Thailand. Ph. D. Thesis, University of Auckland, New Zealand, p.   *(Unpublished)*

Chonglakmani, C. (1983)- The marine Mesozoic stratigraphy of Thailand. In: P. Nutalaya (ed.) Proc. Workshop Stratigraphic correlation of Thailand and Malaysia, Haad Yai 1983, Geol. Soc. Thailand and Geol. Soc. Malaysia, p. 105-126.
(online at: https://gsmpubl.files.wordpress.com/2014/10/sctm_06.pdf)
(Marine Mesozoic rel. widespread in W Thailand (mainly non-marine in NE). Widespread marine Triassic deposits. Less common, but complete Jurassic sections in NW, NC and S Thailand)

Chonglakmani, C. (1985)- Report on work done along SEATAR Transect-1. Proc. 21st Sess. CCOP, Bandung 1984, 2, Techn. repts., p. 144-162.

Chonglakmani, C. (1999)- The Triassic system of Thailand: implication on geotectonic evolution of Southeast Asia. In: G.H. Teh (ed.) Proc. 9th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA ö98), Kuala Lumpur 1998, Bull. Geol. Soc. Malaysia 43, p. 95-102.
(online at: www.gsm.org.my/products/702001-100830-PDF.pdf)
(Four main Triassic sedimentary facies: (1) Continental facies in retroarc foreland basins in NE Thailand amalgamated Indosinia- Sukhothai terranes; (2) Continental platform facies in 'Shan-Mergui' and Chiang Mai (Phrao Lst, Klaeng Lst) terranes;. (3) Marine intra-arc facies in volcanoplutonic setting on W part of Sukhothai- Indosinia terrane (shallow water siliciclastics- carbonates, turbidites and rhyolitic- andesitic volcanics; (4) Deep marine and oceanic facies (radiolarian chert, pelagic limestone, turbidite and basalts) in two zones representing two distinct Triassic sutures: (1) Chiangrai-Chanthburi belt, extending S into Bentong-Raub suture of Malaysia, and (2) Mae Sariang-Kanchanaburi belt, extending S to W Malaysia and C Sumatra. Nan-Uttaradit-Sra Kaeo ophiolite belt previously considered as Late Triassic suture is Late Permian one. Major terrane accretions in Late Triassic by subduction to E in Late Carnian and M-L Norian)

Chonglakmani, C. (2001)- The Saraburi Group of North-Central Thailand: implication for geotectonic evolution. Gondwana Research 4, 4, p. 597-598. *(Abstract only*
(Permian limestones of Thailand used to be grouped in Ratburi Limestone, named after province in W Thailand and formed in peri-Gondwanan Realm. Permian limestones from N and NE Thailand are different, formed on Indochina Plate/ Tethyan Realm and should be grouped in Ngao and Saraburi Groups)

Chonglakmani, C. (2002)- Current status of Triassic stratigraphy of Thailand and its implication for geotectonic evolution. In: N. Mantajit (ed.) Proc. Symposium on Geology of Thailand, Bangkok 2002, Dept. Mineral Resources, p. 1-3.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2002/6367.pdf)
(Brief review of Triassic deposits in Thailand. Mainly marine, except in NE where only continental, with warm Dictyophylum- Chlathopteris flora. Shan-Tai block with rel. widespread carbonate. E part of Shan-Tai block Late Triassic marine with volcanics facies (equiv. of Semantan Fm in Malaysia Central Belt. Deep marine and oceanic facies in two belts: (1) between Chiang Mai (C Shan Tai) and Sukhothai (E Shan Tai) terranes; with Devonian- M Triassic cherts (=Inthanon suture?); (2) Mae Sariang Zone (farther W; extends S to Kanchaburi, to Semanggol Fm in Malaysia, into C Sumatra. Shan Tai here regarded as part of Indochina province?)

Chonglakmani, C. (2011)- Triassic. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, p. 137-150.

Chonglakmani, C., T. Charoentitirat & M. Liengjarern (1995)- Permian carbonates of Loei area, Northeastern Thailand. Proc. Int. Conf. Geology, Geotechnology and Mineral Resources of Indochina (Geo-Indo '95), Khon Kaen University 1995, p. 577-587.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1995/7462.pdf)
(Late Carboniferous- M Permian carbonates in E part of Changwat Loei, NE Thailand. Dark grey massive limestone, ~280m thick, with abundant fusulinids (6 zones), corals algae, etc.)

Chonglakmani, C., W.W. Duan & H. Fontaine (1990)- Note on the continental deposits of Peninsular Thailand with a description of some conchostracans. Oil and Gas Geology 11, 1, p. 31-37.
(Conchostracans collected from continental sediments halfway between Trong and Krabi dominated by Pseudograpta spp. and probably of late M Jurassic age. Associated with plants, crocodile teeth, etc.)

Chonglakmani, C., Q. Feng, D. Meischner, R. Ingavat-Helmcke & D. Helmcke (2001)- Correlation of tectono-stratigraphic units in northern Thailand with those of western Yunnan (China). J. China University of Geosc. 12, 3, p. 207-213.
(online at: http://sutir.sut.ac.th:8080/sutir/bitstream/123456789/506/1/bib132.pdf)

(N continuation of Lampang region of Thailand is in Simao region of Yunnan, with very similar Permian-Triassic developments)

Chonglakmani, C. & H. Fontaine (1993)- The Lam Narai- Phetchabun region: a platform of Early Carboniferous to Late Permian age. In: Proc. Conf. Development of geology for Thailand into the year 2000, Chulalongkorn University, Bangkok 1990, p. 39-98.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1990/24715.pdf)
(On Carboniferous- Permian carbonate platform S of Phetchabun, NE Thailand (= W passive margin of Indochina Block). Incl. late M Permian massive corals (Ipciphyllum, Wentzelloides), small forams (Dagmarita, Hemigordiopsis), fusulinids (Verbeekina verbeeki, Colania douvillei, Sumatrina, Neoschwagerina). No marine Triassic noted)

Chonglakmani, C., H. Fontaine & D. Vachard (1983)- A Carboniferous -Lower Permian(?) section in Chon Daen, Central Thailand. In: Symposium on Stratigraphy of Thailand, Bangkok, Dept. Mineral Resources, p. 1-5.

Chonglakmani, C. & J.A. Grant-Mackie (1993)- Biostratigraphy and facies variation of the marine Triassic sequences in Thailand. In: T. Thanasuthipitak (ed.) Int. Symposium Biostratigraphy of mainland Southeast Asia: facies and paleontology (BIOSEA), Chiang Mai 1993, 1, Chiang Mai University, p. 97-123.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1993/7482.pdf)
Relatively complete marine Triassic section in Thailand >3000m thick, in 3 sedimentary basins across W Thailand (Sibumasu terrane and Paleotethys suture zone?). Twelve faunal zones in Lampang-Phrae basin, mainly based on bivalve molluscs (Claraia, Costatoria, Daonella, Halobia, Trigonodus, Indopecten). Ammonoids relatively rare)

Chonglakmani, C. & D. Helmcke (1989)- The Triassic Lampang Group of northern Thailand: forearc basin deposits or sediment of intramontane basins. In: T. Thanasuthipitak & P. Ounchanum (eds.) Int. Symposium on Intermontane basins: geology and resources, Chiang Mai, p. 265-275.
(Lampang Group, which overlies Late Triassic Lampang volcanic rocks, deposited in shallow intramontane basins, developed on continental crust in post-collisional setting)

Chonglakmani, C. & D. Helmcke (2001)- Geodynamic evolution of Loei and Phetchabun regions- does the discovery of detrital chromian spinels from the Nam Duk Formation (Permian, North-Central Thailand) provide new constraint? Gondwana Research 4, 3, p. 437-442.
(M-U Permian Nam Duk Fm sandstones of Phetchabun region contain chromian spinel and are affected by compressional deformation (unconformably overlain by U Triassic). Confirms erosion of compressional mountain belt and reflects M-U Permian closure of Nan-Uttaradit suture)

Chonglakmani, C. & N. Sattayarak (1978)- Stratigraphy of the Huai Hin Lat Formation (Upper Triassic) in northeastern Thailand. In: P. Nutalaya (ed.) Proc. 3rd Regional Conf. Geology and Mineral Resources of SE Asia (GEOSEA III), Bangkok, p. 739-774.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1978/7413.pdf)
(Huai Hin Lat Fm at W side of Khorat Plateau is <1300m thick basal unit of Mesozoic Khorat Group. Composed of grey-red fluvial-lacustrine sediments, unconformably over eroded Permian limestones or clastics. Basal unit rhyolite-andesite-tuff volcanics. Age mainly Norian possibly also late Carnian, based on plant fossils of Dictyophyllum- Clathropteris flora (Kon'no & Asama 1973), estheriids (Kobayashi 1973) and spores-pollen (Haile 1973))

Choowong, M. (2011)- Quaternary. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, p. 335-350.

Chualaowanich, T., D. Saisuthichai, P. Sarapanchotewittaya, P. Charusiri, C.L. Sutthirat, T.Y. Lee. & M.W. Yeh (2008)- New 40Ar/39Ar ages of some Cenozoic basalts from the east and northeast of Thailand. Proc. Int. Symposia on Geoscience Resources and Environments of Asian Terranes, Bangkok, p. 225-229.

Chuaviroj, S. (1997)- Deformations in Khorat Plateau Thailand. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, 1, p. 321-325.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1997/7642.pdf)
(Three deformation phases in Khorat Plateau, NE Thailand, from Landsat interpretation. Oldest N-S trending, tied to Late Cretaceous Shan Tai- Indochina collision; younger events NW-SE trending folds tied to E Tertiary India collision)

Chutakositkanon, V., P. Charusiri & K. Sashida (2000)- Lithostratigraphy of Permian marine sequences, Khao Pun area, Central Thailand: paleoenvironments and tectonic history. The Island Arc 9, p. 173-187.
(Thick marine Permian section in Saraburi Province, C Thailand (W side of Indochina Block), Permian transgressive-regressive trend from E Permian limestone dominated shelf to M Permian pelagic-abyssal environment. Late Permian again shallow marine facies)

Chutakositkanon, V. & K. Hisada (2008)- Tectono-stratigraphy of the Sa Kaeo-Chanthaburi accretionary complex, Eastern Thailand: reconstruction of tectonic evolution of oceanic plate- Indochina collision. In: Proc. Int. Symp. Geoscience Resources and Environments of Asian Terranes (GREAT 2008), 4th IGCP 516 and 5th APSEG, Bangkok, p. 330-338.
(online at: www.geo.sc.chula.ac.th/Geology/Thai/News/Technique/GREAT_2008/PDF/101.pdf)
(Sa Kaeo suture in E Thailand formerly proposed to be collision zone between Sibumasu and Indochina blocks. Redefined as Sa Kaeo-Chanthaburi Accretionary Complex: melange with Late Paleozoic blocks, characterized by oceanic plate materials of basalts and overlying chert with seamount-type limestone, subducted/accreted to W edge of Indochina in latest Permian, covered by turbidite deposits in M Triassic)

Chutakositkanon, V., K. Hisada, P. Charusiri & S. Arai (1999)- Detrital chromian spinels from the Nam Duk Formation: a key to elucidate the tectonic evolution of central mainland Southeast Asia and the Loei suture zone in Thailand. In: Proc. Int. Symposium Shallow Tethys 5, Chiang Mai, p. 450-456.

Chutakositkanon, V., K. Hisada, P. Charusiri, S. Arai. & T. Charoentitirat (1999)- Characteristics of detrital chromian spinels from the Nam Duk Formation: implications for the occurrence of mysterious ultramafic and volcanic rocks in central Thailand. In: Proc. Symposium Mineral energy and water resources of Thailand: towards the year 2000, Bangkok, p. 604-606.

Chutakositkanon, V., K.I. Hisada, P. Charusiri & S. Arai (2001)- Tectonic significance of detrital chromian spinels in the Permian Nam Duk Formation, central Thailand. Geosciences J. 5, p. 89-96.
(Detrital chromian spinels in turbiditic sandstones of Permian Nam Duk Fm suggest mafic- ultramafic volcanics and peridotites of arc origin were exposed in region in Permian. Loei-Phetchabun-Ko Chang volcanic belt, possible candidate for source of detrital Cr-spinels. Associated limestone beds with Pseudodoliolina pseudolepida and Verbeekina verbeeki suggest late M Permian age for Nam Duk Fm)

Circosta, G. (2011)- Gold (and copper) exploration and mining potential of the Loei- Phetchabun Volcanic belt. In: Int. Conf. Geology, geotechnology and mineral resources of Indochina (GEOINDO 2011), Khon Kaen, p. 1-2. *(Abstract only)*
(online at: http://home.kku.ac.th/geoindo2011/A1-1-116.pdf)
(Loei-Phetchabun Volcanic Belt is N-S trending Permo-Triassic magmatic-volcanic arc which trends from Laos through C Thailand and into W Cambodia and hosts several world-class Au and Cu-Au deposits)

Claude, J., W. Naksri, N. Boonchai, E. Buffetaut, J. Duangkrayom, C. Laojumpon, P. Jintasakul, K. Lauprasert et al. (2011)- Neogene reptiles of northeastern Thailand and their paleogeographical significance. Annales Paleontologie 9, p. 113-131.
(M Miocene- Pleistocene turtles and crocodiles from Nakhon Ratchasima Province, NE Thailand. Incl. Pleistocene Gavialis aff. bengawanicus, giant land tortoises (Megalochelys), etc. Most from shallow temporary sandpits, with little or no stratigraphic context)

Claude, J., V. Suteethorn & H. Tong (2007)- Turtles from the late Eocene- early Oligocene of the Krabi Basin (Thailand). Bull. Soc. Geologique France 178, 4, p. 305-316.
(Two new species of geoemydid turtles from three lignite pits in latest Eocene- earliest Oligocene of Krabi Basin in SW Peninsular Thailand; early representatives of testudinoid turtles from SE Asia. Eocene turtle assemblage from Krabi different Eocene Pondaung Fm of Myanmar, dominated by highly aquatic taxa, while Krabi fauna mostly composed of smaller aquatic or more semi-terrestrial species)

Cobbing, E.J. (2011)- Granitic rocks. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, p. 441-457.

Cobbing, J. (2004)- The gneissic granites of northern Thailand. In: V. Daorerk & M. Kimata (eds.) Int. Symposium on the geologic evolution of East and Southeast Asia: microcontinental accretion and formation of marginal sea, Chulalongkorn University, p. 28-31.

Cocks, L.R.M. & R.A. Fortey (1997)- A new *Hirnantia* fauna from Thailand and the biogeography of the latest Ordovician of South-East Asia. Geobios 30, Suppl. 1, p. 117-126.
(New occurrence of widespread latest Ashgillian Hirnantia brachiopod shelly fauna from Satun Province, S Thailand. Fauna similar to N Shan States, Myanmar and to S China, indicating that Sibumasu (Shan-Thai) palaeocontinent, on which Thailand and N Shan States were situated, in Ordovician and Silurian closer to S China than previously supposed. Incl. descriptions of trilobite Mucronaspis, brachiopods Hirnantia, etc.)

Coenraads, R.R., P. Vicht & F.L. Sutherland (1995)- An unusual sapphire-zircon-magnetite xenolith from the Chanthaburi Gem Province, Thailand. Mineralogical Magazine 59, p. 465-479.
(Sapphire, zircon and magnetite-bearing xenolith from Khao Wua, near Chanthaburi dated as ~2 Ma. This is within range of fission track ages for alluvial zircons (~2.57 Ma) from Chanthaburi-Trat gem fields and K/Ar ages of 0.44-3.0 Ma for alkali basaltic volcanism in Chanthaburi Province, with which Thailand's gemstones appear to be associated)

Cooper, M.A., R. Herbert & G.S. Hill (1989)- The structural evolution of Triassic intermontane basins in Northeastern Thailand. In: T. Thanasuthipitak & P. Ounchanum (eds.) Proc. Int. Symp. on Intermontane basins: geology and resources, Chiang Mai 1989, p. 231-242.
(Description of Khorat Plateau, NE Thailand, Late Triassic half-grabens filled with fluvial sediments. Basin and range type extension explained as collapse of thickened continental crust, 20 My after E Triassic 'Indosinian' collision of Shan Tai and Indochina plates. Overlain by sag-phase Jurassic- Cretaceous continental sediments of Khorat Gp. Basin system inverted during Late Cretaceous- E Tertiary compression caused by Kohistan Arc collision (=W Burma plate?). (Triassic grabens mainly on Indochina Block?; JTvG))

Coster, P., M. Benammi, Y. Chaimanee, C. Yamee O. Chavasseau, E.G. Emonet & J.J. Jaeger (2010)- A complete magnetic-polarity stratigraphy of the Miocene continental deposits of Mae Moh Basin, northern Thailand, and a reassessment of the age of hominoid-bearing localities in northern Thailand. Geol. Soc. America (GSA) Bull. 122, 7-8, p. 1180-1191.
(N Thailand has >40 Tertiary intermontane basins. Some contain hominoid fossils and rich Neogene mammal faunas. Magnetic-polarity stratigraphy used for age calibration in Mae Moh Basin, Lampang Province. 15 polarity zones recognized between 14-12 Ma. Correlation with nearby Chiang Muan basin suggest age of beds with large-bodied hominoid Khoratpithecus chiangmuanensis is between 12.4- 12.2 Ma)

Cronier, C & R.A. Fortey (2006)- Morphology and ontogeny of an Early Devonian phacopid trilobite with reduced sight from Southern Thailand. J. Paleontology 80, 3, p. 529-536.
(Development of reduced-eyed phacopid species Plagiolaria poothaii Kobayashi and Hamada 1968, from E Devonian of Pa Samed Fm, Satun Province (Sibumasu terrane). Associated with dacryoconarid tentaculites. Plagiolaria part of specialized group of phacopids inhabiting muddy, dark, deep water environment)

Crow, M.J. (2011)- Radiometric ages of Thailand rocks. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, p. 593-614.

Crow, M.J. & K. Zaw (2011)- Metalliferous minerals. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, p. 459-492.

Cuny, G. (2012)- Freshwater hybodont sharks in Early Cretaceous ecosystems: a review. In: P. Godefroit (ed.) Bernissart dinosaurs and Early Cretaceous terrestrial ecosystems. Indiania University Press, Bloomington, p. 518-529.
(Includes newly defined Heteroptychodus-Thaiodus Province of SE Asian E Cretaceous freshwater sharks)

Cuny, G., R. Liard, U. Deesri, T. Liard, S. Khamha & V. Suteethorn (2013)- Shark faunas from the Late Jurassic- Early Cretaceous of northern Thailand. Palaont. Zeitschrift 88, 3, p. 309-328.
(online at: http://link.springer.com/article/10.1007/s12542-013-0206-0)
(Freshwater hybodont shark fauna from NE Thailand from Phu Kradung Fm, which is basal formation of Khorat Group. Vertebrate assemblages suggest Late Jurassic age, but palynology and detrital zircons favor Early Cretaceous age. Shark assemblages of Phu Kradung Fm both European and Asian affinities)

Cuny, G., P. Srisuk, S. Khamha, V. Suteethorn & H. Tong (2009)- A new elasmobranch fauna from the Middle Jurassic of southern Thailand. In: E. Buffetaut, G. Cuny et al. (eds.) Late Palaeozoic and Mesozoic ecosystems in SE Asia. Geol. Soc. London, Spec. Publ. 315, p. 33-40.
(New M Jurassic shark fauna from Khlong Min Fm, S Thailand)

Cuny, G., V. Suteethorn, E. Buffetaut & M. Philippe (2003)- Hybodont sharks from the Mesozoic Khorat Group of Thailand. Mahasarakham University J. 22 (Special issue), p. 49-68.

Cuny, G., V. Suteethorn, S. Kamha & E. Buffetaut (2008)- Hybodont sharks from the Lower Cretaceous Khok Kruat Formation of Thailand, and hybodont diversity during the Early Cretaceous. In: L. Cavin et al. (eds.) Fishes and the break-up of Pangaea, Geol. Soc., London, Spec. Publ. 295, p. 93-107.
(Isolated teeth of five hybodont species from Khok Kruat Fm (Aptian) of E Thailand. These sharks appear to be restricted to freshwater environment and probably endemic to Khorat Plateau, although Thaiodus and Heteroptychodus also found in deltaic and/or marine environments outside Thailand on Asian continent)

Cuny, G., V. Suteethorn, S. Kamha, E. Buffetaut & M. Philippe (2006)- A new hybodont shark assemblage from the Lower Cretaceous of Thailand. Historical Biology 18, 1, p. 21-31.
(Tteeth of five hybodont taxa from freshwater E Cretaceous Sao Khua Fm of Khorat Plateau. Fauna appears less endemic, with some European affinities, than fauna from younger Aptian-Albian Khok Kruat Fm)

Cuny, G., V. Suteethorn, S. Kamha, K. Lauprasert, P. Srisuk & E. Buffetaut (2007)- The Mesozoic fossil record of sharks in Thailand. In: W. Tantiwanit (ed.) Int. Conf. on Geology of Thailand: Towards sustainable development and sufficiency economy (GEOTHAIö07), Bangkok, Dept. Mineral Resources, p. 349-354
(Mesozoic sharks known in Thailand from Indochina and Sibumasu (Shan-Thai) terranes Over 21 species, mainly Cretaceous freshwater hybodont sharks endemic to Asia)

Cuny, G., V. Suteethorn & S. Khansubha (2015)- A sclerorhynchoid (Chondrichthyes: Batomorphii) in the Lower Cretaceous of Thailand? In: R.M. Sullivan and S.G. Lucas (eds.) Fossil Record 4, New Mexico Museum Natural History Science Bull. 67, p. 15-17.
(Possible sclerorhynchid rostral tooth in Barremian freshwater Sao Khua Fm of Khorat Gp of NE Thailand)

Curiale, J.A. & M.R. Gibling (1994)- Productivity control on oil shale formation- Mae Sot Basin, Thailand. Organic Geochem. 21, p. 67-89.
(On Neogene oil shales from freshwater, lacustrine, intermontane Mae Sot Basin, W Thailand)

Dawson, O.T. (1978)- Depositional and diagenetic fabrics of Permian limestone from Saraburi, Central Thailand. In: P. Nutalya (ed.) Proc. 3rd Regional Conf. Geology and Mineral Resources of SE Asia (GEOSEA III), Bangkok, p. 47-60.

(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1978/7401.pdf)
(Study of 1400m of Permian Ratburi Lst, N of Saraburi, C Thailand. Fusulinid faunas can be correlated with Misellina, Neoschwagerina zones of Tethyan Realm)

Dawson, O.T. (1978)- Notes on deformation fabrics of the Permian Limestone from Central Thailand. J. Geol. Soc. Thailand 3, 1, p. 3-14.
(online at: http://library.dmr.go.th/library/J-Index/1978/45.pdf)
(On deformation and pressure solution in anticlinal structures of folded Permian limestones in Saraburi area. Tests of staffellid and schwagerinid (Nankinella) fusulinid foraminifera more susceptible to stress and solution than neoschwagerinid (Neoschwagerina simplex) types))

Dawson, O. (1993)- Fusiline foraminiferal biostratigraphy and carbonate facies of the Permian Ratburi Limestone, Saraburi, central Thailand. J. Micropalaeontology 12, 1, p. 9-33.
(online at: https://www.j-micropalaeontol.net/12/9/1993/jm-12-9-1993.pdf)
(Permian carbonates N of Saraburi, at S end of Phetchabun foldbelt in C Thailand. N-S trending carbonate platform with diverse E Permian (Sakmarian)- early Late Permian (Midian) fusulinid-algal assemblages. Archaeolithoporella and Tubiphytes form reef frameworks, similar to M Permian reefs of Austria and W Texas. Fusulinids of Arctic-Tethyan affinities in E Permian, of Tethyan affinity in M Permian. Tethyan verbeekinids dominate in late M Permian, together with cosmopolitan species of Parufusulina and Schwagerina, and can be correlated with S Pamirs, Afghanistan, S China, Johore and W Sumatra. Associated dasycladacean floras assignable to E Circum-Pacific Realm. Eight fusuline assemblage zones)

Dawson, O., A. Baird & D. Bosence (1993)- No reef-rimmed margins to the Permian carbonate platforms of Thailand. In: B.K. Tan et al. (eds.) Proc. 7th Conf. Geology, Mineral and Energy Res. SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 181-186.
(C Thailand E Permian platform, margins formed mainly by grainstones, with only small Archaelithoporella-Tubiphytes- calcisponges boundstone biostromes. In Ratburi area of Peninsular Thailand, small M Permian Tubiphytes bioherms on platform interior ridges, not in shelf marginal position)

Dawson, O. & A. Racey (1993)- Fusuline- calcareous algal biofacies of the Permian Ratburi Limestone, Saraburi, Central Thailand. In: B.K. Tan et al. (eds.) 7th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 49-65.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1993/7589.pdf)
E-M Permian Ratburi Lst of C Thailand (= W margin of Indochina terrane) folded sequence of Sakmarian- E Midian supratidal to outer platform biofacies. Subdivided with abundant fusuline and calcareous algal biota. Ratburi Lst transgressive-regressive carbonate platform sequence. Fusulinid distribution depth-controlled, with 6 main assemblages. With fusulinid facies distribution model)

Dawson, O., A. Racey & J.E. Whittaker (1993)- The palaeoecological and palaeobiogeographical significance of *Shanita* (foraminifera) and associated foraminifera/ algae from the Permian of peninsular Thailand. In: T. Thanasuthipitak (ed.) Int. Symposium Biostratigraphy of mainland Southeast Asia: facies and paleontology (BIOSEA), Chiang Mai 1993, 2, Chiang Mai University, p. 283-295.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1993/6791.pdf)
(late M Permian (Midian) pillared miliolid foram Shanita amosi known from Ratburi Lst of peninsular Thailand and from platform carbonates in Tunisia, Turkey, Iran, E Burma. Associated with poor fusulinid assemblages (unlike high-diversity fusulinids in E Thailand. Appears to be restricted to W Tethys and Shan-Tai Block (Key marker genus for latest M-early Late Permian) of Sibumasu/ Cimmerian terranes; JTvG))

Dawson, O., A. Racey & J.E. Whittaker (1994)- Permian foraminifera from northeast and peninsular Thailand. In: P. Angsuwathana et al. (eds.) Proc. Int. Symp. Stratigraphic correlation of Southeast Asia, Bangkok 1994, Dept. Mineral Resources and IGCP 306, p. 323-332.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1994/6958.pdf)
(Permian carbonates of Peninsular Thailand originally deposited on Shan-Tai (Sibumasu) terrane. With mod. diverse foraminifera and algal assemblages mainly of M Permian (late Murgabian-Midian) age, locally

ranging down into Sakmarian. Localities with Shanita amosi and common Hemigordius and Hemigordiopsis restricted to peninsular Thailand, where fusulinid assemblage of low diversity. NE Thailand (Indochina terrane) age-equivalent fusulinids are abundant and diverse Tethyan assemblages with Colania douvilei, Lepidolina, Neoschwagerina, Verbeekina verbeeki, etc.))

De Broin, F., R. Ingavat, P. Janvier & N. Sattayarak (1982)- Triassic turtle remains from northeastern Thailand. J. Vertebrate Paleontology 2, 1, p. 41-46.
(Fragments of dermal plates of undetermined aquatic chelonian in Huai Hin Lat Fm near Chulabhorn Dam, NE Thailand. In same formation also ostracodes, semionotid actinopterygians, lungfishes, capitosaurids, and phytosaurs, all suggestive of Late Triassic (possibly Norian) age. Turtle remains first from Triassic of Asia)

Deesri, U., L. Cavin, J. Claude, V. Suteethorn & P. Yuangdetkla (2009)- Morphometric and taphonomic study of a ray-finned fish assemblage (*Lepidotes buddhabutrensis*, Semionotidae) from the Late Jurassic-earliest Cretaceous of NE Thailand. In: E. Buffetaut et al. (eds.) Late Palaeozoic and Mesozoic continental ecosystems in SE Asia, Geol. Soc., London, Special Publ. 315, p. 115-124.

Deesri, U., K. Laupraasert, K. Wongko & L. Cavin (2014)- A new species of the ginglymodian fish *Isanichthys* (Actinopterygii, Holostei) from the Late Jurassic Phu Kradung Formation, northeastern Thailand. Acta Palaeontologica Polonica 59, 2, p. 313-331.
(online at: https://www.app.pan.pl/archive/published/app59/app20120013.pdf)
(New ginglymodian fish, Isanichthys lertboosi, from freshwater deposit of probable Late Jurassic age in NE Thailand. Associated with rich fauna of sharks, turtles, crocodiles, and theropod and sauropod dinosaurs)

Deesri, U. (2017)- Taxic diversity and ecology of Mesozoic bony fish assemblages from the Khorat Group, NE Thailand. Research and Knowledge 3, 2 p. 18-22.
(online at: doi.nrct.go.th/ListDoi/Download/.../0413d160426beeb7c065c3cb57bc63e0?)
(Khorat Gp in NE Thailand with 5 M? Jurassic- Aptian continental formation with succession of freshwater bony fish assemblages in 15 localities)

Deng, T., R. Hanta & P. Jintasakul (2008)- A new species of *Aceratherium* (Rhinocerotidae, Perissodactyla) from the late Miocene of Nakhon Ratchasima, northeastern Thailand. J. Vertebrate Paleontology 33, 3, p. 977-985.
(New skull and mandible of mid-sized rhinocerotid Aceratherium from Tha Chang sand pits in Nakhon Ratchasima Province, described as A. porpani. First discovery of Aceratherium in Thailand. Mixture of primitive and derived characters that differ from known species of Aceratherium. Probably latest Miocene)

Department of Mineral resources (2014)- Geology of Thailand. Department of Mineral Resources, Bangkok, Thailand, p. 1-508.
(online at: www.dmr.go.th/ewt_dl_link.php?nid=77457&filename=index___EN)

Dew, R.E.C., A.S. Collins, R. King, F. Arboit, S. Glorie & C.K. Morley (2015)- Stratigraphy of deformed Permian carbonate reefs in the Saraburi Province, Thailand. In: Proc. 4th Int. Symposium Int. Geosciences Program (IGCP) Project 589, Bangkok 2015, p. 14-16. *(Extended Abstract*
(online at: http://igcp589.cags.ac.cn/4th%20Symposium/Abstract%20volume.pdf))
(E-M Permian (Asselian-Capitanian) Khao Khwang carbonate platform with minor clastic sediments with well-bedded platform carbonates and massive reef complexes. After deposition platform deformed into Khao Khwang fold-thrust belt in Triassic-Lower Jurassic Indosinian Orogeny along S margin of Indochina Block)

Dew, R.E.C., R. King, A.S. Collins, C.K. Morley, F. Arboit & S. Glorie (2017)- Stratigraphy of deformed Permian carbonate reefs in Saraburi Province, Thailand. J. Geol. Soc., London, 175, 1, p. 163-175.
(Km-scale thrusts affect sedimentary of Khao Khwang Platform in C Thailand (W margin of Indochina Terrane). Platform three Permian carbonate-dominated units, intercalated with clastics. Paleogeography of area prior to Triassic Indosinian Orogeny poorly known. In Saraburi area several separate carbonate

platforms dominated by four major M Permian facies, dated with foraminifera (incl. verbeekinid and neoschwagerinid fusulinids) and algae)

Dheeradilok, P. & W. Kaewyana (1986)- On the Quaternary deposits of Thailand. In: Proc. GEOSEA V, 1, Bull. Geol. Soc. Malaysia 19, p. 515-532.
(online at: www.gsm.org.my/products/702001-101242-PDF.pdf)

Diehl, P. & H. Kern (1981)- Geology, mineralogy, and geochemistry of some carbonate-hosted lead-zinc deposits in Kanchanaburi Province, western Thailand. Economic Geology 76, 8, p. 2128-2146.
(Pb-Zn deposits in W mountain chains of Kanchanaburi Province, W Thailand. Sulfide mineralization stratabound and related to reef-like algal crinoidal buildups in thick Ordovician limestone sequence. Mainly fne-grained galena-sphalerite-pyrite. Homogenization temperatures of fluid inclusions 107-174 °C. Origin of metal-bearing solutions is uncertain, possibly nearby igneous source)

Diemar, M.G. & V.A. Diemar (2000)- Geology of the Chatree epithermal gold deposits, Thailand. In: G. Weber (ed.) Proc. PACRIM '99 Congress, Bali, Australasian Inst. of Mining and Metallurgy (AusIMM), Publ. 4-99, p. 227-231.

Dill, H.G., R. Botz, F.W. Luppold & F. Henjes-Kunst (2005)- Hypogene and supergene alteration of the Late Palaeozoic Ratburi Limestone during the Mesozoic and Cenozoic (Thailand, Surat Thani Province). Implications for the concentration of mineral commodities and hydrocarbons. Int. J. Earth Sciences (Geol. Rundschau) 94, p. 24-46.
(Interdisciplinary study of Late Carboniferous-M Permian Ratburi Gp, Peninsular Thailand, with emphasis on multi-stage diagenesis of Ratburi Lst in Surat Thani Province)

Dill, H.G., F.W. Luppold, A Techmer, P.I Chaodumrong & S. Phoonphun (2004)- Lithology, micropaleontology and chemical composition of calcareous rocks of Paleozoic through Cenozoic age (Surat Thani Province, central Peninsular Thailand): implications concerning the environment of deposition and the economic potential of limestones. J. Asian Earth Sci. 23, p. 63-89.
(On composition and diagenesis of Ordovician, Carboniferous, Permian, Triassic and Jurassic limestones of Central Peninsular Thailand)

Dill, H.G., F. Melcher & R. Botz (2008)- Meso- to epithermal W-bearing Sb vein-type deposits in calcareous rocks in western Thailand; with special reference to their metallogenetic position in SE Asia. Ore Geology Reviews 34, p. 242-262.
(Vein-type antimony deposits hosted by Late Paleozoic calcareous rocks widespread in Lampang-Phrae Province in NW Thailand and in Surat Thani Province in Peninsular Thailand. Stibnite mineralization in N Thailand may be related to Late Permian- Triassic magmatism near Sibumasu- Indochina suture)

Dopieralska, J., Z. Belka, P. Konigshof, G. Racki, N. Savage, P. Lutat & A. Sardsud (2012)- Nd isotopic composition of Late Devonian seawater in western Thailand: geotectonic implications for the origin of the Sibumasu terrane. Gondwana Research 22, p. 1102-1109.
(Sm/Nd isotopic data from two U Devonian carbonates near Myanmar border. Conodonts from Thong Pha Phum, W Thailand, with high Sm/Nd ratios, suggesting passive margin continental setting and implying Sibumasu terrane was situated near Archean cratons of W Australia in Devonian, presumably near Carnarvon intracratonic basin. Conodonts from Mae Sariang succession in NW Thailand low and uniform Sm/Nd ratios resemble Variscan and present-day oceanic seawaters and point to pelagic setting within Paleotethys Ocean, suggesting Mae Sariang Paleozoic not part of Sibumasu terrane but part of Inthanon suture zone)

Drumm, A., H. Heggemann & D. Helmcke (1993)- Contribution to the sedimentology and sedimentary petrology of the non-marine Mesozoic sediments in northern Thailand (Phrae and Nan Provinces). In: T. Thanasuthipitak (ed.) Int. Symposium Biostratigraphy of mainland Southeast Asia: facies and paleontology, (BIOSEA), Chiang Mai, University of Chiang Mai, 2, p. 299-318.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1993/7486.pdf)

(On Permo-Triassic post-Variscan orogeny (latest M Permian) extensional basins in N and NE Thailand. Triassic Phrae-Nan paleo-graben starts with Norian siltstones- limestones, grading upward into Late Triassic-Jurassic continental deposits, with Rhaetian volcanics. Sediment source from E and NE)

Ducrocq, S. (1992)- Etude biochronologique des bassins continentaux Tertiaires du sud-est Asiatique. Thesis University Montpellier II, p. 1-354.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/1992/283.pdf)
('Biochronologic study of the continental basins of SE Asia'. Diverse mammal-reptile faunas from ~500m thick continental Upper Eocene of Krabi Basin of Peninsular Thailand and faunas of Neogene basins from NW Thailand)

Ducrocq, S. (1994)- Les anthracotheres paleogenes de Thailande: paleogeographie et phylogenie. Comptes Rendus Academie Sciences, Paris, 318, p. 549-554.
('The Paleogene anthracoceres of Thailand: paleogeography and phylogeny'. Anthracotheriidae from U Eocene of Krabi suggest likely migrations between Asia and W Europe and Africa during terminal Eocene. Siamotherium krabiense considered as most primitive known anthracothere)

Ducrocq, S. (1994)- An Eocene peccary from Thailand and the biogeographical origins of the artiodactyl family Tayassuidae. Palaeontology 37, p. 765-779.
(online at: http://cdn.palass.org/publications/palaeontology/volume_37/pdf/vol37_part4_pp765-779.pdf)
(Remains of new tayassuid Egatochoerus jaegeri from U Eocene Krabi Basin (pig-like ungulate))

Ducrocq, S. (1994)- *Siamopithecus eocaenus*, a late Eocene anthropoid primate from Thailand: its contribution to the evolution of anthropoids in Southeast Asia. J. Human Evolution 36, p. 613-635.

Ducrocq, S. (1998)- Eocene primates from Thailand: are Asian anthropoideans related to African ones? Evolutionary Anthropology 7, 3, p. 97-104.
(Suborder Anthropoidea (simians, simiiforms) contains New and Old World monkeys, apes and humans. Recent discovery of Eocene early primate remains allows better understanding of early evolutionary history of group of mammals from which we evolved)

Ducrocq, S. (1999)- The Late Eocene Anthracotheriidae (Mammalia, Artiodactyla) from Thailand. Palaeontographica 252, p. 93-140.
(Late Eocene hippopotamus-like mammals from Krabi Basin)

Ducrocq, S., E. Buffetaut, H. Buffetaut-Tong, Y. Chaimanee, J.J. Jaeger, R. Lacassin & V. Suteethorn (1993)- Age and correlations of the Neogene continental basins from Thailand. In: 7th Regional Conf. Geology Mineral Energy Resources of SE Asia (GEOSEA VII), Bangkok 1991, p. 14-15. *(Abstract only)*

Ducrocq, S., E. Buffetaut, H. Buffetaut-Tong, R. Helmcke-Ingavat, J.J. Jaeger, Y. Jongkanchanasoontorn & V. Suteethorn (1992)- A lower Tertiary vertebrate fauna from Krabi (South Thailand). Neues Jahrbuch Geol. Palaont. Abhandl. 184, 1, p. 101-122.

Ducrocq, S., E. Buffetaut, H. Buffetaut-Tong, J.J. Jaeger, Y. Jongkanchanasoontorn & V. Suteethorn (1992)- First fossil flying lemur from the Late Eocene of Thailand. Palaeontology 35, 2, p. 373-380.
(online at: www.palass-pubs.org/palaeontology/pdf/Vol35/Pages%20373-380.pdf)
(First fossil dermatopteran from U Eocene of Krabi, S Thailand. Described as Dermotherium major n.sp.)

Ducrocq, S., Y. Chaimanee, J.J. Jaeger & G. Metais (2006)- A new ceratomorph (Perissodactyla, Mammalia) from the Late Eocene of Southeast Asia. J. Vertebrate Paleontology 26, 4, p. 1024-1027.
(New ceratomorph (small rhinocerotoid) maxilla from Late Eocene in Wai Lek lignite pit near Krabi, Associated with diverse mammal fauna of >30 species)

Ducrocq, S., Y. Chaimanee, V. Suteethorn & J.J. Jaeger (1994)- Ages and paleoenvironment of Miocene mammalian faunas from Thailand. Palaeogeogr. Palaeoclim. Palaeoecology 108, p. 149-163.
(Mammalian assemblages of rodents, ruminants, rhinos and mastodonts from continental basins in N Thailand all of early M Miocene age (16-14 Ma). Paleoenvironment monsoonal, open forests with grassland)

Ducrocq, S., Y. Chaimanee, V. Suteethorn & J.J. Jaeger (1994)- Mammalian faunas and the ages of the continental Tertiary basins of Thailand. In: P. Angsuwathana et al. (eds.) Proc. Int. Symposium Stratigraphic correlation of Southeast Asia, Bangkok 1994, Dept. Mineral Resources and IGCP 306, p. 147. *(Abstract only)*
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_3/2537/30265.pdf)
(Micromammals have higher biostratigraphic resolution than large mammals. Northern rift basins (Lampang, Pong) of M Miocene age (17-14 Ma). Krabi Basin in Peninsular Thailand Late Eocene age. Vegetation of M Miocenein N Thailand already in monsoon climate with distinct dry season)

Ducrocq, S., Y. Chaimanee, V. Suteethorn & J.J. Jaeger (1995)- Mammalian faunas and the ages of the continental Tertiary fossiliferous localities from Thailand. J. Southeast Asia Earth Sci. 12, p. 65-78.
(Krabi Basin in SW Thailand 27 mammal species of Late Eocene age. Localities from N Thailand M Miocene (16-14 Ma)).

Ducrocq, S., Y. Chaimanee, V. Suteethorn & J.J. Jaeger (1997)- A new species of *Conohyus* (Suidae, Mammalia) from the Miocene of northern Thailand. Neues Jahrbuch Geol. Palaont., Monatshefte 6, p. 348-360

Ducrocq, S., Y. Chaimanee, V. Suteethorn & J.J. Jaeger (1998)- The earliest known pig from the Upper Eocene of Thailand. Palaeontology 41, p. 141-156.
(online at: www.palass-pubs.org/palaeontology/pdf/Vol41/Pages%20147-156.pdf)
(Dental remains of new suid species, Siamochoerus banmarkensis from Late Eocene main lignite seam in Ban Mark pit of Krabi (coal) mine. One of oldest known reps of pig family)

Ducrocq, S., Y. Chaimanee & J.J. Jaeger (2006)- New primates from the late Eocene of Thailand: a contribution to primate diversity in the Paleogene of Asia. J. Human Evolution 51, 2, p. 153-158.

Ducrocq, S., J.J. Jaeger, Y. Chaimanee & V. Suteethorn (1995)- New primate from the Paleogene of Thailand, and the biogeographical origin of anthropoids. J. Human Evolution 28, p. 477-485.

Ducrocq, S., J.J. Jaeger & S. Sige (1993)- Un megachiroptere dans l'Eocene superieur de Thailande: incidence dans la discussion phylogenique du groupe. Neues Jahrbuch Geol. Palaont. 1993, 9, p. 561-576.

Dunning, G.R., A.S. Macdonald & S.M. Barr (1995)- Zircon and monazite U-Pb dating of the Doi Inthanon core complex, northern Thailand: implications for extension within the Indosinian Orogen. Tectonophysics 251, p. 197-213.
(Doi Inthanon metamorphic core complex in NW Thai gneiss belt. Zircon dating of orthogneisses suggests derivation from Late Triassic-Early Jurassic granitic protoliths (~205 Ma). High-T metamorphism events in Late Cretaceous (84-72 Ma) and Late Oligocene (~27 Ma). Development of gneiss belt between Late Cretaceous- Early Miocene. Uplift and tectonic denudation chronologically overlap initiation of extensional basins to E and SE and imply genetic connection)

El Tabakh, M., B.C. Schreiber, C. Utha-Aroon, L. Coshell & J.K. Warren (1998)- Diagenetic origin of basal anhydrite in the Cretaceous Maha Sarakham salt: Khorat Plateau, NE Thailand. Sedimentology 45, p. 579-594.
(Development of `Basal Anhydrite' of Cretaceous Maha Sarakham Saline Fm, Khorat Plateau, due to leaching or pressure dissolution of salt at contact between underlying active sandstone aquifer system and overlying massive halite-dominated evaporite sequence)

El Tabakh, M. & C. Utha-Aroon (1998)- Evolution of a Permian carbonate platform to siliciclastic basin: Indochina Plate, Thailand. Sedimentary Geology 121, p. 97-119.

(Extensive Permian carbonate platform developed in Thailand on margin of Indochina Plate and near deeper siliciclastic-dominated marine basin, which separated Indochina Plate in E from Shan Thai Plate in W. Sedimentation in both areas ended by late Permian/ E Triassic closure of Paleo-Tethys ocean. Tectonism controlled pattern of platform sedimentation and supplies of carbonate and clastic sediments into basin)

El Tabakh, M., C. Utha-Aroon & B.C. Schreiber (1999)- Sedimentology of the Cretaceous Maha Sarakham evaporites in the Khorat Plateau of northeastern Thailand. Sedimentary Geology123, p. 31-62.
(Cretaceous- E Tertiary evaporites of Maha Sarakham Fm on Khorat Plateau of Thailand and Laos three members of evaporitic successions overlain by non-marine clastic red beds. Khorat and Sakhon Nakhon basins periods of marine influx due to relative global sea-level rise but sporadically isolated from world ocean)

El Tabakh, M., C. Utha-Aroon, J.K. Warren & B.C. Schreiber (2003)- Origin of dolomites in the Cretaceous Maha Sarakham evaporites of the Khorat Plateau, northeast Thailand. Sedimentary Geology 157, p. 235-252.
(Khorat Plateau of NE Thailand and Laos area of widespread deposition of evaporites and siliciclastics (Maha Sarakham Fm) in Cretaceous. Three types of dolomites associated with this formation)

Endo, S. (1964)- Some older Tertiary plants from northern Thailand. In: T. Kobayashi (ed.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 113-115.
(Fossil plants from lignite and oil shale deposits of Amphoe Li, N Thailand incl. new species of Alnus, Sequoia, Taxodium, Sparganium. Age most likely Late Eocene, possibly E Oligocene. Signify warm-temperate (not tropical) climate (viewed asM Miocene age in Ginsbur & Tassy 1985))

Endo, S. (1966)- A supplementary note on the Paleogene Li flora in northern Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 3, p. 165-169.
(*Additional fossil plant species from lignite and oil shale deposits of Amphoe Li, N Thailand, incl. Glyptostrobus europaeus, Ficus, Fagus, Quercus, etc. Confirm Paleogene age)*

Endo, R. (1969)- Fossil algae from the Khao Phlong Phrab District in Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 7, p. 33-85.
(Descriptions of calcareous algae from E-M Permian Rat Buri Lst between Lop Buri and Sara Buri, N Thailand. Fusulinids described earlier by Toriyama and Kanmera 1968. Mainly systematic descriptions of 64 species of 33 genera, incl. Velebitella, Mizzia velebitana, Permocalculus, Macroporella, Solenopora, Vermiporella, etc.)

Endo, S. & I. Fujiyama (1966)- Some late Mesozoic and late Tertiary plants and a fossil insect from Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 2, p. 301-307.
(Upper Cretaceous plants from tuffaceous Lomsak Fm in C Thailand (Sequoia ambigua) and Miocene plants from Mae Sot series, W Thailand)

Fanka, A., T. Tsunogae, V. Daorerk, Y. Tsutsumi, Y. Takamura & C. Sutthirat (2018)- Petrochemistry and zircon U-Pb geochronology of granitic rocks in the Wang Nam Khiao area, Nakhon Ratchasima, Thailand: implications for petrogenesis and tectonic setting. J. Asian Earth Sci. 157, p. 92-118.
(Wang Nam Khiao area, NE Thailand, with Carboniferous biotite granite (zircon U-Pb ages ~315-285 Ma), Late Permian hornblende granite (2453.4 Ma) and Triassic biotite-hornblende granite (238 Ma). All part of Eastern Granite Belt and implying multiple episodes of arc-magmatism formed by Paleo-Tethys subduction beneath Indochina Terrane)

Feng, Q.L., C. Chonglakmani, D. Helmcke & R. Ingavat-Helmcke (2004)- Long-lived Paleotethyan pelagic remnant inside Shan-Thai block: evidence from radiolarian biostratigraphy. Science in China D, 47, 12, p. 1113-1119.
(online at: www.scichina.com:8080/sciDe/fileup/PDF/04yd1113.pdf)
(E Carboniferous- M-L Triassic radiolarians from ribbon chert in Mae Hong Son-Mae Sariang area, W of Chiang Mai, NW Thailand, indicate pelagic basin in this region. Situated on 'Shan-Thai Block', which was not

single block, but composed of Paleotethyan Ocean and two continental terranes affiliated to Gondwana and Cathaysian domains respectively)

Feng, Q.L., C. Chonglakmani, D. Helmcke, R. Ingavat-Helmcke & B. Liu (2002)- Middle Triassic radiolarian fauna from Lamphun, northern Thailand. In: N. Mantajit (ed.) Proc. Symposium on Geology of Thailand, Bangkok 2002, Dept. Mineral Resources, p. 108-116.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2002/6381.pdf)
(Late Anisian radiolaria in thin-bedded siliceous rocks SSE of Chiang Mai. 12 species indicative of Triassocampe deweveri zone. Deep basin, probably part of Paleotethys)

Feng, Q.L., C. Chonglakmani, D. Helmcke, R. Ingavat-Helmcke & B. Liu (2005)- Correlation of Triassic stratigraphy between the Simao and Lampang-Phrae Basins: implications for the tectono-paleogeography of Southeast Asia. J. Asian Earth Sci. 24, 6, p. 777-785.
(Simao Basin (Yunnan, S China) and Lampang-Phrae Basin (N Thailand) similar Triassic stratigraphy and parts of same tectono-paleogeographic unit. Triassic Lampang Gp with thin-shelled bivalves in E Triassic (Claraia) and Late Triassic (Daonella indica, Halobia). Part of Sukhothai Terrane, E of main Changning–Menglian Paleotethys suture, and belongs to W margin of Cathaysian domain)

Feng, Q.L., D. Helmcke, C. Chonglakmani, R. Ingavat-Helmcke & B. Liu (2004)- Early Carboniferous radiolarians from North-West Thailand: palaeogeographical implications. Palaeontology 47, 2, p. 377-393.
(middle E Carboniferous radiolarians from bedded cherts S of Mae Hong Son, NW Thailand, in melange zone composed of Silurian to Triassic slices. Signify pelagic basin at W side of Shan-Tai Terrane, between Shan-Thai and Gondwana, suggesting Shan-Thai terrane already rifted from Gondwana in E Carboniferous, earlier than commonly assumed)

Feng, Q., K. Malila, N. Wonganan, C. Chonglakmani, D. Helmcke, R. Ingavat-Helmcke & M. Caridroit (2005)- Permian and Triassic radiolaria from Northwest Thailand: paleogeographical implications. Revue Micropaleontologie 84, p. 237-255.
(Late Permian, late Ladinian and M Carnian radiolarians (51 species) from Mae Hong Son- Mae Sariang area, W of Chiang Mai, NW Thailand, represent part of Paleotethyan pelagic basin with E Carboniferous-early Late Triassic chert sedimentation. Main oceanic basin was within 'Shan-Thai Block' (= Sibumasu; JTvG), which was not single block, but composed of two continental terranes affiliated with Gondwana (Tengchong- Phuket) and Cathaysian (Simao- Lampang) domains, respectively, separated Paleotethyan Ocean, represented by remnant oceanic basins Changning-Menglian in SW China, Chiang Dao and Mae Yuan in NW Thailand)

Feng, Q.L., W.Q. Yang, S.Y. Shen, C. Chonglakmani & K. Malila (2008)- The Permian seamount stratigraphic sequence in Chiang Mai, North Thailand and its tectogeographic significance. Science in China, Ser. D, Earth Sciences, 51, 12, p. 1768-1775.
(online at: http://engine.scichina.com/downloadPdf/9TokmWFpbobQDqBz9)
(Widespread Permian carbonate outcrops in NW Thailand formerly considered as evidence for Late Paleozoic shallow Tethys, but are underlain by basalt comparable to oceanic island basalt in Three Rivers area, SW China. Permian carbonates in study area deposited on seamounts comparable to Late Paleozoic Paleotethys ocean of Changning-Menglian Belt in SW China. Seamounts in Chiang Mai-Fang area demonstrate oceanic basin in Late Paleozoic (Paleo-Tethys) between Shan Block of Myanmar and Lampang (= Suthothai) Block of Thailand, shows that in Late Paleozoic Shan and Thai blocks were two different microplates)

Feng, Q.L., Z. Zhang & M. Ye (2001)- Middle Triassic radiolarian fauna from Southwest Yunnan, China. Micropaleontology 47, 3, p. 173-204.
(Diverse Anisian radiolarian fauna in siliceous rocks with tuffs and mudstones in Paleo-Tethyan Changning-Menglian belt of SW Yunnan. 73 radiolarian species, 6 new (mainly Triassocampe spp.). Four zones: Triassocampe deweveri (late Anisian), T. coronata coronata (M Anisian), T. coronata inflata (M Anisian) and T. dumitricai (E Anisian). E Triassic radiolarian fauna in area low diversity, mainly Permian survivors)

Fenton, C.H., P. Charusiri, C. Hinthong, A. Lumjuan & B. Mangkonkarn (1997)- Late Quaternary faulting in northern Thailand. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution in Southeast Asia and the South Pacific, Bangkok, 1, p. 436-452.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1997/7646.pdf)
(N Thailand is intraplate Basin and Range province, with N-S trending grabens and half-grabens, developed in E-W oriented extensional stress regime initiated in Oligocene, with main phase of extension in Late Miocene- E Pliocene. Result of India- Eurasia collision and subsequent E-ward extrusion and rotation of S China and SE Asia along large strike-slip fault systems. Still some Quaternary activity on basin-bounding faults)

Ferrari, O.M. (2007)- Contribution to the geology of Thailand and implications for the geodynamic evolution of Southeast Asia. Doctoral Thesis, University of Lausanne, Lausanne, p. 1-179. *(Unpublished)*
(Study of Nan-Uttaradit suture and Chiang Mai Volcanic Belt. Proposes new location for Palaeotethys suture and new plate tectonic model of SE Asia, implying existence of new Orang Laut terranes (E Vietnam, W Sumatra, Kalimantan, Palawan, Taiwan) and redefined Shan-Thai terrane. Shan-Thai previously viewed as Cimmerian (when Nan-Uttaradit suture thought to be Paleotethys suture), but detached from Indochina with E Permian opening of Nan basin, which closed in M Triassic)

Ferrari, O.M., R. Martini, D. Vachard & G.M. Stampfli (2006)- Permian limestone blocks inside the Nan-Uttaradit Suture Zone (Northern Thailand): faunal affinities and palaeogeographic implications. EGU Geophysical Res. Abstracts, 8, 03423, 2p. *(Abstract only)*
(Nan ophiolite belt in E part of N Thailand separates Shan-Thai block from Indochina, and commonly interpreted as Paleotethys suture between Cimmerian domain and Indochina or closure of smaller basin at N Margin of Palaeotethys. Shan Thai may not be Cimmerian, but Indochina-derived. Oldest rocks in Nan belt Carboniferous-Permian Pha Som Metamorphic Complex, melange of blocks including three kinds of limestone blocks: M Permian grey limestone overlying ophiolite, U Permian bluish limestone as blocks inside schists and siliceous limestone as part of matrix. Closure of basin in two phases: (1) E-M Permian obduction induced greenschists metamorphism at 269 ± 12 Ma; (2) subduction between deposition of U Permian radiolarites and deposition of overlying Carnian-Norian molasse. True Paleotethys suture in region of Mae Hong Son)

Flint, S., D.J. Stewart, T. Hyde, C.A. Gevers, O.R.F. Dubrule & E.D. van Riessen (1988)- Aspects of reservoir geology and production behaviour of Sirikit Oil Field, Thailand: an integrated study using well and 3-D seismic data. American Assoc. Petrol. Geol. (AAPG) Bull. 72, p. 1254-1268.
(Onshore Thailand Sirikit oil field in intracratonic half-graben basin that was subsequently deformed by sinistral strike-slip movement. 8-km thick Tertiary basin-fill includes fluvial-deltaic Lan Krabu Fm, which contains two main oil reservoirs (K, L sands). Formation intertongues with Chum Saeng Fm lacustrine claystones that form stratigraphic seals to both reservoirs)

Flint, S., D.J. Stewart & E.D. Van Riessen (1989)- Reservoir geology of the Sirikit oilfield, Thailand: lacustrine deltaic sedimentation in a Tertiary intermontane basin. In: M.K.G. Whateley & K.T. Pickering (eds.) Deltas: sites and traps for fossil fuels, Geol. Soc., London, Spec. Publ. 41, p. 223-235.
(Sirikit oilfield, ~400 km N of Bangkok, is fault-bounded structure in major half-graben basin. 8 km thick basin-fill succession includes alluvial fan-fluvial deposits overlain by fluvio-deltaic Lan Krabu Fm, which contains two main oil reservoirs)

Fontaine, H. (1988)- Permian corals of West Thailand. In: H. Fontaine & V.Suteethorn (eds.) Late Paleozoic and Mesozoic fossils of West Thailand and their environments, Comm. Co-Ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Bangkok, Techn. Bull. 20, p. 112-127.
(Corals from W Thailand (Sibumasu Terrane) not abundant and mainly simple forms. Include Tabulata (mainly Sinopora, also Pseudofavosites, Michelinia), solitary rugosa (Lophophyllidium, Amplexocarinia, Pavastehphyllum) and rare compound rugosa (Paraipciphyllum, Waagenophyllum?))

Fontaine, H. (1990)- Some Devonian corals and stromatoporoids from Northeast Thailand. Geol. Jahrbuch B73, p. 57-79.

(NE Thailand (Loei Province) E-M Devonian limestones two facies belts: (1) E belt of thin limestone lenses with brachiopods and massive tabulate corals (Favosites, Heliotes, Michelinia) in marls, and (2) W belt with thicker limestones with rugose and tabulate corals (Phillipsastraea, Endophyllum, Heliolites porosus, Favosites, Cladopora, etc.) and stromatoporoids (Chlathrodictyon, Actinostroma, Amphipora). Most limestones probably Givetian age (Heliolites extict at end M Devonian))

Fontaine, H. (1990)- Carboniferous corals from Northeast Thailand (northeast of Loei). Geol. Jahrbuch B73, p. 81-89.
(NE of Loei in NE Thailand small outcrops of M Carboniferous(Visean- Bashkirian) limestones in two facies belts. Rel. poor coral assemblages of mainly solitary Rugosa, incl. Multithecopora, Chaetetes)

Fontaine, H. (1990)- Preliminary note on the Carboniferous corals of Thailand. In: H. Fontaine (ed.) Ten years of CCOP research on the Pre-Tertiary of East Asia, CCOP Techn. Publ. 20, p. 281-284.
(Many Carboniferous localities in NE Thailand, some with corals of Eurasian affinity, incl. Koninckophyllum)

Fontaine, H. (1999)- Diverse Permian coral faunas are widely distributed in Thailand. Permophiles 33, p. 36-38.
(online at: http://permian.stratigraphy.org/files/20121027151807120.pdf)
(Summary of Permian coral distribution in Thailand, known from >100 localities, from Lower to Upper Permian. Two distinct provinces (1) E and C Thailand, with high diversity assemblages similar to Cambodia, Laos, Vietnam and S China, and (2) Peninsular Thailand, extending into NW Malay Peninsula with low diversity corals, absence of corals in Lower Permian and no Ipciphyllum, Pseudohuangia, etc.). U Permian declining coral faunas)

Fontaine, H., Y. Almeras, L. Beauvais, J.P. Bassoulet, E. Cariou et al. (1989)- Jurassic of West Thailand. Proc. 24th Sess. Comm. Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Bangkok 1987, 2, p. 137-146.
(Marine Jurassic known only from W Thailand (E Thailand continental with only minor marine ingressions). No marine Cretaceous in Thailand or E Burma. Red beds at Triassic-Jurassic boundary above Triassic Halobia shale, overlain by Toarcian- Aalenian with ammonites. Bathonian- Callovian not found. M Jurassic and Oxfordian coral limestones and mudstones present)

Fontaine, H. & S. Bunopas (1990)- The Carboniferous and the Permian in Thailand: a complex palaeogeography. In: 4th Int. Symposium on Pre-Jurassic East Asia, IGCP Project 224, 1, Osaka, p. 65-76.

Fontaine, H., C. Chonglakmani, S. Piyasin, B.A. Ibrahim & H.P. Khoo (1993)- Triassic limestones within and around the Gulf of Thailand. In: B.K. Tan et al. (eds.) 7th Reg. Congress Geology Mineral and Energy Resources of SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 83-95.
(Presence of Early- Late Triassic limestones at Peninsular Thailand and NW Peninsular Malaysia, generally associated with Permian 'Ratburi Lst' and previously all included in Permian. Similar to 'Chuping Lst' and 'Kodiang Lst' of NW Peninsular Malaysia. Post Triassic fracturing and karstification. Many contain Aulatortus, Tubiphytes, Thaumatoporella parvovesiculifera)

Fontaine, H. & S. Gafoer (1989)- The Carboniferous of Thailand: its fossils and sediments. In: Proc. 24th Sess. Comm. Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Bangkok 1987, 2, p. 125-129.
(Thailand Carboniferous 3 provinces: (1) Peninsular Thailand and Kanchanaburi: rare fossils and glacial? pebbly mudstones in upper part, (2) N and NW Thailand: more fossiliferous but poorly studied, and (3) E Thailand: fossiliferous limestones with fusulinids, corals, etc., throughout Carboniferous)

Fontaine, H., T.T. Hoang, S. Juanngam, S. Kavinate, S. Salyapongse, V. Suteethorn & D. Vachard (2009)- Paleontology and stratigraphy of the Northwest Thailand: paleogeographical implications. Department of Mineral Resources, Bangkok, p. 1-207.
(online at: http://library.dmr.go.th/library/DMR_Technical_Reports/2009/22977.pdf0

(Major review of Lower Carboniferous- M Permian in Pang Mapha-Ban District near Myanmar border, NW Thailand (= within Inthanon Paleotethys suture zone?; area located W of 'Paleotethys' Chiang Dao cherts; JTvG). Rel. complete Carboniferous section, including limestones with corals. Widespread E-M Permian limestones, incl. rare Asselian with fusulinids (rel. high diversity and warm climate faunas, incl. presence of Neoschwagerina and Verbeekina and absence of Shanita, different from Peninsular Thailand, suggesting this is not typical Sibumasa fauna, despite being just W possible Paleotethys radiolarian cherts of 'Chiang Dao/ Fang'. Is in Inthanon zone with Paleotethyan seamounts/ microcontinents? (Ueno et al. 2008); JTvG)

Fontaine, H., T.T. Hoang, S. Salyapongse, V. Suteethorn & D. Vachard (2007)- Permian limestones of Surat Thani Province, Peninsular Thailand. In: W. Tantiwanit (ed.) Int. Conf. on Geology of Thailand: Towards sustainable development and sufficiency economy (GEOTHAIô07), Bangkok, Dept. Mineral Resources, p. 221-228.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2007/12726.pdf)
(Limestone widespread in Surat Thani Province of NE Peninsular Thailand, forming spectacular karst topography (= Ratburi Lst of Shan-Tai/ Sibumasu terrane; JTvG). Fossils rel. rare due to dolomitization/ recrystallization. Youngest well-dated Permian limestones of Surat Thani Province of Midian (M Permian) age. Some localities rich in Hemigordiopsis renzi, with smaller foraminifers (Sphairionia sikuoides, Geinitzina, Endothyra, Pachyphloia, Globivalvulina, Agathammina), rare Fusulinidae and solitary corals. Other samples rich in low-diversity Fusulinidae (Parafusulina spp., Yangchienia, Chusenella) with few, low diversity corals (mainly solitary Rugosa, rare massive). Peninsular Thailand oldest Permian limestone upper Lower Permian)

Fontaine, H., T.T. Hoang, S. Kavinate, V. Suteethorn & D. Vachard (2013)- Upper Permian (Late Changhsingian) marine strata in Nan Province, Northern Thailand. J. Asian Earth Sci. 76, p. 115-119.
(U Permian of NE Thailand (Loei Province) with land plants, and in Laos (Luang Prabang) with continental vertebrates (Dicynodon). M Permian represented only by marine sediments. W of these areas (Nan province) U Permian represented by marine sediments, with continental beds absent. Presence of marine U Permian with Colaniella and Palaeofusulina in N Thailand, locally extending to top U Permian and possibly Triassic)

Fontaine, H., T.T. Hoang, S. Kavinate, V. Suteethorn & D. Vachard (2013)- North Thailand 1-Very fossiliferous limestone belonging to the end of the Permian (Upper Changhsingian) in Wiang Sa Area; 2-Another Upper Permian limestone in Phrae Area. J. Science Technol. Maha Sarakham Univ. (MSU) 31, 1, p. 51-62.
(online at: http://journal.msu.ac.th/2012_/index.php/SCI/article/view/285/293)
(Occurrence of Upper Permian limestone in outcrop in N Thailand, W of Wiang Sa (close to localities mentioned by Hahn and Siebenhuner 1982, Sakagami and Hatta 1982), with abundant Colaniella and some Palaeofusulina (= characteristic of latest Permian of Indochina terrane?; JTvG))

Fontaine, H., T.T. Hoang, S. Kavinate, V. Suteethorn & D. Vachard (2013)- Wide extension of Carboniferous Limestone in Northwest Thailand with an interesting stratigraphy. J. Geol. Soc. Thailand, Spec. Issue, p. 1-65.
(online at: www.gst.or.th/sites/default/files/GST-Limestone-E-book.pdf)
(Carboniferous limestones in NW Thailand, N of Chiang Dao, near Myanmar border, more widespread than previously thought (usually assigned to Permian). Descriptions of localities and diverse assemblages of smaller foraminifera, algae (incl. Permocalculus, Tubiphytes), fusulinids (Schellwienia, Fusulinella, Pseudostaffella, Palaeofusulina, Profusulinella, etc.) and corals (mainly solitary Rugosa). Very different from Carboniferous of Peninsular Thailand)

Fontaine, H., Ibrahim B. Amnan & W. Tansathien (2002)- An overview of the Devonian of Malaysia and a comparison with the Devonian of Thailand. J. Geol. Soc. Thailand 1, p. 21-33.
(online at: http://library.dmr.go.th/library/J-Index/2002/135.pdf)
(In Malaysia Devonian known only from Peninsular region, in 3 facies: (1) clastic facies widely distributed in W, extending into Peninsular and W Thailand; (2) limestone facies restricted to small area of Perak, but more widespread and more fossiliferous in NE Thailand; (3) radiolarian chert facies at few localities of Peninsular Malaysia and Thailand)

Fontaine, H. & N. Jungyusuk (1995)- Permian corals from Chom Bung area West of Bangkok: their paleogeographic significance. CCOP Newsletter 20, 3-4, p. 70-79.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2538/6639.pdf)
(Corals from Permian Ratburi Limestone at Chom Bung, N Peninsular Thailand, 115 km WSW of Bangkok (= Sibumasu Terrane). Probably late M Permian (Murgabian-Midian). Common massive rugose corals (Iranophyllum, Paraipciphyllum spp., etc.), associated with low-diversity fusulinid assemblage. Also common Tubiphytes. Chombungia ratburina n.gen, n.sp. of massive rugose coral))

Fontaine, H. & N. Jungyusuk (1997)- Growth bands in Permian corals of Peninsular Thailand. In: Int. Conf. Stratigraphy and tectonics evolution of SE Asia and the South Pacific, p. 83-87.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1997/7624.pdf)
(Massive rugose coral Paraipciphyllum from base of M Permian Ratburi/ Chuping Lst of Peninsular Thailand (= Sibumasu terrane, overlying pebbly mudstones) with growth bands, suggesting seasonal climate. Corals associated with M Permian foram assemblage with Sphairionia, Hemigordius, Pseudofusulina, Nankinella, Langella, etc. Absence of growth bands in mod. diverse M Permian coral assemblage from upper part of limestone (Sinopora, Paraipciphyllum, Chombungia, etc.) at Khao Lan suggests warming climate)

Fontaine, H., S. Kavinate, T.T. Hoang & D. Vachard (2012)- Permian limestone of Peninsular and Western Thailand in Khao Yoi, Cha-am and Thong Pha Phum areas. Natural History Bull. Siam. Soc. 58, p. 39-47.
(online at: www.siamese-heritage.org/nhbsspdf/vol051-060/NHBSS_058_1k_Fontaine_PermianLimestone.pdf)
(Paleontological study of limestones in N Peninsular Thailand (Khao Yoi, Cha-am, Petchaburi Province) and W Thailand. Khao Yoi localities rich in fusulines (Eopolydiexodina megasphaerica) indicating U Murgabian/ M Permian age. In Cha-am District M Permian corals (Paraipciphyllum, Sinopora asiatica) and fusulinids (Yangchienia iniqua). In Thong Pha Phum, Kanchanaburi Province, W Thailand, fossils similar to above, with Sinopora asiatica and Paraipciphyllum, also suggesting M Permian Shan-Thai fauna (=Sibumasu) Block)

Fontaine, H., S. Lovachalasupaporn & B. Sektheera (1990)- Distribution of corals and coral reefs in the Permian of Thailand. In: H. Fontaine (ed.) Ten years of CCOP research on the Pre-Tertiary of East Asia, CCOP Techn. Publ. 20, p. 271-280.
(Reprint of Fontaine et al. (1982) paper in CCOP Newsletter 9, 2. Thailand among richest countries in world in abundance of Permian corals. Coral-bearing Permian limestones common in Thailand, particularly Middle Permian of C Thailand, but not all represent reefs. Peninsular Thailand no reefs in E and Late Permian and only one possible locality in M Permian)

Fontaine, H., S. Lovachalasupaporn, N.D. Tien & D. Vachard (1990)- New data on the Lower Carboniferous in Thailand. In: H. Fontaine (ed.) Ten years of CCOP research on the Pre-Tertiary of East Asia, CCOP Techn. Publ. 20, p. 297-306.
(Reprint of Fontaine et al. 1983, CCOP Newsletter, 10, 1/2, p. 13-18)

Fontaine, H., B. Mistiaen, W. Tantiwanit & T. Tong-Dzuy (1990)- Devonian fossils from Northeast Thailand: some new data from Tabulata and Stromatoporoidea. In: H. Fontaine (ed.) Ten years of CCOP research on the Pre-Tertiary of East Asia, CCOP Techn. Publ. 20, p. 319-330.
(Devonian fossils from 5 areas in NE Thailand. Limestones commonly rich in tabulate and rugose corals (incl. Heliolites, Thamnopora, Phillipsastraea, Favosites, etc.) and Stromatoporoidea (Amphipora, Clathrodictyon))

Fontaine, H. & C. Poumot (1988)- The age of anthracite in Thailand. J. Southeast Asian Earth Sci.2, 1, p. 41-42.
(Anthracite from N of Na Duang, Loei Province, NE Thailand. Overlying shale with Lepidodendron-like plant fossils and palynomorphs Cirratriradites, Apiculatisporites and Cycadopites, suggesting Permian age. May be equivalent of E Permian coals across Laos border, W of Vientiane, with Permian plants Asterophyllites longifolius and Sigillaria brardi)

Fontaine, H., C. Poumot & B. Songsirikul (1990)- Upper Palaeozoic formations of Northeast Thailand in Devonian and Lower Carboniferous. In: H. Fontaine (ed.) Ten years of CCOP research on the Pre-Tertiary of East Asia, CCOP Techn. Publ. 20, p. 289-296.

(Reprint of Fontaine et al. 1981 in CCOP Newsletter, 8, 4, p., 1-7. Presence of M Devonian- Lower Carboniferous shales, sandstones, limestones, along Mekong River in Loei Province, NE Thailand)

Fontaine, H. & S. Salyapongse (1997)- Unexpected discovery of Early Carboniferous (Late Visean-Serpukhovian) coarals in East Thailand. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, 1, p. 48-52.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1997/7620.pdf)
(First E Carboniferous coral fauna in limestones from E Thailand, with Tabulata (solitary Kueichouphyllum and compound Siphonodendron, Solenodendron), Rugosa and abundant Heterocorallia (Hexaphyllia). U Visean warm water fauna. Probably related to Indochina Block)

Fontaine, H. & S. Salyapongse (1997)- Biostratigraphy of East Thailand. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, 1, p. 73-82.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1997/7623.pdf)
(Listing of 71 fossiliferous localities in E Thailand. Rel. complete Paleozoic section and possible Precambrian metamorphic rocks. Carboniferous rare. Permian mainly large bodies of limestone, a continuation of limestones in W Cambodia locally rich in fusulinids (Yabeina, Lepidolina). M-L Triassic coral limestones. Widespread Jurassic- Cretaceous continental sediments)

Fontaine, H. & S. Salyapongse (1999)- Oncolitic limestone is widespread in Klaeng area, East Thailand; distribution of this type of limestone in the Triassic of Southeast Asia. In: Proc. Int. Symp. Shallow Tethys 5, Chiang Mai, p. 282-286.
(On Triassic (Scythian - Anisian) limestones with abundant oncolites but few other fossils in E Thailand and SE Asia (overlie latest Permian limestones with Palaeofusulina, Colaniella, Dagmarita, in Klaeng zone = continuation of Sukhothai zone? (Ridd et al. 2011))

Fontaine, H. & S. Salyapongse (2001)- A Murgabian to Lower Triassic sequence exposed from Khao Tham Yai to Khao Pa Khi, Northeast Thailand: a preliminary report. J. Geol. Soc. Thailand 2001, 1, p. 43-47.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1993/7487.pdf)
(>700m thick late M Permian- early Late Permian limestones in Nam Nao district, NE Thailand, overlain by 300m of Late Permian (Lopingian) clastics (= Indochina Plate). Lower part (Murgabian- lower Midian) with fusulinids Colania douvillei, Sumatrina, Verbeekina verbeeki and coral Ipciphyllum. Upper part (U Midian) with fusulinids Lepidolina, Dunbarula, Sumatrina longissima, Kahlerina and common Mizzia algae)

Fontaine, H., S. Salyapongse, Nguyen D. Tien & D. Vachard (2002)- Permian fossils recently collected from limestones of Nan area, North Thailand. In: N. Mantajit (ed.) Proc. Symposium on Geology of Thailand, Bangkok 2002, Dept. Mineral Resources, p. 45-57.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2002/6375.pdf)
(M Permian limestone around Nan, N Thailand, with rugose corals, smaller foraminifera and fusulinids (Pseudodoliolina pseudolepida, Nankinella?, Parawedekindellina?, Parafusulina gigantea, schwagerinids). Also Latest Permian with Colaniella and Paleofusulina? in area. Lower Permian (Asselian-Sakmarian) unknown in area. Of Cathaysian affinity, although Nan area is separated from Indochina block by Nan-Uttaradit suture.)

Fontaine, H., S. Salyapongse, Nguyen D. Tien & D. Vachard (2002)- The Permian of Khao Tham Yai area in Northeast Thailand. In: N. Mantajit (ed.) Proc. Symposium on Geology of Thailand, Bangkok 2002, Dept. Mineral Resources, p. 58-76.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2002/6376.pdf)
(>700m thick, thick-bedded, 45° E-dipping M Permian limestone of Tham Yai hill cave in Nam Nao district, ~360km NNE of Bangkok. Typical Tethyan/ Indochina Block assemblages of fusulinids (incl. Lepidolina, Colania douvillei, Verbeekina verbeeki, Chusenella, Sumatrina, etc.) and mainly massive rugose corals

(Ipciphyllum, Multimurinus) (Lower Midian Horizon 3 comparable to Guguk Bulat fauna of Sumatra?)(see also Fontaine & Salyapongse 2001))

Fontaine, H., S. Salyapongse & V. Suteethorn (2003)- Glimpses into fossil assemblages of Thailand: coral perspectives. Natural History Bull. Siam Soc. 51, 1, p. 37-67.
(online at: http://library.dmr.go.th/library/DMR_Technical_Reports/2003/4927.pdf)
(Review paper of fossil corals of Thailand. Carboniferous, Permian and Triassic corals widespread; Devonian and Jurassic corals locally common; Ordovician and Silurian corals rare and poorly known. Includes Devonian limestone in NE Thailand area near Laos border (possibly Givetian- E Frasnian; affinities with Vietnam and S China) with rich coral faunas, incl. stromatoporoid Chlathrodictyon and tabulate coral Heliolites porosus (= same taxa as reported by Rutten 1940 from NE Kalimantan))

Fontaine, H., S. Salyapongse, V. Suteethorn, P. Tian & D. Vachard (2005)- Sedimentary rocks of the Loei Region, Northeast Thailand: stratigraphy, paleontology, sedimentology. Dept. Mineral Resources, Bangkok, p. 1-165.
(online at: http://library.dmr.go.th/library/DMR_Technical_Reports/2005/409.pdf)
(Extensive review of Loei region in NE Thailand, near Laos border. Includes Silurian with Heliolites spp. corals. M Devonian limestone with corals Heliolites spp. (incl. H. porosus) and Favosites, common stromatoporoids, and with basalts. Late Devonian- E Carboniferous (Famennian- Tournasian) siliceous shales and chert with radiolaria. Includes overview of Carboniferous of all of Thailand (p. 33-89). Permian of Loei area in marine facies in E-M Permian, in Late Permian in continental facies with Gigantopteris plant fossils and vertebrates (Dicynodon) in nearby Laos. Permian limestones now called Sariburi Lst, with diverse fossil assemblages, incl. common Tubiphytes. E Permian clastics with Agathiceras ammonoid. M Permian limestones with Mizzia, Verbeekina, etc.)

Fontaine, H., S. Salyapongse, V. Suteethorn & D. Vachard (2000)- Widespread occurrence of Triassic limestones Northwest of Uthai Tani in West Thailand. Natural History Bull. Siam Soc. 48, 1, p. 7-19.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2543/6927.pdf)
(Two parallel N-S trending series of limestone hills associated with volcanic rocks in Nan region, NW of Uthai Thani near Laos border, NW Thailand, previously considered Silurian-Devonian and Permian in age, here assigned to Upper Triassic. Abundant coral. Foraminifera include locally common Aulatortus, suggesting likely Norian age)

Fontaine, H., S. Salyapongse, V. Tansuwan & D. Vachard (1997)- The Permian of East Thailand: biostratigraphy, corals, discussion about the division of the Permian system. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, 1, p. 109-127.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1997/7641.pdf)
(Permian limestones common in E Thailand near Cambodian border: In E Roadian lst with Cancellina and Neoschwagerina; in W Capitanian with Yabeina and Lepidolina and abundant coral (incl. Waagenophyllum))

Fontaine, H., S. Salyapongse, C. Utha-aroon & D. Vachard (1997)- Age of limestones associated with gypsum deposits in northeast and central Thailand: a first report, CCOP Newsletter 21, 4, p. 6-10.
(Late Carboniferous limestones with gypsum-anhydrite interbeds in C Thailand (Indochina Block))

Fontaine, H., S. Salyapongse & D. Vachard (1999)- Occurrence of an Upper Permian (Dorashamian) limestone northeast of Klaeng, East Thailand. CCOP Newsletter 24, 2, p. 14-19.

Fontaine, H., S. Salyapongse & D. Vachard (1999)- The Carboniferous of East Thailand- new information from microfossils. In: G.H. Teh (ed.) Proc. 9th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA ô98), Kuala Lumpur 1998, Bull. Geol. Soc. Malaysia 43, p. 461-465.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1999046.pdf)
(E Carboniferous microfossils from 8 localities in area 70 km east of Chonburi, SE Thailand. In ~1000m thick shale-dominated series with limestone interbeds, highly folded with dips commonly >60°; strike ~N300W.)

Fontaine, H., S. Salyapongse & D. Vachard (1999)- Permian limestones from Chanthaburi to Sakaeo and Upper Carboniferous limestone of Khao Singto, East Thailand. CCOP Newsletter 24, 4, p. 13-17.

Fontaine, H., S. Salyapongse & D. Vachard (2000)- New Carboniferous fossils found in Ban Bo Nam area, Central Thailand. In:Proc. Symposium Mineral, energy and water resources of Thailand: towards the year 2000, Bangkok 1999, p. 201-211.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1999/6617.pdf)
(M-U Carboniferous fossils from black limestone lenses intercalated in basic-intermediate volcanoclastics E of Lam Narai, 250km NE of Bangkok, C Thailand. Rare fusulinds, incl. Profusulinella, Staffella, Protriticites, etc.. Carboniferous volcanic section overlain by E-M Permian limestones (=W margin Indochina Block?; JTvG))

Fontaine, H., S. Salyapongse & D. Vachard (2001)- Widespread occurrence of Triassic limestones in Nan region, northern Thailand and their constraints on age of the associated volcaniclastic rocks. J. Geol. Soc. Thailand 1, p. 15-42.
(online at: http://library.dmr.go.th/library/J-Index/2001/80.pdf)
(Similar to Fontaine et al. (2000). Late Triassic (Carnian, some Norian) limestone outcrops in Nan province, NW Thailand, near Laos border. Rich in algae and Tubiphytes, locally also coral and oncolites. Common smaller foraminifera (mainly Aulotortus). Interbeddeded with rhyolite and rhyolitic tuffs, mainly ignimbrite tuffs (Khao Luang Tuff) (= probably part of Sukhothai Arc terrane; JTvG))

Fontaine, H., S. Salyapongse & D. Vachard (2002)- Paleozoic sediments west of the road from Chiang Khan to Loei and Wang Saphung. J. Geol. Soc. Thailand 1, p. 47-61.
(online at: http://library.dmr.go.th/Document/J-Index/2002/137.pdf)
(Descriptions of various outcrops of clastics-dominated Carboniferous and limestone-dominated E-M Permian in Loei area, N-C Thailand (= W side of Indochina Block; JTvG))

Fontaine, H., N. Sattayarak & V. Suteethorn (1994)- Permian corals of Thailand. CCOP Techn. Bull. 24, p. 1-108.
(Permian corals common and diverse assemblages in SE, Central and NE Thailand, with strong affinities to S China, Vietnam, Cambodia, E Malay Peninsula and Sumatra (Indochina- E Malaya terrane'; JTvG), but unknown in Australia. Peninsular Thailand (= Shan-Thai/ Sibumasu terrane) only rare corals belonging to Tabulata (Sinopora) and solitary Rugosa and with low diversity fusulinids (but absent in E Permian). Peak coral diversity in Thailand in late M Permian (Murghabian= Wordian to Midian= Capitanian), with locally abundant Ipciphyllum, after which coral species diversity dropped 90%. C Thailand coral fauna very similar to Guguk Bulat locality of C Sumatra (p. 38). W Papua Permian faunas, without compound corals, most similar to faunas from Peninsular Thailand (p. 39))

Fontaine, H. & V. Suteethorn (1988)- Late Paleozoic and Mesozoic fossils of West Thailand and their environments. Comm. Co-Ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Bangkok, Techn. Bull. 20, p. 1-107.
(Descriptions of Devonian- Jurassic faunas of W Thailand (part of Shan-Thai/ Sibumasu Block). Incl. Toarcian-Aalenian limestones rich in forams, Toarcian limestones rich in Parvamussium donaiense, etc. Followed by 8 additional papers as Appendix 1-8)

Fontaine, H. & V. Suteethorn (1988)- Discovery of widespread Bashkirian limestone northeast of Loei. In: T. Silakul (ed.) Proc. Annual Techn. Mtg. Dept. Geological Sciences, Chiang Mai University, Special Publ. 8, p. 199-206.

Fontaine, H. & V. Suteethorn (1995)- Khao Tham Rusi Laat: Early Permian red limestone. CCOP Newsletter 20, 2, p. 13-18.
(Red limestone at Khao Tham Rusi Laat, W of Lam Narai- Phetchabun road, C Thailand with rel. diverse E Permian coral fauna, incl. solitary Rugosa (Pseudozaphrentoides, ?Caninophyllum), fasciculate Rugosa (Akagophyllum) and massive Rugosa (Chusenophyllum). Associated with few non- age diagnostic foraminifera)

Fontaine, H. & V. Suteethorn (2000)- Devonian and Lower Carboniferous corals found in Ban Na Klang Area, Loei Province, Northeast Thailand. J. Geol. Soc. Thailand 2000, 1, p. 27-33.
(online at: http://library.dmr.go.th/library/J-Index/2000/147.pdf)
(Devonian diverse stromatoporoids and corals and Lower Carboniferous corals in limestones previously mapped as Permian)

Fontaine, H. & V. Suteethorn (2000)- Moscovian to Gshelian coral assemblages in northeastern Thailand: field-relationship between Carboniferous and Permian strata. J. Geol. Soc. Thailand 2000, 1, p. 34-41.
(online at: http://library.dmr.go.th/library/J-Index/2000/148.pdf)
(New M-U Carboniferous (mainly Moscovian) coral limestone localities in Ban Na Duang area, Loei Province, NE Thailand. Overlain by Permian (Asselian) sandstones-limestones and M Permian fusulinid limestone)

Fontaine, H. & V. Suteethorn (2007)- Carboniferous corals of Pang Mapha District in northwest Thailand. Natural History Bull. Siam Society 55, 2, p. 199-221.

Fontaine, H., V. Suteethorn & Y. Jongkanjanasoontorn (1991)- Carboniferous corals of Thailand. CCOP Techn. Bull. 22, p. 1-73.
(Carboniferous corals abundant in C and NE Thailand. In SE and NW only rare solitary Rugosa. Absent or only rare tiny corals without dissipiments in Peninsular Thailand (=Sibumasu terrane; JTvG). Most diverse coral faunas in 'mid-Carboniferous' (Upper Visean- Lower Serpukhovian). Rugosa most common; Tabulata (Syringopora, Chaetetes) rel. rare))

Fontaine, H., V. Suteethorn & D. Vachard (1993)- Carboniferous and Permian limestones in Sop Pong area: unexpected lithology and fossils. In: T. Thanasuthipitak (ed.) Int. Symposium Biostratigraphy of mainland Southeast Asia: facies and paleontology (BIOSEA), Chiang Mai 1993, 1, Chiang Mai University, p. 319-336.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1993/7487.pdf)
(On thick reefal E Carboniferous (Visean)- Late Permian Doi Chiang Dao Limestone in Inthanon Zone of NW Thailand, near Burma border. With diverse fusulinid foraminifera in Late Carboniferous (Triticites, Schubertella), E Permian (Sphaeroschwagerina, Rugofusulina), M Permian (Neoschwagerina, Verbeekina, Sumatrina, Afghanella, primitive Colaniella), more affinities to Indochina than Sibumasu. Also Hemigordius, Mizzia, Permocalculus, etc. Now considered to be Paleotethyan seamount carbonate)

Fontaine, H., V. Suteethorn & D. Vachard (1994)- The Carboniferous corals of Southeast Asia with new discoveries in Laos and Thailand. In: P. Angsuwathana et al. (eds.) Proc. Int. Symp. Stratigraphic correlation of Southeast Asia, Bangkok 1994, Dept. Mineral Resources and IGCP 306, p. 25-42.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1994/6937.pdf)
(Review of geographic and stratigraphic distribution of Carboniferous corals in SE Asia (generally rare). Sumatra only place in Indonesia with Carboniferous corals: Visean at Muara Gorge in C Sumatra, and Alas River in N Sumatra. W Sarawak lower Terbat Lst is of M-U Carboniferous age, very rare corals. No corals in Carboniferous of Peninsular Thailand or NW Peninsular Malaysia (Sibumasu))

Fontaine, H., V. Suteethorn & D. Vachard (1995)- The Carboniferous of northeast Thailand: a review with new data. J. Southeast Asian Earth Sci. 12, p. 1-17.
(All stages of Carboniferous represented in NE Thailand (Indochina Block), E of Loei. In parts of area overlain by Permian (mainly limestone). M-U Devonian limestone, shale and chert occur occasionally in C and N parts of area. U Tournaisian-Visean and U Carboniferous limestones rich in corals, algae, etc.. Carboniferous of N Thailand affinities with S China, Japan, W Europe, but differs from Peninsular Thailand/ NW Malaysia, where, as in NW Australia, limestone is rare and fusulinids and compound corals are absent)

Fontaine, H., V. Suteethorn & D. Vachard (1998)- Khao Yoi, a Permian limestone hill of the Ratburi area, Peninsular Thailand. CCOP Newslett. 23, 3, p. 12-14.

(Midian-age Ratburi Lst at Khao Yoi with Pseudoalgae (Tubiphytes), algae (Permocalculus), foraminifera (Dagmarita, Hemigordiopsis, Sphairionia, transitional form between Hemigordiopsis and Shanita), corals (Sinopora, fasciculate Waagenophyllidae) (= late M Permian 'Sibumasu Fauna'; JTvG))

Fontaine, H. & W. Tantiwanit (1987)- Discovery of widespread and very fossiliferous Devonian beds in Northeast Thailand. CCOP Newsletter 12, 3, p. 25-26. *(also in CCOP Techn. Publ. 20, p. 315-317)*
(online at: http://library.dmr.go.th/library/DMR_Technical_Reports/1987/9619.pdf)
(Brief paper on probably M Devonian (Givetian) outcrops of NE Thailand (= Indochina Plate). Composed of shales with brachiopods, chert and thin-bedded limestone with stromatoporoids and corals (Heliolites spp., Phillipsastraea, Favosites, etc.))

Fontaine, H. & W. Tansthein (1987)- The coral *Koninckophyllum* in the Early Carboniferous of Thailand. In: N. Mantajit (ed.) Proc. Symposium on Geology of Thailand, Bangkok 2002, Dept. Mineral Resources, p. 35-37.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2002/6374.pdf)
(E Carboniferous rugose coral genus Koninckophyllum not common in Thailand. Second locality in C Thailand, in M Visean limestone 40 km SW of Phetchabun)

Fontaine, H. & D. Vachard (1981)- Decouvertes de microfaunes Scytho-anisiennes au sud-est de Bangkok: consequences paleogeographiques. Comptes Rendus somm. Soc. Geologique France 2, p. 63-66.
('Discoveries of Scythian-Anisian microfaunas in the SE of Bangkok: paleogeographic consequences')

Foopatthanakamol, A., B. Ratanasthien, H.I. Petersen, P. Wongpornchai & W. Utamo (2008)- Composition and petroleum potential of lake facies in the FA-MS-48-73 well, Mae Soon structure, Fang oilfield, northern Thailand. J. Petroleum Geol. 31, 3, p 317-326.
(Fang Basin Cenozoic rift structure in N Thailand. Fang oilfield includes Mae Soon anticline with well FAMS-48-73, with multiple oil-filled sandstone reservoirs. Organic petrography, etc., shows Type II and III kerogen, consisting mainly of telalginite (Botryococcus-type), lamalginite, etc., suggesting freshwater lacustrine environment. Vitrinite Reflectance values ~0.38- 0.66% Ro, thermally immature for petroleum generation)

Fortey, R.A. (1989)- An Early Devonian trilobite fauna from Thailand. Alcheringa 13, 4, p. 257-267.
(Well-preserved, small Devonian trilobite fauna from limestones in Satun Province, S Thailand (Shan-Tai/ Sibumasu Block). Early Devonian age, probably Emsian. Includes Decoroproetus, Cornuproetus, Platyscutellum and two species of Reedops)

Fortey, R.A. (1997)- Late Ordovician trilobites from southern Thailand. Palaeontology 40, 2, p. 397-449.
(online at: http://cdn.palass.org/publications/palaeontology/volume_40/pdf/vol40_part2_pp397-449.pdf)
(Rich, well-preserved trilobite fauna from U Ordovician (Caradoc)limestone in Satun Province, S Thailand (= Shan Thai/ Sibumasu terrane). Outer shelf assemblage of 39 species, dominated by Ovalocephalus, nileids and remopleuridids. Identical to faunas described from Pagoda Lst of S China, suggesting proximity in Late Ordovician. Two new speciesd: Sculptaspis pulcherrima and Ovalocephalus plewesae)

Fujikawa, M. & T. Ishibashi (1999)- Carboniferous and Permian ammonoids from North Thailand. Mem. Fac. Science, Kyushu University, D, 30, p. 91-110.
(Ammonoids from N Thailand in latest Permian of Lampang (Prototoceras, Paratirolites, Pseudogastrioceras, Pseudotirolites, Tapashanites floriformis, T. changxingensis, Xenodiscus) and Carboniferous from Loei and Sop Pong (Lower Pennsylvanian; Pseudoparalegoceras sp., Gastrioceras, Paralegoceras, Pronorites, etc.)

Fujikawa, M., T. Ishibashi & N. Nakornsri (1999)- Middle Carboniferous cephalopods from Loei area, northern Thailand. In: Ninth Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA '98), Kuala Lumpur, Bull. Geol. Soc. Malaysia 43, p. 467-475.
(online at: www.gsm.org.my/products/702001-100793-PDF.pdf)
(Abundant M Carboniferous cephalopods at 'Barite Mine', N Loei city, N Thailand. Five genera of ammonoids and 5 nautiloids: Branneroceras branneri, Diaboloceras involutum, Syngastrioceras, Neogastrioceras, Bisatoceras, Catastroboceras subsulcatifomae, Epidomatoceras doohylense, Gzheloceras, Temnocheilus and

Epistroboceras, indicative of Namurian-Moscovian age. With brief overview of known Late Paleozoic ammonoid localities in Thailand)

Fujikawa, M., K. Ueno, A. Sardsud, W. Saengsrichan, Y. Kamata & K. Hisada (2005)- Early Permian ammonoids from the Kaeng Krachan Group of the Phatthalung-Hat Yai area, southern peninsular Thailand. J. Asian Earth Sci. 24, 6, p. 739-752
(Late E Permian (Kungurian/ Bolorian) small ammonoid fauna with Neocrimites, Agathiceras suessi, A. girtyi and Miklukhoceras from uppermost Kaeng Krachan Gp, ~15m below Ratburi Lst (with Monodiexidina in basal transition beds) on S Peninsular Thailand (= Sibumasu block) suggests these beds are of Kungurian/Bolorian age, slightly younger than previously considered. Environment of Sibumasu Block changed around this time from cool, clastic-dominant shelf to temperate- subtropical, carbonate platform. Ammonoid fauna much less diverse than probably coeval faunas of Timor)

Fukuchi, A., B. Ratanasthien, S. Tanaka, S. Nagaoka & S. Suzuki (2007)- Stratigraphy and sedimentary environment of late Middle‒early Late Miocene Chiang Muan Formation, Phayao Province, Thailand. Nature and Human Activities 11, p. 1-15.
(online at: www.hitohaku.jp/publication/r-bulletin/KiyouE_No11_1-1.pdf)
(Late M- early Late Miocene fluvial Chiang Muan Fm in Chiang Muan Basin of N Thailand ~300m thick and subdivided into five members, incl. two lignite members two mammalian fossil-bearing horizons)

Gabel, J. (1991)- Die marine Trias in Nordthailand: Sedimentation in expandierenden Halbgraben. Ph.D. Thesis, Universitat Gorringen, p. 1-99.
('The marine Trias in North Thailand: sedimentation in expanding half-grabens')

Gardiner, N.J., N.M.W. Roberts, C.K. Morley, M.P. Searle & M.J. Whitehouse (2016)- Did Oligocene crustal thickening precede basin development in northern Thailand? A geochronological reassessment of Doi Inthanon and Doi Suthep. Lithos 240-243, p. 69-83.
(Doi Inthanon and Doi Suthep metamorphic core complexes in N Thailand, exhumed through mobilization of low-angle detachment fault. Previous studies interpreted Late Triassic and Late Cretaceous metamorphic events, followed by ductile extension between Late Eocene- Late Oligocene (detachment at ~40 Ma, culminating in rapid unroofing in E Miocene. Zircon data from Doi Inthanon and Doi Suthep age ranges of 221-210 Ma, ~72 Ma, and 32-26 Ma. Monazite older ages. Data support view of Indosinian basement being reworked in Cretaceous, and indicate late Eocene- Oligocene tectonothermal event. Etc.)

Garson, M.S. & A.H.G. Mitchell (1970)- Transform faulting in the Thai Peninsula. Nature 228, 5266, p. 45-47.
(Angular feature in Phuket area of peninsular Thailand projecting into Andaman Sea is physiographic expression of two major transcurrent faults with total sinistral displacement of at least 200 km)

Garson, M.S., B. Young, A.H.G. Mitchell & B.A.R.Tait (1975)- The geology of the tin belt in Peninsular Thailand around Phuket, Phang Nga and Takua Pa. Inst. Geol. Science, Overseas Div. Mem. 1, Bangkok, p. 1-112.
(Ridd 2009: diamonds found while dredging for tin, presumed reworked into E Permian diamictite from kimberlite exposed on Gondwana)

Geard, A. (2008)- Geology of the Klaeng region (Southeast Thailand): lithology, structure and geochronology. B.Sc. Honours Thesis, University of Tasmania, Hobart, p. *(Unpublished)*

George, A.D., S. Lazar & J. Booth (2012)- Mounds and boundstone facies in the Late Carboniferous- Early Permian Pha Nok Khao Formation-equivalent of the Loei Syncline, Loei-Phetchabun foldbelt: implications for reservoir quality. Int. Petrol. Techn. Conf., Bangkok 2012, 4, IPTC 15256, p. 3026-3031. *(Extended Abstract)*
(Late Carboniferous- E-M Permian carbonate platforms major petroleum reservoirs in Khorat region of NE Thailand (Indochina Terrane). Carbonate platforms initiated on fault blocks formed during Late Carboniferous rifting. Outcrop analog study in N part of Loei-Phetchabun Foldbelt shows diverse platform-margin boundstones, incl. sandy shoal facies with Tubiphytes and phylloid algal mounds)

Getahun, B. & B. Ratanasthien (1993)- *Botryococcus* algae in oil source rocks, Fang Basin, northern Thailand. In: T. Thanasuthipitak (ed.) Int. Symposium Biostratigraphy of mainland Southeast Asia: facies and paleontology (BIOSEA), Chiang Mai 1993, 2, p. 337-346.
(http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1993/7488.pdf)
(Oligocene- E Miocene (pre-Florschuetzia) Mae Sot Fm in well IF 30 03S in intermontane Fang Basin, N Thailand, with basal lacustrine facies rich in Botryococcus algae and higher plant exinite. Botryococcus-rich layers occur between Nypa-rich palynological assemblages, suggesting brackish- deltaic influence)

Gibling, M. R. & B. Ratanasthien (1980)- Cenozoic basins of Thailand and their coal deposits: a preliminary report. Bull. Geol. Soc. Malaysia 13, p. 27-42.
(online: https://gsmpubl.files.wordpress.com/2014/09/bgsm1980009.pdf)
(Many N-S trending Cenozoic basins in Thailand, especially in N (43 named basins), in Chao Phraya basin and Gulf of Thailand. Tertiary in onshore basins generally <3000m thick, locally >4000m in Gulf of Thailand. Locally common coal (up to 35m thick seams) and lacustrine oil shales (up to 15m thick beds). Plant fossils suggest oldest rocks possibly Late Eocene in age)

Gibling, M.R., C. Tantisukrit, W. Uttamo, T. Thanasuthipitak & M. Haraluck (1985)- Oil shale sedimentology and geochemistry in Cenozoic Mae Sot Basin, Thailand. American Assoc. Petrol. Geol. (AAPG) Bull. 69, 5, p. 767-780.
(Intermontane Mae Sot basin, NW Thailand, with carbonate-rich oil shales. Laminated deposits with fish and plant fragments as main megafossils. Mappable oil shale sequences 10m thick, interstratified with marl-sandstone sequences 70m thick. Oil shales formed in perennial stratified lakes. Episodic deposition of oil shales reflects changes in lake level, probably due to climatic fluctuations on 24- 46kyr scale)

Gibling, M.R., Y. Ukakimaphan & S. Srisuk (1985)- Oil shale and coal in intermontane basins of Thailand. American Assoc. Petrol. Geol. (AAPG) Bull. 69, 5, p. 760-766.
(Mae Tip intermontane basin of NW Thailand contains Cenozoic oil shales in beds up to 1m thick, interbedded with coal and mudstone. Oil shales contain lamosite-type alginite. Beds laterally continuous for at least 1.5 km, but pass into mudstones toward basin margin. Oil shales originated when peat swamps were flooded by shallow lakes. Locally high geothermal gradients suggest potential for hydrocarbons)

Ginsburg, L. (1983)- The land vertebrates and plants of the Tertiary of Northern Thailand : stratigraphic and tectonic implication. In: Conf. Geology and Mineral Resources of Thailand, Bangkok, p. 198-201.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1983/10571.pdf)
(Tertiary lignites of N Thailand (Khon Khaen area) two groups: Li Gp and Mae Moh Gp. Both groups associated with mammal fossils and both appear to be of Late Miocene age)

Ginsburg, L. (1989)- The fossils mammals of Pong (Phayao) and the age of some intermontane basins of northern Thailand. In: T. Thanasuthipitak & P. Ounchanum (eds.) Proc. Int. Symposium Intermontane basins, Chiang Mai 1989, Chiang Mai University, p. 196-204.

Ginsburg, L., R. Ingavat & P. Tassy (1983)- *Siamogale thailandica*, un nouveau Mustelidae (Carnivora, Mammalia) neogene du Sud-Est asiatiique. Bull. Soc. Geologique France, 25, 6, p. 953-956.
(New otter species from M-L Miocene of Mae Moh lignite mine, N Thailand)

Ginsburg, L. & P. Mein (1987)- *Tarsius thailandica* nov. sp., first fossil Tarsiidae (Primate, Mammalia) of Asia. Comptes Rendus Academie Sciences, Paris, Serie II, 304, 19, p. 1213-1215.

Ginsburg, L., P. Mein & P. Tassy (1991)- The Miocene of Li Basin, Changwat Lumphun, Thailand. In: Annual Techn. Meeting 1989 and IGCP-246, Chiang Mai University, p. 101-109.

Ginsburg, L. & P. Tassy (1985)- The fossil mammals and the age of the lignite beds in the intermontane basins of Northern Thailand: J. Geol. Soc. Thailand. 8, 1-2, p. 13-27.

(online at: http://library.dmr.go.th/Document/J-Index/1985/20.pdf)
(Lignite sequences in Tertiary intermontane basins of N Thailand traditionally divided in Eocene (Li Fm; based on study of poor flora by Endo (1963)) and Upper Miocene (Mae Moh Fm; based on mastodon molar identified as Stegolophodon by Von Koenigswald 1959. Also with fossil frogs, Siamogale (Thai otter)). New mammal discoveries suggest age in late part of M Miocene)

Ginsburg, L. & Y. Ukkakimaphan (1983)- A new cervid from the South Asia Miocene and the age of the intermontane basins of North Thailand. Comptes Rendus Academie Sciences, Paris 297, Ser. 2, p. 297-300.

Glenister, B.F., W.M. Furnish, Z. Zhou &M. Polahan (1990)- Ammonoid cephalopods from the Lower Permian of Thailand. J. Paleontology 64, 3, p. 479-780.
(Brief note on discovery of Lower Permian ammonoid fauna in 'Ratburi Lst' at Amphoe Muaglek, S-C Thailand,~150 km NE of Bangkok. Four species identified: Miklukhoceras cf. M. pamiricum, Agathiceras mediterraneum, Perrinites cf. P. hilli, Prostacheoceras cf. P. oshense. Advanced perrinitid suggestive of Late Artinskian (Baigendzhinian). Ecologically, Thai ammonoids close to assemblages of SW China and Pamir, and minimal similarities to faunas of S China or Boreal biogeographic assemblages of W Australia. No figures)

Glumglojit, S. & Akkhapun Wannakomol (2011)- Undiscovered hydrocarbon resources of Chonnabot Prospect, Northeast Thailand. Suranaree J. Science Technol. 18, 2, p. 89-97.
(online at: http://ird.sut.ac.th/e-journal/document/contents/Journal18(2)/vol.%2018%20no.2%20part%201.pdf)
(Assessment of undiscovered hydrocarbon resources in Permian carbonate prospect in NE Thailand. Probabilistic play analysis mean estimates 15 MMB Oil and 657 BCF of non-associated gas)

Gocht, W. & E. Pluhar (1982)- Types of Phuket pegmatites with special reference to Ta-rich ores. In: A.M. Evans (ed.) Mineralization associated with acid magmatism, Wiley, New York, p. 91-99.

Gocht, W. & C. Strobel (1982)- Classification of tin-bearing pegmatites in Phuket, Thailand. In: T. Thanasuthipak (ed.) Proc. Ann. Technical Meeting, Dept. Geol. Sci., Chiang Mai University, Spec. Publ. 4, p. 143-153.
(Kathu Valley on Phuket Island two types of tin-bearing pegmatites: Sn-Ta pegmatites (or albite-muscovite pegmatites) and Sn- Rare earth element (REE) pegmatities (or orthoclase-lepidolite pegmatites). Pegmatites intruded into Late Paleozoic (meta-) sediments of Phuket Group. Sn-Ta pegmatites in areas close to granite body; more complex Sn-REE pegmatites located further (2-4 km) from source granite)

Grant, R.E. (1976)- Permian brachiopods from southern Thailand. Palaeont. Soc. Memoir 9 (J. Paleontology 50, 3, Supplement), p. 1-269.
(Descriptions of 109 species/ 81 genera of silicified brachiopods from Permian 'Rat Buri Limestone' in 7 localities along S Peninsula of Thailand Indicate late Artinskian (Baigendzinian) age and many similarities with Bitauni fauna of Timor. Paleogeographic setting of Thailand faunas interpreted to be near E end of Tethys Sea in fairly warm- shallow waters with access to cooler, Boreal regions (=Sibumasu Terrane; results questioned by Waterhouse (1981); characterized as Stereochia-Meekella fauna by Fang (1994) (JTvG))

Gregory, J.W. (1930)- Upper Triassic fossils from Burmo-Siamese frontier: the Thaungyin Trias and description of the corals. Records Geol. Survey India 63, p. 155-166.
(Fossils collected by Cotter from Late Triassic (Norian-Rhaetian) reefal Kamawkale Limestone on N Thailand-Myanmar border between Tak and Kanchanaburi Provinces. Corals revised by Beauvais (1988) and identified as M-L Jurassic species)

Griffin, W.L., T.T. Win, R. Davies, P. Wathanakul, A. Andrew, I. Metcalfe & P. Cartigny (2001)- Diamonds from Myanmar and Thailand: characteristics and possible origins. Economic Geology 96, p. 159-170.
(online at: http://www.ipgp.fr/~cartigny/2001-EconGeol-Griffinetal.pdf)
(No obvious primary sources for diamonds in modern alluvial deposits in Myanmar, Thailand and Sumatra. Rounded and polished surfaces of most diamonds reflect resorption in corrosive magma. Abrasion and brown radiation damage spots suggest long surface transport. Distribution within Sibumasu terrane and close

association with Carboniferous-Permian glacial-marine sediments suggest diamonds derived from primary sources in NW Australia or within terrane)

Grote P. (2007)- Studies of fruits and seeds from the Pleistocene of northeastern Thailand. Courier Forschungsinstitut Senckenberg 258, p. 171-181.
(Middle (or Early?) Pleistocene fluvial deposits in Nakhon Ratchasiam provonce with plant remains(endocarp and dipterocarp fruits, seeds, leaves, wood, tubers, amber, pollen), suggestive of tropical mixed deciduous and dry evergreen forests. Also vertebrate fossils of fish, turtles, gavials, bovids, deer, Stegodon and hyena)

Hada, S., S. Khosithanont, H. Goto, H. Fontaine & S. Salyapongse (2015)- Evolution and extinction of Permian fusulinid fauna in the Khao Tham Yai Limestone in NE Thailand. J. Asian Earth Sci. 104, p. 175-184.
(Limestone unit within Khao Tham Yai Lst deposited in shelf setting on Indochina Block without clastic beds. Ranges in age from Wordian (middle M Permian)- Wuchiapingian (lower U Permian). Three fusulinid zones, in ascending order: Colania, Lepidolina (with abundant large fusulinids) and Codonofusiella. Boundary between Guadalupian (M Permian) and Lopingian (U Permian) defined by extinction of large Verbeekinids and Schwagerinids to domination of small Schubertellids (similar pattern evolution at Guadalupian-Lopingian boundary in shallow-water Tethyan shelf areas and mid-Panthalassa). Also common Mizzia algae)

Hagen, D. & E. Kemper (1976)- Geology of the Thong Pha Phum area (Kanchanaburi province, western Thailand). Geol. Jahrbuch B21, p. 53-91.
(On Paleozoic-Jurassic 'Sibumasu' rocks in W Thailand, including Permian limestone with fusulinids ('Polydiexodina'; but not as rich as other parts of Thailand), Hemigordius, Tubiphytes, etc. M Jurassic limestone with Thaumatoporella parvovesiculifera algae and foram Lucasella kaempferi)

Hahn, L. (1976)- The stratigraphy and palaeogeography of the nonmarine Mesozoic deposits in northern Thailand. Geol. Jahrbuch B21, p. 155-169.
(On 1750-2000m thick red, non-marine Upper Triassic (Norian)- M Jurassic clastics of N Thailand. With ms2 horizon (Rhaetian?) of abundant rhyolite, rhyodacite and andesite. Units can be correlated with continental red series of Khorat Plateau. Overlie U Triassic (Carnian) marine rocks with Juvavites, Halobia cf. comata, Paleocardita cf. buruca)

Hahn, L. (1982)- The Triassic in Thailand. Geol. Rundschau 71, 3, p. 1041-1056.
('Indosinian Orogeny' tectonics in Thailand between Permian and Jurassic. Strong orogenic movements in Norian. Two Triassic sedimentation cycles: Scythian- E Norian marine facies and Norian- Rhaetian/ Liassic terrestrial. Sediment facies and distribution of igneous rocks due to subduction of oceanic crust, starting in Carboniferous, and to collision of Eurasian and Indochina Plates in Norian)

Hahn, L. (1982)- Stratigraphy and marine ingressions of the Mesozoic Khorat Group in northeastern Thailand. Geol. Jahrbuch B43, 35, p. 7-35.
(Jurassic-Cretaceous of Khorat Gp of NE Thailand deposited in predominantly fluvio-lacustrine environment. Climate was semi-arid to arid, with subtropical humid intervals. Several horizons in M-U Jurassic with bivalves and plesiosaur and ichthyosaurus teeth evidence of episodic marine transgressions)

Hahn, L., K.E. Koch & H. Wittekindt (1986)- Outline of the geology and the mineral potential of Thailand. Geol. Jahrbuch B59, p. 3-49.

Hahn, L. & M. Siebenhuner (1982)- Explanatory notes (paleontology) on the geological maps of Northern and Western Thailand 1:250,000 (Sheets Nan, Chiang Rai, Phayao, Chiang Dao, Chiang Mai, Li, Thong Pha Phum). Bundesanstalt fur Geowissenschaften und Rohstoffe, Hannover, p. 1-76.

Haile N. S. (1973)- Note on Triassic fossil pollen from the Nam Pha Formation, Chulabhorn Nam Phrom Dam, Thailand. Newsletter Geol. Soc. Thailand 6, 1, p. 15-16.
(Mostly Late Triassic Ovalipollis lunzensis, Cycadopites carpentieri and Alisporites sp.)

Haile, N.S. & D.H. Tarling (1973)- Note on the reversed magnetism of young Cainozoic basalts near Lampang, Northern hailand. In: Proc. Conf. Geology of Thailand, Chiang Mai University Spec. Publ. 1, 2, p. 66-73.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1975/7390.pdf)
(Reverse magnetic polarity near base of Pleistocene Lampang basalts (see also Barr et al. 1976))

Haines, P.W., K.T. Howard, J.R. Ali, C.F. Burrett & S. Bunopas (2004)- Flood deposits penecontemporaneous with 0.8 Ma tektite fall in NE Thailand: impact-induced environmental effects? Earth Planetary Sci. Letters 225, 1-2, p. 19-28.
(Tektite-bearing flood deposits in NE Thailand penecontemporaneous with impact event of Pleistocene SE Asia-Australian tektite strewn field. Major flood events consistent with effects of regional deforestation, increased run off and erosion, etc., expected in aftermath of major impact event)

Hamada, T. (1964)- Two Carboniferous brachiopods from Loei, Thailand. In: T. Kobayashi (ed.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 177-189.
(M Carboniferous brachiopods from Loei Province, N Central Thailand: Purdonella magna n.sp. and Brachythyrina strangwaysi. With review of Carboniferous fossil localities in other mainland SE Asia countries)

Hamada, T. (1964)- Some Middle Ordovician brachiopods from Satun, Southern Thailand. In: T. Kobayshi (ed.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 279-289.
(Black calcareous shale in Satun are of Peninsular Thailand contains M Ordovician shelly fauna, incl. 6 species of brachiopods: Cyrtonotella spp., Rafinesquina, Opikina)

Hamada, T. (1968)- *Swaicoelia*, a new Ambocoeliid genus (Brachiopoda) from north Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 5, p. 1-12.
(Common but low-diversity amboceliid brachiopods assemblage in red mudstones SW of Fang, 108km N of Chiang Mai, N Thailand. Near outcrops with E Devonian graptolites. Age likely U Devonian. New genus and species Swaicoelia rotunda (part of Sibumasu/ Shan-Tai Terrane))

Hansawek, R., W. Pongsapich & S. Vedchakanchana. (1986)- Tin-tungsten mineralized granite at Mae Chedi area, Wiang Pa Pao District, Chiang Rai Province, Northern Thailand. In: G.H. Teh & S. Paramananthan (eds.) Proc. 5th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA V), Kuala Lumpur 1984, 2, Bull. Geol. Soc. Malaysia 20, p. 423-471.

Hansberry, R.L., A.S. Collins, R.C. King, C.K. Morley, A.P. Gize, J. Warren, S.C. Loehr & P.A. Hall (2015)- Syn-deformation temperature and fossil fluid pathways along an exhumed detachment zone, Khao Khwang fold-thrust belt, Thailand. Tectonophysics 655, p. 73-87.
(Upper-level detachment zone in exhumed Khao Khwang fold-thrust belt of C Thailand, with illite crystallinity indicating deep diagenetic to low anchizonal conditions, and T of ~160-210 °C in shale detachment, interpreted as peak metamorphic conditions during Triassic Indosinian Orogeny. Positive association between organic carbon content in the shales and spacing and complexity of deformational structures)

Hansberry, R.L., R. King, A.S. Collins & C.K. Morley (2014)- Complex structure of an upper-level shale detachment zone: Khao Khwang fold and thrust belt, Central Thailand. J. Structural Geol. 67, p. 140-153.
(On newly identified upper-level detachment zone in shale unit in Khao Khwang fold- thrust Belt, C Thailand)

Hansen, B.T. & K. Wemmer (2011)- Age and evolution of the basement rocks in Thailand. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, p. 19-32.

Hansen, B.T., K. Wemmer, M. Eckhardt, P. Putthapiban & S. Assavapatchara (2016)- Isotope dating of the potash and rock salt deposit at Bamnet Narong, NE Thailand. Open J. of Geology 6, p. 875-894
(online at: https://goedoc.uni-goettingen.de/handle/1/14086)
(Age determination of Cretaceous evaporite (halite, anhydrite) of Maha Sarakham Fm in samples from Bamnet Narong Asian Potash Mine, at W edge of Khorat Plateau/ Basin. Multiple isotopic approaches (K/Ar, K/Ca and

Sr) suggest depositional age from ~93 Ma to <76 Ma (Cenomanian- Campanian), in agreement with Aptian-Albian ages from vertebrate fossils from underlying non-marine Khok Kruat Fm)

Hansen, B.T., K. Wemmer, P. Putthapiban, I.C. Kleinhanns & F. Wilsky (2014)- Do U/Pb-SHRIMP dating and Pb stepwise leaching (PbSL) analyses confirm the lack of Precambrian Basement outcrops in Thailand? Open Journal of Geology 4, 10, p. 505-517.
(online at: http://dx.doi.org/10.4236/ojg.2014.410037)
(Zircon dating and Pb stepwise leaching experiments on garnets suggest absence of Precambrian outcrops in crystalline basement of Thailand. High grade metamorphism show Indosinian ages (225-200 Ma) for vast majority of outcrops in NW Thailand, and small group of ages of ~445 Ma (~Ordovician-Silurian boundary) in Lampang Province. Age of thermal imprint at ~60 Ma confirmed near Surat Thani, Peninsular Thailand)

Hanta, R., B. Ratanasthien, Y. Kunimatsu, H. Saegusa, H. Nakaya & P. Chintasakul (2005)- Description of the Tha Chang *Merycopotamus* and its preserved condition. In: L. Wannakao et al. (eds.) Proc. Int. Conf. Geology, Geotechnology and Mineral Resources of Indochina (GEOINDO 2005), Khon Kaen, p. 600-605.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2005/9383.pdf)
(Well-preserved anthracothere skull from sandpit in NE Thailand assigned to Merycopotamus. Related to Late Miocene M. medioximus from Pakistan)

Hanta, R., B. Ratanasthien, Y. Kunimatsu, H. Saegusa, H. Nakaya & P. Jintasakul (2008)- A new species of Bothriodontinae, *Merycopotamus thachangensis* (Cetartiodactyla, Anthracotheriidae) from the Late Miocene of Nakhon Ratchasima, northeastern Thailand. J. Vertebrate Paleontology 28, 4, p. 1182-1188.
(online at: http://www.khoratgeopark.com/kgp/researchs/2008_Hanta%20et%20al.pdf)
(Merycopotamus thachangensis n.sp.(Cetartiodactyla, Anthracotheriidae) from sand pit in Tha Chang. Nearly complete cranium of first known Merycopotamus in Thailand. Mixture of derived and primitive features, most likely Late Miocene age, possibly late late Miocene)

Hara, H., Y. Kon, T. Usuki, Y.L. Ching, Y. Kamata, K. Hisada, K. Ueno, T. Charoentitira & P. Charusiri (2013)- U-Pb ages of detrital zircons within the Inthanon Zone of the Paleo-Tethyan subduction zone, northern Thailand: new constraints on accretionary age and arc activity. J. Asian Earth Sci. 74, p. 50-61.
(U-Pb dating of detrital zircons in lithic and basaltic sandstones from Inthanon Zone melange in N Thailand (W margin of Sukhothai Arc). Peak ages 3400-3200, 2600-2400, 1000-700, 600-400, and 300-250 Ma, similar to zircons in other circum-Paleo-Tethys subduction zones. Two types of sandstone:(1) with Late Carboniferous youngest zircon ages of ~300, 308 Ma, older than associated radiolarian chert blocks in same outcrop; (2) with youngest zircon ages of ~238 Ma, suggesting M Triassic maximum depositional age and peak magmatism in Sukhothai Arc. Youngest detrital zircons in Type 1 sandstones from Late Carboniferous- E Permian 'missing' arc, suggesting Sukhothai Arc was active during sedimentation. Significant M Triassic arc magmatism inferred from zircon age peaks in Type 2 sandstones and igneous rock record of Sukhothai Arc)

Hara, H., M. Kunii, K. Hisada, K. Ueno, Y. Kamata, W. Srichan, P. Charusiri, T. Charoentitirat et al. (2012)- Petrography and geochemistry of clastic rocks within the Inthanon zone, northern Thailand: implications for Paleo-Tethys subduction and convergence. J. Asian Earth Sci. 61, p. 2-15.
(Two types of clastic rocks in Paleo-Tethys convergence zone at Inthanon Zone, N Thailand: (1) lithic sst-shale in Permo-Triassic accretionary complex (35% from Sukhothai Zone volcanic rocks, 65% Indochina craton sst); and (2) Carboniferous quartzose sst- mudstone in Sibumasu Block (continental margin). Paleo-Tethys subduction caused continental island arc in Sukhothai Zone, with Late Permian-Triassic forearc basins and M- early Late Triassic volcanism and accretionary complex formation)

Hara, H., M. Kunii, Y. Miyake, K. Hisada, Y. Kamata, K. Ueno, Y. Kon, T. Kurihara, H. Ueda, S. Assavapatchara, A. Treerotchananon, T. Charoentitirat & P. Charusiri (2017)- Sandstone provenance and U-Pb ages of detrital zircons from Permian-Triassic forearc sediments within the Sukhothai Arc, northern Thailand: record of volcanic-arc evolution in response to Paleo-Tethys subduction. J. Asian Earth Sci. 146, p. 30-55.
(Provenance analysis and U-Pb dating of detrital zircons in Permian-Triassic forearc sediments from Sukhothai Arc in N Thailand clarify evolution of missing arc system associated with Paleo-Tethys subduction.

Turbidite-dominated forearc sediments include Permian- Late Triassic formations. Initial Sukhothai Arc (Late Carboniferous- E Permian) developed as continental island arc. Magmatic quiescence in M- early Late Permian. Latest Permian- early Late Triassic Sukhothai Arc activity with E-M Triassic I-type granites, evolution of accretionary complex, and abundant supply of volcanic sediments to trench through forearc basin. Sukhothai Arc became quiescent as Paleo-Tethys closed after Late Triassic)

Hara, H., T. Kurihara, J. Kuroda, Y. Adachi, H. Kuritae, K. Wakita, K. Hisada, P. Charusiri, T. Charoentitirat & P. Chaodumrong (2010)- Geological and geochemical aspects of a Devonian siliceous succession in northern Thailand: implications for the opening of the Paleo-Tethys. Palaeogeogr. Palaeoclim. Palaeoecology 297, p. 452-464.
(Opening of Paleo-Tethys reconstructed, using radiolarian fossils and geochemistry of Devonian siliceous succession in Chiang Dao area of N Thailand. Rock types: black shale (Lower Devonian), siliceous shale (M Devonian), tuffaceous chert and tuff (M-U Devonian), and chert (U Devonian). Succession deposited in continental margin and pelagic environments between Sibumasu and Indochina-North China blocks. Initial Paleo-Tethys developed as small, closed anoxic-suboxic oceanic basin in E-M Devonian, close to continental margin. Opening of Paleo-Tethys started around M-U Devonian boundary, marked by voluminous volcanic activity. Ash and pumice in chert derived from continental source. After Late Devonian, Paleo-Tethys developed as deep, broad ocean in which pelagic chert was deposited)

Hara, H., J. Kuroda, T. Kurihara, K. Wakita & P. Chaodumrong (2008)- Depositional environment related to Paleo-Tethys opening during Devonian: new insights from Total Organic Carbon analysis of siliceous rocks in the Chiang Dao Area, Northern Thailand. Proc. Int. Symp. Geoscience Resources and Environments of Asian Terranes (GREAT 2008), 4th IGCP 516 and 5th APSEG, Bangkok, p. 339-340. *(Extended Abstract)*
(online at: www.geo.sc.chula.ac.th/Geology/English/News/Technique/GREAT_2008/PDF/102.pdf)
(Devonian siliceous rocks in Chiang Dao area, N Thailand, with basal organic black shale with E Devonian graptolites, brachiopods and conodonts. Upward decrease of TOC values indicates opening history of Paleo-Tethys during Devonian, with change from anoxic conditions in E-M Devonian to oxic siliceous rocks in Late Devonian. Late Devonian mud, organic matter and pumice tuff still derived from continental margin. After Carboniferous pelagic chert was distributed in deep ocean with development of Paleo-Tethys Ocean)

Hara, H., K. Wakita, K. Ueno, Y. Kamata, K. Hisada, P. Charusiri, T. Charoentitirat & P. Chaodumrong (2009)- Nature of accretion related to Paleo-Tethys subduction recorded in northern Thailand: constraints from melange kinematics and illite crystallinity. Gondwana Research 16, 2, p. 310-320.
(Reconstruction of accretion process of Paleo-Tethys subduction in N Thailand shows trend of Paleo-Tethys subduction zone was N80°E, indicating Paleo-Tethys subducted N-ward beneath Indochina Block from Permian- Triassic)

Harnpattanapanich, T. (2008)- Phitsanulok thrust and fold belt: geologic evidences from Kwai Noi Dam. In: Proc. Int. Symp. Geoscience resources and environments of Asian Terranes (GREAT 2008), 4th IGCP 516 and 5th APSEG, Bangkok, p. 73-83.

Hasegawa, H., S. Imsamut, P. Charusiri, R. Tada, Y. Horiuchi & K. Hisada (2010)- ŏThailand was a desert' during the mid-Cretaceous: equatorward shift of the subtropical high-pressure belt indicated by eolian deposits (Phu Thok Formation) in the Khorat Basin, northeastern Thailand. Island Arc 19, 4, p. 605-621.
(online at: http://www.eatgru.sc.chula.ac.th/Thai/research/pdf/paper_2/106.pdf)
(Paleo-wind directions in M Cretaceous eolian sandstones of Phu Thok Fm (~126- 95 Ma; lateral equivalent of evaporite formations?) show Khorat Basin in NE trade wind belt. Subtropical high-pressure belt was N of area during initial deposition, immediately above basin during main phase of deposition, then shifted N again to N of basin during final deposition. Similar age eolian sandstone in Sichuan Basin, S China. Suggest development of low-latitude desert and equatorward shift of subtropical high-pressure belt in mid-Cretaceous)

Hashimoto, W, S. Buravas & S. Kudo (1968)- On the source rock of the Mae Fang oil field, North Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 5, p. 68-77.

(Mae Fang oil field in Mio-Pliocene lacustrine sediments of Cenozoic Mae Fang intermontane basin in NW Thailand. Nearby dark Early Paleozoic graptolite shales, but no obvious source rocks)

Hayami, I. (1968)- Some non-marine bivalves from the Mesozoic Khorat Group of Thailand. In: T. Kobayshi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 4, p. 100-107.
(Early paper on Cretaceous non-marine bivalves from Khorat Group)

Heggemann, H. (1993)- Sedimentare Entwicklung der Khorat-Gruppe (Ober-Trias bis Palaogene) in NE und N-Thailand. Doct. Thesis, Gottinger Arbeiten Geologie Palaontologie 63, p. 1-146.
(online at: www.geomuseum.uni-goettingen.de/museum/publications/images/GAGP/pdf/GAGP_Nr%2063_Heggemann_Heiner.pdf
('Sedimentary development of the Khorat Group (Upper Triassic to Paleogene) in NE and N Thailand'. Extensive descriptions of sedimentology of >4000m fluvial-dominated redbeds, with some lacustrine and brackish deposits, representing 'molasse fcaies' after Indosinian orogeny (Paleotethys closure). Includes Late Triassic half-grabens with acid-intermediate volcanic rocks, Jurassic redbeds indicate increasing aridity, Lower Cretaceous Maha Sarakham evaporites up to 890m thick)

Heggemann, H., D. Helmcke & K.W. Tietze (1994)- Sedimentary evolution of the Mesozoic Khorat Basin in Thailand. Zentralblatt Mineral. Geol. Palaont., Teil I, 1992, 11-12, p. 1267-1285.
(Khorat Basin of NE Thailand extends into Cambodia, Vietnam, Laos and SW China (Yunnan). After compressional deformation along Nan-Uttaradit suture (Phetchabun fold-thrust belt) Late Triassic extensional tectonics led to formation of half-grabens, followed by larger scale subsidence in Jurassic- Early Cretaceous. Up to 4000m of Latest Triassic- E Cretaceous fluvial-continental redbeds with lacustrine and brackish deposits)

Heggemann, H., R. Khoring & T.H. Schluter (1990)- Fossil plants and arthropods from the Phra Wihan Formation, presumably Middle Jurassic, of northern Thailand. Alcheringa 14, p. 311-316.
(Fossil plants, conchostracan crustaceans (Cyzicus sp.) and insects (Blattodea, Procercopina thailandica n.sp.) from lacustrine sediments of M Jurassic? age from Phra Wihan Fm in N Thailand)

Heggemann, H., K.W. Tietze & D. Helmcke (2003)- The river system of the Phra Wihan Formation, Thailand. In: Festschrift Behr, Gottinger Arbeiten Geologie Palaeontologie, Sonderband SB5, p. 23-32.
(online at: www.geomuseum.uni-goettingen.de/museum/publications/images/GAGP/...)
(Fluvial sedimentology of quartzitic sandstones of ~700m thick E Cretaceous Pra Wihan Fm, in middle part of Khorat Gp, Khorat Basin. General evolution from bed-load (braided) streams tor mixed-load (meandering), to suspended-load (meandering to anatomising) rivers. Paleocurrent measurements suggest source rock areas to N and NE of Khorat Basin. Petrified tree fragments (Dadoxylon (Araucarioxylon)) in channel-lag deposits)

Heim, A. & H. Hirschi (1939)- A section of the mountain ranges of North-Western Siam. Eclogae Geol. Helvetiae 32, p. 1-16.
(online at: http://retro.seals.ch/cntmng?type=pdf&rid=egh-001:1939:32::279&subp=hires)
(Description of 80km W-E traverse from Rameng to Mesod at Burma border. Includes description of Tertiary lacustrine oil shales in Mesod Basin. Rock types: Metamorphic rocks, ?Carboniferous shales-quartzite, ?Permo-Carboniferous recrystallized limestone, loose block of M Permian fusulinid limestone (Neoschwagerina, Verbeekina, Pseudofusulina, Sumatrina), Triassic green shale and limestone with Daonella, etc.. Evidence for longitudinal stretching)

Helmcke, D. (1984)- The orogenic evolution (Permo-Triassic) of central Thailand. implications on palaeogeographic models for mainland S.E. Asia. Mem. Soc. Geologique France, N.S.147, p. 83-91.

Helmcke, D. (1986)- On the geology of Petchabun Fold Belt (Central Thailand): implications for the geodynamic evolution of mainland SE Asia. In: G.H. Teh & S. Paramananthan (eds.) Proc. 5th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA V), Kuala Lumpur 1984, 1, Bull. Geol. Soc. Malaysia 19, p. 79-85.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1986007.pdf)

(Petchabun fold-thrust belt in C Thailand with Permian succession indicative of Late Variscan (Permian) orogeny, not Late Triassic continent/continent-collision between Indosinia and Shan-Thai Cratons. Main orogenic event, accompanied by low grade metamorphism, already during Late Devonian- E r Carboniferous)

Helmcke, D. (1994)- Distribution of Permian and Triassic syn-orogenic sediments in Central Mainland SE-Asia. In: P. Angsuwathana et al. (eds.) Proc. Int. Symp. Stratigraphic correlation of Southeast Asia, IGCP 306, Bangkok 1994, Dept. Mineral Res., p. 123-128.
(Permian syn-orogenic sediments known from Phetchabun region, but N and S continuation unclear. Triassic syn-orogenic sediments described Lampang and Phrae regions, but not true flysch. True syn-orogenic sediments discovered in Mae Sariang region, NW Thailand)

Helmcke, D., C. Chonglakmani, Q. Feng & R. Ingavat-Helmcke (2002)- Contributions to the Paleozoic evolution of Northern Thailand. In: In: Geodynamic processes of Gondwanaland-derived terranes in East and Southeast Asia, their crustal evolution, emplacement and natural resources potential, Fourth Symp. ICGP Proj. 411, Phitsanulok 2002, p. 20-23.

Helmcke, D. & C. Kraikhong (1982)- On the geosynclinal and orogenic evolution of Central and Northeast Thailand. J. Geol. Soc. Thailand 5, 1, p. 52-74.
(online at: http://library.dmr.go.th/library/J-Index/1982/76.pdf)
(Most parts of Petchabun, etc., foldbelts of C and E Thailand affected by E-M Triassic Indosinian orogeny. In Loei area, Petchabun Province, E Permian pelagic sediments overlain by M-L Permian flysch and molasse, suggesting also 'late Variscan' (Permian) orogeny in this area)

Helmcke, D. & H.G. Lindenberg (1983)- New data on the 'Indosinian' orogeny from Central Thailand. Geol. Rundschau 72, 1, p. 317-328.
(Petchabun foldbelt in C Thailand previously thought to be deformed by 'Indosinian' (Triassic) orogeny. New data show main orogenic event in Thailand is dated as Late Permian and Paleotethys closed on Thai territory during this event. Upper Triassic deformation in N Thailand intracontinental and of minor importance)

Hirschi, H. (1939)- Zur Petrographie von Nordwest-Siam (Gebiet westlich von Raheng). Schweizerische Mineralogische Petrographische Mitteilungen 19, 1, p. 200-221.
(online at: https://www.e-periodica.ch/digbib/view?pid=smp-001:1939:19#210)
('On the petrography of NW Thailand (area W of Raheng)'. Descriptions of igneous and metamorphic rocks. No locality maps)

Hisada, K., S. Arai, K. Ueno, Y. Kamata, H. Hara,T. Charoentitirat, P. Charusiri & H. Chanthavongsa (2016)- Ultramafic rocks of Nan Suture Zone in northern Thailand and its northward extension in Laos. In: Development of the Asian Tethyan Realm: genesis, process and outcomes, 5th Int. Symposium Int. Geoscience Program (IGCP) Project 589, Yangon, p. 65. *(Abstract)*
(online at: http://igcp589.cags.ac.cn/5th%20Symposium/Abstract%20Volume.pdf)
(Nan Suture Zone was regarded as site of collision of Shan Thai (Sibumasu) and Indochina continents, but more recently accepted as oceanic materials in suture zone representinf floor of marginal basin (Nan backarc basin) N extension of Nan SZ recently confirmed near Pakbeng, N Laos (serpentinites, metamorphics). Ultramafic rocks derived from supra-subduction zone)

Hisada, K., M. Sugiyama, K. Ueno, P. Charusiri & S. Arai (2004)- Missing ophiolitic rocks along the Mae Yuam Fault as the Gondwana-Tethys divide in north-west Thailand. The Island Arc 13, p. 119-127.
(Thailand two continental blocks: Sibumasu and Indochina. Late Triassic Mae Sariang clastics in NW Thailand (Sibumasu) with chromian spinels sourced from ultramafic/ mafic rocks, suggest ophiolitic rocks were exposed nearby, but no known outcrops. Exposure of ophiolitic complex denotes suture zone and suggests Gondwana-Tethys divide is along Mae Yuam Fault zone)

Hite, R.J. (1973)- Evaporite deposits of the Khorat Plateau, northeastern Thailand. in A.H. Coogan (ed.) Fourth Symposium on Salt, Northern Ohio Geol. Society, 1, p. 135-146.

Hite, R.J. (1982)- Progress report on the potash deposits of the Khorat Plateau, Thailand. U.S. Geol.Survey, Open-File report 82-1096, p. 1-70.
(online at: https://pubs.usgs.gov/of/1982/1096/report.pdf)
(Potash deposits mainly in Lower Salt Member of Cretaceous Maha Sarakham Fm of Khorat Plateau. Most surface anticlines on Khorat Plateau are very young formed as result of unloading of lower salt horizons by ~150m deep Pleistocene channel incision of overlying bedrock. Alluvial fills in paleo-stream channels potential for hosting uranium deposits)

Hite, R.J. (1983)- Pleistocene? stream channel control of Khorat Plateau sylvite deposits. Proc. Conf. Geol. Mineral Resources of Thailand, p.

Hite, R.J. & J. Japakasetr (1979)- Potash deposits of the Khorat Plateau: Thailand and Laos. Economic Geology 77, p. 448-458.
(Khorat Basin of NE Thailand with extensive Cretaceous evaporites, commonly ~200-250m thick, locally much thicker. Four main salt-angydrite cycles. Potash deposits discovered in 1973 near Top Lower Salt, up to 82m thick and underlie more than half of Khorat Basin. Potassium minerals mainly carnalite, also sylvite)

Horiuchi, Y., P. Charusiri & K. Hisada (2012)- Identification of an anastomosing river system in the Early Cretaceous Khorat Basin, Northeastern Thailand, using stratigraphy and paleosols. J. Asian Earth Sci. 61, p. 62-77.

Howard, K.T. (2011)- Tektites. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The geology of Thailand, Chapter 21, Geol. Soc., London, p. 573-591.
(Review of 800 ka old tektites from large impact that formed Australasian strewn field in Thailand)

Howard, K.T., P.W. Haines, C.F. Burrett, J.R. Ali & S. Bunopas (2003)- Sedimentology of 0.8 Ma log-bearing flood deposits in northeast Thailand and mechanisms for pre-flood deforestation. Proc. 8th Int. Congress on Pacific Neogene Stratigraphy, ChiangMai, p. 49-67.

Igo, H. (1972)- Fusilinacean fossils from Thailand. Part VI. Fusulinacean fossils from North Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 10, p. 63-116.
(33 species of Carboniferous fusulinids from NE Thailand, incl. Profusulinella spp., Hemifusulina, Protriticites)

Igo, H. (1973)- Lower Carboniferous conodonts from Ko Yu, Songkla, Peninsular Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 12, p. 29-42.
(Lower Carboniferous conodonts from siliceous shale of Khanchaburi series on island at SE side of Peninsular Thailand. With Hindeodella, Gnathodus, Polygnathus, etc.))

Igo, H. (1998)- Some Carboniferous rugose corals from northeast Thailand. Bull. Nat. Science Museum, Tokyo, Ser. C 24, 3-4, p. 151-162.
(online at: http://ci.nii.ac.jp/naid/110004313609/en)
(U Carboniferous limestones exposed in Loei-Wang Saphung area, NE Thailand, with many rugose corals, most of them described by Fontaine et al. (1991) and strikingly similar to S China Block)

Igo, H., K. Ueno & K. Sashida (1993)- Lower Permian fusulinaceans from Ban Phia, Changwat Loei, northeastern Thailand. Trans. Proc. Palaeontological Soc. Japan 169, p. 15-43.
(online at: www.palaeo-soc-japan.jp/download/TPPSJ/TPPSJ_NS169.pdf)
(Late E Permian (Yakhtasian) fusulinids in Saraburi limestone-sandstone of Loei foldbelt with Pamirina, Schubertella, Darvasites, Pseudofusulina, etc.)

Imai, A., K. Yonezu, K. Sanematsu, T. Ikuno, S. Ishida, K. Watanabe, V. Pisutha-Arnond, S. Nakapadungrat & J. Boosayasak (2013)- Rare Earth Elements in hydrothermally altered granitic rocks in the Ranong and Takua Pa Tin-Field, Southern Thailand. Resource Geol 63, 1, p. 84-98.
(online at: http://onlinelibrary.wiley.com/doi/10.1111/j.1751-3928.2012.00212.x/epdf)
(EREE and HREE content in some altered granitic rocks associated with hydrothermal Sn mineralization in Takua Pa tin-field in W Belt of S Thailand higher original fresh granitic rocks.)

Imsamut, S. (2003)- Marine Paleozoic stratigraphy of the Betong- Than-To area, Yala Province, Peninsular Thailand. Dept. Mineral Resources, Bangkok, Techn. Report BGS 25/2003, p. 1-49.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/2003/10556.pdf)
(Folded 'Sibumasu' Paleozoic stratigraphy of N Peninsular Thailand: (1) Silurian Devonian Betong Fm clastics >100m thick with minor chert and limestones with Tentaculites, graptolites, trilobites, brachiopods, etc.; (2) 800m of E Carboniferous Yaha Fm shales and thin-bedded chert with radiolaria and conodonts; (3) 500m of Sri Paen Fm with bivalves, brachiopods and ribbon chert with Carboniferous radiolaria; (4) E Permian recrystallized crinoid limestones of Tham Krachaeng Fm with fusulinids. Intruded by Triassic biotite granites)

Imsamut, S. (2012)- Lithostratigraphy of the Khuan Klang Formation, Satun Province, Peninsular Thailand. 12th Regional Congress on Geology, Mineral and Energy Resources of Southeast Asia (GEOSEA 2012), p. 95-112.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2555/34880.pdf)
(E Carboniferous Khuan Klang Fm in S Thailand 200-250m thick clastics with Posidonomiya sp., trilobites, brachiopods, etc.)

Imsamut, S., S. Bunopas, V. Daorerk, M. Pattarametha, S. Maranata, V. Thotosawam & P. Charusiri (1994)- Magnetostratigraphy of Phu Thok Mesozoic deposit NE Thailand: preliminary investigation. In: P. Angsuwathana et al. (eds.) Proc. Int. Symp. Stratigraphic correlation of Southeast Asia, IGCP 306, Bangkok 1994, Dept. Mineral Res., p. 170-182.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1994/6947.pdf)
(Palleomagnetic succession of Phu Tok Fm redbeds of Khorat Gp with 7 normal and 7 reverse periods. Tied to Late Jurassic- E Cretaceous)

Imsamut, S., P. Charusiri, Z. Zhuang & V. Daorerk (1995)- Paleomagnetic result of Phu Thok red beds of NE Thailand : implication for Mesozoic tectonic history of SE Asia. Proc. Int. Conf. Geology geotechnology and mineral resources of Indochina, Khon Koen, p. 73-78.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1995/7421.pdf)
(Paleomagnetic study of Phu Tok Fm continental red beds of Khorat Gp of Indochina Block in NE Thailand suggest Cretaceous age. paleolatitude of 20-30°N and CW rotation during M Cretaceous)

Imsamut, S., P. Charusiri & V. Daorerk (1993)- On the stratigraphy of Ban Rai area, Changwat Uthai Thani: implication for tectonic history. In: T. Thanasuthipitak (ed.) Int. Symposium Biostratigraphy of mainland Southeast Asia: facies and palaeontology (BIOSEA), Chiang Mai, 1, p. 187-201.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1993/6787.pdf)
(Paleozoic (meta-)sediments of W Thailand five Cambrian- Permian units (= Shan Thai/ Sibumasu passive margin series))

Ingavat, R. (1984)- On the correlation of the Permian foraminiferal faunas of the western, central and eastern provinces of Thailand. Mem. Soc. Geologique France, N.S. 147, p. 93-100.

Ingavat-Helmcke, R. (1993)- Contribution to the Permian fusulinacean faunas of Peninsular Thailand. In: B.K. Tan et al. (eds.) Proc. 7th Conf. Geology, Mineral and Energy Res. SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 67-75.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1993/7590.pdf)
(Permian fusulinids and smaller forams (incl. Shanita, Hemigordius) from S Peninsular Thailand (=Sibumasu Block). Lower Permian (Asselian) from W coast cold water facies, along E coast near Chumphon warmer-

water carbonates with fusulinids Pseudoschwagerina and Eoparafusulina (but may be younger taxa?; Ueno et al. 1996). M Permian fusulinids (Schwagerina, Chusenella, Pseudodoliolina, Ozawainella, etc.) many similarities with faunas of central N Thailand (Indochina Block). M Permian smaller benthic foram Shanita widespread in S Peninsular Thailand. Also occ. Sphairionia sikuoides)

Ingavat-Helmcke, R. (1993)- Review on fossils of Thailand. In: T. Thanasuthipitak (ed.) Proc. Int. Symposium Biostratigraphy of mainland Southeast Asia: facies and correlation (BIOSEA), Chiang Mai 1993, 1, p. 1-22.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1993/7483.pdf)
(Review of Cambrian-Tertiary biostratigraphy/ fossil occurrences in Thailand)

Ingavat-Helmcke, R. (1994)- Paleozoic paleontological evidence of Thailand. In: P. Angsuwathana et al. (eds.) Proc. Int. Symposium Stratigraphic correlation of Southeast Asia, Bangkok 1994, Dept. Mineral Resources and IGCP 306, p. 43-54.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1994/6938.pdf)
(Review of Paleozoic faunas reported from Thailand. Cambrian- Devonian faunas of Thailand close faunal affinities with Australia and S China. Carboniferous- Permian carbonate facies warm, shallow marine. Incl. Pronorites sp. from NW Thailand)

Ingavat, R. & R.C. Douglas (1981)- Fusuline fossils from Thailand, Part XIV. The fusulinid genus *Monodiexodina* from Northwest Thailand. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press 22, p. 23-34.
(First record of fusulinid Monodiexodina from basal Ratburi Limestone in W-most Thailand- Myanmar border area (genus generally regarded as typical of Kungurian of Sibumasu/ Cimmerian Terranes; JTvG)

Ingavat-Helmcke, R. & D. Helmcke (1986)- Permian Fusulinacean faunas of Thailand- event controlled evolution. In: Lecture Notes in Earth Sciences 8, Springer Verlag, p. 241-248.
(Evolution of Permian fusulinid faunas of Thailand controlled by 3 bioevents (1) upper Lower Permian disappearance of 'Arctic-Tethyan' elements, tied to closure of Urals and global regression; (2) M-U Permian boundary to lower U Permian (Midian) extinction of ~90% of fusulinids; (3) End of Permian extinction)

Ingavat-Helmcke, R. & D. Helmcke (1994)- Permian facies-realms in Thailand. In: P. Angsuwathana et al. (eds.) Proc. Int. Symp. Stratigraphic correlation of Southeast Asia, Bangkok 1994, Dept. Mineral Resources, IGCP 306, p. 100-105.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1994/6940.pdf)
(With schematic maps showing paleopositions of terranes, incl. evolution of 'Phuket Terrane' (=Sibumasu) from E Permian rifting off Gondwana to M Triassic collision with Eurasia)

Ingavat, R. & P. Janvier (1981)- Bradyodont (Chondrichthyes) teeth from the Permian and Carboniferous of Northern Thailand. Geobios 14, 5, p. 651-653.
(Psammodontid fish tooth fragment in a massive Visean limestone in Ban Pak Chom area of Thailand. Tooth referred to Deltodus sp., associated with teeth of 'Cladodus type, in Lower Permian limestone at Ban Na Chareon (E of Loei)).

Ingavat, R. & P. Janvier (1981)- *Cyclotosaurus* cf. *posthumus* Fraas (Capitosauridae, Stereospondyli) from the Huai Hin Lat Formation (Upper Triassic), Northeastern Thailand; with a note on capitosaurid biogeography. Geobios 14, 6, p. 711-725.
(Part of large amphibian capitosaurid skull, similar to Cyclotosaurus posthumus from U Triassic of Germany in U Huai Hin Lat Fm (basal part of Khorat Gp) near Chulabhorn Dam, consistent with presumed Norian age of formation. Supports hypothesis that this part of SE Asia was linked to Laurasia by Late Triassic)

Ingavat, R., P. Janvier & P. Taquet (1978)- Decouverte en Thailande d'une portion de femur de Dinosaure sauropode (Saurischia, Reptilia). Comptes Rendus somm. Soc. Geologique France 1978, 3, p. 140-141.
('Discovery in Thailand of a part of a sauropod dinosaur femur (Saurischia, Reptilia'. Discovery of Cretaceous dinosaur bone in Phetchabun region is first dinosaur remain found in Thailand)

Ingavat, R. & J. Jumnongthai (1988)- Permian foraminifera at Wang Nua, Lampang. Geol. Survey Division, Dept. Mineral Resources, Palaeont. Report 3, p.
(online at: http://library.dmr.go.th/library/DMR_Technical_Reports/1985/5125.pdf)
(Interesting assemblages of Lower Permian foraminifera from 10m thick limestone at Wang Nua, 6 km NW of Amphoe Wang Nau, Lampang Province, NW Thailand: in middle part Pseudofusulina sp. Boultonia willsei and Sphairionia sikuoides, towards upper part Sphaeroschwagerina glomerosa, Paraschwagerina, Rugoschwagerina and Darvasites. Age of section Asselian- Sakmarian. Thin limestones in basal part of overlying clastics with Monodiexodina (Yahtashian= lower Artinskian?) (=Sibumasu assemblage?; JTvG))

Ingavat, R., S. Muanlek & C. Udomratn (1975)- On the discoveries of some Permian fusulinids and Ordovician cephalopods at Ban Rai, west Thailand. J. Geol. Soc. Thailand 1, p. 81-89.
(online at: http://library.dmr.go.th/library/J-Index/1975/34.pdf)
(M Permian limestone hills ~200 km N of Bangkok, associated with thick Ordovician limestone with straight nautiloids, Silurian- Devonian shale, etc. (should be E Sibumasu Terrane). Kungurian- Kazanian fusulinids incl. Neoschwagerina, Sumatrina annae, Verbeekina verbeeki, Parafusulina gigantea, Ozawainella, etc.))

Ingavat, R. & P. Taquet (1978)- First discovery of dinosaur remain in Thailand. J. Geol. Soc. Thailand 3, 1, p. 1-6.
(see also Ingavat, Janvier & Taquet 1978)

Ingavat, R., R. Toriyama & K. Pitakpaivan (1980)- Fusuline zonation and faunal characteristics of the Ratburi Limestone in Thailand and its equivalents in Malaysia. In: T. Kobayashi, R. Toriyama et al. (eds.) Symposium on the geology and paleontology of SE Asia, Tsukuba 1978, Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 21, p. 43-62.
(Carboniferous- Permian Ratburi Fm limestones of C Thailand contain 256 species of fusulinid foraminifera, grouped in 20 fusulinid zones. Most species of East Tethyan affinity or endemic to Thai-Malay province)

Intasopa, S.B. (1993)- Petrology and geochronology of the volcanic rocks of the Central Thailand Volcanic Belt. Ph.D. Thesis University of New Brunswick, Fredericton, p. 1-242.

Intasopa, S. & T. Dunn (1994)- Petrology and Sr-Nd isotopic systems of the basalts and rhyolites, Loei, Thailand. J. Southeast Asian Earth Sci. 9, p. 167-180.
(Loei volcanic province in N part of C Thailand Loei-Prachinburi Volcanic belt (W margin Indochina block). Devonian rhyolite, M Devonian- Lower Carboniferous basalt and Permo-Triassic andesite. Not part of contemporaneous volcanic arc. Two magmatic episodes: partial melting of continental crust at 374 Ma, ocean floor basalts at 361 Ma)

Intasopa, S., T. Dunn & R.S.J. Lambert (2011)- Geochemistry of Cenozoic basaltic and silicic magmas in the central portion of the Loei-Phetchabun volcanic belt, Lop Buri, Thailand. Canadian J. Earth Sciences 32, 4, p. 393-409.
(Cenozoic volcanic rocks in central Loei-Phetchabun volcanic belt in C Thailand. Composition ranging from basalt to high-silica rhyolite. Decrease in age from S to N: oldest rocks 55–57 Ma rhyolites; younger rhyolites that occur farther N (13–24 Ma). Depleted mantle source)

Ishibashi, T. & C. Chonglakmani (1990)- Uppermost Permian ammonoids from northern Thailand. J. Southeast Asian Earth Sci. 4, p. 163-170.
(Uppermost Permian ammonoids (Pseudogastrioceras aff. P. guangxiensis, Paratirolites nakornsrii n.sp. and Xenodiscus?) in Huai Thak Fm near Lampang, N Thailand, ~50m below occurrence of Triassic bivalve Claraia Uppermost Permian Palaeofusulina fauna-bearing limestone bed present in same area)

Ishibashi, T., M. Fujikawa & N. Nakornsri (1997)- Biostratigraphy of Carboniferous and Permian ammonoids in Thailand. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, p. 403-411.

(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1997/7621.pdf)

Ishibashi, T., M. Fujikawa, S. Yoda & N. Nakornsri (1998)- Dorashamian biostratigraphy of the Doi Pha Phlung area, North Thailand. In: Strzelecki Int. Symposium, Permian of Eastern Tethys: biostratigraphy, palaeogeography and resources, Proc. Royal Soc. Victoria 110, p. 221-226.
(Late Permian diverse macrofauna in Huai Tak Fm shale N of Lampang, incl. foramininifera (Gallowayinella and Colaniella parva-Reichelina zones), ammonoids (Paratirolites nakornsrii, Tapashanites yaowalakae) in uppermost horizon of Doi Pha Phlung area. Also brachiopod Oldhamina (and Leptodus tenuis?) and rugose coral Waagenophyllum aff. virgalense)

Ishibashi, T., N. Nakornstri & K. Nagai (1994)- Permian- Triassic boundary and fauna at Doi Pha Phlung, northern Thailand. Mem. Fac. Science, Kyushu University, D, 28, p. 23-40.
(Paratirolites- Tapashanites ammonoid fauna associated with Palaeofusulina sinensis of latest Permian age from top of 1100m thick Permian Huak Thai Fm in N Thailand. Overlying basal Triassic with ammonite Opiceras sakuntula and bivalve Claraia spp.)

Ishihara, S., H. Hirano & T. Moriyama (2009)- Constituent minerals and REE contents of the granite and Sn skarn ores from the Pin Yok mine, southern Thailand. Bull. Geol. Survey Japan 60, 11/12, p. 581-591.
(in Japanese; online at: https://www.gsj.jp/data/bulletin/60_11_04.pdf)

Ishihara, S., T. Moriyama & H. Hirano (2008)- REE-rich granites of Ko Samui, Ko Phuket and Yod Nam mine in the Southern Thailand. Proc. Int. Symposia on Geoscience resources and environments of Asian terranes (GREAT 2008), 4th IGCP 516 and 5th APSEG, p. 238-247.
(online at:

Ishihara, S., H. Sawata, K. Shibata, S. Terashima, S. Arrykul & K. Sato (1980)- Granites and Sn-W deposits of Peninsular Thailand. Mining Geology, Spec. Issue 8, p. 223-241.

Iwai, J., K. Asama, M. Veeraburus & A. Hongnusonthi (1966)- Stratigraphy of the so-called Khorat Series and a note on the fossil plant-bearing Paleozoic strata in Thailand. In: T. Kobayashi (ed.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 2, p. 179-196. *(also in Japanese J. Geology Geography 37, 1, p. 21-38)*
(Rhaetian- Lower Cretaceous Khorat Series of Khorat Plateau, NE Thailand, >1000m thick, unconformably overlies U Permian (and older) beds with Cathaysian flora (Taeniopteris, Pecopteris, Cordaites, etc. Five formations, mainly non-marine, very poor in fossils. Late Triassic or Liassic-age plants in basal clastics, incl. Chlathropteris cf. meniscoides, Neocalamites, Equisetites, etc.. Lower Cretaceous(?) Ban No Yo Fm with fresh-water molluscs Nippononaia, Trigonioides, Plicatounio, etc.)

Iwai, J., A. Hongnusonthi, K. Asama, T. Kobayashi, E. Kon'no, N. Nakornsri, M. Veerebus & W. Yuyen (1975)- Non-marine Mesozoic formations and fossils in Thailand and Malaysia. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 15, p. 191-218.

Iwai, J., S. Sakagami, N. Nakornsri & W. Yuen (1968)- Mesozoic stratigraphy of the northwestern part of the Khorat Plateau. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 5, p. 151-165.
(Khorat Series Mesozoic stratigraphy along Second Friendship Highway E of Phitsanulok in NE Thailand. Mainy redbeds, gently folded, >1000m thick)

Jaeger, H., V. Nakinvodae, V. Nahakapong, E. Braun, A. Hess, K.E. Koch & V. Stein (1968)- Graptolites of the Lower Devonian from Thailand (preliminary result). Neues Jahrbuch Geol. Palaont., Monatshefte, 12, p. 728-730.
(Initial report on earliest Devonian graptolites incl. Monograptus hercynicus and M. yukonensis from folded black shales between KM 105.5-106.1 of Chiangmai- Fang highway. Fauna resembles graptolite assemblage d from Malay Peninsula by Jones (1967). More detail in Jaeger et al. (1969))

Jaeger, H., V.S.R. Wolfart & D. Stoppel (1969)- Fauna (Graptolithen, Brachiopoden) der unterdevonischen Schwartzschiefer Nord-Thailands. Neues Jahrbuch Geol. Palaont. Abhandl. 133, 2, p. 171-190.
('Fauna (graptolites, brachiopods) from the Lower Devonian black shale of North Thailand'. Five Monograptus species from near Fang, N Thailand. Monograptus hercynicus, M aequabilis and M. yukonensis suggest E Devonian age, not Ordovician as initially reported by Kobayashi and Igo (1966). New brachiopod species name for Paterula nana for small disc-shaped brachiopod described as Orbiculoidea minutula by Kobayashi and Igo (1966). Associated conodonts suggest M Siegenian- Lw Emsian age for black shales (=Sibumasu Terrane?))

James, R. & G.V. Cumming (2007)- Geology and mineralization of the Chatree epithermal Au-Ag Deposit, Phetchabun Province, Central Thailand. In: W. Tantiwanit (ed.) Int. Conf. on Geology of Thailand: Towards sustainable development and sufficiency economy (GEOTHAIõ07), Bangkok, Dept. Mineral Resources, p. 378-390.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2007/12753.pdf)
(Chatree mine low-intermediate sulphidation epithermal gold-silver deposit in C Thailand, largest hard-rock Au resource in Thailand. Au-Ag hosted in multiple hydrothermal veins and breccias in gently folded 350m thick E Triassic andesitic host rocks, representing continental arc at W side of Indochina Terrane (Sukhothai Arc). Mineralization dated as E Triassic (~251 Ma); host volcanic succession dated as 250 ± 6 Ma (= ~Permian-Triassic boundary). Granodiorite S of mine anomalous in copper and intruded in M Triassic (244 Ma))

Japakasetr, T. & D.R. Workman (1981)- Evaporite deposits of northeast Thailand. In: M.T. Halbouty (ed.) Energy Resources of the Pacific Region, Hawaii, American Assoc. Petrol. Geol. (AAPG) Studies in Geology 12, p. 179-187.
(Khorat plateau of NE Thailand with 130,000 km2 of gently folded Mesozoic continental- paralic deposits. Upper part of Cretaceous Khorat Gp with three thick evaporite sequences, separated by10-50m thick claystones. Lowest evaporite sequence basal thin anhydrite layer overlain by 300+ m of massive halite then, over much basins, zone with potassium minerals (carnallite, also sylvite). Thickest lower evaporite 437m, with 0.7m anhydrite, 354m of halite, and 82m of halite+ carnallite. Middle evaporite generally thinner. Uppermost evaporite sequence averages ~22m of halite, with little anhydrite and no potassium minerals)

Javanaphet, C. (1969)- Geological map of Thailand; Scale 1: 1,000,000, with Explanation. Dept. Mineral Resources, Bangkok.

Jungyusuk, N. & T. Sirinawin (1983)- Cenozoic basalts of Thailand. Conf. Geology Mineral Resources of Thailand, Bangkok, 9 p.

Junhavat, S. & S. Piyasin (1978)- Triassic rocks of Thailand. In: P. Nutalaya (ed.) Proc. 3rd Regional Conf. Geology and Mineral Resources of SE Asia (GEOSEA III), Bangkok, Asian Inst. Techn., p. 735-738.
(Brief review of marine Triassic sediments (commonly grouped as Lampang Group) in 5 areas of Thailand)

Kamata, Y., H. Hara, K. Ueno, A. Sardsud, T. Charoentitirat, P. Charusiri & K. Hisada (2012)- Middle and Late Permian radiolarians from allochthonous chert blocks in the Inthanon Zone, Northern Thailand: constraints for the formation age of melange fabric related to Paleo-Tethys subduction. Proc. First Int. Symposium of IGCP-589, Xi'an, China 2012, Acta Geologica Sinica 33, Suppl. 1, p. 36-37. *(Extended Abstract)*
(online at: http://igcp589.cags.ac.cn/pdf/18-Kamata%20et%20al%202.pdf)
(Inthanon Zone of N Thailand characterized by Paleo-Tethys pelagic sediments, including Carboniferous-Permian seamount-type carbonate associated with oceanic basaltic rocks and M Devonian-M Triassic radiolarian chert. Two chert blocks in accretionary prism with Late and Middle Permian radiolaria)

Kamata, Y., M. Kato, K. Ueno, A. Miyahigashi, T. Charoentitirat & S. Apsom (2013)- Middle Triassic basalt-chert succession in the Chanthaburi area, Southeast Thailand. In: 2nd Int. Symposium Int. Geoscience Programme Project (IGCP) 589, Borocay, Philippines, p. 79-81. *(Abstract)*
(online at: http://igcp589.cags.ac.cn/2nd%20Symposium/Abstract%20volume.pdf)

(Conformable basalt-chert succession of Noen Po Fm in SE Thailand in zone between Indochina and Sibumasu Terranes. With M Triassic age bedded chert, deposited directly on oceanic crust with MORB geochemical signature, suggesting formation in oceanic area remote from volcanic arc or continental domain (not part of Sukhothai Arc Domain))

Kamata, Y., M. Kato, K. Ueno, A. Miyahigashi, T. Charoentitirat & A. Sardsud (2012)- Middle to Late Devonian radiolarians from Klaeng of Rayong Province, Southeast Thailand. Proc. First Int. Symposium of IGCP-589, Xi'an, China 2012, Acta Geoscientica Sinica 33, Suppl.1, p. 33-35. *(Extended Abstract)*
(online at: http://igcp589.cags.ac.cn/pdf/17-Kamata%20et%20al%201.pdf)
(Tightly folded Silurian-Devonian bedded siliceous rocks in Kanchanaburi Fm SW of Klaeng with M-L Devonian radiolarians. Dark shales with quartz- mica sandstones, probably from felsic plutonic rocks. This shows environment not pelagic Paleo-Tethys ocean floor, but continental margin, probably Sibumasu block)

Kamata, Y., M. Kato, K. Ueno, A. Miyahigashi, T. Charoentitirat & A. Sardsud (2014)- Middle-Late Devonian radiolarians from Klaeng District, Rayong Province, southeastern Thailand: geotectonic significance of the Rayong area as a continental margin of the Sibumasu Block. J. Asian Earth Sci. 104, p. 197-204.
(Fine clastics-siliceous succession at Laem Krabang Phet, ~20 km SW of Klaeng, SE Thailand with thin bedded chert intercalated with carbonaceous shale, tuffaceous shale, brown glassy tuff and quartz-rich sandstones. One chert horizon with poorly preserved M-L Devonian radiolarians, incl. Palaeoscenidium cladophorum, Stigmosphaerostylus cf. pusilla and Entactiniidae. Succession coeval with Devonian part of Fang chert, N Thailand. Depositional environment of section deep water continental margin of E Sibumasu Block)

Kamata, Y., A. Maezawa, H. Hara, K. Ueno, K. Hisada, A. Sardsud, T. Charoentitirat & P. Charusiri (2012)- Basaltic activity preserved in an Upper Permian radiolarian chert from the Paleo-Tethys in the Inthanon Zone, northern Thailand. J. Asian Earth Sci. 61, p. 51-61.
(Basaltic sandstone below and intercalated with U Permian radiolarian chert in Inthanon suture zone, NW Thailand (Wuchiapingian Follicucullus charveti- Albaillella yamakitai and E Changhsingian Neoalbaillella ornithoformis zones). Deposition in pelagic realm of Paleo-Tethys. Gravity currents of basaltic fragments in radiolarian chert and presence of fusulinid foraminifera tests indicate source from oceanic seamount)

Kamata, Y., K. Sashida, K. Ueno, K. Hisada, N. Nakornsri & P. Charusiri (2002)- Triassic radiolarian faunas from the Mae Sariang area, northern Thailand and their paleogeographic significance. J. Asian Earth Sci. 20, 5, p. 491-506.
(Early to Late Triassic (Spathian-Carnian) radiolaria from bedded cherts of Mae Sariang Gp in NW Thailand. Similar fauna and rocks to E continental margin of Sibumasu Block. E (?) Carnian radiolarian assemblage from bedded chert shows closure of Paleotethys Ocean between Sibumasu- Indochina blocks after E Carnian)

Kamata, Y., A. Shirouzu, K. Ueno, A. Sardsud, T. Charoentitirat, P. Charusiri, T. Koike & K. Hisada (2014)- Late Permian and Early to Middle Triassic radiolarians from the Hat Yai area, southern peninsular Thailand: implications for the tectonic setting of the eastern margin of the Sibumasu Continental Block and closure timing of the Paleo-Tethys. Marine Micropaleontology 110, p. 8-24
(Hat Yai area, SE Peninsular Thailand with two kinds of radiolarian-bearing fine-grained sediments: Middle-early Late Permian lower shale unit and E-M Triassic upper chert unit. Triassic chert interpreted as continental slope sediments overlying Permian clastic-calcareous facies, rather than abyssal plain pelagic deep-water sediments)

Kamata, Y., K. Ueno, M. Fujikawa, H. Hara, K. Hisada, K. Uno, T. Charoentitirat & P. Charusiri (2005)- Siliceous sedimentary rocks distributed in the Loei area, northeastern Thailand, lithological description and geological ages. In: L. Wannakoe et al. (eds.) Proc. Int. Conf. Geology, geotechnology and mineral resources of Indochina (GEOINDO 2005), Khon Kaen, p. 417-420.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2005/9358.pdf)
(Paleozoic cherts and siliceous shales from 'Loei-Petchabun flodbelt', also viewed as Loei suture zone that was Paleotethys suture at E margin of Indochina Block. With black cherts with Late Devonian- E Carboniferous

radiolarians. Also thin-bedded Permian shales with radiolaria and calcareous microfossils, deposited closer to continental margin)

Kamata, Y., K. Ueno, A. Miyahigashi, H. Hara, K.I. Hisada, T. Charoentitirat & P. Charusiri (2016)- Geological significance of the discovery of Middle Triassic (Ladinian) radiolarians from the Hong Hoi Formation of the Lampang Group, Sukhothai Zone, northern Thailand. Revue Micropaleontologie 59, 4, p. 347-358.
(Newly found Ladinian (M Triassic) radiolarians from Hong Hoi Fm of Lampang Group, Sukhothai Zone, N Thailand. Concords with age previously determined by molluscs. Radiolarian-bearing siliceous beds intercalated with volcanics-rich lithic sandstone -shale in lower part of lower Hong Hoi Fm. Probably deposited in forearc basin close to Sukhothai Arc, during time of intensive volcanic activity)

Kamata, Y., K. Ueno, W. Saengsrichan, A. Sardsud, T. Charoentitirat, P. Charusiri & K. Hisada (2008)- Stratigraphy and geological ages of siliceous sedimentary rocks distributed in the Hat Yai Area, Southern Peninsular Thailand. Proc. Int. Symp. Geoscience Resources and Environments of Asian Terranes (GREAT 2008), 4th IGCP 516 and 5th APSEG, Bangkok, p. 349-352.
(online at: www.geo.sc.chula.ac.th/Geology/English/News/Technique/GREAT_2008/PDF/104.pdf)
(Permian- Triassic Kaeng Krachan and Yaha Fms deep marine clastics of Peninsular Thailand, 20km W of Hat Yai, probably continental margin sequence at E side of Sibumasu Plate. Incl. dark shale with Late Permian radiolaria (Follicucullus scholasticus). M Triassic radiolarians in bedded chert (Triassocampe coronata, T. deweveri, Pseudostylosphaera japonica, Eptingium, etc.), suggesting closure of Paleo-Tethys after M Triassic in Peninsular Thailand (see also Kamata et al. 2014))

Kamvong, T. & K. Zaw (2005)- Geology and genesis of the Phu Lon copper-gold skarn deposit, northeast Thailand. In: L. Wannakao (ed.) Proc. Int. Conf. Geology, geotechnology and mineral resources of Indochina (GEOINDO 2005), Khon Kaen, Thailand, p. 310-318.

Kamvong, T. & K. Zaw (2009)- The origin and evolution of skarn-forming fluids from the Phu Lon deposit, northern Loei Fold Belt, Thailand: evidence from fluid inclusion and sulfur isotope studies. J. Asian Earth Sci. 34, 5, p. 624-633.
(Phu Lon skarn Cu-Au deposit in Triassic N Loei Fold Belt along W margin of Indochina terrane. Hosted by Devonian volcano-sedimentary sequences intercalated with limestone and marble units. Intruded by diorite and quartz monzonite porphyries of *calc-alkaline affinities; U-Pb dating of zircon from quartz monzonite phases indicates age of 244 ± 4 Ma (earlyM Triassic))*

Kamvong, T., K. Zaw, S. Meffre, R. Maas, H. Stein, C.K. Lai (2014)- Adakites in the Truong Son and Loei fold belts, Thailand and Laos: genesis and implications for geodynamics and metallogeny. Gondwana Research 26, p. 165-184.
(Phu Kham adakites Truong Son Belt emplaced in Late Carboniferous (~306-304 Ma; subduction of Ailaoshan-Song Ma plate). Puthep adakites in Loei Fold Belt of SE Thailand formed in M Triassic (~244-241 Ma; main Paleotethys subduction))

Kanjanapayont, P. (2009)- Structural analysis and geochronology of the Khlong Marui Fault, Southern Thailand. Ph.D. Thesis Universitat Wien, p. 1-137.
(online at: http://othes.univie.ac.at/6871/1/2009-09-07_0648134.pdf)
(Khlong Marui Fault cuts ~150 km across Thai peninsula trending NNE-SSW from Gulf of Thailand to Andaman Sea. Three deformation phases. Two early dextral ductile deformation phases influenced by Late Cretaceous W Burma-Shan-Thai collision and/or subduction along Sunda Trench. Major exhumation period of ductile core in Eocene, influenced by early India-Asia collision)

Kanjanapayont, P. (2016)- Strike-slip ductile shear zones in Thailand. In: Soumyajit Mukherjee, Kieran F. Mulchrone (eds.) Ductile shear zones: from micro- to macro-scales, Chapter 15, Wiley Blackwell, p. 250-269.

Kanjanapayont, P., M.A. Edwards & B Grasemann (2009)- The dextral strike-slip Khlong Marui Fault, southern Thailand. Trabajos de Geologia, Universidad de Oviedo, 29, p. 393-398.

(online at: www.geol.uniovi.es/TDG/Volumen29/TG29-72.PDF)
(Khlong Marui Fault is S-most of four major strike-slip faults in Thailand. NNE-SSW-trending dextral strike-slip fault zone from Gulf of Thailand to Andaman Sea. No clear age-constraints, but likely related to escape tectonics arising from India-Asia collision)

Kanjanapayont, P., B. Grasemann, M.A. Edwards & H. Fritz (2012)- Quantitative kinematic analysis within the Khlong Marui shear zone, southern Thailand. J. Structural Geol. 35, p. 17-27.
(NNE trending Khlong Marui shear zone at least two deformation phases. Rocks metamorphosed at amphibolite and greenschist facies by first deformation. No clear age-constraints, but early dextral strike-slip displacement of KM shear zone related to W Burma and Shan-Thai collision and subduction along Sunda Trench in Late Cretaceous, while main exhumation influenced by early India-Asia collision)

Kanjanapayont, P., P. Kieduppatum, U. Klotzli, E. Klotzli & P. Charusiri (2013)- Deformation history and U-Pb zircon geochronology of the high grade metamorphic rocks within the Klaeng fault zone, eastern Thailand. J. Asian Earth Sci. 77, p. 224-233.
(online at: www.eatgru.sc.chula.ac.th/Thai/research/pdf/paper_2/133.pdf)
(In SE Thailand Nong Yai Gneiss high-grade metamorphic assemblage extends ~30 km in NW-SE direction along Klaeng fault zone. Three episodes of deformation:D1 NW–SE-trending isoclinal folds;D2 NE–SW shortening during Triassic Indosinian orogeny, cross-cut by Late Cretaceous (~79 Ma) leucogranite (effects of W Burma and Shan-Thai/Sibumasu collision or development of Andean margin). Sinistral ductile movement D3 coeval with Eocene peak metamorphism during early phases of India-Asia collision)

Kanjanapayont, P., U. Klotzli, M. Thoni, B. Grasemann,& M.A. Edwards (2012)- Rb-Sr, Sm-Nd, and U-Pb geochronology of the rocks within the Khlong Marui shear zone, southern Thailand. J. Asian Earth Sci. 56, p. 263-275.
(Khlong Marui shear zone in S Thailand E Eocene dextral ductile deformation phase suggested by U-Pb ages of zircon rims; Late Eocene dextral transpression indicated by mica Rb-Sr ages. Rb-Sr, Sm-Nd and U-Pb dating correlation implies major exhumation period of ductile lens in Eocene. Tied to early India-Asia collision?)

Kanmera, K. & R. Toriyama (1968)- Fusulinacean fossils from Thailand, Part III. *Maklaya*, new generic designation for Neoschwagerinids of the group *Cancellina pamirica* LEVEN. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 5, p. 31-46.
(On group of neoschwagerinid fusulinids from M Permian of Sara Buri/ Rat Buri Lst, C Thailand. Maklaya evolved from Misellina)

Kawakami, T., N. Nakano, F. Higashino, T. Hokada, Y. Osanai, M. Yuhara, P. Charusiri et al. (2014)- U-Pb Zircon and CHIME monazite dating of granitoids and high-grade metamorphic rocks from the Eastern and Peninsular Thailand- a new report of Early Paleozoic granite. Lithos 200-201, p. 64-79.
(U-Pb zircon dating of igneous and metamorphic rocks in 4 areas of E, NW and Peninsular Thailand. E Thailand, SE of Bangkok (Sukhothai Arc): gneiss from Khao Chao area crystallization age 229 Ma (Carnian), metamorphic age 193 Ma (E Jurassic). Peninsular Thailand Khao Dat Fa granite 477 Ma (E Ordovician; second oldest granite pluton from Thailand, suggesting Sibumasu block basement formed during Pan-African Orogeny). Khao Pret granite 67.5 Ma. NW Thailand metamorphic rocks in Doi Inthanon area similar plutono-metamorphic history with Peninsular Thailand, suggesting all belong to Sibumasu block)

Kemper, E. (1976)- The foraminifera in the Jurassic limestone of West Thailand. Geol. Jahrbuch B21, p. 129-153.
(Early to Late Jurassic limestones with 'Tethyan' larger foraminifera from few-100m thick limestones in Kanchanaburi Province, W Thailand: Orbitopsella (M Lias/ E Jurassic), Lucasella (E-M Dogger/ M Jurassic), Haurania (M Lias-M Dogger) and Kurnubia (Late Jurassic). Little or no locality information)

Kemper, E., H.D. Maronde & D. Stoppel (1976)- Triassic and Jurassic limestone in the region northwest and west of Si Sawat (Kanchanaburi Province, Western Thailand. Geol. Jahrbuch B21, p. 93-127.

(200-300m thick Triassic with Anisian and Norian (with Boueina- Involutina) limestone, overlain by red and violet clastics and limestone of Rhaetian- E Jurassic age (mainly non-marine; uplift event?). Overlain by 200-300m thick Jurassic (M Lias- Malm) limestones with Lucasella, Orbitopsella, Haurania, etc. (U Triassic halimediform alga Boueina redescribed by Flugel (1988) as Boueina marondei n.sp.))

Kerrich, R. & R.D. Beckinsale (1988)- Oxygen and strontium evidence for the origin of granites in the tin belt of southeast Asia. Canadian Inst. Mining Metallurgy, Spec. Vol. 39, p. 114-123.

Ketmuangmoon, P., A. Chitnarin, M.B. Forel & P. Tepnarong (2018)- Diversity and paleoenvironmental significance of Middle Triassic ostracods (Crustacea) from northern Thailand: Pha Kan Formation (Anisian, Lampang Group). Revue Micropaleontologie 61, 1, p. 3-22.
(online at: https://www.sciencedirect.com/science/article/pii/S0035159817300727)
(Pha Kan Fm of Lampang Gp S of Lampang city, N Thailand, with 29 species of ostracods (4 new), dominated by Bairdiidae. First report of M Triassic (Anisian) ostracods from Sukhothai terrane)

Ketwetsuriya, C., A. Nutzel & P. Kanjanapayont (2014)- A new Permian gastropod fauna from the Tak Fa Limestone, Nakhonsawan, Northern Thailand- a report of preliminary results. Zitteliana A 54, p. 137-146.
(New silicified M Permian gastropod fauna from Tak Fa Lst from shallow water carbonates rich in fusulinids in N Thailand. 22 gastropod species, one of richest Permian gastropod faunas from SE Asia. Presence of Bellerophontidae, Pleurotomarioidea, Meekospiridae and Goniasmatidae)

Khamloet, P., V. Pisutha-Arnond & C. Sutthirat (2014)- Mineral inclusions in sapphire from the basalt-related deposit in Bo Phloi, Kanchanaburi, western Thailand; indication of their genesis. Russian Geol. Geophysics 55, 9, p. 1087-1102.
(Bo Phloi gem field in Kanchanaburi Province, W Thailand, closely associated with Cenozoic basalts. Blue and yellow sapphire, black spinel, and minor zircon mined for >3 decades.Most sapphires crystallized from high-alkali felsic melt, probably in lower crust)

Khositanont, S., P. Ounchanum, Y. Panjasawatwong, T. Thanasuthipitak, Khin Zaw & S. Meffre (2007)- U-Pb zircon ages and geochemical characteristics of Lampang-Phrae granites; implications for plate tectonic interpretation. In: W. Tantiwanit (ed.) Int. Conf. on Geology of Thailand: Towards sustainable development and sufficiency economy (GEOTHAIö07), Bangkok, Dept. Mineral Resources, p. 367-372.
(Lampang-Phrae granites isolated plutons in N-S trending volcanic rocks in Sukhothai Fold Belt, N Thailand. Zircon ages of ~224 Ma and 228 Ma suggest formation in early Late Triassic (~Carnian). Granites of I type affinity and may have emplaced in transition of subduction-collision environments in Late Triassic)

Khositanont, S., Y. Panjasawatwong, P. Ounchanum, T. Thanasuthipitak, Khin Zaw & S. Meffre (2008)- Petrochemistry and zircon age determination of Loei-Phetchabun volcanic rocks. Proc. Int. Symp. Geoscience Resources and Environments of Asian Terranes (GREAT 2008), 4th IGCP 516, 5th APSEG, Bangkok, p. 272-278.
(Loei-Phetchabun Fold Belt volcanic and plutonic rocks characteristics suggesting formation in ocean floor in Paleozoic and back arc environment in Late Permian- E Triassic)

Khositanont, S., K. Zaw, S. Meffre, Y. Panjasawatwong, P. Ounchanum & T. Thanasuthipitak (2013)- Geotectonic and geochronology of volcano-plutonic rocks in the Loei-Phetchabun fold belt. In: C. Senebouttalath et al. (eds.) Proc. 2nd Lao-Tai Conf. Geology and Mineral resources, Vientiane, p. 81-95.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/2013/36771.pdf)
(Late Permian- E Triassic volcanic-plutonic rocks in Loei-Phetchabun Fold Belt three types: basic volcanics, intermediate volcanics and intermediate-acid plutonic rocks. Formed in mid oceanic and subduction-related volcanic arc environments. Jurassic red beds of Khorat Gp show Tethys sea closed before Jurassic)

Khummongkol, D. & A. Suwannathong (2007)- Aspect of oil shale in Thailand. In: In: W. Tantiwanit (ed.) Int. Conf. on Geology of Thailand: Towards sustainable development and sufficiency economy (GEOTHAIö07), Bangkok, Dept. Mineral Resources, p. 399-403.

(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2007/12755.pdf)
(Largest oil shale reserves in Thailand in M-U Miocene of Mae Sot Fm in Mae Sot Basin in NW Thailand. Measured reserves ~952 Mtons and oil yield is 183 million barrels)

Kromkhun, K., G. Baines, P. Satarugsa & J. Foden (2013)- Petrochemistry of volcanic and plutonic rocks in Loei Province, Loei-Petchabun fold belt, Thailand. In: 2nd Int. Conf. Geological and environmental sciences, IPCBEE vol.52, Singapore, p. 55-59.
(online at: www.ipcbee.com/vol52/011-ICGES2013-G041.pdf)
(Permo-Triassic intermediate volcanic-plutonic rocks of Loei-Phetchabun foldbelt in Amphoe Wang Sa Phung and Maung areas, Loei Province, have calc-alkaline affinities and indicate magmatism at E-dipping subduction zone, where former ocean between Indochina-Sibumasu blocks subducted beneath Indochina block. Subduction active from at least 244-230 Ma (Middle- early Late Truassic). Subduction-derived melts probably contaminated by overlying continental crust)

Klompe, Th.H.F. (1962)- Igneous and structural features of Thailand. In: G.A.Macdonald & H. Kuno (eds.) The crust of the Pacific Basin, American Geophys. Union (AGU) Geophys. Monograph Ser. 6, p. 122-134.
(Thailand 3 groups of igneous rocks: (1) mafic-ultramafics in N Thailand, intrusive in Silurian- Lw Carboniferous; (2) U Triassic hornblende-biotite granite in E and younger two-mica tin-bearing granite in W Thailand, considered to be post-Triassic, possibly same as 145-155 Ma (Late Jurassic) ages of tin granites from Billiton and Singkep; (3) various U Tertiary- Pleistocene effusives and some dioritic intrusions. W Thailand conformable Paleozoic sequence, locally capped by Triassic deposits. Regularity of this sequence, age of granites and unconformable contact between folded beds and overlying Late Jurassic- E Cretaceous in adjacent areas (Malaya, Borneo, Sumatra) favor Late Jurassic phase of mountain building. To E, Khorat Plateau folded Paleozoic sequence unconformably overlain by near-horizontal Rhaetian-Liassic, suggesting Late Triassic (old Cimmerian) phase of diastrophism in E part of country. Gulf of Thailand result of faulting)

Klompe, Th.H.F. (1962)- Igneous and structural features of Thailand. Geologie en Mijnbouw 41, 6, p. 290-302.
(Same paper as above)

Knox, G.J. & L.L. Wakefield (1983)- An introduction to the geology of the Phitsanulok Basin. In: Proc. Conf. Geology and Mineral Resources of Thailand, Bangkok, Dept. Mineral Resources, 9p.
(online at: http://library.dmr.go.th/library/DMR_Technical_Reports/1983/8734.pdf)
(Phitsanulok Basin N-S trending Tertiary basin, with Sirikit oilfield producing from Miocene fluvio-lacustrine Lan Krabu Fm. Oligocene- Recent sediment fill ~8 km, E-W extension ~15 km)

Kobayashi, F., R. Martini, R. Rettori, L. Zaninetti, B. Ratanasthien, H. Saegusa & H. Nakaya (2006)- Triassic foraminifers of the Lampang Group (Northern Thailand). J. Asian Earth Sci. 27, 3, p. 312-325.
(Four Triassic foraminiferal limestone localities in Lampang Gp of Sukhothai foldbelt, N Thailand, between Sibumasu (Shan-Thai) Terrane in W and Indochina in E. Characterized by: (1) Glomospirella lampangensis n. sp. (E Triassic ?), (2) Pilammina densa (Anisian), (3) endothyroid foraminifers- Diplotremina astrofimbriata (Ladinian) and (4) Aulotortus sinuosus (Carnian). Taxa of these associations common to S China and SE Asia, also Europe (unlike M- Late Permian provincial/ endemic foram assemblages)

Kobayashi, T. (1957)- Upper Cambrian fossils from peninsular Thailand. J. Fac. Science, University of Tokyo, Sect. 2, 10, 3, p. 367-382.
(online at: http://umdb.um.u-tokyo.ac.jp/DKoseibu/pdf/Ref_0152_.pdf)
(Oldest faunas of W Peninsular Thailand (= Sibumasu Terrane) are Late Cambrian trilobites from Phuket series from Tarutao island, incl. Coreanocephalus planulatus, Sankiella, Pagodia thaiensis, Mictosaukia buravasi, Thailandium solum, etc.))

Kobayashi, T. (1958)- Some Ordovician fossils from the Thailand- Malayan borderland. Japanese J. Geology Geography 29, 4, p. 223-231.

Kobayashi, T. (1959)- On some Ordovician fossils from northern Malaya and her adjacence. J. Fac. Science, University of Tokyo, 2, 11, 4, p. 387-407.
(online at: http://umdb.um.u-tokyo.ac.jp/DKoseibu/pdf/Ref_0159_.pdf)
(Ordovician gastropods, nautiloids, graptolites, from thick Setul Fm of Langkawi isands and adjacent Perlis Malay Peninsula))

Kobayashi, T. (1961)- A new genus of the Phillipsidae from Thailand. Japanese J. Geology Geography 32, 1, p. 1-4.
(Carboniferous trilobite Thaiaspis sethapuli n.gen., n.sp.)

Kobayashi, T. (1961)- On the occurrence of Ordovician nautiloids in northern Thailand and her adjacence. Japanese J. Geology Geography 32, 1, p. 35-43.

Kobayashi, T. (1963)- On the Cretaceous Ban Na Yo fauna of East Thailand with a note on the distribution of *Nippononaia*, *Trigonioides* and *Plicatounio*. Japanese J. Geology Geography 34, p. 34-41.
(Cretaceous fresh-water molluscs from Khorat Group; see also Kobayashi, 1964)

Kobayashi, T. (1964)- Geology of Thailand. In: T. Kobayashi (ed.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 1-16.
(Early review of geology, stratigraphy of Thailand)

Kobayashi, T. (1964)- Paleontology of Thailand, 1916-62. In: T. Kobayashi (ed.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 17-30.
(Early review of Cambrian- Quaternary paleontology of Thailand)

Kobayashi, T. (1964)- On the Cretaceous Ban Na Yo fauna of East Thailand, with a note on the distribution of Nippononaia, Trigonioides and Plicatiunio. In: T. Kobayashi (ed.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 31-41.
(Same paper as Kobayashi 1963. Lower? Cretaceous fresh-water molluscs inmiddle or upper member of Khorat Series in extreme E of Khorat Plateau. Dominated by Nippononaia mekongensis n.sp., also Trigonioides, Plicatiunio and Paranodonta. Similar to faunas known from Laos)

Kobayashi, T. (1968)- The Cretaceous non-marine pelecypods from the Nam Phung Dam Site in the Northeastern part of the Khorat Plateau, Thailand, with a note on the Trigonioididae. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 4, p. 109-138.
(Pelecypods from Nam Phung dam site in NE Khorat Plateau belong to characteristic Trigonioides-Plicatounio- Nipponaia fauna of non-marine Cretaceous of SE Asia (Laos, Yunnan, S Korea, Japan))

Kobayashi, T. (1973)- A Norian conchostracan from the basal part of the Khorat Group in Central Thailand. Proc. Japan Academy 49, 10, p. 825-828.
(online at: https://www.jstage.jst.go.jp/article/pjab1945/49/10/49_10_825/_pdf)
(Non-marine conchostracan (bivalve crustacean) Euestheria mansuyi from Late Triassic Nam Pha Fm, basal Khorat Group, Nam Phrom Dam, NW Khorat Plateau)

Kobayashi, T. (1975)- Upper Triassic estheriids in Thailand and the conchostracan development in Asia in the Mesozoic era. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 16, p. 57-90.
(Fresh-water estheriid crustaceans in Khorat Plateau area indicate Norian age. With Khoratestheria n.gen., Asmussia symmetrica n.sp.)

Kobayashi, T. (1980)- Notes on the Mesozoic history of Thailand and adjacent territories. In: T. Kobayashi, R. Toriyama et al. (eds.) Symposium on the geology and paleontology of SE Asia, Tsukuba 1978, Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 21, p. 27-36.

(Review of 4 stages of 'Burmese-Malayan geosyncline' in Paleozoic-Mesozoic, with paleogeographic maps of distributions of Triassic, Jurassic and E Cretaceous fossil occurrences)

Kobayashi, T. (1983)- Geological history of Thailand, Malayan Peninsula and adjacent Areas-II. J. of Geography (Chigaku Zasshi) 92, 5, p. 303-320.
(In Japanese; online at: www.journalarchive.jst.go.jp/...)

Kobayashi, T. (1983)- Geological history of Thailand, Malayan Peninsula and adjacent areas- II. J. of Geography (Chigaku Zasshi) 92, 6, p. 371-391.
(In Japanese; online at: www.journalarchive.jst.go.jp/...)

Kobayashi, T. (1984)- On the geological history of Thailand and West Malaysia. In: T. Kobayashi, R. Toriyama & W. Hashimoto (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 25, p. 3-42.
(Stratigraphy-oriented review of Thailand-Malay Peninsula area)

Kobayashi, T. & T. Hamada (1964)- On the Middle Ordovician fossils from Satun, the Malaysian frontier of Thailand. In: T. Kobayashi (ed.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 269-278.
(Ordovician trilobites from black calcareous shale in Satun area, SW-most Peninsular Thailand: Basiliella satunensis n.sp., Lophospira sp., etc)

Kobayashi, T. & T. Hamada (1968)- A Devonian phacopid recently discovered by Mr. Charan Poothai in peninsular Thailand. In: T. Kobayashi (ed.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 4, p. 22-28.
(Trilobite Plagiolaria in E-M Devonian Tentaculites Shale of Peninsular Thailand. Associated with Monograptus spp.)

Kobayashi, T. & H. Igo (1966)- On the occurrence of graptolite shales in North Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 2, p. 1-8.
(M Ordovician- Silurian graptolites in highly deformed black shale below 'Fang Chert' in N Chiang Mai Province (= Paleo-Tethys suture). With Monograptus, Dicranograptus. (Monograptus spp. assemblage re-assigned to E Devonian age by Jaeger et al. 1968 and Baum et al. (1970). Also presence of small round, disc-shaped brachiopod, described as Orbiculoidea minutula (re-described as Paterula nana by Jaeger et al. 1969))

Kobayashi, T. & S. Sakagami (1989)- A Permian trilobite from North Thailand. Proc. Japan Academy 65, B, p. 67-69.
(online at: https://www.jstage.jst.go.jp/article/pjab1977/65/4/65_4_67/_pdf)
(M-U Permian Pseudophullipsia aff. ozawai from NW Thailand)

Kobayashi, T., F. Takai & I. Hayami (1963)- On some Mesozoic fossils from the Khorat Series of East Thailand and a note on the Khorat Series. Japanese J. Geology Geography 34, p. 181-192.

Kobayashi, T., F. Takai & I. Hayami (1964)- On some Mesozoic fossils from the Khorat Series of East Thailand and a note on the Khorat Series. In: T. Kobayashi (ed.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 119-133.
(Same paper as Kobayashi et al. (1963). Generally poorly preserved fossils from several localities in Jurassic-Cretaceous Khorat series of NE Thailand, incl. Jurassic Ichthyosauria and pleisiosauria teeth, E Jurassic bivalves, silicified wood (Araucaryoxylon))

Kobayashi, T. & A. Tokuyama (1959)- The Halobiidae from Thailand. J. Fac. Science, University Tokyo, sect. 2, 12, 1, p. 27-30.
(online at: http://umdb.um.u-tokyo.ac.jp/DKoseibu/pdf/Ref_0211_.pdf)
(Late Triassic bivalves previously reported from Chiang Rai and Lampang areas. New faunas with Daonella sumatrensis Volz (originally described from N Sumatra) from Na Thawi at Thai-Malay border area. Also

Daonella cf. pichleri, Halobia cf. styriaca Krumbeck (originally described from Timor) and Halobia cf. comata from E of Lampang. All species related to Carnian of Alpine-Himalayan region)

Koch, K.E. (1973)- Geology of the region Sri Sawat-Thong Pha Phum- Sangkhlaburi (Kanchanaburi Province/Thailand). Bull. Geol. Soc. Malaysia 6, p. 177-185.
(online at: www.gsm.org.my/products/702001-101347-PDF.pdf)
(Review of area in NW-most Thailand near Myanmar border, mapped by German Geological Mission in 1968-1971. Stratigraphy ~3000m of Cambrian- Jurassic (meta-)sediments, part of geosynclinal tract which extends from Yunnan in N to W Malay Peninsula in S (= Sibumasu terrane; JTvG). Include Ordovician limestone, Siurian graptolite shale, basal Devonian Tentaculites- graptolite shale, Carboniferous flysch-type clastics with pebbly shale, Permian carbonate, Triassic conglomerates ('Triassic orogeny'), Jurassic limestone, etc.)

Komalarjun, P. & T. Sato (1964)- Aalenian (Jurassic) ammonites from Mae Sot, Northwestern Thailand. Japan. In: T. Kobayashi (ed.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 237-251.
(Three ammonites from marly limestone localities of Mae Sot Basin, NW Thailand: Tmetoceras dhanarajatai n.sp., T. regleyi, Erycites and Graphoceras concavum. Generally accepted as index species for Aalenian of Mediterranean and Pacific provinces)

Konigshof, P., N.M. Savage, P. Lutat, A. Sardsud, J. Dopieralska, Z. Belka & G. Racki (2012)- Late Devonian sedimentary record of the Paleotethys Ocean- The Mae Sariang section, northwestern Thailand. J. Asian Earth Sci. 52, p. 146-157.
(11 m thick condensed sequence of Late Devonian grey pelagic limestones in Mae Sariang section of NW Thailand, with hardgrounds and Fe/Mn crusts. Ranges from Late rhenana to praesulcata conodont biozones. Probably belongs to Inthanon Zone, comprising remnants of Paleotethys Ocean)

Konishi, K. (1953)- New *Boultonia* and other microfossils from North Thailand. Trans. Proc. Palaeontological Soc. Japan, N.S., 12, p. 103-110.
(Late Permian fusulinid forams from Burmo-Thai borderland, incl. Boultonia trancata n.sp., Triticites, Rugofusilina, Schwagerina, etc.).)

Kon'no, E. (1963)- Some Permian plants from Thailand. Contributions to the geology and palaeontology of Southeast Asia, 5. Japanese J. Geology Geography 34, p. 139-159.
(Same paper as Kno'no (1964). Includes record of Permian 'Gondwanan'? Glossopteris cf. angustifolia among mainly 'Cathaysian' Alethopteris thailandica n.sp., Sphenophyllum, Cordaites, Taeniopteris from black shale at Khlong Wang Ang in Phetchabun province)

Kon'no, E. (1964)- Some Permian plants from Thailand. In: T. Kobayashi (ed.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 89-111.
(Same paper as Kon'no (1963). Eight species of Permian plants from Khlong Wang Ang, 50km SSW of Phetchabun, C Thailand. Incl. Bowmanites, Sphenophyllum, Alethopteris thailandica n.sp., Glossopteris cf. angustifolia, Palaeovittaria, Taeniopteris hallei and Poacordaites. Probable age Kungurian- Kazanian. Remarkable presence of Gondwanan Glossopteris in assemblage otherwise 'Cathaysian' (although without Gigantopteroids))

Kon'no, E. & K. Asama (1973)- Mesozoic plants from Khorat, Thailand. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 12, p. 149-171.
(Description of Late Triassic (E Norian?) flora dominated by Equisetites arenaceus, also with Chlathropteris meniscoides, Todites goeppertianus, etc., in Huai Hin Lat Fm, which lies unconformably over Permian limestone in Khorat Plateau, NE Thailand. Flora similar to 'Tonkin flora' of N Vietnam and belongs to Dictyophyllum- Clathropteris flora of SW Pacific floral province)

Kosuwan, S. & P. Charusiri (1997)- Structure geology of the Khanom gneissic complex, Nakhon Si Thamamarat Province, southern Thailand. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and

tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Dept. Mineral Resources, Bangkok, 2, p. 727-739.

Koysamran, S. & N. Comrie-Smith (2011)- Basin modeling of Block L26/50, Eastern Khorat Plateau, Northeast Thailand. Proc. 4th Petroleum Forum: Approaching to the 21st Petroleum concession bidding round, Bangkok 2011, Department of Mineral Fuels, p. 5-12.
(online at: www.dmf.go.th/cms/assets/1/The%204th%20(DMF)%20Petroleum%20Forum%20Proceeding.pdf)
(E Khorat Plateau experienced a number of tectonic events. First was in M Carboniferous, followed by Indosinian events I, II, and III. Permian Pha Nok Khao carbonate primary reservoir target. Late Jurassic-Cretaceous Khorat Group deposited during extended period of regional subsidence and represents overburden for petroleum system. Structuring during Indosinian orogenies and amplified by uplift in Late Cretaceous and Tertiary. Permian source rocks mature for gas in Triassic; Triassic source rocks mature in Cretaceous)

Kozai, T., F. Hirsch, K. Ishida & A. Meesook (2006)- Faunal affinity of Toarcian-Aalenian (Early Jurassic) bivalves from Mae Sot and Umphang (Tak Province), Northwestern Thailand. Geosc. J. 10, 3, p. 205-215.
(NW Thailand Mae Sot- Umphang areas E-M Jurassic (Toarcian-Aalenian) beds overlie Permian-Triassic substratum of Shan-Thai (=Sibumasu) terrane with brecciated conglomerate. Pliensbachian- Early Bajocian shallow marine strata in partly terrestrial Jurassic sequence. 35 bivalve species (incl. Parvamussium donaiense) mainly endemic and defining Toarcian-Aalenian SE Asian Province of Tethys. Associated corals of Tethyan affinity)

Kozai, T., L. Perelis-Grossowicz, A. Bartolini, C. Yamee, J. Sandoval, F. Hirsch, K. Ishida, T. Charoentitirat, A. Meesook & J. Guex (2011)- New palaeontological investigations in the Jurassic of western Thailand. Gondwana Research 19, 1, p. 37-46.
(Jurassic of Mae Sot and Umphang districts, W Thailand, provide age constraints for marine Jurassic inundation of Sundaland after Paleotethys closure. Basal conglomerate of Jurassic derived from pelagic Triassic substratum. Ammonites (Tethyan Catulloceras perisphinctoides, Riccardiceras longalvum, Malladaites spp., Abbasites, Spinammatoceras schindewolfi, etc.), bivalves, large benthic forams (Timidonella sarda) and algae (Cladocoropsis mirabilis) suggest Toarcian-Bajocian ages. Faunas partly endemic, with N Tethyan (Eurasian/ Sundaland) affinity. Bivalves mainly endemic fauna with pectinoid bivalve Parvamussium donaiense and Bositra ornate in Toarcian- Early Bajocian)

Kozar, M.G., G.F. Crandall & S.E. Hall (1992)- Integrated structural and stratigraphic study of the Khorat Basin, Rat Buri Limestone (Permian), Thailand. In: C. Piencharoen (ed.) Proc. Nat. Conf. Geologic resources of Thailand: potential for future development, Bangkok, Dept. Min. Resources, p. 692-736.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1992/6259.pdf)
(Review of Khorat Basin Permian geology and results of 17 wells drilled by Esso between 1982-1984. Main discovery Nam Phong gas field (recoverable reserves ~300-500 BCF of H2S bearing gas). Eight depositional sequences from Wolfcampian- E Guadalupian (~271-255 Ma). E Carboniferous Variscan compression and Late Carboniferous rifting(back-arc extension) followed by deposition of Permian Ratburi carbonate platform on high blocks. M Triassic Indosinian and E Tertiary compressional events. Complicated diagenetic history; early dolomitized low-energy carbonates better reservoirs than high-energy counterparts)

Kozu, S., A. Sardsud, D. Saesaengseerung, C. Pothichaiya, S. Agematsu & K. Sashida (2017)- Dinosaur footprint assemblage from the Lower Cretaceous Khok Kruat Formation, Khorat Group, northeastern Thailand. Geoscience Frontiers 8, 6, p. 1479-1493.
(online at: www.sciencedirect.com/science/article/pii/S1674987117300324
(Khok Kruat Fm in U Khorat Gp, with many Aptian-Albian dinosaur footprints at Huai Dam Chum near Laos border. ~600 tracks in thin mudstone layer of small theropods and crocodylomorphs. Most footprints of cf. Asianopodus, and imprinted by small theropoda)

Krobicki, M., A. Meesook & W. Yathakum (2013)- Early Jurassic marine molasse-type conglomerates (Mae Sot area, northern Thailand)- its sedimentological features and geotectonic significance. In: C. Senebouttalath et al. (eds.) Proc. 2nd Lao-Tai Conf. Geology and Mineral resources, Vientiane, p. 70-71. *(Abstract and Presentation)*

(online at: www.dmr.go.th/download/lao_thai56/pdf_dat/Early%20Jurassic%20marine%20.pdf)

Kromkhun, K., G. Baines, P. Satarugsa & J. Foden (2013)- Petrochemistry of volcanic and plutonic rocks in Loei Province, Loei-Petchabun Fold Belt, Thailand. In: 2nd Int. Conf. Geological and Environmental Sciences, IPCBEE 52, IACSIT Press, Singapore, p. 55-59.
(online at: www.ipcbee.com/vol52/011-ICGES2013-G041.pdf)
(Petrography and geochemistry of Permo-Triassic volcanic- plutonic rocks of Loei-Phetchabun Fold Belt in Amphoe Wang Sa Phung and Maung areas (=arc at W margin Indochina Block). Intermediate igneous rocks with calc-alkaline affinities indicating magmatism at E-dipping continent- ocean subduction zone where Paleotethys ocean subducted beneath Indochina block. Subduction active from at least 244-230 Ma)

Kruse, P. (1989)- A Thai receptaculitalean. Alcheringa (Australasian J. Palaeontology) 13, 2, p. 141-144.
(Fragmentary silicified receptaculitalean material from E-M Ordovician Tha Manao Formation at Khao Tham, W- C Thailand (= Sibumasu terrane). Described as ?Fisherites sp., possibly related to Fischerites burmensis from C Myanmar (Rietschel & Nitecki 1984). One of few SE Asian records of this order)

Kummel, B. (1960)- Triassic ammonoids from Thailand. J. Paleontology 34, 4, p. 682-694.
(First Triassic ammonoids from N Thailand (Doi Chang, Mae Moh River), showing presence of Anisian (Balatonites, Ptychites, Tropigymnites, Beyrichites, Sturia) and Carnian (Joannites, Cladiscites beyrichi, Trachyceras (Paratrachyceras), Lobites). None of Triassic localities and faunas known to date from mainland SE Asia anywhere comparable to abundance and diversity of faunas known from Himalayas and Timor)

Kuroda, J., H. Hara, K. Ueno, T. Charoentitirat, T. Maruoka, T. Miyazaki, A. Miyahigashi & S. Lugli (2017)- Characterization of sulfate mineral deposits in central Thailand. Island Arc 26, 2, e12175, p.
(Layered anhydrite and massive gypsum in NE Nakhon Sawan, C Thailand, likely precipitated from Carboniferous sea water (~ 326 Ma). Intruded by andesitic dikes with M Triassic zircons (~ 240 Ma))

Lacassin, R., H. Maluski, P.H. Leloup, P. Tapponnier, C. Hinthong, K. Siribhakdi, S. Chuaviroj & A. Charoenravat (1997)- Tertiary diachronic extrusion and deformation of western Indochina: structural and 40Ar/39Ar evidence from NW Thailand. J. Geophysical Research 102, B5, p. 10,013-10,037.
(Wang Chao and Three Pagodas fault zones cut W part of Indochina block. Evidence of left-lateral shear in Lansang gneisses. Ar dating shows deformation terminated at ~30.5 Ma. Faults offset N striking lowerMesozoic metamorphic-magmatic belt of N Thailand, which rapidly cooled around 23 Ma. Extrusion of SW Indochina occurred in Late Eocene- E Oligocene, probably inducing rifting in Gulf of Thailand and in Malay and Mekong basins. In Oligo-Miocene, continuing penetration of India into Asia culminated with extrusion of all of Indochina along Ailao Shan- Red River fault)

Laojumpon, C., U. Deesri , S. Khamha, A. Wattanapituksakul, K. Lauprasert, S. Suteethorn & V. Suteethorn (2014)- New vertebrate-bearing localities in the Triassic of Thailand. J. Science Technol. Mahasarakham University (MSU) 33, 4, p. 335
(online at: http://research.msu.ac.th/msu_journal/upload/journal_file/jfile_no34_44342.pdf)
(Three new vertebrate localities in Late Triassic Huai Hin Lat Fm, N Thailand. With coprolites, hybodont shark, bony fish remains, phytosaur tooth and temnospondyl fragments)

Laojumpon, C., V. Suteethorn, P. Chanthasit, K. Lauprasert & S. Suteethorn (2017)- New evidence of sauropod dinosaurs from the Early Jurassic period of Thailand. Acta Geologica Sinica (English Ed.) 91, 4, p. 1169-1178.
(Oldest dinosaur assemblages of Thailand in Nam Phong Fm continental sediments. With Isanosaurus attavipatchi and other species of basal sauropods. Age more likely E Jurassic than Triassic)

Laoniyomthai, N., T. Charoenpun & F. Saifuddin (2012)- Shallow pays in Sirikit Main oilfield, Phitsanulok Basin, Onshore Thailand: their habitat and identification on 3D seismic data. Proc. Int. Petroleum Techn. Conf. (IPTC), Bangkok, IPTC 15144, p. 2758-2769.
(Several shallow oil-gas reservoirs above main regional seal in Sirikit Main Field)

Lauprasert, K., G. Cuny, E. Buffetaut, K. Thirakhupt & V. Suteethorn (2007)- *Siamosuchus phuphokensis*, a new goniopholidid from the Early Cretaceous (ante-Aptian) of northeastern Thailand. Bull. Soc. Geologique France 178, 3, p. 201-216.
(New broad-snouted goniopholidid crocodile in pre-Aptian Sao Khua Fm of Khorat Plateau, NE Thailand)

Lauprasert, K., G. Cuny, K. Thirakhupt & V. Suteethorn (2009)- *Khoratosuchus jintasakuli* gen. et sp. nov., an advanced neosuchian crocodyliform from the early Cretaceous (Aptian/Albian) of northeastern Thailand. In: E. Buffetaut et al. (eds.) Late Palaeozoic and Mesozoic ecosystems in SE Asia, Geol. Soc., London, Spec. Publ. 315, p. 175-187.
(New slender-snouted neosuchian crocodile from Aptian Khok Kruat Fm of NE Thailand. Represents youngest Mesozoic crocodyliform known in Thailand and resembles derived neosuchians of China and Europe)

Lauprasert, K., C. Laojumpon, W. Saenphala, G. Cuny, K. Thirakhupt & V. Suteethorn (2010)- Atoposaurid crocodyliforms from the Khorat group of Thailand: first record of *Theriosuchus* from Southeast Asia. Palaeont. Zeitschrift 85, p. 37-47.
(Crocodilian skull from Berriasian-Barremian non-marine sediments of the Khorat Plateau in NE Thailand)

Laurie, J.R. & C. Burrett (1992)- Biogeographic significance of Ordovician brachiopods from Thailand and Malaysia. J. Paleontology 66, 1, p. 16-23.
(Early Ordovician brachiopods Spanodonta floweri and Aporthophyla tianjingshanensis? from peninsular Thailand and Langkawi Islands, NW Malaysia, confirm evidence for Ordovician juxtaposition of Shan-Thai terrane, N China terrane and W Australia)

Laveine, J.P., B. Ratanasthien & S. Sithirach (1993)- The Carboniferous flora of Northeastern Thailand: its paleogeographic importance. Comptes Rendus Academie Sciences, Paris 317, 2, p. 279-285.
(Carboniferous plant fossils from near Na Duang coal mine, Loei area, NE Thailand, with Stigmaria, Lepidodendron, etc.)

Laveine, J.P., B. Ratanasthien & S. Sithirach (2003)- The Carboniferous flora of Northeastern Thailand. Revue Paleobiologie, Geneve, 22, 2, p. 761-797.

Laveine, J.P., B. Ratanasthien, S. Sithirach & D. Demarque (2009)- The Carboniferous flora of northeastern Thailand: additional documentation from the Na Duang-Na Klang basin. Revue Paleobiologie, Geneve, 28, 2, p. 315-331.
(online at: www.ville-ge.ch/mhng/paleo/paleo-pdf/28-2/pal-28-2-02.pdf)
(New Carboniferous plant material from E Carboniferous (Visean) of Na Duang-Na Klang basin in NE Thailand includes Lepidodendron timsuwanii n.sp.. Flora essentially of Euramerican aspect)

Laveine, J.P., D. Vachard, B. Ratanasthien & S. Sithirach (2003)- The Lower Carboniferous Na Duang Marine band (Na Duang Coal Mine, Loei District, Northeastern Thailand). Revue Paleobiologie, Geneve, 22, 2, p. 799-809.

Lawwongngam, K. (1990)- Geochemical characterization of crude oils from Sirikit Oilfield, Phitsanulok Basin. Thesis Chulalongkorn University, Bangkok, p. 1-220.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/1990/4586.pdf)

Lawwongngam, K. & R.P. Philp (1993)- Geochemical characteristics of oils from the Sirikit Oilfield, Phisanulok Basin, Thailand. Chemical Geology 93, p. 129-146.
(12 oils from Sirikit field of onshore Phisanulok Basin suggest all oils derived from mixture of bacterial, algal and higher plant material. Sterane contents relatively low and sterane ratios suggest oils relatively immature. Extensive strike-slip faults in basin may have led to rapid burial of sediments)

Lawwongngam, K. & R.P. Philp (1993)- Preliminary investigation of oil and source rock organic geochemistry from selected Tertiary basins of Thailand. In: B.K. Tan et al. (eds.) 7th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 433-448.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1993/7612.pdf)
(Crude oils and extracts from source rocks from 6 basins of central plain and Gulf of Thailand suggest organic sources deposited in lacustrine environments. Organic matter mainly algae, with varying amounts of higher plant material. Variation in pristane/phytane ratios may imply differences in depositional oxicity. Separation between lacustrine environments indicated by differences in paleosalinity, e.g. hypersaline biomarker, gammacerane, which is restricted to offshore Gulf of Thailand)

Lawwongngam, K., R.P. Philp & S. Tantayanon (1990)- Geochemical characterization of crude oils from Sirikit Oilfield, Phitsanulok Basin. In: Development geology for Thailand into the Year 2000, Chulangkorn University, Bangkok, p. 377-407.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1990/24728.pdf)
(similar to Lawwongngam & Philp, 1993)

Lazar, S. (2012)- Sedimentology and depositional history of the Pha Nok Khao platform in the Loei-Phetchabun fold belt, Northeast Thailand. M.Sc. Thesis University of Western Australia, Pert, p. 1-188.
(online at: http://research-repository.uwa.edu.au/files/3245697/Lazar_Shachar_2012.pdf)
(U Carboniferous- Permian Pha Nok Khao platform outcrops in N Loei-Phetchabun foldbelt and is outcrop analogue for coeval gas fields in nearby Khorat plateau. Part of Indochina Terrane)

Lehmann, B., N. Jungyusuk, S. Khositanont, A. Hohndorf & Y. Kuroda (1994)- The tin-tungsten ore system of Pilok, Thailand. J. Southeast Asian Earth Sci. 10, p. 51-63.
(Tin-tungsten mineralization in Pilok mining area on apical parts of probably Late Cretaceous alkali feldspar aplite stocks (aplogranite), which intrude earlier K-feldspar megacrystic biotite granite)

Lehmann, B. & C. Mahawat (1989)- Metallogeny of tin in central Thailand: a genetic concept. Geology 17, 5, p. 426-429.
(Tin mineralization in C Thailand is associated with granitic rocks of Thai-Burmese border range (W group). Eastern group granites have no tin)

Lei, Z.Q. (1993)- The discovery and significance of the Late Jurassic sporopollen assemblage in Peninsular Thailand (Phrae and Nan Provinces). In: T. Thanasuthipitak (ed.) Int. Symposium Biostratigraphy of mainland Southeast Asia: facies and paleontology, (BIOSEA), Chiang Mai, University of Chiang Mai, 2, p. 361-380
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1993/7489.pdf)
(Abundant and diverse sporopollen assemblages from redbeds of SW Peninsular Thailand dominated by 21 species of Classopollis (86%) and Dicheiropollis (4.3%). Indicate arid climate and Late Jurassic age, similar to Late Jurassic of dry southern zone in China. Associated with 'Estheria' fauna of conchostracans Pseudograpta, Paleoleptestheria, etc. (Alderson et al. 1994 suggest more likely Early Cretaceous age))

Lek-uthai, T., C. Sangsuwan & B. Thongpenyai (1987)- A petroleum source rock potential in Chumphorn Basin. In: P. Thanasuthipitak (ed.) Proc. Symp. Cenozoic basins Thailand: geology and resources, Chiang Mai 1984, p. 43-66.

Le Loeuff, J., S. Khansubha, E. Buffetaut, V. Suteethorn, H. Tong& C. Souillat (2002)- Dinosaur footprints from the Phra Wihan Formation (Early Cretaceous of Thailand). Comptes Rendus Palevol 1, 5, p. 287-292.
(First sauropod tracks in Thailand, in basal Cretaceous Phra Wihan Fm E of Khon Kaen, NE Thailand (Khorat Gp). Associated with theropod tracks)

Le Loeuff, J., T. Saenyamoon, C. Souillat, V. Suteethorn & E. Buffetaut (2009)- Mesozoic vertebrate footprints of Thailand and Laos. In: E. Buffetaut et al. (eds.) Late Palaeozoic and Mesozoic ecosystems in SE Asia, Geol. Soc., London, Spec. Publ. 315, p. 245-254.

(Vertebrate footprints from seven Mesozoic formations of Thailand and Laos, from Late Triassic (Kuchinari Group; Norian basal archosaurs replaced by Rhaetian dinosaurs) and E Cretaceous (Khorat Gp))

Limtrakun P. (2003)- Origin and distribution of corundum from an intraplate alkali basaltic province in Thailand: evidence from field and inclusion studies. Ph. D. Thesis University of Tasmania, p. 1-276.
(online at: http://eprints.utas.edu.au/20552/7/whole_LimtrakunPhisit2003_thesis_ex_pub_mat.pdf)
(Sapphires from alluvial placer deposits in Denchai gem fields of Phrae Province, N Thailand, generally interpreted as derived from late Cenozoic Denchai basalts, with olivine, clinopyroxene and common mantle-derived xenoliths. New evidence suggests sapphires crystallised from melts formed in continental lithosphere)

Limtrakun, P., Y. Panjasawatwong & J. Khanmanee (2013)- Petrochemistry and origin of basalt breccia from Ban Sap Sawat area, Wichian Buri, Phetchabun, central Thailand. Songklanakarin J. Sci. Technol. 35, 4, p. 469-482.
(online at: http://rdo.psu.ac.th/sjstweb/journal/35-4/35-4-13.pdf)
(Miocene Wichian Buri basalts and basalt breccias in Loei-Phetchabun Volcanic Belt similar petrography and chemical compositions. Both formed from same continental within-plate, transitional tholeiitic magma)

Limtrakun, P., Khin Zaw, C.G. Ryan & T.P. Mernagh (2001)- Formation of the Denchai gem sapphires, northern Thailand: evidence from mineral chemistry and fluid/melt inclusion characteristics. Mineralogical Magazine 65, 6, p. 725-735.
(Denchai gem sapphire deposits in Phrae Province, N Thailand, closely associated with late Cenozoic high CO_2/ high K alkaline basaltic rocks. Sapphires in alluvial placer deposits in paleo-channels at shallow depths)

Lin, Y.L., M.W. Yeh, T.Y. Lee, S.L. Chung, Y. Iizuka & P. Charusiri (2013)- First evidence of the Cambrian basement in Upper Peninsula of Thailand and its implication for crustal and tectonic evolution of the Sibumasu Terrane. Gondwana Research 24, p. 1031-1037.
(First radiometric date of Cambrian crystalline basement of Sibumasu: zircon U/Pb age of Khao Tao orthogneiss in Thailand Upper Peninsula 501.5 ± 7.5 Ma (Late Cambrian). Chemical similarity and spatial continuity of Khao Tao orthogneiss with other pre-Neotethys marginal Eurasian and Sibumasu granitoids indicate similar magmatic arc regime along Gondwana India-Australia margin)

Linnen, R.L. (1998)- Depth of emplacement, fluid provenance and metallogeny in granitic terranes: a comparison of western Thailand with other tin belts. Mineralium Deposita 33, p. 461-476.
(Tin mineralization may occur at shallow and deep levels of emplacement, but greater tendency for cassiterite-bearing pegmatites to form at depth)

Linnen, R.L. & A.E. Williams-Jones (1994)- The evolution of pegmatite-hosted tin-tungsten mineralization at Nong Sua, Thailand: evidence from fluid inclusions and stable isotopes. Geochimica Cosmochimica Acta 58, p. 735-747.
(Maximum pressure for emplacement of Nong Sua pegmatite 3.8 kbar corresponding to depth of <12-14 km)

Linnen, R.L. & A.E. Williams-Jones (1995)- Genesis of a magmatic metamorphic hydrothermal system: The Sn-W polymetallic deposits at Pilok, Thailand. Economic Geology 90, p. 1148-1166.
(Cassiterite, wolframite and base metal mineralization in Pilok area, 250km NW of Bangkok, W Thailand, are hosted by veins and stockworks in apical portion of Late Cretaceous leucocratic granite stocks (Ar-Ar ages 72-77 Ma), close to contacts with pelitic metasedimentary rocks)

Linnen, R.L., A.E. Williams-Jones & R.F. Martin (1992)- Evidence of magmatic cassiterite mineralization at the Nong Sua aplite-pegmatite complex, Thailand. Canadian Mineralogist 30, p. 739-761.
(online at: http://rruff.info/doclib/cm/vol30/CM30_739.pdf)
(Nong Sua intrusive complex in N Peninsular Thailand, 180 km S of Bangkok, is layered aplite-pegmatite with Sn-W mineralization. Muscovite from pegmatite with Ar/Ar age of 63.9± 0.6 Ma. Nearby biotite granite with biotite Ar/Ar age of 53.2 Ma. Cassiterite crystallized at ~95% crystallization, or prior to vapor saturation)

Lockley M.G,. M. Matsukawa, Y. Sato (2006)- A distinctive new theropod dinosaur track from the Cretaceous of Thailand: Implications for theropod track diversity. Cretaceous Research 27, 1, p. 139-145.
(Well-preserved, three-toed dinosaur footprints with bilobed heel impressions from Cretaceous of Thailand are assigned to new ichnotaxon Siamopodus khaoyaiensis. Represent gracile theropods. Also theropod tracks with bulbous heel impressions from a new locality, similar to Lower Cretaceous tracks from elsewhere in Asia)

Loffler, E. & J. Kubiniot (1996)- Landform development and bioturbation on the Khorat Plateau, Northeast Thailand. Natural History Bull. Siam Society 44, p. 199-216.
(online at: www.thaiscience.info/Article%20for%20ThaiScience/Article/61/10001833.pdf)
(Khorat Plateau erosional surface developed in two main phases: (1) E Tertiary formation of extensive plain, with deep weathering under humid tropical conditions (red Yasothon ferralsols and gravels of 'upper terrace'); (2) Pliocene or E Pleistocene relief rejuvenation after tectonic uplift, dissecting and stripping much of weathered mantle, with development of yellow sandy xanthic ferralsols on new land surfaces under more seasonal climate. Modifying factor in landform/ soil development is post-depositional bioturbation by termites, capable of reworking a few m of soil profile in several 1000 yrs, transporting fine material upward and causing coarse material like tektites to move down profile like a lag deposit)

Long, J.A. & C. Burrett (1989)- Fish from the Upper Devonian of the Shan-Thai terrane indicate proximity to East Gondwana and South China terranes. Geology 17, 9, p. 811-813.
(Coronodontid shark tooth, new species of Phoebodus and occurrence of chondrichthyan Harpagodens in Late Famennian of Thailand, Australia, and S China suggests Late Devonian proximity of these terranes, in accord with recent paleomagnetic data)

Long, J.A. & C.F. Burrett (1989)- Early Devonian conodonts from the Kuan Tung Formation, Thailand: systematics and biogeographic considerations. Records Australian Museum, Sydney, 41, 2, p. 121-133.
(online at: http://australianmuseum.net.au/Uploads/Journals/17706/140_complete.pdf)
(Conodonts from limestone horizon in Kuan Tung Fm, Satun Province, S Thailand, show E Devonian (Emsian) age. Many conodont species cosmopolitan, some restricted to E Gondwana- ShanThai- S China Terranes)

Luddecke, S., C. Chonglakmani & D. Helmcke (1991)- Analysis of pebble associations from the marine Triassic of northern Thailand. J. Thai Geoscience 2, p. 91-101.
(Carnian-Norian age 'molasse' overlying Permian ophiolitic melange in N Thailand. Three types: (1) M Triassic Lampang/ Hong Hoi conglomerate mainly pebbles of M Triassic limestones and acid volcanic rocks (from nearby carbonate platform on Permo-Triassic volcanic arc or rift?); (2) U Triassic Rong Kwang conglomerate mainly siliciclastic sediments and low-grade metamorphic rocks; (3) Nam Pat conglomerate 38% volcanic, 26% metamorphic, 10% plutonic (from continental crust with Triassic volcanic arc?))

Lumjuan, A. (1993)- Permo-Carboniferous of northern Nakhon Si Thammarat. In: T. Thanasuthipitak (ed.) Int. Symposium Biostratigraphy of mainland Southeast Asia: facies and paleontology (BIOSEA), Chiang Mai 1993, 1, p. 219-224.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1993/6788.pdf)
(Carboniferous- Permian series in N part of Peninsular Thailand. ~500m+ of Carboniferous quartzitic sandstones and shales, overlain by ~200m of Late Carboniferous- earliest Permian pebbly mudstones (with granitic and other clasts) With Posidonomya. Capped by E-M Permian Ratburi Limestone)

Macdonald, A.S. & S.M. Barr (1978)- Tectonic significance of a Late Carboniferous volcanic arc in northern Thailand. In: P. Nutalaya (ed.) Proc. Third Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA III), Bangkok, p. 151-156.
(Remnants of Late Carboniferous volcanic arc through central N Thailand, W of younger andesitic arcs and (Nan-Uttaradit) ultramafic belt. Mainly tholeiitic basalts, possibly from island arc environment. Associated with Late Carboniferous sediment, below base of Rat Buri Limestone. Distribution of volcanics and granites implies convergence along W-dipping subduction zone)

Macdonald, A.S. & S.M. Barr (1984)- The Nan River mafic-ultramafic belt, northern Thailand: geochemistry and tectonic significance. Bull. Geol. Soc. Malaysia 17, p. 209-217.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1984010.pdf)
(Nan River suture in N Thailand with mafic and ultramafic rocks (mainly metabasalt and metabasaltic andesite flows) and tuffs overlying metagabbro. Ultramafic rocks along SE side metahornblendite, metapyroxenite and serpentite lenses within garnet amphibolite. Mafic rocks resemble calc-alkali basalts formed in volcanic arc, rather than in oceanic environment. Should probably be termed volcanic arc suite with associated fault-emplaced ultramafic bodies. If belt marks suture between Shan-Thai and Indosinian cratonic blocks no significant obduction of intervening oceanic basin onto Shan-Thai block)

Macdonald, A.S., S.M. Barr, G.R. Dunning & W. Yaowanoiyothin (1993)- The Doi Inthanon metamorphic core complex in NW Thailand: age and tectonic significance. In: B.K. Tan et al. (eds.) 7th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 117-125.
(Doi Inthanon complex in NW Thailand part of 400km belt of high-grade gneissic rocks along W mountain ranges of Thailand. Orthogneiss dome looks like Cordilleran-type metamorphic core complex, Zircon ages suggest gneiss derived from Late Triassic- E Triassic granitic protolith; high-grade metamorphism probably in Late Cretaceous. Large scale extension to form core complex sometime between Late Cretaceous and Miocene)

Macdonald, A.S., S.M. Barr, B.V. Miller, P.H. Reynolds, B.P. Rhodes & B. Yokart (2010)- P-T-t constraints on the development of the Doi Inthanon metamorphic core complex domain and implications for the evolution of the western gneiss belt, northern Thailand. J. Asian Earth Sci. 37, p. 82-104.
(Western gneiss belt in N Thailand exposed in Doi Inthanon metamorphic core complex (W of Chiang Mai basin), and in Mae Ping strike-slip fault domain W of Tak batholith. Doi Inthanon gneiss experienced: (1) high-grade, medium-P metamorphism in Late Triassic- E Jurassic (~210 Ma); (2) Late Cretaceous (84, 72 Ma) thermal overprint; (3) Late Eocene mylonite age (40 Ma) is early stage of development of core complex by low-angle extension; (4) Miocene (~26-15 Ma) late-stage development of core complex. Similarities with N Vietnam, Laos, Yunnan, and C Myanmar suggest regional response to indentation of SE Asia by India)

Mahawat, C., M.P. Atherton & M.S Brotherton (1990)- The Tak Batholith, Thailand: the evolution of contrasting granite types and implications for tectonic setting. J. Southeast Asian Earth Sci. 4, p. 11-27.
(Tak Batholith, W Central Thailand at boundary of E and C granitoid belts. Four zoned plutons, with youngest of Late Triassic age (210 Ma). Composition changes from granodioritic in oldest, through monzonitic and monzogranitic to syenogranitic in youngest. Changes in composition with time similar to increasing K volcanic series at active continental margin. Due to change from subduction to strike-slip and then uplift)

Makel, G., B. Ainsworth, S. Chuenbunchom, M. Harvey, S. Kaewla-Iad & R. Pal (1997)- The Sirikit Field-improved structural interpretation and reservoir architecture and its impact on further field development. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, 2, p. 541-542. *(Abstract only)*
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1997/7641.pdf)
(Sirikit oil field discovered in 1981 and largest field in Oligocene- Miocene N-S trending extensional Phitsanulok Basin. Numerous lacustrine- deltaic- fluvial cycles)

Malila, K. (2005)- Provenance of the Nam Duk Formation and implications for the geodynamic evolution of the Phetchabun fold belt. Ph.D. Thesis Suranaree University of Technology, p. 1-162. *(Unpublished)*
(On provenance of Permian sediments in Nam Duk Carboniferous- Permian marginal basin, C Thailand. Basin openeed in Carboniferous as maginal basin off Indochina, and closed in Late permian? with ophiolite obduction and formation of Nan-Uttaradit suture)

Malila, K., C. Chonglakmani, Q. Feng & D. Helmcke (2008)- Provenance and tectonic setting of the Permian Nam Duk Formation, North-Central Thailand: implications for geodynamic evolution. Science Asia 34, p. 7-22.
(online at: www.scienceasia.org/2008.34.n1/v34_007_022.pdf)

(Permian Nam Duk Basin, Phetchabun Fold Belt, C Thailand, is remnant ocean basin and branch of Paleo-Tethys. Geochemistry of siliciclastics indicates E-M Permian 'pelagic sequence' transitional between oceanic and continental island arc and derived mainly from metabasic sources. Middle-late M Permian provenance signatures of 'flysch' and 'molasse' with indications of ultramafic-mafic igneous provenance and deposition in continental island arc environment. Apparently ocean closed in short period in M Permian)

Manoonphol, P., Y. Thasod & B. Ratanasthien (2015)- The composition and the yield of oil shale from Na Hong Basin, Mae Chaem District, Chiang Mai Province. Proc. 5th GEOINDO 2015, Khon Kaen, PO-4, 6p.
(Oil shales from small Tertiary Na Hong Basin, N Thailand, dominated by alginite. Also Botryococcus, Pila and Reinschia)

Mansyur, M., J.K. Warren, I. Cartwright & Yow Lam Cheong (2013)- Dolomitization and its relation to fracture porosity evolution: a case study in Permian Ratburi carbonate outcrop in the Sibumasu domain, Krabi, Southern Peninsular, Thailand. Proc. 37th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA13-G-016, p. 1-15.
(Production from Permian carbonates in Nang Nuan oil field, offshore S Thailand and Sin Phu Horm and Nam Pong gas fields in NE Thailand. Dolomitization, karstification and fracturing part of diagenetic evolution. Study of Ratburi Lst dolomite outcrop near Krabi in S Peninsular Thailand revealed three distinct dolomite textures, all formed during burial in response to rock-fluid interaction)

Mantajit, N. (1997)- Stratigraphy and tectonic evolution of Thailand. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, 1, p. 1-26.
(Review of Paleozoic- Cenozoic stratigraphy, tectonic evolution and mineral deposits of Thailand)

Mantajit, N., W. Tantiwanit & L. Raksasakulwong (1979)- Stratigraphy of Phuket- Phang Nga area (Permo-Carboniferous), J. Geol. Soc. Thailand,
(Carboniferous- E Permian clastics of Phuket Gp derived from western source)

Maranate, S. (1982)- Palaeomagnetism of the Khorat Group in Northeast Thailand. M.Sc. Thesis Victoria University, Wellington, p. 1-398.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/1982/4505.pdf)

Maranate, S. (1984)- Magnetostratigraphic correlation for dating in the Khorat Group Northeast Thailand. Proc. Conf. Applications of Geology and the National Development, Bangkok, p. 293-296.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1984/7249.pdf)

Maranate, S. (1984)- Palaeomagnetism of the Khorat Group in Northeast Thailand. Geological Survey Paper 3, p. 1-71.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/1982/5292.pdf)
(Paleomag data from 179 sites in M Triassic- M Cretaceous Khorat Gp (54% of sites rejected). Paleolatitude not signicantly different from today (unlike nearby S China, whose Jurassic-Cretaceous paleolatitudes N of present-day?). Clockwise rotation of ~38° after mid-Cretaceous))

Maranate, S. & P. Vella (1986)- Palaeomagnetism of the Khorat Group, Mesozoic, northeast Thailand. J. Southeast Asian Earth Sci. 1, p. 23-36.
(Late Triassic- Cretaceous Khorat Group up to 5000m of paralic-freshwater sediments, mainly red-beds. Paleomagnetic data suggest clockwise rotation (37 ± 7°) in last 100 My. Inclinations not much different from present day, indicating NE Thailand (and Indochina plate) at nearly same latitude since Late Triassic (NB: Van der Voo (1993) suspects widespread resetting of paleomagnetic data in Indochina- SE Asia mainland))

Marivaux, L., M. Benammi, S. Ducrocq, J.J. Jaeger & Y. Chaimanee (2000)- A new baluchimyine rodent from the Late Eocene of the Krabi Basin (Thailand): palaeobiogeographic and biochronologic implications. Comptes Rendus Academie Sciences, Paris, ser, IIA, 331, 6, p. 427-433.

(New baluchimyine rodent, Baluchimys krabiense n. sp., from Bang Mark pit of Krabi mine (Late Eocene))

Marivaux, L., Y. Chaimanee, P. Tafforeau & J.J. Jaeger (2006)- New strepsirrhine primate from the late Eocene of Peninsular Thailand (Krabi Basin). American J. Physical Anthropology 130, 4, p. 425-434
(New lower jaw of primate from late Eocene Krabi coal mine of Peninsular Thailand)

Marivaux, L., Y. Chaimanee, C. Yamee, P. Srisuk & J.J. Jaeger (2004)- Discovery of *Fallomus ladakhensis* Nanda & Sahni, 1998 (Mammalia, Rodentia, Diatomyidae) in the lignites of Nong Ya Plong (Phetchaburi Province, Thailand): systematic, biochronological and paleoenvironmental implications. Geodiversitas 26, 3, p. 493-507.
(online at: http://sciencepress.mnhn.fr/sites/default/files/articles/pdf/g2004n3a4.pdf)
(New finds of mandibles and isolated teeth of a diatomyid rodent Fallomus ladakhensis in Oligocene lignites of the Tertiary basin of Nong Ya Plong in C Thailand. Development of lophodont and moderately hypsodont teeth more likely in fairly arid environments.)

Martin, J.E. & K. Lauprasert (2010)- A new primitive alligatorine from the Eocene of Thailand: relevance of Asiatic members to the radiation of the group. Zoological J. Linnean Soc. 158, 3, p. 608-628.
(online at: https://academic.oup.com/zoolinnean/article/158/3/608/3798456)
(Remnants of new alligatorine taxon from Late Eocene of Krabi Basin, S Thailand: Krabisuchus siamogallicus. Alligatorines widespread as early as Late Eocene across N hemisphere. Probably colonized vast territories, during periods of global warm climates)

Martin, J.E., K. Lauprasert, E. Buffetaut, R. Liard & V. Suteethorn (2013)- A large pholidosaurid in the Phu Kradung Formation of north-eastern Thailand. Palaeontology 57, 4, p. 757-769.
(Jaw of large crocodilian from E Cretaceous (possibly Late Jurassic) continental Phu Kradung Fm in NE Thailand Indochina block). Originally described as Sunosuchus thailandicus, but here assigned to new genus Chalawan)

Martin, M., E. Buffetaut, H. Tong & V. Suteethorn (1996)- New Jurassic dipnoans from Thailand. Geol. Soc. Denmark, DGF Online Series. 1,
(online at: http://2dgf.dk/dgf-online-series/new-jurassic-dipnoans-from-thailand/)
(Toothplates of freshwater dipnoans (lungfish) in Jurassic of S and NE Thailand assigned to Ferganaceratodus szechuanensis. Also known from S China Late Triassic- Jurassic)

Martin, V. (1994)- Baby sauropods from the Sao Khua Formation (Lower Cretaceous) in northeastern Thailand. GAIA 10, p. 147-153.
(online at: www.arca.museus.ul.pt/ArcaSite/obj/gaia/MNHNL-0000270-MG-DOC-web.PDF)
(Remains of juvenile sauropods Phuwiangosaurus sirindhornae from E Cretaceous fluvial deposits)

Martin, V., E. Buffetaut & V. Suteethorn (1993)- Jurassic sauropod dinosaurs of Thailand: a preliminary report. In: T. Thanasuthipitak (ed.) Int. Symposium Biostratigraphy of mainland Southeast Asia: facies and paleontology (BIOSEA), Chiang Mai 1993, 2, p. 415-425.
(Great number of localities in Khorat Plateau, NE Thailand, yielded U Jurassic sauropod remains)

Martin, V., E. Buffetaut & V. Suteethorn (1994)- A new genus of sauropod dinosaur from the Sao Khua Formation (Late Jurassic to Early Cretaceous) of northeastern Thailand. Comptes Rendus Acad. Sci. Paris (2) 319, p. 1085-1092.
(New sauropod Phuwiangosaurus sirindhornae from Phu Wiang)

Martin, V. & R. Ingavat (1982)- First record of an Upper Triassic Ceratodontid (Dipnoi, Ceratodontiformes) in Thailand and its paleogeographical significance. Geobios 15, 1, p. 111-114.
(First discovered Norian continental vertebrate locality of Thailand yielded minute toothplate of ceratodontid (lungfish). Probably Ceratodus cf. szechuanensi, previously recorded from U Triassic of China, providing evidence for land connection between Thailand and China as early as Late Triassic)

Martin, V., V. Suteethorn & E. Buffetaut (1999)- Description of the type and referred material of *Phuwiangosaurus sirindhornae* Martin, Buffetaut and Suteethorn 1994, a sauropod from the Lower Cretaceous of Thailand. Oryctos 2, p. 39-91.
(online at: http://www.dinosauria.org/documents/2003/oryctos_v2_99-p39-91.pdf)
(Most of the abundant sauropod material from E Cretaceous Sao Khua Fm from E Cretaceous of Khorat Plateau in NE Thailand referable to Phuwiangosaurus sirindhornae, a mid-sized sauropod different from Jurassic Chinese sauropods. Early representative of family Nemegtosauridae)

Matha, S., F. Saifuddin, A. Panthong, I.N. Nuada, S. Phaungphuak et al. (2012)- Stratigraphic traps in distal lacustrine delta, a case history from Greater Sirikit East Field, Phitsanulok Basin, Central Plain, Thailand. Int. Petrol. Techn. Conf. (IPTC), Bangkok 2012, 1, IPTC 14491, p. 932-947.
(On stratigraphic traps in Greater Sirikit East oil- gas field in Phitsanulok Basin. Main reservoirs are fluvio-deltaic Lan Krabu Fm members of K, L and M that interfinger with lacustrine Chumsaeng Fm)

McCabe, R., M. Celaya, J. Cole, H.C. Han, T. Ohnstad, V. Paijitprapapon & V. Thitipawarn (2012)- Extension tectonics: the Neogene opening of the north-south trending basins of central Thailand. J. Geophysical Research, Solid Earth, 93, B10, p. 11899ï 11910.
(Paleomagnetic work on late Neogene basalt flows from Thailand suggest differential rotation between W and C Thailand versus Khorat Plateau. Rotations record late Neogene phase of E-W extension of Chao Phraya-Phitsanulok Basin, Gulf of Thailand, and intermontane basins of W Thailand basins. Formation of basins and related basaltic volcanism developed in reponse to subduction of Indian plate under W Burma. Tectonics of region similar in style to Basin and Range region of W United States)

Meesook, A. (2000)- Cretaceous environments of northeastern Thailand. In: H. Okada, H. & N.J. Mateer (eds.) Cretaceous environments of Asia, Elsevier Science B 17, p. 207-223.
(In NE Thailand widespread non-marine Cretaceous rocks of Khorat Group. Semi-arid conditions in Early Cretaceous to arid paleoclimate in Late Cretaceous)

Meesook, A. (2011)- Cretaceous. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, p. 169-184.

Meesook, A. & J.A. Grant-Mackie (1994)- Biostratigraphic correlation of marine Jurassic rocks within Thailand and Southeast Asia. Proc. Int. Symp. Stratigraphic Correlation Southeast Asia, Bangkok 1994, p. 160-169.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1994/4665.pdf)
(Jurassic sediments of Thailand widespread marine (in W) and non-marine (in NE) deposits. Marine Jurassic mainly Toarcian- E Bajocian. Regionally Thailand Jurassic similar to that of Vietnam and Myanmar)

Meesook, A. & J.A. Grant-Mackie (1996)- Marine Jurassic lithostratigraphy of Thailand. J. Southeast Asian Earth Sci. 14, p. 377-391.
(Marine Jurassic rocks well-exposed in NW Thailand-Myanmar border area (= W part of Shan-Tai/ Sibumasu block), less in other areas of Thailand. Generally underlain unconformably by Triassic and overlain by Quaternary. Sequences ~450-900m thick in NW, thinner in other areas, particularly in S. Marine Jurassic contains ammonites (Toarcian Dactylioceras, Aalenian Onychoceras, Leioceras, Graphoceras, etc.), bivalves (Parvamussium donaiense, Bositra) and foraminifera (Aalenian Timidonella sarda) and is largely Toarcian-Aalenian plus some Bajocian. Presence of Late Jurassic not confirmed)

Meesook, A. & J.A. Grant-Mackie (1997)- Faunal associations, paleoecology and paleoenvironments of the Thai marine Jurassic: a preliminary study. In: P. Dheeradilok et al. (eds.) Int. Conf. Statigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok 1997, Dept. Mineral. Res., 1, p. 164-176.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1997/7633.pdf)
(Paleoecological study of shelfal marine Toarcian- E Bajocian in W and S Thailand, mainly based on bivalves and ammonites. By M Bajocian all area changed from marine to non-marine facies. Thin-shelled 'paper Pecten'

Bositra-dominated facies in Toarcian- Aalenian dark mudstones tied to anoxic conditions. Also Grammatodon, Parvamussium, etc. Belemnites absent in E-M Jurassic of Thailand/ SE Asia)

Meesook, A. & W. Saengsrichan (2011)- Jurassic. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, p. 151-168.
(Review of Jurassic stratigraphy of Thailand. Marine Jurassic lmited to W sides of N, W and Peninsular Thailand (Sibumasu) and limited to Toarcian- E Bajocian ages only (locally with non-marine interbeds). Non-marine Jurassic facies only in deposits of NE Thailand (Khorat Basin))

Meesook, A., J.G. Sha, C. Yamee & W. Saengsrichan (2009)- Faunal associations, paleoecology and paleoenvironment of marine Jurassic rocks in the Mae Sot, Phop Phra, and Umphang areas, western Thailand. In: Jurassic of China and environs: stratigraphy, basin history, and paleoenvironment, Science in China, D-Earth Sci., 52, 12, p. 2001-2023.
(online at: http://earth.scichina.com:8080/sciDe/EN/article/showArticleFile.do?attachType=PDF&id=415693)
(E-M Jurassic (Toarcian-Aalenian) marine Jurassic clastics and oolitic limestones with mainly bivalves (Parvamussium, Trigonia, etc.), also ammonites, brachiopods and some coral (Montlivaltia numismalis), but no belemnites)

Meesook, A., V. Suteethorn, P. Chaodumrong, N. Teerarungsigul, A. Sardsud & T. Wongprayoon (2002)- Mesozoic rocks of Thailand: a summary. In: N. Mantajit (ed.) Proc. Symposium on Geology of Thailand, Bangkok 2002, Dept. Mineral Resources, p. 82-94.

Mein, P. & L. Ginsburg (1997)- Les mammiferes du gisement Miocene inferieur de Li Mae Long, Thailande: systematique, biostratigraphie et paleoenvironment. Geodiversitas, 19, 4, p. 783-844.
('The mammals from the Lower Miocene beds of Li Mae Long, Thailand: systematics, biostratigraphy and paleoenvironment'. Mammal fauna of Li Mae Long (Lamphun district, Thailand) 33 species, 5 Insectivora , 9 bats, 1 Scandentia, 2 primates, 8 rodents, 2 carnivores, 1 proboscidean, 1 perissodactyl and 4 artiodactyls). Age is the beginning of MN4; environment tropical forest near very shallow lake)

Metais, G., Y. Chaimanee & J.J. Jaeger, S. Ducrocq (2007)- Eocene bunoselenodont Artiodactyla from southern Thailand and the early evolution of Ruminantia in South Asia. Naturwissenschaften 94, 6, p. 493-498.
(New early selenodont artiodactyl from Late Eocene of Krabi, S Thailand: Krabitherium waileki)

Metcalfe, I., C.M. Henderson & K. Wakita (2017)- Lower Permian conodonts from Palaeo-Tethys Ocean Plate Stratigraphy in the Chiang Mai-Chiang Rai Suture Zone, northern Thailand. Gondwana Research 44, p. 54-66.
(Lower Permian (lower Sakmarian) conodonts from section of Ocean Plate Stratigraphy, and from limestone block in Paleo-Tethys suture zone S of Chiang Mai. Conodont species deep-water forms. Chiang Mai- Chiang Rai suture zone proposed for Paleo-Tethys suture in N Thailand between Sibumasu and Sukhothai Arc terranes. Inthanon Zone of N Thailand interpreted as fold-thrust belt W of suture, comprising Sibumasu Terrane continental margin rocks and remnant klippen of Chiang Mai- Chiang Rai suture zone rocks thrust as nappe W-ward during Triassic Sibumasu- Sukhothai Arc/Indochina Terrane collision)

Metcalfe, I. & M. Sone (2008)- Biostratigraphy and palaeobiogeography of Lower Permian (lower Kungurian) conodonts from the Tak Fa Formation (Saraburi Limestone), Thailand. Palaeogeogr. Palaeoclim. Palaeoecology 257, p. 139-151.
(E Permian (Kungurian) conodonts from Saraburi Lst in C Thailand (W margin of Indochina Terrane). Association with fusulinids and presence of Sweetognathus and Pseudosweetognathus indicate equatorial warm water faunas. Pseudosweetognathus appears restricted to Kungurian of S China and Indochina terranes)

Mickein, A. (1997)- U/Pb-, Rb/Sr- und K/Ar-Untersuchungen zur metamorphen Entwicklung und Altersstellung des 'Prakambriums' in NW-Thailand. GottingerArbeiten Geol. Palaont. 73, p. 1-83.
(U/Pb-, Rb/Sr- und K/Ar-U investigations of the metamorphic development and age determination of the 'Precambrian' in NW Thailand')

Milsom, J. (2011)- Regional geophysics. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, p. 493-506.

Minato, M. (1944)- An occurrence of *Wentzella subtimorica* in northern Tai. Proc. Imperial Academy, Japan, Tokyo, 20, 2, p. 104-106.
(online at: www.journalarchive.jst.go.jp)
(Mid-Permian Lonsdaleia-type colonial tabulate coral from limestone in N Thailand. Species originally described by Huang (1932) from S China, and closely resembles Wentzelella timorica (Gerth 1921) from Basleo, Timor. Pseudoschwagerina fusulinids from nearby localities described by Toriyama (1944))

Minezaki, T. & K.I. Hisada (2016)- The tectono-stratigraphy and the Upper Paleozoic petroleum systems of the Khorat Plateau Basin in onshore NE Thailand. In: Development of the Asian Tethyan Realm: genesis, process and outcomes, 5th Int. Symposium Int. Geoscience Program (IGCP) Project 589, Yangon, p. 7-11. *(Extended Abstract)*
(online at: http://igcp589.cags.ac.cn/5th%20Symposium/Abstract%20Volume.pdf)
(Khorat Plateau and surrounding NE Thailand underlain by Permian carbonates, which host two commercial gas fields. Intense deformation of Carboniferous- Permian sections below Indosinian I Event, which may be caused by closure of back-arc basin between Sukhothai arc and Indochina terrane at end of Permian along Nan-Uttaradit suture, before (Triassic) collision between Sibumasu block and Indochina)

Mitchell, A.H.G., B. Young & W. Jantaranipaa (1970)- The Phuket Group, Peninsular Thailand: a Palaeozoic ?geosynclinal deposit. Geol. Magazine 107, 5, p. 411-428.
(Phuket Group in Phuket- Takua Pa- Krabi region of Peninsular Thailand, two folded formations: (1) >3 km thick Ordovician (Cambrian?)- Lower Permian deep marine, quartz-rich continental margin clastics (with common pebbly mudstones in lower formation with clasts of quartzite, vein quartz, limestone and biotite granite; probably also diamonds); (2) 100-200m thick shallow marine- deltaics of E Permian age, overlain by Permian Ratburi Lst. Continental source lay to E (Burton, Ridd had proposed clastic source from West; JTvG). Phuket Group continues N into S Burma as Mergui Series. See also comment and reply by Ridd 1971)

Miyahigashi, A., K. Ueno & T. Charoentitirat (2009)- Late Permian (Lopingian) foraminifers from the Doi Chiang DaoLimestone in the Inthanon Zone of Northern Thailand. Acta Geoscientica Sinica 30, Suppl. 1, p. 40-43.
(online at: www.cagsbulletin.com/dqxben/ch/reader/create_pdf.aspx?file_no=2009S123)
(Late Permian foraminifers from massive Visean-latest Permian (earliest Triassic) Doi Chiang Dao Lst in Inthanon Zone of N Thailand, N of Chiang Mai. Considered to be Paleotethyan seamount carbonate, deposited on basalts, and surrounded by shales and bedded 'Fang Chert', which represent M Devonian- M Triassic deep-sea sediments. Three Late Permian fusulinid foram assemblages, which can be compared with Shifodong Fm of Paleo-Tethyan mid-oceanic carbonates in Changning-Menglian Belt of W Yunnan, SW China)

Miyahigashi, A., K. Ueno & T. Charoentitirat & Y. Kamata (2012)- Foraminiferal assemblage and depositional environment of the Doi Long Formation (Triassic Lampang Group), Northern Thailand. Proc. First Int. Symposium of IGCP-589, Xi'an, China 2012, Acta Geoscientica Sinica 33, Suppl. 1, p. 45-49.
(online at: http://igcp589.cags.ac.cn/pdf/24-Miyahigashi.pdf)
(Doi Long Fm Triassic limestone NE of Lampang in Sukhothai Zone of N Thailand, believed to be Permian-Triassic island arc system along margin of Indochina Block. Rich foraminiferal assemblage with abundant Aulotortus sinuosus, Alpinophragmium perforatum, Agathammina austroalpina, etc., suggesting Carnian age, consistent with age estimated by ammonoids. Also with Shamovella (formerly Tubiphytes). Lagoon, reef and shoal facies recognized)

Miyahigashi, A., K. Ueno & T. Charoentitirat & Y. Kamata (2014)- Foraminiferal fauna and depositional environment of the Lower Permian Kiu Lom Formation in the Sukhothai Zone, Northern Thailand. In: Development of the Asian Tethyan Realm, Proc. 3rd Int. Symposium Int. Geosciences Program (IGCP) Project 589, Tehran 2014, p. 152-153. *(Abstract)*

(Lampang area in N Thailand belongs to Sukhothai Zone island arc, developed along margin of Indochina Block during Permian-Triassic. E Permian Kiu Lom Fm ~500m thick volcanoclastics with bedded limestone rel. rich in fusulinid foraminifera (Darvasites, Chalaroschwagerina, Praeskinnerella, Levenella, etc.). Volcanism of Sukhothai Arc active from latest Carboniferous - late E Permian (Yakhtashian), ceased, followed by major arc volcanism in M Triassic)

Miyahigashi, A., K. Ueno & T. Charoentitirat, Y. Kamata & A. Sardsud (2013)- Foraminiferal fauna and depositional environment of the Late Triassic Kang Pla Formation (Song Group), Northern Thailand. In: 2nd Int. Symposium Int. Geoscience Programme Project 589, Borocay, Philippines, p. 76-78. *(Abstract)*
(online at: http://igcp589.cags.ac.cn/2nd%20Symposium/Abstract%20volume.pdf)
(Triassic clastics with subordinate limestones widely distributed in Lampang-Phrae area, N Thailand. Kang Pla Fm ~100-500m thick with foraminifera Aulotortus sinuosus, A. communis, A. tumidus, Pilamminella gemerica, P. grandis, Diplotremina subangulata, Agathammina austroalpina, etc., suggesting Carnian age)

Miyahigashi, A., K. Ueno & T. Charoentitirat, Y. Sera, Y. Kamata & A. Sardsud (2010)- Late Carboniferous-Early Permian foraminiferal assemblages from the Doi Chiang Dao Limestone in the Inthanon Zone, Northern Thailand. 6th Symp. Int. Geological Correlation Programme Project 516 (IGCP516) Geological Anatomy of East and South Asia, Kuala Lumpur 2010, p. 94-97.
(Late Carboniferous-E Permian foraminiferal fauna of Doi Chiang Dao Lst (Paleo-Tethyan mid-oceanic seamount with basaltic rocks at base), shows similarities to Cathaysian blocks (incl. Sukhothai Zone), suggesting mid-oceanic Paleo-Tethys domain where Doi Chiang Dao Lst formed was paleobiogeographically in tropical Tethyan region. Faunal diversity generally lower than in Cathaysian region)

Moonpa, K. & K. Motanated (2018)- Basin classification and tectonic framework of the Nam Pat Group, Uttaradit Province, Thailand: implications for the Nan Suture Zone. Heliyon 4, 1, e00517, 24p.
(online at: https://www.sciencedirect.com/science/article/pii/S2405844017327214)
(Late Triassic Nam Pat Gp of Nam Pat Basin in Nan-Uttaradit Suture Zone, NW Thailand. Clastics dominated by volcanic arc detritus. Paleocurrents to SE and derived from underlying E-M Triassic Pak Pat andesitic magmatic arc volcanics. Basin best interpreted as short-lived back-arc basin rather than forearc basin)

Mongkoltip, P. (1986)- Metamorphic mineral assemblages of gneisses along Doi-Inthanon Highway, Northern Thailand. In: G.H. Teh & S. Paramananthan (eds.) Proc. 5th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA V), Kuala Lumpur 1984, 2, Bull. Geol. Soc. Malaysia 20, p. 473-485.
(online at: www.gsm.org.my/products/702001-101416-PDF.pdf)
(Precambrian?metamorphic rocks of Chiang Mai -Tak gneiss belt include mica-K-feldspar-sillimanite gneiss and biotite gneiss with intercalating marble and calc-silicate. Gneiss units separated by Caroniferous and M Triassic biotite-granite intrusions)

Morley, C.K. (2009)- Geometry and evolution of low-angle normal faults (LANF) within a Cenozoic high-angle rift system, Thailand: implications for sedimentology and the mechanisms of LANF development. Tectonics 28, 5, TC5001, p. 1-30.
(At least 8 examples of large (5–35 km heave), low-angle normal faults (20-30° dip) in Cenozoic rift basins of Thailand, laterally passing into high-angle extensional fault systems. Low-angle dips appear to follow pre-existing low-angle fabrics developed during Late Paleozoic and E Paleogene episodes of folding-thrusting)

Morley, C.K. (2014)- The widespread occurrence of low-angle normal faults in a rift setting: review of examples from Thailand, and implications for their origin and evolution. Earth-Science Reviews 133, p. 18-42.
(Many low-angle (<35° dip), high-displacement (>1km) Cenozoic normal faults identified on seismic onshore and offshore Thailand. In areas like Mergui Basin dominant east-dips suggest pre-existing fabrics control on fault dip direction. Low angles may also be caused by reactivation of pre-existing basement fabric)

Morley, C.K. (2015)- Five anomalous structural aspects of rift basins in Thailand and their impact on petroleum systems. In: Industrial structural geology: principles, techniques and integration, Geol. Soc., London, Spec. Publ. 421, p. 143-168.

(Late Eocene- Miocene intra-cratonic Thailand rift basins caused rifts evolved differently from other intra-cratonic rifts: (1) widespread low-angle normal faults; (2) basin inversion alternating with rifting; (3) diachronous initiation and cessation of rifting (general younging to N with time; also E to W shift in Gulf of Thailand); (4) rapid post-rift subsidence (6km in Pattani, 8 km in Malay Basin) and (5) extensive, low-displacement post-rift faults. Differences may be related to hot, weak continental lithosphere of Sundaland, rapid evolution of plate boundaries and stresses during Cenozoic, and history of subduction and accretion)

Morley, C.K. (2017)- The impact of multiple extension events, stress rotation and inherited fabrics on normal fault geometries and evolution in the Cenozoic rift basins of Thailand. In: The geometry and growth of normal faults, Geol. Soc., London, Spec. Publ. 439, p. 413-445.
(Rift basins of Thailand with remarkable diversity of fault displacement patterns. Oblique extension, influence of pre-existing trends and stress rotation in multi-phase rifts more comprehensive explanation than strike-slip interpretation of previous studies)

Morley, C.K., P. Ampaiwan, S. Thanudamrong, N. Kuenphan & J. Warren (2013)- Development of the Khao Khwang fold and thrust belt: implications for the geodynamic setting of Thailand and Cambodia during the Indosinian Orogeny. J. Asian Earth Sci. 62, p. 705-719.
(Indosinian Orogeny in Thailand often viewed as developed between linear terranes, now ~N-S trending, and subsequently disrupted by NW-SE Cenozoic strike-slip faults, but may be more complex. Indochina Terrane probably series of continental blocks, separated by Permian rifting. In E Triassic early stage collision (S China-Cathaysian Terrane collision with Vietnam/Indochina) resulted in amalgamation of Indochina Terrane by closure along rifts. Rift basins thrusted and inverted during early stages of Indosinian orogeny, with minor reactivation when Sibumasu collided with Sukhothai Zone- Indochina Terrane margin in Late Triassic)

Morley, C.K., F. Arboit, R. Hansberry, A. Collins, R. King, K. Amrouch & J. Warren (2015)- Style, timing, stratigraphic development and structural evolution of the Khao Khwang Fold and Thrust Belt. In: Proc. 4th Int. Symposium Int. Geosciences Program (IGCP) Project 589, Bangkok 2015, p. 52-53. *(Abstract)*
(online at: http://igcp589.cags.ac.cn/4th%20Symposium/Abstract%20volume.pdf)
(Triassic basins interpreted as syn-kinematic basins (piggy back or foreland) to episodes of thrusting from ~245- 205 Ma (M-L Triassic). Late Triassic deformation suggests later, more intense contraction history for Khao Khwang Foldbelt than adjacent Khorat Plateau area, with development of Norian- continental extensional basins unconformably overlain by Rhaetian. Detrital zircons with common age peak at ~450 Ma. Detrital zircon age spectra of siliciclastics of Saraburi Group resembles Permian-Triassic in Khorat Plateau, Vietnam and SE China, suggesting shared sediment source areas (Indosinan basement))

Morley, C.K., P. Charusiri & I.M. Watkinson (2011)- Structural geology of Thailand during the Cenozoic. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, Chapter 11, p. 273-334.
(Comprehensive review of Cenozoic deformation of Thailand. Two dominant styles: (1) strike-slip faulting (mainly in W half of onshore Thailand and Andaman Sea; incl. Sagaing, Three Pagodas Faulst) and extension. Folds-thrusts and inversion structures also present. Cenozoic rifts mainly N-S trending with E-dipping half-graben boundaries and located predominantly in Sukhothai and Inthanon zones of Indosinian orogeny (mobile belts between stronger Sibumasu and Indochina blocks, reactivating E-dipping thrust faults?) Between Late Miocene and present tectonic setting changed from dominantly extension to increased strike-slip activity)

Morley, C.K., S. Gabdi & K. Seusutthiya (2007)- Fault superimposition and linkage resulting from stress changes during rifting: examples from 3D seismic data, Phitsanulok Basin, Thailand. J. Structural Geol. 29, p. 646-663.
(Phitsanulok basin, Thailand, example of changing fault displacement patterns with time, associated with faults of different orientations. In N Phitsanulok basin three main phases associated with Late Oligocene-Recent fault development: (1) Late Oligocene- Late Miocene E-W extension, 'main rift' stage; (2) Late Miocene- Pliocene transtension to transpression(?), 'late rift' stage; (3) Pliocene- Recent minor faulting, E-W extension)

Morley, C.K., C. Haranya, W. Phoosongsee, S. Pongwapee, A. Kornsawan & N. Wonganan (2004)- Activation of rift oblique and rift parallel pre-existing fabrics during extension and their effect on deformation style: examples from the rifts of Thailand. J. Structural Geol. 26, p. 1803-1829.
(online at: http://it.geol.science.cmu.ac.th/gs/staff/nutthawut/Webpage%20data/Structural%20Geology.pdf)
(Tertiary rift basins of Thailand previously interpreted in terms of strike-slip faulting, but many trends oblique to N-S orientation of rift system appear to be inherited passive fabrics in pre-rift. Fabrics from Paleozoic and Mesozoic orogenies exerted influence on Tertiary strike-slip and normal faults)

Morley, C., Y. Ionnikoff, N. Pinyochon & K. Seusutthiya (2007)- Degradation of a footwall fault block with hanging-wall fault propagation in a continental-lacustrine setting: how a new structural model impacted field development plans, the Sirikit Field, Thailand. American Assoc. Petrol. Geol. (AAPG) Bull. 91, 11, p. 1637-1661.
(Sirikit oil-gas field large field (~800 MMBO IP) in Phitsanulok Basin in footwall of complex tilted fault block. Main reservoir horizons Lower Miocene fluvio-deltaic sands of Lan Krabu Fm, sourced and sealed by interbedded lacustrine shales. Stratigraphy on tilted block flank difficult to trace onto fault block crest, caused by features associated with degradation of footwall (low-angle detachment faulting, multiple episodes of erosion at tilted block crest, E-ward onlap onto eroded footwall surface)

Morley, C.K. & A. Racey (2011)- Tertiary stratigraphy. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, p. 223-271.

Morley, C.K., N. Sangkumarni & T.B. Hoon (1998)- Structural evolution of Rift Basins in northern Thailand: new constraints from paleostress analysis. In: Offshore South East Asia Conference 1998 (OSEA98), Singapore, SE Asia Petroleum Expl. Soc. (SEAPEX), p. 79-81. *(Extended Abstract)*
(Tertiary rift basins of Thailand form N-S trending string of depressions from Gulf of Thailand in S to hill country in N. Southern basins larger, longer and deeper. Extension primarily in Oligocene and Miocene. Li basin data shows episodic compressional or strike-slip events through its evolution, inconsistent with simple pull-apart origin and suggesting strike-slip motions more complex than simple prevalent strike-slip models indicate. Thai basins may have evolved under two separate deformation mechanisms (escape tectonics from India collision and Indian Ocean subduction rollback) that may have alternated in importance with time)

Morley, C.K., N. Sangkumarni, T.B. Hoon, C. Chonglakmani & J. Lambiase (2000)- Structural evolution of the Li Basin, northern Thailand. J. Geol. Soc., London, 157, 2, p. 483-492.
(Oligo-Miocene sections of coal mines in Li Basin of N Thailand show basins formed under E-W extension. At least 5 episodes of mainly NNW-SSE to NE-SW oriented compression interrupted extensional development of basin, probably related to escape tectonics of Himalayan orogeny. Episodic nature of compression and extension inconsistent with either simple strike-slip related opening of basins or simple extension)

Morley, C.K., M. Smith, A. Carter, A. P. Charusiri & S. Chantraprasert (2007)- Evolution of deformation styles at a major restraining bend, constraints from cooling histories, Mae Ping fault zone, western Thailand. In: W.D. Cunningham & P. Mann (eds.) Tectonics of strike-slip restraining and releasing Bends, Geol. Soc., London, Spec. Publ. 290, p. 325-349.
(On ~150km-long, restraining bend in ~500km-long Mae Ping fault zone, a NW-SE trending fault zone across onshore Thailand and E Myanmar with >150 km sinistral motion during Cenozoic)

Morley, C.K. & N. Wonganan (2000)- Normal fault displacement characteristics, with particular reference to synthetic transfer zones, Mae Moh Mine, Northern Thailand. Basin Research 12, 3/4, p. 307-327.
(Study of normal faults in M Miocene sediments of the Mae Moh mine, E of Lampang, N Thailand)

Morley, C.K., N. Wonganan, N. Sankumarn, T.B Hoon, A. Alief & M. Simmons (2001)- Late Oligocene-Recent stress evolution in rift basins of Northern and Central Thailand: implications for escape tectonics. Tectonophysics 334, p. 115-150.
(Tertiary rift basins of Thailand generally evolved under E-W extension. Extension episodically interrupted by inversion events. Rift basins from N. Thailand and Laos into Gulf of Thailand different evolutions, but common

trends: (1) widespread Oligocene- E Miocene extension; (2) In C and N Thailand also M Miocene extension, persisting into the Upper Miocene-Pliocene; (3) In S (W. Natuna, Penyu, Malay basins) extension ceased in earliest Miocene; (4) In N Gulf of Thailand extension ceased in M Miocene; (5) Thermal subsidence greatest (up to 4 km) in S (Malay, Pattani, W. Natuna, Penyu basins) and least in N Thailand; (6) Intense E-M Miocene inversion in S Gulf of Thailand; mild E-M Miocene inversion in N Gulf of Thailand. Most widespread inversion in N, in Plio-Pleistocene. Evolution more complex than can be explained by simple escape tectonic models)

Mouret, C. (1994)- Geological history of northeastern Thailand since the Carboniferous. Relations with Indochina and Carboniferous- Early Cenozoic evolution model. In: P. Angsuwathana et al. (eds.) Proc. Int. Symp. Stratigraphic correlation of Southeast Asia, Bangkok 1994, Dept. Mineral Res.and IGCP 306, p. 132-158.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1994/6945.pdf)
(Phu Phan Range of NE Thailand result of strong E Cenozoic inversion. Khorat Plateau area major regional M Carboniferous unconformity('Hercynian compression'). Post-collisional M-U Carboniferous half-grabens with clastic fill, followed by Permian carbonate-dominated deposition. M Triassic 'Indosinian I' and Latest Triassic/ Rhaetian 'Indosinian II' thrusting events. Jurassic- Cretaceous Khorat Gp mainly fluvial redbeds, with thick evaporites in Albian- Cenomanian, followed by eolian sandstones. Around 65 Ma major uplift, erosion (folding/ inversion of pre-Rhaetien depocenters. Etc.))

Mouret, C., H. Heggemann, J. Gouadain & S. Krisadasima (1993)- Geological history of the siliciclastic Mesozoic strata of the Khorat Group in the Phu Phan Range area, northeastern Thailand. In: T. Thanasuthipitak (ed.) Int. Symposium Biostratigraphy of mainland Southeast Asia: facies and palaeontology (BIOSEA), Chiang Mai, 1, p. 23-49.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1993/7484.pdf)
(On stratigraphy of Khorat Group of NE Thailand part of widespread Mesozoic non-marine deposits over E Thailand, Laos, Cambodia and Vietnam. Deposition starts in latest Triassic (Rhaetian) and continues with up to 5000m of redbeds before final uplift and erosion at 65 Ma (tied to plate collision in W, in Myanmar), resulting in erosion of up to 3500m of post M Jurassic sediments. Evaporitic conditions in Albian-Cenomanian. Paleocurrents mainly to WSW, possibly from Annamitic Mountain belt or farther NE)

Mukasa, S.B., G.M. Fischer & S.M. Barr (1996)- The character of the subcontinental mantle in Southeast Asia: evidence from isotopic and elemental compositions of extension-related Cenozoic basalts in Thailand. In: Earth processes: reading the isotopic code, American Geophys. Union (AGU) Geophys. Monograph 95, p. 233-252.
(Central Valley of Thailand and its flanks sites of basaltic volcanism due to extensional deformation since at least 10 Ma. Isotopic compositions of basalts most closely resemble post-spreading lavas in S China Sea Basin)

Nakaoka, S., Y. Suganuma & B. Ratanasthien (2003)- Tectonics and paleomagnetism northern Thai Tertiary basins sediments. In: B. Ratanasthien et al. (eds.) Pacific Neogene paleoenvironments and their evolution, 8th Int. Congress on Pacific Neogene Stratigraphy, Chiang Mai, 2003, p.

Nakapadungrat, S., R.D. Beckinsale & S. Suensilpong (1985)- Geochronology and geology of Thai granites. In: N. Thiramongkol et al. (eds.) Proc. Conf. Applications of geology and the national development, Suppl. Vol., Chulalongkorn University, Bangkok, p. 75-93.

Nakapadungrat, S. & D. Maneenai (1993)- The Phuket, Phangnga and Takua Pa tin-field, Thailand. In: B.K. Tan et al. (eds.) 7th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 359-368.
(Tin fields on W side of Peninsular Thailand have been produced since late 1500's. Main production from alluvial placer deposits, but also from primary deposits, i.e. Cretaceous (78-98 Ma) S-type granites of W Tin Province of SE Asia. Three types of deposits: (1) pegmatites with minor cassiterite, (2) argillic dissemination and (3) quartz- cassiterite- wolframite vein swarms)

Nakapadungrat, S. & P. Putthapiban (1992)- Granites and associated mineralization in Thailand. In: C. Piencharoen (ed.) Proc. Nat. Conf. Geologic resources of Thailand: potential for future development, Bangkok, Dept Min. Resources, p. 153-171.
(online at: http://library.dmr.go.th/library/6192.pdf)
(Rb-Sr whole rock ages indicate 4 periods of granite magmatism in Thailand: ~240 Ma (M Triassic), ~200-220 Ma (Late Triassic), ~130 Ma (E Cretaceous) and ~75-90 Ma (Late Cretaceous). Ar-Ar ages generally broader ranges. Three belts: E (I-type, Triassic), C (S type, mainly Triassic) and W Belt (mixed I and S, Cretaceous)

Naviset, S., C.K. Morley, D.H. Naghadeh & J. Ghosh (2017)- Sill emplacement during rifting and inversion from three-dimensional seismic and well data, Phitsanulok Basin, Thailand. Geosphere 13, 6, p. 2017-2040.
(online at: https://gsw.silverchair-cdn.com/gsw/Content_public/Journal/geosphere/13/6/...)
(Cenozoic Phitsanulok rift basin with igneous intrusions and lava flows. Age of youngest sills ~10 Ma; older sills inferred of M Miocene age. Well E-A01 drilled E Miocene synrift Lan Krabu Fm with 300m thick olivine dolerite sill, but without high amplitude seismic responses usually seen in intrusions)

Nichols, G. & W. Uttamo (2005)- Sedimentation in a humid, interior, extensional basin: the Cenozoic Li Basin, northern Thailand. J. Geol. Soc., London, 162, p. 333-347.
(Mid-Cenozoic extension created ~40 basins in N Thailand, related to major strike-slip faults, during time of relatively humid climate. Li Basin continental facies basin fill, with economic coal deposits. Fluvial channel and muddy overbank facies during periods of high clastic input ; peat swamp and lacustrine facies when clastic input was lower. Trend towards drier conditions through Late Oligocene -Miocene)

Nieuwland, D.A. (1987)- The geology of the Sirikit oil field. In: P. Thanasuthipitak (ed.) Proc. Symp. Cenozoic basins Thailand: geology and resources, Chiang Mai 1984, p. 1-20.
(Sirikit oil field 1981 discovery in large, complex strike slip structure in E-M Miocene fluvial-lacustrine Lan Krabu Fm sediments of Phitsanoluk Basin. Estimated EUR 35 MBO)

Nishioka, Y., R. Hanta & P. Jintasakul (2013)- Note on giraffe remains from the Miocene of continental Southeast Asia. J. Science Technol. Mahasarakham Univ. (MSU) 33, 4, p. 365-377.
(online at: http://research.msu.ac.th/msu_journal/upload/articles/article441_98487.pdf)
(Bramatherium remains from Miocene deposits at Tha Chang sand pit, NE Thailand, and from Irrawaddy sediments, C Myanmar)

Nishioka, Y., H. Nakaya, K. Suzuki, B. Ratanasthien, P. Jintasakul, R. Hanta & Y. Kunimatsu (2016)- Two large rodents from the Middle Miocene of Chiang Muan, northern Thailand. Historical Biology 28, 1-2, p.
(Two large rodents from M Miocene (13.0- 12.4 Ma) from Chiang Muan Coal Mine, N Thailand (1) beaver (Anchitheriomys); (2) indeterminate larger rodent)

Nulay, P., C. Chonglakmani & Q. Feng (2015)- The provenances of the clastic Phu Khat Formation in the Nakhon Thai region constrained by the U-Pb detrital zircon age dating : Implications for geotectonics evolution. J. Geol. Soc. Thailand 1, p. 37-45.

Nulay, P., C. Chonglakmani & Q. Feng (2016)- Petrography, geochemistry and U-Pb detrital zircon dating of the clastic Phu Khat Formation in the Nakhon Thai region, Thailand: implications for provenance and geotectonic setting. J. Earth Science (China) 27, 3, p. 329-349.
(online at: http://en.earth-science.net/PDF/20160612012417.pdf)
(Late Cretaceous- E Tertiary Phu Khat Fm in Nakhon Thai region (between Nan-Uttaradit Suture/ Sukhothai Zone to W and Loei-Phetchabun Foldbelt/ Indochina Block to E). Sandstone unsorted texture and common unstable volcanic lithic fragments (recycled sediments and felsic volcanic rocks from M-L Triassic arc to W). Unconformably overlies mature sandstone of Late Cretaceous Khao Ya Puk Fm (mainly recycled sediments))

Nulay, P., C. Chonglakmani & W. Paengkaew (2014)- Lithostratigraphy of the Phu Khat Formation in Nakhon Thai Region, Thailand : preliminary result. Dept. Mineral. Resources (DMR), Annual Meeting 2014, Bangkok, 19p.

(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2557/8590.pdf)
(Phu Khat Fm is uppermost (Cretaceous) red bed in Nakhon Thai region. Alluvial fan and braided fluvial deposits overlie unconformably aeolian sandstone of Khao Ya Puk Fm. Thickness ~ 490m. Age not older than Campanian age and not younger than Ypresian)

Nutalaya, P., K.V. Campbell, A.S. MacDonald, P. Aranyakanon & P. Suthakorn (1979)- Review of the geology of Thai tin fields. In: C.H. Yeap (ed.) Proc. Int. Symp. Geology of tin deposits, Kuala Lumpur 1978, Bull. Geol. Soc. Malaysia 11, p. 137-159.
(online at: www.gsm.org.my/products/702001-101228-PDF.pdf)
(Tin belt of SE Asia extends for 2900km from Myanmar through Thailand, Malaysia to Indonesian tin islands; 1800km portion of belt lies in Thailand. Tin occurrences spatially associated with granites. Main plutonic episode in Thailand Late Permian- Jurassic, with apparent peak in Upper Triassic. Ten main tin districts)

Nutalaya, P. & J.L. Rau (1987)- Structural framework of the Chao Phraya Basin, Thailand. In: P. Thanasuthipitak (ed.) Proc. Symp. Cenozoic basins Thailand: geology and resources, Chiang Mai 1984, p. 106-129.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1984/7351.pdf)
(Chao Phraya Cenozoic basin with basement-and-range like basement relief of ~2000m, resulting from mostly normal and some strike slip faulting)

Okuzawa, K., K. Hisada, H. Hara, P. Charusiri & S. Arai (2009)- Basaltic sandstone from the Loei Suture, Northeast Thailand. J. Geol. Soc. Thailand 1, p. 1-10.
(online at: http://library.dmr.go.th/library/J-Index/2009/2972.pdf)
(Block of basaltic sandstone in outcrop of serpentinized and sheared dunite within Devonian metamorphic rocks along Loei suture between Indochina and Nakhon Thai continental blocks in NE Thailand. Probably emplaced in or before E Permian)

OóLeary, H. & G.S. Hill (1989)- Tertiary basin development in the Southern Central Plains, Thailand. In: T. Thanasuthipitak & P. Ounchanum (eds.) Int. Symposium on Intermontane basins: geology and resources, Chiang Mai, p. 254-264.

Orberger, B., G. Friedrich & P. Suchit (1989)- Platinum-group-element distribution in ultramafic, chromite, magnetite, and pyrrhotite, Nan-Uttaradit ultramafic belt, Northern Thailand: preliminary results. In: T. Thanasuthipitak & P. Ounchanum (eds.) Int. Symposium on Intermontane basins: geology and resources, Chiang Mai, p. 483-492.

Orberger, B., J. Girardeau, J.C.C. Mercier, J.P. Lorand & S. Pitragool (1993)- Ophiolithic chromitite from Nan-Uttaradit, Northern Thailand: a result of boninitic-type melt and peridotite interaction. In: A. Fenoll Hach-Ali et al. (eds.) Current research in geology applied to ore deposits, University of Granada, p. 197-201.

Orberger, B., J.P. Lorand, J. Girardeau, J.C.C.Mercier & S. Pitragool (1995)- Petrogenesis of ultramafic rocks and associated chromitites in the Nan Uttaradit ophiolite, Northern Thailand. Lithos 35, p. 153-182.
(NE-SW trending Nan Uttaradit ophiolite belt 150km long, 10km wide. Ophiolitic rocks as tectonic slices within sediments: Carboniferous-Triassic in W, Siluro-Devonian in SE, Jurassic in E and NE. Geochemistry of volcanics suggests formation above subduction zone)

Orliac, M., F. Guy, Y. Chaimanee, J.J. Jaeger & S. Ducrocq (2011)- New remains of *Egatochoerus jaegeri* (Mammalia, Suoidea) from the late Eocene of Peninsular Thailand. Palaeontology 54, 6, p. 1-
(New remains of suoid (pigs and peccaries) Egatochoerus jaegeri from late Eocene in Krabi basin)

Owen, R.B. & C. Utha-aroon (1999)- Diatomaceous sedimentation in the Tertiary Lampang Basin, Northern Thailand. J. Paleolimnology 22, 1, p. 81-95.
(Pliocene diatomite and diatomaceous clay in Ko Kha Fm of Lampang Basin, N Thailand. Lacustrine deposits with freshwater diatom floras dominated by Aulacoseira spp.)

Palin, R.M., M.P. Searle, C.K. Morley, P. Charusiri, M.S.A. Horstwood & N.M.W. Roberts (2013)- Timing of metamorphism of the Lansang gneiss and implications for left-lateral motion along the Mae Ping (Wang Chao) strike-slip fault, Thailand. J. Asian Earth Sci., 76, p. 120-136.
(Mae Ping fault in W Thailand, mainly left-lateral strike-slip motion. Previous studies suggested fault assisted extrusion of Sundaland in Late Eocene- E Oligocene, with offset of 120-150 km from displaced high-grade gneisses-granites of Chiang Mai-Lincang belt. Monazite from orthogneiss suggests two episodes of crystallization, core of ~123-114 Ma and rim of ~45-37 Ma, suggesting magmatic protolith emplacement for Lansang orthogneiss in E Cretaceous, with later metamorphism in Eocene)

Palin, R.M., M.P. Searle, D.J. Waters, M.S.A. Horstwood, R.R. Parrish, N.M.W. Roberts, M.S.A. Horstwood, M.W. Yeh & S.L. Chung (2013)- A geochronological and petrological study of anatect ic paragneiss and associated granite dykesfrom the Day Nui Con Voi metamorphic core complex, North Vietnam; constraints upon the timing of metamorphism within the Red River Shear Zone. J. Metamorphic Geol. 31, 4, p. 359-387.

Panjasawatwong, Y., S. Chantaramee, P. Limtrakun & K. Pirarai (1997)- Geochemistry and tectonic setting of eruption of Central Loei Volcanics in the Pak Chom Area, Loei, Northeast Thailand. In: P. Dheeradilok et al. (eds.) Int. Conf. Statigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok 1997, Dept. Mineral. Res., 1, p. 287-302.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1997/7639.pdf)
(At least four pre-Jurassic volcanic belts in Thailand. Late Devonian C Loei volcanics part of Loei- Petchabun-Phai Sali volcanic belt, representing mid-ocean ridge basalts (MORB) and oceanic island arc lavas)

Panjasawatwong, Y., B. Phajuy & S. Hada (2003)- Tectonic setting of the Permo-Triassic Chiang Khong volcanic rocks, Northern Thailand based on petrochemical characteristics. Gondwana Research 6, 4, p. 743-755.
(Inferred Permo-Triassic Chiang Khong volcanic belt felsic to mafic volcanic rocks and pyroclastic equivalents. Mafic volcanic rocks interpreted to have formed in continental volcanic arc)

Panjasawatwong, Y. & W. Yaowanoiyothin (1983)- Igneous rocks of Thailand: a review of plutonic rocks with intermediate-ultrabasic compositions and volcanic rocks. In: P. Nutalaya (ed.) Proc. Workshop Stratigraphic correlation of Thailand and Malaysia, Haad Yai 1983, Geol. Soc. Thailand and Geol. Soc. Malaysia, p. 233-243.
(online at: https://gsmpubl.files.wordpress.com/2014/10/sctm_13.pdf)

Panjasawatwong, Y. & W. Yaowanoiyothin (1993)- Petrochemical study of post-Triassic basalts from the Nan Suture, northern Thailand. J. Southeast Asian Earth Sci. 8, p. 147-158.
(Nan Suture metagabbros/ amphibolites and serpentinite melange represent Late Triassic collision suture between Shan-Thai and Indo-China cratons. With Carboniferous- Permo-Triassic ocean-island basalts, backarc basin and island-arc basalts and andesites, etc. Post-collisional, possibly Cenozoic, continental intraplate basalts form discontinuous narrow belt, disconformably above melange)

Panjasawatwong, Y., K. Zaw, S. Chantaramee, P. Limtrakun & K. Pirarai (2006)- Geochemistry and tectonic setting of the Central Loei volcanic rocks, Pak Chom area, Loei, northeastern Thailand. J. Asian Earth Sci. 26, p. 77-90.
(C Loei basalts and microgabbro are Late Devonian-E Carboniferous MOR Basalts and oceanic island-arc lavas, erupted on oceanic basement in same ocean basin as Chiang Rai- Chiang Mai volcanic belt)

Patience, R.L., S.L. Rodrigues, A.L. Mann & I.J.F. Poplett (1993)- An integrated organic geochemical and palynofacies evolution of a series of lacustrine sediments from Thailand. Proc. ASCOPE 93 Conference, Bangkok, p. 75-84.

Peigne, S., Y. Chaimanee, J.J. Jaeger, V. Suteethorn & S. Ducrocq (2000)- Eocene nimravid carnivorans from Thailand. J. Vertebrate Paleontology 20, p. 157-163.

(Dental remains of nimravid (sabre-toothed) carnivores from U Eocene Krabi Basin are among oldest known Nimravidae and attributed to Nimravus cf. intermedius and Hoplophoneus sp. Occurrence of nimravid carnivores in SE Asia implies exchanges between Asia and N America in Late Eocene)

Peigne, S., Y. Chaimanee, J.J. Jaeger, C. Yamee, P. Srisuk & B. Marandat (2006)- A new member of the Mustelida (Mammalia: Carnivora) from the Paleogene of Southern Asia. J. Vertebrate Paleontology 26, p. 788-793.
(New mustelid rodents from Late Oligocene in Nong Ya Plong lignite mine in C Thailand)

Perez-Huerta, A., C. Chonglakmani & A. Chitnarinc (2007)- Permian brachiopods from new localities in northeast Thailand: implications for paleobiogeographic analysis. J. Asian Earth Sci. 30, p. 504-517.
(Small E-M Permian brachiopod faunas from Khao Khwang limestone, Nam Duk Basin and Khao Khwang Platform confirm Cathaysian affinities for brachiopods and fusulinids in NE Thailand. Fossils in Nam Duk Fm molasse facies, also show possible Gondwanan relationships with brachiopod taxa described in Australia)

Petersen, H.I., A. Foopatthanakamol & B. Ratanasthien (2006)- Petroleum potential, thermal maturity and the oil window of oil shales and coals in Cenozoic rift-basins, central and northern Thailand. J. Petroleum Geol. 29, 4, p. 337-360.
(C and N Thailand Oligocene- E Miocene rift basins with oil shales deposited in fresh-brackish lakes, with TOC up to 44%. With abundant lamalginite and algal-derived amorphous organic matter, liptodetrinite and telalginite (Botryococcus-type). Coals dominated by huminite and formed in freshwater mires. Exposed coals thermally immature. Steep Vitrinite Reflectance curves from oil basins reflect high geothermal gradients of ~62°C/km and ~92°C/km. Depth to top oil window for oil shales (VR ~0.70%) between ~1100-1800m depending on gradient. Kerogen composition and high T gradients result in narrow oil windows)

Petersen, H.I. & A. Mathiesen (2007)- Determination of the temperature history for the U Thong oilfield area (Suphan Buri Basin, Central Thailand) using a realistic surface temperature. J. Petroleum Geol. 30, 3, p. 289-296.
(BP1-W2 well in oil-producing Suphan Buri Basin with likely geothermal gradient of ~42ºC/km. Predicts that onset of oil generation at 107ºC post-dated reservoir and trap formation in M-L Miocene times)

Petersen, H.I., H.P. Nytoft, B. Ratanasthien & A. Foopatthanakamol (2007)- Oils from Cenozoic rift-basins in central and northern Thailand: source and thermal maturity. J. Petroleum. Geol. 30, 1, p. 59-78.
(Oil produced from Suphan Buri (U Thong, Sang Kajai fields), Phitsanulok (Sirikit field) and Fang Basin (Fang field) in C and N Thailand. Most Cenozoic rift-basins 2-4 km deep, but Phitsanulok Basin deepest, with up to 8km basin-fill. Sirikit oil most mature. Oils highly waxy, generated from freshwater lacustrine source rocks with common algal material. Presence of cadalene, tetracyclic C24 compounds, oleanane, lupane, bicadinane, etc., indicate contributions from higher land plants, either disseminated in lacustrine facies or from associated coal seams. Thermally immature oil shales (lacustrine mudstones) and coals exposed in many Thai basins)

Petersen, H.I. & B. Ratanasthien (2011)- Coal facies in a Cenozoic paralic lignite bed, Krabi Basin, southern Thailand: changing peat-forming conditions related to relative sea-level controlled watertable variations. Int. J. Coal Geology 87, p. 2-12.
(Cenozoic Krabi Basin in S part of peninsular Thailand contains about 112 MTons proven coal reserves. Production from Bang Mark mine in S part of basin, where main lignite bed is 7-20m thick. Lignite low rank and dominated by huminite, indicating generally oxygen-deficient conditions in precursor mire. Lower part of lignite bed topogenous fresh water peat mire, subjected to periodic inundations and deposition of siliciclastics. Upper part of lignite bed represents slightly domed fresh water ombrogenous peat mire)

Phajuy, B., Y. Panjasawatwong & P. Osataporn (2005)- Preliminary geochemical study of volcanic rocks in the Pang Mayao area, Phrao, Chiang Mai, northern Thailand: tectonic setting of formation. J. Asian Earth Sci. 24, p. 765-776.
(Permian mafic volcanic rocks from Pang Mayao, Chiang Rai- Chiang Mai volcanic belt, are mid-ocean ridge and ocean-island basalts, possibly remnants of consumed Paleotethys Ocean)

Philippe, M., N. Boonchai, D.K. Ferguson, Hui Jia & W. Songtham (2013)- Giant trees from the Middle Pleistocene of Northern Thailand. Quaternary Science Reviews 65, 1, p. 1-4.
(Giant silicified trees in M Pleistocene gravel terraces of Ping River, 20 km N of Tak, N Thailand, with longest log 72.2m. Most trees belong to Koompassioxylon elegans. Part of >100m tall tropical- subtropical rainforest Lannathaian pebble tools (presumably from Homo erectus) from coeval beds in same area. Overlying basalts K/Ar dated at 0.6± 0.2 and 0.8 ±0.2 Ma)

Philippe, M., G. Cuny, V. Suteethorn, N. Teerarungsigul, G. Barale, F. Thevenard et al. (2005)- A Jurassic amber deposit in Southern Thailand. Historical Biol. 17, p. 1-6.
(First Jurassic deposit with cm-sized pieces of amber, in M-L Jurassic paralic Khlong Min Fm of S Peninsular Thailand. Associated wood fossils Agathoxylon and Brachyoxylon, leaves of genus Cupressinocladus (not Frenelopsis as suggested by Asama et al. 1981). Amber from dense forest surrounding coastal lake dominated by resin-producing Agathoxylon trees)

Philippe, M., V. Daviero-Gomez & V. Sutheethorn (2009)- Silhouette and palaeoecology of Mesozoic trees in Thailand. In: E. Buffetaut et al. (eds.) Late Palaeozoic and Mesozoic ecosystems in SE Asia. Geol. Soc., London, Spec. Publ. 315, p. 85-96.
(Large M Jurassic- E Cretaceous conifer logs from forest environments with different types of architecture)

Philippe, M., V. Sutheethorn & E. Buffetaut (2010)- Revision de *Brachyoxylon rotnaense* Mathiesen, description de *B. serrae* n. sp. et consequences pour la stratigraphie du Cretace inferieur d'Asie du Sud-Est. Geodiversitas 33, 1, p. 25-32.
(online at: http://sciencepress.mnhn.fr/sites/default/files/articles/pdf/g2011n1a2.pdf)
('Reappraisal of Brachyoxylon rotnaense Mathiesen, description of B. serrae n. sp. and stratigraphical implications for SE Asia Early Cretaceous stratigraphy'. Mesozoic beds of Muang Phalan basin in S Laos continuation of Thailand Khorat Gp. (Khok Kruat Fm). With wood fossils formerly assigned to Brachyoxylon rotnaense, known from E Jurassic of Denmark, but associated vertebrate fossils indicate Aptian age. Laos material not same as European species and here described as B. serrae n. sp.. In Thailand B. serrae associated with endemic SE Asian E Cretaceous flora, with indicators of tropical climate with seasonal rainfall)

Philippe, M., V. Sutheethorn, P. Lutat, E. Buffetaut, L. Cavin, G. Cuny & G. Barale (2004)- Stratigraphical and palaeobiogeographical significance of fossil wood from the Mesozoic Khorat Group of Thailand. Geol. Magazine 141, p. 319-328.
(Fossil wood common in poorly dated continental sediments of Khorat Gp, NE Thailand. Agathoxylon (formerly Araucarioxylon), Brachyoxylon, etc., suggest relationships with Indochina, especially Vietnam, and suggest M Jurassic- E Cretaceous age. Trees grew along streams in arid climate, becoming wetter during deposition of upper formations of Khorat Gp)

Pia, J. von (1930)- Upper Triassic fossils from the Burmo-Siamese frontier. A new dasycladacea, *Holosporella siamensis* nov. gen., nov. spec., with a description of the allied genus *Aciculella* Pia. Records Geol. Survey India 63, p. 177-181.

Pinyo, K. (2010)- Petroleum system of the Chum Saeng Formation, Phitsanulok Basin, Thailand. M.Sc.Thesis, Colorado School of Mines, p. 1-123.
(online at: http://digitool.library.colostate.edu/..)
(Chum Saeng Fm of Phitsanulok Basin, C Thailand, E Miocene organic-rich lacustrine shale, 50-400m thick)

Pinyo, K. (2011)- Unconventional petroleum system evaluation of the Chum Saeng Formation, Phitsanulok Basin, Thailand. Proc. Int. Conf. Geology, geotechnology and mineral resources of Indochina (GEOINDO 2011), Khon Kaen, p. 267-280.

Pitakpaivan, K. (1959)- Preliminary study of fusulinid foraminifera from the Permo-Carboniferous of Thailand. Ph.D. Thesis, University of Cambridge, p. 1-188.

(online at: http://library.dmr.go.th/library/DMR_Technical_Reports/1959/4495.pdf)

Pitakpaivan, K. (1965)- Fusulines of the Rat Buri limestone of Thailand. Mem. Fac. Science Kyushu University, D (Geology), 17, 1, p. 3-69.
(Permian Rat Buri Limestone widespread across Thailand. With 25 species, 11 genera of fusulinid foraminifera, ranging in age from Sakmarian (Pseudoschwagerina assemblage)- Artinskian (Schwagerina and Neofusulinella)- Kungurian (Parafusulina) to Kazanian (Neoschwagerina). In many places Rat Buri Lst unconformably over intensely folded clastic series)

Pitakpaivan, K. (1966)- Fusulines of the Rat Buri limestone of Thailand. Bangkok (Thailand). In: T. Kobayasi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 2, p. 63-129.
(Same paper as Pitakpaivan (1965) above)

Pitakpaivan, K. (1969)- Tin-bearing granite and tin-barren granite in Thailand. Proc. Second Technical Conference on Tin, 1, Tin Council, Bangkok, p. 284-298.

Pitakpaivan, K. & R. Ingavat (1980)- *Lepidolina multiseptata* Deprat in Thailand. In: T. Kobayashi, R. Toriyama et al. (eds.) Symposium on the geology and paleontology of SE Asia, Tsukuba 1978, Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 21, p. 37-42.
(First record of Permian fusulinid Lepidolina multiseptata from M or U Permian limestone blocks of border region between E Thailand- Cambodia (= part of E Malaya/ Indochina province). Associated with 11 other genera, incl. Yabeina, Neoschwagerina, Verbeekina, Chusenella, etc.)

Pitakpaivan, K., R. Ingavat & P. Pariwatvorn (1969)- Fossils of Thailand. vol. 1. Dept. Mineral Res. Thailand, Bangkok, Geol. Survey Memoir 3, 1, p. 1-67.
(online at: http://library.dmr.go.th/library/DMR_Technical_Reports/1969/4814.1_1.pdf)
(Listings of fossils known from Thailand: Cambrian trilobite-brachiopod shale off W Peninsular Thailand, Ordovician cephalopod limestone, Silurian Tentaculites and graptolite shale, no known Devonian fossils, Carboniferous- Permian (numerous localities with fusulinid limestones), Triassic, Jurassic- Cretaceous (rel. rare marine fossils), Tertiary (in isolated intermontane basins only). With descriptions and illustrations of Permian fusulinids and corals)

Pitakpaivan, K., R. Ingavat & P. Pariwatvorn (1969)- Fossils of Thailand, vol. 2. Dept Mineral Res. Thailand, Bangkok, Geol. Survey Memoir 3, 2, p. 1-65.
(online at: http://library.dmr.go.th/library/DMR_Technical_Reports/1969/4814.1_2.pdf)
(Continuation 1 of fossils known from Thailand: descriptions and illustrations of brachiopods (incl. Permian Leptodus tenuis) and molluscs (Daonella sumatrensis, Halobia, etc.), incl. ammonoids of Permian (Agathiceras), Late Triassic-E Jurassic Clathropteris)

Pitakpaivan, K., R. Ingavat & P. Pariwatvorn (1969)- Fossils of Thailand, vol. 3. Dept Mineral Res. Thailand, Bangkok, Geol. Survey Memoir 3, 3, p. 1-41.
(online at: http://library.dmr.go.th/library/DMR_Technical_Reports/1969/4814.1_3.pdf)
(Continuation 2 of fossils known from Thailand: descriptions and illustrations of Cambrian trilobites(Pagodia, Thailandium), Carboniferous trilobites (Thaiaspis, Phillipsia, Proetus), Ordovician-Silurian graptolites, Pliocene- Pleistocene vertebrates (Stegolophodon). Also plant fossils: Permian 'Cathaysian' Pecopteris, Alethopteris, Sphenophyllum, Cordaites and Taeniopteris spp., Late Triassic-E Jurassic Clathropteris, Cretaceous Araucaryoxylon from Khorat series, U Cretaceous- Paleogene Sequoia, Taxodium, etc.)

Pitsanupong, K., U. Klotzli, P. Charusiri & E. Klotzli (2011)- LA-MC-ICP-MS U-Pb zircon geochronology of the Lan Sang and Nong Yai gneisses, Thailand. Proc. Int. Conf. Geology, geotechnology and mineral resources of Indochina (GEOINDO 2011), Khon Kaen, p. 62-65.
(Gneisses of different U-Pb zircon ages in two different NW-SE sinistral strike slip faults: (1) Lan Sang gneiss (Mae Ping fault zone; associated with Shan-Thai - Indochina microcontinent collision?) in N Thailand with Triassic metamorphism and (2) Nong Yai Gneiss (Klaeng fault zone) in E Thailand in Cretaceous)

Piyasin, S. (1971)- Marine Triassic sediments of Northern Thailand. Geol. Soc. Thailand, Newsl. 4, p. 12-30.

Piyasin, S. (1973)- Review of the Lampang group. Proc. Conf. Geology and mineral deposits of Thailand, 1, p. 101-107.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1975/7339.pdf)
(Marine lower-upper Triassic rocks of W Thailand united in Lampang Gp. Incl. M Triassic limestone, deeper marine deposits with Daonella, etc.)

Piyasin, S. (1980)- Tentative correlation of the Lower Paleozoic stratigraphy of western part of southern Shan State, Burma, and Northwestern through Peninsular of Thailand. In: T. Kobayashi, R. Toriyama et al. (eds.) Symposium on the geology and paleontology of SE Asia, Tsukuba 1978, Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 21, p. 19-24.
(Lower Paleozoic sedimentary succession of all of W Thailand (= Sibumasu Block; JTvG) extends N-ward to Shan State of Burma. Upper Cambrian sediments with trilobites unconformable of Precambrian metamorphics. Ordovician rocks mainly limestones, with common straight nautiloids Armenoceras and Ormoceras. Basin subsidence in Silurian and Devonian, with graptolite shales (Monograptus, Climacograptus), thin limestones, bedded chert)

Piyasin, S. (1981)- Reef limestone of Lower Permian at Ban Na Charoen, Northeastern Thailand. J. Geol. Soc. Thailand 4, p. 13-22.
(online at: http://library.dmr.go.th/library/J-Index/1981/64.pdf)

Piyasin, S. (1995)- The hydrocarbon potential of Khorat Plateau. Proc. Int. Conf. Geology Geotechnology and Mineral Resources of Indochina p. 551-562.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1995/7460.pdf)

Polachan, S., W. Chantong, P. Srisuwon, P. Kaewkor & C. Praipiban (2010)- Petroleum potential of the Khorat Plateau, Thailand. Proc. Thai-Lao Technical Conf. Geology and mineral resources, Bangkok, p. 42-63.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2010/25973.pdf)
(Petroleum exploration of Khorat Plateau since 1962. 41 wells drilled, only two are gas discoveries, in Permian carbonate reservoirs (Nam Phong and Sin Phu Hom fields; Esso 1981,1982). Source rocks mainly Late Carboniferous rocks)

Polachan, S., S. Pradidtan, C. Tongtaow, S. Janmaha, K. Intarawijitr & C. Sangsuwan (1991)- Development of Cenozoic basins in Thailand. Marine Petroleum Geol. 8, p. 84-97.
(>60 Cenozoic onshore and offshore basins in Thailand, mainly N-S trending half grabens, initiated in Late Oligocene. N-S trending extensional faults, related to NW-SE dextral and NE-SW conjugate sinistral strike-slip faults, active since Oligocene and tied to CW rotation of SE Asia after India with S Asia collision. Four main basins (Mergui, Pattani, Malay, Phitsanulok), with up to 8 km of sediments. Mainly continental facies, except in Mergui Basin in Andaman Sea, where fill is mainly marine. Widespread perennial lake conditions onshore and in Western Graben Area of Gulf of Thailand. Change in tectonic and climatic conditions in M-L Miocene, resulting in cessation of lake conditions and development of regional unconformity)

Polachan, S. & N. Sattayarak (1989)- Strike-slip tectonics and the development of Tertiary basins in Thailand. In: T. Thanasuthipitak & P. Ounchanum (eds.) Int. Symposium on intermontane basins, geology and resources, Chiang Mai, p. 243-253.

Polahan, M. & V. Daorerk (1993)- Report on aditional discovery of dinosaur's footprints in Thailand. In: T. Thanasuthipitak (ed.) Int. Symposium Biostratigraphy of mainland Southeast Asia: facies and paleontology (BIOSEA), Chiang Mai 1993, 1, p. 225-230.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1993/6789.pdf)

Pollard, P.J., S. Nakapadungrat & R.G. Taylor (1995)- The Phuket Supersuite Southwest Thailand fractionated I-type granites associated with tin-tantalum mineralization. Economic Geology 90, 3, p. 586-602.
(Granites in Phuket-Ranong region of SW Thailand, some with extensive tin (-tantalum) mineralization, form part of Phuket Supersuite. Half of world tin production and significant part of tantalum production from mineralization related to granites which may have been derived from fractionation of I-type magmas)

Pongsapich, W., P. Charusiri & S. Vedchakanchana (1983)- Reviews of metamorphic rocks of Thailand. In: P. Nutalaya (ed.) Proc. Workshop Stratigraphic correlation of Thailand and Malaysia, Haad Yai 1983, Geol. Soc. Thailand and Geol. Soc. Malaysia, p. 244-252.
(online at: https://gsmpubl.files.wordpress.com/2014/10/sctm_14.pdf)

Pongsapich, W. & C. Mahawat (1977)- Some aspects of Tak Granites, northern Thailand. Geol. Soc. Malaysia. Bull. Geol. Soc. Malaysia 9, p. 175-186.
(online at: www.gsm.org.my/products/702001-101292-PDF.pdf)
(N-S trending Tak Batholith near Changwat Tak in NW Thailand >4000 km2, with 4 granitoid types. Minimum emplacement age Triassic.)

Pongsapich, W., V. Pisutha-Arnond & P. Charusiri (1983)- Review of felsic plutonic rocks of Thailand. In: P. Nutalaya (ed.) Proc. Workshop Stratigraphic correlation of Thailand and Malaysia, Haad Yai 1983, Geol. Soc. Thailand and Geol. Soc. Malaysia, p. 213-232.
(online at: https://gsmpubl.files.wordpress.com/2014/10/sctm_12.pdf)
(Granitic rocks in Thailand in three main parallel belts: Eastern (Triassic), Central (Triassic), and Western (Cretaceous))

Pongsapich, W., S. Vedchakanchana & P. Pongprayoon (1980)- Petrology of the Praburi-Hin Metamorphic Complex and geochemistry of gneisses in it. Bull. Geol. Soc. Malaysia 12, p. 55-74.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1980005.pdf)

Prادidtan, S. (1989)- Characteristics and controls of lacustrine deposits of some Tertiary basins in Thailand. In: T. Thanasuthipitak & P. Ounchanum (eds.) Int. Symp. on Intermontane basins: geology and resources, Chiang Mai 1989, p. 133-145.
(Petrography and geochemistry of high-grade metamorphic gneiss complexes of NE Peninsular Thailand: Some of sedimentary, some of igneous origin)

Pradidtan, S. (1995)- Petroleum exploration in Northeastern Thailand: the revealed results and its potential. Proc. Int. Conf. Geology, Geotechnology and Mineral Resources of Indochina (Geo-Indo '95), Khon Kaen University 1995, p. 589-599.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1995/7463.pdf)

Pradidtan, S., S. Jaroonsitha & Y. Gonecome (1999)- Petroleum systems of the petroliferous basins in Thailand. In: Proc. Symposium Mineral, energy and water resources of Thailand: towards the year 2000, Bangkok 1999, p. 557-563
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1999/6769.pdf)
(Tertiary basins of Thailand two major source systems: (1) Oligocene- E Miocene synrift lacustrine source (Phitsanulok, Fang, Suphan Buri, Songkhla and other small oil-bearing basins); (2) M Miocene fluvial gas-prone system (Pattani, North Malay). In depocenters of large Pattani and North Malay Basinonset of main generation in E Miocene, predating Miocene structural closures)

Punpate, N., S. Pailoplee, I. Takshima & P. Charusiri (2005)- Ages of layered tektites and tektite- bearing sediments in Buntharik Area, Ubonratchathani, Northeast Thailand. Proc. Int. Conf. Geology Geotechnology and Mineral Resources of Indochina (Geo-Indo), Khon Kaen, p. 517-523.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2005/9369.pdf)

(Layered tektites from 0.7-1m thick pebble bed in Unit 4 of alluvial deposits in E-most Khorat Plateau. Size 1-5 cm, with average thermoluminescence age of ~850 ka. Younger ages of surrounding sediments suggests probable reworking of tektites)

Punya, P., P. Charusiri & P. Putthapiban (2007)- Tectonic evolution of the Kampaengsaen Basin, Nakorn Pathom, Central Thailand from PTTEP seismic data. In: W. Tantiwanit (ed.) Int. Conf. on Geology of Thailand: towards sustainable development and sufficiency economy (GEOTHAIô07), Bangkok, Dept. Mineral Resources, p. 331-337.
(Kampaengsaen basin onshore Tertiary sedimentary basins in C Thailand, ~70 km NW of Bangkok. With minor oil production since 1991. Half-graben with N-S trending bounding faults)

Putthapiban, P. (1984)- Geochemistry, geochronology and tin mineralization of Phuket granites, Phuket, Thailand. Ph.D. Thesis La Trobe University, Melbourne, p. 1-435.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/1984/4609.pdf)

Putthapiban, P. (1992)- The Cretaceous- Tertiary granite magmatism in the West coast of Peninsular Thailand and the Mergui Archipelago of Myanmar/ Burma. In: C. Piancharoen (ed.) Proc. Nat. Conf. on Geologic resources of Thailand: potential for future development, Bangkok, p. 75-88.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1992/6182.pdf)
(Cretaceous granites along W coast of Peninsular Thailand and along Myanmar- Thai border. Rb/Sr and K-Ar ages vary from ~72- 51 Ma, fission track ages ~55, 43 Ma, possibly reflecting slow cooling after emplacement)

Putthapiban, P. (2002)- Geology and geochronology of the igneous rocks of Thailand. In: N. Mantajit (ed.) Proc. Symposium on the Geology of Thailand, Bangkok 2002, Dept. Mineral Resources, Bangkok, p. 261-283.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2002/6404.pdf)
(Thai granites in 3 major belts, tounging to W from Triassic to Late Cretaceous: (1) Eastern Belt (Triassic, I-type/magnetite series; rel. common gold), (2) Central Belt (Triassic, S-type, ilmenite series; with tin- tungsten) and (3) Western belt (Cretaceous; mainly S-, minor I-type; with tin-tungsten, REE minerals). Ultramafic suites (E Permian+) in 3 discontinuous strips, representing Paleo-Tethys suture, from N to S: (1) Pha Som (Nan-Uttaradit), (2) Sra Kaeo and (3) Narathiwat. Volcanic rocks, etc.)

Putthapiban, P. & C.M. Gray (1983)- Age and tin-tungsten mineralization of the Phuket granites, Thailand. Conference on Geology and mineral resources of Thailand, Bangkok, p. 30-39.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1983/10576.pdf)
(Four different granite suites at Phuket, W side of Peninsular Thailand. Rb/Sr ages ~83-94 Ma (Late Cretaceous). Age of tin-tungsten mineralization rel. late, ~84 Ma)

Qian, X., Q.L. Feng, C. Chonglakmai & D. Monjai (2013)- Geochemical and geochronological constrains on the Chiang Khong volcanic rocks (northwestern Thailand) and its tectonic implications. Frontiers of Earth Science 7, p. 508-521.
(M Triassic volcanic rocks in Chiang Khong area at NW Thailand- Laos border genetically linked to tectonic evolution of Paleo-Tethyan Ocean. Mainly of andesitic to rhyolitic rocks. Andesitic samples of Doi Yao volcanic zone with zircon U-Pb ages of ~241 Ma and of arc volcanic affinity. Rhyolitic sample ~239 Ma and transitional arc-syncollisional chemistry. Most samples comparable to Lampang area in N Thailand and Jinghong area of SW Yunnan, indicating Chiang Rai arc-volcanic zone might link to Lancangjiang volcanic zone, SW China)

Qian, X., Q. Feng, Y. Wang, T. Zhao, J.W. Zi, M. Udchachon & Y. Wang (2017)- Late Triassic post-collisional granites related to Paleotethyan evolution in SE Thailand: geochronological and geochemical constraints. Lithos 286-287, p. 440-453.
(Chonburi, Rayong-Bang Lamung and Chanthaburi granite plutons in SE Thailand similar crystallization ages of 222-218 Ma (Norian, Late Triassic). Geochemically classified into S-type (Group 1; mainly from ancient greywackes) and I-type (Group 2; from juvenile mafic crust with input of meta-sediments) granites. Formed in post-collisional thickened crust after assemblage of Indochina and Sibumasu blocks. Linked to N with Late Triassic granitoids in NW Thailand (Sukhothai zone), to S with East Malay Peninsula granites)

Qian, X., Y. Wang, Q. Feng, J.W. Zi, Y. Zhang & C. Chonglakmani (2016)- Petrogenesis and tectonic implication of the Late Triassic post-collisional volcanic rocks in Chiang Khong, NW Thailand. Lithos 248-251, p. 418-431.
('Post-collisional' Late Triassic Chiang Khong volcanics of ~220-229 Ma, younger than continental-arc and syn-collisional volcanic rocks (~238-242 Ma). Equivalent to volcanic rocks in Lancangjiang igneous zone in SW China and possibly related to upwelling of asthenospheric mantle shortly after slab detachment, which induced melting of metasomatized mantle wedge)

Qian, X., Y. Wang, Q. Feng, J.W. Zi, Y. Zhang & C. Chonglakmani (2017)- Zircon U-Pb geochronology, and elemental and Sr-Nd-Hf-O isotopic geochemistry of post-collisional rhyolite in the Chiang Khong area, NW Thailand and implications for the melting of juvenile crust. Int. J. Earth Sciences 106, 4, p. 1375-1389.
(Widespread Triassic volcanic rocks Chiang Khong-Lampang-Tak igneous zone in NW Thailand (part of Sukhothai Arc). Rhyolite with zircon U-Pb age of 230.7 ± 1.1 Ma. Rhyolites formed by partial melting of juvenile mafic lower crust in post-collisional setting. Deep crustal anatexis probably induced by upwelling asthenospheric mantle, shortly after slab detachment subsequent to closure of Paleo-Tethys)

Qian, X., Y. Wang, B. Srithai, Q. Feng, Y. Zhang, J.W. Zi & H. He (2017)- Geochronological and geochemical constraints on the intermediate-acid volcanic rocks along the Chiang Khong-Lampang-Tak igneous zone in NW Thailand and their tectonic implications. Gondwana Research 45, p. 87-99.
(*Lampang-Den Chai area volcanic suite in NW Thailand intermediate- acid rocks with zircon U-Pb ages of ~240-242 Ma (M Triassic). Sequence dominated by calc-alkaline andesites, dacites and rhyolites. Formed in response to slab roll-back during transition from subduction to continental collision between Sibumasu and Indochina blocks. Constitute part of Chiang Khong- Lampang- Tak igneous zone, extending N to Lancangjiang igneous zone and S to Chanthaburi, Malaysia and Singapore areas)*

Qian, X., H. Wei, Y. Wang & Q.L. Feng (2012)- Zircon U-Pb age and geological significance of arc-volcanic rocks in Chiang Khong, northern Thailand. J. China University of Geosciences 37, p. 195-203.
(Common Permian- Triassic volcanic rocks in Chiang Khong area of N Thailand. Zircon ages of basaltic andesite samples from Doi Yao zone 241 ±6 Ma. Rhyolite from Doi Khun Ta Khuan zone 238± 9Ma. M Triassic ages comparable to arc-volcanic rocks in Lampang area, N Thailand (Chiang Rai Arc) and Jinghong area, SW Yunnan (Lancangjiang arc). Also zircons of 1885- 1323 Ma, indicating Proterozoic-Mesoproterozoic basement)

Racey, A. (2009)- Mesozoic red bed sequences from SE Asia and the significance of the Khorat Group of NE Thailand. In: E. Buffetaut et al. (eds.) Late Palaeozoic and Mesozoic ecosystems in SE Asia. Geol. Soc., London, Spec. Publ. 315, p. 41-67.
(Much of Khorat Gp of NE Thailand is Early Cretaceous, rather than Late Triassic- E Cretaceous. Jurassic absent. Khorat Gp deposited in foreland basin, not thermal sag following Late Triassic rifting. Two 'Indosinian' orogenies recognized, one in Late Permian- Triassic (along Nan-Uttaradit suture/ Petchabun foldbelt/ Bentong-Raub suture), followed by Late Triassic rifting, followed by second tectonic event near end-Triassic)

Racey, A. (2011)- Petroleum geology. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, p. 351-392.

Racey, A. (2011)- Petroleum geology of Thailand- an overview. Proc. 4th Petroleum Forum: Approaching to the 21st Petroleum concession bidding round, Bangkok 2011, Department of Mineral Fuels, p. 61-63.
(online at: www.dmf.go.th/cms/assets/1/The%204th%20(DMF)%20Petroleum%20Forum%20Proceeding.pdf)
(Petroleum geology of Thailand four main areas (1) Gulf of Thailand, 13 basins, 4 with hydrocarbons (Pattani, Malay, Chumphon, Songkhla) in E-M Miocene fluvial sands, sourced from Oligocene lacustrine shales and E-M Miocene coals and lacustrine mudstones; (2) Onshore C- N Thailand Tertiary Basins: apart from Phitsanulok Basin small basins; (3) NE Thailand Khorat Plateau: principal exploration targets faulted Permian carbonates-sandstones and Late Triassic non-marine siliciclastics; (4) W Offshore Thailand Mergui Basin: no commercial discoveries yet, gas prone, stratigraphy similar to N Sumatra Basin but thicker Late Miocene-Pleistocene)

Racey, A., I.R. Duddy & M.A. Love (1997)- Apatite fission track analysis of Mesozoic red beds from northeastern Thailand and western Laos. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Dept. Mineral Resources, Bangkok, 1, p. 200-209.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1997/7641.pdf)
(AFT analyses on Early Cretaceous fluvial sandstones from NE Thailand and SW Laos (incl. Khorat Plateau). Max. paleo-T before cooling >120° during burial. Cooling started at ~55 Ma for most samples, with possible final cooling to present outcrop between 35-25 Ma (Oligocene))

Racey, A. & J.G.S. Goodall (2009)- Palynology and stratigraphy of the Mesozoic Khorat Group of NE Thailand. In: E. Buffetaut et al. (eds.) Late Palaeozoic and Mesozoic ecosystems in SE Asia, Geol. Soc., London, Spec. Publ. 315, p. 67-81.
(Most of NE Thailand Khorat Group redbeds of (Late Jurassic?-) Cretaceous age; Jurassic mostly absent. Khorat Gp overlies Late Triassic Nam Phong Fm and is unconformably overlain by continental evaporitic Maha Sarakham Fm, palynologically dated as M Albian-Cenomanian. Khorat Gp palynomorphs dominated by gymnosperm pollen Corollina (= Classopollis) spp. and Dicheiropollis, indicating warm, seasonally dry subtropical climate)

Racey, A., J.G.S. Goodall, M.A. Love, S. Polachan & P.D. Jones (1994)- New age data for the Mesozoic Khorat Group of Northeast Thailand. In: P. Angsuwathana et al. (eds.) Proc. Int. Symp. Stratigraphic correlation of Southeast Asia, Bangkok 1994, Dept. Mineral Res.and IGCP 306, p. 245-252.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1994/6950.pdf)
(Age of much of Khorat Gp (Late Jurassic?-) Early Cretaceous, not Jurassic). Lowermost formation of Khorat Gp (Nam Phong Fm) dated as latest Norian- Rhaetian (Ovalipoliis ovalis))

Racey, A., P.J.C. Highton, T. Lekuthai, A. Alderson & S. Polachan (1997)- Mesozoic oils and source rocks from Peninsular Thailand. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Dept. Mineral Resources, Bangkok, 2, p. 511-524.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1997/7651.pdf)
(Oil-gas source rocks of mainly of E Cretaceous age at several localities in S Peninsular Thailand. Variety of fluvial, lacustrine, restricted marine and open marine environments. TOC 0.22-30%, S2 values 0.35-298 mg/g and HI 50-928 mg/g TOC. Tmax data indicate many samples are in oil window. Oil extracted from seep in E Cretaceous limestone near Phru Toei with biomarker profiles of lacustrine source. Absence of oleanane suggests oil from pre M Cretaceous source rock. Gulf of Thailand oils studied do contain oleanane)

Racey, A., M.A. Love, A.C. Canham, J.G.S. Goodall, S. Polachan & P.D. Jones (1996)- Stratigraphy and reservoir potential of the Mesozoic Khorat Group, NE Thailand: Part 1: Stratigraphy and sedimentary evolution. J. Petroleum Geol. 19, 1, p. 5-39.
(Nam Phong Fm dated for first time as Late Norian- Rhaetian, while overlying Khorat Gp reassigned to Early Cretaceous (Berriasian- Aptian). Age of intervening Phu Kradung Fm probably Late Jurassic or E Cretaceous. Changes in provenance between Nam Phong and overlying Phu Kradung Fm suggest possible sedimentary hiatus. Paleocurrent data suggest main source from N and E. Part 2 of series see Canham et al. 1996)

Racey, A., A.B. Smith & O. Dawson (1994)- Permian echinoderms from Peninsular Thailand. In: P. Angsuwathana et al. (eds.) Proc. Int. Symp. Stratigraphic correlation of Southeast Asia, Bangkok 1994, IGCP 306, Dept. Mineral Resources, p. 106-114.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1994/6941.pdf)
(Four species of crinoid (Trimerocrinus, Parabursacrinus, Timorocidaris, etc.) and one blastoid (Deltoblastus permicus) described for first time from Ratburi Lst of Peninsular Thailand. All taxa previously known mainly or only from E-M Permian of Basleo, Timor, suggesting Peninsular Thailand and Timor (Maubisse Lst) were in same faunal province around Artinskian time. Associated with Tubiphytes and 'mid-Permian' foraminifera, including Shanita amosi, Hemigordiopsis renzi, Hemigordius reicheli, Parafusilina sp., etc.)

Racey, A., R.B. Stokes, P. Lovatt Smith & M.A. Love (1997)- Late Jurassic collision in northern Thailand and the significance of the Khorat Group. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, 1, p. 412-413. *(Extended Abstract)*
(Khorat Gp of NE Thailand commonly assumed to be of Late Triassic- E Cretaceous age, but here argued to include only Late Triassic and E Cretaceous sediments. Possibly reflects Late Jurassic collisional event (Sibumasu- Indochina collision)

Raksaskulwong, L. (2002)- Upper Paleozoic rocks of Thailand. In: Proc. Symposium on Geology of Thailand, Bangkok, p. 29-34.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2002/6373.pdf)
(Brief review of Carboniferous- Permian stratigraphy of Thailand)

Ramingwong, T. (1978)- A review of the Khorat Group of Thailand. In: P. Nutalya (ed.) Proc. 3rd Regional Conf. Geology and Mineral Resources of SE Asia (GEOSEA III), Bangkok, p. 763-774.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1978/7414.pdf)
(Review of Khorat Group of NE Thailand. Rel. undeformed Late Triassic- Cretaceous non-marine redbeds-dominated series, unconformably over Paleozoic rocks. With up to 610m of ?Upper Cretaceous evaporites)

Randon, C., N. Wonganan, M. Caridroit, M.F. Perret-Minouse & J.M Degardin (2006)- Upper Devonian-Lower Carboniferous conodonts from Chiang Dao cherts, northern Thailand. Rivista Italiana Paleont. Strat. 112, 2, p. 191-206.
(online at: www.rivistaitalianadipaleontologia.it/doc/Randon_et_al_2006.pdf)
(U Devonian (Frasnian) -Lower Carboniferous conodonts from Paleotethys oceanic cherts in Chiang Dao chert (= 'Fang Chert'; Shan-Tai Block, N of Chiang Mai)

Ratanasthien, B. (1984)- Spore and pollen dating of some Tertiary coal and oil deposits in Northern Thailand. In: Conf. Applications of geology at the National Development Chulalongkorn University, Bangkok 1984, p. 273-280.
(online at: http://library.dmr.go.th/library/7247.pdf)

Ratanasthien, B. (1997)- Algae types of oil source rocks in northern Thailand. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Dept. Mineral Resources, Bangkok, 2, p. 606-612
(Lacustrine oil shales in multiple Tertiary rift basins of NW Thailand dominated by Alginite B with disseminated Alginite A (Botryococcus brownii, Pila, Reinschia algae). Also Pediastrum)

Ratanasthien, B. (1999)- Association of oil source algae in some Tertiary basins, northern Thailand. J. Asian Earth Sci. 17, 1-2, p. 295-299.
(N Thailand Tertiry rift basins with coals and oil shales. In lower part e Tertiary (especially in Fang oilfield), mainly alginite A (Botryococcus sp.) only type of algae, changing upward into association of Botryococcus braunii, Pila,, thick-walled alginite B, and temperate palynomorphs (Late Oligocene?- E Miocene). In upper section alginite B dominant with Botryococcus-related taxa Pila, Reinschia and fresh-water-dwelling ferns)

Ratanasthien, B. (2002)- Problems of Neogene biostratigraphic correlation in Thailand and surrounding areas. Revista Mexicana Ciencias Geol. 19, 3, p. 235-241.
(online at: http://rmcg.unam.mx/19-3/(10)Ratanasthien.pdf)
(Main correlation tools in Thailand Neogene are vertebrate fossils and palynology)

Ratanasthien, B. (2005)- Evidences of tectonic evolution during Miocene. In: L. Wannakao et al. (eds.) Int. Conf. Geology Geotechnology and Mineral Resources (GEOINDO 2005), Khon Khaen, p. 615-621.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2005/9386.pdf)
(Tertiary basins in Thailand and Myanmar record change from temperate flora in lower part to subtropical-tropical, implying SE-ward movement towards Equator))

Ratanasthien, B. (2011)- Coal deposits. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, p. 393-414.

Ratanasthien, B., S. Chomproosi & T. Mahatthanachai (1997)- Deposition environment of Mae Moh Basin as indicated by coal petrography. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Dept. Mineral Resources, Bangkok, 2, p. 596-605.
(Mae Moh basin rel. small N-S trending Tertiary rift basin E of Lampang, with rel.common coal deposits (lignite- subbituminous) in fluvial-lacustrine ?Neogene section. Formed on Lampang Gp Permian-Triassic clastic and limestone basement. High sulfur content. Coal petrography)

Ratanasthien, B. & W. Kandharosa (1987)- Coal, oil-, oil shale-bearing formations in intermontane basins of Thailand. In: B. Situmorang (ed.) Proc. 6th Regional Conf. Geology Mineral Hydrocarbon Resources of Southeast Asia (GEOSEA VI), Jakarta 1987, IAGI, p. 363-369.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_2/1987/4669.pdf)
(Cenozoic intermontane and intercratonic basins of Thailand mainly filled with fluvial- lacustrine deposits. Most formations immature (Ro 0.2-0.7 %))

Ratanasthien, B., W. Kandharosa, S. Chompusri & S. Chartprasert (1999)- Liptinite in coal and oil source rocks in northern Thailand J. Asian Earth Sci. 17, 1-2, p. 301-306.
(N Thailand coal and oil shale deposits similar palynological associations to Borneo region. Oldest coal and oil shales (Late Oligocene- E Miocene age) dominated by Botryococcus sp. or related algae. Thick-walled lamaginites and spores and pollen of temperate affinity in some areas. Thin-walled lamaginite dominant in late M Miocene. Resinite, suberinite, and cutinite dominant in forest swamp coal deposits whereas alginite, cutinite and lycopodium spores dominant in lacustrine environments)

Ratanasthien B., T. Kojima, T.Tokumitsu, A. Katoh & N.Uyemura (1992)- Relationship between elementary analysis, origin and diagenesis of Tertiary Thai coals. In: C. Piancharoen (ed.) Proc. Nat. Conf. Geologic Resources of Thailand: potential for future development, Bangkok 1992, p 273-282.

Ratanasthien B. & S. Promkotra (1994)- Coal seams correlation of Li coal deposits. In: P. Angsuwathana (ed.) Proc. Int. Symposium on Stratigraphic Correlation of Southeast Asia, Bangkok 1994, p. 282-290.

Ratanasthien, B., I. Takashima & O. Matsubaya (2008)- Paleaogeography and climatic change recorded on Viviparidae carbon and oxygen isotope in Mae Moh Coal Mine, Northern Thailand. Bull. Geol. Survey Japan 59, 7/8, p. 328-338.
(online at: https://www.gsj.jp/data/bulletin/59_07_05.pdf)
(Coal mine in largest coal deposit in Thailand, in M Miocene of Mae Moh basin. With intercalations of up to 12m thick shell beds, composed of nearly 100% Bellemya fresh-water gastropod. C and O isotopes suggest more tropical climate in N Thailand in M Miocene)

Reed, F.R.C. (1920)- Carboniferous fossils from Siam. Geol. Magazine 57, p. 113-120.
(Includes record of Posidonia becheri var. siamensis, Carboniferous ammonoids from Peninsular Thailand (Prolecanites, Glyphyoceras, Pronorites aff. cyclolobus from Hat Yai area)

Reed, F.R.C. (1920)- Carboniferous fossils from Siam. Geol. Magazine 57, p. 172-178.
(Continuation of paper above. Permo-Carboniferous fossis, incl. brachiopods Athyris, Spirifer, Productus, Chonetes and trilobite Phillipsia))

Remus, D., M. Webster & K. Keawkan (1993)- Rift architecture and sedimentology of the Phetchabun intermontane basin, central Thailand. J. Southeast Asian Earth Sci. 8, p. 421ï 432.
(Phetchabun Basin, onshore C Thailand is one of >30 Tertiary intermontane basins in Thailand. Composite of several N-S trending half and full graben, 1100-2500m deep, formed through transtensional dextral shear along

Mae Ping fault zone. Oligocene syn-rift fluvial deposits and associated rift volcanics, followed by Oligocene-M-Miocene fluvial and lacustrine deposits. E and Late M Miocene intrusives reflect periods of igneous activity. M Miocene tectonic episode. Waxy oils and dry gas in thin bedded sandstones and igneous sills)

Reynolds, N.A., T.W Chisnali, K. Kaewsang, C. Keesaneyabutr & T. Taksavasu (2003)- The Padaeng supergene nonsulfide zinc deposit, Mae Sod, Thailand. Economic Geology 98, p. 773-785.
(Padaeng deposit near Mae Sod in NW Thailand first commercial supergene non-sulfide zinc deposit in world. Hosted by M Jurassic mixed carbonates-clastics. Formed when substantial body of sulfide ore was uplifted on margin of Mae Sod Tertiary intermontane basin, starting in M-L Miocene)

Rhodes, B.P., J. Blum & T. Devine (2000)- Structural development of the mid-Tertiary Doi Suthep Metamorphic Complex and Western Chiang Mai Basin, Northern Thailand. J. Asian Earth Sci. 18, p. 97-108.
(Doi Suthep Metamorphic Complex near Chiang Mai part of 400km long N-S trending crystalline complex, likely metamorphosed, deformed, and intruded by granitoids during Permo-Triassic collision of Shan Thai terrane with Indosinian Craton. With mylonitic gneisses and major low-angle normal faults. Complex developed between Triassic- E Miocene, with detachment and uplift during Oligocene-Miocene. Stretching lineations trend N80°W)

Rhodes, B.P., J. Blum, T. Devine & K. Ruangvataasirikul (1997)- Geology of the Doi Suthep metamorphic complex and adjacent Chiang Mai Basin. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution in Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok 1997, Dept. Mineral. Res., 1, p. 305-313.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1997/7640.pdf)
(Doi Suthep metamorphic complex of amphibolite-grade gneisses and granitic rocks previously mapped as Precambrian, but now viewed as part of Cenozoic metamorphic core complex. Nearly uni-directional stretching lineations in complex with average N80°W trend. Zircon ages suggest likely Late Triassic granites as protoliths for orthogneiss (Dunnig et al. 1995). Peak metamorphism probably Late Cretaceous)

Rhodes, B.P., P. Charusiri, S. Kosuwan & A. Lamjuan (2005)- Tertiary evolution of the Three Pagodas Fault, Western Thailand. In: L. Wannakao et al (eds.) Proc. Int. Conf. Geology, Geotechnology and Mineral Resources of Indochina (GEOINDO 2005), Khon Kaen University, p. 498-505.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2005/9366.pdf)
(Three Pagodas Fault Zone developed as consequence of Indian-Asian collision. As NE syntaxis of India migrated N-ward, stresses rotated >100° clockwise)

Rhodes, B.P., R. Conejo, T. Benchawan, S. Titus & R. Lawson (2005)- Palaeocurrents and provenance of the Mae Rim Formation, Northern Thailand: implications for tectonic evolution of the Chiang Mai basin. J. Geol. Soc., London, 162, p. 51-63.
(Chiang Mai basin is largest of series of Tertiary rift basins in N Thailand. Several phases of extension from Late Oligocene -Quaternary, with at least two periods of basin inversion. Paleocurrent and clast-composition data from Mae Rim Fm. alluvial fans and lacustrine deposits suggest provenance from W, from low-grade metasedimentary rocks of W Ranges metamorphic complex. Most of Mae Rim Fm accumulated during uplift of Western Ranges but before erosion had breached detachment fault)

Rhodes, B.P., R. Perez, A. Lamjuan & S. Kosuwan (2002)- Kinematics of the Mae Kuang fault, northern Thailand Basin and Range Province. In: N. Mantajit (ed.) Proc. Symposium on Geology of Thailand, Bangkok 2002, Dept. Mineral Resources, p. 298-308.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2002/6409.pdf)
(N-S tending basins characterize 'basin and range' province in N Thailand. One model for Tertiary deformation involves regional simple shear between set of sinistral faults. Newly discovered SW-NE trending Mae Kuang Fault may accommodate transfer of extension between two basins; not a throughgoing fault. Same paper as Rhodes et al. (2004) below)

Rhodes, B.P., R. Perez, A. Lamjuan & S. Kosuwan (2004)- Kinematics and tectonic implications of the Mae Kuang Fault, northern Thailand. J. Asian Earth Sci. 24, p. 79-89.
(NE trending Mae Kuang strike-slip fault does not accommodate mid-Tertiary E-W extension in N Thailand. Fault probably initiated between 20- 5 Ma, simultaneous with slip inversion on Mae Ping and Red River Faults)

Ridd, M.F. (1971)- The Phuket Group of Peninsular Thailand. Geol. Magazine 108, 5, p. 445-446.
(Brief commentary on Mitchell et al. 1970 paper on Phuket Group. Phuket Group of S Thailand stands out by great thickness and presence of pebbly mudstone. Source area was W of present-day Thailand. Numerous limestone clasts in Phuket Gp tilloids lithologically like Ordovician-Silurian Thung Song Lst)

Ridd, M.F. (2007)- A geological traverse across Peninsular Thailand. Geol. Soc. Thailand, Bangkok, Spec. Issue 1, p.

Ridd, M.F. (2008)- Khao Thalai red-beds, a Lower Triassic or older formation in Chanthaburi and Rayong Provinces, SE Thailand. In: Proc. Int. Symp. Geoscience resources and environments of Asian terranes (GREAT 2008), Bangkok, p. 36-41.
(online at: www.geo.sc.chula.ac.th/Geology/Thai/News/Technique/GREAT_2008/PDF/007.pdf)
(Unfossiliferous red sandstone and conglomerate ('Khao Thalai Redbeds') on Gulf of Thailand coast SW of Chanthaburi, SE Thailand. Underlie limestone with Scythian-Anisian foraminifera, so redbeds are older than- E-M Triassic)

Ridd, M.F. (2009)- The Phuket Terrane: a Late Palaeozoic rift at the margin of Sibumasu. J. Asian Earth Sci. 36, p. 238-251.
(Kaeng Krachan Gp of Peninsular Thailand identified as infill of rift between Sibumasu and Gondwana, and given name Phuket Terrane. Rift-infill several km thick, with glacially-influenced diamictites similar to >3 km pre-M Permian rift-fill of Carnarvon Basin, W Australia. Khlong Marui Fault E boundary of rift, Three Pagodas Fault zone also rift margin. Rifting ceased in E Permian and passive margin formed as Mesotethys ocean widened. U Kaeng Krachan Gp and overlying Ratburi Lst part of post-rift)

Ridd, M.F. (2009)- Geological history of the Sibumasu Block in Peninsular Thailand: report of a Geologistsô Association Field Meeting in 2007. Proc. Geologists Assoc. 120, p. 163-174.
(Thailand two main terranes, both of Gondwana origin: Sibumasu in W, Indochina in E, which collided in Late Triassic. Cambrian-Miocene Sibumasu sediments crop out in Peninsular Thailand, as well as two N-S chains of granite plutons: Cretaceous-Paleogene age in W, Triassic further E)

Ridd, M.F. (2011)- Lower Palaeozoic. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, p. 33-51.

Ridd, M.F. (2012)- The role of strike-slip faults in the displacement of the Palaeotethys suture zone in Southeast Thailand. J. Asian Earth Sci. 51, p. 63-84.
(Six N-S tectono-stratigraphic belts in SE Thailand: (1) W-most Belt part of Sibumasu Block, while E-most belt (5) is Permian accretionary complex on W flank of Indochina. Belt (3) volcanics and Carboniferous- Triassic sediments with distinctive faunas, interpreted to be volcanic arc; Belt (4) Triassic rocks of back-arc basin origin; Belt (6) is unconformable cover of Jurassic-Cretaceous red-beds. Triassic Indosinian Orogeny led to cratonization of SE Thailand by end-Triassic. Apparent absence of Devonian-Triassic Paleotethys Ocean (Inthanon Zone of N Thailand) in SE due to post-Indosinian sinistral strike-slip faulting)

Ridd, M.F. (2013)- A Middle Permian- Middle Triassic accretionary complex and a Late Triassic foredeep basin: forerunners of an Indosinian (Late Triassic) thrust complex in the Thailand- Malaysia border area. J. Asian Earth Sci. 76, p. 99-114.
(Semanggol Fm of NW Peninsular Malaysia is N-S belt of imbricately-thrust, deep-water, M Permian- Late Triassic sediments (radiolarian chert, sandstone, mudstone, conglomerate), and extends into Thailand. In M Permian Paleotethys began subducting beneath Indochina/ E Malaya, until end of M Triassic collision with

Sibumasu. Crustal shortening continued into Late Triassic, forming foredeep basin in front of inactive subduction zone/ accretionary complex, depositing youngest part of Semanggol Fm)

Ridd, M. (2015)- A second Tethyan plate-boundary in southern Thailand: the medial Myanmar-Thai Peninsula suture. In: Proc. 4th Int. Symposium Int. Geosciences Program (IGCP) Project 589, Bangkok 2015, p. 62-68. *(Extended Abstract)*
(online at: http://igcp589.cags.ac.cn/4th%20Symposium/Abstract%20volume.pdf)
(Sibumasu Block of Metcalfe (1984) and later papers subdivided into two blocks, 'Sibuma' and 'Irrawaddy', probably amalgamated in Early Cretaceous. Irrawaddy Block W of Medial Myanmar (Mitchell et al., 2012, 2015) and Thai Peninsula sutures contains (1) E part of W Burma Block, E of Sagaing Fault; (2) Karen-Tenasserim Unit with Phuket terrane; (3) N-S strip E of Khlong Marui Fault, and (4) NE Sumatra (Bohorok, Mentulu Fms). Similar boundary in SW Yunnan between Tengchong and Baoshan blocks, in Tibet between Lhasa and Qiangtang Blocks. Sumatran diamictites more closely resemble Phuket Gp than Singa Fm)

Ridd, M.F., A.J. Barber & M.J. Crow (2011)- Introduction to the geology of Thailand. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, p. 1-32.

Ridd, M.F., A.J. Barber & M.J. Crow (eds.) (2011)- The geology of Thailand. Geol. Soc., London, p. 1-614.
(Comprehensive overview of geology of Thailand, including tectonic evolution, stratigraphy, petroleum, coal, minerals, igneous rocks, etc.)

Ridd, M.F. & C.K. Morley (2011)- The Khao Yai Fault on the southern margin of the Khorat Plateau, and the pattern of faulting in Southeast Thailand. Proc. Geologists Assoc. 122, p. 143-156.
(Khao Yai fault ~E-W trending fault at SW margin of Khorat Plateau probably part of strike-slip duplex of bigger Mae Ping Fault belt. Part of Paleogene transpressional deformation that affected N part of Gulf of Thailand and surrounding land areas. Deformation from ~50-60 Ma, continuing in some places to ~30 Ma)

Ridd, M.F. & I. Watkinson (2013)- The Phuket- Slate Belt terrane: tectonic evolution and strike-slip emplacement of a major terrane on the Sundaland margin of Thailand and Myanmar. Proc. Geologists Assoc. 124, 6, p. 994-1010.
(Phuket-Slate Belt terrane can be traced for 1700 km in Peninsular and W Thailand (W side of Sibumasu continental terrane). Thick Carboniferous-Lower Permian series with diamictites, interpreted as glacio-marine rift-infill, deposited when Sibumasu block separated from Gondwana. It was emplaced in Late Cretaceous-Paleogene by dextral strike-slip along Khlong Marui/ Panlaung fault system. To S, bounding-fault postulated to extend to Sumatra where it aligns with restored proto-Indian Ocean location of India- Australia transform. Emplacement of Phuket-Slate Belt terrane was result of coupling with N-going India plate, resulting in up to 450 km of dextral shift on bounding fault system)

Rigby, S.M., A.A. Bal, H.M. Burgisser, D.K. Harris, M.A. Herber, S. Thumprasertwong & S. Winkler (1992)- The Phitsanulok lacustrine basin, onshore Thailand. AAPG Int. Conf., Sydney 1992, Search and Discovery Art. 91015. *(Abstract only)*
(Phitsanulok basin is N-S trending intra-cratonic rift with up to 8 km of Tertiary sediments. Early rifting in Oligocene and E Miocene. Later compressional phase accompanied by basic volcanism. Lake Phitsanulok was 1000-4000 km2 body of fresh water, with up to 400m of organic-rich claystones. Lake margins coarser deltaic deposits constitute main reservoirs of Sirikit oilfield. Sukhothai Depression main kitchen, first generating oil in M Miocene. Crudes are light (40° API) and waxy, with low sulfur and a high pour point)

Roberts, T.R. & J. Jumnongthai (1999)- Miocene fishes from Lake Phetchabun in North Central Thailand, with description of new taxa of Cyprinidae, Pangasiidae and Chandidae. Natural History Bull. Siam Soc. 47, 2, p. 153-189.
(online at: www.thaiscience.info/journals/Article/NHB/10439370.pdf)
(Miocene lacustrine beds at 2-4m depth in Phetchabun intermontane basin at Ban Nong Pia, N-C Thailand with 11 species of teleosts or bony fishes)

Robinson, K. (1984)- Assessment of undiscovered conventionally recoverable petroleum resources in Tertiary sedimentary basins of Thailand. U.S. Geol. Survey (USGS), Open-File Report 84-330, p. 1-14.
(online at: https://pubs.usgs.gov/of/1984/0330/report.pdf)

Ronghe, S. & K. Surarat (2002)- Acoustic impedance interpretation for sand distribution adjacent to a rift boundary fault, Suphan Buri basin, Thailand. American Assoc. Petrol. Geol. (AAPG) Bull. 86, p. 1753-1771.
(Suphan Buri basin N-S trending onshore Tertiary non-marine rift basin in Central Plain of Thailand, between two NW-SE trending strike-slip fault zones, Mae Ping and Three Pagodas fault zones. Seismic impedance used to image water-saturated sands in producing interval of half graben. Two styles of sand distribution: axial deposits comprising delta lobes and boundary fault-induced fan deltas and feeder canyons deposits)

Saegusa, H., B. Ratanasthien & H. Nakaya (2000)- A new Miocene mammalian locality, Mae Soi and the occurrence of partial skeletons of rhinocerotids and gomophotheres from northern Thailand. Asian Paleoprimatology 1, p. 137-147
(online at: https://repository.kulib.kyoto-u.ac.jp/dspace/bitstream/2433/199736/1/aspp_01_137.pdf)
(New E or M Miocene vertebrate fossil locality in Mae Soi, Chiang Mai Province, with nearly complete gomphothere (Archaeobelodon or Gomphotherium) (elephant-like proboscideans))

Saengsrichan, W, T. Charoentitirat, A. Meesook, K. Hisada & P. Charusiri (2011)- Paleo-environments and tectonic setting of the Mesozoic Thung Yai Group in Peninsular Thailand, with a new record of *Parvamussium donaiense* Mansuy. Gondwana Research 19, 1, p. 47-60.
(online at: www.eatgru.sc.chula.ac.th/Thai/research/pdf/paper_2/107.pdf)
(300m thick late E Jurassic- E Cretaceous Thung Yai Gp along E margin of Shan Thai (=Sibumasu) block, unconformable between Triassic marine and Tertiary non-marine sediments. Dominantly brackish- non-marine clastics with few limestone beds. First record in peninsular S Thailand of pectinoid bivalve Parvamussium donaiense in Khlong Min Fm, representing Toarcian- Bajocian (E-M Jurassic) inundation after Late Triassic closure of Paleotethys (species common in NW Thailand, Vietnam, Tibet))

Saengsrichan, W., J. Sha, A. Meesook & K. Hisada (2009)- Lithostratigraphy and petrography of marine Jurassic rocks in the Mae Sot area, Tak Province, western Thailand: implications for depositional environment and tectonics. Geologiska Foren. Forhandlingar (GFF) 131, p. 83-103.
(online at: www.tandfonline.com/doi/pdf/10.1080/11035890902857895)(
(Marine Jurassic rocks from the Mae Sot area of W Thailand (near Myanmar border; part of Shan-Thai/ Sibumasu terrane): 200-832m thick, Toarcian- Bajocian age, shallow marine clastics with occasional carbonate platforms and reef flats. Three assemblages of ammonites: (1)late Toarcian (Pseudolioceras, Lytoceras and Onychoceras); (2) late Aalenian- E Bajocian (Erycites, Tmetoceras, Eumetoceras, Docidoceras); (3) M-L Oxfordian (Epimyaites, Phylloceras). Also bivalve Parvamussium donaiense)

Saesaengseerung, D. (2009)- Devonian to Triassic radiolarian biostratigraphy and depositional environments of these radiolarian-bearing rocks in Thailand. Ph.D. Thesis University of Tsukuba, p. 1-220. *(Unpublished)*

Saesaengseerung, D., S. Agematsu, K. Sashida & A. Sardsud (2009)- Discovery of Lower Permian radiolarian and conodont faunas from the bedded chert of the Chanthaburi area along the Sra Kaeo suture zone, Eastern Thailand. Paleont. Research, Palaentological Soc. Japan, 13, 2, p. 119-138.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/2009/30936.pdf)
(Lower Permian (Asselian- Sakmarian) radiolarians and conodonts from bedded chert blocks in Thung Kabin melange of Chanthaburi area, SE Thailand (Sra Kaeo suture zone). Probably deposited in pelagic environment at low latitudes of S Hemisphere in Paleotethys or Paleotethyan back-arc basin)

Saesaengseerung, D. & A. Sardsud (2013)- Summary of the Devonian to Triassic radiolarian faunas from northern and northeastern Thailand along the Laos-Thai Border. In: C. Senebouttalath et al. (eds.) Proc. 2nd Lao-Tai Conf. Geology and Mineral resources, Vientiane, p. 247-252.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/2013/36797.pdf)

(M Devonian- M Triassic 'Paleotethys' radiolaria along Laos-Thai border in pelagic and hemipelagic chert, and siliceous shales Assemblages: Stigmosphaerostylus variospina (M Devonian- E Carboniferous), Follicuculus scholasticus-Albaillella levis (M-L Permian) and Triassocampe deweveri (M Triassic))

Saesaengseerung, D., K. Sashida & A. Sardsud (2007)- Late Devonian to Early Carboniferous radiolarian fauna from the Pak Chom area, Loei Province, northeastern Thailand. Paleontological Research 11, 2, p. 109-121.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/2007/30935.pdf)
(Famennian- Tournaisian radiolarian fauna in chert-clastic section along Khong River, Pak Chom area, NE Thailand, near Laos border. Deposited in pelagic- hemipelagic environment within E-most margin of Paleotethys Ocean/ Indochina Block in Late Devonian- E Carboniferous, probably on Nakhon Thai Block, subducted beneath Indochina Block. This suggests subduction and accretion of Naknon Thai Block continued through E Carboniferous)

Saesaengseerung, D., K. Sashida & A. Sardsud (2007)- Devonian to Triassic radiolarian faunas from Northern and Northeastern Thailand. In: W. Tantiwanit (ed.) Int. Conf. on Geology of Thailand: Towards sustainable development and sufficiency economy (GEOTHAIō07), Bangkok, Dept. Mineral Resources, p. 54-71.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2007/12703.pdf)
(Radiolarian biostratigraphy of Devonian-Triassic deep marine sequences in N and NE Thailand. Twelve radiolarian zones proposed. Paleo-Tethys ocean probably existed between Shan-Thai (=Sibumasu) and Indochina terranes at least since E Devonian. Timing of collision between Shan-Thai and Indochina later than E? Carnian (early Late Triassic))

Saesaengseerung, D., K. Sashida & A. Sardsud (2008)- Discovery of Middle Triassic radiolarian fauna from the Nan area along the Nan-Uttaradit suture zone, northern Thailand. Paleontological Research 12, 4, p. 397-409.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/2009/30937.pdf)
(M Triassic radiolaria of Anisian Triassocampe deweveri fauna with Cenosphaera igoi, Annulotrassocampe, etc., in siliceous rocks at Nan area along Nan-Uttaradit suture zone, N Thailand. Deposited in pelagic environment in Nan-Uttaradit back-arc basin between Simao and Indochina blocks, suggesting this basin was connected with Paleo-Tethys and Panthalassa oceans and closed after M Triassic)

Saesaengseerung, D., K. Sashida, A. Sardsud & S. Salyapongse (2008)- Paleozoic and Mesozoic radiolarian faunas in Thailand. In: Proc. Int. Symp. Geoscience Resources and Environments of Asian Terranes (GREAT 2008), 4th IGCP 516 and 5th APSEG, Bangkok 2008, p. 186-188 *(Extended Abstract)*
(Fourteen M Devonian- M Triassic radiolarian zones identified in pelagic- hemipelagic rocks of Thailand)

Saesaengseerung, D., T. Kawinate & C. Pothichaiya (2015)- Discovery of Devonian to Carboniferous radiolarians from Central Thailand and its significance of these fauna in Thailand and Laos. Proc. 3rd Thai-Lao Techn. Conf. Geology and Mineral Resources, 2015, p. 115-134.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2015/10914.pdf)
(14 species of Late Devonian (Frasnian)- E Carboniferous (Tournasian) radiolaria in siliceous shale from E of Ban Rai, western C Thailand. With Trilonche spp., Stigmasphaerostylus spp., Albailella paradoxa, etc. Deposited on passive continental margin of Sibumasu terrane, facing Paleo-Tethys ocean)

Saifuddin, F., S. Phaungphuak, S. Matha, W. Ratawessanun & I Nengah Nuada (2012)- Recent step-out exploration in the Greater Sirikit East Area, Sirikit Oil Field, Onshore Thailand, a model for overlooked area. Inter. Petrol. Techn. Conf. (IPTC), Bangkok 2012, IPTC 14465, 17p.
(Main Sirikit oil-gas field is faulted anticline in Oligocene-Miocene Phitsanulok Basin ~400km N of Bangkok is 1981 discovery and is surrounded by smaller fields Sirikit West, Thap Raet, Sirikit East and Nong Jig. New step-out exploration in Greater Sirikit East area, including some stratigraphic trap models (updip pinchouts))

Sakagami, S. (1966)- The Permian bryozoan fauna of Ko Muk, Peninsular Thailand, with the description of the Cyclostomata. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 2, p. 255-2727.

(28 species of Permian (Artinskian) bryozoa from Ratburi Lst of Ko Muk island, W coast of Thailand, most of them new. Several species in common with Timor (Goniacladia timorensis, G. laxa, Fistulipora simillina, F wanneri, Penniretepora scalaris) and W Australia)

Sakagami, S. (1966)- The cryptostomatous bryozoa from Ko Muk, Peninsular Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 2, p. 273-287.
(Continuation of Sakagami (1966) paper above. Description of 14 species of Permian Cryptosomata, incl. Fenestella spp., Polypora, Penniretepora, etc.)

Sakagami, S. (1968)- Permian Bryozoa from Khao Phrik, near Rat Buri, Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 4, p. 45-66.

Sakagami, S. (1968)- Permian Bryozoa from Khao Chong Krachok, Peninsular, Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 4, p. 67-81.

Sakagami, S. (1968)- Permian Bryozoa from Khao Ta Mong Rai, Peninsular Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 5, p. 47-67.
(16 species of Permian (Artinskian or Sakmarian) bryozoans from N part of Peninsular Thailand. Incl. Fistulipora timorensis, Fenestella spp., Polypora spp. Associated with fusulinid forams))

Sakagami, S. (1969)- Fusulinacean fossils from Thailand, Part IV. On some Permian Fusulinaceans from Peninsular Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 6, p. 256-275.
(Permian fusulinids from 3 localities in Peninsular Thailand: Khao Prik with Ozawainella and Neofusulinella cf. lantenoisi (E Artinskian), Khao Chong Krachok with Pseudofusulina valida (Sakmarian?); Khoo Ta Mong Rai on coast with Triticites obai, Dunbarinella, Schwagerina mongraiensis and S. rouxi (Sakmarian?))

Sakagami, S. (1970)- On the Paleozoic bryozoa of Japan and Thai-Malayan districts. J. Paleontology 44, 4, p. 680-692.

Sakagami, S. (1971)- On the Palaeozoic bryozoa collected by Dr. C.K. Burton from Chumphon, peninsular Thailand. In: T. Kobayshi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 9, p. 135-146.

Sakagami, S. (1973)- Permian Bryozoa from Khao Raen, near Rat Buri, Thailand. In: T. Kobayshi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 12, p. 75-89.
(Diverse Artinskian (E Permian) bryoza from Ratburi Lst at Khao Raen near Rat Buri)

Sakagami, S. (1975)- Permian Bryozoa from Khao Hin Kling, near Phetchabun, North-Central Thailand. In: T. Kobayshi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 16, p. 33-43.

Sakagami, S. (1976)- Paleobiogeography of the Permian Bryozoa on the basis of the Thai-Malayan District. In: T. Kobayshi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 17, p. 155-172.
(Geographic distributions of Permian bryozoa genera. Notmuch detail on SE Asia)

Sakagami, S. (1999)- Permian bryozoans from some localities in the Khao Hin Kling area near Phetchabun, North-central Thailand. Bull. Kitakyushi Museum Natural History 18, p. 77-103.
(online at: www.kmnh.jp/publication/ronbun_pdf/18-77-E-Sakagami.pdf)
(30 species of bryozoa in outcrops in Permian Tak Fa limestone of Ratburi Gp. Associated with fusulinids (schwagerinids, etc.). Some species in common with Timor. Faunas indicate typical S and C Tethys realms (see companion paper on brachiopods by Yanagida & Nakornsri (1999))

Sakagami, S. & A. Hatta (1982)- On the Upper Permian *Palaeofusulina-Colaniella* fauna from Khao Doi Pha Phlung, North Thailand. In: T. Kobayshi, R. Toriyama & W. Hashimoto (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 24, p. 1-14.
(Latest Permian (late Changhsingian) foram-rich limestone of Palaeofusulina sinensis- Colaniella parva Zone from limestone 60km NE of Lampang. With Paleofusulina sinensis, Colaniella lepida, C. xikouensis, Pachyphloia langei, Paraglobivalvulina piyasini n.sp., Reichelina changhsingensis, etc.)

Sakagami, S. & J. Twai (1974)- Permian fusulinaceans from the Pha Duk Chik limestone and in the limestone conglomerate in its environs, North Thailand. In: T. Kobayshi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 14, p. 49-81.

Salam, A., W. Lunwongsa, L. Tangwattananukul, W. Sirisookprasert, A. Veeravinantanakul, K. Zaw & P. Charusiri (2014)- On the Chatree deposit in Central Thailand: its tectonism, ages, magmatism, structures, alteration and mineralization. In: I. Basuki & A.Z. Dahlius (eds.) Sundaland Resources, Proc. Indon. Soc. Econ. Geol. (MGEI) Ann. Conv., Palembang, p. 331-341.
(Chatree epithermal Au-Ag deposit in C Thailand in Late Permian and E Triassic arc-related volcanic host rock units. Late Permian Suite 1 probably formed immediately after start of subduction and creation of new island arc. Less depleted E Triassic Suite 2 erupted during steady state subduction. Mineralization during switch between two mantle sources at Permo-Triassic boundary (~250 Ma). U-Pb zircon ages of emplacement of plutonic rocks at ~250-240 Ma and ~215-205 Ma. NNW-SSE normal faults response to E-W back arc extension prior to or during earliest Triassic. N-S trending reverse faults related to Triassic collision)

Salam, A., K. Zaw, S. Meffre, J. McPhie & C.K. Lai (2014)- Geochemistry and geochronology of the Chatree epithermal gold-silver deposit: implications for the tectonic setting of the Loei Fold Belt, central Thailand. Gondwana Research 26, p. 198-217.
(Chatree Au deposit between Phichit and Phetchabun provinces, C Thailand, is largest epithermal Au deposit in mainland SE Asia. Hosted by Late Permian- E Triassic volcanics, which can be subdivided into 4 stratigraphic units and two volcanic suites. Late Permian Suite 1 formed immediately after onset of subduction and creation of new island arc. E Triassic Suite 2 units erupted during ongoing subduction. Chatree Au mineralization occurred during switch between mantle sources at Permo-Triassic boundary (~250 Ma))

Salyapongse, S. (1992)- Foliated contact metamorphic rock of the eastern Gulf of Thailand. Thai Geoscience 2, p. 35-42.

Salyapongse, S., H. Fontaine, P. Putthapiban & A. Lamjuan (1997)- Geology of the Eastern Thailand (Route No. 1)- Guidebook for excursion. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, p. 1-69.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/1997/2520_1.pdf)
(Brief review of E Thailand geology and fieldtrip stops in Shan Tai and Indochina terranes)

Salyapongse, S., H. Fontaine & K. Sashida (2000)- Petrologic and paleontologic constraints of rock associations- pyroclastics, volcanoclastics and limestones in Nan, Phayao and Prae Provinces. Natural History Bull. Siam Soc. 48, p. 137-169.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2543/6923.pdf)
('Post-tectonic'? rhyolitic volcanics in NE corner of N Thailand (Nan, etc. provinces) near Laos border associated with Late Triassic limestones (volcanics formerly regarded as Jurassic-age (fossils see Fontaine, Salyapongse et al. 2000))

Salyapongse, S. & K. Sashida (2002?)- Volcanic rock fragments in sandstone associated with Triassic chert beds at Nong Pru, Kanchanaburi province. ??, p. 13-20.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2543/6935.pdf)
(Triassic volcanic sandstone with Carboniferous chert fragments, possibly sourced from Sukhothai volcanic belt)

Salyapongse, S. & K. Pitakpaivan (1999)- Older eolian evidences on the Khorat Plateau. J. Geol. Soc. Thailand 1, p. 18-26

Salyapongse, S. & P. Putthapiban (1997)- A reconsideration of the Nan Suture. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, 1, p. 403-411.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1997/7644.pdf)
(Nan suture with High P- low T eclogite- glaucophane schist- greenschist, as common in large orogenic belts, and indicative of subduction zone)

Saminpanya, S., J. Duangkrayom, P. Jintasakul & R. Hanta (2014)- Petrography, mineralogy and geochemistry of Cretaceous sediment samples from western Khorat Plateau, Thailand, and considerations on their provenance. J. Asian Earth Sci. 83, p. 13-34.

Saminpanya, S. & F.L. Sutherland (2014)- Different origins of Thai area sapphire and ruby, derived from mineral inclusions and co-existing minerals. European J. Mineralogy 23, 4, p. 683-694.
(Gem corundum from Thailand divided into sapphire and ruby suites. Rubies may have crystallized in high-P metamorphic rock of ultramafic/mafic composition. Sapphires may have crystallized in high-grade metamorphic rock or from highly alkaline magmas, at shallower depths than those hosting Thai rubies)

Sangsomphong, A., T. Thitimakorn & P. Charusiri (2015)- Interpretation of tectonic setting in the Phetchabun Volcanic Terrane, Northern Thailand: evidence from enhanced airborne geophysical data. J. Southeast Asian Earth Sci. 107, p. 12-25
(Aeromagnetic data used to interpret subsurface structures of Carboniferous-Triassic Phetchabun Volcanic Terrane, now largely covered by thick Cenozoic sediment deposits. Four distinct structural domains, N, E, C and W. Elongate units interpreted to represent Late Carboniferous intrusive bodies. tied to E-ward subduction of Nakhonthai oceanic plate beneath Indochina continental plate, along Loei suture)

Sangsomphong, A., D. Tulyatid, T. Thitimakorn & P. Charusiri (2013)- Tectonic blocks and suture zones of eastern Thailand: evidence from enhanced airborne geophysical analysis. Annals Geophysics 56, 1, R0102, 12p.
(online at: www.annalsofgeophysics.eu/index.php/annals/article/viewFile/5547/6201)
(Airborne geophysical data used to analyze tectonic structures of SE Thailand. Main regional structure trends NW-SE, with sinistral fault movements, result of E-W compression that generated strike-slip movement before Indian-Asian collision. Faults cross-cut by NE-SW sinistral fault and NW-SE dextral faults, which formed after Indian-Asian collision from transpression sinistral shear in NW-SE direction. Three geophysical domains: N (Indochina block), C (Nakhonthai block) and S (Lampang-Chaing Rai block) and lower Southern Subdomain with Shan Thai block)

Sanjit, P., N. Wonganan & Y. Thasod (2013)- Devonian radiolarian faunas in Pai Area, Mae Hong Son Province, Northern Thailand: paleogeographic implication. J. Science Technol. Mahasarakham Univ. (MSU) 33, 4, p. 393-402.
(online at: www.journal.msu.ac.th/upload/articles/article444_18057.pdf)
(High-diversity Devonian radiolarian fauna from N-S trending, vertically dipping dark-grey pelagic thin-bedded chert in Pai district in N Thailand (= Paleotethys Ocean floor sediment in Paleotethys suture zone). With 21 taxa/ 8 genera, identified as M-L Devonian (Trilonche dihelicis, T. echinata, Stigmosphaerostylus, etc. and Late Devonian (Trilonche palimbola, T. altasulcata, T. australis, etc.))

Sasada, M., B. Ratanasthien & R. Soponpongpipat (1987)- New K-Ar ages from the Lampang basalt, Northern Thailand. Bull. Geol. Survey Japan 38, 1, p. 13-20.
(online at: https://www.gsj.jp/data/bull-gsj/38-01_04.pdf)
(Two samples of aphyric Lampang basalts from SW part of Mae Moh basin, NW Thailand. Chemically of basanite composition. Whole rock ages 0.8 ± 0.3 Ma and 0.6 ± 0.2 Ma. K-Ar ages may give lower limit of formation age because of argon loss due to hydration. Most flows of Lampang basalt normal polarity, except lower flow. Some flows overlie gravel with early Paleolithic pebble tools)

Sashida, K. & H. Igo (1992)- Triassic radiolarians from a limestone exposed at Khao Chiak near Phattalung, southern Thailand. Trans. Proc. Palaeontological Soc. Japan, N.S., 168, p. 1296-1310.
(online at: www.palaeo-soc-japan.jp/download/TPPSJ/TPPSJ_NS168.pdf)
(Limestones around Phattalung regarded as S extension of Permian Ratburi Lst, but with Triassic (Anisian) radiolaria)

Sashida, K. & H. Igo (1999)- Occurrence and tectonic significance of Paleozoic and early Mesozoic radiolaria in Thailand and Malaysia. In: I. Metcalfe (ed.) Gondwana Dispersion and Asian accretion, IGCP 321 Final results volume, A.A. Balkema, Rotterdam, p. 175-196.
(On occurrences of U Devonian- M Triassic radiolarians in cherts various parts of Thailand and Malaysia. Late Devonian- E Carboniferous 'Pak Chom Chert' on W margin of Indochina Block remnants of Paleotethys Ocean)

Sashida, K., H. Igo, S. Adachi, K. Ueno, Y. Kajiwara, N. Nakornsri & A. Sardsud (2000)- Late Permian to Middle Triassic radiolarian faunas from Northern Thailand. J. Paleontology 74, 5, p. 789-811.
(Wuchiapingian- Anisian radiolarians from Shan-Thai Block in thin chert- shale sequences exposed N of Chiang Mai, NW Thailand. 50 species, 35 genera. Radiolarians identical to faunas of Late Permian Neoalbaillella ornithoformis and N. optima zones and E Triassic Parentactinia nakatsugawaensis and Triassocampe coronata Assemblage Zones in chert sequences of Japan)

Sashida, K., H. Igo, S. Adachi, K. Ueno, N. Nakornsri & A. Sardsud (1998)- Late Paleozoic radiolarian faunas from northern and northeastern Thailand. Sci. Repts. Inst. Geoscience, University of Tsukuba, B, 19, p. 1-27.

Sashida, K., H. Igo, K. Hisada, N. Nakornsri & A. Ampornmaha (1993)- Occurrence of Paleozoic and Early Mesozoic radiolaria in Thailand (preliminary report). In: B.K. Tan et al. (eds.) 7th Reg. Congress Geology Mineral and Energy Resources of SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 97-108.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1993/7593.pdf)
(Devonian. E Carboniferous and Permian radiolaria found in 'Fang Chert' near Chiang Mai, NW Thailand (= Paleotethys ocean floor sediment). Late Devonian- E Carboniferous radiolaria also in tuffaceous shale/ chert in Loei area near Pak Chom (NE Thailand, Indochina Block). Well-preserved late E Triassic radiolarians in limestone near Patthalung, S Peninsular Thailand)

Sashida, K., H. Igo, K. Ueno, N. Nakornsri & A. Sardsud (1998)- Late Paleozoic radiolarian faunas from northern and northeastern Thailand. Science Repts. Inst. Geoscience, University of Tsukuba, B 19, p. 1-27.

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(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1997/7641.pdf)
(Lower Permian Pseudoalbaillella spp. radiolarian assemblages from deformed phyllitic bedded Khanu Chert Fm of Sukhothai foldbelt (Paleotethys suture))

Sashida, K., N. Nakornsri, K. Ueno & A. Sardsud (2000)- Carboniferous and Triassic radiolarian faunas from the Saba Yoi area, southernmost part of Peninsular Thailand and their paleogeographic significance. Science Reports Inst. Geoscience, University of Tsukuba, B, Geol. Sci., 21, p. 71-99.
(see also Sashida et al. 2002)

Sashida, K. & S. Salyapongse (2002)- Permian radiolarian faunas from Thailand and their paleogeographic significance. J. Asian Earth Sci. 20, 6, p. 691-701.
(Eight Permian radiolarian zones in chert and fine-grained pelagic-hemipelagic rocks in Permian of Thailand, Deposited in deep pelagic environment of Paleotethys Ocean that existed between Late Devonian- M Triassic. N

Thailand uppermost Permian- M Triassic deposited in pelagic basin, in E Thailand change in depositional environment from deep pelagic in Permian to shallow seas in Triassic)

Sashida, K., S. Salyapongse & P. Charusiri (2002)- Lower Carboniferous radiolarian fauna from the Saba Yoi-Kabang area, southernmost part of Peninsular Thailand. Micropaleontology 48, Suppl. 1, Proc. INTERRAD 9, p. 129-143.
(U Tournasian radiolaria from black chert in thick-bedded sandstone at Saba Yoi-Kabang, S Peninsular Thailand, near Malaysia border. 23 species of Albaillella indensis assemblage, also known from Pyrenees, SW China, Malay Peninsula and E Australia. Deposited in pelagic- hemipelagic environment in Paleotethys Ocean)

Sashida, K., S. Salyapongse & N. Nakornsri (2000)- Latest Permian radiolarian fauna from Klaeng, Eastern Thailand. Micropaleontology 46, 3, p. 245-263.
(Latest Permian radiolarian fauna from chert-clastic sequence at Khao Wang Chik, Klaeng, E Thailand (Shan-Tai Block). composed of Neoalbaillella, Albaillella, Entactinia, etc. and represent latest Permian Neoalbaillella optima Assemblage, also known from Japan, Russian Far East, Philippines, S and SW China, and N Thailand. Probably deposited in deep, pelagic environment of Paleotethys Ocean)

Sashida, K., A. Sardsud, H. Igo, N. Nakornsri, S. Adachi & K. Ueno (1998)- Occurrence of Dienerian (Lower Triassic) radiolarians from the Phatthalung area of Peninsular Thailand and radiolarian biostratigraphy around the Permian/Triassic (P/T) boundary. News of Osaka Micropaleontologists, Special Vol. 11, p. 59-70.

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(online at: https://gsmpubl.files.wordpress.com/2014/10/sctm_07.pdf)
(Thailand widespread non-marine Mesozoic redbeds, especially in NE (Khorat Plateau). More marine in W. Mainly of Triassic age (+ Jurassic- E Cretaceous?; JTvG))

Sattayarak, N. (1992)- Petroleum exploration opportunities in Thailand. In: Proc. Nat. Conf. Geological Resources of Thailand: potential for furture development, Bangkok 1992, Dept.Mineral Res., p. 668-675.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1992/6257.pdf)
(Thailand with 8 petroleim provinces. Established plays mainly in Oligo-Miocene faulted sands. Dry gas produced from Permian carbonates in NE. Several other potential plays)

Sattayarak, N. (2005)- Petroleum potential of the northeast Thailand. In: L. Wannakao (ed.) Proc. Int. Conf. Geology, Geotechnology and Mineral Resources of Indochina (GEOINDO 2005), Khon Kaen 2005, p. 21-30.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2005/9311.pdf)
(Multiple Pre-Tertiary hydrocarbon play types in Khorat Basin area of NE Thailand. Main gas production from Permian carbonates (Nam Phong field))

Sattayarak, N., B. Chaisilboon, S. Srikulwung, R. Charusirisawat et al. (1998)-Tectonic evolution and basin development of the Northeast Thailand. Seminar on Mesozoic redbeds in the northeastern Thailand, Dept. Mineral Resources, Bangkok, p. 1-20.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/1997/270.pdf)

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(11m thick section near Mae Sariang, NW Thailand (Sibumasu terrane), yielded late Frasnian- Famennian conodont faunas. Faunas mostly cosmopolitan, but with several new species of Palmatolepis, Polygnathus, Pseudopolygnathus and Siphonodella. Outer-shelf, starved basin setting)

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(Late Devonian Frasnian- Famennian conodonts in W Thailand mostly cosmopolitan species. Thailand section includes U Kellwasser Event recorded in Europe, N America, China, etc. Regional disappearance or extinction of conodont species at Frasnian-Famennian boundary followed by recovery during E Famennian)

Savage, N.M., A. Sardsud & P. Lutat (2007)- Famennean (Upper Devonian) conodonts from Mae Sariang, Northwestern Thailand. In: W. Tantiwanit (ed.) Int. Conf. on Geology of Thailand: Towards sustainable development and sufficiency economy (GEOTHAIô07), Bangkok, Dept. Mineral Resources, p. 87-92.
(Late Famennian conodonts (Lower- Middle expansa Zones) from outcrop SW of Mae Sariang, NW Thailand (= Sibumasu Terrane). Species mostly cosmopolitan, with new species Polygnathus sariangensis)

Savage, N.M., A. Sardsud & M. Orchard (2006)- Conodonts of Dienerian age (Early Triassic) from northern Thailand. In: V. Luer et al. (eds.) InterRad 11 & Triassic Stratigraphy Symposium, Wellington 2006, p. 120.
(Dienerian (Early Triassic) Neospathodus dieneri conodont fauna reported from limestone outcrop possibly belonging to Doi Chiang Dao Limestone (= Carboniferous- Permian Paleotethys seamount Lst)

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(online at: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.883.4261&rep=rep1&type=pdf)
(Several sea-level curves for younger Holocene published for Malay-Thai Peninsula. General assumption is rapid rise to M Holocene maximum up to +5 m above present sea level, followed by regression. Paleo-sea level indicators at Andaman Sea coast document Holocene maximum of +2.6 m at 5700 yr BP)

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(Review of tectonic elements, history and thermal events of Thailand)

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(online at: https://umexpert.um.edu.my/file/publication/00004083_88503.pdf)
(Three principal granite provinces across SE Asia (1) W Thailand-Myanmar I-type granites with tin mineralization in greisen-type veins (zircon core ages Late Triassic ~212-214 Ma; thermal overprint rims of 81 and 85-75 Ma; (2) N Thailand-W Malaya Main Range S-type biotite granites with tin mineralization resulting from crustal thickening following Sibumasu-Indochina collision in M Triassic (zircon ages ~215- 210 Ma); (3) E Malaya province of Permian-Triassic I-type granites also yield zircon rim age of ~80 Ma, showing Cretaceous magmatism in common with province 1. Two E-dipping subduction zones required in Triassic, one along Bentong-Raub Paleo-Tethyan suture, and one W of Phuket-Burma province 1 belt)

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(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1993/7494.pdf)
(Uppermost Permian in Phrae Province, ESE of Chiang Mai, N Thailand, is shale- sandstone- limestone sequence W of Nan-Uttaradit suture. Limestones with Paleofusulina and Colaniella parva and locally rich sponge faunas)

Senowbari-Daryan, B. & R. Ingavat-Helmcke (1994)- Sponge assemblage of some Upper Permian reef limestones from Phrae province (Northern Thailand). Geologija 36, p. 5-59.
(Fauna of uppermost Permian reefal limestones of Phrae province, N Thailand dominated by sponges incl. hexactinellida, sclerospongea, 'sphinctozoans', and 'inozoans'. Associated with Tubiphytes and Hemigordius, but no corals and fusulinid foraminifers found. Locality is just W of 'Nan-Uttaradit' suture, which was probably not trace of Paleotethys, but closure of minor oceanic basin)

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(Pollen assemblages from Late Oligocene and M-L Miocene mammal sites. Palynoflora from Oligocene suggests warm temperate forests at 24-26 Ma. M Miocene assemblages thermophilous taxa. Change can be linked to climate reorganization that brought warmer and wetter conditions over SE Asia around 22 Ma)

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(Pongnok oil field in stratigraphic trap along E margin of intra-cratonic Fang Basin in non-marine Oligo-Miocene clastics. Twelve wells between 1978-1984)

Settakul, N. (1993)- Fang oil field: ramification for exploration in intermontane basins in Thailand. In: Proc. 5th ASEAN Council, ASCOPE 93, Bangkok 1993, p. 85-94.

(On oldest oilfield in Thailand. In non-marine Miocene deposits of small Fang intermontane half-graben basin, N Chiang Mai province)

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(Review of Fang Oilfield is located in Fang intermontane basin, N Thailand, ~150 km N of Chiang Mai. Produced ~9 MMBO since 1960, from 240 wells. Seven sandstone reservoir zones, all in Maesod Fm. Oils high wax content (up to 18%))

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(online at: www.dmr.go.th/download/English/LAO%20-THAI%20Conference%202012_Proceedings.pdf)
(Cretaceous sediments in Thailand and Lao PDR entirely non-marine facies: widespread in NE, SE and S Thailand and much of Laos. Generally, reddish brown to light grey sandstones, claystones and conglomerates, with salts and gypsum only in Maha Sarakham and Saysomboun Fms. Two assemblages of Aptian-Albian trigoniodid bivalves, in NE and Peninsular Thailand and in Savannakhet (Donghen) Basin of S Laos: T kobayashi- Plicatounio suzukii assemblage, and T. diversicostatus-Pseudohyria subovalis assemblage)

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(Ophiolite melange in Nan-Uttaradit zone, N Thailand, formed in Late Devonian- Permian. Metamorphic tholeiites similar to ocean-ridge basalts, hawaiites in Nan area similar to oceanic-island basalts. Basalts are all oceanic volcanic rocks and part of Paleo-Tethys oceanic crust)

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(Late Permian-Early Triassic volcanic rocks on E side of ocean-ridge/oceanic-island basalts in Nan-Uttaradit zone are basaltic-andesite island-arc volcanics. Ocean-ridge-island-arc pair indicates oceanic crust of Nan-Uttaradit zone once was of E-ward subduction)

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(Late Permian- E Triassic continent margin arc volcanics on E side of oceanic basalts in Chiang Mai belt indicative of E-ward subduction of oceanic crust in Chiang Mai belt)

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(Oceanic island arc rocks in Chiang Mai zone, N Thailand, are usually covered by Lower Carboniferous-Permian shallow marine carbonates. Geochemistry typical of oceanic island basalts and alkali basalts, similar to equivalents in Deqin and Gengma (Changning-Menglian zone) of Yunnan Province, China)

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(Small Meekella-domiated brachiopod assemblage from upper Khao Phra Fm of uppermost Kaeng Krachan Gp in C Peninsular Thailand (Sibumasu Terrane). In cross-bedded quartz sst above diamictite. With Meekella bisculpta and Costatumulus. Most likely Late Artinskian or Kungurian age. Transitional between temperate Gondwanan and warm-water Cathaysian faunas)

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Sinclair, G. (1997)- A study of the Pranburi Formation and Khao Tao Formation. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, 1, p. 337-345.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1997/7643.pdf)
(Metamorphic formations at E side of Upper Peninsula of Thailand near Khao Tao. Pranburi Fm paragneiss and schist, marble and quartzite originally shallow marine island arc sediments. Khao Tao Fm orthogneiss originally granite. Since peak metamorphism in Late Triassic uplifted by ~10km. Several deformation episodes. N-S to NNE-SSW trending folds and schistosity. Tied to Sibumasu- Indochina collision)

Singharajwarapan, S. (1994)- Deformation and metamorphism of the Sukhothai Fold Belt, Northern Thailand, Ph.D. Thesis, University of Tasmania, Hobart, p. 1-385.
(online at: http://library.dmr.go.th/library/DMR_Technical_Reports/1994/566.pdf)
(Sukhothai foldbelt area E of Lampang in N Thailand, close to Nan Suture. Sirikit Dam area stratigraphy:(1) Permo-Carboniferous? Pha Som Metamorphic complex (intensely deformed melange with ultramafics and metasediments with M-U Permian radiolarian chert, W-dipping), structurally juxtaposed against (2) Permian-Triassic Pak Pat Volcanics (mainly basaltic andesite lavas, minor dacites, tuffs;1500m thick?; geochemistry suggestive of rifting of intra-oceanic arc to form back arc basin), (3) unconformably overlain by Triassic Nam Pat Gp (with volcanics-rich basal conglomerates and turbiditic series with Halobia/ Daonella in upper part; >3000m?)) and (4) unconformably covered by Phra Wihan Fm non-marine sst redbeds with M Jurassic plants. Also brief study of Doi-Inthanon metamorphic complex W of Lampang)

Singharajwarapan, S. (1994)- Provenance and tectonic setting of deposition of metagreywackes in the Nan River Suture, Northern Thailand. In: G.H. Teh (ed.) Proc. 9th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA ô98), Kuala Lumpur 1998, Bull. Geol. Soc. Malaysia 43, p. 113-129.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1999012.pdf)
(Metagreywackes from Sirikit Dam area in N Thailand cover part of Nan River Suture between Shan-Thai terrane in W and Indochina in E. Belong to Pha Som Metamorphic Complex of Carboniferous-Permian pumpellyite-actinolite facies metasediments and tectonic slices of ophiolitic mafic-ultramafic rocks. Interpreted as accretionary complex on W dipping subduction zone. Metagreywacke derived from (1) quartz-rich continental island arc source, probably deposited in submarine fan setting and (2) quartz-poor oceanic island arc source. Suggests accretionary complex older than Late Triassic Shan-Thai- Indochina amalgamation)

Singharajwarapan, S. & R.F. Berry (1993)- Structural analysis of the accretionary complex in Sirikit Dam area, Uttaradit, Northern Thailand. In: B.K. Tan et al. (eds.) 7th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 233-245.
(Complexly folded Late Carboniferous- Permian metagreywakes and phyllites with enclosed mafic-ultramafic rocks in Sirikit Dam area are part of 'Nan River Ophiolite Belt', interpreted as suture between Shan-Tai in W and Indochina terrane in E. Tight isoclinal folding, S2 slaty cleavage, stretching lineations and metamorphism related to E-directed (W-dipping) accretionary thrusting)

Singharajwarapan, S. & R. Berry (2000)- Tectonic implications of the Nan Suture Zone and its relationship to the Sukhothai Fold Belt, Northern Thailand. J. Asian Earth Sci. 18, p. 663-673.
(Nan Suture and Sukhothai Fold Belt mark Shan-Thai -Indochina collision zone. Shan-Thai Terrane rifted from Gondwana in E Permian. As it drifted N, subduction complex developed along N margin. Nan serpentinitic melange is Late Permian accretionary complex with offscraped blocks from subducted Carboniferous and Permian oceanic crust. Deformational style supports W-dipping subduction zone. Late Permian-Late Triassic fore-arc basin sediments preserved in Sukhothai Fold Belt. Sequence folded and complexly thrust in Late Triassic as result of collision. Post-orogenic sediments prograded across suture in Jurassic)

Singtuen, M. & B. Phajuy (2016)- Geochemistry and tectonic significance of andesitic rocks in Tak Province, Thailand. In: Proc. 52nd Annual Session Coord. Comm. Geoscience Progr. E and SE Asia (CCOP), Bangkok, p. 65-74.
(online at: www.ccop.or.th/download/as/52as2.pdf)
(Geochemistry of M-L Triassic mildly calc-alkalic andesite porphyry from Chiang Kong- Lampang- Tak volcanic belt of NW Thailand. Erupted in volcanic arc setting)

Sinhabaedya, P. & Y. Ionnikoff (2008)- Integrating high resolution sequence stratigraphy, sedimentology and structuration in complexly faulted thin-bedded fluvio-lacustrine reservoirs, Sirikit oil fields, onshore Thailand. Proc. Int. Symp. Geoscience resources and environments of Asian Terranes (GREAT 2008), 4th IGCP 516 and 5th APSEG, Bangkok 2008, p. 387-394.
(Sirikit oilfields in Phitsanulok basin, Thailand, started production in 1982 and reached peak production of 26,740 BOD in 2000. Over 400 wells. Field geology complex, particularly deltaic reservoir architecture)

Sitthithaworn, E. & P. Wasuwanich (1992)- Metallogenic map of Thailand. In: C. Piancharoen (ed.) Proc. Nat. Conf. Geologic Resources of Thailand-potential for future development, Dept. Mineral Resources, Bangkok, p. 1-15.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1992/6199.pdf)
(Thailand three metallogenic provinces, NE, Central (A, Cu, etc.) and West (Sn, Pb, Zn, etc.) representing continental and subduction system settings)

Smith, M., S. Chantraprasert, C.K. Morley & I. Cartwright (2007)- Structural geometry and timing of deformation in the Chainat duplex, Thailand. In: W.D. Cunningham & P. Mann (eds.) Tectonics of strike-slip restraining and releasing bends, Geol. Soc., London, Spec. Publ. 290, p. 305-323.

(Chainat N-S trending strike-slip duplex ~100 km long, developed along sinistral Mae Ping fault zone, which was active during Cenozoic. Probably began to develop towards end of main phase of escape tectonics in Thailand, i.e. around 33-30 Ma. E and Late Miocene inversions in adjacent rift basins suggests possible activity in duplex. Possible minor episodic dextral motions in Late Oligocene-Miocene and/or Pliocene-Recent)

Sone, M. (2010)- A new species of the rare neritopsid gastropod *Magnicapitatus* from the Guadalupian (Middle Permian) of East Thailand (the Indochina Terrane). Alcheringa 34, 1, p. 1-6.
(Neritopsid gastropod genus Magnicapitatus from fusulinoid-rich limestone of Khao Taa Ngog Fm (Capitanian, M Permian) at Khao Makha in E Thailand near Cambodia border, in Indochina Terrane)

Sone, M., C. Chonglakmani & A. Chitnarin (2009)- Middle Permian productidine brachiopods from Central Thailand (the Indochina Terrane) with paleobiogeographic implications. J. Paleontology 83, 5, p. 804-810.
(Assemblage of productid brachiopods Haydenella, Paraplicatifera and Compressoproductus from Wordian of U Saraburi Limestone Gp of C Thailand (W margin Indochina Terrane) suggests endemism for M Permian marine faunule of Indochina Terrane)

Sone, M., I. Metcalfe & P. Chaodumrong (2012)- The Chanthaburi terrane of southeastern Thailand: stratigraphic confirmation as a disrupted segment of the Sukhothai Arc. J. Asian Earth Sci. 61, p. 16-32.
(Chanthaburi terrane interpreted as S segment of Permo-Triassic Sukhothai Arc. In SE Thailand, extending into Cambodia, between Indochina and Sibumasu continental blocks. Klaeng tectonic line is boundary between Chanthaburi Terrane- Sibumasu block. Late Permian- Triassic largely absent due to Indosinian I unconformity (W Indochina) or mainly carbonates (Sibumasu). Brachiopod, previously reported as Leptodus, re-identified as Oldhamina, previously known elsewhere in SE Asia, in Thailand confined to Sukhothai Arc. Marine stratigraphy of Sukhothai Arc Permian-Triassic carbonates and siliciclastics with common volcanic material. Marine conditions on Sukhothai Arc terminated by end-Triassic, later than Indochina block (Late Permian) but earlier than Sibumasu block (Jurassic/ Cretaceous))

Songtham W., (2003)- Stratigraphic correlation of Tertiary basins in northern Thailand using algae, pollen and spores. Ph.D. Thesis, Chiang Mai University, Thailand, p. 1-280. *(Unpublished)*

Songtham, W., J. Duangkrayom & P. Jintasakul (2012)- An Australasian tektite from the Yasothon soil series, Noen Sa-nga, Chaiyaphum, Northeastern Thailand. In: Proc. First Int. Symposium of IGCP-589, Acta Geoscientica Sinica 33, Suppl. 1, p. 59-64.
(Quarries N of Noen Sa-nga, Khorat Basin, NE Thailand, with lower fluvial gravel unit (with thin ferricrete layer at top) and upper bright reddish brown structureless sand unit with fining-upward basal portion (Yasothon soil series). Black glassy tektite (4x2 cm) found at contact between two units.Tektite deposition followed by larger-sized sediments and angular quartz fragments forming fining-upward sedimentary series. Finer sediments gradually settled down, forming Yasothon structureless sand deposit. Meteoritic impact event occurred at ~0.77 Ma)

Songtham, W., D.C. Mildenhall, P. Jintasakul & J. Duangkrayom (2011)- Evidence of sedimentary deposits generated by an Early Pleistocene meteor impact in Northeastern Thailand. In: Int. Conf. Geology, Geotechnology and Mineral Resources of Indochina (GEOINDO 2011), Khon Kaen, p. 66-71.
(Yasothon soil horizon wide distribution in Khorat basin, NE Thailand. Probably 'loess', catastrophically generated by Pleistocene meteor impact in Buntharik, Ubon Ratchathani, at ~0.7-0.8 Ma, as dated by tektites (Bunopas 1990; part of Australasian strewnfield). Yasothon soils with 10-30 cm thick basal breccia, with sharp angular rock fragments (incl. tektites at base, fining upward into structureless silt -fine sand, interpreted as airfall deposit. Size of basal breccia coarser in E than in W, suggesting impact site in E, possibly circular raised ridge 13km across, W of Phanom Phrai)

Songtham, W., D.C. Mildenhall & B. Ratanasthien (2012)- Petrified tree trunks from a gravel deposit, Ban Tak Petrified Forest Park, Ban Tak- Sam Ngao Basin, Tak Province, Northern Thailand. J. Science Technol. Maha Sarakham University (MSU), p. 93-100.
(online at: www.thaiscience.info/journals/Article/JSMU/10887847.pdf)

(Fossil tree stumps and up to 72.2m long trunks from fluvial and alluvial fan deposits in excavation pits at Ban Tak (Bantak) Petrified Forest Park identified as Koompassioxylon elegans and Pahudioxylon cf. sahnii. Ban Tak- Sam Ngao basin fluvial sediments on granite. Sediments deposited under tropical humid climate with deciduous forests. Tentative age E Pleistocene)

Songtham, W., B. Ratanasthien & D.C. Mildenhall (2001)- Tropical palynofloras from Middle Miocene Chiang Muan basin, Phayao, Thailand. ?
(online at: www.thaiscience.info/Article%20for%20ThaiScience/Article/61/10012001.pdf)
(Sporomorphs from M Miocene sediments of Chiang Muan basin include abundant Crassoretitriletes vanraadshoovenii, Dipterocarpaceae, Ilexpollenites, Botryococcus and rare Florschuetzia, , representing tropical palynofloras derived from tropical monsoon forests, accumulated mainly in lacustrine environments)

Songtham, W., B. Ratanasthien & D.C. Mildenhall (2004)- New species of algae *Actinastrum* Lagerheim and *Closterium nitzsch* ex Ralfs from Middle Miocene sediments of Chiang Muan basin, Phayao, Thailand, with tropical pollen composition. Science Asia 30, p. 171-181.
(online at: www.scienceasia.org/2004.30.n2/v30_171_181.pdf)
(Two new algal species of algae Actinastrum bansaense n. sp. and Closterium thailandicum from late M Miocene (~13.5 -10 Ma) lacustrine deposits associated with coals of Chiang Muan basin. Palynofloras from tropical monsoon forests (incl. Crassoretitriletes vanraadshoovenii fern spores, also Dipterocarpaceae, Lagerstroemia, Ilexpollenites, Myrtaceidites and Combretaceae with rare Florschuetzia-type, Homonoia, Calophyllum, Striatriletes susannae, Botryococcus and Mimosaceae. Laevigatosporites haardtii fern spores in some horizons. Three acme zones; upper zone mainly with freshwater alga Actinastrum bansaense)

Songtham, W., B. Ratanasthien, D.C. Mildenhall, S. Singharajwarapana & W. Kandharosa (2001)- Palynological zonation and their paleovegetations of Ban Pa Kha coal mine, Li basin, Changwat Lamphun. In: Geological Survey Division Annual Academic Meeting, Dept. Mineral Resources, Bangkok, p. 1-11.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2544/6144.pdf)
(Palynology of Oligocene- E Miocene Li Basin sediments, N Thailand. Climate became warmer and wetter with time)

Songtham, W., B. Ratanasthien, D.C. Mildenhall, S. Singharajwarapana & W. Kandharosa (2003)- Oligocene-Miocene climatic changes in Northern Thailand resulting from extrusion tectonics of Southeast Asian landmass. Science Asia 29, p. 221-233.
(online at: www.scienceasia.org/2003.29.n3/v29_221_233.pdf)
(Tertiary basins of N Thailand two main palynological assemblages: warm temperate (Oligocene- E Miocene; with common conifers) and tropical (M Miocene, probably also E Miocene age). Climate in Thailand changed from temperate to tropical in Oligo-Miocene, possibly caused by S-SE-ward movement of SE Asian landmass by extrusion tectonics induced by India- Eurasia collision, beginning at ~40-50 Ma)

Songtham, W., B. Ratanasthien, M. Watanasak, D. Mildenhall, S. Singharajwarapan & W. Kandharosa (2005)- Tertiary basin evolution in northern Thailand: a palynological point of view. Natural History Bull. Siam Soc. 53, 1, p. 17-32.
(online at: www.thaiscience.info/journals/Article/NHB/10439470.pdf)
(Tertiary basins in NW Thailand developed in Oligocene- M Miocene, initially in warm-temperate climate, with mid-latitude forests. Early Miocene warming until completely tropical in late E Miocene, persisting until end of M Miocene)

Songtham, W., H. Ugai, S. Imsamut, S. Maranate, W. Tansathien, A. Meesook & W. Saengsrichan (2005)- Middle Miocene molluscan assemblages in Mae Moh Basin, Lampang Province, Northern Thailand. Science Asia 31, p. 183-191.
(online at: www.scienceasia.org/2005.31.n2/v31_183_191.pdf)
(Fresh-water molluscs in M Miocene Mae Moh Gp of N Thailand (?Paludina, Melanoides, Bellamya, Margarya, Planorbidae, etc.))

Songtham, W. & M. Watanasak (1999)- Palynology, age, and paleoenvironment of Krabi Basin, southern Thailand. In: B. Rattanasathien & S. Rieb (eds.) Proc. Int. Symposium on Shallow Tethys 5, Chiang Mai, p. 426-439.

Srichan, W. (2008)- Petrochemistry, geochonology and tectonic implication of the Chiang Khong-Lampang-Tak Volcanic belt, Northern Thailand. Ph.D. Thesis, University of Tasmania, p. 1-284. *(Unpublished)*
(Chiang Khong-Lampang-Tak volcanic belt part of Sukhothai Fold Belt in N Thailand, between Chiang Mai (lnthanon) and Nan-Sra-Kaeo sutures. Here suggested to form in post-collisional, extensional Basin and Range-type setting (crustal thickening due to late M Triassic collision between Shan-Thai and Indochina terranes, followed by rifting led to post-collisional magmatism). Zircons U-Pb ages mainly late M-early Late Triassic (220-230 Ma). Permian zircons in Late Triassic igneous rocks possibly inherited from Permian granites. Detrital zircons in belt's sediments indicate Late Devonian-E Carboniferous, Permian and Late Triassic rocks exposed in provenance areas. Thin-skinned, mainly E-directed fold-thrust deformation. Unconformably overlain by Latest Triassic- E Jurassic Khorat Gp molasse)

Srichan, W. (2011)- Petrology and geochronology of igneous rocks from Thoen District, Lampang Province, Northern Thailand. Proc. Int. Conf. Geology, geotechnology and mineral resources of Indochina (GEOINDO 2011), Khon Kaen, p. 54-57.
(Granites and andesitic mafic dykes from Thoen District, Lampang, in S part of Chiang Khong-Lampang-Tak volcanic belt (= C part of Sukhothai Fold Belt; 240-220 Ma). Mafic rocks evolved from basalt- andesite and have calc-alkalic composition, erupted in continental margin arc environment associated with subduction zone. U-Pb zircon ages of felsic igneous rocks 231 Ma (late M Triassic); dykes are younger)

Srichan, W. (2015)- Age dating of rocks in the Chiang Khong-Lampang-Tak Volcanic belt, northern Thailand. In: Proc. 4th Int. Symposium Int. Geosciences Program (IGCP) Project 589, Bangkok 2015, p. 77-78. *(Abstract only)*
(online at: http://igcp589.cags.ac.cn/4th%20Symposium/Abstract%20volume.pdf)
(U-Pb-Th zircon ages of igneous and sedimentary rocks in Chiang Khong-Lampang-Tak volcanic belt in middle part of Sukhothai Fold Belt. Most volcanic belt igneous rocks crystallized in late M- early Late Triassic (216-237 Ma) and show zircon age groups of ~ 220 Ma and ~230 Ma. Permian zircons (261-280 Ma) possibly inherited from Permian granites. Detrital zircons in sedimentary rocks in belt indicate Devonian-Carboniferous, Permian and Late Triassic rocks in provenance areas)

Srichan, W., A.J. Crawford & R.F. Berry (2009)- Geochemistry and geochronology of Late Triassic volcanic rocks in the Chiang Khong region, Northern Thailand. Island Arc 18, 32-51.
(Chiang Khong segment of Chiang Khong-Lampang-Tak Volcanic Belt (part of Sukhothai volcanic arc) in NW Thailand composed of three meridional sub-belts of mafic-felsic volcanic, volcaniclastic, and associated intrusive rocks. Associated sedimentary rocks mainly non-marine red beds. Late Triassic (223-220 Ma; Norian) zircon ages of lavas. E Sub-belt dominated by mafic lavas transitional between E-mid-oceanic ridge basalt and back-arc basin basalts. Dominance of felsic lavas and mainly non-marine associated sediments suggest post-collisional extensional setting)

Srinak, N., K. Hisada, Y. Kamata & P. Charusiri (2007)- Stratigraphy of the Mae Sariang Group of Northwestern Thailand:implication for paleoenvironments and tectonic setting. Natural History J. Chulalongkorn University 7, 2, p. 87-108.
(online at: www2.biology.sc.chula.ac.th/web%20of%20NHJCU%20PDF/7-2,%2087-108.pdf)
(M-L Triassic deep marine clastics of Mae Sariang Gp of NW Thailand in narrow N-S belt and ~900m thick, conformably over deformed Permian marine clastics and unconformably below subhorizontal Jurassic clastics. Conglomerate-lithic sandstone near base with Halobia and Daonella cf. sumatrensis bivalves, mainly mudstone and radiolarian chert in middle and with abundant Halobia and Posidonia bivalves near top of section. Interpreted as deposits of Permian-Triassic intra-cratonic basin (branch of Paleotethys?), within Shan-Tai Terrane, which closed in Late Triassic (Ishida et al. 2006 proposed this belt as main Paleotethys suture; JTvG))

Stait, B. & C. Burrett (1982)- Early Ordovician polyplacophoran *Chelodes whitehousei* from Tarutao Island, southern Thailand. Alcheringa 8, p. 112.
(Polyplacophoran Chelodes whitehousei Runnegar et al. 1979 from basal Thung Song Fm at NE Tarutao Island. Carbonates of E-M Ordovician Thung Song Fm form N-S belt through Peninsular Thailand)

Stait, B.A. & C.F. Burrett (1987)- Ordovician nautiloid faunas of Central and Southern Thailand. Geol. Magazine 121, p. 115-124.
(Nautiloids from Ordovician shallow marine carbonates of W and Peninsular Thailand grouped into five assemblages Incl. Hardmanoceras chrysanthimum, Manchuroceras nakamense, Wutinoceras, Armenoceras chediforme, etc.. All genera also occur in Australia and China)

Stait, B.A., C.F. Burrett & T. Wongwanich (1987)- Ordovician trilobites from the Tarutao Formation, Southern Thailand. Neues Jahrbuch Geol. Palaont., Monatshefte 1984, 1, p. 53-64.
(Ordovician (M-U Tremadocian) trilobites in upper 100m of Tarutao Fm clastics of Tarutao Island, N of Langkawi (= Sibumasu block) (see also Shergold et al. 1988, Late Cambrian trilobites from Tarutao))

Stait, B.A., D. Wyatt & C.F. Burrett (1987)- Ordovician nautiloid faunas of Langkawi Islands, Malaysia, and Tarutao Island, Thailand. Neues Jahrbuch Geol. Palaont. Abhandl. 174, p. 373-391.

Stokes, R.B. (1988)- Correlation of the Permian 'Phawa Limestone' of Thailand with the 'Kamawkala Limestone' of Burma. J. Southeast Asian Earth Sci. 2, p. 35-39.
(Phawa Dolomite Fm in area E of Mae Sot in western foldbelt of W Thailand contains rich Permian brachiopod fauna (with Leptodus, Waagenites speciosus, Uncinulus timorensis, etc., Artinskian-Kazanian?) and correlates with part of 'Kamawkala Limestone' at W rim of Mae Sot basin in Karen State of E Burma. This latter unit is re-named Htichara Dolomite Fm)

Stokes, R.B. (1988)- Structural control of Neogene sedimentation in the Mae Sot Basin (Thai-Burmese border: implications for oil shale reserves. J. Petroleum Geol. 11, 3, p. 341-346.

Stokes, R.B. (2011)- The Late Cimmerian event in Western Thailand and Central Thailand and Central Lao PDR. J. Geol.Soc. Thailand 1, p. 25-29.
(Folding and faulting of Jurassic marine strata in W Thailand interpreted as Jurassic-Cretaceous boundary event, pre-dating unconformable deposition of non-marine Cretaceous conglomerates with pebbles of Jurassic limestone. Corresponds to widespread 'Late Cimmerian event' elsewhere in Asia, younger than M-L Triassic 'Indosinian Event')

Suensilpong, S., C.K. Burton, N. Mantajit & D.R. Workman (1978)- Geological evolution and igneous activity of Thailand and adjacent areas. Episodes 13, p. 12-18.
(online at: www.episodes.co.in/www/backissues/13/ARTICLES--12.pdf)
(Brief review of geologic history of Thailand from Precambrian- Recent))

Suensilpong, S., P. Putthapiban & N. Mantajit (1983)- Some aspects of tin granite and its relationship to tectonic setting. Geol. Soc. America (GSA) Mem. 159, p. 77-86.
(SE Asia granite belt in Thailand multiple phases of granite. Permian and Late Triassic-E Jurassic formed above W-dipping subduction zones. E Cretaceous (~125-130 Ma) and Late Cretaceous- E Tertiary (~80-50 Ma) granites involved E-dipping subduction (Indian Ocean- Eurasian plates convergence). Tin mineralization confined mostly to highly silicic parts of S-type granitoids, like Late Triassic- E Jurassic (~212-190 Ma))

Sugiyama, T. (1982)- Middle Permian corals from the Ratburi Limestone in the Khao Khao area, Sara Buri, Central Thailand. In: T. Kobayshi, R. Toriyama & W. Hashimoto (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 24, p. 15-29.
(M Permian corals from 360m thick Ratburi Lst in Khao Khao section (with fusulinids of Afganella-Neoschwagerina haydeni zones described by Toriyama and Kanmera 1979). Five coral localities with

waagenophyllids Ipciphyllum saraburiense n.sp., Paraipciphyllum, Pseudohuangia, Chihsiaphyllum kanmerai n.sp. and tabulate Tetraporinus)

Sugiyama, T. & R. Toriyama (1981)- Coral and fusuline faunas from the Kabin Buri Area, East Central Thailand. In: T. Kobayshi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 22, p. 1-22.
(Description of new coral Koninckophyllum ingavatae n.sp., presumably of E Carboniferous age, 400km S of Loei (Visean))

Surakotra, N. (2011)- Diagenesis of laminated Loei-Wang Saphung gypsum- anhydrite deposits in the Northeastern Thailand. Proc. Int. Conf. Geology, geotechnology and mineral resources of Indochina (GEOINDO 2011), Khon Kaen, p. 106-115.
(Presence of laminated gypsum-anhydrite asociated with Late Carboniferous carbonates in Loei-Wang Saphung area, NE Thailand)

Suteethorn, V., E. Buffetaut, R. Helmcke-Ingavat, J.J. Jaeger & Y. Jongkanjanasoontorn (1988)- Oldest known Tertiary mammals from South East Asia: Middle Eocene primate and anthracotheres from Thailand. Neues Jahrbuch Geol. Palaont., Monatshefte 9, p. 563-570.

Suteethorn, S., J. Le Loeuff, E. Buffetaut, V. Suteethorn, C. Talubmook & C. Chonglakmani (2009)- A new skeleton of *Phuwiangosaurus sirindhornae* (Dinosauria, Sauropoda) from NE Thailand. In: E. Buffetaut et al. (eds.) Late Palaeozoic and Mesozoic ecosystems in SE Asia, Geol. Soc., London, Spec. Publ. 315, p. 189-215.
(New skeleton of sauropod dinosaur from E Cretaceous Sao Khua Fm at Ban Na Khrai in NE Thailand)

Suteethorn, S., J. Le Loeuff, E. Buffetaut, V. Suteethorn & K. Wongko (2013)- First evidence of a mamenchisaurid dinosaur from the Upper Jurassic- Lower Cretaceous Phu Kradung Formation of Thailand. Acta Palaeontologica Polonica 58, 3, p. 459-469.
(online at: www.app.pan.pl/archive/published/app58/app20090155.pdf)
(Sauropod vertebra from U Jurassic- Lower Cretaceous continental Phu Kradung Fm near Phu Dan Ma, NE Thailand)

Sutthirat, C., P. Charusiri, E. Farrar & A.H. Clark (1994)- New 40Ar/39Ar geochronology and characteristics of some Cenozoic basalts in Thailand. In: P. Angsuwathana et al. (eds.) Proc. Int. Symp. Stratigraphic correlation of Southeast Asia, Bangkok 1994, Dept. Mineral Res., p. 306-321.
(online at: www.eatgru.sc.chula.ac.th/Thai/research/pdf/paper/19.pdf)
(Ar-Ar age data of Cenozoic basalts in Thailand suggest six main episodes: 22-24 Ma, 18-20 Ma, 8-14 Ma, 4-5.3 Ma, 1.6-3.6 Ma and <1.6 Ma). Believed to be result of continental rifting)

Sutthirat, C., S. Saminpanya, G.T.R. Droop, C.M.B. Henderson & D.A.C. Manning (2001)- Clinopyroxene-corundum assemblages from alkali basalt and alluvium, eastern Thailand: constraints on the origin of Thai rubies. Mineralogical Magazine 65, 2, p. 277-295.
(Thailand rubies mainly from alluvial deposits, but probably originated from Late Cenozoic basalts, probably crystallized in mafic garnet-clinopyroxenites or garnet-pyriclasites, in upper mantle)

Suwanich, P. (1983)- Potash and rock salt in Thailand. In: Conf. Geology and Mineral Resources of Thailand, Bangkok, p. 244-252.

Suwanich, P. (2007)- Potash-evaporite deposits in Thailand. In: W. Tantiwanit (ed.) Int. Conf. on Geology of Thailand: Towards sustainable development and sufficiency economy (GEOTHAIõ07), Bangkok, Dept. Mineral Resources, p. 252-262.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2007/12730.pdf)
(NE Thailand Khorat plateau/ basin with thick Cretaceous evaporites of Maha Sarakham Fm. Review of evaporite stratigraphy. Potash minerals carnallite, sylvite and tachyhydrite present above lower salt)

Suwanich, P. (2009)- Potassium Bromide (KBr) contents in the Maha Sarakham Formation, northeastern Thailand: indicator of origin and deformation of rock salt strata. J. Science Technol. Maha Sarakham Univ. (MSU), p. 249-258.

Suwannathong, A. & D. Khummongkol (2007)- Oil shale resource in Mae Sot Basin, Thailand. In: 27th Oil Shale Symposium, Colorado School of Mines, p. 1-8.
(online at: www.ceri-mines.org/documents/27symposium/papers/ma11-4suwannathong.pdf)
(On E Miocene lacustrine oil shale in Mae Sot Basin, Tak Province, NW Thailand. Quality poor-medium)

Suwimonprecha, P., P. Cerny & G. Friedrich (1995)- Rare metal mineralization related to granites and pegmatites, Phuket, Thailand. Economic Geology 90, p. 603-615.
(online at: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.857.7029&rep=rep1&type=pdf)
(Rare metal mineralization on Phuket Island, SW Thailand, with deposits of Sn, Nb-Ta and W, related to Cretaceous granites of Khao Tosae Suite and pegmatite derivative)

Taiyaqupt, M., P. Charusiri & W. Pongsapich (1984)- Geology and stratigraphy of Sri Racha area, Chonburi Province, Eastern Thailand. In: G.H. Teh & S. Paramananthan (eds.) Proc. 5th Reg. Congress Geol. Min. Energy Res. SE Asia (GEOSEA V), Kuala Lumpur 1984, 2, Bull. Geol. Soc. Malaysia 20, p. 59-71.
(Sri Racha area along coast SE of Bangkok, underlain by folded Carboniferous low grade metamorphics, thin Permian sediments including thin limestone similar to Ratburi Group with Tubiphytes and Pseudofusulina. Intruded by Triassic granites)

Takemoto, K., S. Sato, K. Chanthavichith, T. Inthavong, H. Inokuchi, M. Fujihara, H. Zaman et al. (2009)- Tectonic deformation of the Indochina Peninsula recorded in the Mesozoic palaeomagnetic results. Geophysical J. Int. 179, p. 97-111
(online at: http://gji.oxfordjournals.org/content/179/1/97.full.pdf+html)
(E Jurassic- E Cretaceous red sandstones sampled at three localities in Shan-Thai and Indochina blocks. Shan-Thai and Indochina blocks experienced ~10° CW rotation in early stage of India-Asia collision. After this, Shan-Thai Block underwent internal tectonic deformation, while Indochina Block behaved as rigid tectonic unit. Strength of continental lithosphere important role in deformation (continental roots beneath Indochina prevented internal deformation))

Tangwattananukul, L. (2015)- Characteristics of epithermal Au and porphyry Cu-Mo mineralizations of the Chatree deposit, central Thailand. Thesis, Akita University, p. 1-140.
(online at: https://air.repo.nii.ac.jp/?action=repository_uri&item_id=2547&file_id...2)
(Chatree Au-Ag deposit in Petchabun Province with two E Triassic mineralization styles in Carboniferous-sediments and Permian arc volcanics: (1) epithermal Au-Ag (~250 Ma; formed ~200m below paleosurface); (2) porphyry Cu-Mo (~244 Ma; formed ~1 km below paleosurface))

Tangwattananukul, L. & D. Ishiyama (2018)- Characteristics of Cu-Mo mineralization in the Chatree mining area, Central Thailand. Resource Geology 68, 1, p. 83-92.
(online at: http://onlinelibrary.wiley.com/doi/10.1111/rge.12146/epdf)
(Chatree mineral deposits within Eastern Granite Belt at W side of Indochina Block (Triassic- Jurassic Sukhothai arc/ foldbelt). Include Cu-Mo-bearing quartz veins in altered E Triassic (243±5 Ma) granodiorite porphyry and altered andesite lava, formed at T of 450°C and P of 250 bars. Associated Au mineralization at Chatree slightly older (250±0.8 Ma; latest Permian))

Tangwattananukul, L., D. Ishiyama, O. Matsubaya, T Mizuta, P. Charusiri, H. Sato & K. Sera (2014)- Characteristics of Triassic epithermal Au mineralization at the Q prospect, Chatree mining area, Central Thailand. Resource Geology 64, 2, p. 167-181.
(Chatree Au deposit in 600km Loei-Phetchabun-Nakhon Nayok volcanic belt between Shan-Thai and Indochina terranes, that extends from Laos in N through C and E Thailand into Cambodia. Gold-bearing quartz veins in late Permian- E Triassic andesitic breccia and Carboniferous-Permian volcanic sedimentary breccia. Gold-bearing quartz veins five stages; formed ~200 m below paleosurface)

Tansathien, W., L. Raksaskulwong & A. Meesook (1997)- Stratigraphy, tectonic evolution and mineral deposits of Western Thailand (Route No. 2)- Guidebook for excursion. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, p. 1-55.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/1997/2520_2.pdf)
(Brief review of W Thailand geology and fieldtrip stops in ?Precambrian metamorphics, Paleozoic sediments and younger rocks)

Tantiwanit, W., L. Raksaskulwong & N. Mantajit (1983)- The Upper Palaeozoic pebbly rocks in southern Thailand. In: P. Nutalaya (ed.) Proc. Workshop Stratigraphic correlation of Thailand and Malaysia, Haad Yai 1983, Geol. Soc. Thailand and Geol. Soc. Malaysia, p. 96-104.
(https://gsmpubl.files.wordpress.com/2014/10/sctm_05.pdf)
Widespread pebbly rocks/ diamictites in Carboniferous- E Permian marine Kaeng Krachan Fm in SW Thailand (Phuket, etc.). Can be correlated with Mergui Fm of Burma and Singa Fm of Malaysia. May be ice-rafted deposits and tillites, some may be slump deposits. Thickness tilloid-bearing clastics >1200m?. Most common clasts quartzites/ quartz sandstones, also grey limestone, vein quartz, acid plutonic rocks (biotite-granite and trondhjemite) and rare megaclasts of shale, mudstone, chert, biotite-gneiss and diorite. Conformably overlain by E Permian Ratburi Lst)

Tassy, P., P. Anupandhanant, L. Ginsburg, P. Mein, B. Ratanasthien & V. Suteethorn (1992)- A new *Stegolophodon* (Proboscidea, Mammalia) from the early Miocene of Northern Thailand. Geobios 25, 4, p. 511-523.

Teraoka Y., H. Sawata, T. Yoshida & T. Pungrassami (1982)- Lower Paleozoic Formations of the Tarutao Islands, Southern Thailand. Prince of Songkhla University, Geol. Resources Project Publ. 6, p. 1-54.
(Igo 1984: oldest conodonts of SE Asia found here (E Ordovician) (see also Agematsu et al. 2008))

Thambunya, S., V. Pisutha-Arnond & C. Khantaprab (2007)- Depositional environments of Permian rocks of the Khao Khad Formation in Central Thailand. Science Asia 3, p. 371-381.
(online at: www.scienceasia.org/2007.33.n4/v33_371_381.pdf)
(Khao Khad Fm of Saraburi Group in C Thailand is sequences of limestone, dolomitic limestone and silty shale with nodular and banded cherts. Fifteen rock units distinguished. Deposited during major transgressive-regressive cycle in Lower- M Permian)

Thanasuthipitak, T. (1978)- Geology of Uttaradit area and its implications on tectonic history of Thailand. Proc. 3rd Regional Conf. Geology and Mineral Resources of SE Asia (GEOSEA III), Bangkok, p. 187-197.
(Suture zone in NW Thailand between Indochina- Sibumasu plate, with ophiolites, etc., reflecting W-dipping Permo-Carboniferous subduction/ continental collision zone)

Thanasuthipitak, T. (1978)- A review of igneous rocks of Thailand. In: P. Nutalya (ed.) Proc. 3rd Regional Conf. Geology and Mineral Resources of SE Asia (GEOSEA III), Bangkok, p. 775-782.
(Brief review of Late Carboniferous- Cretaceous granitic rocks of N, W and SE Thailand and Thai Peninsula, ultramafic-mafic rocks of NW Thailand and volcanics)

Thanasuthipitak, T. & T. Sirinawan (1986)- Petrochemistry of gem-bearing basalt in the Nong Bon area, Trat Province, Eastern Thailand. In: G.H. Teh & S. Paramananthan (eds.) Proc. 5th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA V), Kuala Lumpur 1984, 2, Bull. Geol. Soc. Malaysia 20, p. 503-521.
(Gem deposits of Thailand (ruby, sapphire, zircon, garnet) associated with three belts of weathered Late Cenozoic basalt deposits)

Thanomsap, S. (1983)- Stratigraphic sequences and facies distributions in the Mae Sot Basin. In: Conf. Geology and Mineral Resources of Thailand, Bangkok, p. 367-376.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1983/10619.pdf)

(Late Tertiary Mae Sot intramontane basin in W Thailand with >2000m of fluvial-lacustrine sediments unconformably over Triassic-Jurassic limestones)

Thanomsap, S. & S. Sitahirun (1992)- The Mae Sot oil shale. In: C. Piencharoen (ed.) Proc. Nat. Conf. Geologic resources of Thailand: potential for future development, Bangkok, Dept. Min. Resources, p. 676-691.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1992/6258.pdf)
(On Miocene lacustrine oil shale in Mae Sot Basin, Tak Province, W Thailand. Oil shale beds 5- 100' thick. Generally low quality (average oil yield 5% by weight), minor quantities of higher quality (>10% oil). Explored since 1939, but no viable commercial development yet)

Thasod, Y., P. Jintasakul & B. Ratanasthien (2012)- Proboscidean fossil from the Tha Chang sand pits, Nakhon Ratchasima Province, Thailand. J. Science Technol. Mahasarakham University (MSU), 31, p. 33-44.
(online at: ttps://www.khoratgeopark.com/kgp/researchs/2012_Thasod_283-293-1-PB.pdf)
(Eight genera of Proboscidean fossils in sand pits in Nakhon Ratchasima province, NE Thailand, of families Dienotheriidae (Prodeinotherium, Gomphotherium, Tetralophodon, Sinomastodon, Protanancus), Stegodontidae (Stegolophodon, Stegodon) and Elephantiidae (Elephas). Ages M Miocene- Pleistocene)

Thassanapak, H., C. Chonglakmani, Q. Feng, J. Grant-Mackie & N. Thanee (2007)- Middle Triassic radiolarians from Den Chai Area, Northern Thailand. In: W. Tantiwanit (ed.) Int. Conf. on Geology of Thailand: towards sustainable development and sufficiency economy (GEOTHAIô07), Bangkok, Dept. Mineral Resources, p. 180-186.
(Den Chai area at S edge of Cenozoic Phrae basin in NW Thailand with Lampang Gp marine Triassic, incl. Wang Chin Fm with Halobia, Paleocardita, Posidonia. M Triassic (Anisian-Ladinian) radiolarians extracted from maroon siliceous rocks, S of Den Chai, incl. Triassocampe deweveri, T. coronata, T. scalaris, Muelleritortis spp., etc. Interpreted as deposited offshore of extensional continental margin)

Thassanapak, H. Q.L. Feng, J. Grant-Mackie, C. Chonglakmani & N. Thanee (2011)- Middle Triassic radiolarian faunas from Chiang Dao, Northern Thailand. Palaeoworld 20, 2, p. 179-202.
(64 species of Late Anisian radiolarians from 9m thick thin-bedded chert sequence N of Chiang Dao indicates deep marine environment in NW Thailand (seaway between E and W Paleotethys). Beds probably from tectonic slice in Carboniferous- M Triassic sequence overlain by Triassic igneous rocks. Can be correlated with E zone of Changning-Menglian Belt in SW Yunnan, China)

Thassanapak, H., M. Udchachon & C. Burrett (2012)- Devonian conodont, radiolarian, and tentaculitid assemblages in the Indochina Terrane. Proc. First Int. Symposium of IGCP-589, Xi'an, China 2012, Acta Geologica Sinica 33, Suppl. 1, p. 65-66 *(Abstract)*
(online at: http://igcp589.cags.ac.cn/pdf/29-THASSANAPAK,%20UDCHACHON%20et%20al.pdf)
(In E margin of Indochina Terrane along Troungson Foldbelt in C Laos, localities in Lak Xao and Sepon districts contain radiolarians (Trilonche spp.) and tentaculitids (Homoctenus ultimus, Costulatostylionina vesca), indicating Frasnian age. In W margin of Indochina Terrane Pak Chom in Loei, Thailand, Late Devonian radiolarian cherts)

Thassanapak, H., M. Udchachon, C. Burrett & Q. Feng (2017)- Geochemistry of radiolarian cherts from a Late Devonian continental margin basin, Loei fold belt, Indo-China terrane. J. Earth Science (China) 28, 1, p. 29-50.
(online at: http://en.earth-science.net/PDF/20170110101143.pdf)
(>42 species of U Devonian (Frasnian-Famennian) radiolaria in cherts-siliceous shales in NE Thailand sector of Loei fold belt (Indochina terrane). Geochemistry suggests continental margin environment near volcanic arc, different from U Devonian cherts from N Thailand, Truong Son foldbelt (Laos) and S China. U Devonian deep marine sequences in Loei fold belt deposited in rifted continental margin basin, possibly back-arc basin, not in large oceanic basin)

Thassanapak, H., M. Udchachon, C. Chonglakmani & Q. Feng (2011)- Geochemistry of Middle Triassic radiolarian cherts from northern Thailand: implication for depositional environment. J. Earth Science (China) 22, 6, p. 688-703.

(M Triassic radiolarian cherts from N Thailand (Chiang Dao, Lamphun, Den Chai) of biogenic origin. Geochemistry suggests M Triassic radiolarian cherts deposited in deeper part of residual basin. Main Paleotethys which closed during Late Triassic should be located further to W)

Thassanapak, H., M. Udchachon, Q. Feng & C. Burrett (2017)- Middle Triassic radiolarians from cherts/siliceous shales in an extensional basin in the Sukhothai Fold Belt, Northern Thailand. J. Earth Science (China) 28, 1, p. 9-28.
(online at: http://en.earth-science.net/PDF/20170110100741.pdf)
(>30 species of Late Ladinian radiolaria from red chert- siliceous shales in E of Sukhothai fold belt, incl. Muelleritortis cochleata, M. expansa, Triassocampe deweveri, T. coronata, T. scalaris, Annulotriassocampe companilis, A. multisegmantatus, A. sulovensis, Pseudostylosphaera spp., Canoptum inornatus, C. levis, Corum kraineri, Spongoserrula rarauana, Orbiculiforma karnica and others. Assemblages correlated with Fang-Chiang Dao and Lumphun areas in N Thailand and Changning-Menglian belt of W Yunnan. Interpreted deposited in extensional continental margin in Sukhothai fold belt/ Lampang-Phrae Basin, not in Devonian-Permian back-arc basin of Nan suture)

Thienprasert, A. & M. Raksaskulwong (1984)- Heat flow in northern Thailand. Tectonophysics 103, p. 217-233.
(Heat flow in N Thailand highly variable. Four regions with high heat-flow, over 100 mW/m2: Fang oil fields, San Kamphaeng geothermal area, Mae Sot and W margin of Khorat plateau)

Thongboonruang, C. (2008)- Petroleum source rock potential of NE Thailand. Proc. 2nd Petroleum Forum: Blooming era of Northeastern Thailand, Bangkok 2008, Department of Mineral Fuels, p. 33-50.

Tien, Nguyen D. (1988)- Note on two "Incertae sedis" from the Permian of West Thailand. In: H. Fontaine & V.Suteethorn (eds.) Late Paleozoic and Mesozoic fossils of West Thailand and their environments, Comm. Co-Ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Bangkok, Techn. Bull. 20, p. 109-111.
(Two organisms of uncertain affinity relatively common in Permian of W Thailand: (1) Rectostipulina quatrata, a small tube, square in section; also known from Turkey, Cyprus, Iran, Afghanistan, etc.; (2) Sphairionia sikuoides n.gen., n.sp., a small bubble that may be foraminifer or fossil of algal affinity; known from Cambodia, Thailand, Malay Peninsula (= also 'Sibumasu fossil' subsequently reported from Oman, etc.?; JTvG))

Tingay, M.R.P., C.K. Morley, R.R. Hillis & J. Meyer (2010)- Present-day stress orientation in Thailand's basins. J. Structural Geol. 32, p. 235-248.
(Borehole breakouts in wells from 6 basins indicate N-S Smax in S Thailand and Gulf of Thailand, inconsistent with those predicted from India- Eurasia collision. Stresses from Sumatran-Andaman subduction zone may have resulted in significant deformation in offshore Thailand)

Tofke, T., A. Lumjuan & D. Helmcke (1993)- Triassic syn-orogenic siliciclastics from the area of Mae Sariang (northwestern Thailand). In: T. Thanasuthipitak (ed.) Int. Symposium Biostratigraphy of mainland Southeast Asia: facies and paleontology (BIOSEA), Chiang Mai 1993, 1, Chiang Mai University, 2, p. 391-400.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1993/7490.pdf)
(In Mae Sariang area of NW Thailand, dissecting 'Shan-Tai craton' is zone of oceanic Permian and E-M Triassic radiolarian ribbon cherts overlain by M-L Triassic syn-orogenic siliciclastics with Ladinian- Carnian Posidonia and Halobia. Coarse grained beds with pebbles of chert, metamorphic and plutonic rocks)

Tong, H., E. Buffetaut & V. Suteethorn (2002)- Middle Jurassic turtles from southern Thailand. Geol. Magazine 139, 6, p. 687-697.
(New cryptodiran turtle, from M Jurassic Mab Ching locality, in S peninsula of Thailand (Sibumasu Block). Closely resembles species M- L Jurassic of China and C Asia)

Tong, H., J. Claude, E. Buffetaut, V. Suteethorn, W. Naksri & S. Chitizing (2006)- Fossil turtles of Thailand: an updated review. In: J.C. Lu et al. (eds.) Papers from the 2005 Heyuan International dinosaur symposium, Geological Publishing House, Beijing, p. 183-194.

Tong, H., J. Claude, W. Naksri, V. Suteethorn, E. Buffetaut, S. Khansubha, K. Wongko & P. Yuangdetkla (2009)- *Basilochelys macrobios* n. gen. and n. sp., a large cryptodiran turtle from the Phu Kradung Formation (latest Jurassic-earliest Cretaceous) of the Khorat Plateau, NE Thailand. In: E. Buffetaut et al. (eds.) Late Palaeozoic and Mesozoic continental ecosystems in SE Asia, Geol. Soc., London, Special Publ. 315, p. 153-173.

Tong, H., J. Claude, V. Suteethorn, W. Naksri & E. Buffetaut (2009)- Turtle assemblages of the Khorat Group (Late Jurassic-Early Cretaceous) of NE Thailand and their palaeobiogeographical significance. In: E. Buffetaut et al. (eds.) Late Palaeozoic and Mesozoic continental ecosystems in SE Asia, Geol. Soc., London, Spec. Publ. 315, p. 141-152.
(Late Jurassic- E Cretaceous turtle assemblages from Khorat Gp mainly trionychoids (Basilochelys, Isanemys srisuki, Kizylkumemys, Shachemys sp., etc.) (Aptian). Some faunal links between turtle faunas from Khorat Group and those from peripheral regions of Asia)

Tong, H., W. Naksri, E. Buffetaut, V. Suteethorn, S. Suteethorn, U. Deesri et al. (2014)- A new primitive eucryptodiran turtle from the Upper Jurassic Phu Kradung Formation of the Khorat Plateau, NE Thailand. Geol. Magazine 152, 1, p. 166-175.
(Phunoichelys thirakhupti n.sp. is nearly complete primitive xinjiangchelyid turtle shell from Tithonian/ Berriasian fluvial deposits of Phu Kradung Formation, Khorat Gp., at Phu Noi, NE Thailand. Xinjiangchelyid turtles are dominant components in turtle faunas of U Jurassic of China and C Asia. Formation previously considered of Late Jurassic age, but palynology favors E Cretaceous age (Racey & Goodall 2009))

Tong, H., V. Suteethorn, J. Claude, E. Buffetaut & P.Jintasakul (2005)- The turtle fauna from the Khok Kruat Formation (Early Cretaceous) of Thailand. In: Proc. Int. Conf. Geology, Geotechnology and Mineral Resources of Indochina (GEOINDO 2005), Khon Kaen, p. 610-614.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2005/9385.pdf)
(Two fresh water turtle species from Cretaceous non-marine beds of Khorat Plateau, resembling Aptian-Albian forms of Laos and C Asia. Associated with Aptian-Albian hybodont sharks and Aptian palynomorphs)

Tongtherm, K., J Nabhitabhata, P. Srisuk. T. Nutadhira & D. Tonnayopas5 (2016)- New records of nautiloid and ammonoid cephalopod fossils in peninsular Thailand. Swiss J. Palaeontology 135, 1, p. 153-168.
(30 species of nautiloids and ammonoids identified from peninsular Thailand (+Shan-Thai/ Sibumasu). Ordovician nautiloids, Devonian-Carboniferous ammonoids, Triassic nautiloids (Michelinoceras, Tienoceras and syringonautilid nautiloids. Etc.))

Toriyama, R. (1944)- On some fusulinids from Northern Tai. Japanese J. Geology Geography 19, p. 243-247.
(Mid-Permian Pseudoschwagerina-dominated fusulinid assemblage from N Thailand)

Toriyama, R. (1965)- Fusuline fossils from Thailand, Part I, Fusulines of the Rat Buri Limestone of Thailand. Mem. Fac. Science Kyushu University, ser. D, 27, 1, p. 1-69.

Toriyama, R. (1975)- Fusuline fossils from Thailand. Part IX. Permian fusulines from the Rat Buri Limestone in the Khao Phlong Phrab area, Sara Buri, Central Thailand. Mem. Fac. Science, Kyushu University, Ser. D, 23, p. 1-116.
(Systematic descriptions and vertical distribution of 91 species/26 genera of fusulinid forams from 225m thick late Early- M Permian Ratburi Limestone section in C Thailand. Overall assemblage 'of Tethyan aspect', with Verbeekina, Neoschwagerina, also Parafusulina, rare Monodiexodina (but is on Sibumasu Plate?; JTvG). No locality maps, but described earlier in Toriyama, Kanmera et al. 1974; vol. 14 of this series)

Toriyama, R. (1976)- Fusuline fossils from Thailand. Part IX. Permian fusulines from the Rat Buri Limestone in the Khao Phlong Phrab area, Sara Buri, Central Thailand. In: T. Kobayashi & W. Hashimoto (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 17, p. 1-116.
(Same paper as Toriyama 1975, Mem. Fac. Science Kyushu University, above. Systematic descriptions and vertical distribution of 91 species/26 genera of fusulinid forams from 225m thick late Early- M Permian Ratburi Limestone section in C Thailand)

Toriyama, R. (1984)- Summary of the fusuline faunas in Thailand and Malaysia. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 25, p. 137-146.
(Brief review of localities with Carboniferous- Permian fusulinid forams in Ratburi Lst and equivelents in Thailand and Malaysia: 265 species belonging to 70 genera)

Toriyama, R., T. Hamada, H. Igo, R. Ingavat, K. Kanmera. T. Kobayashi, T. Koike et al. (1975)- The Carboniferous and Permian Systems in Thailand and Malaysia. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 15, p. 39-76.

Toriyama, R. & K. Kanmera (1968)- Fusulinacean fossils from Thailand, Part II: Two new Permian genera from Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 4, p. 29-44.
(Two new fusulinid genera Thailandina and Neothailandina described from rich fusulinid assemblages in 275m thick Rat Buri Limestone section at Phao Phlong Phrab, NE Thailand (names deemed invalid by Kobayashi et al. 2010). Section ranges from Misellina zone to lower part of Neoschwagerina zone (upper Lower- lower M Permian))

Toriyama, R. & K. Kanmera (1977)- Fusuline fossils from Thailand. Part X. The Permian fusulines from the Limestone Conglomerate Formation in the Khao Phlong Phrab area, Sara Buri, Central Thailand. In: T. Kobayashi, R. Toriyama & W. Hashimoto (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 18, p. 1-28.

Toriyama, R. & K. Kanmera (1979)- Fusuline fossils from Thailand. Part XII. Permian fusulines from the Rat Buri Limestone in the Khao Khao area, Sara Buri, Central Thailand. In: T. Kobayashi, R. Toriyama & W. Hashimoto (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 20, p. 23-93.
(Limestone quarries at Khao Khao hill, N of Saraburi, N Thailand, expose ~360m thick Permian Ratburi Limestone section. Abundant fusulinid foraminifera, 34 species, representing only part of Middle Permian, in four zones: Afghanella megaspherica to Neoschwagerina haydeni)

Toriyama, R., K. Kanmera & R. Ingavat (1969)- Fusulinacean fossils from Thailand. Part V. *Neofusulinella* from Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 7, p. 15-32.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/1969/24353.pdf)
(E-M Permian fusulinids Neofusulinella sarburiensis n.sp., N. praecursor and N. lantenoisi from lower part of 'Ratburi Lst' in Khao Phlong Khrab section, Changwat Sara Buri, C. Thailand. Genus ranges from Misellina zone to Neoschwagerina simplex zone and is good indicator of upper Lower- lower Middle Permian. New species Neofusulinella sariburiensis n.sp.)

Toriyama, R., K. Kanmera, S. Kaewbaidhoam & A. Hongnushonthi (1974)- Biostratigraphic zonation of the Rat Buri Limestone in the Khao Phlong Phrab area, Sara Buri, Central Thailand. In: T. Kobayshi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 14, p. 25-48.
(online at: http://library.dmr.go.th/library/DMR_Technical_Reports/1974/10.pdf)
(late Early-Middle Permian 'Ratburi Lst' at Khao Phlong Phrab Hill section, NE Thailand, ~250m thick and very rich in fusulinids (81 species, 26 genera). Subdivided into 7 zones (Misellina - Maklaya- Neoschwagerina- Presumatrina zones). High affinity of fauna with SE Pamir, S China and Japan)

Toriyama, R. & K. Pitakpaivan (1973)- Fusulinacean fossils from Thailand, Part VII: Middle Permian fusulines from Wat Kirinakratanaram, Central Thailand. In: T. Kobayshi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 12, p. 43-61.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/1973/12082.pdf)
(lower M Permian fusulinids from Ratburi Lst near Kirinakratanaram Temple, Changwat Lop Buri, C Thailand. With Neofusulinella lantenoisi, Parafusulina gigantea, Verbeekina verbeeki, Sumatrina annae, Pseudodoliolina pseudolepida, etc.)

Toriyama, R., K. Pitakpavan & R. Ingavat (1978)- The paleogeographic characteristics of fusuline faunas of the Rat Buri Group in Thailand and its equivalent in Malysia. In: P. Nutalaya (ed.) Proc. 3rd Regional Conf. Geology and Mineral Resources of SE Asia (GEOSEA III), Bangkok 1978, p. 128-132.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_3/2521-2530/9492.pdf)
(Permian 'Ratburi Lst' (s.l.) of Thailand with 238 species of fusulinids. Subdivided in 3 paleogeographic zones (1) Western zone with 41 species; in M Permian with Verbeekina verbbeki, Sumatrina annae, Neoschwagerina, etc.; U Permian fusulinds (Paleofusulina, Colaniella) only found in W; belt appears to extend into Malay Peninsula and N Kalimantan; (2) Central zone: little known fusulinids; (3) Eastern zone in Loei, etc., with 197 M Carboniferous- M Permian species. Fusuline faunas of Thailand and Malaysia close relationship to W Tethys in M-U Carboniferous. In Permian stronger affinity to E Tethys. No maps)

Toriyama, R. & T. Sugi (1959)- Permian fusulinids from Central Thailand. Mem. Fac. Science., Kyushu University, Series D, 9, 1, p. 17-32.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/1959/12083.pdf)
(Fusulinids from 4 samples of Permian Rat Buri limestones and cherts in Sara Buri district of C Thailand. All referable to Neoschwagerina zone. With Neoschwagerina spp., Parafusulina gigantea, Pseudofusulina crassa, Verbeekina and Sumatrina)

Tsubamoto, T., B. Ratanasthien, Y. Kunimatsu, H. Nakaya, B. Udomkan, T. Silaratana et al. (2003)- A report on the paleontological excavation in the primate-bearing Krabi basin (late Eocene; Thailand). In: Research Report III on 'Evolution of the apes and the origin of the human beings', Primate Research Institute, Kyoto University p. 180-219.
(Vertebrate fossils from Late Eocene lignite beds of Krabi coal mine in S Thailand 6 genera of reptiles and 28 genera of mammals, incl. two primates (Wailekia, Siamopithecus). Krabi fauna dominated by artiodactyl mammals, particularly anthracotheres (Anthracotherium, etc.). Paleoenvironment tropical forests with swamps)

Tulyatid, J. & J.D. Fairhead (1999)- Tectonic development of Central Thailand: new evidences from airborne geophysical data. In: G.H. Teh (ed.) Proc. 9th Reg. Congress Geol. Min. Energy Res. SE Asia (GEOSEA '98), Kuala Lumpur 1998, Geol. Soc. Malaysia 43, p. 63-76
(online at: www.gsm.org.my/products/702001-100833-PDF.pdf)
(Review of Thailand structural geology and aeromagnetic maps of C Thailand)

Tumpeesuwan, S., Y. Sato & S. Nakhapadungrat (2010)- A new species of *Pseudohyria (Matsumotoina)* (Bivalvia: Trigonioidoidea) from the Early Cretaceous Sao Khua Formation, Khorat Group, Northeastern Thailand. Tropical Natural History 10, p. 93-106.
(online at: www.biology.sc.chula.ac.th/TNH/v10%20no1/8%20Tumpeesuwan%2093-106.pdf)
(New freshwater bivalve species, P. (Matsumotoina) somanai n. sp. from E Cretaceous Sao Khua Fm of NE Thailand. Interpreted as fluvial species, probably of Late Barremian age)

Udchachon, M., C. Burrett, H. Thassanapak, C. Chonglakmani, H. Campbell & Q. Feng (2014)- Depositional setting and paleoenvironment of an alatoconchid-bearing Middle Permian carbonate ramp sequence in the Indochina Terrane. J. Asian Earth Sci. 87, p. 37-55.
(M Permian carbonate sequence in S of Khao Khwang Platform, C Thailand (= tropical Tethyan shelf of Indochina Terrane). With common large alatoconchid bivalves. Nine main microfacies types. Platform evolved from rimmed platform in E Permian to ramp in M Permian. Abrupt negative shift in d 13C in late Wordian and

late Capitanian indicate significant changes in paleoenvironment, probably contemporaneous with Kamura event and related to global cooling and sea-level lowstand)

Udchachon, M., C. Chonglakmani, H. Campbell & N. Thanee (2007)- Late Middle Permian alatoconchid-bearing limestones from the south of the Khao Khwang platform, central Thailand. In: W. Tantiwanit (ed.) Proc. Int. Conf. Geology of Thailand: towards sustainable development and sufficiency economy, Bangkok, p. 169-176.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2007/12718.pdf)
(Thick-shelled, alatoconchid tropical bivalves in M Permian Khao Khwang platform Permian limestones, exposed in Phetchabun fold-thrust belt along W edge of Khorat Plateau, C Thailand (W side of Indochina Block). Midian-age limestone with fusulinids (Colania, Lepidolina, Verbeekina, Neoschwagerina), and smaller forams (Hemigordius, Agathammina, Pachyphloia, Tuberitina, Tetrataxis) and algae (incl. Mizzia velebitana). Six main microfacies and facies model. Alatoconchids prefer soft substrate with peloidal wackestone texture of lagoon facies)

Udchachon, M., H. Thassanapak & C. Burrett (2017)- Palaeoenvironment and palaeogeography of Middle and Upper Devonian strata from the Loei fold belt, Indochina terrane (northeast Thailand). Palaeobiodiversity and Palaeoenvironments 97, 3, p. 497-516.
(Limestone-chert sections from Loei foldbelt, NE Thailand, yielded M-L Devonian (Givetian- Famennian) conodonts and Late Devonian radiolarian faunas. M Devonian siliciclastics interbedded with volcaniclastics and locally replaced by pillow basalts. Conformably overlain by argillaceous limestones and U Givetian reefal stromatoporoid-coral limestone. Drowning of bioherms and deposition of condensed continental margin oozes with radiolarians Trilonche spp and Famennian conodonts Palmatolepis spp.. Transgressive M-U Devonian series broadly similar to sections in S China and in Germany. Continental margin series)

Udchachon, M., H. Thassanapak, Q. Feng & C. Chonglakmani (2011)- Geochemical constraints on the depositional environment of Upper Devonian radiolarian cherts from Loei, north-eastern Thailand. Frontiers Earth Sci. 5, 2, p. 178-190.
(Late Devonian radiolarian chert sequences on Indochina terrane of NE Thailand exposed in narrow belt E of Loei province. Characterized by high silica content, high aluminum, low iron, etc. Results indicate cherts deposition in continental margin environment)

Ueno, K., M. Arita, S. Meno, A. Sardsud & D. Saesaengseerung (2015)- An Early Permian fusuline fauna from southernmost Peninsular Thailand: discovery of Early Permian warming spikes in the peri-Gondwanan Sibumasu Block. J. Asian Earth Sci. 104, p. 185-196.
(late Early Permian fusuline fauna from Tarn To Fm of Yala area in S-most Peninsular Thailand (=E margin of Sibumasu Block, near base Ratburi Lst). Fauna consists of Pseudofusulina spp. and Praeskinnerella? sp., including forms resembling Tethyan and Panthalassan Pseudofusulina fusiformis and P. ex gr. kraffti. Likely Yakhtashian-Bolorian (=late Artinskian- E Kungurian) age. Similar Tethyan-affinity shallow marine fauna in Sibumasu in E Permian of Kinta Valley area in W Peninsular Malaysia. Yala fauna almost coeval with Monodiexodina fauna known elsewhere on Sibumasu Block. Interpreted as warming spikes during late Yakhtashian-Bolorian transgression)

Ueno, K. & T. Charoentitirat (2011)- Carboniferous and Permian. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The geology of Thailand, Geol. Soc., London, p. 71-136.
(Extensive review of Carboniferous and Permian of Thailand. Stratigraphy and tectono-sedimentary development of five main domains: Indocina, Nan back-arc basin, Sukhothai Arc, Palaeotethyan (Inthanon Zone) and Sibumasu)

Ueno, K., T. Charoentitirat, Y. Sera, A. Miyahigashi, J. Suwanprasert et al. (2008)- The Doi Chiang Dao Limestone: Paleo-Tethyan mid-oceanic carbonates in the Inthanon Zone of North Thailand. In: Proc. Int. Symp. Geoscience resources and environments of Asian Terranes (GREAT 2008), Bangkok 2008, p. 42-48.
(online at: www.geo.sc.chula.ac.th/Geology/Thai/News/Technique/GREAT_2008/PDF/008.pdf)

(Doi Chiang Dao Lst in Inthanon zone of N Thailand >1000m thick of continuous Carboniferous (Visean)-latest Permian (= 90 My) succession of mid-oceanic shallow marine carbonates without clastics, formed on seamount basalt base in Paleo-Tethys Ocean. Rich in fusulinids, some corals, paleo-tropical Tethyan affinities. Comparable in origin to carbonate bodies in Central zone of Changning-Menglian Belt of SW China and Panthalassan seamount carbonates in accretionary complexes in Japan)

Ueno, K., M. Ejima, Y. Kamata, T. Charoentitirat & A. Sardsud (2005)-Stratigraphy and sedimentary cycles of the Permian Kaeng Krachan Group of Phi Phi Island southern Thailand. In: Proc. Int. Conf. Geology, geotechnology and mineral resources of Indochina (GEOINDO 2005), Khon Kaen, p. 555-557.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2005/9376.pdf)
(E Permian Kaeng Krachan Gp on Phi Phi Island off Krabi, S Peninsular Thailand, part of Sibumasu Block. Cyclic, ~350m thick quartz-rich marine clastics, including sparse dropstones, overlain by temperate-subtropical Ratburi Limestone. Formed in glaciation-influenced basin. No figures)

Ueno, K. & K. Hisada (2001)- The Nan-Uttaradit-Sa Kaeo Suture as a main Paleo-Tethyan suture in Thailand: is it real? Gondwana Research 4, p. 804-806. *(Extended Abstract)*
(In Thailand Nan-Uttaradit-Sa Kaeo Suture believed to be main Paleo-Tethyan suture between Cathaysian Indochina Block and Gondwana-derived Sibumasu Block of E Cimmerian continent, but is best interpreted as remnant of Nan back-arc basin. Paleotethys is represented by Chiang Rai tectonic line)

Ueno, K. & H. Igo (1993)- Upper Carboniferous foraminifers from Ban Na Din dam, Changwat Loei, Northeastern Thailand. Trans. Proc. Palaeont. Soc. Japan, N.S., 171, p. 213-228.
(online at: www.palaeo-soc-japan.jp/download/TPPSJ/TPPSJ_NS171.pdf)
(Limestone outcrops at Ban Na Din Dam, E of Loei, NE Thailand. Previously assigned to Lower Permian Nam Mahoran Fm, but with fusulinids Triticites samaricus and Jigulites grandis n.sp., indicating Gzhelian (latest Carboniferous) age. Alsodescriptions of smaller foraminifera)

Ueno, K. & H. Igo (1997)- Late Paleozoic foraminifers from the Chiang Dao area, Northern Thailand: geologic age, faunal affinity, and paleobiogeographic implications. In: 13th Int. Congress on the Carboniferous and Permian, Krakow 1995, Prace Panst. Inst. Geol. 157, p. 339-354.
(Permian fusulinid fauna from N Thailand of Tethyan affinity, similar to Indochina Block)

Ueno, K., A. Miyahigashi, Y. Kamata, M. Kato, T. Charoentitirat & S. Limruk (2010)- Triassic shallow-marine limestone in the Central Plain of Thailand: its foraminiferal age and geotectonic implications. In: C.P. Lee et al. (eds.) 6th Symp. Int. Geol. Correl. Progr. Project 516 (IGCP516), Geological anatomy of East and South Asia, Kuala Lumpur 2010, p. 37-39. *(Extended Abstract)*
(Foraminiferal fauna limestone exposed in eastern Uthai Thani Province, Central Plain, previously interpreted as Permian age suggest (Late) Triassic age (common Aulotortus spp., with Agathammina austroalpina, Ophthalmidium, Valvulina azzouzi, Endoteba, Tetrataxis inflata, Austrocolomia, Frondicularia woodwardi, etc. Probably belongs to S extension of Sukhothai Zone)

Ueno, K., A. Miyahigashi, Y. Kamata, M. Kato, T. Charoentitirat & S. Limruk (2012)- Geotectonic implications of Permian and Triassic carbonate successions in the Central Plain of Thailand. J. Asian Earth Sci. 61, p. 33-50.
(Two Paleozoic-Mesozoic basement carbonate successions in Chao Phraya Central Plain of Thailand: (1) Triassic in E Uthai Thani Province, with rich foram fauna with Aulotortus sinuosus, Tetrataxis inflata, etc. suggesting Late Triassic, Norian/Rhaetian age. Formed carbonate platform and is comparable to Triassic Lampang-Phrae Basin in Sukhothai Zone of N Thailand; (2) Uthai Thani Lst to W: slightly metamorphosed, thick-bedded Permian succession. Tied to Ratburi Lst typical of Permian on Sibumasu Block. Three geotectonic domains in C Plain, from E to W: (1) Indochina Block (Cathaysialand), (2) Sukhothai Zone (Permian-Triassic island arc system), and (3) Sibumasu Block (Gondwanaland))

Ueno, K., K. Nagai, N. Nakornsri & T. Sugiyama (1994)- Middle Carboniferous foraminifers from Ban Sup, Changwat Loei, Northeastern Thailand. Science Repts. Inst. Geoscience, University of Tsukuba, B (Geol.) 15, p. 15-45.

Ueno, K., K. Nagai, N. Nakornsri & T. Sugiyama (1995)- Upper Carboniferous foraminifers from Phu Tham Maholan, southeast of Wang Saphung, Changwat Loei, Northeast Thailand. Sci. Repts. Inst. Geosci., Univ.Tsukuba, B (Geol.) 16, p. 29-37.

Ueno, K., K. Nagai, N. Nakornsri & T. Sugiyama (1996)- A new Moscovian foraminiferal fauna from Huai Luang, east of Wang Saphung, Changwat Loei, Northeast Thailand. J. Southeast Asian Earth Sci. 14, p. 79-89.
(Small foraminiferal fauna with two species of Fusulinella)

Ueno, K., T. Sugiyama & K. Nagai (1996)- Discovery of Permian foraminifers and corals from the Ratburi Limestone of the Phatthalang area, southern Peninular Thailand. In: H. Noda & K. Sashida (eds.) Professor H. Igo Commemorative volume on Geology and Paleontology of Japan and Southeast Asia, Gakujyutsu Tosho Insatsu, Tokyo, p. 201-216.

UN/ESCAP and DMR Thailand (2001)- Mineral resources of Thailand. Atlas of mineral resources of the ESCAP region 16, United Nations Publications, New York, p. 1-239.

Upton, D.R. (1999)- A regional fission track study of Thailand: implications for thermal history and denudation. Ph.D. Thesis Birkbeck, University of London, p. 1-392. *(Unpublished)*

Upton, D., C.S. Bristow, A.J. Hurford, & A. Carter (1997)- Tertiary tectonic denudation in northwestern Thailand: provisional results from apatite fission-track analysis. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, 1, p. 421-431.
(online at: http://searg.rhul.ac.uk/pubs/upton_etal_199%20Tertiary%20tectonic%20denudation%20NW%20Thailand.pdf)
(Preliminary results of Apatite Fission-Track study in NW Thailand, consistent with gentle inversion in Late Cretaceous- E Tertiary prior to rapid cooling in N-S belt of gneissic and plutonic rocks in Late Oligocene- E Miocene. Cooling rates equate to 2.75- 3.5 km of section denuded in Late Oligocene over ~3 Myrs, most likely representing tectonic denudation possibly associated with unroofing of metamorphic core complex)

Utha-Aroon, C. (1993)- Continental origin of the Maha Sarakham evaporites Northeastern Thailand. In: B.K. Tan et al. (eds.) 7th Reg. Congress Geology Mineral and Energy Resources of SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 193-203.
(On Upper Cretaceous potash-bearing evaporites of Khorat Basin, NE Thailand)

Uttamo, W., C. Elders & G. Nichols (1999)- The Tertiary sedimentary basins of northern Thailand. In: Proc. Symposium Mineral, energy and water resources of Thailand: towards the year 2000, Bangkok, p. 71-92.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1999/6605.pd)
(>40 Tertiary intra-cratonic basins in N Thailand, mainly N-S trending, and with 500-3000m of sediment fill)

Uttamo, W., C. Elders & G. Nichols (2003)- Relationships between Cenozoic strike-slip faulting and basin opening in northern Thailand. In: F. Sorti et al. (eds.) lntraplate strike-slip deformation belts, Geol. Soc., London, Spec. Publ. 210, p. 89-108.
(Cenozoic tectonics in N Thailand resulted from collision between Indian plate and Eurasia. Continued indentation of Indian plate into Eurasia caused polyphase extrusion of Sundaland and movement of major strike-slip faults. Regional E-W extension in Late Oligocene-Early Miocene. Thirty-six major faults and 42 intra-cratonic basins recognized in N Thailand from Landsat TM images, >70% related to strike-slip tectonics)

Uyeno, T. (1969)- Miocene Cyprinid fishes from Mae Sot Basin, northwestern Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 7, p. 93-96.

(Fresh-water fish fossils Puntius and Cyprinidae from Miocene grey papery oil shale in Mae Sot series near Amphur Mae Sot, NW Thailand)

Vachard, D. (1988)- Some foraminifera and algae of the Upper Triassic of West Thailand. In: H. Fontaine & V. Suteethorn (eds.) Late Paleozoic and Mesozoic fossils of West Thailand and their environments, Comm. Co-Ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Bangkok, Techn. Bull. 20, p. 135-141.
(Carnian-Norian Aulotortus assemblage of W Thailand characteristic of Tethyan province, and resembles Kodiang Lst of NW Malaysia and various outcops of Sumatra)

Vachard, D. (1990)- New data on foraminifera, algae and pseudo-algae of the Visean and Bashkirian (Lower-Middle Carboniferous) from Northeast Thailand. Geol. Jahrbuch B73, p. 91-109.
(Three Visean- Bashkirian assemblages from NE Thailand. Paleobiogeogrphic affinities with Australia and Vietnam. Diverse foraminifera with >40 species, incl. Staffelidae and Profusulinella)

Vachard, D., H. Fontaine & M. Caridroit (1992)- Foraminifera, algae and pseudo-algae from Carboniferous and Permian limestone of North-west Thailand. Revue Paleobiologie, Geneve, 11, p. 137-147.

Veeraburus, M., N. Mantjit & S. Suensilpong (1981)- Outline of geology and ore deposits of Thailand. In: S. Ishihara & A. Sasaki (eds.) Metallogeny of Asia, Geol. Survey Japan, Report 261, p. 81-92.

Vivatpinyo, J., P. Charusiri, C. Sutthirat (2014)- Volcanic rocks from Q-prospect, Chatree gold deposit, Phichit Province, North Central Thailand: indicators of ancient subduction. Arabian J. Engin. 39, p. 325-338.
(Area of Chatree gold deposit, W side of Khorat Plateau, N-C Thailand with subduction-related Loei-Phetchabun- Ko Chang volcanic arc sequence from basalt porphyry, basaltic tuff to rhyolite/rhyodacite tuff. Andesite dated as 250 ± 6 Ma, younger basaltic andesite dykes 244 ± 7Ma)

Von Braun, E. & R. Jordan (1976)- The stratigraphy and palaeontology of the Mesozoic sequence in the Mae Sot area in western Thailand. Geol. Jahrbuch B21, p. 5-51.
(Mae Sot Basin in NW Thailand with reefal E-M Permian Ratburi Lst, Triassic redbeds overlain by marine shales and sandstone and Late Triassic Kamawkale Limestone. Jurassic Mae Moei Gp marine with with ammonites incl. Lytoceras, etc.)

Von Braun, E., C. Besang, W. Eberle, W. Harre, H. Kreuzer et al. (1976)- Radiometric age determinations of granites in northern Thailand. Geol. Jahrbuch B21, p. 171-204.
(In N Thailand three N-S belts of igneous rocks. Central complex oldest. E chain E Triassic (~232-236 Ma))

Von Koenigswald, G.H.R. (1959)- A mastodon and other fossil mammals from Thailand. Royal Dept. Mines, Bangkok, Rept. Invest. 2, p. 25-28.

Von Martini, H.J. (1957)- Ueber das Alter von Hauptfaltung und Granit in Thailand. Geol. Jahrbuch 74 (Bentz Festschrift), p. 687-696.
('On the age of the main folding and granites in Thailand'. Alpinotype main folding in Thailand is old Cimmeridgian (Late Triassic))

Vozenin-Serra, C. & C. Prive-Gill (1989)- Bois Plio-Pleistocenes du gisement du Saropee, Plateau de Khorat, Est de la Thailande. Review Palaeobotany Palynology 60, 3-4, p. 225-254.
('Plio-Pleistocene wood from the Saropee deposit, Khorat Plateau, East Thailand'. Alluvial deposits of Mue Nam Mum river at Saropee yielded ~60 wood specimens, attributed to Araucarioxylon sp., Shoreoxylon thailandense n.sp., Careyoxylon pondicherriense, Dipterocarioxylon, etc. Plio-Pleistocene mixed deciduous forest assemblage, probably not far from river and ancient volcanoes (Bunopas et al. 1999: buried by 0.770 Ma Australasian tektite event?))

Vozenin-Serra, C. & C. Prive-Gill (2001)- Bois plio-pleistocenes du gisement de Ban Tachang (=Sarapee), Est-Thailande. Palaeontographica B, 260, p. 201ï 212

Vozenin-Serra, C., C. Prive-Gill & L. Ginsburg (1989)- Bois miocenes du gisement de Pong, nord-ouest de la Thailande. Review Palaeobotany Palynology 58, 2-4, p. 333-355.
('Miocene wood from the Pong deposit, NW Thailand')

Wang, Y., H. He, P.A. Cawood, B. Srithai, Q. Feng, W. Fan, Y. Zhang & X. Qian (2016)- Geochronological, elemental and Sr-Nd-Hf-O isotopic constraints on the petrogenesis of the Triassic post-collisional granitic rocks in NW Thailand and its Paleotethyan implications. Lithos 266-267, p. 264-286.
(Inthanon zone main suture zone of E Paleotethys Ocean in NW Thailand and links with Changning-Menglian suture zone in SW Yunnan. In NW Thailand switch from E-ward subduction of Paleotethys ocean plate to collision of Sibumasu with Indochina at ~ 237 Ma, with syn-collision at ~237-230 Ma and post-collision time at ~200-230 Ma. Late Triassic granites in Inthanon and Sukhothai zones of NW Thailand post-collisional magmatic products)

Wang, Y., H. He, Y. Zhang, B. Srithai, Q. Feng, P.A. Cawood & W. Fan (2017)- Origin of Permian OIB-like basalts in NW Thailand and implication on the Paleotethyan Ocean. Lithos 274-275, p. 93-105.
(manuscript online at: https://research-repository.st-andrews.ac.uk/handle/10023/12399)
(Basaltic rocks in NW Thailand part of SE Asian igneous zone that delineates extension of Paleotethys Ocean from SW China into NW Thailand. Chiang Mai basalts two groups of high-iron basalts, resembling OIB-like rocks. Origin intra-oceanic seamount setting in Paleotethyan Ocean, continued at least till 283 Ma (E Permian). Inthanon/ Changning-Menglian zones define main Paleotethyan suture zone)

Ward, D.E. & D. Bunnag (1964)- Stratigraphy of the Mesozoic Khorat Group in northeastern Thailand. Department of Mineral Resources, Thailand, Report of Investigation 6, p. 1-95.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/1964/1967.pdf)
(Review of Triassic- Cretaceous stratigraphy overlying Late Carboniferous- Permian Ratburi Lst)

Warren, J., C.K. Morley, T. Charoentitirat, I. Cartwright, P. Ampaiwan, P. Khositchaisri, M. Mirzaloo, J. Yingyuen (2014)- Structural and fluid evolution of Saraburi Group sedimentary carbonates, central Thailand: a tectonically driven fluid system. Marine Petroleum Geol. 55, p. 100-121.
(Isotopic study of calcite in deformed L-M Permian Saraburi Gp carbonates defines fluid-cement histories, tied to regional burial followed by orogenic overprint of Triassic Indosinian and telogenetic overprints driven by late Cenozoic uplift. Carbonates deposited along W margin of Indochina Block as isolated calcareous algal, sponge and fusulinid-rimmed platforms on highs bound by extensional faults. Likelihood of preserving primary and mesogenetic matrix porosity in Permian carbonates of C Thailand is low)

Warren, J., C.K. Morley, T. Charoentitirat, I. Cartwright, P. Ampaiwan, P. Khositchaisri, M. Mirzaloo, M. Nazrul, A. Panthong & J. Yingyuen (2016)- Poroperm evolution through different deformation stages: stable isotopes define fluid evolution in Permian and older carbonates in Thailand. AAPG Asia Pacific Geosciences Technology Workshop, Bangkok. *(Abstract + Presentation)*
(online at: www.searchanddiscovery.com/documents/2016/51264warren/ndx_warren.pdf)

Wasson, J.T., K. Pitakpaivan, P. Putthapiban, S. Salyapongse, B. Thapthimthong & J.F. McHone (1995)- Field recovery of layered tektites in northeast Thailand: evidence of a large scale melted sheet. J. Geophysical Research 100, E7, p. 14385-14389.
(Australasian tektites from 40×130 km region in NE Thailand all layered (Muong-Nong-type) tektites, with two exceptions near W edge of region, implying impact melt hot enough to flow if deposited on sloping surface. Absence of splash-form tektites indicates that layer still molten when reached ground. This requires that atmosphere remained hot (>2300°K) for few minutes. In-place tektites almost always associated with 10cm -1m thick layer of laterite, at bottom layer of loess-like sandy layer. Part of 1100-km-long area with layered tektites)

Watanasak, M. (1988)- Mid-Tertiary palynology of onshore and offshore Thailand. Ph.D. Thesis University of Adelaide, p. 1-207.
(online at: https://digital.library.adelaide.edu.au/dspace/bitstream/2440/19395/2/02whole.pdf)
(Mid-Tertiary palynology from 9 basins in Thailand. Zonation based on key species like Inaperturopollenites dubius, Alnipollenites verus, etc.. Paleoclimate in Thailand temperate in Late Oligocene, warming to more tropical conditions in E-M Miocene)

Watanasak, M. (1989)- Palynological zonation of Mid-Tertiary intermontane basins in northern Thailand. In: T. Thanasuthipitak & P. Ounchanum (eds.) Proc. Int. Symposium Intermontane basins, geology and resources, Chiang Mai University, Chiang Mai, p. 216-223.

Watanasak, M. (1990)- Mid-Tertiary palynostratigraphy of Thailand. J. Southeast Asian Earth Sci. 4, 3, p. 203-218.
(Late Oligocene- E Miocene palynological assemblages from nine basins in Thailand. Basis for zonations is first or last appearances of species incl. Inaperturopollenites dubius, Alnipollenites verus and Echiperiporites cf. estelae. Correlation between terrestrial and dated marine sequences)

Waterhouse, J.B. (1981)- Age of the Rat Buri Limestone of southern Thailand. In: J.B. Waterhouse et al. (eds.) The Permian stratigraphy and palaeontology of Southern Thailand, Geological Survey Mem. 4, Dept. Mineral Resources, Bangkok, p. 1-42.
(Mainly critical evaluation of Grant (1976). Brachiopods from basal part of Rat Buri Limestone in S Thailand likely of Kungurian (late E Permian) age, not Baigendzinian (= Artinskian) as reported earlier, and in agreement with fusulinid data. Several specific links with Kungurian Bitauni fauna of Timor. No stratigraphy)

Waterhouse, J.B. (1981)- Age of the brachiopod faunas from Kaeng Krachan Formation of southern Thailand. In: M.J. Hambrey & W.B. Harland (eds.) Earth's pre-Pleistocene glacial record, Cambridge University Press, p. 336. *(Abstract only)*
(Brachiopods above earliest Permian glacial pebbly mudstone in S Thailand 40 species, mainly new species of Orthotetes, Chonetinella, Neospirifer, Sririferrella, etc. Most common is new form of Spinomartinia. Probably of mid-Sakmarian age suggested by Brachythyrina rectangulus and Neospirifer sterlitamakensis. Small fauna from pebbly mudstones at Ko Muk could be Asselian or Sakmarian age. Overlain by Rat Buri Lst with rich brachiopods of Kungurian age)

Waterhouse, J.B. (1982)- An Early Permian cool-water fauna from pebbly mudstones in south Thailand. Geol. Magazine 119, 4, p. 337-354.
(E Permian (Asselian) small brachiopod fauna from above E Permian pebbly mudstones- sandstones of Phuket Gp at Ko Muk and Ko Phi Phi islands, Andaman Sea. With Komukia, Cancrinelloides, Rhynchopora, Sulciplica, etc. At one locality associated with solitary coral Euryphyllum. Most genera are found in temperate-high paleolatitudes, suggesting pebbly mudstones are cool water deposits, contemporaneous with Late Asselian Gondwana glacial deposits (=Sibumasu terrane'; JTvG))

Waterhouse, J.B. (1982)- New Carboniferous brachiopod genera from Huai Bun Nak, North-east Thailand. Palaontol. Zeitschrift 56, 1-2, p. 39-52.
(Five new brachiopod genera and species are described from brown silty mudstone near Huai Bun Nak, NE Thailand)

Waterhouse, J.B. (1983)- A late Permian lyttoniid fauna from Northwest Thailand. Papers Dept. of Geology, University of Queensland, 10, 3, p. 113-153.
(25 Lopingian (Late Permian) brachiopod species in marine shale in Huai Tak Fm of Lampang Province, NW Thailand. With common lyttoniid brachiopod Oldhamina squamosa and new taxa Lampangella lata, Transennatia pitakpaivani, Acosarina antesulcata, etc.)

Waterhouse, J.B., K. Pitakpaivan & N. Mantajit (1981)- Early Permian brachiopods from Ko Yao Noi and near Krabi, southern Thailand. In: J.B. Waterhouse et al. (eds.) The Permian stratigraphy and palaeontology of Southern Thailand, Geol. Survey Mem. 4, Dept. Mineral Resources, Bangkok, p. 43-213.
(40 brachiopod species from SW Peninsular Thailand near Krabi and NE of Phuket, in U Kaeng Krachan Gp just below Rat Buri Lst and mostly above pebbly mudstones (= Sibumasu stratigraphy). Likely age Sakmarian (E Permian). Most common species Spinomartinia prolifica, also common Retimarginifera, Brachythyrina, Stenoscisma, Stereochia, etc. No obvious correlation with SE Asian faunas outside Thailand)

Waterhouse, J.B. & S. Piyasin (1970)- Mid-Permian brachiopods from Khao Phrik, Thailand. Palaeontographica, Abt. A, 135, 3-6, p. 83-197.
(40 species of silicified brachiopods from limestone at Khao Phrik, W of Bangkok, S Thailand. Incl. Neospirifer, Marginifera, Hustedia, Leptodus and Waagenites speciosus n.sp., close to W. molengraaffi (Broili) from Timor Bitauni beds. Fauna lacks cool water elements. Some species in common with Basleo fauna of Timor)

Wathanakul, P., S. Nakapudungaat, S. Sakkaravej & P. Lomthong (2001)- Diamonds from the eastern offshore of Phuket island, Thailand. 28th Int. Gemmological Conference, Madrid, p. 101-104.

Wathanakul, P., T.T. Win, R.M. Davis, S. Sakkaravej, A. Andrew & W.I. Griffin (1998)- Characteristics of diamonds, southern Thailand. In: Ninth Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA '98), Kuala Lumpur, p. 101-102. *(Extended Abstract)*
(Diamonds found in on- and offshore alluvial deposits in tin dredger samples in Takuapa-Phang Nga and Phuket areas, S Thailand. Source unknown. Area mainly covered with Carboniferous-Tertiary granites. Inclusions include graphite, sulfides, olivine, Cr-pyrope and chromite, indicating predominantly harzburgitic paragenesis)

Watkinson, I. (2009)- The kinematic history of the Khlong Marui and Ranong Faults, Southern Thailand. Ph.D. Thesis Royal Holloway, University of London, p. 1-505. *(Unpublished)*

Watkinson, I., C. Elders, G. Batt, F. Jourdan, R. Hall & N.J. McNaughton (2011)- The timing of strike-slip shear along the Ranong and Khlong Marui faults, Thailand. J. Geophysical Research, Solid Earth, 116, 9, B09403, 26p.
(Ranong and Khlong Marui faults experienced major ductile dextral shear in M Eocene (48-40 Ma), which followed two phases of dextral shear along Ranong Fault: before Late Cretaceous (>81 Ma) and Late Paleocene- E Eocene (59-49 Ma). Many sheared rocks part of pre-kinematic crystalline basement, which partially melted and was intruded by Late Cretaceous (81-71 Ma) and E Eocene (48 Ma) tin granites. Late Eocene (<37 Ma) faults reactivation as curved sinistral branches of Mae Ping and Three Pagodas faults, accommodating lateral extrusion during India-Asia collision and Himalayan orogenesis)

Watkinson, I., C. Elders & R. Hall (2008)- The kinematic history of the Khlong Marui and Ranong Faults, southern Thailand. J. Structural Geol. 30, p. 1554-1571.
(Khlong Marui (KMF) and Ranong Fault (RF) NNE-trending strike-slip faults dissecting peninsular Thailand. Two phases of ductile dextral shear, separated by Campanian magmatism. Paleocene-Eocene post-kinematic granites date end of this phase. Brittle sinistral phase deforms granites, and exhumed ductile fault rocks. Faults formed near S margin of Late Cretaceous-Paleocene orogen, and may have been influenced by variations in rate of subduction. N-S compression prior to reactivation of subduction around southern Sundaland in Eocene caused widespread deformation in overriding plate, including sinistral transpression on KMF and RF)

Wattananikorn, K., J.A. Beshir & A. Nochaiwong (1995)- Gravity interpretation of Chiang Mai Basin, northern Thailand: concentrating on Ban Thung Sieo area. J. Southeast Asian Earth Sci. 12, p. 53-64.
(Chiang Mai Tertiary basin five sub-basins. Depth to Cretaceous basement up to 2.3 km)

Wielchowsky, C.C. & J.D. Young (1985)- Regional facies variations in Permian rocks of the Petchabun fold and thrust belt. In: P. Thanavarachorn et al. (eds.) Conf. Geology and Mineral resource development of NE Thailand, Khon Kaen University, Bangkok 1983, p. 41-55.

(Regional study of Lower-Middle Permian of Phetchabun fold-thrust belt of NE and C Thailand. Includes Carboniferous- M Permian Khao Kwang carbonate platform, in Late Paleozoic foldbelt at W margin of Indochina Plate?)

Winkel, R., R. Ingavat & D. Helmcke (1983)- Facies and stratigraphy of the lower-lower Middle Permian strata of the Petchabun fold-belt in Central Thailand. In: P. Nutalaya (ed.) Proc. Workshop Stratigraphic correlation of Thailand and Malaysia, Haad Yai 1983, Geol. Soc. Thailand and Geol. Soc. Malaysia, p. 293-306.
(online at: https://gsmpubl.files.wordpress.com/2014/10/sctm_17.pdf)
(Lower and lower Middle Permian Nam Duk Fm of Petchabun area mainly deep water limestones, cherts and shales, with acid tuff interbeds. Presence of displaced shallow marine fusulinids (Sumatrina, Parafusulina). Foram genus Hemigordius in most E-M Permian samples. Onset of overlying flysch and molasse deposits in late M Permian (Murgabian))

Wolfart, R. (1987)- Geology of Amphoe Sop Prap (Sheet 4844-1) and Amphoe Wang Chin (sheet 4944-4) (1:50,000), Thailand. Geol. Jahrbuch 65, p. 3-52.

Wolfart, R. (2003)- Ordovician faunas (Trilobita, Ostracoda, Cystoidea, Crinoidea) from West Thailand. their significance for biostratigraphy and palaeobiogeography. Geol. Jahrbuch B94, p. 1-265.
(Descriptions of Ordovician faunas from Khanchanaburi, Tong Pha Phum and Bo Noi regions and their meaning for biostratigraphy and paleogeography)

Wonganan, N. (2005)- Radiolaria and radiolarites of Northern Thailand- paleontology, tectonic and palaeogeographic implications. Ph.D. Thesis, Universite Sciences Technologies de Lille, Villeneuve d'Ascq, p. 1-577. *(Unpublished)*

Wonganan, N. (2012)- The youngest radiolarians from Mae Hong Son region, Northern Thailand; implication for the tectonic of Southeast Asia. In: Proc. 13th Interrad Conf., Cadiz 2012, Radiolaria Newsletter 28, p. 196-197. *(Abstract only)*
(Rich Triassic radiolaria in ~100m thick section of bedded siliceous rocks N of Mae La Noi, Mae Hong Son province, NW Thailand, representing Paleo-Tethys Ocean deposits. 55 species, including Palaeosaturnalis triassicus, Vinassaspongus subsphaericus, Capnuchosphaera crassa, etc., indicating U Ladinian- Carnian age. Top of section of E-M Norian age (Capnuchosphaera crassa, Multimonilis, etc). Chert in uppermost part of section with significant siliciclastics and carbonate minerals, indicating gradual change from deep oceanic environment to continental marginal realm. Therefore, Paleo-Tethys almost closed in middle Late Triassic)

Wonganan, N. & M. Caridroit (2005)- Middle and Upper Devonian radiolarian faunas from Chiang Dao area, Chiang Mai province, northern Thailand. Micropaleontology 51, 1, p. 39-58.
(Diverse Devonian radiolarians in ribbon-bedded chert in accretionary complex N of Chiang Dao, Chiang Mai, N Thailand, part of newly described (Paleotethys) suture zone. M Devonian- M Permian (and younger?) 'Chiang Dao chert series' is (imbricated?) oceanic sequence ~300m thick. Rich radiolarian assemblages with 43 species, Entactinaria dominant. Trilonche minax (lower Frasnian) assemblage from Australia recognized in area. Radiolarian cherts evidence for presence of wide paleo-ocean between Shan-Thai and Indochina continental terranes)

Wonganan, N. & M. Caridroit (2005)- Devonian radiolarians from Pai District, Mae Hong Son, northern Thailand. In: Int. Conf. Geology, geotechnology and general resources of Indochina (GEOINDO 2005), Khon Khaen 2005, p. 637-648.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2005/9389.pdf)
(Late Devonian radiolaria in highly folded cherts between Pai and Mae Hong Song, NW Thailand (Paleotethys oceanic deposit) (partly same localities as Sashida et al. 1998))

Wonganan, N. & M. Caridroit (2006)- Middle to Upper Permian radiolarian faunas from chert blocks in Pai area, northwestern Thailand. Eclogae Geol. Helvetiae 99, Suppl. 1, p. 133-139.

(Well-preserved Permian radiolarians in chert blocks in Mae Hong Son province, NW Thailand, recently mapped as Carboniferous. Twenty-four taxa, incl. Follicucullus charveti, believed to define Equatorial warm water province. In N Thailand Devonian- Triassic was zone of deep marine sedimentation, one of longest records of continuous deposition in oceanic setting)

Wonganan, N., M. Caridroit & C. Randon (2003)- The "Chiang Dao radiolarian chert' in the Chiang Dao area, Northern Thailand: a witness of a 150 My (at least ?) of oceanic deposit. In: 10th Meeting Int. Assoc. Radiolarian Paleontologists (Interrad X), Lausanne, Program and Abstracts, p. 116-117. *(Abstract only)*
(Big M Devonian- Permian chert body rich in radiolarians crops out for 2 km along N107 near Chiang Dao city. Also called 'Fang Chert'. Thickness ~300m, including ~50m volcanic bed. Overlies several m of black siliceous shale with graptolites (Monograptus) of early Lower Devonian age)

Wonganan, N., C. Randon & M. Caridroit (2009)- Mississippian (Early Carboniferous) radiolarian biostratigraphy of northern Thailand (Chiang Dao area). Geobios 40, 6, p. 875-888.
(Five E Carboniferous radiolarian assemblage zones recognized in ribbon-bedded radiolarites N of Chiang Dao, N Thailand. About 300m thick series of M Devonian- M-L Triassic distal oceanic deposits present in N Thailand, reflecting long-lived (150-200 My) Paleotethys oceanic realm between Indochina and Shan-Thai continental terranes)

Wongpornchai, P. (1997)- Origin of the formations in Nong Bua Basin, Central Thailand. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Dept. Mineral Resources, Bangkok, 1, p. 210-217.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1997/7641.pdf)
(Nong Bua Cenozoic continental rift basin in central plains of Thailand. Asymmetric half-graben, formed during E-W extension. Fluvial-lacustrine fill)

Wongwanich, T. (1990)- Lithostratigraphy, sedimentology, and diagenesis of the Ordovician carbonates, Southern Thailand. Ph.D. Thesis, University of Tasmania, p. 1-215.
(online at: https://eprints.utas.edu.au/21931/1/whole_WongwanichThanis1991_thesis.pdf)
(Study of Ordovician Thung Song Gp in Satun Province. Age U Tremadoc- U Ashgill. Ramp setting, 1400m thick sequence of tropical limestones, dolomites and calcareous shale, with tidal flats, stromatolite reefs, lagoons, buildup-barrier reefs and deeper water facies. Long and complex diagenetic history. Overlies red siliciclastics and overlain by latest Ordovician- Silurian- Devonian black graptolitic shales and cherts with radiolarians)

Wongwanich, T. & A.J. Boucot (2011)- Devonian. In: M.F. Ridd, A.J. Barber & M.J. Crow (eds.) The Geology of Thailand, Geol. Soc., London, p. 53-70.

Wongwanich, T., A.J. Boucot, C.H.C. Brunton, M.R. House & P.R. Racheboeuf (2004)- Namurian fossils (brachiopods, goniatites) from Satun Province, southern Thailand. J. Paleontology 78, 6, p. 1072-1085.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/2004/5533.pdf)
(M Carboniferous goniatite and brachiopod fauna described from Pa Samed Fm clastics in S Thailand, which unconformably overlie E. Devonian (Emsian) dacryonarid-rich (= Tentaculites) black mudstones. Brachiopod fauna several new species and unlike any previously known from Asia)

Wongwanich, T. & C.F. Burrett (1983)- The Lower Palaeozoic of Thailand. J. Geol. Soc. Thailand 6, 2, p. 21-29.
(online at: http://library.dmr.go.th/Document/J-Index/1983/90.pdf)
(Brief review of Lower Paleozoic in S and W Thailand. Close faunal affinities between trilobites and molluscs of Shan-Thai (Sibumasu) block and Australia suggest proximity to NW Australia in E Paleozoic)

Wongwanich, T., C.F. Burrett, P. Chaodumrong & W. Tansathien (1990)- Lower to Mid Palaeozoic stratigraphy of mainland Satun province, southern Thailand. J. Southeast Asian Earth Sci. 4, 1, p. 1-9.

(A 727m thick sequence of L-M Mid Paleozoic in Satun province, S Peninsular Thailand (= Sibumasu Terrane) is succession of Ordovician- M Devonian deep water carbonates and clastics with trilobites, graptolites, tentaculites shale, etc., overlain by M-L Devonian shallower water carbonates and clastics)

Wongwanich, T., W. Tansathien, S. Leevongcharoen, W. Paengkaew, P. Thiamwong, J. Chaeroenmit & W. Saengsrichan W (2002)- The Lower Paleozoic rocks of Thailand. In: Proc. Symposium on geology of Thailand, Bangkok, p.16-21.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/2002/6370.pdf)

Woodruff, D.S. (2003)- Neogene marine transgressions, palaeogeography and biogeographic transitions on the Thai-Malay Peninsula. J. Biogeography 30, p. 551-567.
(online at: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.606.8853&rep=rep1&type=pdf)
(Neogene marine transgressions flooded Thai-Malay Peninsula in two areas and created circumstances leading to present day phytogeographical and zoogeographical transitions between Sundaic and Indochinese subregions. Global eustatic sea level curve predicts 30-100 km wide seaways N and S of Nakhon in Thammarat Range in C Peninsula of S Thailand in E-M Miocene and E Pliocene, but not yet documented)

Wu, C. & S. Ishihara (1994)- REE geochemistry of the Southern Thailand granites. J. Asian Earth Sciences 10, p. 81-94.
(REE study of Triassic- Cretaceous tin-bearing and tin-barren granitic plutons in S Peninsular Thailand. Three groups: low, variable and exceptionally high REE contents)

Yakzan, A.M. & R.J. Morley (1997)- Palynology of Lower Miocene intermontane lacustrine sediments from the Nong Ya Plong Basin Thailand. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific, Dept. Mineral Resources, Bangkok, p. 259. *(Abstract only)*
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1997/7638.pdf)
(Palynology of 45m core from Sa Kae Ngam oilfield in Nong Ya Plong intermontane basin with E Miocene lacustrine shale and 6m bituminous coal. Shale with abundant Alnus. Upper mudstone with common pollen comparable to Florschuetzia and Lagerstroemia)

Yamee, C., T. Charoentitirat & A. Meesook (2008)- Faunal aspects of marine Jurassic rocks in the Ban Mae Kut Luang Area, Mae Sot District, Tak Province, Thailand. In: Proc. Int. Symposia on Geoscience Resources and Environments of Asian Terranes (GREAT 2008), Bangkok, p. 177-180.
(online at: www.geo.sc.chula.ac.th/Geology/Thai/News/Technique/GREAT_2008/PDF/061.pdf)
(Marine Jurassic of NE Thailand ~600m of clastics and oolitic limestone, with shallow marine faunas dominated by bivalves (incl. Bositra ornati, Camptonectes sp., Grammatodon sp., Parvamussium donaiense) and ammonoids, also rhynchonellid brachiopods, trace fossils and plant remains. Age Toarcian-Aalenian)

Yan, Y., B. Huang, J. Zhao, D. Zhang, X. Liu & P. Charusiri & A. Veeravinantanakul (2017)- Large southward motion and clockwise rotation of Indochina throughout the Mesozoic: paleomagnetic and detrital zircon U-Pb geochronological constraints. Earth Planetary Sci. Letters 459, p. 264-278.
(Paleomagnetic and U-Pb geochronologic study of Late Triassic-Cretaceous Huai Hin Lat and Nam Phong Fms in NE Thailand (W Khorat Plateau; part of Indochina Block). Paleolatitudes in Norian (<2227 Ma) 33.4 ± 7.2°N to Late Cretaceous 24.5 ± 4.9°N. Data indicate S-ward displacement with CW rotation)

Yanagida, J. (1964)- Permian brachiopods from Central Thailand. In: T. Kobayshi (ed.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 143-176.
(Seven species of M-U Permian brachiopods from dark calcareous mudstone in Ratburi Lst, SW of Phetchabun, C Thailand, incl. Tyloplecta yangtzeensis, T. nangkinensis, Haydenella, Orthotichia, etc. Faunal affinities closest to S China)

Yanagida, J. (1967)- Early Permian brachiopods from North-Central Thailand. In: T. Kobayshi & R. Toriyama (ed.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 3, p. 46-97.

(First description of E Permian brachiopods from Thailand: assemblage of 29 species from Asselian? of Tham Nam Maholan, Ban Nong Hin, Changwat Loei, incl. Reticulatia, Costiferina, lyttonid Oldhamina aff. decipiens. Similar to 'Productus-Limestone' of Indochina, China, Urals, etc.. Associated with fusulinids Paraschwagerina and Triticites sp.)

Yanagida, J. (1974)- Middle Carboniferous brachiopods from Loei, North Thailand. In: T. Kobayshi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 14, p. 7-23.

Yanagida, J. (1976)- Palaeobiogeographical consideration on the Late Carboniferous and Early Permian brachiopods of Central North Thailand. In: T. Kobayshi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 14, p. 173-189.
(Brachiopod faunas from Thum Nam Maholan Lst of N-C Thailand strong similarities to Lower Permian of Eurasian continent, but not to Australia- New Zealand. Etc.)

Yanagida, J. (1976)- Upper Carboniferous brachiopods from Wang Saphung, North Thailand. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 16, p. 1-31.

Yanagida, J. (1976)- Palaeobiogeographical consideration on the Late Carboniferous and Early Permian brachiopods of Central North Thailand. In: T. Kobayashi & W. Hashimoto (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 17, p. 173-189.
(U Carboniferous and Lower Permian Brachiopod localities near Loei, N Thailand with similarities to N China, Europe, N America, etc.; few similarities with Australia)

Yanagida, J. (1980)- Carboniferous brachiopoda of the Thai-Malayan district and its significance in paleobiogeography. In: T. Kobayashi, R. Toriyama et al. (eds.) Symposium on the geology and paleontology of SE Asia, Tsukuba 1978, Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 21, p. 25-26.
(Brief review of Carboniferous brachiopod faunas in Thailand and Malay Peninsula. Moscovian brachiopods rel. warm-water asemblages, often associated with fusulinids, and no clear affinities with Australian faunas)

Yanagida, J. (1984)- Carboniferous and Permian brachiopods of Thailand and Malaysia with a brief note on the Mesozoic. In: T. Kobayshi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 25, p. 187-194.
(Brief review of work on Carboniferous and Permian brachiopods in Thailand and Malaysia)

Yanagida, J. & N. Nakornsri (1999)- Permian brachiopods from the Khao Hin Kling Area near Phetchabun, North-central Thailand. Bull. Kitakyushu Mus. Natural History 18, p. 105-136.
(online at: www.kmnh.jp/info/publication/date/18-105-E-Yanagida_Nakornsri.pdf)
(M- early Late Permian brachiopods from Tak Fa Fm black mudstone of Rat Buri Group ~50 km SW of Phetchabun, C Thailand (in Phetchabun foldbelt= W margin of Indochina Block). Fauna 21 species of 17 genera, close affinities to C and S Tethyan realms)

Yanagida, J. & Peck Chin Aw (1979)- Upper Carboniferous, Upper Permian and Triassic brachiopods from Kelantan, Malaysia. In: T. Kobayashi, R. Toriyama & W. Hashimoto (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 20, p. 119-141.
(Brachiopod assemblages from NE Malay Peninsula)

Yang, W., Q. Feng & S. Shen (2008)- Permian radiolarians, chert and basalt from the Nan Suture Zone, Northern Thailand. Proc. Int. Symp. Geoscience resources and environments of Asian terranes (GREAT 2008), 4th IGCP 516 and 5th APSEG, Bangkok 2008, p. 172-173. *(Abstract)*
(Nan suture zone in N Thailand dominated by Carboniferous- Permian Pha Som Metamorphic Complex, with slices of volcanic rocks, schist, meta-greywacke, serpentinite and bedded chert, unconformably overlain by U Triassic and Jurassic red sandstones. Oceanic island basalt- purple radiolarian chert sequence with abundant radiolarians, incl. Follicucullus porrectus, suggesting latest M Permian- earliest Late Permian age)

Yang, W., Q. Feng & S. Shen, K. Malila & C. Chonglakmani (2009)- Permian radiolarians, chert and basalt from the Nan Suture Zone, Northern Thailand. Earth Science (J. China University of Geosciences) 34, 5, p. 743-751.
(Well-preserved sequences of radiolarian chert and basalt in Pha Som metamorphic complex in Nan suture zone, N Thailand. Bedded chert with Follicucullus porrectus (late M Permian- early Late Permian), deposited on continental margin, and Oceanic Island basalts suggest Nan suture zone was small marginal oceanic basin, which closed between Late Permian-Late Triassic)

Yang, W., Q. Feng, S. Shen & C. Chonglakmani (2009)- Constraints of U-Pb zircon dating on the evolution of the Nan-Uttaradit suture zone in northern Thailand. Acta Geoscientica Sinica 30, Suppl. 1, p. 88-89.
(Nan-Uttaradit suture zone in N Thailand narrow N-S ophiolite belt, interpreted as (1) Paleo-Tethys ocean remnants separating Shan-Thai (Sibumasu) and Indochina terranes or (2) boundary of Sukhothai (Simao) and Indochina terranes. Zircon dating of gabbro (~377 Ma; M Carboniferous) and tholeiite (~315 Ma; Late Carboniferous) from Carboniferous-Permian Pha Som Metamorphic Complex in suture zone suggest Late Devonian- early Late Carboniferous spreading of oceanic crust)

Yang, W., X. Qian, Q. Feng, S. Shen & C. Chonglakmani (2016)- Zircon U-Pb geochronological evidence for the evolution of the Nan-Uttaradit suture in northern Thailand. J. Earth Science (China) 27, 3, p. 378-390.
(online at: http://en.earth-science.net/PDF/20160612013541.pdf)
(Nan-Uttaradit suture narrow N-S trending discontinuous ophiolite belt in N Thailand. Melange composed of gabbro, metabasalt, andesite and radiolarian chert. Gabbro and meta-basalt zircon U-Pb ages of ~311 and 316 Ma, suggesting Nan-Uttaradit Ocean existed in Late Carboniferous. Nan-Uttaradit Ocean probably Ailaoshan-extension Jinshajiang Ocean to N)

Yokart, B., S.M. Barr, A.E. Williams-Jones & A.S. Macdonald (2003)- Late-stage alteration and tin-tungsten mineralization in the Khuntan Batholith, northern Thailand. J. Asian Earth Sciences 21, p. 999-1018.
(Khuntan Batholith of NW Thailand part of Late Triassic (~202, 212 Ma) E marginal belt of N Thailand Granite Province which formed in syn-collisional setting and may tie to Main Range of Malay Peninsula (= Sukhothai terrane of later authors?; JTvG). Most of batholith coarse biotite-muscovite granite, but SE part muscovite-tourmaline granite associated with Sn-W mineralization)

Young, B. & W. Jantaranipa (1970)- The discovery of Upper Palaeozoic fossils in the "Phuket Series" of peninsular Thailand. Proc. Geol. Soc. London 1662, p. 5-7.

Yumuang, S. (1997)- Post-depositional structural models of the potential potash layer in the Maha Sarakham Formation in Bamnet Narong area, Changwat Chaiapum, northeastern Thailand. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Dept. Mineral Resources, Bangkok, 2, p. 663-668.
(Delineation of potash (carnallite) layer in Cretaceous evaporites of Khorat Basin, NE Thailand. Thickness 4.3-40m)

Yumuang, S., C. Khantaprab & M. Taiyaqupt (1986)- On the evaporite deposits in Bamnet Narong area, northeastern Thailand. In: G.H. Teh & S. Paramananthan (eds.) Proc. 5th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA V), Kuala Lumpur 1984, 2, Bull. Geol. Soc. Malaysia 20, p. 249-267.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1986b14.pdf)
(Cretaceous evaporites of Khorat Basin with three main evaporite cycles of halite- anhydrite-clastics. Evaporite facies primary precipitates of marine evaporites in 'bar-basin')

Zaw, K., T. Rodmanee, S. Khositanont, T. Thanasuthipitak & S. Ruamkid (2007)- Geology and genesis of Phu Thap Fah gold skarn deposit, northeastern Thailand: implications for reduced gold skarn formation and mineral exploration. GEOTHAIô07 Int. Conference on Geology of Thailand, Bangkok, DMR, p. 93-95.
(Phu Thap Fah gold skarn deposit in Loei Province, NE Thailand, in Permian crystalline limestone and siltstone intruded by E Triassic granodiorite (~245 Ma) and Late Triassic andesitic dykes (~221 Ma). Gold occurs as electrum and gold-bismuth-telluride association. Most gold confined to massive pyrrhotite and pyrite)

Zhang, Y., Y. Wang, B. Srithai & B. Phajuy (2016)- Petrogenesis for the Chiang Dao Permian high-iron basalt and its implication on the Paleotethyan Ocean in NW Thailand. J. Earth Science (China) 27, 3, p. 425-434.
(online at: http://en.earth-science.net/PDF/20160612015946.pdf)
(E Permian very high-iron basalts from Chiang Dao, NW Thailand, have geochemical affinity to Oceanic Intraplate Basalts (OIB). Probable evidence for Paleotethys seamount, and suggest Paleotethys Ocean was located between Shan-Thai terrane of Sibumasu and Sukhothai arc along Inthanon zone of Chiang Mai-Chiang Rai rather than Nan-Uttaradit zones)

Zhao T., X. Qian & Q. Feng (2016)- Geochemistry, zircon U-Pb age and Hf isotopic constraints on the petrogenesis of the Silurian rhyolites in the Loei fold belt and their tectonic implications. J. Earth Science 27, 3, p. 391-402.
(Silurian calc-alkaline rhyolites from Loei foldbelt with mean Pb-U age of 424±3 Ma typical arc-related rocks. Formed in volcanic arc, in contact with Truong Son fold belt during E Paleozoic. Simao Block may be contiguous with Indochina Block during Silurian)

Zhao T., X. Qin & Q. Feng (2015)- Zircon U-Pb-Hf isotopes and whole-rock geochemistry of the Late Triassic rhyolites from Lampang Zone, northern Thailand: implications for the closure of Paleo-Tethys. In: Proc. 4th Int. Symposium Int. Geosciences Program (IGCP) Project 589, Bangkok 2015, p. 102-106. *(Extended Abstract)*
(online at: http://igcp589.cags.ac.cn/4th%20Symposium/Abstract%20volume.pdf)
(Lampang rhyolites formed at ~225 Ma (Norian) in W Sukhothai terrane, after subduction in post-continental collision setting and represent closure of Paleo-Tethys Ocean in N Thailand. Youngest arc volcanics in same area ~242 Ma. Youngest oceanic pelagic sediments in Changning-Menglian and Inthanon Suture Zones with Triassocampe deweveri radiolarian assemblage, suggesting Paleo-Tethys ocean still open in M Triassic)

Zhou, P. & S.B. Mukasa (1997)- Nd-Sr-Pb isotopic, and major- and trace-element geochemistry of Cenozoic lavas from the Khorat Plateau, Thailand: sources and petrogenesis. Chemical Geology 137, p. 175-193.
(Basaltic rocks from Khorat Plateau dated at 0.9 Ma, believed to be related to extension of continental SE Asia. Dominated by alkali-olivine basalt and hawaiite. Probably derived from melts similar in isotopic character to moderately depleted Indian Ocean MORB. This asthenospheric source likely prevalent beneath continental SE Asia)

Zhou, Z. & M. Liengjarern (2004)- Lower Permian perrinitid ammonoid faunas from Thailand. J. Paleontology 78, 2, p. 317-339.
(Artinskian Metaperrinites and Kungurian Perrinites faunas in Ratburi Group of N C Thailand and Saraburi Group of S C Thailand represent part of perrinitid belt of ancient Tethys ocean from Crimea in W to Pamir, Afghanistan, W China, C Thailand to Timor in E)

Zhou, Z. & M. Liengjarern (2007)- Early Permian verbeekinacean fusulinids associated with ammonoid *Perrinites* from Thailand. Acta Micropalaeontologica Sinica 24, 4, p. 346-358.
(Late E Permian (Kungurian) verbeekinaceans associated with Perrinites ammonoid fauna from Saraburi Group in S C Thailand. They represent mixed association of faunas with different ecological attributions)

IX.4. Myanmar (Burma), NE India, SW Yunnan (Sibumasu- West Burma plates)

Acharyya, S.K. (1986)- Tectono-stratigraphic history of Naga Hill Ophiolites. Geol. Survey India, Mem. 119, p. 94-103.

Acharyya, S.K. (2007)- Collisional emplacement history of the Naga-Andaman ophiolites and the position of the eastern Indian suture. J. Asian Earth Sci. 29, p. 229-242.

Acharyya, S. (2015)- Indo-Burma Range: a belt of accreted microcontinents, ophiolites and Mesozoicï Paleogene flyschoid sediments. Int. J. Earth Sciences 104, 5, p. 1235-1251.
(N-S trending Indo-Burma Range W-verging series commonly interpreted as accretionary prism of oceanic material from subduction of Indian plate under Eurasian/Burmese plate. With two ophiolite suites with different accretion histories: (1) Naga Hills Lower Ophiolite (overthrusting from E; covered with Late Jurassic- E Eocene(~150-55 Ma) pelagic sediments, accreted in E-M Eocene, overlain by M Eocene ophiolite-derived clastics); (2) Victoria Hills Upper Ophiolite (Mesozoic age, overthrusting continental metamorphic rocks, unconformably overlain by shallow marine U Albian - Cenomanian sediments). Ophiolites and cover rock overthrusted by Proterozoic metamorphics from Burmese continent. Both ophiolite suites thrust W-ward over Eocene shelf sediments. Dismembered ophiolites and continental metamorphic rocks suggest thin-skinned tectonic detachment processes)

Acharyya, S.K, D.K. Roy, N.D. Mitra, R.G. Coleman & I. Gass (1986)- Stratigraphy and paleontology of the Naga Hills ophiolite belt. In: Geology of Nagaland Ophiolite, Mem. Geol. Survey India 119, p. 64-74.

Agematsu, S. & K. Sashida (2009)- Ordovician sea-level change and paleogeography of the Sibumasu Terrane based on the conodont biostratigraphy. Paleont. Research 13, 4, p. 327-336.
(Ordovician conodont biostratigraphy of Sibumasu terrane in Thailand- Langkawi- N Malaysia. Faunal affinity of conodonts suggest Sibumasu was close to both Australia and N China, at that time located in low paleolatitudes)

Agematsu, S., K. Sashida & A. Sardsud (2008)- Early and Middle Paleozoic conodont paleobiogeography and paleoenvironments on the Sibumasu Block. Proc. Int. Symp. Geoscience resources and environments of Asian terranes (GREAT 2008), 4th IGCP 516 and 5th APSEG, Bangkok 2008, p. 1753-1760.
(online at: www.geo.sc.chula.ac.th/Geology/Thai/News/Technique/GREAT_2008/PDF/060.pdf)
(Ordovician- E Devonian sea-level curve of Sibumasu Block in Thailand and NW Malaysia shows five regressions. Conodonts reflect tropical domain and closely related to Australia and N China in Tremadocian-Dapingian (E-M Ordovician), changing to middle- high-latitudes before Katian (Late Ordovician))

Aitchison, J.C., G.L. Clarke, T.R. Ireland, K. Lokho, A. Ao, S.K. Bhowmik, T. Roeder et al. (2016)- New age constraints on the evolution of the Naga Hills: radiolarians and radiometric. In: Development of the Asian Tethyan Realm: genesis, process and outcomes, 5th Int. Symposium Int. Geoscience Program (IGCP) Project 589, Yangon, p. 54. *(Abstract only)*
(online at: http://igcp589.cags.ac.cn/5th%20Symposium/Abstract%20Volume.pdf)
(Naga Hills in Indo-Myanmar Ranges dominated by Cenozoic sediments structurally overlying Indian passive-margin sequence. Near India-Myanmar border imbricate thrust stack also contains sheets of ophiolitic melange. Ophiolite disrupted and overlain by Eocene shallow marine sediments of Phokphur Fm. Further E high-grade metamorphic units thrust W-wards over ophiolite. Well-preserved Jurassic, Cretaceous and Paleo-Eocene radiolarians together with U/Pb data from ophiolitic and metamorphic units. New detrital zircon ages suggest derivation of some units from Sibumasu rather than Lhasa or Qiangtang terranes)

Ali, J.R., H.M.Z. Cheung, J.C. Aitchison & Y. Sun (2013)- Palaeomagnetic re-investigation of Early Permian rift basalts from the Baoshan Block, SW China: constraints on the site-of-origin of the Gondwana-derived eastern Cimmerian terranes. Geophysical J. Int. 193, 2, p. 650-663.
(online at: https://academic.oup.com/gji/article-pdf/193/2/650/1772194/ggt012.pdf)

(Paleomagnetic data from E Permian Woniusi Fm rift basalts of Baoshan block (SW China) suggest this part of E Cimmerian terrane detached from E Gondwana at ~42°S (34.2-51.2°S) (similar to Huang & Opdyke 1991 results on paleolatitude). Gondwana estoration: Baoshan fits against in narrow longitudinal belt close to NE Greater India and NW Australia; Sibumasu lay directly to E, off Australia; Qiangtang and Lhasa sat to W, off N Greater India- SE Arabia (see also Xu et al. 2015, who arrive at slightly lower paleolatitudes))

Ali, J.R., G.M. Thompson, M.F. Zhou & X. Song (2005)- Emeishan large igneous province, SW China. Lithos 79, p. 475-489.
(Emeishan large igneous province of SW China volcanic and upper-intrusive portion of province is relatively small. Most reliable age dates (zircon U-Pb SHRIMP) from intrusive body indicate generation at ~259 Ma, consistent with end-Guadalupian (end M Permian) age. Magnetostratigraphic data and field observations suggest bulk of volcanic sequence formed within 1-2 My. Geochemistry of volcanics and studies of underlying Maokou Fm suggests mantle plume generated province)

Ali, J., J. Fitton & C. Herzberg (2010)- Emeishan large igneous province (SW China) and the mantle-plume up-doming hypothesis. J. Geol. Soc., London, 167, p. 953-959.
(M Permian (~262 Ma) Emeishan Basalts of SW China commonly cited example of large igneous province that formed as result of mantle plume generating large regional-scale up-doming prior to volcanism. Support idea that ELIP was generated by plume that originated in mantle, but amount and lateral extent of uplift significantly less than predicted by conventional deep-mantle plume models. Large-scale doming may not be diagnostic feature of mantle plumes)

Allen, R., Y. Najman, A. Carter, D. Barfod, M.J. Bickle, H.J. Chapman, E. Garzanti, G. Vezzoli, S. Ando & R.R. Parrish (2008)- Provenance of the Tertiary sedimentary rocks of the Indo-Burman Ranges, Burma (Myanmar): Burman arc or Himalayan-derived? J. Geol. Soc. London, 165, p. 1045-1057.
(Indo-Burman Ranges in W Myanmar extend along Sunda Arc subduction zone and may be divided into W part of Neogene and E part of Paleogene sediments, separated by fault. Paleogene Indo-Burman Ranges contain significant arc-derived material from Burmese portion of Mesozoic-Tertiary arc to E. U-Pb dating on detrital zircons shows dominant zircon populations of (~55-150 Ma) in Paleocene; also Cambro-Ordovician and Precambrian age. Old populations possibly sourced from Himalaya or Burmese margin. Neogene Indo-Burman Ranges dominant derivation from Himalaya; minor arc-derived component may have been sourced from Trans-Himalaya, or recycled from arc-derived Paleogene Indo-Burman Ranges)

Amos, B.J. (1975)- Stratigraphy of some of the Upper Palaeozoic and Mesozoic carbonate rocks of the Eastern Highlands, Burma. Newsletters Stratigraphy 4, p. 49-70.
(Stratigraphy of Permian- Triassic 'Plateau Limestone' from E Myanmar Highlands (Sibumasu/ Shan-Tai block). Permian with fusulinids Yangchienia, Verbeekina, Parafusulina, etc. Locally extensive diagenetic dolomitisation; incomplete dolomitisation in some areas. Permian. Triassic carbonates at least 2500m thick)

Anderson, M.M., A.J. Boucot & J.G.Johnson (1969)- Eifelian brachiopods from Padaukpin, northern Shan States, Burma. Bull. British Museum (Natural History), Geology, 18, 4, p. 107-163.
(online at: http://ia600708.us.archive.org/4/items/bulletinofbritis18brit/bulletinofbritis18brit.pdf)
(M Devonian articulate brachiopods from weathered 'Lower Plateau Limestone' in Padaukpin area, NE of Maymyo area, E of Mandalay, associated with colonies of tabulate corals and stromatoporoids. Brachiopod fauna 32 species, similar to West Yunnan faunas and with marked affinity with Eifelian of W Europe (stronger affinity with Europe than USSR))

Ao, A. & S.K. Bhowmik (2014)- Cold subduction of the Neotethys: the metamorphic record from finely banded lawsonite and epidote blueschists and associated metabasalts of the Nagaland Ophiolite Complex, India. J. Metamorphic Geol. 32, p. 829-860.
(Thermal history of subducting Neotethys, using metabasalts from serpentinitic melange in segment of Nagaland Ophiolite Complex. Tectonically disturbed Cretaceous? metamorphic sequence, from W to E: (1) greenschist, (2) pumpellyite- diopside and (3) lawsonite/ glaucophane and epidote/glaucophane blueschist facies. Low T gradient of 8°C/km, corresponding to 40 km max. burial depth, suggest cold intra-oceanic

subduction zone setting for Nagaland blueschists. Metamorphics suggest presence of intra-oceanic subduction systems within Neotethys also between Indian and Burmese plates)

Ariffin, M.M.M., Kyaw Linn Oo, M.H.B.A. Wahab, Nyunt Shwe & M Khairil (2017)- Lower Miocene carbonate play in the Pyay sub-basin, onshore Myanmar: Reservoir characterization for prospectivity de-risking. AAPG/EAGE/MGS 3rd Oil & Gas Myanmar Geosciences Conf., Yangon, 11p. *(Extended Abstract)*
(Underexplored Lower Miocene carbonate play in Pyay sub-basin of C Myanmar, with Htantabin oil field (1979-1987))

Aung, A.K. (1995)- New Middle Devonian (Eifelian) rugose corals from Myanmar. J. Southeast Asian Earth Sci. 11, p. 23-32.
(Eight new species of M Devonian (Eifelian) rugose corals from Padaukpin and Pwepon areas in N Shan State, N Myanmar. Genera Phacellophyllum, Peripaedium, Pterorrhiza, Dohmophyllum, Temnophyllum and Puanophyllum reported for first time from Myanmar. Some Myanmar forms resemble species from Eifelian of SW China and E Australia)

Aung, A.K. (2004)- The primate-bearing Pondaung Formation in the Upland area, Northwest of Central Myanmar. In: C.F. Ross & R.F. Kay (eds.) Anthropoid origins, Kluwer/ Plenum, New York, p. 205-217.
(Review of late Middle Eocene molasse-type sediments of Central Burma Tertiary Belt (Inner Burman Tertiary Basin), at E side of the Indo-Burman Ranges)

Aung, A.K. (2010)- A short note on the discovery of Early Devonian tentaculite-bearing unit from Taunggyi-Taungchun range, Southern Shan State, Myanmar. Warta Geologi 36, 4, p. 175-178.
(online at: www.gsm.org.my/products/702001-100402-PDF.pdf)
(Short note on occurrences of E-M Devonian tentaculites in Myanmar. Similarities to Nowakia acuaria from Mahang Fm of NW Malay Peninsula (= part of 'Sibumasu' E Paleozoic stratigraphy; JTvG))

Aung, A.K. (2011)- A short note on the discovery of Early Devonian tentaculite-bearing unit from Taunggyi-Taungchun Range, southern Shan State, Myanmar. Warta Geologi (Geol. Soc. Malaysia) 36, 4, p. 175-178.
(online at: ttps://gsmpubl.files.wordpress.com/2014/09/warta-36_4.pdf)
(E-M Devonian limestone with tentaculites from Taunggyi area, SE of Mandalay, in S Shan State. ~10m thick, between Silurian Linwe Fm and Permian-Triassic 'Plateau Lst'. Resemble Mahang Fm and Lalang Mb of NW Peninsular Malaysia. Also correlatable with E Devonian Zebingyi Fm of Pyin Oo Lwin)

Aung, A.K. (2011)- Stratigraphy of the Devonian sediments in the northwestern part of the Shan Plateau, Myanmar. Proc. 24th Ann. National Geoscience Conference 2011 (NGC2011), Johor Baru, B13, p. 59-60. *(Extended Abstract)*
(online at: http://geology.um.edu.my/gsmpublic/NGC2011/NGC2011_Proceedings.pdf)
(Rel. complete and mainly shallow marine Devonian section E of Mandalay, C Myanmar)

Aung, A.K., R.T. Becker & K.K. Myint (2011)- First record of Frasnian (Upper Devonian) sediments and ammonoids from Myanmar. Subcomm. Devonian Stratigraphy (SDS) Newsletter 26, p. 49-53.
(First record of U Devonian sediments and ammonoids (goniatite Beloceras and Tornoceras) in Myogyi area, Sino-Burman Ranges, E Myanmar, so far unknown from all of SE Asia (= Precambrian- Mesozoic shelf series of 'Sibumasu Terrane'))

Aung, A.K. & L.R.M. Cocks (2017)- Cambrian-Devonian stratigraphy of the Shan Plateau, Myanmar (Burma). In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 14, p. 317-342.
(Sibumasu (Shan-Thai) Terrane of Shan Plateau with common limestone-dominated Cambrian - Devonian rocks, which, before Permian were part of N Gondwana margin. By M Cambrian (~510 Ma) Myanmar part of Sibumasu sector of Gondwana straddled equator and was close to NW Australian sector. Some acidic Cambrian volcanics, but passive margin setting from E Ordovician- end Carboniferous)

Aung, A.K. & K. Min (2011)- Stratigraphy of the Lower Devonian sediments in the northwestern Shan Plateau, Myanmar. Bull. Geol. Soc. Malaysia 57, p. 55-67.
(online at: http://geology.um.edu.my/gsmpublic/BGSM/bgsm57/bgsm2011008.pdf)
(Lower Devonian sediments in NW Shan Plateau of C Myanmar with rich micro- and macrofauna, including graptolites (Monograptus atopus, M. helmckei), trilobites (Cornuproetus), tentaculids (Nowakia acuaria), conodonts) (*Eognathodus sulcatus), rugose corals, etc. Can be correlated with neighboring regions in NW Malay Peninsula, Thailand and China (= part of Sibumasu stratigraphy; JTvG))*

Aung, H.H. (2009)- Recognition of Paleo-Tethys Suture Zone in eastern Myanmar. Acta Geoscientica Sinica 30, Suppl.1, p. 1-3.
(Closure of Paleo-Tethys Ocean marked by collision between Shan Massif and Indochina plate in E Myanmar. Now complex zone of suturing and deformation along Than Lwin River, extending N to Yunnan (Changning-Menglian belt) and S into West Thailand (Inthanon Zone). Also large complex of Late Triassic granites)

Aung, H.H. (2015)- Delineation of western boundary of Paleo-Tethys suture zone in Myanmar. In: Proc. 4th Int. Symposium Int. Geosciences Program (IGCP) Project 589, Bangkok 2015, p. 1-3. *(Abstract)*
(online at: http://igcp589.cags.ac.cn/4th%20Symposium/Abstract%20volume.pdf))
(On western boundary fault of Paleo-Tethys suture zone in E Myanmar)

Aung, N.S., O. Chavasseau, Y. Chaimanee, C. Sein, J.J. Jaeger, X. Valentin & S. Ducrocq (2017)- New remains of *Siamotherium pondaungensis* (Cetartiodactyla, Hippopotamoidea) from the Eocene of Pondaung, Myanmar: paleoecologic and phylogenetic implications. J. Vertebrate Paleontology 37, 1, p.
(Well preserved skull of small anthracothere from late M Eocene of Pondaung Fm, attributed to Siamotherium pondaungensis. New material confirms it is anthracothere and not helohyid. Most likely terrestrial, open-forest animal with an omnivorous diet. Both species of Siamotherium confirms basal position in Hippopotamoidea)

Aung, N.S., Myitta, S.T. Tun, A.K. Aung, T. Thein, B. Marandat, S. Ducrocq & J.J Jaeger (2002)- Sedimentary facies of the late Middle Eocene Pondaung Formation (central Myanmar) and the palaeoenvironments of its anthropoid primates. Comptes Rendus Palevol 1, p. 153-160.

Aung, P.S., C. Satirapod & C.O. Andrei (2016)- Sagaing Fault slip and deformation in Myanmar observed by continuous GPS measurements. Geodesy and Geodynamics 7, 1, p. 56-63.
(GPS stations along dextral Sagaing Fault suggest E side of fault moves SE at ~32-40 mm/yr, whereas W side moves NE at ~31-35 mm/yr)

Aung Zaw Myint, Khin Zaw, Ye Myint Swe, K. Yonezu, Yue Cai, T. Manaka & K. Watanabe (2017)- Geochemistry and geochronology of granites hosting the Mawchi Sn-W deposit, Myanmar: implications for tectonic setting and emplacement. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 17, p. 385-400.
(Mawchi Mine in Myanmar is historic world-class Sn-W deposit in SE Asia tin province (world's largest tin–tungsten quartz vein system exploited before WW II). M Eocene (~43 Ma) Mawchi granite small pluton at W side of Shan Plateau with biotite granite and tourmaline granite, derived from melting of crustal rocks. Part of Paleogene Western granite province (with nearby granites generally older: ~48-60 Ma)

Aung Zaw Myint, K. Yonezu, A.J. Boyce, D. Selby, A. Schersten, T. Tindell, K. Watanabe & Ye Myint Swe (2018)- Stable isotope and geochronological study of the Mawchi Sn-W deposit, Myanmar: implications for timing of mineralization and ore genesis. Ore Geology Reviews 95, p. 663-679.
(World-class Mawchi Sn-W mineralization in N-S trending steeply dipping quartz veins, hosted by Eocene granite and Carboniferous- E Permian metasediments. Three stages of ore formation; (1) tourmaline-cassiterite stage (2) main ore stage and (3) sulfide stage (with 40Ar/39Ar magmatic biotite age of ~41.5 Ma and zicon U-Pb age of 42.7 Ma. Sn-W mineralization synchronous with late Eocene granitic magmatism)

Ba Maw, R.L. Ciochon & D.E. Savage (1979)- Late Eocene of Burma yields earliest anthropoid primate *Pondaungia cotteri*. Nature 282, p. 65-67.

Bannert, D. & D. Helmcke (1981)- The evolution of the Asian plate in Burma. In: Alfred Wegener Symposium, Berlin 1980, Geol. Rundschau 70, 2, p. 446-458.
(Post-Cretaceous evolution of Asian Plate in Burma strongly influenced by spreading of E Indian Ocean and N-ward movement of 'Greater India'. During end of Mesozoic E part of Burma emerged from ocean; W part formed shelf area with slowly W-wards migrating Indoburman geosyncline to W (U Cretaceous flysch). Emergence of Indoburman Ranges in Miocene, generating Outer Island Arc and forming Bay of Bengal. Approach of continental Indian crust led to thrusts in N part of Indoburman Ranges. Today subduction active only S of 18°N in E Bay of Bengal)

Bannert, D., A. Sang Lyen & T. Htay (2011)- The geology of the Indoburman Ranges in Myanmar. Geol. Jahrbuch B101, p. 5-101.
(Indoburman Ranges are W-most unit in Myanmar and represent accretionary wedge formed by Late Mesozoic-Paleogene-Neogene marine sediments with transitions into molasse-type sediments. Four geological units. Most rocks Tertiary age, with widespread units of U Cretaceous, Albian and Cenomanian. Triassic (Carnian-Norian) flysch part of E Indoburman Ranges; Jurassic sediments absent. C Chin Hills of E Indoburman Ranges with U Cretaceous- Paleocene Kanpetlet Schists (metamorphosed Triassic flysch); Naga metamorphic rocks possibly similar, but age still undetermined. Common serpentinised ultrabasics, especially along continental splinter of W Burma Plate. Docking of W Burma Plate onto Eurasia margin at 83 Ma, followed by continent- continent collision of India Plate. During Late Himalayan collision, many young strike-slip faults developed, hampering reconstruction of original sedimentary regions. Tectonic contacts very steep)

Barber, A.J., K. Zaw & M.J. Crow (eds.) (2017)- Myanmar: geology, resources and tectonics. Geol. Soc., London, Memoir 48, p. 1-759.
(Major, modern review of geology of Myanmar by collective of expert authors)

Barber, A.J., K. Zaw & M.J. Crow (2017)- The pre-Cenozoic tectonic evolution of Myanmar. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 31, p. 687-712.
(Myanmar 7 N-S tectonic units, from W to E: (1) Indo-Myanmar Ranges (accretionary prism); (2) W Myanmar (Burma) Block (metamorphic basement overlain by Cenozoic C Myanmar Basins); (3) Mogok Metamorphic Belt (high-grade metamorphic core complex with Late Oligocene- E Miocene exhumation age, and granitoids); (4) Slate Belt (Mergui Gp with Late Carboniferous- Permian diamictites and intruded by Late Jurassic- E Cretaceous granodiorites); (5) Paunglaung Mawchi zone (isoclinally folded Shan Plateau margin rocks), (3,4,5 = Shan Scarps area) and (7) Shan Plateau (Paleozoic- Triassic stratigraphy, part of Sibumasu Terrane). Indochina Block does not extend into Myanmar. Mt Victoria/ West Burma Block identified in literature, but E margin of this block against Sibumasu, conventionally identified as Sagaing Fault, not clearly defined. Cenozoic development of Myanmar profoundly affected by N-ward movement of India and collision with Eurasia at ~50 Ma, resulting in ~70° rotation of whole country)

Barley, M.E., A.L. Pickard, K. Zaw, P. Rak & M.G. Doyle (2003)- Jurassic to Miocene magmatism and metamorphism in the Mogok metamorphic belt and the India-Eurasia collision in Myanmar. Tectonics 22, 3, 1019, p. 1-11.
(Mogok metamorphic belt at W margin of Shan-Thai terrane. Deformed granitic orthogneisses contain Jurassic (~170 Ma) zircons, partly recrystallized during ~43 Ma high-grade metamorphism. Syenite from Mandalay Hill also with Jurassic zircons with evidence of Eocene metamorphic recrystallization rimmed by thin zones of ~31 Ma magmatic zircon. Abundance of Jurassic zircons consistent with Andean-type margin at S Eurasia at that time. Mid-Cretaceous- E Eocene (120-50 Ma) I-type granitoids in MMB and W Myanmar confirm up to 200 km wide magmatic belt along Eurasian margin from Pakistan to Sumatra (K-Ar cooling ages 79-100 Ma; Allen et al. 2008))

Basu, P., R. Verma, R. Paul & K. Viswanath (2010)- Deep waters of Rakhine Basin - a new frontier? Proc. 3rd Biennial Int. Conf. Petroleum Geophysics, Hyderabad 2010, P-160, 7p.
(online at: https://www.spgindia.org/2010/160.pdf)

(Offshore Rakhine frontier basin in E part of Bay of Bengal, off Myanmar, with Shwe (2003) and Shwe Phyu and Mya subsequent gas discoveries, all three with biogenic gas in deep marine Lower Pliocene sandstones. Also postulated thermogenic petroleum system in Cretaceous sequence. Rakhine Basin merges with Andaman Nicobar-Sunda- Java foredeep basins system to South)

Baxter, A.T., J.C. Aitchison, S.V. Zyabrev & J.R. Ali (2011)- Upper Jurassic radiolarians from the Naga Ophiolite, Nagaland, northeast India. Gondwana Research 20, p. 638-644.
(Cherts from ophiolitic melange near Salumi, Nagaland, NE India, part of Naga- Andaman suture (Neotethys/Mesotethys oceanic material?) with U Jurassic (Kimmeridgian- lower Tithonian) radiolaria. Significantly older than fossils previously reported from this melange, but similar to radiometric ages from associated igneous units)

Beard, K.C., L. Marivaux, Y. Chaimanee, J.J. Jaeger, B. Maranda, P. Tafforeau, A.N. Soe, S.T. Tun & A.A. Kyaw (2010)- A new primate from the Eocene Pondaung Formation of Myanmar and the monophyly of Burmese amphipithecids. Proc. Royal Society, Biological Sciences, 276, p. 3285-394.
(online at: http://rspb.royalsocietypublishing.org/content/royprsb/276/1671/3285.full.pdf)
(New anthropoid amphipithecid Ganlea megacanina n.sp. from late M Eocene Pondaung Fm of C Myanmar. Pondaungia is sister taxon of Ganlea- Myanmarpithecus clade. Burmese amphipithecids endemic radiation of hard object feeders)

Beard, K.C., L. Marivaux, S.T. Tun, N.S. Aung, Y. Chaimanee, W. Htoon, B. Marandat, H.H. Aung & J.J. Jaeger (2007)- New sivaladapid primates from the Eocene Pondaung Formation of Myanmar and the anthropoid status of Amphipithecidae. Bull. Carnegie Museum Natural History 39, p. 67-76.
(Two new sivaladapid primates from late M Eocene Pondaung Fm.)

Bender, F. (1983)- Geology of Burma. Beitrage Regionalen Geologie der Erde 16, Borntraeger, Berlin, p. 1-293.
(Classic textbook on geology of Myanmar, with contributions by Bannert, Brinckmann, Gramann, Helmcke. Fout main N-S trending physiographic/tectonic units: (1) Arakan coastal area, (2) Indo-Burman Ranges (E Tertiary flysch belt, with in E intercalated allochthonous U Cretaceous and older (U Triassic Halobia schist), W-vergent imbricate structures and some ophiolite; belt of ultrabasic rocks and Naga metamorphic complex along E side); (3) Chindwin- Irrawaddy Basin (Inner Burman) Basin (7 sub-basins?), mainly Miocene and youger age, with large thrust anticlines; continues into Andaman Sea and N and C Sumatra basins; (4) Sino-Burman Ranges (Eastern Highlands; mainly deformed Precambrian, Paleozoic and Mesozoic sediments (Sibumasu terrane) (incl. M Cretaceous with Orbitolina, Globotruncana limestone, latest Cretaceous with Siderolites, Lepidorbitoides (Asterorbis)). Etc.)

Bender, F. (1994)- Myanmar (former Birma, Burma). In: H. Kulke (ed.) Regional petroleum geology of the world, I, Borntraeger, Berlin, p. 699-708.
(Brief review of oil-gas basins and fields of Myanmar; in German)

Bertrand, G. & C. Rangin (2003)- Tectonics of the western margin of the Shan plateau (central Myanmar): implication for the India-Indochina oblique convergence since the Oligocene. J. Asian Earth Sci. 21, p. 1139-1157.
(*Neogene tectonics of Shan scarp area (C Myanmar) and relationship with India- Indochina oblique convergence. Two tectonic regimes: (1) NNW–SSE-trending extension, with ductile stretching in Mogok Metamorphic Belt, with N70E brittle normal faults; (2) M or U Miocene-Present right-lateral faults (N20W transpressive Shan scarp fault, N-S Sagaing fault). Transition from transtensional to transpressive stress regime in Miocene tied to end of spreading in S China Sea, opening of Andaman basin or end of subduction in Indo-Burma range)*

Bertrand, G., C. Rangin, H. Maluski, Tin Aung Han, M. Thein, O. Myint, W. Maw & S. Lwin (1999)- Cenozoic metamorphism along the Shan Scarp (Myanmar): evidences for ductile shear along the Sagaing Fault or the northward migration of the Eastern Himalayan syntaxis? Geophysical Research Letters 26, 7, p. 915-918.

(Mogok metamorphic belt along N-S trending Shan scarp and Sagaing fault in E Myanmar regarded as Paleozoic-Precambrian, but Ar/Ar data suggests Oligocene- E Miocene metamorphism age (26-21 Ma). Metamorphism caused by NNW-SSE to N-S ductile extension, not directly related to Sagaing fault, but possibly related to N-ward migration of E Himalayan syntaxis, resulting from India-Asia oblique collision)

Bertrand, G., C. Rangin, H. Maluski, H. Bellon & Giac Scientific Party (2001)- Diachronous cooling along the Mogok Metamorphic belt (Shan scarp, Myanmar): the trace of the northward migration of the Indian syntaxis. J. Asian Earth Sci. 19, p. 649-659.

Bhattacharjee, C.G. (1991)- The ophiolites of northeast India- a subduction zone ophiolite complex of the Indo-Burman orogenic belt. Tectonophysics 191, p. 213-222.
(Ophiolites of NE India rootless blocks floating in matrix of U Cretaceous-Lower Tertiary Disang Gp. Ultramafics main component and interpreted as slices of oceanic crust and upper mantle obducted onto Indian continental margin. Associated blueschist indicative of subduction zone tectonics)

Bleeck, A.W.G. (1907)- Die Jadeitlagerstatten in Upper Burma. Zeitschrift Praktische Geol. 15, p. 341-365.
(online at: https://books.google.com/books...)
('The jadeite deposits of Upper Burma'. Early, detailed description of geologic setting of jadeitites of Kachin Hills, NE Myanmar. Primary occurrence as bed or dike in serpentinite)

Bleeck, A.W.G. (1908)- Jadeite in the Kachin Hills, Upper Burma. Records Geol. Survey India 36, 4, p. 254-285.
(online at: https://babel.hathitrust.org/cgi/pt?id=uc1.31822009563370;view=1up;seq=172;size=125)
(Jadeite found in three places in Kachin Hills of NE Myanmar: Tawmaw, Hweka and Mamon. Jadeite occurs as intrusive dike in serpentinite and in boulder conglomerates)

Bojesen-Koefoed, J.A., M.B.W. Fyhn, L.H. Nielsen, H.P. Nytoft, I. Abatzis & U Nyan Tun (2017)- Petroleum composition in the Central Burma Depression, Myanmar- a preliminary assessment. AAPG/EAGE/MGS 3rd Oil & Gas Conf., Yangon 2017, 5p. *(Extended Abstract)*
(C Burma Depression with up to 15km Albian- Recent sediments. Oils from Salin Basin from predominantly terrestrial source. Thermal maturity increasing from N to S across Salin Basin)

Bronnimann, P., J.E. Whittaker & L. Zaninetti (1975)- Triassic foraminiferal biostratigraphy of the Kyaukme-Longtawkno area, Northern Shan States, Burma. Rivista Italiana Paleont. 81, p. 1-30.
(Incl. new Late Triassic species Duotaxis birmanica)

Brunnschweiler, R.O. (1970)- Contributions to the post-Silurian geology of Burma (Northern Shan States and Karen state). J. Geol. Soc. Australia 17, 1, p. 59-79.
(Review of U Paleozoic-Mesozoic stratigraphy of E Burma)

Brunnschweiler, R.O. (1974)- Indoburman Ranges- data for orogenic studies. In: A.M. Spencer (ed.) Mesozoic-Cenozoic orogenic belts, Geol. Soc., London, Spec. Publ. 4, p. 279-299.
(Tertiary fold-thrust belt)

Brunnschweiler, R. O. (1996)- On the geology of the Indoburman Ranges (Arakan Coast and Yoma, Chin Hills, Naga Hills). J. Geol. Soc. Australia 13, 1, p. 127-194.
(Mountains of W and NW Burma mainly thick accumulations of Paleo- Eocene (Arakan and Chin Hills) or Senonian-Eocene (Naga Hills) flysch. Some of highest mountains in Naga Hills are 'klippen' of metamorphics lying on flysch. Flysch ranges uplifted in Oligocene but along Arakan Coast also earlier orogenic phase (latest Cretaceous). Lowlands of Central and Lower Burma intramontane molasse-filled basin)

Burchfiel, B.C. & E Wang (2003)- Northwest-trending, middle Cenozoic, left-lateral faults in southern Yunnan, China, and their tectonic significance. J. Structural Geology 25, 5, p. 781-792.

Burton, C.K. (1967)- Graptolite and tentaculite corelations and palaeogeography of the Silurian and Devonian in the Yunnan- Malaya geosyncline. Trans. Proc. Paleont. Soc. Japan, N.S. 65, p. 27-46.
(Silurian- M Devonian deeper marine graptolites and tentaculites found in black shales from W Yunnan (S China)- E Burma- W Thailand into NW Malay Peninsula (incl. Langkawi) (=Sibumasu Block))

Cai, F., L. Ding, W. Yao, A.K. Laskowski, Q. Xu, J. Zhang & K. Sein (2016)- Provenance and tectonic evolution of Lower Paleozoic-Upper Mesozoic strata from Sibumasu terrane, Myanmar. Gondwana Research 41, p. 325-336.
(Sandstone petrographic and U-Pb detrital zircon geochronologic data from Ordovician- Jurassic of Sibumasu terrane in Shan State. Ordovician-Silurian sandstones dominated by 567-470 Ma and 982-917 Ma zircons, sourced from E Gondwana continent. Carboniferous meta-sandstones strong 1165-1070 Ma zircon age peak, likely derived from Albany-Fraser Province in SW Australia and Maud Province in Antarctic. U Triassic- Lower Jurassic Loi-an Gp clastics over Permian- M Triassic Plateau Limestone Gp, with abundant Permian-Triassic detrital zircons (215 Ma and older) from Sukhothai Arc in E. Sibumasu terrane juxtaposed against NW Australia until E Permian time. Late Triassic change in provenance to Sukhothai Arc)

Cao, R.G. (1986)- Discovery of Late Carboniferous glacial-marine deposits in Western Yunnan. Geol. Rev. 32, 3, p. 236-242.
(U Carboniferous Dingjiazhai Fm in W Yunnan represented by glacio-marine strata. Lower part littoral diamictite, middle part glacio-marine strata with cold-water fauna of Stepanoviella and Eurydesma, upper part with fusulinids such as Triticites, of Late Carboniferous age. Similar to strata in India, Nepal, Bhutan, Tibet, Burma, Thailand, Malaysia and Australia. Baoshan and Tengchong areas belong to Gondwanaland (NB: age more likely E Permian; see Ueno et al. 2003))

Carter, P. (2015)- Exploration potential of the Rakhine Basin/Bengal Fan, Offshore Myanmar. Proc. 2015 SE Asia Petroleum Expl. Soc. (SEAPEX) Conf., Singapore, 2.1, p. 1-27 *(Abstract + Presentation)*
(Myanmar large number of oil fields discovered, but most are small. Bulk of production from five fields: Yenangyaung, Chauk/Lanywa, Myanaung, Pyay and Mann. Onshore/offshore Cretaceous- Pliocene Rakhine Basin along W coast of Myanmar part of M Eocene- Recent accretionary prism in front of colliding India. N part of basin thick Pliocene- Recent Bengal Fan sediments, which extend from mouths of Brahmaputra and Ganges rivers to oceanic crust in Bay of Bengal. At least 10 onshore and 17 offshore exploration wells. Two proven petroleum systems: nearshore oil and offshore biogenic gas)

Catlos, E.J., E. Reyes, M. Brookfield & D.F. Stockli (2016)- Age and emplacement of the Permian-Jurassic Menghai batholith, Western Yunnan, China. Int. Geol. Review 59, 8, p. 919-945.
(Menghai batholith in W Yunnan is S extension of ~370km long Lincang granite body that syntectonically intruded Paleotethys collision zone between Gondwanan Baoshan block and Laurasian Simao block. Crustal anatexis of Menghai granodiorites related to post-collisional lithosphere delamination and upwelling of hot asthenosphere, forming large-volume melts. Zircon ages from ~3234 to 172 Ma. Inherited zircons Carboniferous (~318 Ma) and older. Crystallization ages Permian- E Jurassic, with ages decreasing from centre of batholith to E perimeter from ~227- 211 Ma to 212- 171 Ma respectively. Collision and closure of branch of Paleotethys here over ~100 Myr period (Permian (281 Ma)- Jurassic (172 Ma))

Chaimanee, Y., O. Chavasseau, K.C. Beard, A.K. Aung, N.S. Aung, C. Sein V. Lazzari, L. Marivaux, B. Marandat, M. Swe et al. (2012)- Late Middle Eocene primate from Myanmar and the initial anthropoid colonization of Africa. Proc. National Academy Sciences USA (PNAS) 109, 26, p. 10293-10297.
(online at: www.pnas.org/content/109/26/10293.full.pdf)
(Earlier hypotheses supported African origin for anthropoids, but recent discoveries of older and phylogenetically more basal fossils in China and Myanmar indicate group originated in Asia. New fossil primate from late M Eocene Pondaung Fm of Myanmar (Afrasia djijidae) remarkably similar to, but dentally more primitive than roughly contemporaneous N African anthropoid Afrotarsius. Members of this clade may have dispersed from Asia to Africa in M Eocene, shortly before first appearance in African fossil record)

Chatterjee, N. & N.C. Ghose (2010)- Metamorphic evolution of the Naga Hills eclogite and blueschist, Northeast India: implications for early subduction of the Indian plate under the Burma microplate. J. Metamorphic Geology 28, p. 209-225.
(Tectonic slices of eclogite and blueschist in E Cretaceous-Eocene Naga Hills ophiolite belt. Part of accretionary wedge, reflecting E-ward subduction of Indian plate under Burma microplate prior to India-Eurasia collision. Glaucophane and epidote represent post-peak assemblage)

Chattopadhyay, B., P. Venkataramana, D.K. Roy, S. Bhattacharyya & S. Ghosh (1983)- Geology of Naga Hills ophiolites. Geol. Survey India Record 112, p. 59-115.

Chavasseau, O., Y. Chaimanee, T. Soethoera, S. Aung Naing, J.C. Barry, B. Marandat, J. Sudre, L. Marivaux, S. Ducrocq & J.J. Jaeger (2006)- *Chaungtha*, a new Middle Miocene mammal locality from the Irrawaddy Formation, Myanmar. J. Asian Earth Sci. 28, p. 354-362.

Chavasseau, O., A.A. Khyaw, Y. Chaimanee, P. Coster, E.G. Emonet, Aung Naing Soe, M. Rugbumrung, Soe Thura Tun & J.J. Jaeger (2013)- Advances in the biochronology and biostratigraphy of the continental Neogene of Myanmar. In: M. Fortelius et al. (eds.) Fossil mammals of Asia: Neogene biostratigraphy and chronology, Columbia University Press, New York, p. 461-476.

Chen, B. & G. Xie (1994)- Evolution of the Tethys in Yunnan and Tibet. J. Southeast Asian Earth Sci. 9, 4, p. 349-354.
(Five ophiolite belts in Yunnan and Tibet, two represent Paleotethys and two Mesotethys. Lancangjiang belt is suture between Gondwana and Eurasia (N limit of Glossopteris flora and cool-water faunas). Palaeotethys closed in Late Permian, resulting in extension of W margin of Yangtze plate. Mesotethys opened after closure of Paleotethys and disappeared at end Mesozoic)

Chen, F., X.H. Li, X.L. Wang, Q.L. Li & W. Siebel (2007)- Zircon age and Nd-Hf isotopic composition of the Yunnan Tethyan belt, southwestern China. Int. J. Earth Sciences (Geol. Rundschau) 96, 6, p. 1179-1194.
(Baoshan block, SW China, is N part of Sibumasu microcontinent. Zircon ages and Nd-Hf isotopic composition of granites E Paleozoic (~470 Ma) and Latest Cretaceous- E Paleocene (Yanshanian; ~78-61 Ma). E Paleozoic granite with Archean- Mesoproterozoic inherited zircons, clustering around 1900-1800 and 1600-1400 Ma. Yanshanian magmatism related to closure of Neotethys ocean)

Chen, X.C., C.H. Zhao, J.J. Zhu, X.S. Wang & T. Cui (2018)- He, Ar, and S isotopic constraints on the relationship between A-type granites and tin mineralization: a case study of tin deposits in the Tengchong-Lianghe tin belt, southwest China. Ore Geology Reviews 92, p. 416-429.
(online at: https://www.sciencedirect.com/science/article/pii/S0169136817302007)
(Tengchong-Lianghe tin belt in W Yunnan, SW China, important tin mineralization belt with two large tin deposits: Paleogene Lailishan and Late Cretaceous Xiaolonghe, associated with A-type granitoids)

Chhibber, H.L. (1934)- The geology of Burma. Macmillan, London, p. 1-538.

Chhibber, H.L. (1934)- The mineral resources of Burma. Macmillan, London, p. 1-320.

Chun Kit Lai (2012)- Tectonic evolution of the Ailaoshan fold belt in Southwestern Yunnan, China. Ph.D. Thesis, University of Tasmania, Hobart, p. 1-284. *(Unpublished)*
(online at: http://eprints.utas.edu.au/15931/2/whole-lai-thesis-2012.pdf)

Chungkham, P. & S.A. Jafar (1988)- Late Cretaceous (Santonian-Maastrichtian) integrated Coccolith-Globotruncanid biostratigraphy of pelagic limestones from the accretionary prism of Manipur, Northeastern India. Micropaleontology 44, 1, p. 69-83.
(Exotic blocks of pelagic limestones in melange of Manipur/ Nagaland ophiolite belt in NE India with Late Santonian- Late Maastrichtian low-latitude calcareous plankton. Initial rifting and birth of Indo-Myanmar (= part of Neotethys) ocean took place before latest Santonian and suturing initiated by latest Maastrichtian)

Chung, Y.H., S.Y. Yang & J.W. Kim (2012)- Numerical simulation of deep biogenic gas play northeastern Bay of Bengal, offshore Northwest Myanmar. AAPG Int. Conf. Exhib., Milan 2011, Search and Discovery Art. 50562, 32p. *(Abstract + Presentation)*
(Three commercial biogenic methane gas discoveries in Late Pliocene deepwater turbidite sandstones reservoirs of Bengal Fan off NW Myanma, 2900-3300m subsea. Modeling indicates M Miocene- Pliocene section thermally immature. Most biogenic gas generated from M Miocene and E Pliocene shale. Accumulation of commercial quantities of biogenic gas requires early formation of traps and seals. Miocene- Pliocene paleo-hydrates formed have played important role in gas accumulation, acting as seals in initial gas generation stage)

Ciochon, R.L., P.D. Gingerich, G.F. Gunnell & E.L. Simons (2001)- Primate postcrania from the late middle Eocene of Myanmar. Proc. National Academy Sciences USA 98, 14, p. 7672-7677.
(online at: www.pnas.org/content/98/14/7672.full.pdf)
(First postcrania fossils of Pondaungia from M Eocene of C Myanmar. Overall, humeral and calcaneal morphology most consistent with that of other adapiforms and does not support inclusion in Anthropoidea)

Ciochon, R. L. & G.F. Gunnell (2002)- Eocene primates from Myanmar: historical perspectives on the origin of Anthropoidea. Evolutionary Anthropology 11, 4, p. 156-168.

Ciochon, R. L. & G.F. Gunnell (2002)- Chronology of primate discoveries in Myanmar: influences on the anthropoid origins debate. American J. Physical Anthropology, Suppl. 35, p. 2-35.
(First Eocene mammals from Asia described from Myanmar in 1916. First primates (Pondaungia, Amphipithecus) described in 1927 and 1937. all from M Eocene Pondaung Fm in Myanmar, and commonly compared with anthropoids. In late 1990s new primates discovered in Myanmar (Bahinia, Myanmarpithecus). None of known Asian primate taxa appear closely related to African anthropoids, making Asian origin for Anthropoidea unlikely)

Ciochon, R.L. & G.F. Gunnell (2004)- Eocene large-bodied primates of Myanmar and Thailand: morphological considerations and phylogenetic affinities. In: C.F. Ross & R.F. Kay (eds.) Anthropoid origins: new visions, Kluwer, New York, p. 249-282.

Ciochon R.L., D.E. Savage, T. Tint & B. Maw (1985)- Anthropoid origins in Asia? New discovery of *Amphipithecus* from the Eocene of Burma. Science 229, p. 756-759.

Clegg, E.L.G. (1938)- The geology of part of the Minbu and Thayetmyo Districts, Burma. Mem. Geol. Survey India, Memoir 72, 2, p. 132-307.

Clegg, E.L.G. (1941)- The Cretaceous and associated rocks of Burma. Mem. Geol. Survey India 74, p. 1-101.

Cliff, D. & P. Carter (2016)- Exploration of the Rakhine Basin, pushing out the barriers with new 3D. 2nd AAPG/EAGE/MGS Conf. Unlocking the complex geology of Myanmar, Yangon 2015, Search and Discovery Art. 10848, 25p. *(Abstract + Presentation)*
(online at: www.searchanddiscovery.com/documents/2016/10848cliff/ndx_cliff.pdf)

Cocks, L.R.M. & R.B. Zhan (1998)- Caradoc brachiopods from the Shan States, Burma (Myanmar). Bull. British Museum (Natural History), Geology, 54, 2, p. 109-130.
(Late Ordovician brachiopod fauna from Naungkangyi Gp in Shan States (= Sibumasu Plate) with 37 species. Faunal affinities most comparable with S China, suggesting proximity during Ordovician)

Colbert, E.H. (1937)- A new primate from the upper Eocene Pondaung Formation of Burma. American Museum Novitates 951, p. 1ï 18.
(online at: http://digitallibrary.amnh.org/handle/2246/2188)
(First? primate fossil (mandibule with few teeth) from upper Eocene Pondaung fauna, NW of Mogaung, Myanmar, named Amphipithecus mogaungensis, new genus and species)

Colbert, E.H. (1938)- Fossil mammals from Burma in the American Museum of Natural History. Bull. Amer. Museum Natural History 74, 6, p. 395-436.
(online at: http://digitallibrary.amnh.org/handle/2246/372)
(Diverse collection of mammal fossils from (1) M-U Pleistocene terraces along Irrawaddy River in N Myanmar (most common in Terrace 3); (2) in underlying E Pleistocene Upper Irrawaddy Beds (U Irrawaddy fauna probably related to Upper Siwalik fauna of India and E Pleistocene faunas of Java (Tji Djoelang, Kali Glagah and Djetis); and (3) Mogok cave fauna (likely equivalent to M Pleistocene Trinil fauna of C Java))

Connors, K., C. Jorand & L. Pryer (2017)- Influence of structural inheritance on the Moattama- East Andaman basins and the present day plate boundary. In: Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) Exploration Conf. 2017, Singapore, p. 1-27. *(Abstract + Presentation)*
(Moattama Basin offshore Myanmar between Yadana-M8 High in W and Tanintharyi- Mergui Shelf to E, continuing S as oceanic (or highly extended continental crust) E Andaman Basin. Basement of Yadana-M8 highs in N and Alcock and Sewell rises with E Miocene volcanic units (K-Ar age date of ~20 Ma), possibly continental crust intruded during arc magmatism (W Burma Terrane possible analogue.)

Cossey, S. D. Kim, S.Y. Yang & H.Y. Jung (2013)- The identification and implication of injectites in the Shwe gas field, offshore Northwestern Myanmar. AAPG Ann. Conv. Exhib., Pittsburgh 2013, Search and Discovery Art. 20225, 26p. *(Abstract + Presentation)*
(online at: www.searchanddiscovery.com/documents/2013/20225cossey/ndx_cossey.pdf)
(Sand injectites identified in offshore Pliocene Shwe (biogenic) gas field in Myanmar (distal Bengal Fan, on oceanic crust). Injectites provide vertical and lateral continuity from basal proximal lobe sequence to overlying distal lobe sequence. Sills 5 cm- 2m thick in cored wells, with sharp bases and tops))

Crow, M.J. & Khin Zaw (2017)- Geochronology in Myanmar (1964-2017). In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Appendix, p. 713-759.
(Summary of published isotopic age data for Myanmar up to early 2017. K–Ar age data often ambiguous due to resetting by later tectonic and metasomatic events. Isotopes of Rb and Sr in magmatic minerals more stable. U-Pb isotopes of zircons from granitoids particularly useful, also as detrital zircons in sediments)

Cruickshank, R.D. & K. Ko (2003)- Geology of an amber locality in the Hukawng Valley, northern Myanmar. J. Asian Earth Sci. 21, p. 441-455.
(Occurrence of M Cretaceous amber ('burmite') rich in arthropod fossils in volcanics-rich clastics in Hukawng Valley of NE Myanmar. With Late Albian- E Cenomanian palynomorphs. Believed to be of M-U Albian age based on ammonite Mortoniceras. Also nearby U Albian Orbitolina limestone (see also Shi et al. 2012))

Curiale, J.A., P. Kyi, I.D.Collins, Aung Din, Kyaw Nyein, Maung Nyunt & C.J.Stuart (1994)- The Central Myanmar (Burma) oil family; composition and implications for source. Organic Geochem. 22, 2, p. 237-255.
(Geochemistry of 31 Eocene-Miocene oils/seeps, Eocene coal and Eocene resin from C Myanmar basin system suggest deep Eocene resinous shale/coal source for oils. Least mature oils in oldest reservoirs with oldest (Eocene) reservoirs filling first and youngest (Miocene) reservoirs filling last. Surface seepage may be from subsurface traps filled to spillpoint)

Dalton, L.V. (1908)- Notes on the geology of Burma. Quart. J. Geol. Soc., London, 64, p. 604-644.
(Geological observations in Irawadi Valley, with descriptions of Eocene and younger molluscs)

De Bonis, L., F. Sole, Y. Chaimanee, Aung Naing Soe, Chit Sein, V. Lazzaria, O. Chavasseau & J.J. Jaeger (2018)- New hyaenodonta (Mammalia) from the middle Eocene of Myanmar. Comptes Rendus Paleovol, 9p. *(in press)*
(online at: https://www.sciencedirect.com/science/article/pii/S1631068318300010)

De Cotter, G.P. (1924)- The oil shales of Eastern Amherst, Burma, with a sketch of the geology of the neighbourhood. Records Geol. Survey India 55, p. 273-313.

(online at: https://archive.org/details/in.ernet.dli.2015.98037)
(Late Tertiary (Miocene- Pliocene?) outcrops of ~100m thick lacustrine shale with numerous remains of teleostean fish, plant leaves and molluscs (Melaniidae, Viviparidae, Unionidae) in Mesod Basin at Birma- Thai border area. Some shale rich enough to ignite when heated)

De Cotter, G.P. (1938)- The geology of parts of the Minbu, Myingyan, Pakokku, and lower Chindwin districts. Memoir Geol. Survey India 72, 1, p. 1-136.

De la Rue, W. & H. Muller (1857)- Chemical examination of Burmese naphtha, or Rangoon tar. Proc. Royal Soc., London, 1857, 8, p. 221-228.
(online at: http://rspl.royalsocietypublishing.org/content/8/221.full.pdf+html)
(At several localities in Burmah tar is mined from 60' deep wells. Mostly composed of volatiles. Etc.))

De Terra, H. (1943)- The Pleistocene of Burma. In: Research on early man in Burma, Trans. American Philosophical Soc., N.S. 32, 3, p. 271-340.
(Five Pleistocene terraces along Irrawaddy River, unconformably over tilted Pliocene- E Pleistocene 'Upper Irrawaddy Beds'. Contain 'Anyathian' Paleolithic stone tools)

Dey, A., M.F. Hussain & M.N. Barman (2017)- Geochemical characteristics of mafic and ultramafic rocks from the Naga Hills Ophiolite, India: Implications for petrogenesis. Geoscience Frontiers, 13p. *(in press)*
(online at: www.sciencedirect.com/science/article/pii/S1674987117301020)
(Geochemistry of Naga Hills ophiolite suggest two groups)

Diener, C. (1911)- Anthracolithic fossils of the Shan States. Mem. Geol. Survey India (Palaeontologica Indica), N.S., 3, 4, p. 1-74.
('Carboniferous fossils from Myanmar'. Mainly on (Permian) brachiopods from Fusulina elongata Limestone of Ke-Hsi Mansam in E Myanmar (incl. Spirifer, Spiriferella, Productus spp., Camarophoria purdoni, Oldhamina, Streptorhynchus, Dielasma, etc.). Also bryozoa (Fenestella, Polypora), corals (Amplexus, Zaphrentis, Lonsdaleia), etc.))

Ding, H., Q. Hou & Z. Zhang (2016)- Petrogenesis and tectonic significance of the Eocene adakite-like rocks in western Yunnan, southeastern Tibetan Plateau. Lithos 245, p. 161-173.
(Eocene magmatic rocks widespread in W Yunnan, SE Tibetan Plateau, linked with India-Asia collision. Eocene-Oligocene potassic-ultrapotassic magmatic suite widely distributed across E Qiangtang- Simao Block and W margin of Yangtze Plateau. Adakite-like rocks from E part of W Yunnan with zircon age of ~35 Ma and derived from partial melting of late Paleozoic- Mesozoic mafic rocks formed as lower crust of continental magmatic arc during E-ward Paleotethys subduction. Eocene magmatic rocks in W Yunnan generated during removal of thickened continental lithosphere triggered by India and Asia collision)

DMR-CCOP-TCNU (2017)- Technical seminar on Biostratigraphy and karst morphology of Satun aspiring geopark, Bangkok, p. 1-27.
(online at: www.dmr.go.th/download/article/article_20170720115517.pdf)
(Geology of Satun Province- Tarutao Island in SW Thailand. Part of Shan-Thai(Sibumasu) Plate, with well-documented complete Cambrian- Permian marine sediment section. Tarutao Gp Late Cambrian- E Ordovician clastics with trilobites. Thung Song Gp Ordovician limestones with nautiloids, stromatolites and trilobites. Thong Pha Phum Gp Silurian- Carboniferous black shale, chert, sandstone and limestone with graptolites, trilobites, dacryoconarids (tentaculites), brachiopods. U Carboniferous- Lower Permian Kaeng Krachan Gp clastics with glacial dropstones, including unweathered granite pebbles)

Ducrocq, S., Aung N. Soe, A.K. Aung, M. Benammi, Bo Bo, Y. Chaimanee, T. Tun, T. Thein & J.J. Jaeger (2000)- A new anthracotheriid artiodactyl from Myanmar, and the relative ages of the Eocene anthropoid primate-bearing localities of Thailand (Krabi) and Myanmar (Pondaung). J. Vertebrate Paleontology 20, p. 755-760.

Ducrocq, S., Aung N. Soe, C. Sein, V. Lazzari, Y. Chaimanee, X. Valentin & J.J. Jaeger (2016)- First record of a diacodexeid artiodactyl in the middle Eocene Pondaung Formation (Myanmar). Palaeontologische Zeitschrift (PalZ) 90, 3, p. 611-618.
(Fragmentary maxilla of new diacodexeid artiodactyl, Magwetherium burmense. Morphological affinities with the diacodexeid Jiangsudon from M Eocene Shanghuang fissure fillings in E China)

Du, Naizheng (1988)- Fossil wood from the late Tertiary of Burma. Proc. Kon. Nederl. Akademie Wetenschappen B91, 3, p. 213-236.
(Two pieces of fossil wood collected almost 100 years ago from Pliocene of Magwe and Yenangyaung oil fields described as new species Ebenoxylon burmense and Saracoxylon irrawaddiense)

Edwards, W.N. (1923)- On some Tertiary plants from South-East Burma. Geol. Magazine 60, 4, p. 159-165.
(Collection of Tertiary plant fossils collected by Gregory near Tichara, NW of Myawadi in Myanmar- Thailand border region. Incl. Ficophyllum burmense, Dipterocarpophyllum, Leguminosites, Dicotyledonous, etc.)

Edwards, A., R. Courel, N. Bianchi, A. Duffy, C. Jorand, G. Moltifiori, L. Ryan & S. O'Connor (2017)- Pore pressure modelling in data limited areas- a case study from a deepwater block, offshore Rakhine Basin, Myanmar. In: 79th EAGE Conf. Exhibition, Paris 2017, p.

UN/ESCAP (1996)- Geology and mineral resources of Myanmar. Atlas of mineral resources of the ESCAP region, 12, United Nations Publications, New York, p. 1-193.
(Extensive review of geologic setting and mineral occurrences of Myanmar)

Evans, P. & C.A. Sansom (1941)- The geology of British oil fields; 3, The oil fields of Burma. Geol. Magazine 78, 5, p. 321-350.
(Oilfields of Burma almost all in elongated N-S Tertiary basin, bordered on W by Arakan Yoma and on E by the ancient plateau of Shan Hills. Most oil from fields in single line of folding and in belt 50 miles long between latitudes 20° 20' and 21° 10'. Remainder in small fields between 19° 25' and 23° 45')

Fan, J.J., C. Li, M. Wang, C.M. Xie & W. Xu (2015)- Features, provenance, and tectonic significance of Carboniferous- Permian glacial marine diamictites in the Southern Qiangtang-Baoshan block, Tibetan Plateau. Gondwana Research 28, 4, p. 1530-1542.
(Edge of S Qiangtang- Baoshan block, Tibetan Plateau, with glacial marine diamictite in Gangmaco-Dabure area. Four distinct Carboniferous- E Permian glacial cycles. Gravel assemblages of diamictites similar to rock assemblages of Indian Gondwana basement. Detrital zircons from matrix of glacial marine diamictite similar between S Qiangtang-Baoshan block, Lhasa block, Tethys Himalaya and India-Nepal areas, with peak ages mainly at 576, 788, 1026, 1512 and 2518 Ma. Provenance of diamictite Indian Gondwana. Diamictites deposited on passive continental margin)

Fan, P. & K. Ko (1994)- Accreted terranes and mineral deposits of Myanmar. J.Southeast Asian Earth Sci. 10, p. 95-100.
(Three terranes in Myanmar: (1) Shan-W Malaysia-Sumatra in E (three subterranes: W Kachin continental fragment, E Kachin-Shan= Baoshan, and Karen-Tenasserim); (2) C Burma Basin, and (3) Arakan Yoma in W (W Ranges or Indo-Burman ranges subduction system, uplifted by collision of India plate in Eocene). Volcanic arc divides C Myanmar Basin terrane into forearc and back-arc basins; oil-bearing fields in forearc basin. In Arakan-Yoma terrane, chromium and nickel of Late Cretaceous- E Tertiary age in ultramafic belts)

Fan, W., Y. Wang, A. Zhang, F. Zhang, Y. Zhang (2010)- Permian arc-back-arc basin development along the Ailaoshan tectonic zone: geochemical, isotopic and geochronological evidence from the Mojiang volcanic rocks, Southwest China. Lithos 119, p. 553-568.
(Wusu and Yaxuanqiao basalts in S China with affinities to both MORB- and arc-like sources, together with other geological observations, support development of Permian arc-back-arc basin along Ailaoshan- Song Ma tectonic zone in response to N-ward subduction of Paleotethys main Ocean. Final closure of basin in uppermost Triassic due to diachronous amalgamation between Yangtze and Simao- Indochina Blocks)

Fang, N., Q. Feng, S. Zhang & X. Wang (1998)- Paleo-Tethys evolution recorded in the Changning-Menglian Belt, western Yunnan, China. Comptes Rendus Academie Sciences, Paris, Earth Planetary Sci., 326, p. 275-282.
(Changning-Menglian Belt of W Yunnan 400km in N-S direction, 50-70km wide. Represents part of Paleotethys Ocean, with volcano-sedimentary record from E Devonian to M-L Triassic and several types of oceanic plateaus. Flanked by Lincang-Simao massif with Cathaysian flora-fauna in E and Gengma-Baoshan massifs with Permo-Carboniferous glacial deposits in W)

Fang, N. & Y. Niu (2003)- Late Palaeozoic ultramafic lavas in Yunnan, SW China, and their geodynamic significance. J. Petrology 44, 1, p. 141-157.
(online at: https://academic.oup.com/petrology/article/44/1/141/1408585)
(Ultramafic pillow lavas from Late Palaeozoic marine sequences in Yunnan have >26% MgO, olivine phenocrysts, clinopyroxenes with or without plagioclase in devitrified glassy matrix. Termed high-Mg picrites. Chemistry consistent with mantle plume origin. Chert interbes with Carboniferous radiolaria)

Fang, W., R. van der Voo & Q. Liang (1989)- Devonian paleomagnetism of Yunnan Province across the Shan Thai-South China Suture. Tectonics 8, 5, p. 939-952.
(Contrasting paleolatitudes for Devonian sediments in E Yunnan (equatorial; part of Yangtze/S China Block) versus W Yunnan (paleolatitude of ~42°; part of Gondwanan Shan-Thai Block). Majority of samples overprinted by present-day field magnetization. Blocks separated by Red River and Lancang (Mekong) River fault zones, one of which inferred to be ancient suture)

Fang, W., R. van der Voo & Q. Liang (1990)- Ordovician paleomagnetism of Eastern Yunnan, China. Geophysical Research Letters 17, 7, p. 953-956.
(Ordovician formations of Yangtze Paraplatform (South China Block) show paleolatitude of 48°S, supporting Ordovician position of South China adjacent to Gondwana)

Fang, X., X. Ma, W. Li, Y. Zhang, Z. Zhou, T. Chen, Yong Lu & S Yu & J. Fa (2018)- Biostratigraphical constraints on the disconformity within the Upper Ordovician in the Baoshan and Mangshi regions, western Yunnan Province, China. Lethaia, p. *(in press)*
(Ordovician- Silurian of Baoshan and Mangshi regions in W Yunnan regarded as parts of Sibumasu terrane. Significant disconformity in U Ordovician, possibly related to sea-level drop during Late Ordovician glaciations or, less likely regional tectonic uplift in N Sibumasu)

Fang, Z.J. & J.C.W. Cope (2008)- Affinities and palaeobiogeographical significance of some Ordovician bivalves from East Yunnan, China. Alcheringa 32, 3, p. 297-312.
(Restudy of four poorly known Ordovician bivalve genera from Lw Ordovician Hongshiya Fm of E Yunnan. Similarities between cycloconchids suggest proximity of E Yunnan and Australia, although no species in common. Eastern W Yunnan fauna lay at much higher paleolatitude than E Yunnan fauna)

Fareeduddin & Y. Dilek (2015)- Structure and petrology of the Nagaland-Manipur Hill ophiolitic melange zone, NE India: a fossil Tethyan subduction channel at the India- Burma plate boundary. Episodes 38, 4, p. 298-314.
(online at: www.episodes.org/index.php/epi/article/viewFile/82426/65474)
(Nagaland-Manipur Hill ophiolite belt in IndoMyanmar Ranges in NE India represents S extension of Neotethyan Yarlung-Zhangbo suture in S Tibet, and connects late Mesozoic collision front in N with modern trench-arc system in Andaman Sea region in S. Ophiolites occur as blocks or thrust sheets within melange and are associated with eclogitic and blueschist rock assemblages. Ophiolitic melange tectonically sandwiched between Triassic- E Cretaceous accretionary prism complex (Nimi Flysch, overlying Burma Plate) in E and Late Cretaceous-Miocene accretionary wedge (Disang Flysch; on India Plate) to W. Melange represents subduction channel of fast subduction of Neotethys oceanic lithosphere beneath Asia- Sundaland. U Eocene-Miocene Pokhpur Fm uncomformably over melange and accretionary prism metasediments constitute wedge-top or slope-basin sequence, rather than postcollisional molasse. Nagaland-Manipur Hill ophiolites represent accretionary-type ophiolite, mainly from downgoing plate, not Penrose-type complete ophiolite sequence)

Feng, Q. & D. Helmcke (2001)- Late Paleozoic compressional deformation in the Simao Region, Southern Yunnan, P.R. of China. Newsletters on Stratigraphy 39, 1, p. 21-31.
(In Yunxian anticline, 40 km NW of Simao, strongly deformed Carboniferous- Lower Permian sediments, deposited in deep basin, separated by angular unconformity from shallow marine strata of upper M Permian and U Permian age. Existence of Triassic island arc along Lancang Jiang must be questioned)

Gaillot, J. & D. Vachard (2007)- The Khuff Formation (Middle East) and time-equivalents in Turkey and South China: biostratigraphy from Capitanian to Changhsingian times (Permian), new foraminiferal taxa, and palaeogeographical implications. Coloquios de Paleontologia, 57, p. 37-223.
(Middle- Late Permian foraminiferal biostratigraphy for 'Cimmerian Plates' of Middle East (can be applied to to Sibumasu plates in SE Asia; JTvG). Paleobiogeographically significant M-L Permian foraminifera for Cimmerian/ Sibumasu blocks incl. W Thailand, Baoshan) include Shanita, 'Lysites', Hemigordiopsis renzi, Eopolydiexodina ex gr. persica. Indochina- S China plates (e.g. E Thailand) characterized by presence of Lepidolina, Paleofusulina, Colaniella)

Gaillot, J., D. Vachard, T. Galfetti & R. Martini (2009)- New latest Permian foraminifers from Laren (Guangxi Province, South China): palaeobiogeographic implications. Geobios 42, p. 141-168.
(Latest Permian limestones of Yangtze carbonate platform at Laren, S China, with rich small foram fauna. Paleogeographic distribution interpreted to be Neo-Tethyan, ranging from S Turkey to S China and Japan)

Gaillot, J., T. Galfetti, R. Martini & D. Vachard, & (2007)- Latest Permian calcisponges of Laren, Guangxi Province, South China. In: E. Vennin et al. (eds.). Facies from Palaeozoic reefs and bioaccumulations. Mem. Museum Nat. Histoire Naturelle 195, Paris, p. 321-324.
(Latest Permian Wujiaping Fm limestones of Paleozoic- M Triassic Yangtze carbonate platform at Laren with rare fusulinids (Nankinella cf. inflata, Reichelina simplex) and low diversity calcisponges)

Gao Lianda (1998)- On the discovery of a Gondwana affinity microflora from Baoshan, West Yunnan and its geologic significance. Acta Geoscientica Sinica 1998, 1, p.
(First record of palynomorphs from E Permian Dingjiazhai Fm in Baoshan, W Yunnan. 55 species. Miospore assemblages assigned to Parasaccites distinctus-Microbaculispora fentula zone, dominated by Gondwana microfloral elements (up to 80%, incl. Parasaccites distinctus, Brakarites rotatus, Potonieisporites spp., Microbaculispora, Interradispora, Horriditriletes, etc.). Asselian-Sakmarian in age)

Gardiner, N.J., L.J. Robb, C.K. Morley, M.P. Searle, P.A. Cawood, M.J. Whitehouse, C.L. Kirkland, N.M.W. Roberts & Tin Aung Myint (2016)- The tectonic and metallogenic framework of Myanmar: a Tethyan mineral system. Ore Geology Reviews 79, p. 26-45.
(Myanmar highly prospective but little explored minerals province, with deposits of tin, tungsten, copper, gold, zinc, lead, nickel, silver, jade and gemstones. MyanmarMesozoic-Recent geological history dominated by orogenic events representing closing of Tethys Ocean. Genesis of much of Myanmar's mineral deposits in single, evolving, mineral system: subduction and suturing of Neo-Tethys. Nine metallogenic provinces: (1) Late Cretaceous- Eocene granites with Sn-W, (2) skarn Au-Ag linked to Kabaing Granite (~17 Ma); (3) porphyry Cu-Au (Eocene/ 40 Ma intrusion, (4) epithermal Au-Cu (latest Cretaceous or younger), (5) ultramafic-hosted nickel, jade, (6) orogenic Au, (7) sediment-hosted Pb-Zn in U Paleozoic carbonates of Shan Plateau, (8) gemstones (9) Sediment-hosted epithermal Au. Two sub-parallel magmatic belts: Wuntho-Popa Arc magmatism (mainly 80-110 Ma, also younger, with Cu-Au) and Mogok-Mandalay-Mergui Belt granitoids (~170 Ma, Late Cretaceous- Eocene with Sn-W mineralisation)

Gardiner, N.J., L.J. Robb & M.P. Searle (2014)- The metallogenic provinces of Myanmar. Applied Earth Science (Trans. Inst. Mining Metallurgy B), 123, 1, p. 25-38.
(Myanmar contains important deposits of tin, tungsten, copper, gold, gemstones, zinc, lead, nickel and silver. Three world class deposits: Bawdwin (lead-zinc-silver), Monywa (copper) and Mawchi (tin-tungsten). Three principal metallotects: (1) Late Cretaceous Wuntho-Popa Arc of subduction-related granites with associated porphyry-type copper-gold and epithermal gold; (2) Late Cretaceous and younger Mogok-Mandalay-Mergui

Belt with Sn-W (tin-tungsten) associated with crustal melt granites; (3) Shan Plateau with massive sulphide-type lead-zinc deposits)

Gardiner, N.J., L.J. Robb & M.P. Searle, K. Htun & K. Zaw (2017)- The Bawdwin Mine, Myanmar: a review of its geological setting and genesis. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 30, p. 669-686.
(Bawdwin Mine Pb-Zn-(Cu-Ag-Ni) world-class mineral deposit in N Shan State, NE Myanmar, with near-continuous mining since 1412. E Paleozoic (Late Cambrian- E Ordovician) exhalative marine siliciclastic-felsic volcanogenic massive sulphide (VMS) deposit. Originally exploited as silver deposit, redeveloped in early1900's as mainly lead-zinc producer (largest lead mine before WWII). Thermal overprint in Late Triassic, linked to Indosinian orogeny)

Gardiner, N.J., M.P. Searle, C.K. Morley, L.J. Robb, M.J.Whitehouse, N.M.W. Roberts, C.L.Kirkland & C.J. Spencer (2018)- The crustal architecture of Myanmar imaged through zircon U-Pb, Lu-Hf and O isotopes: tectonic and metallogenic implications. Gondwana Research, p. *(in press)*
(Myanmar at least 4 major magmatic belts. Eastern and Main Range Provinces associated with Late Permian-E Triassic closure of Paleo-Tethys;Mogok- Mandalay- Mergui Belt and Wuntho- Popa Arc response to Eocene closure of Neo-Tethys. Mogok-Mandalay-Mergui Belt divided into Tin Province (~77-50 Ma magmatism) and Mogok Metamorphic Belt (complex magmatic- metamorphic history). Tagaung-Myitkyina Belt magmatic age of 172 Ma. New tectonic model for Myanmar: Baoshan and Greater Sibumasu likely assembled on or before Triassic, then sutured onto Indochina margin in Late Triassic. Tengchong Block within Myanmar southerly termination of Meso-Tethys suture immediately N of Mogok area. Tengchong Block sutured onto Greater Sibumasu before Late Cretaceous, after which Neo-Tethys subduction drove magmatism of Wuntho-Popa Arc)

Gardiner, N.J., M.P. Searle, L.J. Robb & C.K. Morley (2015)- Neo-Tethyan magmatism and metallogeny in Myanmar- an Andean analogue? J. Asian Earth Sci. 106, p. 197-215.
(In Myanmar two (U Cretaceous- Paleogene) granite belts with significant metal deposits: (1) Late Cretaceous (mainly 80-110 Ma) Wuntho-Popa Arc with I-type granitoids with Cu-Au mineralization; (2) Mogok-Mandalay-Mergui Belt with S-type granites with Sn-W deposits. Represent subduction of Neo-Tethys below W side of Sibumasu Terrane (W Birma). Belts are parallel, reminiscent of metallogenic belts of C Andes)

Gardiner, N.J., J.P. Sykes, A. Trench & L.J. Robb (2015)- Tin mining in Myanmar: production and potential. Resources Policy 46, 2, p. 219-233.
(online at: www.burmalibrary.org/docs22/Tin_Mining_in_Myanmar.pdf)
(In 2014, Myanmar became World's third biggest tin producer, after China and Indonesia. Likely contributed to drop in tin prices in 2015. Production increase from new Man Maw mining district in Wa State, E Myanmar, not far from traditional tin-producing areas in S)

Garson, M.S., B.J. Amos & A.H.G. Mitchell (1976)- The geology of the area around Neyaungga and Yengan, southern Shan states, Burma. Inst. Geol. Science, London, Overseas Memoir 2, 2, p. 1-70.

Ghose, N.C., O.P. Agrawal & N. Chatterjee (2010)- A geological and mineralogical study of eclogite and glaucophane schists in the Naga Hills Ophiolite, Northeast India. Island Arc 19, p. 336-356.
(Low- to high-P metamorphic assemblages in metabasic rocks and metachert inU Cretaceous- Eocene ophiolite belt of Naga Hills, N Indo-Myanmar Ranges, in Indo-Eurasian collision zone. Metabasic rocks high-grade barroisite/ glaucophane epidote eclogite and glaucophane schist, also low-grade greenschist and prehnite-clinochlore schist, associated with lava flows and ultramafic cumulates at W thrust contact. Peak P-T conditions of ~20 kb/ 525°C. Retrogression/ uplift marked by replacement of barroisite and omphacite by glaucophane, followed by secondary actinolite, albite and chlorite. Mylonite in garnet lherzolite and 'mica fish' in glaucophane schist indicate ductile deformation in shear zone along which ophiolite was emplaced)

Ghose, N.C., O.P. Agrawal & R.N. Singh (1986)- Geochemistry of the ophiolite belt of Nagaland, N.E. India. In: N.C. Ghose & S. Varadarajan (eds.) Ophiolites and Indian plate margin, Sumna Publishers, Patna, p. 241-294.

Ghose, N.C., N. Chatterjee & Fareeduddin (2014)- A petrographic atlas of ophiolite: an example from the eastern India-Asia collision zone. Springer India, p. 1-232.
(Extensive review of Naga Hills ophiolite, with ultramafic rocks, plagiogranite, glaucophane schist, eclogite, chert, etc.)

Ghose, N.C. & Fareeduddin (2011)- Textural fingerprints of magmatic, metamorphic and sedimentary rocks associated with the Naga Hills Ophiolite, northeast India. In: J. Ray et al. (eds.) Topics in igneous petrology, Springer, p. 321-354.

Ghosh, S., B. Chattapadhyay, D.K. Roy & P. Venkataramana (1984)- On the radiolarian bearing rocks of Naga Hills ophiolite. Geol. Survey India Records 113, 4, p. 89-97.
(U Cretaceous- Lower Eocene age inferred for ophiolite rocks and associated cherts based on radiolarians (however: Baxter et al. (2011) also reported Late Jurassic radiolaria))

Gonguet, C., T. Kelly, F. Mohammad, U.K. Win &, N. Hlaing (2017)- MOGE4 exploration block- Prome Embayment- Central Burma Depression - Learnings from new 2D seismic acquisition. AAPG/EAGE/MGS 3rd Oil & Gas Myanmar Geosciences Conf., Yangon, 7p. *(Extended Abstract)*

Goossens, P.J. (1978)- The metallogenic provinces of Burma: their definitions, geologic relationships, and their extension into China, India, and Thailand. Proc. 3rd Regional Conference on Geology and Mineral Resources of Southeast Asia, Bangkok 1978, p. 431-492.
(Comprehensive review of metallic mineral occurrences in Myanmar. Geology still poorly known)

Gramann, F. (1974)- Some palaeontological data on the Triassic and Cretaceous of the western part of Burma (Arakan Islands, Arakan Yoma, western outcrops of Central Basin). Newsletters Stratigraphy 3, 4, p. 277-290.
(Confirmation of presence of 'flysch-type' marine U Triassic (Carnian) deposits in Kyauktu-Sa area, at W side of Central Basin of Myanmar: dark shales with Daonella lommeli of Chin Hills, shales with Halobia cf comata. Unconformably overlain by ~400m thick marine U Cretaceous, incl. Cenomanian limestones with Orbitolina, younger Cretaceous Globotruncana Limestones, thin Maastrichtian with Orbitoides and Siderolites)

Gramann, F., F. Lain & D. Stoppel (1972)- Paleontological evidence of Triassic age for limestones from the Southern Shan and Kayah States of Burma. Geol. Jahrbuch B, B1, p. 1-33.
(Cephalopod limestone at top of 'U Plateau Limestone' of S Shan and Kauah States of Myanmar. Ammonoids Paraceratites and Flexoptychites suggest Anisian, M Triassic, age, not Permo-Carboniferous. M Triassic age confirmed by conodont Gladiogondella tethydis. Underlain by >1000' of E-M Triassic dolomitic limestones and Permian fusulinid limestones)

Gregory, J.W. (1923)- The geological relations of the oil shales of Southern Burma. Geol. Magazine 60, 4, p. 152-159.
(Tichara oil shales are lacustrine deposits in upper part of series of freshwater deposits of probably Pliocene age. Associated with fossil plant-bearing beds with Leguminosites, Phyllites, Ficophyllum, Dipterocarpophyllum and fresh water molluscs)

Grimaldi D.A., M.S. Engel & P.C. Nascimbene (2002)- Fossiliferous Cretaceous amber from Myanmar (Burma): its rediscovery, biotic diversity, and paleontological significance. American Museum Novitates 3361, p. 1-71.
(online at: http://digitallibrary.amnh.org/handle/2246/2914)
(Amber from thin lignite seams in Kachin, N Myanmar, ('burmite') used in China for at least a millennium for carving decorative objects. Metasequoia (Coniferae) possible source of amber. Age probably Turonian-Cenomanian (90-100 Ma; see also Shi et al. 2012) . Very rich in tropical plant and animal fossils. Newly excavated material in AMNH with 3100 organisms, incl. angiosperm flower and other plant material, mites, insects, flies, snails, etc., etc.)

Gunnell, G.F., R.L. Ciochon, P.D. Gingerich & P.A. Holroyd (2002)- New assessment of *Pondaungia* and *Amphipithecus* (Primates) from the late middle Eocene of Myanmar, with a comment on óAmphipithecidaeô. Contr. Museum of Paleontology, University of Michigan, 30, p. 337-372.

Han, E.M., Y. Sampei & B. Roser (2014)- Upper Eocene coal and coaly shale in the Central Myanmar Basin: origin of organic matter and the effect of weathering. Geochemical J. 48, p. 259-275.
(online at: www.terrapub.co.jp/journals/GJ/pdf/4803/48030259.pdf)
(Extensive Late Eocene coals- coaly shales at W margin C Myanmar Basin. Organic matter mainly terrestrial herbaceous vegetation and aquatic plants, deposited in oxic to oxygen-poor peat swamps in estuarine/ fluvial-deltaic setting. Phase-I rich in gymnosperm biomarkers such as retene and 1,7-dimethylphenanthrene (type II-III kerogen); Phase-II increase in angiosperm proxies like oleanane (type III kerogen))

Harlow, G.E. & W. Bender (2013)- A study of ruby (corundum) compositions from the Mogok Belt, Myanmar: searching for chemical fingerprints. American Mineralogist 98, 7, p. 1120-1132.
(Mogok metamorphic belt of Myanmar famous for classic ruby (corundum: Al2O3) specimens. Model for formation of rubies hosted in marble from Himalayan arc is metamorphism of clays from evaporitic/organic-rich shale units. Mogok may involve igneous intrusions and formation of skarn)

Harrowfield. G. (2015)- Mass Transport Complexes of the Rakhine Basin, Myanmar- Deepwater examples from recent 3D seismic data. Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) Conf., Singapore 2015, 2.3, 5p.
(Mass Transport Complexes constitute significant volume of Miocene- Recent deep water deposits in Rakhine Basin, offshore Myanmar)

Harun, S.N.F., F. Zainetti & G.A. Cole (2014)- The petroleum system of the Central Burma Basin, onshore Myanmar. AAPG Int. Conf. & Exhib., Istanbul 2014, Search and Discovery Art. 41439, 10p. *(Extended Abstract)*
(online at: www.searchanddiscovery.com/documents/2014/41439harun/ndx_harun.pdf)
(Onshore C Burma Basin Tertiary- age hydrocarbon system with potential source rocks of Eocene through Miocene age. Producing reservoirs M Eocene- M Miocene sandstones. All accumulations of oil and gas in structural traps associated with NNW-SSE trending thrust anticlines)

He, Q., L. Xiao, B. Balta, R. Gao & J. Chen (2010)- Variety and complexity of the Late-Permian Emeishan basalts: reappraisal of plume-lithosphere interaction processes. Lithos 119, 1-2, p. 91-107.
(Compositional variations in Emeishan basalts generated by melting of heterogeneous mantle sources and interaction between Emeishan plume and lithosphere. High-Ti basalts products of deep melting plume head material, similar to oceanic island basalts, with little lithospheric overprint. Low-Ti basalts from shallower melting of plume head with either crustal contamination or by inherited subduction components in lithosphere)

Healey, M. (1908)- The fauna of the Napeng beds or the Rhaetic beds of Upper Burma. Palaeontologia Indica 2, 4, p. 1-88.
(Late Triassic (Rhaetian?) bivalves from N Shan States, Myanmar. Napeng Fm shale fauna dominated by bivalve molluscs, incl. Grammatodon lycettii, Pinna cf. blanfordi, Conocardium, Gervillia spp., Hoernesia filosa, Myophoria, Aequipecten, Modiola, Cardita, etc. (Assemblage similar to 'Padang Fauna' from W Sumatra (Krumbeck 1914))

Helmcke, D., R. Ingavat-Helmcke, Q. Feng, B. Wagner & K. Heppe (2001)- On geodynamic evolution of Simao region (Southwestern Yunnan, China) during Late Paleozoic and Triassic. J. China University of Geosciences 12, 3, p. 195-200.
(online at: www.geobiology.net.cn/chaen/photo/2012-11-10/20121110204048084808.pdf)
(Late Paleozoic compressional deformation along Lancangjiang, Yunnan, SW China, resulted in highly deformed Carboniferous quartz-phyllite, unconformably overlain by Late Triassic red beds and rhyolites, probably reperesenting Late Triassic rifting stage. In Yunxian anticline (NW of Simao) two angular unconformities: (1) deep marine Carboniferous- Lower Permian unconformably overlain by shallow marine upper M-U Permian sediments with fusulinids Yabeina, Verbeekina, Gigantopteris plants and brachiopod

Leptodus tenuis. Angular unconformity same age as syn-orogenous sediments first described and dated from Phetchabun region in Thailand; (2) ~Early Triassic. (Simao Block generally regarded as 'Cathaysian' block in Late Paleozoic (W part of Indochina Block); JTvG))

Heppe, K. (2004)- Plate tectonic evolution and mineral resource potential of the Lancang River Zone, SW Yunnan, Peopleês Republic of China. Doct. Thesis Georg August University, Gottingen, p. 1-105.
(online at: ediss.uni-goettingen.de/)

Heppe, K. (2006)- Plate tectonic evolution and mineral resource potential of the Lancang River zone, southwestern Yunnan, People's Republic of China. Geol. Jahrbuch, Sonderhefte, D, 7, p. 1-159.
(Published version of 2004 thesis. Late Paleozoic- E Mesozoic geodynamic evolution of Lancang River Zone (Yangtze Platform, SW Yunnan))

Heppe, K., D. Helmcke & K. Wemmer (2007)- The Lancang River Zone of southwestern Yunnan, China: a questionable location for the active continental margin of Paleotethys. J. Asian Earth Sci. 30, 5-6, p. 706-720.
(No active continental margin accounts for subduction of Paleotethys main branch, proposed to be recorded either along Lancang River or Changning-Menglian Belt)

Hisada, K., K. Ueno, T. Sugiyama, K. Nagai and X.D. Wang (2001)- Confirmation of dropstones in the Dingjiazhai Formation of the Gondwana-derived Baoshan Block, West Yunnan. Gondwana Research 4, p. 630-631. *(Abstract)*
(Occurrence of cobble-sized dropstones in thin-bedded shale-siltstone in Dongshanpo section of Dingjiazhai Fm in Shidian area, 30km S of Baoshan, W Yunnan)

Hobson, G.V. (1941)- Report on a geological survey in part of Karenni and the Southern Shan States: Geol. Survey India Memoir 74, 2, p. 103-155.

Holroyd, P.A., T. Tsubamoto, N. Egi, R.L. Ciochon, M. Takai, S.T. Tun, C. Sein & G.F. Gunnell (2006)- A rhinocerotid Perissodactyl from the Late Middle Eocene Pondaung Formation, Myanmar. J. Vertebrate Paleontology 26, 2, p. 491-494.
(Teeth of earliest rhinocerotid, M Eocene Teletaceras from C Myanmar)

Htay, Hla (2016)- Tectonic setting of ophiolite Belts in Myanmar. In: 2nd AAPG/EAGE/MGS Conf. Innovation in geoscience: unlocking the complex geology of Myanmar, Yangon 2015, Search and Discovery Art. 30452, 43p. *(Abstract + Presentation)*
(online at: www.searchanddiscovery.com/documents/2016/30452htay/ndx_htay.pdf)
(Myanmar region N-S trending major tectonic domains, from W to E: Rakhine foredeep, Indo-Burman Ranges outer arc or fore-arc, W Inner-Burma Tertiary inter-arc basin, Central volcanic arc, E Inner-Burman Tertiary back-arc basin, and Shan-Tenasserim massif ensialic, Sino-Burman Ranges. Ophiolitic rock associations in 3 parallel belts from W to E: W Ophiolite Belt (Naga Hill Line), Central and E Ophiolite Belt (Mandalay Line))

Htay, Hla, K. Zaw & T.T. Oo (2017)- The mafic-ultramafic (ophiolitic) rocks of Myanmar. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 6, p. 117-141.
(Ophiolitic rock in three parallel N-S belts: (1) Western Ophiolitic Belt (Naga Hill Line; eastern hills of the Naga, Chin and Rakhine ranges; pre-Triassic ocean floor? (likely E Cretaceous oceanic crust and plagiogranites?)); (2) Central Ophiolitic Belt; and (3) Eastern Ophiolitic Belt (Tagaung-Mytkina Belt M Jurassic ophiolite with Late Jurassic chert). Mandalay Line is combination of (2) and (3). All dismembered incomplete ophiolite bodies in fore-arc accretionary prism, emplaced in Late Cretaceous-Eocene. EOB associated with Cretaceous clastics, radiolarian chert and Orbitolina limestone, which probably overlaps Mesotethys suture)

Htun, Than, Aung Kyin & K. Zaw (2017)- Lead-zinc-silver deposits of Myanmar. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 27, p. 589-623.

(>290 Pb-Zn-Ag deposits known in Myanmar, incl. large volcanic-hosted Namtu-Bawdwin mining complex. Eight types of host rocks with Pb-Zn-Ag mineralization. Pb-Zn-Ag belts at E Paleozoic active margin of N-C Shan Plateau (Sibumasu), hosted within Lower Paleozoic sediments and volcanics)

Htun, Than, Than Htay & K. Zaw (2017)- Tin-tungsten deposits of Myanmar. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 28, p. 625-647.
(Sn-W deposits associated with Late Cretaceous-Paleogene Central and Late Triassic- E Jurassic Eastern granitoid belts of Myanmar. Commercial exploitation of tin and tungsten in Myeik (Mergui) district of Myanmar. Surge in tin production in Myanmar since 2013 from Man Maw Mining District)

Htut, Than (2017)- Myanmar petroleum systems, including the offshore area. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 11, p. 219-260.
(Oil exploration and production in Myanmar date back to 13th century, a time of manual excavation from hand-dug wells in Yenangyaung District. Export of crude oil began in 1853. After British annexation of U Burma Burmah Oil Company (BOC) established and started drilling at Yenangyaung in 1887, followed Yenangyat in 1893 and Chauk (Singu) in 1902. In 1918 oil production of Yenangyaung Field was >5.8 MMbbl/ year and, in 1941, Chauk's production peaked at >4 MMbbl. U Triassic- Miocene stratigraphy of Salin sub-basin of C Myanmar Basin includes Paleocene with Distichoplax, U Eocene with Biplanispira, Asterocyclina, etc.)

Htwe, K.K., K.M. Win, S. Aung & T.N. Win (2017)- Structural trap formation and petroleum accumulation in the northern part of Central Myanmar Basin: Kyaukkwet/ Letpanto Field. AAPG/EAGE/MGS 3rd Oil & Gas Conf., Yangon 2017, 5p. *(Extended Abstract)*

Huang, H. & X. Jin (2016)- Permian oolitic carbonates from the Baoshan Block, China: ooid features, stratigraphic distribution and paleogeographic indications. In: Development of the Asian Tethyan Realm: genesis, process and outcomes, 5th Int. Symposium Int. Geoscience Program (IGCP) Project 589, Yangon, p. 15-16. *(Abstract only)*
(online at: http://igcp589.cags.ac.cn/5th%20Symposium/Abstract%20Volume.pdf)
(In Baoshan (W Yunnan) and Peninsular Thailand(Sibumasu) block onset of (mid-latitude) oolitic carbonates in late M Permian (Wordian- Capitanian) (see also Huang et al. 2017))

Huang, H., X. Jin, F. Li & Y. Shen (2017)- Permian oolitic carbonates from the Baoshan Block in western Yunnan, China, and their paleoclimatic and paleogeographic significance. Int. J. Earth Sciences 106, 4, p. 1341-1358.
(M-L Permian ooids in Hewanjie Fm (N Baoshan) and Shazipo Fm (S Baoshan Block). Diachronous onset of Permian ooids among Gondwana-derived Cimmerian blocks: (1) mostly Sakmarian in Cl Taurides- C Pamir-Karakorum Block versus (2) Wordian-Capitanian in Baoshan Block, Peninsular Thailand and S Qiangtang (these also with Asselian- Sakmarian glaciomarine diamictite). Baoshan Block at higher paleolatitude during Asselian- Sakmarian than blocks with Sakmarian ooids. Marine ooids virtually absent near equator, so Baoshan Block interpreted to drift to warm-water southern mid-latitudes during Wordian- Capitanian)

Huang, H., X. Jin & Y. Shi (2008)- Middle Permian fusulinids from Southern Baoshan Block, Western Yunnan, China. Proc. Int. Symp. Geoscience Resources and Environments of Asian Terranes (GREAT 2008), Bangkok 2008, p. 169. *(Abstract only)*
(online at: www.geo.sc.chula.ac.th/Geology/English/News/Technique/GREAT_2008/PDF/056.pdf)
(41 M Permian fusulinid species of 9 genera from lower Shazipo Fm in of SE Baoshan Block, W Yunnan, China (= Cimmerian/Sibumasu Block). Three biozones in ascending order (1) Verbeekina inflata Range Zone (9 species of Schwagerina, Roadian-Wordian in age, with Verbeekina inflata, V. grabaui, Pseudodoliolina pulchra and P. chinghaiensis, (2) Eopolydiexodina Abundance Zone (high diversity, commn Eopolydiexodina, Roadian-Wordian and (3) Sumatrina annae Range Zone (5 species of Sumatrina, incl. Sumatrina longissima and S. annae (Wordian- E Capitanian))

Huang, H., X. Jin & Y. Shi (2015)- A *Verbeekina* assemblage (Permian fusulinid) from the Baoshan Block in western Yunnan, China. J. Paleontology 89, 2, p. 269-280.

(Newly discovered M Permian (~Capitanian) Verbeekina assemblage from Xiaoxinzhai Section in Baoshan Block. Fusulinid assemblage of 11 species/ 6 genera, incl. Verbeekina verbeeki, Pseudodoliolina pseudolepida, Sumatrina annae, Yangchienia, Xiaoxinzhaiella, and ?Rugosochusenella. Two unusual attributes: dominance of Verbeekina and relatively low diversity compared with coeval fusulinids from paleo-tropical S China, indicating Baoshan Block probably in subtropical setting in M Permian (NB: several of these species were first described from W Sumatra; JTvG))

Huang, H., X. Jin & Y. Shi (2015)- Mid-Permian fusulinids of the Bawei Section in southern Baoshan Block of western Yunnan, China with a discussion on paleogeographic implications. In: Proc. 4th Int. Symposium Int. Geosciences Program (IGCP) Project 589, Bangkok 2015, p. 28-30. *(Extended Abstract)*
(online at: http://igcp589.cags.ac.cn/4th%20Symposium/Abstract%20volume.pdf)
(Permian fusulinids and carbonates of Baoshan Block in W Yunnan show dramatic switch from cool, Gondwana-affinity to warm, Tethyan affinity. M Permian carbonates in some areas have diverse verbeekinids and neoschwagerinids and rare staffellids (and ooid grainstones), others no verbeekinids/ neoschwagerinids but abundant staffellids (and dolomitic peloidal/skeletal wackestone-packstones). This reflects local sedimentary factors (open vs. restricted platform), not large-scale paleolatitude changes)

Huang, H., X. Jin, Y. Shi & X. Yang (2009)- Middle Permian Western Tethyan fusulinids from southern Baoshan Block, Western Yunnan, China. J. Paleontology 83, 6, p. 880-896.
(New fusulinid collections from SE Baoshan Block in SW China necessitate paleobiogeographic re-evaluation of M Permian fusulinids in region. 32 fusulinid species, 9 genera, 3 Murgabian- Midian biozones (Schwagerina yunnanensis Range Zone, Eopolydiexodina Abundance Zone, and Sumatrina annae Range Zone). Assemblages belong to W Tethyan Province: presence of 'W Tethyan' genera Eopolydiexodina (but also 'Tethyan' Verbeekina, Sumatrina and Pseudodoliolina) and low diversity suggests rel. high latitudinal region within Tethyan Realm (N.B.: This 'Cimmerian' Baoshan Block includes 'Sumatran' species Verbeekina, Sumatrina annae Volz 1904, Schwagerina padangensis Lange 1925, Pseudodoliolina, etc.; JTvG))

Huang, H., Y. Shi & X. Jin (2015)- Permian fusulinid biostratigraphy of the Baoshan Block in western Yunnan, China with constraints on paleogeography and paleoclimate. J. Asian Earth Sci. 104, p. 127-144.
(Gondwana-derived Baoshan Block in W Yunnan, China, yields poor Sakmarian-Yakhtashian fusulinids with Eoparafusulina and Pseudofusulina, signifying temperate-water conditions. M Permian fusulinids more diversified warm-water assemblages (Schwagerina, Eopolydiexodina, Sumatrina and Verbeekina; also small foram Shanita in Midian). Baoshan block in Murgabian-Midian probably located between equatorial region to N and majority of Sibumasu areas lacking Verbeekinids and Neoschwagerinids with temperate water to S)

Huang, H., Y.K. Shi & X.C. Jin (2016)- Permian (Guadalupian) fusulinids of Bawei Section in Baoshan Block, western Yunnan, China: biostratigraphy, facies distribution and paleogeographic discussion. Palaeoworld 26, 1, p. 95-114.
(online at: www.sciencedirect.com/science/article/pii/S1871174X16300026?via%3Dihub)
(Bawei Section in Shazipo Fm of S Baoshan Block (part of Sibumasu) in W Yunnan, with 31 species of M Permian fusulinids, in two late Murgabian- Midian assemblages: (1) Yangchienia-Nankinella and (2)overlying Chusenella-Rugosofusulina. Overlain by Shanita-bearing limestone. Dominance of staffellids and paucity of neoschwagerinids and verbeekinids differs from coeval fusulinids in Nansan-Hewai area in S Baoshan Block with common neoschwagerinids and verbeekinids. Interpreted as due to different depositional environments. (Nansan-Hewai area high-energy open platform))

Huang, H., X. Yang & X. Jin (2005)- The *Shanita* fauna (Permian foraminifera) from Baoshan area, western Yunnan Province, China. Acta Palaeontologica Sinica 44, 4, p. 545-555. *(In Chinese; translated in Frontiers of Biology in China 2, 1, p. 114-124 (2007))*
(online at: http://article.geobiology.cn/)
(Permian Shanita foram fauna good marker of N peri-Gondwana tectonic blocks. Shanita fauna from Baoshan area in W Yunnan suggest characteristic genera Shanita and Hemigordiopsis here comprised 8 species and 10 genera of other nonfusulinid foraminifera. Age probably late Maokouan- Wuchiapingian. Fauna comparable to Shanita faunas from Burma, Thailand and Tibet, but lower diversity and absence of fusulinids)

Huang, K. & N.D. Opdyke (1991)- Paleomagnetic results from the Upper Carboniferous of the Shan-Thai-Malay block of western Yunnan, China. Tectonophysics 192, p. 333-344.
(Upper Carboniferous basaltic Woniusi Fm from near Baoshan (= now viewed as E Permian age basalts; part of Shan-Thai-Malay microplate). Paleomagnetic inclinations similar to Devonian rocks from area, indicating paleolatitude of ~41.9° S for Baoshan in Devonian-E Permian time)

Huang, K. & N.D. Opdyke (1993)- Paleomagnetic results from Cretaceous and Jurassic rocks of South and Southwest Yunnan: evidence for large clockwise rotations in the Indochina and Shan-Thai-Malay terranes. Earth Planetary Sci. Letters 117, p. 507-524.
(Paleomag studies of Jurassic-Cretaceous redbeds from S and SW Yunnan, China, indicate Xiaguan area on Red River fault, has not rotated relative to stable Eurasia since at least Late Cretaceous. Jinggu-Mengla area 200-400 km farther S rotated CW by 46-65°. Comparison with Mesozoic paleomagnetic data from C Yunnan, N Thailand and NW Borneo suggests Red River fault not demarcation between unrotated and significantly rotated regions, and that Sundaland did not respond to India-Asia collision as single coherent unit)

Hughes, R.W., O. Galibert, G. Bosshart, F. Ward, Thet Oo, M. Smith, Tay Thye Sun & G.E. Harlow (2000)- Burmese jade: the inscrutable gem. Gems and Gemology. 36, 1, p. 2-26.
(N Myanmar remains primary source of top-grade jadeite. Primary jadeite in dikes, secondary jadeite in serpentinite boulder conglomerates)

Hurukawa, N., Pa Pa Tun & B. Shibazaki (2012)- Detailed geometry of the subducting Indian Plate beneath the Burma Plate and subcrustal seismicity in the Burma Plate derived from joint hypocenter relocation. Earth Planets Space 64, p. 333-343, 2012
(online at: https://www.terrapub.co.jp/journals/EPS/pdf/2012/6404/64040333.pdf)
(Geometry of subducting Indian Plate under Burma Plate from relocated subduction earthquakes at depths of 30-140 km. Strikes of contours oriented ~N-S, and show 'S' shape in map view)

Ito, T., X. Qian & Q.L. Feng (2016)- Geochemistry of Triassic siliceous rocks of the Muyinhe Formation in the Changning-Menglian belt of Southwest China. J. Earth Science (China) 27, 3, p. 403-411.
(online at: http://en.earth-science.net/PDF/20160612014127.pdf)
(Triassic siliceous rocks of Muyinhe Fm in Changning-Menglian belt (Paleotethys suture). Triassic radiolaria Triassocampe, Pseudostylosphaera, Eptingium and Paroertlispongus observed on etched surfaces. Geochemistry suggests unlikely to be oceanic pelagic deposits; possibly represent closure stage of Paleotethys)

Iyer, L.A.N. (1953)- The geology and gemstones of the Mogok stone tract, Burma. Mem. Geol. Survey India, 82, p. 1-100.
(Mogok stone tract in upper Myanmar known for ruby gemstones for centuries. Rocks intensely folded, ENE and NE striking with dips to SE and SSE. Mogok gneiss associated with common crystalline limestone. Granite, syenite intrusions, etc. Ruby and spinel generally derived from crystalline limestone, sapphire from pegmatite)

Jaeger, H. (1983)- Unterdevonische Graptolithen aus Burma. Geol. Jahrbuch 126, 2, p. 245-257.
(online at: www.landesmuseum.at/pdf_frei_remote/JbGeolReichsanst_126_0245-0257.pdf)
('Lower Devonian graptolites from Burma'. Two monograptids M. atopus and M. thomasi helmckei n.subsp., described from northern Shan states, indicative of mid-Early Devonian age)

Jaeger, J.J., A.Naing Soe, A.K. Aung, M. Benammi, Y. Chaimanee, R.M. Ducrocq, C.T. Tun, T. Thein & S. Ducrocq (1998)- New Myanmar middle Eocene anthropoids. An Asian origin for catarrhines? Comptes Rendus Academie Sciences, ser. 3, 321, p. 953-959.
(New lower jaw fragments of primates Amphipithecus and Pondaungia in Eocene Pondaung Fm in C Myanmar Together with Siamopithecus from Late Eocene of Peninsular Thailand resemblance some African relatives)

Jaeger, J.J., A. Naing Soe, O. Chavasseau, P. Coster, E. Emonet, F. Guy, R. Lebrun, Aye Maung et al. (2011)- First hominoid from the Late Miocene of the Irrawaddy Formation (Myanmar). PLos ONE 6, 4, e17065, p. 1-14.

(online at: http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0017065)
(First hominoid found in Myanmar (Khoratpithecus ayeyarwadyensis sp. nov.), together with Hipparion and other mammal fauna from Irrawaddy Fm, dated between 10.4- 8.8 Ma. Fauna and stable isotope data indicate evergreen forest environment)

Jaeger, J.J., T. Thein, M. Benammi, Y. Chaimanee, A.N. Soe, T. Lwin, T. Tun, S. Wai & S. Ducrocq (1999)- A new primate from the Middle Eocene of Myanmar and the Asian early origin of anthropoids. Science 286, 5439, p. 528-530.
(New anthropoid primate, Bahinia pondaungensis from late M Eocene Pondaung Fm. Part of Eosimiidae now known from three M Eocene localities in Asia, supporting hypothesis of Asian origin of anthropoids)

Jerram, D.A., M. Widdowson, P.B. Wignall, Y. Sun, X. Lai, D.P.G. Bond & T.H. Torsvik (2016)- Submarine palaeoenvironments during Emeishan flood basalt volcanism, SW China; implications for plume-lithosphere interaction during the Capitanian, Middle Permian ("end Guadalupian") extinction event. Palaeogeogr. Palaeoclim. Palaeoecology 441, 1, p. 65-73.
(M Permian platform carbonate deposition terminated by rapid subsidence, with onset of late M Permian Emeishan volcanism during deepening (with widespread losses amongst fusulinacean foraminifera and calcareous algae). Lower two thirds of 4-5 km thick lava pile erupted at or below sea level, with terrestrial lava flows only in later stages. Late Permian of SW China at time of Emeishan was extended area of thinned lithosphere with epeiric seas, sustained through onset of LIP emplacement. Geochemical support of plume origin for Emeishan volcanism, but LIP emplacement not associated with regional pre-eruption uplift)

Jian, P., D. Liu, A. Kroner, Q. Zhang, Y. Wang, X. Sun & W. Zhang (2009)- Devonian to Permian plate tectonic cycle of the Paleo-Tethys Orogen in southwest China (I): Geochemistry of ophiolites, arc/back-arc assemblages and within-plate igneous rocks. Lithos 113, p. 748-766.
(Study of Paleo-Tethys ophiolites, incl. Ailaoshan ophiolite (NMORB-type; ~387-374 Ma= Late Devonian), Jinshajiang ophiolite (EMORB-type; 346-341 Ma= M Carboniferous) and Changning-Menglian ophiolite (~270-264 Ma= M Permian; marks main Paleo-Tethys suture between Gondwana-derived Sibumasu terrane and Yangtze-derived Simao terrane and formed at supra-subduction zone))

Jian, P., D. Liu, A. Kroner, Q. Zhang, Y. Wang, X. Sun & W. Zhang (2009)- Devonian to Permian plate tectonic cycle of the Paleo-Tethys Orogen in southwest China (II): Insights from zircon ages of ophiolites, arc/back-arc assemblages and within-plate igneous rocks and generation of the Emeishan CFB province. Lithos 113, p. 767-784.
(Ophiolites in SW China are remnants of Paleo-Tethys ocean, which was divided by Simao terrane into two tracts (1) main ocean in W (Changning-Menglian ophiolite with metagabbro crystallization age of 267 Ma= M-L Permian) and (2) oceanic branch in E (Ailaoshan- Jinshajiang ophiolites with sea-floor spreading ages from zircons ~383, 376, 343 Ma = Late Devonian- E Carboniferous). With reconstruction of Devonian-Permian plate tectonic cycle: Simao Block rifted off Yangtze margin in Carboniferous, etc.)

Jin, X. (1998)- A comparison between Permo-Carboniferous sequences of the Baoshan Block and the Lhasa Block, China. In: G.R. Shi et al. (eds.) Permian of Eastern Tethys: biostratigraphy, palaeogeography and resources, Strzelecki Symposium, Proc. Royal Soc. Victoria 110, 1-2, p. 401-404.
(Baoshan and Lhasa Block in SW China and Tibet both have Permo-Carboniferous glacio-marine deposits and Gondwana affinity fauna and palynomorph assemblages, indicating Gondwana origin. Both blocks with Early Permian basalts/ red beds above glacial deposits, and overlain by M-U Permian- Triassic limestones)

Jin, X. (2002)- Permo-Carboniferous sequences of Gondwana affinity in Southwest China and their paleogeographic implications. J. Asian Earth Sci. 20, p. 633-646.
(Descriptions of stratigraphy of Gondwana-affinity Permo-Carboniferous sequences in Himalayas, Lhasa Block, S Qiangtang Block in Tibet, and Tengchong and Baoshan blocks in Yunnan, SW China. Sequences characterized by presence of glacio-marine deposits and Gondwana-affinity biota)

Jin, X., H. Huang, Y. Shen & Y. Wang (2008)- Subdivision and correlation of Middle-Late Permian successions in the Baoshan Block, Western Yunnan, China: status and problems. Proc. Int. Symp. Geoscience Resources and Environments of Asian Terranes (GREAT 2008), 4th ICGP 416, Bangkok, p. 341-348.
(online at: www.geo.sc.chula.ac.th/Geology/Thai/News/Technique/GREAT_2008/PDF/103.pdf)
(Review of Middle-Late Permian lithostritgraphy of Baoshan Block, Yunnan, SW China (= Sibumasu terrane). Earliest Permian Dingjiazhai Fm with diamictites. Artinskian Woniusi Fm basalts, overlain with Kungurian hiatus by Roadian-Wordian red beds, then limestone. Lower Shazipo Fm with Verbeekina, Eopolydiexodina, overlain by Capitanian Shanita-Hemigordius assemblage)

Jin, X., H. Huang, Y. Shi & L. Zhan (2011)- Lithologic boundaries in Permian post- glacial sediments of the Gondwana-affinity regions of China: typical sections, age range and correlation. Acta Geologica Sinica, 85, p. 373-386.
(SW China Gondwana-affinity Permo-Carboniferous deposits in N Himalayas, Lhasa, S Qiangtang, Baoshan and Tengchong Blocks. Diamictite- pebbly mudstone- dark mudstone and shale interpreted as glacial-deglacial- post-glacial marine environments. Change from post-glacial clastics to carbonate environment in Baoshan, Tengchong and Lhasa Blocks in E Artinskian. Carbonate environment in Baoshan Block with Woniusi Basalts. In N Himalayas limestones began in Late Permian)

Kamenetsky, V.S., S.L. Chung, M.B. Kamenetsky & D.V. Kuzmin (2012)- Picrites from the Emeishan Large Igneous Province, SW China: a compositional continuum in primitive magmas and their respective mantle sources. J. Petrology 53, 10, p. 2095-2113.
(online at: https://watermark.silverchair.com/egs045.pdf..)
(Late Permian Emeishian flood picrite lavas represent low- and high-Ti end-members of continental flood basalt magmatism. Diverse spectrum of basaltic magma. Peridotite and garnet pyroxenite mantle source for low- and high-Ti end-members, and more likely from subcontinental lithospheric mantle than from deep mantle 'plume')

Kelly, T. & C. Gonguet (2017)- Insights in the development of the Central Tertiary basins onshore & offshore Myanmar. In: Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) Exploration Conf. 2017, Singapore, 8p. *(Extended Abstract)*
(Review of geology and hydrocarbons in offshore Myanmar M8 Block, S of Yadana field)

Khin, A., Aung Tin V., Aung Soe & Khin Khan (1970)- A study on the gravity indication of the Shan scarp fault. J. Science and Techn. (Burma), 3, 1, p. 431-443.

Khin, A. & K. Win (1968)- Geology and hydrocarbon prospects of the Burma Tertiary geosyncline. Union of Burma J. Science and Technology 2, 1, p. 53-81.

Khin, A. & K. Win (1969)- Preliminary studies of the paleogeography of Burma during the Cenozoic: Union of Burma J. Science and Technology 3, 2, p. 53-73.

Khin, J.A. (1991)- Hydrocarbon-producing formations of Salin, Irrawaddy, and Martaban Basins, Myanmar (Burma). Proc. Soc. Petroleum Engineers (SPE) Asia-Pacific Conf., Perth 1991, p. 245-258.
(Almost all producing oil - gas fields in Myanmar in Salin, Irrawaddy and Martaban basins, in Mio-Pliocene reservoirs)

Khin, K. & T. Sakai (2012)- Neogene sedimentary fringe, West of Indo-Burma Ranges, in Western Myanmar: some evidences for Late Cenozoic synorogenic sedimentation in Himalayan-Bengal System. AAPG Int. Conv. Exhibition, Singapore 2012, Search and Discovery Art. 50771, 48p. *(Abstract + Presentation)*
(online at: www.searchanddiscovery.com/documents/2012/50771khin/ndx_khin.pdf)
(On Late Cenozoic clastics Arakan Basin, W Myanmar, in frontal part of Himalayan orogenic belt)

Khin, K., T. Sakai & K. Zaw (2017)- Arakan Coastal Ranges in western Myanmar, geology and provenance of Neogene siliciclastic sequences: implications for the tectonic evolution of the Himalaya-Bengal System. In: A.J.

Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 5, p. 81-116.
(Mainly analysis of ~2000m thick Miocene clastics of W Arakan Basin. Overall shallowing-upward series. E Mioceen sandstones quartz-rich. Overall upward increase in feldspar and high-metamorphic lithics, reflecting Himalayan uplift and orogenic unroofing)

Khin, K. & K. Zaw & L.T. Aung (2017)- Geological and tectonic evolution of the Indo-Myanmar Ranges (IMR) in the Myanmar region. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 4, p. 65-79.
(Indo-Myanmar Ranges (= Indo-Burman Ranges or Western Ranges) along W margin of Myanmar microplate extend from E Himalayas S-wards along E side of Bay of Bengal to Andaman Sea. Comprise Naga Hills in N, Chin Hills in middle and Rakhine (Arakan) Yoma in S. Considered to have formed as accretioanry wedge due to E-ward subduction under Myanmar from ?E Cretaceous- Recent. Rocks Late Triassic-Eocene flysch-type metasediments, three belts of Triassic-Jurassic ophiolitic rocks in E (W-ward obduction in Late Oligocene?). Ophiolitic sequence overlain by Eocene-Miocene flysch. Cretaceous and Paleogene limestone olistoliths)

Kim, D., S.Y. Yang & J. Kim (2012)- Geological modeling with seismic inversion for deepwater turbidite fields offshore Northwestern Myanmar. AAPG Int. Conf. Exh., Italy 2011, Search and Discovery Art. 40877, 26p. *(Abstract + Presentation)*
(online at: www.searchanddiscovery.com/documents/2012/40877kim/ndx_kim.pdf)
(Geologic modeling of Daewoo Shwe, Shwe Phyu and Mya gas fields in Bay of Bengal, off W Myanmar. Reservoirs Late Pliocene deepwater channelized and basin floor fan lobe deposits)

Kingson, O., R. Bhutani, J.K. Dash, S. Sebastian & S. Balakrishnan (2017)- Resolving the conundrum in origin of the Manipur Ophiolite Complex, Indo-Myanmar range: constraints from Nd isotopic ratios and elemental concentrations in serpentinized peridotite. Chemical Geology 460, p. 117-129.
(REE abundances and Nd isotopic ratios in serpentinized peridotite from Manipur Ophiolite Complex (MOC), Indo-Myanmar Range. Variation of La/Yb consistent with progressive addition of subduction-derived fluid to depleted mantle source. MOC buoyant fore-arc-mantle-wedge system along with subducted slab that was obducted during terminal stage of subduction of Neotethys below Burmese plate)

Krishnan, M.S. & K. Jacob (1957)- Burma/Birmanie. Lexique Stratigraphic Int. 3, Asie, 8b, p. 283-328.
(Old stratigraphic lexicon for Burma/ Myanmar)

Kyaw, L. Oo, Zaw Khin, S. Meffre, D. Myitta, Wa Aung & C.K. Lai (2015)- Provenance of the Eocene sandstones in the southern Chindwin Basin, Myanmar: implications for the unroofing history of the Cretaceous-Eocene magmatic arc. J. Asian Earth Sci. 107, p. 172-194.
(Thick Eocene continental clastics in S Chindwin Basin, N Myanmar, with sandstones rich in volcaniclastic material and subordinate metamorphic lithic fragments. Detrital zircon ages of 101-43 Ma and palaeocurrent directions of late M Eocene Pondaung sst show Cretaceous- Eocene Andean-type andesitic volcanic arc to NE, possibly related to Neo-Tethys seafloor subduction under W Burma Block (= late M Eocene volcaniclastic deposition in fore-arc basin of C Myanmar Basin)

Kyaw Thu & Khin Zaw (2017)- Gem deposits of Myanmar. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics. Geol. Soc., London, Memoir 48, Chapter 23, p. 497-529.
(Myanmar contains world-class gem deposits, incl. ruby from Mogok Stone Tract in Mandalay district, Mong Hsu ruby deposit in Shan State and jadeite from Kachin State. Both primary hard-rock deposits and secondary eroded/transported deposits)

Kyaw, Toe Aung (2017)- Antimony deposits of Myanmar. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 29, p. 649-668.
(Antimony deposits mainly in E Myanmar, in Shan Plateau and Mogok- Mandalay- Mergui metallogenic provinces)

La Touche, T.H.D. (1913)- Geology of the northern Shan States. Mem. Geol. Survey India 39, 2, p. 1-380.

Latt, T.T., T. Nakazawa, X. Wang & K. Ueno (2009)- Carboniferous foraminifers from the lower part of Paleo-Tethyan seamount-type carbonates in the Changning-Menglian Belt, western Yunnan, Southwest China. Acta Geoscientica Sinica 30, Suppl. 1, p. 35-36.
(online at: www.cagsbulletin.com/dqxbcn/ch/reader/download_pdf.aspx?file_no...)
(Changning-Menglian Belt in W Yunnan is well-known as closed remnant of Paleo-Tethys Ocean. Thick E Carboniferous-Late Permian carbonate successions formed as Paleo-Tethyan seamount-capping atoll. Lower 400m of carbonate all Carboniferous, with >28 foraminiferal genera, including Eostaffella, Endothyra and 11 fusulinid genera)

Latt, T.T., Z. Win & K. Ueno (2008)- Permian fusuline fauna from the Plateau Limestone of the Lebyin Area, Eastern Myanmar: biochronologic and paleobiogeographic assessments. Proc. Int. Symp. Geoscience Resources and Environments of Asian Terranes (GREAT 2008), Bangkok 2008, p. 170-171. *(Extended Abstract)*
(M Permian Plateau Lst of E Myanmar Shan Plateau is part of Sibumasu/ Shan-Thai terrane. Thickness 700m, lower part with shaly interbeds, middle part bioclastic limestones, upper part mainly oolitic limestone. In middle part E Midian fusulinid assemblages with Yangchienia, Pseudofusulina, Neoschwagerina, Sumatrina, Verbeekina, etc. Presence of neoschwagerinids and verbeekinids previously believed to be typical of paleo-equatorial Cathaysian domain, but here present in late M Permian of Sibumasu Block (but still lower diversity))

Latt, T.T., Z. Win & K. Ueno (2010)- Middle Permian Cimmerian fusuline succession of the Plateau Limestone in the Linwe area, Eastern Myanmar In: C.P. Lee et al. (eds.) 6th Symp. Int. Geol. Correl. Progr. Project 516 (IGCP516), Geological anatomy of East and South Asia, Kuala Lumpur 2010, p. 40-41 *(Abstract only)*
(Permian Plateau Limestone in Linwe section, E Myanmar, on Sibumasu Block. ~570m thick and unconformable on Silurian Linwe Fm. Three fusuline assemblages in m-u parts: (1) Late Murgabian, with Cimmerian genus Rugososchwagerina; (2) (3) Midian assemblages with more Tethys-type genera such as Afghanella, Verbeekina, and Pseudodoliolina. Fauna lacks Tethyan advanced neoschwagerinids (Yabeina, Lepidolina) and of lower diversity than Indochina and S China faunas)

Le Dain, A.Y., P. Tapponnier & P. Molnar (1984)- Active faulting and tectonics of Burma and surrounding regions. J. Geophysical Research 89, B1, p. 453-472.
(Slab of oceanic lithosphere was recently subducted to E under Indoburman Ranges. Sagaing fault probably accomodates most of right-lateral strike-slip of India past Indochina, but also internal deformation in Burma, Thailand. Large parts of Burma-Thailand may have rotated clockwise)

Lee, H.Y., S.L. Chung, H.M. Yang (2016)- Late Cenozoic volcanism in central Myanmar: geochemical characteristics and geodynamic significance. Lithos 245, p. 174-190.
(Late Cenozoic volcanism in C Myanmar basin around Sagaing fault. Volcanics from Monywa, Mt. Popa and Singu areas erupted in two stages: M Miocene (mainly intermediate compositions) and Quaternary (mainly basalts). Magma generation related to India- Asia collision, causing Miocene plate reorganization from oblique subduction to dextral movement, and 'rollback' of subducted Indian oceanic lithosphere in Quaternary)

Lenz, H. & P. Mueller (1981)- Rb/Sr determinations (total rock) of rocks of the Bawdwin Volcanic formation/northern Shan State, Burma. Geol. Jahrbuch D, 43, p. 47-52.

Li, D., Z. Luo, Y. Chen, J. Liu & Y. Jin (2014)- Deciphering the origin of the Tengchong block, west Yunnan: evidence from detrital zircon U-Pb ages and Hf isotopes of Carboniferous strata. Tectonophysics 614, p. 66-77.
(U-Pb and Hf isotope analyses on detrital zircons from Carboniferous in Tengchong block yield Neoarchean (~2.5 Ga), Mesoproterozoic (1.7-1.4 Ga), Grenvillian (~ 0.95 Ga) and Pan-African (0.65-0.5 Ga) age groups. Oldest Hf model ages indicate source magma included reworked Eoarchean (3.8-3.7 Ga) crustal material. Resemblance with Tethyan Himalayan, Wn Qiangtang and Indochina suggests Tengchong block was located along Indian margin of Gondwana in E Paleozoic)

Li, H., Aung Zaw Myint, K. Yonezu, K. Watanabe, T.J. Algoe & J.H. Wu (2018)- Geochemistry and U-Pb geochronology of the Wagone and Hermyingyi A-type granites, southern Myanmar: implications for tectonic setting, magma evolution and Sn-W mineralization. Ore Geology Reviews 95, p. 575-592.
(Sn-W-associated granites common in Dawei region of SE Asian tin belt. High-K calc-alkaline Type A2 granites. U-Pb dating of magmatic and hydrothermal zircons from two granites yielded ages of 61-60 Ma (Paleocene) magmatic-mineralization event. Granites crustal origin, produced by partial melting of felsic clay-rich source in back-arc extensional setting)

Li, J., H. Zhong, W.G. Zhu, Z.J. Bai & W.J. Hu (2017)- Elemental and Sr-Nd isotopic geochemistry of Permian Emeishan flood basalts in Zhaotong, Yunnan Province, SW China. International Journal of Earth Sciences 106, 2, p. 617-630.
(Elemental and isotopic data for basalts from intermediate zone of ~260 Ma Emeishan large igneous province suggest garnet-dominated peridotite mantle plume source. High-Ti basalts in inner zone variable compositions, indicating heterogeneous mantle source, possibly with subcontinental lithospheric mantle)

Li, M.H., M.D. Yan, Z.R. Wang, X.M. Liu, X.M Fang, & J. Li (2015)- The origins of the Mengye potash deposit in the Lanping-Simao Basin, Yunnan Province, Western China. Ore Geology Reviews 69, p. 174-186.
(Lanping–Simao Basin is Mesozoic-enozoic continental margin rift basin in W China, formed during opening and closing of Tethys Ocean. Mengye potash deposit either Paleocene or Cretaceous. Salt layers typical continental lithological features)

Li, R., L. Mei, G. Zhu, R. Zhao, X. Xu, H. Zhao, P. Zhang, Y. Yin & Y. Ma (2013)- Late Mesozoic to Cenozoic tectonic events in volcanic arc, West Burma Block: evidences from U-Pb zircon dating and apatite fission track data of granitoids. J. Earth Science 24, 4, p. 553-568.
(Pb/U ages of S-type volcanic arc in N of W Burma Block average 102 Ma, similar to ~94 Ma in N and 105Ma in S, indicating continuous development of volcanic arc in N of W Burma Block and subsequent late E Cretaceous granitic intrusion. AFT ages suggesting rapid uplift and cooling from Late Oligocene- E Miocene (29-20 Ma) and slow uplift since E Pliocene (~4.2 Ma))

Liang, Y., S. Chung, D. Liu, Y. Xu, F.Y. Wu, J. Yang, Y. Wang & C. Lo (2008)- Detrital zircon evidence from Burma for reorganization of the eastern Himalayan river system. American J. Science 308, 4, p. 618-638.

Licht, A., A. Boura, D. De Franceschi, S. Ducrocq, A.N.Soe & J.J. Jaeger (2014)- Fossil woods from the late middle Eocene Pondaung Formation, Myanmar. Review Palaeobotany Palynology 202, p. 29-46.
(Twelve species of silicified wood in late M Eocene Pondaung Fm, W Myanmar, with affinities with modern Fabaceae, Moraceae, Combretaceae, Sapindaceae, Malvaceae, Dipterocarpaceae and Theaceae. Five new species of Ficoxylon (F. mogaungense), Sapindoxylon (S. burmense), Bombacoxylon (B. pondaungense), Shoreoxylon (S. panganense) and Schimoxylon (S. benderi). Material represents oldest record of fossil dipterocarps outside Indian subcontinent. M Eocene climate in proto Bengal Bay significantly seasonal)

Licht, A., A. Boura, D. De Franceschi, T. Utescher, C. Sein & J.J. Jaeger (2015)- Late Middle Eocene fossil wood of Myanmar: implications for the landscape and the climate of the Eocene Bengal Bay. Review Palaeobotany Palynology 216, p. 44-54.
(late M Eocene Pondaung Fm, Myanmar, with diverse silicified wood assemblage, incl. early Dipterocarpaceae. (Licht et al. 2014). Also Menispermoxylon, Glutoxylon and Heritieroxylon, related to modern taxa of mangrove and coastal forests in Bengal Bay. Assemblages suggest (1) monsoonal climate (with significant rainfall and marked dry season), confirming studies showing Bengal Bay experienced monsoonal regime as early as 40 Ma and (2) warmer annual temperatures, supporting hypothesis that monsoonal rainfall at that time favored by Eocene greenhouse conditions)

Licht, A., I. Cojan, L. Caner, Aung Naing Soe, J.J. Jaeger & C. France-Lanord (2013)- Role of permeability barriers in alluvial hydromorphic palaeosols: the Eocene Pondaung Formation, Myanmar. Sedimentology 61, 2, p. 362-382.

Licht, A., C. France-Lanord, L. Reisberg, C. Fontaine, A. Naing Soe & J.J. Jaeger (2013)- A palaeo Tibet-Myanmar connection? Reconstructing the Late Eocene drainage system of central Myanmar using a multi-proxy approach. J. Geol. Soc., London, 170, 6, p. 929-939.
(Collision of India with Asia has caused fundamental changes to Asian drainage patterns. Provenance of study Paleogene fluvio-clastic sedimentary indicate primary magmatic arc source, and secondary source of recycled, metamorphosed basement material. Rel. proximal source area on E Asian margin, no evidence to support Paleo Tsangpo- Irrawaddy River in Late Eocene)

Licht, A., L. Reisberg, C. France-Lanord, A. N. Soe & J.J. Jaeger (2016)- Cenozoic evolution of the central Myanmar drainage system: insights from sediment provenance in the Minbu Sub-Basin. Basin Research 28, 2, p. 237-251.
(C Myanmar Basin several Tertiary sub-basins that remained filled since India-Asia collision. No dramatic provenance shift in M Eocene-Pleistocene sediments from Minbu sub-Basin, but gradual decrease of volcanic input and increase in supply from Burmese basement in Eo- Oligocene, reflecting unroofing of Wuntho-Popa volcanic arc along flank of Sino-Burman Ranges. C Myanmar drainage remained restricted to Sino-Burman Ranges since India-Asia collision)

Licht, A., M. van Cappelle, H.A. Abels, J. Ladant, J. Trabucho-Alexandre, C. France-Lanord, Y. Donnadieu et al. (2014)- Asian monsoons in a late Eocene greenhouse world. Nature 513, p. 501-506.
(Data from Eocene of Myanmar suggestive of monsoon-like climate patterns during Late Eocene greenhouse conditions (55-34 Ma))

Lin, T.H., S.L. Chung, A. Kumar, F.Y. Wu, H.Y. Chiu & I.J. Lin (2013)- Linking a prolonged Neo-Tethyan magmatic arc in South Asia: zircon U-Pb and Hf isotopic constraints from the Lohit Batholith, NE India. Terra Nova 25, 6, p. 453-458.
(Neo-Tethyan subduction before India-Asia collision resulted in Andean-type convergent margin in S Asia, with extensive arc magmatism. Gangdese Batholith in Lhasa terrane of S Tibet lasted from E Jurassic- Eocene. E-ward continuation of Neo-Tethyan magmatic arc truncated by E Himalayan syntaxis. Lohit Batholith in NE India is E-ward extension of Gangdese Batholith, and can be correlated S-ward to Wuntho-Popa arc in W Burma (zircon U-Pb ages of five granitoids ~148-96 Ma (mainly 110-96 Ma; 148 Ma= gabbro))

Liu, B.P., Q.L. Feng, N.Q. Fang et al. (1993)- Tectonic evolution of Paleo-Tethys poly-island-ocean in Changning-Menglian and Lancangjiang Belts, Southwestern Yunnan, China. J. Chinese Univ. Geoscience 18, 5, p. 529-539. *(in Chinese)*

Liu, C.Z, S.L. Chung, F.Y. Wu, C. Zhang, Y. Xu, J.G. Wang, Y. Chen & S. Guo (2016)- Tethyan suturing in Southeast Asia: zircon U-Pb and Hf-O isotopic constraints from Myanmar ophiolites. Geology 44, 4, p. 311-314.
(Two ophiolite belts in Myanmar: (1) Western Belt (E of Indo-Birman Range) Kalaymyo ophiolite with E Cretaceous zircons (av. ~127 Ma), coeval with Neotethys ophiolites of Yarlung-Tsangpo suture; (2) Eastern Belt Myitkyina ophiolite (between Sibumasu- W Burma plates) formed in M Jurassic (~173 Ma) and is S continuation of Mesotethys Bangong-Nujiang suture in Tibetan Plateau. Boundary between Sibumasu and W Burma blocks is Jurassic suture rather than transcurrent shear zone)

Luo, W., Z.C. Zhang, M. Santosh, T. Hou, H. Huang, J. Zhu, X. Wang & X. Fu (2014)- Petrology and geochemistry of Permian mafic-ultramafic intrusions in the Emeishan large igneous province, SW China: insight into the ore potential. Ore Geology Reviews 56, p. 258-275.

Lwin, S.M., M.M. Aung & N.P. Oo (2017)- Paleoenvironmental analysis of benthic foraminifera and radiolarians in Middle Eocene Tabyin Formation, Mindon-Taing Da Area, Magway Region, Myanmar. AAPG/EAGE/MGS 3rd Oil & Gas Conf., Yangon 2017, Search and Discovery Art. 51427, 45p. *(Abstract + Presentation)*
(online at: www.searchanddiscovery.com/documents/2017/51427lwin/ndx_lwin.pdf)
(Deep marine M Eocene benthic and planktonic foraminifera and radiolaria from folded sediments near eastern foothills of Rakhine Yoma, C Myanmar Basin)

Mann, S., M. Lim, Q. van de Laarschot, M. Keym, A. Jones & R. Nesbit (2017)- Hydrate observations in the deepwater Rakhine Basin, Myanmar. Proc. Third AAPG/EAGE/MGS Myanmar Oil and Gas Conf., Yangon 2017, 1p. *(Abstract only)*
(Bottom Simulating Reflector (BSR) in deepwater Rakhine Basin off Myanmar indicates Gas Hydrate Stability Zone (HSZ) and potential extensive gas hydrate system, likely indicatative of extensive microbial gas system)

Marivaux, L., K.C. Beard, Y. Chaimanee, M. Dagosto, D.L. Gebo et al. (2010)- Talar morphology, phylogenetic affinities, and locomotor adaptation of a large-bodied amphipithecid primate from the late Middle Eocene of Myanmar. American J. Physical Anthropology 143, p. 208-222.

Marivaux, L., Y. Chaimanee, S. Ducrocq, B. Marandat, J. Sudre, A.N. Soe, S.T. Tun, W. Htoon & J.J. Jaeger (2003)- The anthropoid status of a primate from the late middle Eocene Pondaung Formation (Central Myanmar): tarsal evidence. Proc. National Academy Sciences USA 100, 23, p. 13173-13178.
(online at: www.pnas.org/content/100/23/13173.full.pdf)
(Primate talus from Segyauk, Myanmar, more similar to anthropoids than to adapiforms. Foot bone may belong to Amphipithecus)

Marivaux, L., S. Ducrocq, J.J. Jaeger, B. Marandat, J. Sudre, Y. Chaimanee, S.T. Tun et al. (2005)- New remains of *Pondaugimys anomaluropsis* (Rodentia, Anomaluroidea) from the latest Middle Eocene Pondaung Formation of central Myanmar. J. Vertebrate Paleontology 25, 1, p. 214-227.
(New material of anomaluroid rodent Pondaungimys anomaluropsis Dawson 2003 from latest M Eocene Pondaung Fm in C Myanmar (South Asia). Suggest faunal exchanges between Africa and Asia in Paleogene)

Maung, M., T. Htike, T. Tsubamoto, H, Suzuki, C. Sein, N. Egi, Z. Win et al. (2005)- Stratigraphy of the primate-bearing beds of the Eocene Pondaung Formation at Paukkaung area, Myanmar. Anthropological Science 113, p. 11-15.
(online at: https://www.jstage.jst.go.jp/article/ase/113/1/113_1_11/_pdf/-char/ja)
('Upper Member' of ~500m thick fluvio-deltaic, late M Eocene (Bartonian) Pondaung Fm at Paukkaung area in C Myanmar known for vertebrate fossils (incl. primates) since 1920's. Formation underlain by M Eocene Tabyin Fm with Nummulites and overlain by Late Eocene Yaw Fm with Nummulites and Discocylina. Primate fossil localities Pk1, Pk2, Pk3, and Pk5 all nearly at same stratigraphic level, with age of ~37.2 Ma)

Maung Thein (1973)- A preliminary synthesis of the geological evolution of Burma with reference to the tectonic development of Southeast Asia: In: B.K. Tan (ed.) Proc. Reg. Conference on the Geology of SE Asia, Kuala Lumpur 1972, Bull. Geol. Soc. Malaysia 6, p. 87-116.
(online at: www.gsm.org.my/products/702001-101352-PDF.pdf)
(Early review of geology of Myanmar)

Maung Thein (2015)- The Pre-Tertiary carbonate rocks exposed at the NE margin of the Central Myanmar Basin and their developmental history. J. Myanmar Geosciences Soc. 6, p. 1-22.

Maung Thein & B.T. Haq (1970)- The Pre-Paleozoic and Paleozoic stratigraphy of Burma, a brief review. Union of Burma J. Science & Technology, 2,p. 275-289.

Maung Thein & Soe Win (1970)- The metamorphic petrology, structures and mineral resources of the Shantaung-u-Thandawmywet Range, Kyaukse District. J. Science and Technology, Burma, 3, p. 487-514.

Maurin, T., F. Masson, C. Rangin, U Than Min & P. Collard (2010)- First global positioning system results in northern Myanmar: constant and localized slip rate along the Sagaing fault. Geology 38, 7, p. 591-594.
(GPS data measured in 2005 and 2008 in N Myanmar at N tip of Sagaing fault show slip rate of 18 mm/yr, localized along single active narrow fault trace (<20 km wide). Same rate in C Myanmar. Modeled locking depth varies from 20 km in C Myanmar to 5 km in N)

Maurin, T. & C. Rangin (2009)- Structure and kinematics of the Indo-Burmese Wedge: Recent and fast growth of the outer wedge. Tectonics 28, 2, TC2010, p. 1-21.
(online at: http://onlinelibrary.wiley.com/doi/10.1029/2008TC002276/epdf)
(N Sunda subduction zone offshore Burma, and associated Indo-Burmese Wedge mark active E boundary of Burma Platelet between India and Sunda Plates. Indo-Burmese Wedge underwent right-lateral shearing in innermost part (E) and E-W shortening in outermost part (W). In outer wedge thick-skinned deformation overprints thin-skinned deformation. Seismic lines show outer wedge deformation not older than 2 Ma)

Metais, G. (2006)- New basal selenodont artiodactyls from the Pondaung Formation (late middle Eocene, Myanmar) and the phylogenetic relationships of early ruminants. Annals of Carnegie museum 75, 1, p. 51-67.
(New ruminant artiodactyl Thandaungia tinti from late M Eocene Pondaung Fm, C Myanmar)

Metais, G., Aung Naing Soe & S. Ducrocq (2006)- A new basal tapiromorph (Perissodactyla, Mammalia) from the middle Eocene of Myanmar. Geobios 39, p. 513-519.
(online at: https://doc.rero.ch/record/20953/files/PAL_E4155.pdf)
(New tapiromorph, Skopaiolophus burmese, from M Eocene Pondaung Fm suggests primitive tapiromorphs may have persisted in SE Asia until late M Eocene while they became extinct in both Eurasia and N America)

Metais, G., Aung Naing Soe, L. Marivaux, & K.C. Beard (2007)- Artiodactyls from the Pondaung Formation (Myanmar): new data and reevaluation of the South Asian faunal province during the Middle Eocene. Naturwissenschaften 94, 9, p. 759-768.
(New dichobunid Cadutherium kyaukmagyii and basal ruminant Irrawadymeryx pondaungi, from late M Eocene Pondaung Fm, Central Myanmar (small rabbit-like ungulates).)

Metcalfe, I. (2014)- Phanerozoic tectonic and palaeogeographical evolution of East and Southeast Asia: Myanmar in context. AAPG/MGS Conf. Tectonic evolution of Myanmar and its basin development with special references to its petroleum occurrences, p. 6-18.
(E part of Myanmar (E of Sagaing Fault and Mogok Metamorphic Belt) part of Gondwana-derived Sibumasu. W part of Myanmar possibly underlain by continental fragment called West Burma Block, overlain by Cretaceous and Cenozoic sediments. Jurassic-Cretaceous intra-oceanic arc (Mawgyi Arc) and associated ophiolites and accretionary complex rocks (termed Naga- Andaman suture) emplaced to W as Mawgyi Nappe in M-L Cretaceous)

Metcalfe, I. & K.P. Aung (2014)- Late Tournaisian conodonts from the Taungnyo Group near Loi Kaw, Myanmar (Burma): implications for Shan Plateau stratigraphy and evolution of the Gondwana-derived Sibumasu Terrane. Gondwana Research 26, p. 1159-172.
(First record of Carboniferous (Tournaisian) conodonts in Taungnyo Gp of Shan Plateau (Sibumasu Terrane) of Myanmar (Scaliognathus anchoralis and Gnathodus typicus- Protognathodus cordiformis zones). Biogeographic links support NW Australian Gondwana margin position for Sibumasu in Late Paleozoic)

Min, M., L. Ratschbacher, E. Enkelmann, L. Franz, R. Jonckheere & M. Tichomirowa (2017)- Magmatism, Metamorphism, Deformation, and Exhumation in Southern, Central and Eastern Myanmar. AAPG/EAGE/MGS 3rd Oil & Gas Conf., Yangon 2017, 5p. *(Extended Abstract)*
(Zircon dating shows basement of Myanmar contains Proterozoic and E Paleozoic zircons. Igneous event of ~490 Ma ties basement to Gondwana. Shan Plateau of E Myanmar lacks Cenozoic-Cretaceous magmatism; Triassic event links it to Qiangtang block of C Tibet. Jurassic- E Cretaceous magmatism ties Mogok metamorphic belt to Gangdese belt of Tibet (Lhasa block) and Neotethys subduction. Both belts also share Late Cretaceous- Paleocene magmatism. Late Eocene- Oligocene high-grade metamorphism dominates Mogok belt; rapid cooling started at ~17 Ma and terminated before 10 Ma)

Mitchell, A.H.G. (1989)- The Shan Plateau and Western Burma: Mesozoic-Cenozoic plate boundaries and correlation with Tibet. In: A.M.C. Sengor (ed.) Tectonic evolution of the Tethyan region, Kluwer, Dordrecht p. 567-583.

(Four suture zones in Myanmar. E Burma- Chiang Rai- medial Malaya suture resulted from closure of ocean I (=Paleotethys) in E Triassic. Ocean II, N of Lhasa block, closed in end-Jurassic, but suture buried in Burma. Mount Victoria Land block (= W Burma block of Hutchison, 1989) rifted from Gondwanaland in Jurassic and collided with Burma after NE-ward subduction of ocean III in E Cretaceous. Contains metamorphic rocks overlain by Triassic turbidites, overthrust by ophiolite nappe (may correlate to W Sumatra block; Barber (2005). Shan Plateau in E Myanmar with thick Precambrian- Mesozoic succession similar to W and SW Thailand (= Sibumasu; JTvG). With U. Carb- Lower Permian diamictites only in W part)

Mitchell, A.H.G. (1992)- Late Permian-Mesozoic events and the Mergui Group nappe in Myanmar and Thailand. J. Southeast Asian Earth Sci. 7, 2, p. 165-178.
(Continental Shan-Thai Block (= Sibumasu) accreted to Indochina block to E by closure of two Tethyan ocean basins, terminating in Late Norian collision with generation of anatectic granites. Lower Permian Mergui Gp diamictites and associated rocks not part of Shan-Thai until Late Triassic-E Jurassic, when they were emplaced as nappe from present W, perhaps part of E Mesozoic arc system. Subsequent emplacement of ophiolite and overlying E-facing mafic magmatic arc onto W margin of Shan-Thai-Mergui Group block in E Cretaceous was followed by polarity reversal and development of W-facing M Cretaceous- Recent Myanmar arc)

Mitchell, A.H.G. (1993)- Cretaceous- Cenozoic tectonic events in the western Myanmar (Burma)- Assam region. J. Geol. Soc., London, 150, p. 1089-1102.
(Correlation of Late Mesozoic ophiolitic rocks suggests that in Late E Cretaceous a NE-facing mafic arc was emplaced onto SE Borneo, W Sumatra, Mogok belt of W Myanmar and farther W, all then on SW margin of Asia. Reversal in tectonic polarity and E-ward subduction generated Late Cretaceous magmatic arc in W Myanmar and Sumatra. Magmatism, interrupted in latest Cretaceous, probably resumed in W Myanmar-Tibet and Sumatra arc segments in E Paleogene, again interrupted in M Eocene when E-vergent ophiolite nappe overrode Indo-Burman Ranges, deforming Lw Eocene turbidites derived from magmatic arc to E. Following renewed N and E-ward subduction of ocean floor in latest Eocene, India collided with N Myanmar and Tibet. 450km of post-E Miocene dextral displacement on Sagaing Fault and related spreading in Andaman Sea)

Mitchell, A.H.G. (2011)- Very high-grade orogenic quartz-gold vein deposits in the Permo-Carboniferous Slate belt, Central Myanmar: indications of a regional gold province? Proc. 24th Ann. Geol. Conv. Geol. Soc. Philippines (GEOCON 2011), Geology working for a resilient society, p. 57-58. *(Abstract only)*
(online: http://rwg-tag.bravehost.com/Conferences/geocon/abstracts/D2%200845-0900%20Mitchell%202.pdf)
(Gold mineralization in argillites- quartzites, overlain by U Carboniferous-Lower Permian pebbly diamictites, interpreted as glacial deposits from Gondwana. Veins are orogenic or mesothermal, probably generated by metamorphic dehydration at depths of >15 km. Textures suggest gold formation in brittle-ductile transition zone at >4km, possibly related to Late Jurassic collision in suture along E margin of Slate belt, which continues S for >2800 km nearly to Borneo)

Mitchell, A.H.G. (2017)- Geological belts, plate boundaries and mineral deposits in Myanmar. Elsevier, p. 1-509.
(Comprehensive overview of geology, mineral potential and plate tectonics of Myanmar. Several of the structural belts of Myanmar continue into SW China and NW Thailand. With chapters on petroleum occurrences in C Burma Depression by M.F. Ridd and offshore petroleum geology by A. Racey)

Mitchell, A.H.G., C.A. Ausa, L. Deiparine, T. Hlaing, N. Htay & A. Khine (2004)- The Modi Taung-Nankwe gold district, Slate belt, central Myanmar: mesothermal veins in a Mesozoic orogen. J. Asian Earth Sci. 23, 3, p. 321-341.
(*Quartz-gold veins of Modi Taung-Nankwe gold district, C Myanmar, hosted by mudstones of late Paleozoic Slate belt. Mineralization in E Jurassic following collision of Myanmar (on passive W margin of Shan-Thai continental block) with oceanic arc on overriding plate to W. Collision generated thrusting, metamorphism of Plateau rocks thrust W beneath Slate belt to form Mogok Metamorphics. Reversal in orogenic polarity initiated late Jurassic E-ward subduction of oceanic crust beneath Myanmar and generation of magmatic arc. Young radiometric ages on Mogok Metamorphic belt imply renewed Tertiary uplift or intrusion of Tertiary granites)*

Mitchell, A., S.L. Chung, T. Oo, T.H. Lin & C.H. Hung (2012)- Zircon U-Pb ages in Myanmar: magmatic-metamorphic events and the closure of a neo-Tethys ocean? J. Asian Earth Sci. 56, p. 1-23.
(Main metamorphic event in Mogok Metamorphic belt (MMB) in Myanmar pre-dated India-Asia collision. MMB and Slate belt interpreted as part of W Myanmar block, separated in Jurassic from Shan Plateau to E by SW continuation of Bangong-Nujiang-Luxi 'Neo-Tethys I' ocean. Intrusive and metamorphic events in and near MMB related to W-ward subduction of this ocean and end-Jurassic collision of Plateau with overriding W Myanmar-Slate belt block; to orogenic polarity reversal and E Cretaceous W-ward translation of Plateau sequence over suture zone; and to E-ward subduction of ancestral Indian Ocean or 'Neo-Tethys II' beneath Myanmar with generation of Wuntho-Popa arc beginning before Late Cretaceous. Main fabric-forming metamorphic event in MMB pre-dated India-Asia collision)

Mitchell, A., T. Hlaing & N. Htay (2002)- Mesozoic orogenies along the Mandalay-Yangon margin of the Shan Plateau. In: N. Mantajit (ed.) Proc. Symposium on Geology of Thailand, Bangkok 2002, Dept. Mineral Resources, p. 137-149.

Mitchell, A.H.G., T. Hlaing & N. Htay (2010)- The Chin Hills segment of the lndo-Burman Ranges: not a simple accretionary wedge. In: S. Ibotombi (ed.) Indo-Myanmar Ranges in the tectonic framework of the Himalaya and Southeast Asia, Proc. National Seminar 2008, Geol. Soc. India, Mem. 75, p. 3-24.

Mitchell, A.H.G. & M.T. Htay (2013)- The magmatic arc and the slate belt: copper-gold and tin-tungsten and gold metallotects in Myanmar. In: Proc. Symp. East Asia: Geology, exploration technologies and mines, Bali 2013, Australian Inst. Geoscient., Bull. 57, p. 66-67. *(Extended Abstract)*
(Cretaceous Popa-Loimye magmatic arc and Slate belt each host distinctive types of mineralisation and include two of Myanmar's four world- class mineral deposits (Monywa, Mawchi). Slate belt in Myanmar continues SSE for 2000km to Bangka Island in Indonesia. It consists largely of Carboniferous- E Permian mudstones or argillites and quartzites, with thick diamictite beds implying glaciation in Gondwana. Within Slate belt orogenic quartz- gold veins discovered in 1999)

Mitchell, A.H.G., M.T. Htay, C. Ausa, L. Deiparine, A. Khine & S. Po (1999)- Geological settings of gold districts in Myanmar. Proc. PACRIM 99 Int. Congress, 1999, Australasian Inst. of Mining and Metallurgy (AusIMM), Melbourne, 8p.
(Historically most lode gold production from latest Cretaceous mesothermal veins and derived placers)

Mitchell, A.H.G., M.T. Htay & K.M. Htun (2015)- The Medial Myanmar suture zone and the Western Myanmar- Mogok foreland. J. Myanmar Geosciences Soc. 6, 1, p. 73-88.
(Mesotethys suture in Myanmar?)

Mitchell, A.H.G., M.T. Htay, K.M. Htun, M.N. Win, T. Oo & T. Hlaing (2007)- Rock relationships in the Mogok metamorphic belt, Tatkon to Mandalay, central Myanmar. J. Asian Earth Sci. 29, p. 891-910.
(Mogok metamorphic belt >1450 km long, up to 40 km wide, along W margin of Shan Plateau in C Myanmar and continuing N to E Himalayas. At least two metamorphic events, one before and one after intrusion of Late Jurassic- E Cretaceous calc-alkaline rocks)

Mitchell, A.H.G., W. Myint, K. Lynn, M.T. Htay, Maw Oo & T. Zaw (2011)- Geology of the high sulfidation copper deposits, Monywa Mine, Myanmar. Resource Geology 61, 1, p. 1-29.
(Monywa copper district near Chindwin River, 50 km2, in N-ward continuation of Sunda-Andaman magmatic arc through W Myanmar. Ore hosted by M Miocene andesite or dacite porphyry intrusions and early M Miocene sandstone and overlying volcaniclastics)

Morley, C.K. (2017)- Syn-kinematic sedimentation at a releasing splay in the northern Minwun Ranges, Sagaing Fault zone, Myanmar: significance for fault timing and displacement. Basin Research 29, S1, p. 684-700.

(Sagaing Fault zone largest active fault in SE Asia, with displacement rate of ~1.8 cm/yr established from GPS data. Newly identified syn-kinematic extensional basin related to displacement on Sagaing Fault in N Minwun Ranges may help constrain the timing and displacement along N part of Sagaing Fault)

Mukhopadhyay, M. & S. Dasgupta (1988)- Deep structure and tectonics of the Burmese Arc: constraints from earthquakes and gravity data. Tectonophysics 149, p. 299-322.
(Active subduction of Indian plate beneath Burmese arc along E- dipping Benioff zone to depth of ~180 km)

Myint, L. (2016)- A synthesis of Myanmar petroleum geology and potential. Second AAPG/EAGE/MGS Conf. Innovation in Geoscience: unlocking the complex geology of Myanmar, Yangon 2015, Search and Discovery Art. 30453, 30p. *(Abstract + Presentation)*
(online at: www.searchanddiscovery.com/documents/2016/30453myint/ndx_myint.pdf)
(Myanmar with numerous surface oil seeps and one of oldest known oil producing countries in world. In Indian- Eurasian Plates collision zone, with three types of plate boundaries: (1) convergent plate boundary (subduction) between Indian Oceanic and continental Burma Plate; (2) continent-continent boundary between Burma Plate- Eurasia plate in N; (3) transform boundary in E between Eurasia, Sunda and Burma plates)

Myint, L. (2017)- Speculative Pre-Tertiary petroleum systems and play types of Myanmar. AAPG/EAGE/ MGS 3rd Oil & Gas Conf., Yangon 2017, Search and Discovery Art. 30516, 25p. *(Abstract + Presentation)*
(online at: www.searchanddiscovery.com/documents/2017/30516myint/ndx_myint.pdf)
(Oil and gas in Myanmar currently limited to Tertiary petroleum systems, with bionic gas in Plio-Pleistocene reservoirs, thermogenic oil and gas in Eocene- Miocene reservoirs. Potential pre-Tertiary hydrocarbon plays in sizable Pre-Tertiary basins of Eastern Highlands)

Myint L. Thein (1973)- The Lower Paleozoic stratigraphy of Western part of the southern Shan States, Burma. Bull. Geol. Soc. Malaysia 6, p. 143-163.
(online at: www.gsm.org.my/products/702001-101349-PDF.pdf)
(Cambrian- Silurian stratigraphy of area SE of Mandalay, S Shan State, E Myanmar. Incl. basal Silurian Orthoceras Beds, Silurian graptolite shales (Monograptus, Climacograptus) and Tentaculites beds))

Myint Thein (1991)- On the lateral displacement of the Sagaing Fault. Georeports, Yangon University, p. 23-34.

Myint Thein (2015)- The Pre-Tertiary carbonate rocks exposed at the NE margin of the Central Myanmar Basin and their development history. J. Myanmar Geosciences Soc. 6, p. 1-22.
(Barber et al. 2017:) Permian limestone slivers in Sagaing fault zone and associated with ophiolites of C Ophiolite belt interpreted as displaced from W margin of Shan Plateau (but with 'Cathaysian' fusulinids??))

Myint Thein (2017)- Current tectonic activity along the Sagaing Fault, Myanmar indicated by alluvial fans. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics. Geol. Soc., London, Memoir 48, Chapter 20, p. 443-452.
(Young alluvial fans and fanglomerates along Sagaing fault zone commonly displaced laterally relative to source areas. Sediments on E side of fault mainly (tilted) Upper Irrawaddy series fluvial-alluvial sediments, locally with rich Lower Pleistocene vertebrate faunas equivalent of Djetis fauna of C Java. Younger fans mainly on W side of fault))

Myint Thein & M. Maung (2017)- The Eastern (Back-arc) Basin of Central Myanmar: Basement rocks, lithostratigraphic units, palaeocurrents, provenance and developmental history. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics. Geol. Soc., London, Memoir 48, Chapter 8, p. 169-183.
(On eastern part of Central Myanmar Basin on W Myanmar Block. Lower Eocene- Pliocene sediments unconformably over U Paleozoic carbonates/ Mesozoic ophiolitic sediments in E, and igneous rocks of Wuntho Salingyi Mesozoic arc in W. Sediment source from N)

Naing Maw Than, Kyi Khin & Myint Thein (2017)- Cretaceous geology of Myanmar and Cenozoic geology in the Central Myanmar Basin. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 7, p. 143-167.
(Review of stratigraphy of Cretaceous sediments in different tectonic belts of Myanmar. Thick Lower Cretaceous- Cenozoic succession in Myanmar Central Basin)

Naing, T.T., D.A. Bussien, W.H. Winkler, M. Nold & A. von Quadt (2014)- Provenance study on Eocene-Miocene sandstones of the Rakhine Coastal Belt, Indo-Burman Ranges of Myanmar: geodynamic implications. In: R.A. Scott et al. (eds.) Sediment provenance studies in hydrocarbon exploration and production. Geol. Soc., London, Spec. Publ. 386, p. 195-216.
(Indo-Burman Ranges accretionary wedge, resulting from subduction of Indian plate beneath Asian plate. Rakhine Coastal Belt thick stack of Cretaceous to Neogene turbiditic sediments and local thrust sheets of oceanic mafics and pelagic sediments. Eocene–Miocene sandstones provenance mainly from: (1) Late Cretaceous- Oligocene igneous rocks and (2) recycled orogenic terrane sources comprising ophiolitic rocks, from Burman margin and arc)

Nakazawa, T., K. Ueno & X. Wang (2009)- Sedimentary facies of Carboniferous- Permian mid-oceanic carbonates in the Changning-Menglian Belt, West Yunnan, Southwest China: origin and depositional process. Island Arc 18, 1, p. 94-107.
(Huge E Carboniferous- Late Permian (Visean-Lopingian) carbonate bodies on basaltic basement in Changning-Menglian Belt, W Yunnan. No terrigenous siliciclastic material. Formed on isolated, subsiding mid-oceanic island probably of hotspot origin. Shallow-water carbonate platform and relatively deep-water carbonate slope facies developed contemporaneously)

Nandy, D.R. (1986)- Geology and tectonics of Arakan Yoma; a reappraisal. In: G.H. Teh & S. Paramananthan (eds.) Proc. 5th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA V), Kuala Lumpur 1984, 2, Bull. Geol. Soc. Malaysia 20, p. 137-148.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1986b08.pdf)
(Brief review of Arakan-Yoma zone of Indo-Burman Orogen, W Myanmar)

Ng, Y.N., G.H. Shi & M. Santosh (2016)- Titanite-bearing omphacitite from the Jade Tract, Myanmar: Interpretation from mineral and trace element compositions. J. Asian Earth Sciences 117, p. 1-12.

Ni, J.F., M. Guzman-Speziale, M. Bevis, M., W.E. Holt, T.C. Wallace & W.R. Seager (1989)- Accretionary tectonics of Burma and the three-dimensional geometry of the Burma subduction zone. Geology 17, 1, p. 68-71.
(Geometry of Burma Wadati-Benioff zone determined from earthquake hypocenters. Dip varies from ~50° in N near E Himalayan syntaxis to ~30° in Bay of Bengal area)

Ni, Y., T. Chen, C. Cai, G. Li, Y. Duan & J. Wang (1982)- The Silurian rocks in Western Yunnan. Acta Palaeontologica Sinica 21, p. 119-132.

Nie, X., Q. Feng, I. Metcalfe, A.T. Baxter & G. Liu (2016)- Discovery of a Late Devonian magmatic arc in the southern Lancangjiang zone, western Yunnan: geochemical and zircon U-Pb geochronological constraints on the evolution of Tethyan ocean basins in SW China. J. Asian Earth Sci. 118, p. 32-50.
(Geochemistry and U-Pb zircon ages of Nanguang Fm volcanogenic sediments from S Lancangjiang zone in W Yunnan (= W margin of Simao/ Indochina plate) suggest as yet unidentified Late Devonian (~380-360 Ma) subduction-related magmatic arc. Either continuation of Late Ordovician- Silurian 'Proto-Tethyan' subduction or initial stage of Paleo-Tethyan Lincang Arc, i.e. subduction of Changning-Menglian ocean beneath Simao/ Indochina Block in Late Devonian)

Niko, S. & M. Sone (2014)- Actinocerid cephalopods from the Ordovician of Myanmar, and their paleobiogeographic implications for Northern Gondwana. Paleontological Reserach 18, 2, p. 94-103.
(online at: https://umexpert.um.edu.my/file/publication/00011532_97674.pdf)

(Actinocerid cephalopod fauna from shallow marine limestones in W Shan Plateau, Myanmar (=Sibumasu Block), with Ordosoceras, Armenoceras, Paratunkuskoceras and Wutinoceras moeseini. Strong link with N China during E-M Ordovician time; Sibumasu affinity to coeval Australian fauna less definable)

Niko, S. & M. Sone (2015)- Gondwanan nautiloid cephalopods from the Ordovician of Myanmar. Paleontological Research 19, 4, p. 288-293.
(Two late M Ordovician nautiloids from Wunbye Fm in Shan Plateau of Myanmar (= Sibumasu Block): orthocerid Sibumasuoceras langkawiense (Kobayashi) and discosorid Tasmanoceras sp. Sibumasuoceras known only from Malaysia and Myanmar of Sibumasu Block. Tasmanoceras previously known only in Tasmania, implying Ordovician marine biotic linkage between Sibumasu and Tasmania)

Ningthoujam, P.S., C.S. Dubey, S. Guillot, A.S. Fagion & D.P. Shukla (2012)- Origin and serpentinization of ultramafic rocks of Manipur Ophiolite complex in the Indo-Myanmar subduction zone, Northeast India. J. Asian Earth Sci. 50, p. 128-140.
(Manipur-Nagaland ophiolite belt in Indo-Myanmar Ranges formed by collision between India and Myanmar continental plates. Dismembered ophiolite sequence of U Cretaceous- Lower Eocene age overlain by E-M Eocene oceanic pelagics, probably created at slow-spreading ridge, rather than supra-subduction-zone setting. Obducted and incorporated into Indo-Myanmar suture zone. Indo-Myanmar Ranges mainly composed of Late Cretaceous-Paleogene marine sediments, unconformably overlying U Triassic flysch-type sediments and associated ophiolite rocks)

Noetling, F. (1893)- Note on the occurrence of jadeite in Upper Burma. Records Geol. Survey India 26, p. 26-31.
(online at: http://pahar.in/wpfb-file/1893-records-of-geological-survey-of-india-vol-26-pdf/)
(Brief report of first visit of western geologist to jade mines in NE Myanmar)

Noetling, F. (1896)- Uber das Vorkommen von Jadeit in Ober-Birma. Neues Jahrbuch Mineral. Geol. Palaont., 1896, 1, p. 1-17.
(online at: https://babel.hathitrust.org/cgi/pt?id=mdp.39015068271041;view=1up;seq=45)
('On the occurrence of jadeite in Upper Burma')

Noetling, F. (1889)- Report on the oil fields of Twingoung and Beme, Burma. Records Geol. Survey India 22, 2, p. 75-136.
(online at: http://pahar.in/wpfb-file/1889-records-of-geological-survey-of-india-vol-22-pdf/)

Noetling, F. (1897)- The occurrence of petroleum in Burma and its technical exploration. Mem. Geol. Survey India, 27, 2, p. 47-272.
(online at: https://books.googleusercontent.com/books/...)
(Oilfields, mud volcanoes, etc.. See also Pascoe 1912)

Noetling, F. (1900)- The Miocene of Burma. Verhandelingen Kon. Akademie Wetenschappen, Amsterdam (2), 7, 2, p. 1-131.
(online at: https://books.googleusercontent.com/books/...)

Nyunt, M. & S. Lwin (1997)- Tectonic setting and hydrocarbon occurrence in the Central Myanmar Tertiary belt. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Petroleum systems of SE Asia and Australasia Conf., Indon. Petroleum Assoc. (IPA), Jakarta 1997, p. 319-333.
(Onshore C Myanmar Tertiary Basin 1300km long, 200km wide depression, which originated in Eocene as array of pull-apart rift segments along oceanic-cratonic transform zone between Indian and SE Asian lithospheric plates (influenced by oblique subduction of Indian oceanic crust beneath SE Asian craton and dextral slip along intra cratonic Sagaing transform fault). Proven reservoirs mainly Oligo-Miocene sandstones. Oils derived from Tertiary land plant material)

Nyunt, Thet Tin, H.J. Massonne & Tay Thye Sun (2017)- Jadeitite and other high-pressure metamorphic rocks from the Jade Mines Belt, Tawmaw area, Kachin State, northern Myanmar. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 13, p. 295-315.
(World's largest jadeite ($NaAlSi_2O_6$) deposit, with highest-quality jade, in Pharkant-Tawmaw Jade Mines Belt in N part of C Myanmar basin. N-S trending belt. Jadeitite in serpentinite melange, probably formed in subduction zone environment. Associated with albitites, chlorite schists, garnet-mica schists, graphite schists, glaucophane and epidote schists and amphibolite. Timing of jadeite formation still controversial: original oceanic crust may have formed in M Jurassic (163 Ma zircon age), ~146 ma (Late Jurassic) zircons may reflect age of subduction and high-P metamorphism. Rapid exhumation required for jadeite preservation)

Oo, T., T. Hlaing & N. Htay (2002)- Permian of Myanmar. J. Asian Earth Sci. 20, 6, p. 683-689.
(Permian 'Plateau Limestone' with minor basal clastics widespread on Shan Plateau in E and S Myanmar. Thitshipin Lst three fusulinid biozones (1) Pseudoschwagerina (early E Permian, also with Pseudofusulina, Pseudofusulinella), (2) Parafusulina (late E Permian, with P. cf. kattaensis), (3) Neoschwagerina- Verbeekina (early Late Permian; with Yangchienia, Schubertella, Tetrataxis and Polydiexodina). Overlying Nwabangyi Lst of Paleofusulina- Codonofusiella zone (Late Permian, also with Hemigordius renzi, Shanita amosi, etc.) Unconformable over Devonian silicicarbonates in Shan State, and Carboniferous meta-siliciclastics in other areas and suggest Permian limestones were deposited after emplacement of Mergui Terrane onto S margin of Shan-Thai Block, when Shan-Thai Block was in S hemisphere)

Ovung, T.N., J. Ray, X. Teng, B. Ghosh, M. Paul, P. Ganguly, S. Sengupta & S. Das (2017)- Mineralogy of the Manipur Ophiolite Belt, North East India: implications for mid-oceanic ridge and supra-subduction zone origin. Current Science 112, 10, p. 2122-2129.
(online at: www.currentscience.ac.in/Volumes/112/10/2122.pdf)
(In Indo-Myanmar Ranges ophiolitic rocks in two parallel belts along E margin of Indian plate: (1) E belt through C Myanmar, Sumatra and Java; (2) W belt through Nagaland, Manipur, W Myanmar and Andaman islands. Wide compositional gap in Cr and Mg content of spinel in mantle peridotites of W Belt Manipur Ophiolite Belt implies upper mantle melting in different tectonic settings: (1) mid-oceanic ridge (MOR) origin for high-Al spinel peridotites and (2) supra-subduction zone origin for high-Cr spinel peridotites)

Pal, T., A. Bhattacharya, G. Nagendran, N. Yanthan, R. Singh & N. Raghumani (2014)- Petrogenesis of chromites from the Manipur ophiolite belt, NE India: evidence for a supra-subduction zone setting prior to Indo-Myanmar collision. Mineralogy and Petrology 108, 5, p. 713-726.
(Manipur ophiolite belt in W Ophiolite Belt of Indo-Myanmar Ranges consists of serpentinised peridotite, dykes, volcanic rocks and pelagic sediments. Compositions of magmatic chromites suggest ophiolite formed in supra-subduction zone setting)

Pascoe, E.H. (1912)- The oil fields of Burma. Mem. Geol. Survey India, Calcutta, 40, 1, p. 1-269.

Pascoe, E.H. (1965)- Manual of the geology of India and Burma, 3rd Edition, 3 vols. Government of India Press, Calcutta, p. 1-2363.

Paumard, V., E. Zuckmeyer, R. Boichard, S.J. Jorry, J. Bourget, J. Borgomano, T. Maurin & J.N. Ferry (2017)- Evolution of Late Oligocene - Early Miocene attached and isolated carbonate platforms in a volcanic ridge context (Maldives type), Yadana field, offshore Myanmar. Marine Petroleum Geol. 81, p. 361-387.
(Stratigraphic evolution of Late Oligocene- E Miocene (Aquitanian) carbonate platforms of Yadana High, offshore Myanmar (N of Andaman spreading zone). Seven seismic sequences in three stages: (1) Chattian development of aggrading attached and isolated platforms; (2) platform emersion at Oligo- Miocene transition; (3) Aquitanian drowning of small buildup and km-scale backstepping on large platforms (3DF and Yadana). Aquitanian onset of renewed volcanic activity, followed by development of ~300-850m thick Burdigalian fringing carbonate reefs in ~6 My. Platforms developed on volcanic ridge of hotspot origin in Indian Ocean, not part of volcanic arc)

Peng, T., Y. Wang, G. Zhao, W. Fan & B. Peng (2008)- Arc-like volcanic rocks from the southern Lancangjiang zone, SW China: geochronological and geochemical constraints on their petrogenesis and tectonic implications. Lithos 102, p. 358-373.
(Triassic volcanic rocks in C part of San-Jiang orogenic belt, SW China, mainly in E segment of Lancangjiang zone. Interpreted as products of subduction during closure of Paleo-Tethys. Mainly andesites with minor basaltic andesites. Andesite zircon age of 248.5±6.3 Ma (E Triassic), and similar to typical subduction-related arc volcanic rocks. Associated with M-Triassic (~230 Ma) syn-collision granites, andesites in S Lancangjiang zone viewed as E Triassic continental margin volcanic arc rocks, suggesting Paleo-Tethyan Ocean not closed until M Triassic continent- continent or continent- arc collision)

Peng, T., S.A. Wilde, Y. Wang, W. Fan & B. Peng (2013)- Mid-Triassic felsic igneous rocks from the southern Lancangjiang Zone, SW China: petrogenesis and implications for the evolution of Paleo-Tethys. Lithos 168-169, p. 15-32.
(SW Lancangjiang magmatic belt in SW China mainly composed of Lincang batholith and Mesozoic volcanic belt with abundant rhyolites. Zircon U-Pb results define emplacement ages for large Lincang batholith at ~230 Ma and ~220 Ma (just E of Changning-Mengliang suture zone). M-Triassic magmatism was generated in post-collisional tectonic setting, possibly tied to slab breakoff, resulting in post-collisional extension and asthenospheric upwelling that induced melting of middle-lower crust to produce felsic magma. This post-collisional magmatism indicates continent-continent/arc collision between Gondwana-derived Sibumasu and Indochina blocks was completed by early M Triassic)

Pilgrim, G.E. (1925)- The Perissodactyla of the Eocene of Burma. Palaeontologia Indica, N.S., 8, p. 1-28.
(One of early discoveries of M Eocene mammals in Myanmar: a rhinocerotoid hoofed mammal)

Pilgrim, G. E. (1928)- The Artiodactyla of the Eocene of Burma. Paleontologia Indica 13, p. 1-39.

Pilgrim G.E. & P. de Cotter (1916)- Some newly discovered Eocene mammals from Burma. Records Geol. Survey India, 47, p. 42-77.

Pivnik, D.A., J. Nahm, R.S. Tucker, G.O. Smith, K. Nyein, M. Nyunt & P.H. Maung (1998)- Polyphase deformation in a fore-arc/back-arc basin, Salin subbasin, Myanmar (Burma). American Assoc. Petrol. Geol. (AAPG) Bull. 82, 10, p. 1837-1856.
(Salin subbasin of Myanmar is fore-arc/back-arc basin couplet between oblique subduction zone to W and right-lateral strike-slip fault to E. NNW-directed extensional basin in Miocene, followed by ENE–directed Plio-Pleistocene transpressional deformation. In S part of basin Miocene thickens over 20°N and Yedwet uplifts, suggesting NNW striking faults that bound them represent Plio-Pleistocene inversion of Miocene normal faults)

Qi, M. H. Xiang, Z.Q. Zhong, H.N. Qiu, H. Wang, X.L. Sun & B. Xu (2013)- 40Ar/39Ar geochronology constraints on the formation age of Myanmar jadeitite. Lithos 162-163, p. 107-114.
(First direct 40Ar/39Ar dating of Myanmar jadeite from yielded plateau age of 123.9 ± 3.4 Ma, sodic-calcic amphibole associated with jadeite plateau age of 134.8 ± 1.4 Ma, and sodic amphibole of late amphibole rock plateau age of 92.7 ± 1.2 Ma. Indicate jadeitite formed during E Cretaceous from (135 Ma) high- P metasomatism, then experienced late Cretaceous (93 Ma) HP metasomatism)

Racey, A. (2017)- Petroleum exploration offshore Myanmar: history and future potential. In: Proc. SE Asia Petrol. Expl. Soc (SEAPEX) Exploration Conf. 2017, Singapore, Session 1, 4p. *(Extended Abstract)*
(Brief review of hydrocarbon exploration offshore Myanmar since 1969. Currently four producing gas fields (Zawtika, Shwe/Shwe Phyu/Mya, Yadana, Yetagun) with Aung Sinkha field under development)

Racey, A. (2017)- Exploration history and petroleum geology of offshore Myanmar. In: A.H.G. Mitchell, Geological belts, plate boundaries and mineral deposits in Myanmar, Elsevier, Chapter 12, p. 391-431.

Racey, A. & M.F. Ridd (2015)- Petroleum geology of Myanmar. Geol. Soc., London, Mem. 45, p. 1-118.

(Review of onshore and offshore petroleum geology of Myanmar and adjoining basins, in 11 chapters by Racey & Ridd and Ridd & Racey)

Racey, A. & M.F. Ridd (2015)- Myanmar offshore petroleum overview. In: A. Racey & M.F. Ridd (eds.) Petroleum geology of Myanmar, Chapter 6, Geol. Soc., London, Mem. 45, p. 57-62.
(Myanmar offshore petroleum exploration since 1972, with main regions Rakhine (=Ganges-Brahmaputra delta), Moattama and Tanintharyi (=Ayeyerwaddy Delta). Mainly gas fields, with main discoveries Zawtika (2.05 Tcf), Shwe/ShwePhyu/Mya (4.09 Tcf biogenic gas in distal Bengal Fan), Yadana (2.89 Tcf in E Miocene carbonates in forearc basin setting) and Yetagun (1.5 Tcf,41 MMb condensate, thermogenic)

Racey, A. & M.F. Ridd (2015)- Petroleum geology of the Moattama region, Myanmar. In: A. Racey & M.F. Ridd (eds.) Petroleum geology of Myanmar, Chapter 6, Geol. Soc., London, Mem. 45, p. 63-81.
(Offshore Moattama Region dominated by Martaban Basin, between Yadana- M8 highs in W and Tanintharyi Shelf in E. Late Oligocene- E Miocene carbonate platform of Yadana- M8 highs (with Yadana and smaller gas fields) overlies volcanic arc basement, and is overlain by thin U Miocene- Recent clastics from ancestral Ayeyarwady River. In C part of Martaban Basin area thick Miocene clastics from ancestral Ayeyarwady and Thanlwin Rivers (with Zawtika biogenic gas field))

Racey, A. & M.F. Ridd (2015)- Petroleum geology of the Tanintharyi region, Myanmar. In: A. Racey & M.F. Ridd (eds.) Petroleum geology of Myanmar, Chapter 8, Geol. Soc., London, Mem. 45, p. 83-91.

Racey, A. & M.F. Ridd (2015)- Petroleum geology of the Rakhine region, Myanmar. In: A. Racey & M.F. Ridd (eds.) Petroleum geology of Myanmar, Chapter 9, Geol. Soc., London, Mem. 45, p. 93-108.
(Rakhine Basin off NW Myanmar (with Shwe gas field) also extends onshore under Rakhine coastal lowlands (with small oil fields). Rakhine Coastal Lowlands represents S-ward extension of hydrocarbon-bearing regions of Assam and E Bangladesh. Structurally complex onshore and offshore shelf area separated from poorly structured deepwater area by dextral trench-parallel shear fault system which represents boundary between India Plate in W and Burma Platelet in E)

Rangin, C. (2017)- Active and recent tectonics of the Burma Platelet in Myanmar. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, p. 53-64.
(Burma Platelet covers W part of Myanmar, between Indian Plate/ Bengal Basin in W and Sunda Plate in E. Boundaries are active Sagaing dextral strike-slip fault in E, and debatable Bengal Basin subduction zone in W. Non-rigid sliver plate with several right-lateral shear zones accommodated N-ward India/Sunda dextral wrench movement, with hyper-oblique convergence since E Cenozoic)

Rangin, C., T. Maurin & F. Masson (2013)- Combined effects of Eurasia/Sunda oblique convergence and East Tibetan crustal flow on the active tectonics of Burma. J. Asian Earth Sci. 76, p. 185-194.
(Deformation of India/ Sunda plate result of partitioned oblique convergence. Sub-meridian dextral strike slip faulting accommodates India/Sunda motion in buffer zone (Burma platelet). This wide dextral strike slip shear zone is complicated by side effect of Tibet plateau collapse. Apparent E-W shortening component of hyper-oblique subduction is only effect of regional gravitational forces related to Tibet plateau collapse whereas N-S strike slip faulting accommodates India/Sunda motion)

Rao, R.B.S.T.R. (1930)- The geology of the Mergui District. Geol. Survey India Mem. 55, p. 1-62.
(Early description of Carboniferous- Permian Mergui series of S Myanmar, with probable diamictites, overlain by Permian Moulmein Limestone with Schwagerina, Lonsdaleia salinaria, Productus sumatrensis, etc.)

Ridd, M.F. (2017)- Central Burma Depression and its petroleum occurrences. In: A.H.G. Mitchell, Geological belts, plate boundaries and mineral deposits in Myanmar, Elsevier, Chapter 12, p. 325-349.
(Synopsis of Ridd & Racey (2015) papers. All Myanmar onshore oil-gas fields are in 1200km long Central Burma Depression. Possibly oldest oil production/ mining in world. N-S trending basin with up to 15,000m of U Cretacous- Pleistocene sediments. Most productive fields Yenangyaung, Chauk and Yenangyat)

Ridd, M.F. (2017)- Karen-Tenasserim Unit. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 16, p. 365-384.
(Fault-bounded, N-S trending Karen-Tenasserim Unit of Bender (1983) W of Shan Plateau in southern Central Myanmar is direct continuation of 'Phuket -Slate Belt Terrane' of Ridd (2009) in Peninsular Thailand (and Tengchong Block to N?). With metamorphic rocks (incorrectly called Mogok Metamorphics), overlain by thick U Paleozoic Mergui Gp with intervals of ?Carboniferous- E Permian glacial diamictites and Permian 'Moulmein Limestone' (= Ratburi Lst of Peninsular Thailand; at Myeik/Mergui archipelago of S Myanmar with Lonsdaleia, Schwagerina, Productus sumatrensis, etc.). Aso with common granitoid intrusions. Often viewed as W part of Sibumasu Block, but interpreted as separate 'Phuket Terrane' or 'Irrawaddy block' (Mitchell 2012, 2015, Ridd 2016) (but no ophiolites found yet between them)

Ridd, M.F. & A. Racey (2015)- Introduction to the petroleum geology of Myanmar. In: A. Racey & M.F. Ridd (eds.) Petroleum geology of Myanmar, Chapter 1, Geol. Soc., London, Mem. 45, p. 1-6.
(Oil and gas produced in Myanmar from Cenozoic sediments in 1200 km-long Central Burma Depression and in Andaman Sea offshore)

Ridd, M.F. & A. Racey (2015)- Regional tectonic setting of Myanmar's petroleum basins. In: A. Racey & M.F. Ridd (eds.) Petroleum geology of Myanmar, Chapter 2, Geol. Soc., London, Mem. 45, p. 7-12.
(Petroleum-bearing parts of Myanmar in west of country, with geology dominated by oblique collision between continental Sunda (Sibumasu and (W) Burma Plate) Plate in E and N-moving India Plate in W. Sagaing Fault separates W Burma Platelet from Sunda Plate to E. W Burma probably continuation of Woyla terranes of Sumatra, which collided with W side of Sibumasu in Late Jurassic- E Cretaceous)

Ridd, M.F. & A. Racey (2015)- Onshore petroleum geology of Myanmar: Central Burma Depression. In: A. Racey & M.F. Ridd (eds.) Petroleum geology of Myanmar, Chapter 4, Geol. Soc., London, Mem. 45, p. 21-50.
(All of Myanmar's commercial onshore oil- gas fields in Cenozoic of C Burma Depression. Seven sub-basins. Southern region contains all currently producing fields)

Ridd, M.F. & A. Racey (2015)- Frontier onshore petroleum basins of Myanmar. In: A. Racey & M.F. Ridd (eds.) Petroleum geology of Myanmar, Chapter 5, Geol. Soc., London, Mem. 45, p. 51-55.

Rietschel, S. & M.H. Nitecki (1984)- Ordovician receptaculid algae from Burma. Palaeontology 27, 2, p. 415-420.
(online at: http://cdn.palass.org/publications/palaeontology/volume_27/pdf/vol27_part2_pp415-420.pdf)
(Fischerites burmensis n.sp. from M Ordovician Wunbye Fm in W part of S Shan State (first receptaculid described from SE Asia) (second is from W Thailand?; Kruse 1989))

Roeder, T. (2015)- Using detrital zircon geochronology to unravel the history of the Naga Hills Ophiolite. M.Sc. Thesis, University of Sydney, p. 1-76.
(online at: https://ses.library.usyd.edu.au/handle/2123/13535)
(Naga Hills with dismembered Neotethyan ophiolite suite, assigned Late Jurassic age based on radiolaria from red cherts above ophiolite (Baxter et al., 2011). Naga Hills Ophiolite unconformably overlain by India-derived Phokphur Fm polymict conglomerates (incl. ophiolite debris), with detrital zircon peak ages Jurassic (190-200), Permo-Triassic (200-300 Ma), Cambrian, Mesoproterozoic (~1000-1200 Ma) and Archean (~2700- 2750 Ma), suggestive of SW Australian provenance. Youngest zircon ages 90 Ma (=maximum age of Naga ophiolite emplacement)

Qiu, Z.L., F.Y. Wu, S.F. Yang, M. Zhu, J.F. Sun & P. Yang (2009)- Age and genesis of the Myanmar jadeite: constraints from U-Pb ages and Hf isotopes of zircon inclusions. Chinese Science Bull. 54, 4, p. 658-668.
(U-Pb ages of zircons in Myanmar jadeite from collisional belt between India- Eurasia plates 158 ± 2 Ma (Late Jurassic). Jadeite formation not genetically related to collision of India- Eurasia continental plates)

Saing, U.C. (2003)- Evolution of Neogene Basins in Myanmar. In: B. Ratanasthien et al. (eds.) Pacific Neogene paleoenvironments and their evolution, 8th Int. Congress on Pacific Neogene Stratigraphy, Chiang Mai, 2003, p.

Sarkar, A., A.K. Datta, B.C. Poddar, B.K. Bhattacharyya, V.K. Kollapuri & R. Sanwal (1996)- Geochronological studies of Mesozoic igneous rocks from eastern India. J. Southeast Asian Earth Sci. 13, p. 77-81.
(Variety of Mesozoic basaltic and alkaline igneous rocks on E margin of Indian shield. Igneous rock suites from Meghalaya-Nagaland region with K-Ar ages of 149-107 Ma (Late Jurassic-E Cretaceous). Mantle upwelling in extensional tectonic regime related to fragmentation of Indian plate from Australia-Antarctica in E Cretaceous main trigger for magmatic activity. Includes latest Jurassic age of 148± 4 Ma for basalts of Nagaland Ophiolite Complex)

Satyabala, S.P. (2003)- Oblique plate convergence in the Indo-Burma (Myanmar) subduction region. Pure Applied Geophysics 160, 9, p. 1611-1650.
(Indo-Burma (Myanmar) subduction boundary highly oblique to direction Indian plate motion relative to Eurasian plate.Area includes Wadati-Benioff zone of earthquakes, magmatic arc, fold-thrust belts. Also oblique subduction features-like arc-parallel strike-slip fault (Sagaing Fault) and buttress (Mishmi block) that resists the motion of fore-arc sliver. Study of earthquakes consistent with model of M Miocene- Recent E-ward subduction, volcanic activity and transcurrent movement)

Searle, D.L. & B.T. Haq (1964)- The Mogok belt of Burma and its relationship to the Himalayan orogeny. In: G. Kohli et al. (eds.) Himalayan and Alpine orogeny, Proc. 22nd Int. Geological Congress, India 1964, 11, p. 132-161.

Searle, M.P. (2006)- Role of the Red River shear zone, Yunnan and Vietnam, in the continental extrusion of SE Asia. J. Geol. Soc., London, 163, p. 1025-1036.
(1000km long Ailao Shan-Red River fault zone from SE Tibet to Gulf of Tonkin and S China Sea. Left-lateral strike-slip shearing along Red River shear zone started after 21 Ma, not 35 Ma as previously thought, and fault was purely crustal structure. None of geological features used to propose 500-1000 km offsets are robust, and total offset remains unknown (but see also Tang et al. 2012; JTvG))

Searle, M.P., C.K. Morley, D.J. Waters, N.J. Gardiner, U Kyi Htun., T.T. Nu & L.J. Robb (2017)- Tectonic and metamorphic evolution of the Mogok Metamorphic and Jade Mines Belts and ophiolitic terranes of Burma (Myanmar). In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 12, p. 261-293.
(Mogok High-T Metamorphic terrane along W margin of Sibumasu/ Shan Plateau in Myanmar (Burma) thought to be S-ward continuation of Lhasa block of S Tibet. S of Burma MMB may extend into tin granite province of Mergui coast and S to Phuket. MMB has little in common with Western granite belt of peninsula Malaysia, dominated by Triassic tin-bearing biotite granites. Includes Jade Mines Belt (ophiolitic mantle rocks subjected to high-P metamorphism). Peak metamorphism time ~M-L Eocene (~43-33 Ma), rapid exhumation in late E Miocene (~16-22 Ma))

Searle, M.P., S.R. Noble, J.M. Cottle, D.J. Waters, A.H.G. Mitchell, Tin Hlaing & M.S.A. Horstwood (2007)- Tectonic evolution of the Mogok metamorphic belt, Burma (Myanmar) constrained by U-Th-Pb dating of metamorphic and magmatic rocks. Tectonics 26, 3, p. 1-24.
(online at: http://onlinelibrary.wiley.com/doi/10.1029/2006TC002083/epdf)
(Mogok metamorphic belt of Birma extends >1500 km along W margin of Shan-Thai block. Previous geochronology suggested long-lasting Jurassic- E Cretaceous subduction-related event with emplacement of granodiorites and orthogneisses (171-120 Ma) and poorly constrained Tertiary metamorphic event. New U-Pb isotope data suggest two Tertiary metamorphic events affecting MMB: (1) Paleocene ~59 Ma and (2) Late Eocene- Oligocene (at least from 37 (47?)- 29 Ma))

Sengupta, S., S.K. Acharyya, H.J. van den Hul & B. Chattopadhyay (1989)- Geochemistry of volcanic rocks from the Naga Hills Ophiolites, northeast India and their inferred tectonic setting. J. Geol. Soc., London, 146, p. 491-498.
(Highly disrupted and deformed slices of ophiolitic rocks occur in linear belt in Nagaland and Manipur, known as the Naga Hills Ophiolites. Principal rock types dunite, harzburgite, lherzolite, wehrlite, pyroxenite and mafic volcanics. Volcanics low-Ti and high-Ti groups, probably not cogenetic. Low-Ti group overlapping Mid-Ocean Ridge Basalt and island arc-like characteristics, and possibly suggest back-arc basin setting. High-Ti group similarities with within-plate basalts erupted at off-axis seamounts)

Sengupta, S., K.K. Ray, S.K. Acharyya & J.B. de Smeth (1990)- Nature of ophiolite occurrences along the eastern margin of the Indian Plate and their tectonic significance. Geology 18, p. 439-442.
(U Mesozoic- Lower Eocene ophiolitic rocks in two parallel belts along E margin of Indian plate: (1) E belt: C Burma, Sumatra and Java, with gravity highs from steeply dipping mafic rocks, and denotes line of subduction prior to M Eocene (root zone of Cretaceous-Paleocene oceanic crust?) (2) W belt: Nagaland, Manipur, W Burma, and Andaman, flanked toE by negative gravity anomaly zone, with rootless subhorizontal ophiolites overlying Eocene-Oligocene flysch of Indo-Burmese Range (W-propagating ophiolite nappes from E belt during late Oligocene terminal collision of Indian and Eurasian continental blocks) (but associated with M Eocene ophiolite-derived clastics?). Late Oligocene unconformity in entire region Ophiolite occurrences in Andaman and Mentawai islands belong to W belt; generally linked with active subduction W of island arc, but subduction began only in Late Miocene and could not have produced ophiolites emplaced much earlier)

Sevastjanova, I., L. Wilson, P. Markwick, C. Davies, A. Quallington & M. Harland (2016)- A source-to-sink study in Myanmar: implications for exploration. AAPG Geoscience Techn. Workshop Characterization of Asian hydrocarbon reservoirs, Bangkok, Search and Discovery Art. 30454, 6p. *(Abstract + Presentation)*
(online at: www.searchanddiscovery.com/documents/2016/30454sevastjanova/ndx_sevastjanova.pdf)
(Detrital zircon U-Pb age data from Rakhine Basin shows Precambrian zircons more abundant in present-day river sands compared to Eocene-Miocene. This implies provenance change and increased sediment reworking between Miocene- Present, consistent with suggested rapid uplift of Indo-Burman ranges since Late Miocene)

Shellnutt, J.G. (2014)- The Emeishan large igneous province: a synthesis. Geoscience Frontiers 5, 3, p. 369-394.
(www.sciencedirect.com/science/article/pii/S1674987113001072)
(Late Permian Emeishan large igneous province in SW China covers W margin of Yangtze Block (S China Block) and E Tibetan Plateau, with displaced units in N Vietnam (Song Da zone). Contains base metal deposits and is contemporaneous with late Capitanian (~260 Ma) mass extinction. Mainly flood basalts, but also ultramafic and silicic volcanic rocks. Three nearly concentric zones with thicker crust from inner to outer zone. Age of the ELIP constrained to interval of 3 Myrs or less. Uncertainty whether magmas derived from subcontinental lithospheric mantle or asthenosphere/ mantle plume sources or both. ELIP likely derived from short-lived, plume-like upwelling of mantle-derived magmas)

Shellnutt, J.G. (2015)- Igneous Rock associations 16. The Late Permian Emeishan Large Igneous Province. Geoscience Canada 42, p. 169-180.
(online at: https://journals.lib.unb.ca/index.php/GC/article/download/21548/26356)
(Review of Late Permian Emeishan large igneous province (ELIP) covers W margin of Yangtze Block and Tibetan plateau of SW China, with displaced correlative units in N Vietnam (Song Da zone). Contemporaneous with Late Capitanian mass extinction (260 Ma) erupted in <3 Myrs. Mainly flood basalts, but also also picritic and silicic volcanic rocks. Considered to be mantle plume-derived, albeit with some crustal contamination)

Shellnutt, J.G., S.W. Denyszyn & R. Mundil (2012)- Precise age determination of mafic and felsic intrusive rocks from the Permian Emeishan large igneous province; SW China. Gondwana Research 22, 1, p. 118-126.
(New zircon CA-TIMS U-Pb from intrusive rocks of Panxi region (Inner Zone) of M-L Permian ELIP yielded ages between >257 Ma and ~260 Ma, consistent with estimates from magneto-biostratigraphic data)

Shellnutt, J.G. & B.M. Jahn (2011)- Origin of Late Permian Emeishan basaltic rocks from the Panxi region (SW China): implications for the Ti-classification and spatial-compositional distribution of the Emeishan flood basalts. J. Volcanology Geothermal Research 199, p. 85-95.

Shellnutt, J.G., T. Usuki, A.K. Kennedy & H.Y. Chiu (2015)- A lower crust origin of some flood basalts of the Emeishan large igneous province, SW China. J. Asian Earth Sci. 109, p. 74-85.
(Neoproterozoic (i.e. ~750-850 Ma) zircons in Late Permian Emeishan basalts indicates either assimilation of older material during emplacement or rocks could be derived from mafic Neoproterozoic precursor, like Neoproterozoic Kangdian basalts)

Shellnutt, J.G. & K.L. Wang (2014)- An ultramafic primary magma for a low Si, high Ti-Fe gabbro in the Panxi region of the Emeishan large igneous province, SW China. J. Asian Earth Sci. 79, A, p. 329-344.
(Kelang gabbro (256± 3 Ma) in contact with syenite of Late Permian (~260 Ma) Baima igneous complex of Emeishan Large Igneous Province. Gabbro may be uppermost portion of large mafic-ultramafic intrusion unrelated to Baima igneous complex)

Shen, S., Q. Feng, Q. Wei, Z. Zhang & H. Zhang (2006)- A study on the geochemical characteristics of Upper Permian continental marginal arc volcanic rocks in the northern segment of South Lancangjiang Belt. Chinese J. Geochemistry 25, 3, p. 216-222.
(Geochemical characteristics of U Permian continental marginal arc volcanics from Xiaodingxi and Zangli on the E side of Yunxian-Lincang granite. Dominated by basalt-andesite-dacite. Lancangjiang Belt, together with ocean-ridge and ocean-island volcanic rocks and ophiolites in Changning-Menglian Belt, indicate Lancangjiang oceanic crust (Paleotethys) subducted E-wards)

Shen, S., Q. Feng, Q. Wei & Z. Zhang (2007)- Newly developed evidence for the original Tethysan island-arc volcanic rocks in the southern segment of the South Lancangjiang Belt. Chinese J. Geochemistry 26, 1, p. 91-97.
(Pre-Ordovician metamorphic volcanic rocks in Huimin-Manlai region of Yunnan Province represent Tethysan island-arc volcanic rocks)

Shen, S.Z., G.R. Shi & Z.J. Fang (2002)- Permian brachiopods from the Baoshan and Simao Blocks in Western Yunnan, China. J. Asian Earth Sci. 20, 6, p. 665-682.
(Four Permian brachiopod assemblages from W Yunnan, SW China. Faunas from Baoshan Block dominated by species characteristic of Cathaysian Province with some links with Peri-Gondwanan faunas. Simao Block characterised exclusively by taxa of Cathaysian Province)

Shen, S.Z., G.R. Shi & K. Zhu (2000)- Early Permian brachiopods of Gondwana affinity from the Dingjiazhai Formation of the Baoshan block, western Yunnan, China. Rivista Italiana Paleont. Stratigr. 106, 3, p. 263-282.
(online at: https://riviste.unimi.it/index.php/RIPS/article/download/6146/6108)
(28 species and 3 assemblages of E Permian brachiopods in 100-340m thick Dingjiazhai Fm of Baoshan block. In ascending order: (A) Bandoproductus qingshwigouensis- Marginifera semigrariosa (lower member with glacial dropstones; Asselian), (B) Punctocyrtella australis- Punctospirifer afghanus (latest Asselian- E Sakmarian) and (C) Callytharrella dongsbanpoensis (Late Sakmarian-Artinskian; correlative with Late Sakmarian Spinomartinia prolifica assemblage of S Thailand). Uppermost Dingjiazhai Fm with fusulinids Eoparafusulina spp., Schwagerina spp and Triticites. Strong Gondwanan affinity)

Shi, G.H., W. Cui, S. Cao, N. Jiang, P. Jian, D. Liu, L. Miao & B. Chu (2008)- Ion microprobe zircon U-Pb age and geochemistry of the Myanmar jadeitite. J. Geol. Society, London, 165, p. 221-234.
(Myanmar jadeitite from W part of Sagaing fault belt with three groups of zircons: (1) ~163 Ma, indicating M Jurassic igneous (oceanic crust formation) or hydrothermal (serpentinization) event; (2) ~146.5 Ma, with jadeite inclusions, suggesting Late Jurassic age of formation of Myanmar jadeitites, and subduction of E Indian oceanic plate; (3) 122 Ma, representing later unknown thermal event)

Shi, G.H., D.A. Grimaldi, G.E. Harlow, J. Wang, J. Wang, M. Yang, W. Lei, Q. Li & X. Li (2012)- Age constraint on Burmese amber based on U-Pb dating of zircons. Cretaceous Research 37, p. 155-163.
(online at: www.cugb.edu.cn/uploadCms/file/20600/20170113080954938661.pdf)
(Commercially exploited Cretaceous amber (burmite) from clastic rocks rich in volcanics in Hukawng Valley, N Myanmar, with diverse biota. Earlier age estimates Albian- Cenomanian based on palynology and insects. Zircons from amber two age groups: (1) 102-108 Ma; (2) 98.8 Ma (E Cenomanian; viewed as maximum age for burmite). Ages also indicate volcanic activity at ~98.8 Ma in area)

Shi, G.H., G.E. Harlow, J. Wang, J. Wang, E. Ng, X. Wang, S. Cao & W. Cui (2012)- Mineralogy of jadeitite and related rocks from Myanmar: a review with new data. European J. Mineralogy 24, 2, p. 345-370.
(Jadeitite composed almost entirely of jadeite and related pyroxene. It is found in subduction channel serpentinite melange associated with High P/ low T metamorphosed rocks, but generally rarer than eclogite or blueschist. Late Jurassic jadeitite from Myanmar Jade Mine Tract at W side of Sagaing Fault highly diverse mineralogy, with >30 minerals: jadeite, omphacite, kosmochlor, etc. Primary jadeitite veins occur in serpentinite with albitite and/or amphibolite boundaries. At least two stages of jadeitization identified. Late-stage zeolites, pectolite, hyalophane, etc. formed at lower P and T. Jadeite-forming fluids rich in Na, Al, Ba, Sr and Ca. Most rocks in serpentinite melanges subject to infiltration and potential replacement by jadeitite or reaction with jadeitite)

Shi, G.H., N. Jiang, Y. Liu, X. Wang, Z.Y. Zhang & Y.J. Xu (2009)- Zircon Hf isotope signature of the depleted mantle in the Myanmar jadeitite: implications for Mesozoic intra-oceanic subduction between the Eastern Indian Plate and the Burmese Platelet. Lithos 112, p. 342-350
(Lu-Hf isotope signatures of zircons in jadeitite from N Myanmar. Indo-Burma Range interpreted as Eastern subduction zone where oceanic crust of E Indian plate was overridden by Burmese platelet. Jadeite formed in serpentinite, marking subduction zone. Three zircon groups: ~163, 146 and 122 Ma. Zircon in jadeitite can be used to constrain age of serpentinization/rodingitization, and age of formation of ultramafic rock within ophiolites. Results suggest presence of Mesozoic intra-oceanic subduction in Indo-Burman Range)

Shi, G.H., W. Lei, H. He, Y.N. Ng, Y. Liu, Y.X. Liu, Y. Yuan, Z. Kang & G. Xie (2014)- Superimposed tectono-metamorphic episodes of Jurassic and Eocene age in the jadeite uplift, Myanmar, as revealed by $^{40}Ar/^{39}Ar$ dating. Gondwana Research 26, 2, p. 464-474.
(Jade Mine Track HP ophiolites/ serpentinite melange of Myanmar between Indo-Burma Range and Tagaung-Myitkyina Belt with two contrasting Ar-Ar ages: (1) Late Jurassic (152.4 Ma of glaucophane from blueschist) and (2) M Eocene (~45 Ma) of phengitic muscovites from quartz schists. Late Jurassic Jadeite Uplift possibly related to Woyla intra-oceanic arc subduction zone)

Shi, G.U., P. Tropper, W. Cui, J. Tan & C. Wang (2005)- Methane (CH_4)-bearing fluid inclusions in the Myanmar jadeitite. Geochemical J. 39, 6, p. 503-516.
(Fluid inclusions in high-pressure jadeitites from famous jadeite tract of N Myanmar mostly H_2O (87-94%) and methane (CH_4). Stable isotope ratios of CH_4 indicative of abiogenic thermal maturation, probably from subducted organic carbon in paleosubduction zone. CH_4 may be stable to at least upper 20 km of subduction zone where jadeitite veins formed under low T / high-P conditions)

Shi, Y. (2010)- Early Permian fusulinids from West Yunnan and their chronological puzzle. In: C.P. Lee et al. (eds.) 6th Symp. Int. Geol. Correl. Progr. Project 516 (IGCP516), Geological anatomy of East and South Asia, Kuala Lumpur 2010, p. 42-43. *(Abstract only)*
(E Permian (Artinskian) fusulinids described recently from W Yunnan Sibumasu/ Cimmerian terranes: Eoparafusulina-Pseudofusulina faunas from Baoshan;, Eoparafusulina-Monodiexodina fauna from Tengchong)

Shi, Y., J.L. Anderson, Z. Wu, Z. Yang, L. Li & J. Ding (2016)- Age and origin of Early Paleozoic and Mesozoic granitoids in Western Yunnan Province, China: geochemistry, SHRIMP zircon ages, and Hf-in-zircon isotopic compositions. J. Geology 124, 5, p. 617-630.
(E Paleozoic magmatism in Baoshan block (granitoids with zircon Pb/U ages of ~481, 493 Ma and indications of crustal melting/reworking. Tengchong block Late Triassic S-type granites with zircons of 216-226 Ma,

probably in post-collisional tectonic setting. Late Early Cretaceous (118 Ma) S-type granite; emplacement may be related to closure of Neotethys ocean)

Shi, Y., H. Huang & X. Jin (2017)- Depauperate fusulinid faunas of the Tengchong Block in western Yunnan, China, and their paleogeographic and paleoenvironmental indications. J. Paleontology 91, 1, p. 12-24.
(online at: www.cambridge.org/core/journals/journal-of-paleontology/article/depauperate-fusul...)
(M Permian fusulinids from Tengchong Block, W Yunnan, China (= part of Sibumasu) dominated by Chusenella, Nankinella and Schwagerina. Low diversity through E-M Permian and paucity of M Permian neoschwagerinids and verbeekinids in block confirm Gondwana-affinity and possibly relatively low temperature of seawater. Depauperate assemblages of limited number of species with abundant individuals)

Shi, Y., H. Huang, X. Jin & X. Yang (2011)- Early Permian fusulinids from the Baoshan Block, Western Yunnan, China and their paleobiogeographic significance. J. Paleontology 85, 3, p. 489-501.
(Sakmarian-Artinskian fusulinids from N and S Baoshan and W Yunnan, dominated by Pseudofusulina and Eoparafusulina spp. and similar to those from C Pamir, S Afghanistan, E-C Iran, C Oman, E Hindu Kush and N Karakorum)

Shi, Y., X. Jin, H. Huang & X. Yang (2008)- Permian fusulinids from the Tengchong Block, Western Yunnan, China. J. Paleontology 82, p. 118-127.
(Permian fusulinid faunas from N Tengchong Block, SW China. Lower Dadongchang Fm dominated by Eoparafusulina, possibly Sakmarian age. Dadongchang Fm mainly Chusenella and Monodiexodina, indicating Wordian-Capitanian age. Similar to fusulinid assemblages from Baoshan and Sibumasu Blocks (both low diversity without Cathaysian-Tethyan Pseudoschwagerinidae, Verbeekinidae, Neoschwagerinidae))

Shoup, R.C., A.J. Filipov & M. Hiner (2017)- Geological interpretation of the reservoir and pay distribution of the G3.2 and G5.2 series of the Shwe Field, Myanmar. AAPG/EAGE/MGS 3rd Oil & Gas Conf., Yangon 2017, Search and Discovery Art. 20401, 33p.
(online at: www.searchanddiscovery.com/documents/2017/20401shoup/ndx_shoup.pdf)
(Offshore Myanmar Shwe, Shwe Phyu, and Mya gas fields discovered between 2004-2006 in Blocks A1 and A3. in Pliocene deepwater channel sandstones, sourced from NW. Gas biogenic in origin. Recoverable reserves for Shwe Field 2.9- 4.7 TCF, Shwe Phyu 0.4- 0.9 TCF and Mya 1.3- 2.2 TCF)

Singh, A.K. (2013)- Petrology and geochemistry of abyssal peridotites from the Manipur Ophiolite Complex, Indo-Myanmar orogenic belt, Northeast India: implication for melt generation in mid-oceanic ridge environment. J. Asian Earth Sci. 66, p. 258-276.
(Manipur Ophiolite Complex in Indo-Myanmar Orogenic Belt accretionary prism is segment of Cenozoic Tethyan Ophiolite Belt of Alpine-Himalayan orogenic system. Peridotites of mid-oceanic ridge character (low Cr spinels. (U Cretaceous- M Eocene?) dismembered ophiolite and oceanic pelagic sediments now thrust slices at highest tectonic levels of IM Range, overlying U Cretaceous- U Eocene flysch above E-dipping thrust contact. Overthrust from E by continental metamorphic rocks of mica-schists, quartzite and granitic gneiss)

Singh, A.K., S.L. Chung, R.K. Bikramaditya & H.Y. Lee (2017)- New U-Pb ages of plagiogranites from the Nagaland-Manipur ophiolites, Indo-Myanmar orogenic belt., NE India. J. Geol. Soc., London, 174, 1, p. 170-179.
(E Cretaceous U-Pb zircon ages of plagiogranites from Nagaland-Manipur Ophiolites in Indo-Myanmar orogenic belt (between 116.4 ± 2.2 and 118.8 ± 1.2 Ma; Aptian). Ophiolite overlain by Late Cretaceous pelagic limestones- to Eocene flysch. Ages coeval and geochemically comparable with Neo-Tethyan ophiolites in Indus-Yarlung-Tsangpo Suture to NW. To S ophiolite belt continues to Andaman-Nicobar island arc and Mentawai Islands of outer Indonesian island arc)

Singh, A.K., L.D. Devi, N.I. Singh, K.S.V. Subramanyam, R.K.B. Singh & M. Satyanarayanan (2013)- Platinum-group elements and gold distributions in peridotites and associated podiform chromitites of the Manipur Ophiolitic Complex, Indo-Myanmar Orogenic Belt, Northeast India. Chemie der Erde 73, 2, p. 147-161.

(Platinum group of elements and gold in peridotites and associated podiform chromitites of Neotethyan Manipur Ophiolitic Complex of Indo-Myanmar Orogenic Belt, NE India. PGE content in MOC peridotites 22-79 ppb, slightly higher than primitive mantle peridotites and mantle peridotites in ophiolites)

Singh, A.K., R. Nayak, S. Khogenkumar, K.S.V. Subramanyam, S.S. Thakur, R.K.B. Singh & M. Satyanarayanan (2016)- Genesis and tectonic implications of cumulate pyroxenites and tectonite peridotites from the Nagaland-Manipur ophiolites, Northeast India: constraints from mineralogical and geochemical characteristics. Geological J. 52, 3, p. 415-436.
(Ultramafic sequence of Nagaland- Manipur Ophiolite generated at mid-oceanic ridge tectonic setting, close to E boundary of Indian passive margin, then thrust over continental margin of Indian Plate to W during collision with Myanmar Plate)

Singh, A.K., N.I. Singh, L.D. Devi & R.K.B. Singh (2012)- Geochemistry of mid-ocean ridge mafic intrusives from the Manipur Ophiolitic Complex, Indo-Myanmar Orogenic Belt, NE India. J. Geol. Soc. India 80, 2, p. 231-240.

Singh, A.K., V.C. Tewari, A.N. Sial, P.P. Khanna & N.I. Singh (2016)- Rare earth elements and stable isotope geochemistry of carbonates from the melange zone of Manipur ophiolitic Complex, Indo-Myanmar orogenic belt, Northeast India. Carbonates and Evaporites 31, 2, p. 139-151.
(Carbonates in Neotethyan melange zone of Manipur Ophiolitic complex (= NE India-Myanmar plates collision zone/ accretionary prism). Melange with Late Cretaceous (Santonian- Maastrichtian) pelagic limestones that originally formed cover of ophiolitic oceanic crust, also Eocene flysch and younger molasse)

Sloan, R.A., J.R. Elliott, M.P. Searle & C.K.Morley (2017)- Active tectonics of Myanmar and the Andaman Sea. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, p. 19-52.
(online at: http://mem.lyellcollection.org/content/memoirs/48/1/19.full.pdf)
(Active tectonics of Myanmar controlled by combination of: (1) continuing N-wards penetration of India into Asia; (2) active shear along right-lateral Sagaing strike-slip fault, and region to W; (3) active E-dipping Burma Seismic Zone indicating subduction of downgoing plate to >150 km; (4) CW rotation around E Himalayan Syntaxis and series of arcuate strike-slip faults in N Shan Plateau; and (5) active extensional and strike-slip tectonics in back-arc Andaman Sea)

Smith, S. (1941)- Some Permian corals from the Plateau Limestone of the Southern Shan States, Burma. Palaeontologia Indica. N.S., 30, 2, p. 1-21.
(Permian corals from Plateau Limestone of E Myanmar (= Sibumasu Block). With rel. common solitary rugose ncl. Lophophyllidium orientale, Pavastehphyllum), also Protomichelinia, Wentzelella cf timorica Gerth (= Paraipciphyllum?; Fontaine1988). (= part of Cyathaxonia faunas from Sibumasu Terrane of Wang et al. 2013)

Socquet, A. & M. Pubellier (2005)- Cenozoic deformation in western Yunnan (China-Myanmar border). J. Asian Earth Sci. 24, p. 495-515.
(On Tertiary clockwise rotation of crustal blocks of E Himalayas around NE edge of India)

Soe A.N., Myitta, S.T. Tun, A.K. Aung, T. Thein, B. Marandat, S. Ducrocq & J.J. Jaeger (2002)- Sedimentary facies of the late Middle Eocene Pondaung Formation (central Myanmar) and the palaeoenvironments of its anthropoid primates. Comptes Rendus Palevol 1, 3, p. 153-160.
(Primate-bearing Pondaung Fm in NW part of C Myanmar mainly composed of cyclic sequences of sandstones and variegated clays, deposited in fluvio-deltaic environment. Anthropoid primate remains in swale-fill sediments, sometimes in carbonate nodules of pedogenetic origin and in small crevasse channel deposits of U Pondaung Fm)

Soe Min, I.M. Watkinson, Soe Thura Tun, Win Naing & Tin Lwin Swe (2017)- The Kyaukkyan Fault, Myanmar. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics. Geol. Soc., London, Memoir 48, Chapter 21, p. 453-471.

(Kyaukkyan Fault active N-S dextral strike-slip structure across W Shan Plateau, parallel to and ~100-150 km E of central Sagaing Fault. Probable Late Oligocene- M Miocene onset of dextral shear)

Soibam, I., M.C. Khuman & S.S. Subhamenon (2015)- Ophiolitic rocks of the Indo-Myanmar Ranges, NE India: relicts of an inverted and tectonically imbricated hyper-extended continental margin basin? In: G.M. Gibson et al. (eds.) Sedimentary basins and crustal processes at continental margins: from modern hyper-extended margins to deformed ancient analogues, Geol. Soc., London, Spec. Publ. 413, p. 301-331.
(Indo-Myanmar Ranges structural and tectonic features best explained by dextral shear and oblique subduction of Indian Plate below Myanmar Plate. U Cretaceous- Lower Eocene ophiolitic rocks Alpine-type harzburgite and lherzolite enriched in trace and rare earth elements, also diabase dykes, pillow basalts. Formation and unroofing probably by mantle exhumation in hyperextended continental margin setting. Paleomagnetic data suggest no latitudinal change since formation)

Stamp, L.D. (1922)- An outline of the Tertiary geology of Burma. Geol. Magazine 59, 11, p. 481-501.
(Main physical geographic belts of Myanmar: (1) Shan Plateau, in E: N-S trending belt of highly folded Paleozoic and E Mesozoic rocks; continuous with plateau of Yunnan; main folding post-E Jurassic and pre-late Tertiary; (2) Central Tertiary Belt; (3) Arakan Yoma foldbelt in W. With detailed discussion of Tertiary stratigraphy and paleogeography)

Stamp, L.D. (1927)- Conditions governing the occurrence of oil in Burma. J. Inst. Petroleum Technol. 13, 60, p. 21-70.

Stamp, L.D. (1927)- The geology of the oil fields of Burma. American Assoc. Petrol. Geol. (AAPG) Bull. 11, 6, p. 557-579.
(Oil fields of Burma in long N-S line in Tertiary synclinal trough in central part of country, bounded in E by Shan Plateau and in W by Arakan Yoma/ Naga Hills, originally marine gulf, filled in by clastics of Chindwin and Irrawaddy Rivers. Oil-bearing reservoirs mainly deltaic. Main fields from N to S: Indaw, Yenangyat-Singu, Yenangyaung, Minbu, Padaukpin and Yenanma. Largest producer Yenangyaung (3,000,000,000 gallons since 1900). Singu has largest reserves. Discovery of important new fields unlikely)

Stamp, L.D. (1934)- Natural gas fields of Burma. American Assoc. Petrol. Geol. (AAPG) Bull. 18, 3, p. 315-326.

Stojanovic, D., J.C. Aitchison, S. Kachovich, K. Lokho & T.R. Ireland (2016)- New age constraints for the Manipur ophiolitic melange: insights into Tethyan ophiolites of the Indo-Myanmar Range. American Geoph. Union (AGU), Fall General Assembly 2016, Abstract id. T11A-2595, 1p. *(Abstract only)*
(Manipur Ophiolite Complex disrupted belt of ophiolitic melange along border ranges between Myanmar and NE Indian states Manipur and Nagaland. Ranges formed through collision of Indian plate and displaced elements of Sibumasu terrane that have been sinistrally displaced >450 km along Asian margin by Sagaing fault (Neotethys suture). Well-preserved Lower Cretaceous radiolarian assemblages in green ribbon chert blocks (= minimum age of underlying ophiolitic Neotethys ocean floor))

Sun, Y., X. Lai, P.B. Wignall, M. Widdowson, J.R. Ali, H. Jiang, W. Wang, C. Yan, D.P.G. Bond & S. Vedrine (2010)- Dating the onset and nature of the Middle Permian Emeishan large igneous province eruptions in SW China using conodont biostratigraphy and its bearing on mantle plume uplift models. Lithos 119, p. 20-33.
(M Permian Emeishan large igneous province of SW China. Conodont ages show eruptions began in M Capitanian Jinogondolella altudaensis Zone (~263 Ma) and increased in J. xuanhanensis Zone (~262 Ma). Postulated km-scale plume-related domal uplift prior to Emeishan eruptions not supported by data; rather more complex interaction between plume and lithosphere with minor localized uplift and subsidence is inferred)

Suzuki, H., M. Maung, Zaw Win, T. Tsubamoto, M. Maung, N. Egi, M. Takai & N. Shigehara (2006) Stratigraphic positions of the Eocene vertebrate localities in the Paukkaung area (Pondaung Formation, Central Myanmar). Asian Paleoprimatology 4, p. 67-74.
(online at: https://repository.kulib.kyoto-u.ac.jp/dspace/bitstream/2433/199770/1/aspp_04_067.pdf)

(Detailed survey of ~275m thick Upper Member of Eocene Pondaung Fm W of Paukkaung, to clarify stratigraphic relationship among the localities of fossil vertebrates. Most localities (Pkl, Pk2, Pk3, Pk4, Pk5 and Pk8) in single claystone (Ayoedawpon Taung Claystone), which overlies widely traceable Ayoedawpon Taung Sst. Localities Pk9 and and Pk12 below and above this claystone)

Suzuki, H., M. Maung, N.S. Aung & N. Shigehara (2006)- Lithostratigraphy of the Pondaung Formation (Eocene) between Tabyin and Kyauktakha to the west of Pauk, Central Myanmar. Asian Paleoprimatology 4, p. 75-97.
(online at: https://repository.kulib.kyoto-u.ac.jp/dspace/bitstream/2433/199769/1/aspp_04_075.pdf)
(Pondaung Fm along Tabyin-Kyauktakha route composed of sandstone, siltstone and claystone with minor coal, acidic tuff and pebbly sandstone. Thickness~1170m. Upper Member mainly sandstone that, unlike in areas of Pale and Myaing, did not preserve fossil vertebrates)

Swe, Y.M., C.C. Aye & K. Zaw (2017)- Gold deposits of Myanmar. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 25, p. 557-572.
(>300 gold occurrences in Myanmar, in 6 main associations: porphyry and epithermal deposits in Late Cretaceous- Paleogene Central Magmatic Arc; orogenic gold; skarn, sediment-hosted, Slate Belt-hosted and quartz veins in ophiolite-greenschist units)

Tainsh, H.R. (1950)- Tertiary geology and principal oil fields of Burma. American Assoc. Petrol. Geol. (AAPG) Bull. 34, p. 823-855.
(Review of Tertiary geology of Myanmar. Gravity minimum of Arakan Yoma runs through Andaman Islands to join gravity low of Vening Meinesz, SW of Sumatra along Mentawai Islands. Gravity maximum associated with Burma volcanic line can be traced to volcanoes of Narcondam and Barren Island in Andaman area may correspond to high of volcanic belt of Sumatra. Major oil fields near Irrawaddy River in C part of Upper Burma. Principal oil fields described are anticlinal structures of Chauk- Lanywa and Yenangyaung)

Takai, M., H. Saegusa, Thaung-Htike & Z.M.M. Thein (2006)- Neogene mammalian fauna in Myanmar. Asian Paleoprimatology 4, p. 143-172.
(online at: https://repository.kulib.kyoto-u.ac.jp/dspace/bitstream/2433/199765/1/aspp_04_143.pdf)
(Review of Neogene mammalian fossils from E-M Miocene Pegu beds (12 mammal genera) and Late Miocene-Pliocene Irrawaddy beds (14 mammal families) along Irrawaddy River, Myanmar. Although fossils scarce, Myanmar faunas greater similarity to S Asian(India) fauna than to E Asian (China) fauna until Pliocene)

Takai, M., C. Sein, T. Tsubamoto, N. Egi, M. Maung & N. Shigehara (2005)- A new eosimiid from the latest middle Eocene in Pondaung, Central Myanmar. Anthropologal Science 113, p. 17-25.
(online at: https://www.jstage.jst.go.jp/article/ase/113/1/113_1_17/_pdf)
(New eosimiid primate, Eosimias paukkaungensis from latest M Eocene of Pondaung. Mandibular fragments larger than homologues of Eosimias species from China, but smaller than Bahinia pondaungensis)

Takai, M. & N. Shigehara (2004)- The Pondaung Primates, enigmatic ñpossible anthropoidsò from the Latest Middle Eocene, Central Myanmar. In: C.F. Ross & R.F. Kay (eds.) Anthropoid origins: new visions, Kluwer/ Plenum, New York, p 283-321.
(Recent discoveries of 'possible anthropoids' from M Eocene from China, Myanmar and Thailand suggest 'protoanthropoids' may have originated in E Asia, not Africa)

Takai, M., N. Shigehara, T. Tsubamoto, N. Egi, A.K. Aung, T. Thein, A.N. Soe & S.T. Tun (2000)- The latest Middle Eocene primate fauna in the Pondaung area, Central Myanmar. Asian Paleoprimatology, Volume 1, Primate Research Institute, Kyoto University, Inuyama, Japan, p. 7-28.
(Four M Eocene primate taxa known from Pondaung Fm of Burma, incl. Pondaungia cotteri (discovered in 1914), Amphipithecus mogaungensis (1923), Bahinia pondaungensis (1998), and unnamed new taxon (1998))

Tanaka, K., C. Mu, K. Sato, K. Takemoto, D. Miura, Y. Liu, H. Zaman et al. (2008)- Tectonic deformation around the eastern Himalayan syntaxis: constraints from the Cretaceous palaeomagnetic data of the Shan-Thai Block. Geophysical J. Int. 175, p. 713-728.
(E-M Cretaceous red sandstones sampled at four localities in Lanpin-Simao fold belt of Shan-Thai Block. Shan-Thai Block ~20° CW rotation in early stage of India-Asia collision, followed by S-ward displacement along Red River Fault before 32 Ma, then subjected to N-S compressive stresses from 32-27 Ma, shaping structure of Chongshan- Lancang- Chiang Mai Belt. Some local CW rotation in Pliocene-Quaternary in central Shan-Thai)

Tarrass, I., P. Dattilo, P. Bourguignon, S. Van De Beuque & J.P. Thiriet (2017)- Turbidite systems of the East Andaman Basin (Myanmar): impacts on exploration. In: SE Asia Petroleum Expl. Soc. (SEAPEX) Exploration Conf. 2017, Singapore, 2p. *(Abstract)*
(Andaman Sea series of pull-apart basins formed in right lateral strike slip regime in back-arc setting. Volcanic basement overlain by Eocene and younger carbonate and clastic sequences. Oligocene- E Miocene shelf clastics sourced from E, with carbonate platforms and reefs mainly on W volcanic highs. Huge siliciclastic succession related to Irrawaddy Delta from U Miocene-present. Large slope channels, extending in abyssal plain)

Thein, T. (2004)- Review of the large-bodied Pondaung primates of Myanmar. In: C.F. Ross & R.F. Kay (eds.) Anthropoid origins: new visions, Kluwer/ Plenum, New York, p. 219-247.
(M Eocene Pondaung Fm in NW C Myanmar has been known for mammal fossils since 1916. Fossils include artiodactyls (Anthracotheriidae) and perissodactyls (Amynodontidae), carnivores, and primates. Primates from represented by Pondaungia cotteri Pilgrim, 1927, Amphipithecus mogaungensis Colbert, 1937, Bahinia pondaungensis Jaeger et al., 1999, and Myanmarpithecus yarshensis)

Thornton, S.E. (2015)- The history of oil exploration in the Union of Myanmar. AAPG/SEG Int. Conf. Exhib., Melbourne 2015, Search and Discovery Art. 10807, 34p. *(Abstract + Presentation)*
(online at: www.searchanddiscovery.com/documents/2015/10807thornton/ndx_thornton.pdf)
(After centuries of oil mining in hand-dug wells in C Burma Basin first oil well drilled by Burmah Oil Company in 1899. Foreign oil companies activity since 1988 led to several large offshore gas discoveries)

Thornton, S.E. (2016)- Regional tectonics, structure and history of petroleum exploration in the Union of Myanmar (nee Burma). Houston Geol. Soc. Bull., December 2016, p. 23-29.

Thu, K. & K. Zaw (2017)- Gem deposits of Myanmar. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, p. 497-529.

Tin Aung Myint, Than Than Nu & Min Aung (2014)- Precious and base metal mineralization in Kwinthonze-Nweyon area, Singu and Thabeikkyin Townships, Mandalay Region, Myanmar. In: I. Basuki & A.Z. Dahlius (eds.) Sundaland Resources, Proc. Indon. Soc. Econ. Geol. (MGEI) Ann. Conv., Palembang, p. 343-354.
(Gold-silver and base metal mineralization in Kwinthonze-Nweyon area in Mogok Metamorphic Belt)

Tsubamoto, T. (2000)- The Pondaung mammal fauna: an analysis of a terrestrial mammal fauna in the latest Middle Eocene of central Myanmar (Southeast Asia). Doct. Thesis, Kyoto University, 215p.
(online at: http://earth.sci.ehime-u.ac.jp/~tsubamoto/TBM_Papers/Tsubamoto_2001_PhD_Kyoto_Univ.pdf)
(M Eocene (37.2 ± 1.3 Ma) Pondaung fauna from C Myanmar with six orders of mammals: Primates 4 genera), Creodonta (2 genera), Rodentia (1 genus), Artiodactyla (4 genera), Perissodactyla (9 genera), and Ungulata (1 genus). All primates considered to be primitive anthropoids. Anthracotheres all one genus (Anthracotherium), with 4 species (A. pangan, A. rubricum, A. birmanicus, A. tenuis))

Tsubamoto, T., N. Egi, M. Takai, T. Htike & Z.M.Maung Thein (2013)- A new genus and species of bunodont Artiodactyl from the Eocene Pondaung Formation, Myanmar. Paleontological Research 17, 4, p. 297-311.

Tsubamoto, T., N. Egi, M. Takai, C. Sein & M. Maung (2005)- Middle Eocene ungulate mammals from Myanmar: a review with description of new specimens. Acta Palaeontologica Polonica 50, 1, p. 117-138.
(online at: www.app.pan.pl/archive/published/app50/app50-117.pdf)

(Two new ungulate taxa from M Eocene Pondaung Fm.. Pondaung ungulate fauna now 29 species, mainly artiodactyls and perissodactyls. Paleoenvironment of fauna was humid forested/woodland vegetation with large rivers, located not far from E Tethyan Sea. Relatively high endemism at generic level)

Tsubamoto, T., Z.M. Maung Thein, N. Egi, T. Nishimura, T. Htike & M. Takai (2011)- A new anthracotheriid Artiodactyl from the Eocene Pondaung Formation of Myanmar. Vertebrata Palasiatica 49, p. 85-113.
(online at: http://www.ivpp.cas.cn/cbw/gjzdwxb/xbwzxz/201102/P020110216367564823071.pdf)
Mandible and molars of new anthracotherid from M Eocene Upper Pondaung Fm (~38 Ma), C Myanmar, Myaingtherium kenyapotamoides. Some similarities of M3 molar with 'Anthracothema' verhoeveni Von Koenigswald from Timor)

Tsubamoto, T., M. Takai, N. Egi, N. Shigehara, S.T. Tun et al. (2002)- The Anthracotheriidae (Mammalia; Artiodactyla) from the Eocene Pondaung Formation (Myanmar) and comments on some other anthracotheres from the Eocene of Asia. Paleont. Research 6, 4, p. 363-384.
(online at: www.journalarchive.jst.go.jp/...)
(On Eocene anthracoceres (hippopotamid like mammal) from Myanmar. Also known from Timor)

Tsubamoto, T., M. Takai, N. Shigehara, N. Egi, S.T. Tun, A.K. Aung, M. Maung, T. Danhara & H. Suzuki (2002)- Fission-track zircon age of the Eocene Pondaung Formation, Myanmar. J. Human Evolution 42, p. 361-369.
(Pondaung Fm in C Myanmar with >20 mammal genera. ~2000m thick freshwater deposits, overlying and partially interfingering with Tabyin Fm (with M Eocene Nummulites acutus). Overlain by marine Yaw Fm)with Late Eocene Nummulites yawensis, etc.). One tuff from upper Pondaung Fm with fission track age from 75 zircons of 37.2 ± 1.3 Ma (M-L Eocene boundary))

Tsubamoto, T., S.T. Tun, N. Egi, M. Takai, N. Shigehara, Aung N. Soe, K.A. Aung & T. Thein (2003)- Reevaluation of some ungulate mammals from the Eocene Pondaung Formation, Myanmar. Paleontological Research 7, 3, p. 219-243.

Tun, Soe Thura & I.M. Watkinson (2017)- The Sagaing Fault, Myanmar. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 19, p. 413-441.
(N-S trending and relatively straight Sagaing Fault across Myanmar 1500 km long active strike-slip fault that accommodates more than half of right-lateral motion between Sundaland and India, within diffuse plate boundary along E margin of India, which occupies much of Myanmar. Ridge-subduction transform linking major thrust systems in N (E Himalaya) to Andaman Sea spreading centre S. N-ward younging strike-slip segments. Little evidence for pre-M Miocene movement, but more diffuse dextral slip possibly accommodated 300-700km of offset since Eo-Oligocene)

Udchachon, M., P. Charusiri, H. Thassanapak & C. Burrett (2018)- A new section of Lower Palaeozoic rocks in Kayin State (Southeast Myanmar). Proc. Geologists Assoc. 129, 2, p. 215-226.
(Lower Paleozoic rocks mapped in Kayin State (Sibuma Block). Three new formations with thickness >900 m, Lower siliciclastics overlain by predominantly carbonate with M Ordovician conodonts. Older formations probable correlate to S Shan State of Myanmar and Lower Ordovician siliciclastics of W Thailand. Folds in Lower Paleozoic rocks overturned to NE; deformation in one major phase between Tournaisian- E Permian)

Uddin, A., W.E. Hames & K.M. Zahid (2010)- Laser 40Ar/39Ar age constraints on Miocene sequences from the Bengal basin: implications for Middle Miocene denudation of the eastern Himalayas. J. Geophysical Res., Solid Earth 115, 7, B07416, p. 1-9.
(Orogenic sedimentation had begun in Bengal basin by E Miocene. Laser 40Ar/39Ar age determinations of detrital muscovite grains from E-M Miocene Bhuban Fm show ages from ~12 Ma- 516 Ma, suggesting derivation from a combination of sources. Modes of ~16, 18, 26 and 40 Ma most consistent with unroofing of Higher Himalayas since E Miocene. Detrital ages of ~16 and 22 Ma most prominent in highest levels, consistent with M Miocene unroofing of crystalline rocks of E Himalayas)

Uddin, A., P. Kumar & J.N. Sarma (2007)- Early orogenic history of the eastern Himalayas: compositional studies of Paleogene sandstones from Assam, northeast India. Int. Geology Review 49, p. 798-810.
(Disang Fm deep marine flysch-type sequence of cherts, carbonaceous mudstones and fine-grained sandstones of Late Eocene age in front of obducted Naga ophiolites= foreland basin fill?)

Uddin, A. & N. Lundberg (1998)- Unroofing history of the eastern Himalaya and the Indo-Burman ranges; heavy-mineral study of Cenozoic sediments from the Bengal Basin, Bangladesh. J. Sedimentary Res. 68, 3, p. 465-472.
(U Eocene- Neogene fill of Bengal basin provides unroofing history of E Himalaya and Indo-Burman ranges. Quartzose sandstones of Eocene-Oligocene Fms only 0.2% heavy minerals, most likely sourced from Indian craton immediately to W. E Miocene sandstones of Surma Gp contain more heavy-minerals, indicating mostly metamorphic source rocks. U Miocene U Surma Gp also abundant blue-green amphibole, orthopyroxene, and sparse chromite, suggesting deeper exhumation, of high P metamorphic and ophiolitic rocks)

Uddin, A. & N. Lundberg (1998)- Cenozoic history of the Himalayan-Bengal system: sand composition in the Bengal Basin, Bangladesh. Geol. Soc. America (GSA) Bull. 110, 4, p. 497-511.

Ueno, K., Y. Mizuno, X. Wang & S. Mei (2003)- Artinskian conodonts from the Dingjiazhai Formation of the Baoshan Block, West Yunnan, Southwest China. J. Paleontology. 76, 4, p. 741-750.
(E Permian conodonts from U Dingjiazhai Fm diamictite-bearing unit, in Gondwana-derived Baoshan Block. Conodont fauna in limestones in upper part of formation consists of Sweetognathus spp. Mesogondolella, etc., dated as M Artinskian. Dingjiazhai Fm overlain by basaltic volcanics related to rift volcanism during separation of Baoshan Block from Gondwanaland. Faunas including brachiopods and fusulinids from limestones interpreted as middle latitudinal, non-tropical, and Gondwana-influenced assemblage developed at N margin of Gondwanaland just after deglaciation (Ueno 2000))

Ueno, K., Myint Thein & A.J. Barber (2016)- Permian fusuline fauna from the Minwun Range, Central Myanmar. In: Development of the Asian Tethyan Realm: genesis, process and outcomes, 5th Int. Symposium Int. Geoscience Program (IGCP) Project 589, Yangon, p. 6. *(Abstract only)*
(online at: http://igcp589.cags.ac.cn/5th%20Symposium/Abstract%20Volume.pdf)
(Fault-bounded blocks of Permian limestones in Sagaing Fault Zone at Minwun Range with fusulinid faunas containing abundant Chalaroschwagerina, together with Pseudofusulina kraftii, Levenella, Pamirina, Schubertella, Toriyamaia, Minojapanella, and Pseudoreichelina. Age late Yakhtashian (late E Permian) age and Tethyan paleobiogeographic affinity)

Ueno, K. & S. Tsutsumi (2009)- Lopingian (Late Permian) foraminiferal faunal succession of a Paleo-Tethyan mid-oceanic carbonate buildup: Shifodong Formation in the Changning-Menglian Belt, West Yunnan, SW China. Island Arc 18, 1, p. 69-93.
(Late Permian foraminiferal succession in Changning-Menglian Belt (closed remnants of Paleo-Tethys Ocean). Shifodong Fm is uppermost unit in thick Carboniferous-Permian carbonate section on oceanic seamount basalts. Sixteen fusuline taxa, 3 zones: Codonofusiella kwangsiana, Palaeofusulina minima and Palaeofusulina sinensis Zones. Foram fauna in Paleo-Tethyan shallow-marine environment high faunal diversity, comparable to circum-Tethyan shelves like S China, and more diversified than coeval mid-oceanic Panthalassan faunas like Kamura Lst in Jurassic accretionary complex of SW Japan)

Ueno, K., Y. Wang & X. Wang (2003)- Fusulinoidean faunal succession of a Paleo-Tethyan oceanic seamount in the Changning-Menglian Belt, West Yunnan, Southwest China: an overview. Island Arc 12, 2, p. 145-161.
(Fusulinids from Paleo-Tethyan seamount-type carbonates of Changning-Menglian Belt, SW China, which is main Paleo-Tethys suture in E Asia. Basalts and overlying carbonates ~1100m thick with 17 late E Carboniferous- M Permian fusulinid zones. Tropical Tethyan-type succession, although diversity lower than those of Paleo-Tethyan shelves, such as S China, Indochina, and C Asia)

U Ko Ko (2016)- Structural observations along the Salin-Pyay Pleistocene strike-slip deformation belt. 2nd AAPG/EAGE/MGS Conference Unlocking the complex geology of Myanmar, Yangon 2015, Search and Discovery Art. 10845, 17p. *(Abstract + Presentation)*
(online at: www.searchanddiscovery.com/documents/2016/10845ko/ndx_ko.pdf)
(Major Pleistocene strike-slip deformation over 200- 300 km wide belt of Myanmar sedimentary basins between Sagaing fault and escarpment between shallow and deep waters of Rakhine Yoma foldbelt. Tied toN-ward translational subduction of India below SE Asia plates)

Ukstins Peate, I. & S.E. Bryan (2008)- Re-evaluating plume-induced uplift in the Emeishan large igneous province. Nature Geoscience 1, p. 625-629.
(Mantle plumes should generate broad domal uplift (>1000 km wide, 500-1000m high) preceding volcanism in large igneous provinces. Most of Emeishan large igneous province in SW China emplaced at sea level, with no evidence for dynamic pre-volcanic uplift. Any positive relief that developed more likely result of formation of volcanic edifice and rapid accumulation of volcanic pile)

Ukstins Peate, I. & S.E. Bryan (2009)- Pre-eruptive uplift in the Emeishan? Nature Geoscience 2, p. 531-532.
(Part of discussion-reply with He et al. 2009, who argue for subaerial volcanism, as demonstrated by plant fossils (Cladophlebis permica))

Utitsan, S., T. Benjawan, S. Thanatit, W. Wetmongkongorn, U.S. Than, K.H. Myint & L.B. Wah (2014)- Geological evolution of Bago-Yoma Basin, Onshore Myanmar. AAPG Asia Pacific Region AAPG/MGS Conf., Yangon 2014, Search and Discovery Art.10659, 10p. *(Extended Abstract)*
(online at: www.searchanddiscovery.com/documents/2014/10659utitsan/ndx_utitsan.pdf)
(Bago-Yoma Basin 1 of 8 Tertiary basins in onshore Myanmar, with up to 14km of Late Cretaceous-Cenozoic deposits. Basins in N-S trend between Indo-Myanmar ranges to W and Shan Plateau to E. Basins experienced NW-SE extension in Miocene, followed by NE-SW transpression in Pliocene during change of maximum horizontal stress direction. Bago-Yoma Basin SE of main petroleum producing fields of C Myanmar Basin)

Varga, R.J. (1997)- Burma. Encyclopedia of Earth Science, Springer, p. 109-121.

Vigny, C., A. Socquet, C. Rangin, N. Chamot-Rooke, M. Pubellier, M.N. Bouin, G. Bertrand & M. Becker (2003)- Present-day crustal deformation around Sagaing fault, Myanmar. J. Geophysical Research- Solid Earth 108, B11, 2533, p. 1-10.
(online at: http://onlinelibrary.wiley.com/doi/10.1029/2002JB001999/epdf)
(GPS campaign in Myanmar in 1998 and 2000 around Sagaing fault system in C Myanmar, near Mandalay. Oblique slip of India along rigid Sundaland block accommodated by partitioned system characterized by distribution of deformation over wide zone)

Von Koenigswald, G. (1965)- Critical observations upon the so-called higher primates from the upper Eocene of Burma, Proc. Kon. Nederl. Akademie Wetenschappen 68, p. 165-167.

Vredenburg, E. (1921)- Results of a revision of some portions of Dr. Noetling's second monograph on the Tertiary fauna of Burma. Records Geol. Survey India 51, 3, p. 224-302.
(online at: https://ia801608.us.archive.org/6/items/in.ernet.dli.2015.20723/2015.20723.Records-Of-The-Geological-Survey-Of-India--Vol-51.pdf)
(Revisions of identifications of Noetlingof molluscs from post-Eocene beds of Myanmar)

Wandrey, C. J. (2006)- Eocene to Miocene composite Total Petroleum System, Irrawaddy-Andaman and North Burma geologic provinces, Myanmar. U.S. Geol. Survey Bull. 2208-E, p. 1-26.
(online at: https://pubs.usgs.gov/bul/2208/E/pdf/B2208-E.pdf)
(Eocene-Miocene petroleum system produced most hydrocarbons in C Burma Basin and Irrawaddy Delta. Structural traps predominant, but stratigraphic traps likely in both ancient and modern delta environments. Mean undiscovered resources estimated at 725 MMB Oil and 20.5 TCFG gas)

Wandrey, C.J., C.J. Schenk, T.R. Klett, M.E. Brownfield, R.R. Charpentier, T.A. Cook, R.M. Pollastro & M.E. Tennyson (2012)- Assessment of undiscovered oil and gas resources of the Central Burma Basin, Irrawaddy-Andaman, and Indo-Burman Geologic Provinces, Myanmar. U.S. Geol. Survey (USGS) Fact Sheet 2012-3107, 2p.
(online at: http://pubs.usgs.gov/fs/2012/3107/)

Wang, C., J. Deng, E.J.M. Carranza & M. Santosh (2013)- Tin metallogenesis associated with granitoids in the southwestern Sanjiang Tethyan Domain: nature, deposit types, and tectonic setting. Gondwana Research 26, 2, p. 576-593.
(Tin mineralization in SW Sanjiang Tethys Sn metallogenic domain in SW China extends from SE Asia tin belt in S. C part of domain is Changning-Menglian Sn belt and related to ~239-178 Ma (M Triassic- E Jurassic) S-type granitoids generated by Tengchong/Baoshan- Simao Blocks collision (= Paleotethys closing). W part of domain is Tengchong/ Baoshan Sn metallogenic belt, related to Cretaceous S-type granitoids (136-113 Ma, resulting from W Burma- Tengchong/Baoshan Blocks collision and 89-52 Ma, corresponding to India- Asia continental collision. Permian (298-262 Ma) I-type granitoids include Lincang granodiorite)

Wang, J.G., F.Y. Wu, X.C. Tan & C.Z. Liu (2014)- Magmatic evolution of the Western Myanmar Arc documented by U-Pb and Hf isotopes in detrital zircon. Tectonophysics 612-613, p. 97-105
(Magmatic arc that formed along Asian margin of Neo-Tethys well studied in Trans-Himalaya in Tibet, but SE extension of arc poorly documented in Myanmar. Detrital zircons from Chindwin Basin indicate mid-Cretaceous arc magmatism in W Myanmar (main magmatic stage ~110-80 Ma, with subordinate stage at ~70-40 Ma))

Wang, M. & D. Cheong (2016)- Reconstruction of burial history and analysis of the hydrocarbon potential using sedimentary modeling the middle Bengal Fan, Myanmar. Geosciences J. 20, 6, p. 813-825.
(Bengal Fan 3 stages of evolution: I (4.5-1.81 Ma; low sedimentation and subsidence), II (1.81-0.79 Ma; highest sedimentation and rapid subsidence), and III (0.79-0 Ma; high sedimentation, slowest subsidence). Biogenic gas typical hydrocarbon in area; generation and migration probably immediately after deposition of Unit 2. Thermogenic hydrocarbon potential low due to relatively low T and short burial)

Wang, X.D., T. Sugiyama & K. Ueno (1998)- Carboniferous and Permian stratigraphy of the Baoshan Block, West Yunnan, Southwest China. Permophiles, Newsletter Permian Stratigraphy 32, p. 38-40.
(Carboniferous and Permian stratigraphy of Baoshan Block (comparable to Sibumasu Block; Gondwana-derived terranes in present-day SE Asia). Basal Permian includes diamictites of possible glaciomarine origin, fusulinid forams Pseudofusulina and Eoparafusulina, small solitary corals incl Cyathaxonia and basaltic lavas. M Permian Shazipo Fm limestone with forams Eopolydiexodina, Neoschwagerina sp., Verbeekina, Shanita amosi, Hemigordius and massive corals)

Wang, Y. (2013)- Earthquake geology of Myanmar. Ph.D. Thesis, California Institute of Technology, Pasadena, p. 1-300.
(Earthquake distributions in Myanmar suggest three distinct active structural systems that accommodate oblique convergence between Indian plate and SE Asia and extrusion of Asian territory around E syntaxis of Himalayan Range. Focus on right-lateral Sagaing fault and oblique subducting N Sunda megathrust)

Wang, Y., K. Sieh, S.T. Tun, K.Y. Lai & Than Myint (2014)- Active tectonics and earthquake potential of the Myanmar region. J. Geophysical Research 119, 4, p. 3767-3822.
(online at: http://onlinelibrary.wiley.com/doi/10.1002/2013JB010762/epdf)
(In Myanmar and immediate surroundings three tectonic systems accommodate oblique collision of Indian plate with SE Asia and extrusion of Asia. Subduction and collision associated with Sunda megathrust under and in Indoburman Range and Naga Hills accommodate most of shortening across transpressional plate boundary. Sagaing fault system dominant locus of dextral motion associated with N-ward translation of India. Left-lateral faults of N Shan Plateau, N Laos, Thailand and S China facilitate extrusion of rocks around E syntaxis of Himalaya. All systems produced major earthquakes in recorded history)

Wang, Y., A. Zhang, W. Fan, T. Peng, F. Zhang, Y. Zhang, & X. Bi (2010)- Petrogenesis of late Triassic post-collisional basaltic rocks of the Lancangjiang tectonic zone, southwest China, and tectonic implications for the evolution of the eastern Paleotethys: geochronological and geochemical constraints. Lithos 120, 3, p. 529-546.
(Xiaodingxi and Manghuihe volcanic sequences of Lancangjiang igneous zone in SW China with zircon ages of ~214 and 210 Ma (~Late Norian), i.e. ~15-20 Myrs younger than syn-collisional granite magmatism (230-241 Ma; ~Carnian). Tectonic model involving E-ward subduction in E Permian and collision in Triassic proposed for E Paleotethys Ocean. During Late Triassic, upwelling of asthenospheric mantle, shortly after slab detachment, may have led to melting of metasomatized mantle wedge, resulting in post-collisional Group 1 and Group 2 magmas)

Wang, Y. & Y. Zhang (2010)- Llandovery sporomorphs and graptolites from the Manbo Formation, the Mojiang County, Yunnan, China. Proc. Royal Society (London), B, 277, p. 267-275.
(online at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2842664/)
(E Silurian (Llandoverian) sporomorphs and graptolites from Manbo Fm, Mojiang area, W Yunnan (part of Indo-China plate in Palaeozoic). Sporomorphs suggest South China and Indo-China paleo-plates may have been in close proximity in Llandoverian; both closely related to Gondwanaland)

Wang, Z. & X. Tan (1994)- Palaeozoic structural evolution of Yunnan. J. Southeast Asian Earth Sci. 9, p. 345-348.
(Yunling-Wuliangshan zone along SW margin of Yangtze Platform was passive margin in E Paleozoic-Devonian and active margin in Carboniferous-Permian. May be main suture of Paleotethys, after E-M Triassic collision. In SW of area Tengcong-Baoshan block (=Sibumasu; JTvG) with Late Carboniferous ice-rafted deposits and Stepanoviella- Lytvolasma fauna Also possible 'Gondwanan E Permian' Glossopteris flora. Paleomag suggests Baoshan was at latitude 38°S in Devonian and 30° S in Carboniferous. E of Baoshan but W of Paleotethys suture are Gengma Block (with Devonian with Monograptus, M Carboniferous-Permian carbonates with Monodiexodina in Permian, no ice-rafted sediments) and Lincang blocks at E side of Changning-Menglian Fracture. Permian 'Cathaysian' Gigantopteris flora at E side of Lancangjiang suture)

Wen, Z., N. Fang & R. Xin (2016)- Meso-Tethys and Neo-Tethys tectonic evolution in Myanmar and adjacent areas. In: Development of the Asian Tethyan Realm: genesis, process and outcomes, 5th Int. Symposium Int. Geoscience Program (IGCP) Project 589, Yangon, p. 55. *(Abstract only)*
(online at: http://igcp589.cags.ac.cn/5th%20Symposium/Abstract%20Volume.pdf)
(Two Tethyan suture zones inMyanmar: (1) Mesotethys Taguang-Myitkyina suture (equivalent of Bangong-Nujiang suture in Tibetan Plateau): ophiolites formation in M Jurassic, M Triassic-E Jurassic subduction under Sibumasu block, and M Jurassic-M Cretaceous West Burma block collision with Sibumasu; (2) Neotethys Yarlung-Tsangpo suture (continuation of Yarlung-Tsangpo suture in Tibetan Plateau): Indo-Burma Range ophiolites formation in E Cretaceous, Late Jurassic-E Cretaceous subduction under West Burma block and Late Cretaceous-Tertiary closing of ocean)

Whittaker, J., L. Zaninetti & D. Altiner (1979)- Further remarks on the micropalaeontology of the Late Permian of eastern Burma. Notes Laboratoire Paleontologie Universite de Geneve 5, p. 1-7.
(Companion paper to Zaninetti et al. 1978)

Win, M.M., M. Enami & T. Kato (2016)- Metamorphic conditions and CHIME monazite ages of Late Eocene to Late Oligocene high-temperature Mogok metamorphic rocks in central Myanmar. J. Asian Earth Sci. 117, p. 304-316.
(High T/ P regional Mogok metamorphic belt in C Myanmar, between W margin of Sibumasu block and E edge of W Burma block. Four age components: ~49 Ma (Late Eocene peak metamorphic upper-amphibolite-granulite stage), 38 Ma, ~28 Ma and ~24 Ma (Late Oligocene postdated hydration stage))

Win, S. & M.M. Myint (1998)- Mineral potential of Myanmar. Resource Geology 48, 3, p. 209-218.

Win, T.T., R.M. Davies, W.L. Griffin, P. Wathanakul & D.H. French (2001)- Distribution and characteristics of diamonds from Myanmar. J. Asian Earth Sci. 19, p. 563-577.

(Diamonds in headless placers at several locations in Myanmar. Common abrasion due to alluvial transport. Brown radiation spots suggest long history in surface environments. Syngenetic minerals mainly of peridotitic paragenesis and include olivine, chromite and native iron. Derivation from upper mantle more likely than than from crustal metamorphic sources. Primary source of diamonds alkaline igneous rock (lamproitic rather than kimberlitic) but reached present locations via sedimentary redistribution)

Wolfart, R., U.M. Win, S. Boiteau, M. Wai, P.U. Cung & U.T. Lwin (1984)- Stratigraphy of the Western Shan Massif, Burma. Geol. Jahrbuch, B57, p. 3-92.

Xie, L., W.Q. Yang, G.C. Liu & Q.L. Feng (2011)- Late Paleozoic radiolaria from the Upper Triassic sedimentary melange in Shangrila, Southwest China and its geological significance. Palaeoworld 20, p. 203-217.
(Radiolarians in exotic siliceous blocks in U Triassic sedimentary melange in Shangrila, SW China, show Garze-Litang tectonic belt was deep-water basin in E Carboniferous-M Permian)

Xing, X., Y. Wang & Y. Zhang (2016)- Detrital zircon U-Pb geochronology and Lu-Hf isotopic compositions of the Wuliangshan metasediment rocks in SW Yunnan (China) and its provenance implications. J. Earth Science (China) 27, 3, p. 412-424.
(online at: http://en.earth-science.net/PDF/20160613095735.pdf)
(Wuliangshan Gp low-grade metasediments E of Lancang giant igneous zone, SW Yunnan, syn-orogenic product of collision between Baoshan with Simao-Indochina blocks. Detrital zircons major age-peak at ~259 Ma, four subordinate-peaks at ~1859, 941, 788 and 447 Ma. Youngest zircon age of 230±5 Ma suggests deposition after M Triassic. Provenance mainly from Simao/ Yangtze blocks to E rather than Baoshan Block to W)

Xu, Y.G. & B. He (2007)- Thick, high-velocity crust in the Emeishan large igneous province, SW China: evidence for crustal growth by magmatic underplating or intraplating. Geol. Soc. America (GSA), Special Paper 430, p. 841-858.

Yan, D.P., M.F. Zhou, C.Y. Wang & B. Xia (2006)- Structural and geochronological constraints on the tectonic evolution of the Dulong-Song Chay tectonic dome in Yunnan province, SW China. J. Asian Earth Sci. 28, p. 332-353.
(Dulong-Song Chay dome on border of China (SE Yunnan) and N Vietnam consists of metamorphic core complex, probably ~800 Ma protolith age, and cover sequence, separated by extensional detachment fault, both overlain unconformably by Late Triassic strata. Late Silurian- E Devonian (~436-402 Ma) granitic intrusion in core complex. Metamorphic grades upper greenschist-low amphibolite facies in core to low greenschist facies in cover sequence. Major extension at M Triassic (237 Ma). Dulong granites intruded Dulong-Song Chay dome in Early Cretaceous (144-140 Ma) and M Cretaceous (116±10 Ma))

Yan, J.X. & D. Liang (2005)- Early and Middle Permian paleoclimates of the Baoshan Block, western Yunnan, China: insight from carbonates. J. Asian Earth Sci. 24, 6, p. 753-764.
(Baoshan Block of W Yunnan, SW China formed E part of Cimmerian Continent in Permian. E Permian formed under influence of Permo-Carboniferous glaciation. After E Permian rifting faunal elements of Gondwana affinity decreased, while those of Cathaysian affinity increased. Late Permian faunas exclusively Cathaysian. E Permian Dingjiazhai Fm carbonates characterized by warm-temperate bryozoan-echinoderm facies of heterozoan association, with no non-skeletal grains. Overlying Yongde and Shazipo Fm carbonates subtropical-tropical chloroforam facies of photozoan association, with common non-skeletal grains)

Yan, J.X., D.Y. Liang & M. Wu (2004)- Permian carbonates of Baoshan block, western Yunnan and their paleoclimatic implications. Science in China, Ser. D, Earth Sci. 47, p. 385-392.
(online at: http://earth.scichina.com:8080/sciDe/fileup/PDF/04yd0385.pdf)
(E Permian carbonates of Djingjiazhai Fm, Baoshan block, temperate facies, dominated by bryozoans, crinoids and brachiopods and without fusulinids. Artinskian basalts (marking rifting-separation from Gondwanaland) overlain by M Permian (Roadian-Wordian) Yongde Fm bryozoan-mollusc limestone with minor fusulinids and algae (incl. Permocalculus). M-L Permian (Wordian- Capitanian- E Wuchiapingian) Shazipo Fm carbonates oolitic, warm-water, incl. common fusulinids and algae)

Yang, S.Y. & J.W. Kim (2014)- Pliocene basin-floor fan sedimentation in the Bay of Bengal (offshore northwest Myanmar). Marine Petroleum Geol. 49, p. 45-58.
(Late Pliocene basin-floor fan deposits in NE Bay of Bengal, Myanmar, with dry, biogenic gas in three fields on W flank of the NW-SE anticline. Reservoir sands stacked in back-stepping fashion and sourced from NW as part of Bengal fan. Shwe field fan-shaped (12 km long, 4 km wide) and ~30 km off base of slope)

Yang, W. (1999)- Stratigraphic and phytogeographic palynology of late Paleozoic sediments in western Yunnan, China. Science Repts. Niigata University, Ser E (Geology), 14, p. 15-99.
(online at: http://work.geobiology.cn/)
(Extensive review of W Yunnan geology and Permo-Carboniferous flora. E Permian Gondwanan glacial sediments, overlain by cold-water fauna like Eurydesma and cool Glossopteris flora. In late E Permian appearance of tropical- subtropical Tethyan elements, incl. Monodiexodina, Costiferina, etc.)

Yang, X., X. Jin, Z.S. Ji, Y.Z. Wang, J.X. Yao & H.L. Yang (2004)- New materials of the *Shanita-Hemigordius* assemblage (Permian foraminifers) from the Baoshan Block, Western Yunnan. Acta Geologica Sinica (English Ed.) 78, 1, p. 15-21.
(Description of abundant late M Permian hemigordiid foraminifera Shanita and Hemigordius from 'Cracked Lst' NE of Woniu Temple of Baoshan, W Yunnan. Assemblage similar to Shanita fauna from Shazipo Fm, Zhengkang, W Yunnan, and to Permian of Burma, Thailand, Iran and Turkey. all believed to originate on tectonic blocks derived from N margin of Gondwana)

Yao, W., L. Ding, F. Cai, H. Wang, Q. Xu & Than Zaw (2017)- Origin and tectonic evolution of upper Triassic turbidites in the Indo-Burman ranges, West Myanmar. Tectonophysics 721, p. 90-105.
(Petrography, detrital zircon ages and Hf isotopic data from Late Triassic Pane Chaung Fm exposed in Indo-Burman Ranges (W Burma Block). With Carnian-Norian Halobia molluscs; maximum depositional ages ~233-206 Ma. Detrital zircon age populations and Hf values interpreted to be derived from W Papua region. Triassic zircons (mainly ~210-250 Ma) probably from contemporaneous volcanic source. Older populations (~600-450 Ma, 1250-900 Ma and Archean from orogenic belts and cratons in Australia. Zircon ages different from similar-aged strata in Indochina and Sibumasu, but comparable to NW Australia and Greater India. Probably deposited in Late Triassic submarine fan along N margin of Australia)

Yenne, K.A. (1988)- Hydrocarbon (oil, gas and coal) prospect for Burma. U.S. Geol. Survey, Open-File Report 88-402, p. 1- 25.
(online at: https://pubs.usgs.gov/of/1988/0402/report.pdf)
(Brief review of oil occurrences in C Myanmar onshore, where oil has been extracted perhaps as early as 13th century. Future oil-gas discoveries expected to be small)

Yi, H., C. Lee & D.Y. Kim (2015)- Shwe Ga development, Rakhine Offshore, Myanmar. Proc. SEAPEX Exploration Conference 2015, Singapore, 2.2, p. 1-15. *(Extended Abstract + Presentation)*
(Three Daewoo gas field discoveries in Rakhine basin, NE offshore Myanmar from 2004-2006: Shwe, Shwe Phyu and Mya. Three fields with 2P reserves of 4 TCF. Biogenic gas in deepwater Late Pliocene Bengal Fan turbidite sand reservoirs (interbedded lobes, channels and slumps, sourced from NW and NE).(see also Yang & Kim 2014))

Yin, T.H. & C.H.Lu (1937)- On the Ordovician and Silurian beds of Shihtien, Western Yunnan. Acta Geologica Sinica 16, 1, p. 41-56.
(Shihtien Beds lower Ordovicain shales rich in brachiopods, trilobites, graptolites, overlain by 90m Hengshuitang Lst, equivalent of Nyaungbaw Lst of Myanamar (N Shan), overlain by Silurian graptolite shale)

Yonemura, K., Y. Osanai, N. Nakano, T. Adachi, P. Charusiri & Z.T. Nain (2013)- EPMA U-Th-Pb monazite dating of metamorphic rocks from the Mogok metamorphic belt, central Myanmar. J. Mineralogical Petrological Sci. 108, 3, p. 184-188.
(online at: https://www.jstage.jst.go.jp/article/jmps/108/3/108_121019a/_pdf)

(Mogok Metamorphic Belt in C Myanmar with high-grade metamorphics, probably formed during regional Eocene- Oligocene metamorphic event. U-Th-Pb monazite dating in central MMB suggests Eocene- Oligocene deformation. Several Mnz grains from Meikthila and Mandalay areas also record ages of Late Triassic (~200 Ma) and Cretaceous (~80 Ma and 110 Ma) geologic events)

Yui, T.F., M. Fukoyama Y. Iizuka, C.M. Wu, T.W. Wu, J.G. Liou & M. Grove (2013)- Is Myanmar jadeitite of Jurassic age? A result from incompletely recrystallized inherited zircon. Lithos 160-161, p. 268-282.
(Tree types of zircons in two Myanmar jadeitite samples: Type I -inherited zircons with igneous protolith age of 160 ± 1 Ma; Type II- metasomatic/hydrothermal zircons, giving minimum jadeitite formation age of ~77 Ma (Late Cretaceous subduction before India collision); Type III- incompletely recrystallized zircons with geologically meaningless ages of 153-105 Ma. Jadeitites formed through metasomatic replacement processes)

Zaw, H.N. & Myint Soe (2016)- Massive iron ore deposit, Hwe Hpa area, Mong Yawng, Myanmar. In: Proc. 52nd Annual Session Coord. Comm. Geoscience Progr. E and SE Asia (CCOP), Bangkok, p. 165-173.
(online at: www.ccop.or.th/download/as/52as2.pdf)
(Magnetite-hematite mineralization in northern continuation of Permian-Triassic Sukhothai island arc system along margin of Indochina terrane, in E Shan State, easternmost Myanmar. Hosted in Paleozoic siltstone-mudstone)

Zaw, K. (1990)- Geological, petrogical and geochemical characteristics of granitoid rocks in Burma: with special reference to the associated W-Sn mineralization and their tectonic setting. J. Southeast Asian Earth Sci. 4, 4, p. 293-335.
(Burmese granitoids in three N-S trending, major belts (1) U Cretaceous-Lower Eocene E belt granitoids, with porphyry Cu-Au, thought to represent magmatic-volcanic arc above E-dipping, but W-ward migrating, subduction zone; (2) mostly U Cretaceous- Lower Eocene Central granitoid belt plutons, with vein-type W-Sn deposits in deformed, Paleozoic metamorphic rocks; (3) E belt granitoids are largely unknown, immediately N of mostly Triassic granitoids in N Thailand and Sn-W bearing Main Range granitoids in W Malay Peninsula)

Zaw, K. (1998)- Geological evolution of selected granitic pegmatites in Myanmar (Burma): constraints from regional setting, lithology, and fluid-inclusion studies. Int. Geology Review 40, 7, p. 647-662.
(Pegmatite veins and dikes common in 1500km long, N-S-trending, tungsten-tin bearing granitoid belt in Myanmar. Emanated from cooling S-type granitoids, with which they are spatially associated)

Zaw, K. (2017)- Overview of mineralization styles and tectonic metallogenic setting in Myanmar. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 24, p. 531-556.
(Review of many different styles of mineralization of metallic and non-metallic mineral deposits in Myanmar (tin-tungsten, lead-zinc-silver, copper ± gold, Ni-Cr ± platinum (in Jurassic ophiolites), etc.)

Zaw, K., S. Meffre, M. Takai, H. Suzuki, C. Burrett, T. Htike, Z.M.M.Thein, T. Tsubamoto, N. Egi & M. Maung (2014)- The oldest anthropoid primates in SE Asia: evidence from LA-ICP-MS U-Pb zircon age in the Late Middle Eocene Pondaung Formation, Myanmar. Gondwana Research 26, p. 122-131.
(Afrasia monkey and other terrestrial mammal fossils in late M Eocene Pondaung Fm, C Myanmar. Pondaung Fm sands derived from unroofing of dissected andesitic volcanic arc and deposited on forested floodplains of large tropical river. U-Pb age for zircons from tuffaceous bed in Pondaung Fm 40.3 and 40.2 Ma, slightly older than debatable magnetostratigraphic ages of 36-39 Ma for anthropoids from Egypt and Libya. New date supports Asian origin for anthropoids)

Zaw, K., A. Pwa & T.A. Zan (1984)- Lead-zinc mineralization at Theingon Mine, Bawsaing, Southern Shan State, Burma; a Mississippi Valley-type deposit? Bull. Geol. Soc. Malaysia 17, p. 283-306.
(online at: www.gsm.org.my/products/702001-101150-PDF.pdf)
(Theingon Pb-Zn deposit near Bawsaing, S Shan State comparable to Mississippi-Valley-type deposits. Pb-Zn mineralization within Lower- M Ordovician Wunbye Fm carbonates (Sibumasu Plate). Epigenetic in origin)

Zaw, K., W. Swe, A.J. Barber, M.J. Crow & Y.Y. Nwe (2017)- Introduction to the geology of Myanmar. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, p. 1-17.
(online at: http://mem.lyellcollection.org/content/memoirs/48/1/1.1.full.pdf)
(Myanmar lies at junction of Alpine-Himalayan orogenic belt and Indonesian island arc system. West Myanmar Block considered to have formed part of N margin of Gondwana; subsequent history block contentious: one possiblity separation from W Sumatra during Miocene development of Andaman Sea (similar Permian fusulinid assemblages. E Myanmar, including Shan Plateau, part of Sibumasu Block, which extends S-wards from Yunnan through Myanmar to Thailand, Malay Peninsula and Sumatra. In E Paleozoic Slate Belt (Mergui Gp) with diamictitesm part of Sibumasu Block or separate bloc. Etc.)

Zaw, K., Y.M. Swe, T.A. Myint & J. Knight (2017)- Copper deposits of Myanmar. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 26, p. 573-588.
(Myanmar with >70 copper occurrences, including large high-sulphidation Cu ± Au deposits W of Monywa. Production started in 1985 with development of Sabetaung deposit at Monywa in C Myanmar. Copper produced as by-product from Bawdwin Mine, a volcanic-hosted massive sulphide deposit. Most copper associated with epigenetic vein-type and epithermal gold ± silver deposits)

Zaw Win (1991)- Triassic ammonites from the Plateau Limestone, East of Lungyaw and Baukkewzu, Myit-tha and Ywa-ngan Township, Myanmar. Georeports 1, 1, p. 75-87.

Zaw Win (2004)- Permian-Triassic Plateau Limestone in Lungyaw-Sakangyi Area, Shan State: its depositional and biotic history. J. Myanmar Academy Arts and Science 2, 5, p. 217-239.

Zaw Win (2008)- Triassic organic reefs in Lungyaw-Sakangyi Area, Ywa-ngan Township, Shan State. J. Myanmar Geosciences Soc. 1, 1, p. 21-36.
(M-U Triassic organic reefs in upper Plateau Lst in Myanmar massive ridges forming NNW-SSE trending range. Composed off in situ frame-building hexacorals (incl. Montlivaltia), calcisponges (Paradeningeria) and encrusting calcareous algae. Foraminifera include Alpinophragmium perforatum, Trocholina, Agathammina, Duotaxis, etc. Limestone turbidites flanks limestone masses as fore-reef slope and toe-of slope facies. Reefs probably developed as fringe of steep shelf margin that may have undergone growth-faulting)

Zaw Win (2009)- Fossil brachiopods from the Zwekabin Range. Hpa-an University Research J. 2009, 1, p. 145-149.
(Spinomartinia prolifica brachiopod assemblage found for first time from U Taungnyo Gp exposed along NW flank of Zwekabin Range, S Myanmar. Associated with Retimarginifera cf. alata, Torynifer, etc. Correlated with Spinomartinia prolifica fauna of E Permian Ko Yao Noi Fm of S Thailand and Kinta Valley of W Malay Peninsula , where age determined as Late Sakmarian (E Permian). Spinomartinia fauna viewed as 'transitional' biotic province with both Gondwanan and Tethyan affinities and endemic taxa of Shan-Thai Terrane)

Zaw Win, H.H. Aung & K.K. Shwe (2011)- *Shanita thawtinti*, a new milioloid foraminifer from the Middle Permian of Myanmar. Micropaleontology 57, 2, p. 125-137.
(online at: www.micropress.org/micropen2/articles/1/7/30349_articles_article_file_1727.pdf)
(Shanita thawtinti n. sp. proposed for pillared miliolid in Plateau Limestone Group, W Shan Plateau, Myanmar. Characterized by very large size. Age interpreted as M Permian (Murgabian=Wordian) based on fusulinids Neoschwagerina craticulifera below and Neoschwagerina margaritae above. Shanita amosi and Hemigordiopsis renzi at slightly lower horizons)

Zaw Win & K.K. Shwe (2005)- Study of fusulinaceans from the Plateau Limestone at Kyaukap: taxonomic and biostratigraphic consideration. J. Myanmar Academy Arts and Science 3, p. 73-90.

Zaw Win, K.K. Shwe & O.S. Yin (2017)- Sedimentary facies and biotic associations in the Permian-Triassic limestones on the Shan Plateau, Myanmar. In: A.J. Barber et al. (eds.) Myanmar: geology, resources and tectonics, Geol. Soc., London, Memoir 48, Chapter 15, p. 343-363.

(Thick late E Permian- M-L Triassic Plateau Limestone on Shan Plateau of E Myanmar (= W part of Sibumasu terrane). Unconformably over Ordovician-Silurian formations. Basal dolomitic limestone unit rich in corals (Wentzelella cf timorica, Ipciphyllum, Polythecalis), fusulinids (Pseudofusulina, Yangchienia, rare Neoschwagerina), small forams (Shanita amosi, Hemigordiopsis renzi, Agathammina, Pachyphloia), algae (Mizzia), etc. Triassic algal and cherty basinal limestones. Plateau Lst correlated with: (1) Ratburi Lst of Peninsular Thailand, (2) Chuping Fm/ Kodiang Lst of NW PeninsularMalaysia and (3) U Shazipo Fm of Baoshan Block, SW Yunnan)

Zhang, H., J. Liu & W. Wu (2012)- Geochronology and tectonic evolution of the Lincang Batholith in southwestern Yunnan, China. J. Geol. Research 2012, Article ID 287962, p. 1-11.
(online at: www.hindawi.com/journals/jgr/2012/287962/)
(U-Pb zircon dating of Late Triassic (~220, 230 Ma) granites of Lincang Batholith, subduction-related magmatism along W edge of Lanping-Simao-Indochina terrane, prior to latest Triassic closure of Paleo-Tethys)
(E Devonian graptolites from SW Yunnan, close to NE Myanmar border. Rel. cosmopolitan species. Three zones of based on Monograptus spp.. Part of Sibumasu Block with related graptolite occurrences in E Myanmar, N Thailand, W Malay Peninsula (Jaeger 1969, 1983))

Zhang, J., W. Xiao, B.F. Windley, F. Cai, K. Sein & S. Naing (2017)- Early Cretaceous wedge extrusion in the Indo-Burma Range accretionary complex: implications for the Mesozoic subduction of Neotethys in SE Asia. Int. J. Earth Sciences 106, 4, p. 1391-1408.
(Indo-Burma Range of Myanmar (E extension of Yarlung-Tsangpo Neotethyan belt of Tibet in China), contains melanges with serpentinite, greenschist facies basalt, chert, sericite schist, silty slate and unmetamorphosed Triassic sandstone, mudstone and siltstone interbedded with chert in E, and farther N high-P blueschist and eclogite blocks in Naga Hills melange. IBR metamorphic rocks exhumed by wedge extrusion in subduction zone accretionary complex. Amphibolites zircon ages of 119 ± 3 Ma and 115 Ma, close to ages of nearby calc-alkaline granite and diorite, which belong to active continental margin arc along W side of Shan-Thai block. IBR accretionary complex generated during E Cretaceous (115-128 Ma) subduction of Neotethys Ocean).

Zhang, P., L. Mei, X. Hu, R. Li, L. Wu, Z. Zhou & H. Qiu (2017)- Structures, uplift, and magmatism of the Western Myanmar Arc: Constraints to mid-Cretaceous-Paleogene tectonic evolution of the western Myanmar continental margin. Gondwana Research 52, p. 18-38.
(Arc-basin system along W Myanmar continental margin, with at least three igneous events in W Myanmar Arc: mid-Cretaceous (110-90 Ma), latest Cretaceous- E Paleocene (69-64 Ma) and Eocene (53-38 Ma), and associated uplift in Late Cretaceous, Eocene and Late Oligocene. Magmas significant juvenile mantle source component involving subducted sediments and juvenile crustal materials. Magmatism can be correlated with Gangdese arc in Lhasa terrane of S Tibetan Plateau. Model of E-ward subduction of Neo-Tethyan/Indian plate oceanic crust under Sibumasu starting in mid-Cretaceous, with long-lived back-arc extension in W Myanmar)

Zhang, R.Y., C.H. Lo, S.L. Chung, M. Grove, S. Omoti, Y. Iizuka, J. G. Liou & T.V. Tri (2013)- Origin and tectonic implication of ophiolite and eclogite in the Song Ma Suture Zone between the South China and Indochina Blocks. J. Metamorphic Geol. 31, 1, p. 49-62.
(Song Ma belt in N Vietnam with ophiolite, metabasite, metasediments and eclogite, and thought to be suture zone between Indochina and South China blocks. Eclogite high-P metamorphism in subduction zone with low T gradient (~8 °C/km). Song Ma ophiolite experienced ocean-floor metamorphism. Metabasalt and gabbro with MORB-type geochemical affinities. Eclogite U-Pb zircons mean age 230.5 ± 8.2 Ma, interpreted as closure age of Paleotethys and subsequent collision of two blocks in M Triassic (main Indosinian Orogeny))

Zhang, R.Y., C.H. Lo, X.H. Li, S.L. Chung, Tran Tuan Anh & Tran V. Tri (2014)- U-Pb dating and tectonic implication of ophiolite and metabasite from the Song Ma suture zone, northern Vietnam. American J. Science 314, 2, p. 649-678.
(Song Ma ophiolites mainly peridotite, basalt and gabbro with greenschist- lower amphibolite-facies metamorphism. U-Pb zircon ages 340± 29 Ma (E Carboniferous), interpreted as protolith age. Metamorphic rims age of ~280 Ma (E Permian). Metabasalt protolith age ~315 Ma. Eclogite and garnet hornblende metamorphic ages ~ 230 Ma. Three-stage evolution: (1) Paleotethys oceanic crust formation at 340-315 Ma and

ocean-floor metamorphism at 283-280 Ma, (2) <280-230 Ma: Paleotethys lithosphere subduction and HP metamorphism at ~230 Ma; closure of Paleotethys in M Triassic; and (3) <230 Ma: breakoff of Paleotethys oceanic lithosphere and exhumation of subducted slabs. Subduction polarity still problematic)

Zhang, Y.D., J.X. Fan, B.D. Erdtmann & X. Liu (2009)- Darriwilian graptolites of the Shihtien Formation (Ordovician) in west Yunnan, China. Alcheringa 33, 4, p. 303-329.
(online at: www.tandfonline.com/doi/pdf/10.1080/03115510903043762?needAccess=true)
(W Yunnan in SW China part of Sibumasu Terrane. Ordovician rocks affected by several phases of tectonics. M-L Darriwilian graptolite fauna from Shihtien Fm at Baoshan and Shidian with 15 species, incl. Didymograptus artus, D. murchisoni, D. spinulosus, Pterograptus sp., Hustedograptus spp, Archiclimacograptus spp., etc. Two biozones:Didymograptus artus and D. murchisoni. Graptolite fauna similar to Baltica and S China)

Zhang, Y.D., J.X. Fan & X. Liu (2009)- Graptolite biostratigraphy of the Shihtien Formation (Darriwilian) in West Yunnan, China. Bull. Geosciences 84, 1, p. 35-40.
(online at: www.geology.cz/bulletin/fulltext/bullgeosci841_1103.pdf)
(Rich M Ordovician graptolite fauna from Shihtien Fm at Baoshan and Shidian in W Yunnan, SW China (W Yunnan generally considered part of Sibumasu/ Shan-Tai terrane). Incl. Didymograptus artus, D. murchisoni, D. spinulosus, Pterograptus, Hustedograptus, etc., indicating Darriwilian age.)

Zhang, Y., W.H. He, G.R. Shi & K.X. Zhang (2013)- A new Changhsingian (Late Permian) Rugosochonetidae (Brachiopoda) fauna from the Zhongzhai section, southwestern Guizhou Province, South China. Alcheringa 37, p. 223-247.

Zhang, Y., W.H. He, G.R. Shi, K.X. Zhang & H.T. Wu (2015)- A new Changhsingian (Late Permian) brachiopod fauna from the Zhongzhai section (South China) Part 3: Productida. Alcheringa 39, 3, p. 295-314.
(Latest Permian Brachiopod fauna from section at Zhongzhai, Guizhou Province (S China). 15 species of Productida. Etc.)

Zhang, Y.D. & A.C. Lenz (1998)- Early Devonian graptolites from southwest Yunnan, China. J. Paleontology 72, 2, p. 353-360.

Zhang, Y., G.R. Shi, W.H. He, K.X. Zhang & H.T. Wu (2014)- A new Changhsingian (Late Permian) brachiopod fauna from the Zhongzhai section (South China), Part 2: Lingulida, Orthida, Orthotetida and Spiriferida. Alcheringa 38, 4, p. 480-503.

Zhang, Y., Y. Wang, R. Zhan, J. Fan, Z. Zhou & X. Fang (2014)- Ordovician and Silurian stratigraphy and palaeontology of Yunnan, Southwest China- A guide to the field excursion across the South China, Indochina and Sibumasu. IGCP Project 591 Post-conference fieldtrip, Kunming 2014, Science Press, Beijing, p. 1-128.
(Yunnan province of SW China comprises three terrains: South China (E Yunnan), Indochina (Simao; C and S Yunnan) and Sibumasu (Baoshan- Tengchong; W Yunnan- E Myanmar, etc.). All were part of NE Peri-Gondwana Region in Early Paleozoic, possibly off the NW Australia sector)

Zhao, J., B. Huang, Y. Yan & D. Zhang (2015)- Late Triassic paleomagnetic result from the Baoshan Terrane, West Yunnan of China: implication for orientation of the East Paleotethys suture zone and timing of the Sibumasu-Indochina collision. J. Asian Earth Sci. 111, p. 350-364.
(Paleomagnetic study of Late Triassic basalts from S part of Baoshan Terrane (= N-most Sibumasu Block) in W Yunnan indicates 15°N paleolatitude in Late Triassic time. Wider paleomagnetic comparison supports view that E Paleotethys Ocean separated Sibumasu and Indochina blocks and closed no later than Late Triassic. N-S directed Changning-Menglian suture zone likely E-W at time of Sibumasu-Indochina collision)

Zhao, J.M. & G.D. Zhou (1987)- Discovery of *Lytvolasma* fauna from western section of Eastern Kunlun Mountains. Acta Palaeontologica Sinica 26, 4, p. 486-491.

(Lytvolasma late E Permian coral fauna from E Kunlun Mts, W Qinghai. Also with Pleramplexus, Wannerophyllum, Lophophyllidium wichmanni, Timorphyllum, etc. Coral fauna characterized by simple forms with no dissepiments, signifying cold-water fauna. Comparable to Basleo beds of Timor)

Zherikhin, V.V. & A.J. Ross (2000)- A review of the history, geology and age of Burmese amber (burmite). Bull. Natural History Museum, London (Geology) 56, 1, p. 3-10.
(online at: https://ia800304.us.archive.org/24/items/bulletinofnatura561natu/bulletinofnatura561natu.pdf)
(Burmese amber has been known since 1st century AD. Recorded from five regions in Myanmar, but only mined commercially in Hukawng Valley in N Myanmar. Amber in clastic deposits with Nummulites of M Eocene age, but amber as reworked pebbles and probably of Cretaceous age (also associated with reworked Cenomanian limestone clasts with Orbitolina birmanica). With 10 additional papers on insects from Burmese amber)

Zhou, Z. & Z. Yang (2005)- Permian ammonoids from Xinjiang, Northwest China. J. Paleontology 79, 2, p. 378-388.
(late E Permian ammonoid faunas from Xinjiang in W China (edge of Tarim Basin, E of Pamir). With Parapronorites, Propinacoceras, Medlicottia, Agathiceras, Prostacheoceras, Metaperrinites, Perrinites, etc., similar to faunas from adjacent Pamirs and Thailand. Associated with fusulinid limestones)

Zhou, Z.R., Y.J. Wang, J.Z. Sheng & K.Y. Zhu (2000)- *Neofusulinella lantenoisi* Deprat, 1913, type species of the Permian fusulinid genus *Neofusulinella* from Baoshan County, West Yunnan, China. Acta Palaeontologica Sinica 39, 4, p. 457-465.
(E-M Permian Neofusulinella present in Baoshan area (Yunnan; Maokouan age = ?) and Rat Buri Limestone near Takli, Thailand, along W margin of S China- SE Asia block)

Zhu, B., Z. Guo, R. Liu, D. Liu & W. Du (2014)- No pre-eruptive uplift in the Emeishan large igneous province; new evidences from its 'inner zone', Dali area, southwest China. J. Volcanology Geothermal Res. 269, p. 57-67.
(M-L Permian Emeishan LIP considered example of crustal domal uplift caused by mantle plume upwelling before onset of volcanism, but emplacement began in deeper water setting. Lower Succession volcanism had grown into shallower water; Upper Succession subaerial lavas and tuffs. Inconsistent with domal uplift model)

Zhu, B.Q., C.X. Mao, G.W. Lugmair & J.D. Macdougall (1983)- Isotopic and geochemical evidence for the origin of Plio-Pleistocene volcanic rocks near the Indo-Eurasian collisional margin at Tengchong, China. Earth Planetary Sci. Letters 65, 2, p. 263-275.
(In Yunnan Province, SW China, regional extension associated with India- Asia collision formed series of N-S trending basins. Near Tengchong close to Myanmar border, basin is characterized by K-rich basalt-dacite volcanism which began in Pliocene (~ 7 Ma) and continued to historic times. Five chemical groups recognized)

IX.5. Cambodia, Vietnam, Laos, SE China (Indochina - South China Plates)

Allain, R., P. Taquet, B. Battail, J. Dejax, P. Richir, M. Veran, P. Sayarath, B. Khenthavong, P. Thamvirith & B. Hom (1997)- Pistes de dinosaures dans les niveaux du Cretace inferieur de Muong Phalane, province de Savannakhet (Laos). Comptes Rendus Academie Sciences, Paris, IIA, 325, 10, p. 815-821.
('Dinosaur tracks in the Lower Cretaceous of Muong Phalane, Savannakhet Province, Laos'. Three levels with dinosaur footprints along Sang Soy River, in flood plain sandstone at top of late Lower Cretaceous 'Gres superieurs', dated by fresh water pelecypods (Trigonioidacea). Theropod, ornithopod and sauropod footprints)

Allain, R., P. Taquet, B. Battail, J. Dejax, P. Richir, M. Veran, F. Limon-Duparcmeur, R. Vacant et al. (1999)- Un nouveau genre de dinosaure sauropode de la formation des Grss superieurs (Aptien-Albien) du Laos. Comptes Rendus Academie Sciences, Paris, IIA, 329, p. 609-616.
(Partly-articulated postcranial remains of two sauropod skeletons in Tang Vay (Savannakhet) assigned to Tungvuyosuurus hoffeti n.gen. n.sp. . Considered as primitive titanosaur)

Allain, R., T. Xaisanavong, P. Richir & B. Khentavong (2012)- The first definitive Asian spinosaurid (Dinosauria: Theropoda) from the Early Cretaceous of Laos. Naturwissenschaften 99, 5, p. 369-377.
(First discovery of new spinosaurid theropod from Asia in late E Cretaceous Savannakhet Basin in Laos. Named Ichthyovenator laosensis n.gen. n.sp. Includes partially articulated postcranial remains with dorsosacral sail)

Amare, K. & C. Koeberl (2006)- Variation of chemical composition in Australasian tektites from different localities in Vietnam. Meteoritics Planetary Science 41, 1, p. 107-123.
(online at: http://onlinelibrary.wiley.com/doi/10.1111/j.1945-5100.2006.tb00196.x/epdf)
(Pleistocene tektites from Vietnam either of splash form (SiO2 70-77%), or larger, blocky Muong Nong-type (SiO2 74-81%.). Geochemistry similar to Muong Nong-type indochinites, indicating same source and composition similar to average upper continental crust, without obvious extraterrestrial components)

Anh, P.L., A.G. Vladimirov, N.N. Kruk, G.V. Polyakov, V.A. Ponomarchuk, T.T. Hoa et al. (2010)- Stanniferous granites of Vietnam: Rb-Sr and Ar-Ar isotope age, composition, sources, and geodynamic formation conditions. Doklady Earth Sciences 432, 2, p. 839-845.
(Granite-leucogranite massifs in Vietnam, linked to cassiterite placer deposits, are of Late Cretaceous age (~85 Ma) by Rb-Sr and Ar-Ar isotope dating)

Barnes, V.E. & K. Pitakpaivan (1962)- Origin of indochinite tektites. Proc. National Academy Sciences USA 48, p. 947-955.
(online at: www.pnas.org/content/48/6/947)
(Chemical analyses of Muong Nong-type and 'normal' splashform indochinite flassy tektites from Laos and Thailand)

Barr, S.M. & A.S. MacDonald (1981)- Geochemistry and geochronology of Late Cenozoic basalts of Southeast Asia: summary. Geol. Soc. America (GSA) Bull. 92, 8, p. 508-512.
(Brief review of Late Cenozoic (12 Ma- Recent) basalts in Vietnam, Cambodia, Thailand. Wide diversity in geochemistry. Hawaiites appear to be most voluminous, but tholeiites also abundant, especially in Vietnam. Basanitoid basalts relatively minor, as small isolated flows, vents, or plugs, or as youngest extrusions capping more voluminous, less-undersaturated, older flows)

Battail, B. (2009)- Late Permian dicynodont fauna from Laos. In: E. Buffetaut, G. Cuny et al. (eds.) Late Palaeozoic and Mesozoic ecosystems in SE Asia, Geol. Soc. London, Spec. Publ. 315, p. 33-40.
(New collection of Dicynodon spp. tetrapod skulls from Late Permian purple beds of Luang Prabang area. This indicates Indochina Plate was probably connected to mainland Eurasia (Pangea) by Late Permian time)

Battail, B., J. Dejax, P. Richir, P. Taquet & M. Veran (1995)- New data on the continental Upper Permian in the area of Luang Prabang, Laos. In: Proc. IGCP Symposium on Geology of SE Asia, Hanoi, J. Geology B, 5-6, Hanoi, p. 11-15.
(Permian N of Luang Prabang contains ~120m thick 'fourth zone' of continental purple clays- sandstones with silicified wood and tetrapod fauna dominated by Dicynodon, a cosmopolitan terrestrial animal widespread in Late Permian of Pangea. Sshows NW edge of Indochina block probably had land connection to Pangea in Late Permian. Basal section of zone with (reworked?) Late Murgabian corals, incl Ipciphyllum, Multimurus)

Bercovici A., S. Bourquin, J. Broutin, J.S. Steyer, B. Battail, M. Veran, R. Vacant, B. Khentavong & S. Vongphamany (2012)- Permian continental paleoenvironments in Southeastern Asia: new insights from the Luang Prabang Basin (Laos). J. Asian Earth Sci. 60, p. 197-211.
(On M-L Permian fluvial and shallow marine clastics along Mekong River in Luang Prabang area, Indochina Block. Basal marine limestones with Spiriferina, clastics with Cathaysian-affinity floras (but also Glossopteris-like leaves) and 'Pangean' tetrapod reptile fossils of genus Dicynodon)

Blanchard, S., C. Rossignol, S. Bourquin, M.P. Dabard, E. Hallot, T. Nalpas, M. Poujol, B. Battail, N.E. Jalil et al. (2013)- Late Triassic volcanic activity in South-East Asia: new stratigraphical, geochronological and paleontological evidence from the Luang Prabang Basin (Laos). J. Asian Earth Sci. 70-71, p. 8-28.
(Luang Prabang Basin in N Laos asymmetric NE-SW syncline with NE-SW thrusts between Late Permian and Late Triassic deposits. Late Triassic fluvial volcaniclastics with euhedral zircon grains aged ~225, 220 to 216 Ma, indicating Carnian-Norian volcanism during sedimentation. Anhedral inherited zircons older, many of them ~1870 Ma)

Blanche, J.B. (1990)- An overview of the exploration history and hydrocarbon potential of Cambodia and Laos. In: 8th Offshore SE Asia Conf., Singapore 1990, Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) 9, OSEA 90178, p. 89-99.

Blanche, J.B. & J.D. Blanche (1992)- An overview of the exploration history and hydrocarbon potential of Cambodia and Laos. Bull. Geol. Soc. Malaysia 32, p. 135-154.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1992019.pdf)
(Petroleum geology and hydrocarbon potential of Cambodia and Laos virtually unknown. Only 3 wells drilled in Cambodia. Mesozoic and Cenozoic basins may have potential)

Blondel, F. (1932)- La geologie et les mines de l'Indochine francaise. Soc. Edit.Geogr. Maritimes Coloniales, Paris, p. 1-148.
('The geology and mines of French Indochina')

Bohme, M., M. Aiglstorfer, P.O. Antoine, E. Appel, P. Havlik, G. Metais, Laq The Phuc, S. Schneider, et al. (2013)- Na Duong (northern Vietnam)- an exceptional window into Eocene ecosystems from Southeast Asia. Zitteliana A 53, p. 121-167.
(online at: www.wahre-staerke.com/~madelaine/2014_Boehme_NaDuong.pdf)
(Na Duong Basin in N Vietnam with high diversity Paleogene vertebrate, invertebrate and plant fossils in 220 m thick coal-bearing Na Duong section, ~20km SE of Lang Son. Affinities of new mammal species suggest M-L Eocene age (late Bartonian-Priabonian). High biodiversity unionid mussels (Nodularia, Cristaria), freshwater gastropods, fishes, turtles and crocodiles. Dipterocarp trees and tree ferns identified. In-situ tree-stump horizons suggest maximum canopy height (35m). Environment changed abruptly from swamp forest to tropical-warm subtropical lake. Strong biogeographic link with Eocene mammal faunas from Europe)

Bohme, M., J. Prieto, S. Schneider, Nguyen Viet Hung, Do Duc Quang & Dang Ngoc Tran (2011)- The Cenozoic on-shore basins of Northern Vietnam: biostratigraphy, vertebrate and invertebrate faunas. J. Asian Earth Sci.40, p. 672-687.
(Na Duong, Cao Bang, and Hang Mon basins of N Vietnam (at boundary of Indochina- S China plates) contain rich non-marine fauna and flora of supposed Oligocene age, including mammals, crocodiles, >6 turtle species, 20 fish taxa, 20 mollusc species and plant remains. Most taxa new to science)

Boura, A., D. Pons, C. Vozenin-Serra & Bui Phu My (2013)- Mesozoic fossil wood of Kien Giang Province, southwestern Vietnam. Palaeontographica, B 290, 1-3, p. 11ï 40
(New fossil wood from E Cretaceous continental red beds ('Gres superieurs') of islands in NE Gulf of Thailand off S Vietnam. Fossil wood samples belong to Agathoxylon saravanensis, Protophyllocladoxylon, Cycadeanoxylon. Brachyoxylon orientale and Prototaxoxylon asiaticum already known from this area. Associated with rel. common Classopollis pollen, Signify rel. aridclimate with some seasonality (growth rings))

Bouttathep, B. (2013)- Geology of the Sepon copper and gold deposits, Laos. In: C. Senebouttalath et al. (eds.) Proc. 2nd Lao-Tai Conf. Geology and Mineral resources, Vientiane, p. 164-187.
(online at: www.dmr.go.th/download/English/LAO%20-THAI%20Conference%202012_Proceedings.pdf)
(Sepon Mining District in S C Laos in Sepon basin within NW trending Truongson fold belt of Devonian-Carboniferous sediments and metamorphic rocks (Indochina terrane). Major compressional event, likely associated with Indosinian orogeny and with Carlin-type? gold mineralization-forming intrusion of rhyodacite porphyry dikes)

Buffetaut, E. (1991)- On the age of the dinosaur-bearing beds of southern Laos. Newsletters Stratigraphy 24, 1-2, p. 59-73.
(Dinosaur fauna discovered by Hoffet in 1930 in S Laos considered by him as Senonian in age, but sauropod and hadrosaurid material non-diagnostic. Dinosaur-bearing beds of Muong Phalane equivalent of Khok Kruat Fm of nearby Khorat Plateau in NE Thailand, dated as late E Cretaceous (Barremian; Buffetaut et al. 2005)

Cannell, J.B., J. Stewart, P. Williams, M. Wallace, C.F. Burrett & B. Davis (2015)- The Sepon copper deposits (Laos) and their relation to Carlin-like gold mineralisation. In: Proc. PACRIM 2015 Congress, Hongkong, Australasian Inst. of Mining and Metallurgy (AusIMM), Melbourne, Publ. Ser. 2/2015, p. 399-408. *(Extended Abstract)*
(Sepon district in Lao PDR 1.8 Mt of Cu and >4.5 Moz of Carlin-like Au in Paleozoic sedimentary package. Cu deposits nearPermian rhyodacite porphyry. Carlin-like Au deposits outboard of Cu deposits, but may be related to copper mineralisation, with differences in style related to palaeodepth and proximity to intrusive centres)

Carbonnel, J.P. (1972)- Le Quaternaire cambodgien : structure et stratigraphie. Mem. ORSTOM 60, p. 1-254.
(online at: http://horizon.documentation.ird.fr/exl-doc/pleins_textes/pleins_textes_2/memoires/05936.pdf)
('The Quaternary of Cambodia'. Include M Pleistocene tektites occurrence in upper gravels of 40m terrace of Mekong River)

Carter, A. & P.D. Clift (2008)- Was the Indosinian orogeny a Triassic mountain building or a thermotectonic reactivation event? Comptes Rendus Geoscience 340, 2, p. 83-93.
(No definitive evidence for Triassic age of collision between Indochina and S China blocks. Indosinian event in S China/ Vietnam is reactivation event caused by closure of Paleotethys with accretion of Sibumasu block to Indochina in E-M Triassic (~250-220 Ma))

Carter, A., D. Roques & C. Bristow (2000)- Denudation history of onshore central Vietnam: constraints on the Cenozoic evolution of the western margin of the South China Sea. Tectonophysics 322, p. 265-277.
(Apatite fission track analysis suggests denudation across C Vietnam during syn- and post-rift phases of South China Sea occurred at similar rates (~40m/ Myr), suggesting extension was not dominant factor controlling Cenozoic denudation. Regional Late Miocene cooling linked to enhanced erosion and deposition of prograding sediments in adjacent offshore basins and associated with initiation of regional basaltic magmatism and development of topography)

Carter, A., D. Roques, C. Bristow & P. Kinny (2001)- Understanding Mesozoic accretion in Southeast Asia: significance of Triassic thermotectonism (Indosinian orogeny) in Vietnam. Geology 29, 3, p. 211-214.
(Zircon U-Pb study of metamorphic basement of Vietnam show large part was affected by short-lived episode of ductile deformation and high T metamorphism between 258 ± 6 Ma and 243 ± 5 Ma (Late Permian- earliest

Triassic), caused by accretion of Sibumasu to Indochina- S China ('Indosinian Orogeny'). Coincident with final N-S China collision (Qinling orogenesis))

Cawood, P.A., Y. Wang, Y. Xu & G. Zhao (2013)- Locating South China in Rodinia and Gondwana: a fragment of greater India lithosphere? Geology 2013, 41, p. 903-906.
(online at: http://geology.gsapubs.org/content/41/8/903.full.pdf+html)
(From formation of Rodinia at end of Mesoproterozoic to Pangea breakup at end Paleozoic, S China craton (Cathaysia+Yangtze blocks) was adjacent to W Australia and N India. Neoproterozoic arc-backarc assemblages ages from ~1000 to 820 Ma, with NW decrease in ages, suggesting SE-directed subduction at periphery of Rodinia. E Paleozoic detrital zircon age spectra require E Gondwana source, similar to Tethyan Himalaya and W Australia, suggesting common source and accumulation along N margin of Gondwana. S China block rifted from Gondwana in Late Devonian- E Carboniferous, before drifting across Tethys Ocean, and accreting to Asia (N China) along Qinling-Dabie suture in Permian-Triassic)

Charoentitirat, T., K. Ueno & N. Ratthapon (2011)- Late Paleozoic carbonates and foraminiferal faunas in northern Lao PDR: their geotectonic implications. In: Proc. Int. Conf. Geology, geotechnology and mineral resources of Indochina (GEOINDO 2011), Khon Kaen, p. 6-8. *(Extended Abstract)*
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/2011/34445.pdf)
(N Laos limestones NW of Luang Prabang and S of Sayabouli with Late Permian foraminifera Dagmarita, Septoglobivalvulina? and Reichelina?. Similar to W margin of Indochina Block in Thailand, suggesting link between NE Thailand and NW Laos. Nan-Uttaradit Suture between Sukhothai zone and Indochina Block runs NNE-ward into NW Laos and continues to Lancangjiang suture in W Yunnan (similar to Ueno et al. 2010))

Charvet, J., H. Lapierre & Y. Yu (1994)- Geodynamic significance of the Mesozoic volcanism of southeastern China. J. Southeast Asian Earth Sci. 9, 4, p. 387-396.
(Two main magmatic episodes during Yenshanian cycle, separated by tectonic event: (1) Late Jurassic-M Cretaceous, and (2) Late Cretaceous bimodal suite of continental basalts and acidic rocks, separated by angular unconformity. Geodynamic evolution: (1) subduction of Izanagi plate beneath E Asian continental margin until M Cretaceous; (2) collision with W Philippines Block around E-L Cretaceous boundary; (3) post-collisional extension and onset of rifting during Late Cretaceous)

Chen, Z., Wei Lin, M. Faure, C. Lepvrier, Nguyen Van Vuong & Vu Van Tich (2013)- Geochronology and isotope analysis of the Late Paleozoic to Mesozoic granitoids from northeastern Vietnam and implications for the evolution of the South China block. J. Asian Earth Sci. 86, p. 131-150.
(In NE Vietnam widespread Late Paleozoic and Permo-Triassic granitic plutons. Zircon ages suggest at least four thermal events, at ~525, 254-251, ~245-220 and ~91 Ma. Granitic rocks formed by re-melting of Paleoproterozoic continental crust. NE Vietnam granites belongs to S China block. Late Cretaceous magmatism in back-arc extensional tectonic setting)

Cheng, Y., J. Mao & P. Liu (2016)- Geodynamic setting of Late Cretaceous Sn-W mineralization in southeastern Yunnan and northeastern Vietnam. Solid Earth Sciences 1, 3, p. 79-88
(online at: www.sciencedirect.com/science/article/pii/S2451912X16300046)
(Late Cretaceous (~80-100 Ma) Sn-W mineralization in SE Yunnan (S China) and NE Vietnam many similarities, representing one regional magmatic-mineralization event. Late Cretaceous magmatic-mineralization- metamorphic activities widely distributed along E Asian continental margin, and product of subduction of Paleo-Pacific Plate under Eurasia (also Triassic magmatism with Sn-W mineralization))

Chi, C.T. & J.W. Geissman (2013)- A review of the paleomagnetic data from Cretaceous to lower Tertiary rocks from Vietnam, Indochina and South China, and their implications for Cenozoic tectonism in Vietnam and adjacent areas. J. Geodynamics 69, p. 54-64.
(Review of paleomagnetic data from Cretaceous of Vietnam, Indochina and S China in common reference frame with respect to Eurasia's coeval paleopoles. S China Block has been relatively stable with respect to Eurasia since mid-Cretaceous. Cretaceous - E Tertiary paleomagnetic data from Indochina-Shan Thai Block reveal

complex patterns of intra-plate deformation in response to the India-Eurasia collision. Red River transcurrent fault system complicated slip history in area with modest (~800 km) S-ward translation)

Clift, P.D., A. Carter, I.H. Campbell, M.S. Pringle, Nguyen Van Lap, C.M. Allen, K.V. Hodges & M.T. Tan (2006)- Thermochronology of mineral grains in the Red and Mekong Rivers, Vietnam: provenance and exhumation implications for Southeast Asia. Geochem. Geophys. Geosystems 7, 10, p. 1-28.
(online at: http://onlinelibrary.wiley.com/doi/10.1029/2006GC001336/epdf)
(Zircon dating of sand samples from mouths of Red and Mekong Rivers shows that main sources crust formed within Yangtze Craton and during Triassic Indosinian Orogeny. Indosinian grains in Mekong younger (210-240 Ma) than those in Red River (230-290 Ma))

Cung, T.C., S. Dorobek, S.C. Richter, M.F.J. Flower, E. Kikawa, Y.T. Nguyen & R. McCabe (1998)- Paleomagnetism of late Neogene basalts in Vietnam and Thailand; implications for the post-Miocene tectonic history of Indochina. AGU Geodynamics Series, Mantle dynamics and plate interactions in East Asia, 1998, 27, p. 289-299.
(Paleomagnetic poles for Late Miocene-Quaternary basalts in Vietnam indistinguishable from other Neogene paleomagnetic poles for Indochina, Borneo, S China, and Eurasia, suggesting little or no relative motion between these regions since at least Late Miocene (and possibly earlier). CW declinations from coeval basalts in W and C Thailand probably related to local strike-slip faults that developed during late Neogene uplift and extension of Indochina)

Corsin, P. & C. Desreumaux (1972)- Decouverte dûune flore neocomienne dans les ñGres superieursò de Bokor (Cambodge meridional). Annales Soc. Geol. du Nord 92, p. 199-212.
('Discovery of a Neocomian flora in the 'Upper sands' of Bokor (East Cambodia)'. Philippe et al. (2004) noted that wood from 'Gres superieurs' of Indochina very similar to that from Phu Kradung Fm of NE Thailand (= Late Jurassic oldest formation of Khorat Gp))

Cromie, P.W. (2010)- Geological setting, geochemistry and genesis of the Sepon gold and copper deposits, Laos. Ph.D. Thesis, University of Tasmania, p. 1-395.
(online at: http://eprints.utas.edu.au/10703/)
(Sepon Mineral District gold-copper deposits along Truong Son Fold Belt on NE margins of Indochina Terrane in SE Laos. Geology dominated by Ordovician- Devonian fluvial and marine sediments. Mineralization tied to intrusion of rhyodacite porphyry along faults in E Permian (U-Pb zircons ages ~280-300 Ma) and mainly hosted in Devonian calcareous shale)

Cullen, P.J., P.L. Birch, S.C. Wright, C.J. Keamey & A.T. Pink (1997)- Exploration in the Savannakhet Basin, Peoples Democratic Republic of Laos. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Conf. Petroleum Systems of SE Asia and Australasia, Indon. Petroleum Assoc. (IPA), Jakarta, p. 425-447.
(Collision of Indochina Block with S China Plate in E Carboniferous led to initiation of Khorat Basin as foreland basin to Annamitic fold-belt of NE Vietnam. Subsequent Permo-Triassic collision of Shan-Thai plate from W trapped Indochina Block between converging thrust-fold belts. Marine clastic foredeep and carbonate foreland ramp sedimentation gave way to continental foreland basin deposition across Mesozoic Khorat intermontane basin. Later collision of Lhasa/Myanmar Block and Indian Plate from W rejuvenated earlier compressional structures and propagated fold belts into foreland, resulting in isolation of sub-basins including Savannakhet Basin. Three hydrocarbon plays: Paleozoic carbonate play (analogous to Khorat Plateau play of Thailand), Triassic clastic play, and E Jurassic Khorat Group clastics play)

Cung, T.C. (1996)- Paleomagnetism of Mesozoic and Cenozoic rocks from Vietnam: implications for the Tertiary tectonic history of Indochina and a test of the extrusion model. Ph.D. Thesis Texas A&M University, College Station, p. 1-227.

Cung, T.C. (2007)- Paleomagnetism of Cretaceous continental redbed formations from Indochina and South China, their Cenozoic tectonic implications: a review. VNU J. Science, Earth Sci. 23, p. 220-230.
(online at: www.js.vnu.edu.vn/e_4_07/B3.pdf)

(Cretaceous paleomagnetic data from S China block confirms S China block has been relatively stable with respect to Eurasia since Cretaceous time. Cretaceous paleomagnetic data from Indochina- Shan Thai block reveal complex intraplate deformations due to India- Eurasia collision. CCW rotations recorded from Borneo and Malay Peninsula indicate complex tectonic evolution of SE Asian region)

Cung, T.C. & S.L. Dorobek (2004)- Cretaceous palaeomagnetism of Indochina and surrounding regions: Cenozoic tectonic implications. In: J. Malpas et al. (eds.) Aspects of the geological evolution of China, Geol. Soc., London, Spec. Publ. 226, p. 273-287.
(Paleomagnetic studies of Cretaceous volcanics and sediments from S Vietnam suggests ~5-10° S-ward displacement and virtually no rotation since Cretaceous. Review of paleomag data suggests Sundaland three domains with different rotation/ translation histories: Shan-Thai, Indochina, offshore Sundaland)

Cung, T.C. & J.W. Geissman (2013)- A review of the paleomagnetic data from Cretaceous to lower Tertiary rocks from Vietnam, Indochina and South China, and their implications for Cenozoic tectonism in Vietnam and adjacent areas. J. Geodynamics 69, p. 54-64.
(Cretaceous paleomagnetic data from S China Block show present geographic position of S China Block relatively stable relative to Eurasia since mid-Cretaceous. Cretaceous- E Tertiary data from Indochina- Shan Thai Block reveal complex patterns of intra-plate deformation in response to India-Eurasia collision. Most paleomagnetic results from E and S of Red River fault system at latitude of Yunnan consistent with modest (~800 km) S-ward component of latitudinal translation)

Cung, T.C., J.W. Geissman, V.Q. Hoang, T.P.D. Nguyen & T.H. Nguyen (2014)- New paleomagnetic results of upper Permian- lower Triassic volcanic sequences from the Hoa Binh area, northwest Vietnam. Vietnam J. Earth Sciences 36, p. 413-423.
(online at: www.vjs.ac.vn/index.php/jse/article/download/6429/5701)
(Paleomag work on late Permian- E Triassic volcanics (basalt ages 257-270 Ma; distal equivalents of Emeishian?) of Viet Nam Fm at Hoa Binh dam suggest paleolatitude of ~15°S, and that volcanic terrane was close to or part of S China Block since late Permian)

Cuny, G., J. Mo, R. Amiot, E. Buffetaut, S. Suteethorn,V. Suteethorn & H. Tong (2017)- New data on Cretaceous freshwater hybodont sharks from Guangxi Province, South China. Research and Knowledge 3, 1, p. 11-15.
(online at: https://rk.msu.ac.th/wp-content/uploads/2017/09/04-Gilles.pdf)
(Fluvial Lower Cretaceous Xinlong Fm in Guangxi with diverse assemblage of vertebrates, incl. fresh-water hybodont shark teeth Acrorhizodus khoratensis)

De Franceschi, D. & C. Vozenin-Serra C. (1997)- La flore du Trias superieur vietnamien. Implications paleogeographiques. Comptes Rendus Academie Sciences, Paris, Ser. 2, 324, 4, p. 333-340.
(The flora of the Upper Triassic of Vietnam; paleogeographic implications'. Vietnamese U Triassic flora belongs to coastal floristic assemblage of SW Pacific. (see also Vozenin-Serra & De Franceschi, 1999))

Deng, J., C. Wang, J.W. Zi, R. Xia & Q. Li (2018)- Constraining subduction-collision processes of the Paleo-Tethys along the Changning-Menglian suture: new zircon U-Pb ages and Sr-Nd-Pb-Hf-O isotopes of the Lincang Batholith. Gondwana Research, p. *(in press)*
(Changning-Menglian suture remnant of main Paleo-Tethys in SW China, with abundant magmatic rocks formed during orogenic processes related to closure of Paleo-Tethys. Lincang granitoid batholith crystallization ages of 261, 252 (Late Permian) to 203 Ma (Late Triassic), suggesting multi-stage emplacement. Three episodes related to subduction (before ~ 252 Ma), syn-collision (250-237 Ma) and post-collision (235-203 Ma))

Douville, H. (1906)- Les calcaires a fusulines de lôIndo-Chine. Bull. Soc. Geologique France (4) 6, p. 575-587.
('The fusulinid limestones of Indochina'. Early paper on Permian fusulinid foraminifera from Vietnam and Laos)

Ducrocq, S., M. Benammi, O. Chavasseau, Y. Chaimanee, K. Suraprasit, P.D. Pha, L. Vu, P.V. Phach & J.J. Jaeger (2015)- New anthracotheres (Cetartiodactyla, Mammalia) from the Paleogene of northeastern Vietnam: biochronological implications. J. Vertebrate Paleontology 35, 3, e929139, p. 1-11.
(Three new species of anthracotheres from Late Eocene Na Duong coal deposits in NE Vietnam. Morphologically close to species known in China, Thailand, Myanmar and Egypt)

UN/ESCAP (1990)- Lao People's Republic. Atlas of mineral resources of the ESCAP region 7, United Nations Publications, New York, p. 1-19.
(Brief review of mineral occurrences of Laos)

Fan, P.F. (2000)- Accreted terranes and mineral deposits of Indochina. J. Asian Earth Sci. 18, p. 342-350.
(Summary of Indochina terranes and mineral deposits. Indochina is amalgamation of Sino-Vietnam (=S China), and Viet-Lao, Uttaradit, and Khorat-Kontum (combined into Indochina) terranes)

Faure, C. & H. Fontaine (1969)- Geochronologie du Viet-Nam meridional. Archives Geol. Vietnam 12, p. 213-222.
('Geochronology of South Vietnam'. see also Lasserre et al. 1974)

Feng Rulin (1998)- Discovery of Australia Early Permian brachiopods faunas from Bianping Section of Southwestern Guizhou Province, China and it's significance. Guizhou Geology 1998, 3, p.
(E Permian brachiopod fauna from Bianping section, Guizhou, with Strophomenida, Ptaluctida and Spiriferida, of high diversity and warm water. Faunas chiefly Asselian-Sakmarian, incl. Globiella foordi, Elivina bisnaini, Spiriferella sp., etc., similar similar to E Permian of W Australia. E Permian brachiopods can be correlated with those of E Permian of Irian Jaya, Pakistan Salt Range, Afghanistan, Pamirs, Thailand, Timor, etc. (another example of fairly similar Permian brachiopod assemblages across different tectonic terranes; JTvG))

Feng, Q., W. He, S. Gu, Y. Jin & Y. Meng (2006)- Latest Permian Spumellaria and Entactinaria (Radiolaria) from South China. Revue Micropaleontologie 49, p. 21-43.
(33 species of latest Permian radiolaria from bedded cherts in S China)

Findlay, R.H. (1997)- The Song Ma Anticlinorium, northern Vietnam: the structure of an allochthonous terrane containing an early Palaeozoic island arc sequence. J. Asian Earth Sci. 15, p. 453-464.
(Argues for Indochina- South China blocks collision in Ordovician- E Silurian, older than commonly accepted)

Findlay, R.H. & P.T. Trinh (1997)- The structural setting of the Song Ma Region, Vietnam and the Indochina-South China plate boundary problem. Gondwana Research 1, 1, p. 11-33.
(Song Ma- Song Da region of N Vietnam contains Song Ma Anticlinorium, a polydeformed E Paleozoic island arc/ forearc terrane accreted to S China plate in Siluro-Devonian. Anticlinorium not Indosinian subduction zone. Song Ma Fault is one of many NW-trending post-Cretaceous oblique-slip faults and thrusts)

Filleul, A. & D. Vu Khuc (2001)- A new fish fauna from the Jurassic of Vietnam. J. Asian Earth Sci. 19, 5, p. 641-647.
(Fish fauna from U Jurassic Long Binh Fm (andesitic volcanics and continental redbeds), 17km E of Ho Chi Minh city, Vietnam. Mainly small actinopterygian fish, three different taxa)

Chung, S.L., B.M. Jahn, Wu Genyao, C.H. Lo & B. Cong (1998)- The Emeishan flood basalt in SW China: a mantle plume initiation model and its connection with continental breakup and mass extinction at the Permian-Triassic boundary. In: M.F.J. Flower (ed.) Mantle dynamics and plate interactions in East Asia, AGU Geodynamics Ser. 27, p. 47-58.
(online at: www.agu.org/books/gd/v027/GD027p0047/GD027p0047.pdf)
(Mantle plume model proposed to account for generation of the Emeishan LIP in SW China and N Vietnam. Magmatism may have played role in rifting of Qiangtang Terrane of Tibet from S China Block (Yangtze Craton) in Permian when these blocks were near equator)

Fan, P.F. (1995)- Tectonic patterns and Cenozoic basalts in the western margin of the South China Sea. In: G.H. Teh (ed.) Proc. AAPG-GSM Int. Conf. Southeast Asian basins; oil and gas for the 21st century, Kuala Lumpur 1994, Bull. Geol. Soc. Malaysia 37, p. 91-99.
(online at: www.gsm.org.my/products/702001-100960-PDF.pdf)
(Allochthonous fragments (Indosinia, Sibumasu, E Malaya, and SW Kalimantan) rifted from Gondwanaland and drifted N. At ~50 Ma collision of Indian continent led to fragmentation of Asia, followed by Andaman Sea opening, clockwise rotation of Indochina plate and S China Sea rifting and opening. Indian-Eurasian collision pushed Indochina Peninsula in ESE direction. Most M Tertiary movements along left-lateral Red River, Tonle Sap-Mekong faults, with extension along these faults responsible for widespread Plio-Pleistocene alkaline basalts from Vietnam/Kampuchea N-ward into E Thailand. Basalts composition tholeiitic to alkalic)

Faure, M., C. Lepvrier, Vuong Van Nguyen, Tich Van Vu, W. Lin & Z. Chen (2014)- The South China block-Indochina collision: where, when, and how? J. Asian Earth Sci. 79, p. 260-274.
(Two NW-SE striking orogens in NW and NE Vietnam, each stack of NE-directed nappes, due to SW-directed subduction with arc magmatism, ocean closure, and continental collision. Song Ma zone and Song Chay ophiolitic melange represent two ophiolitic sutures (closing N branch of Paleotethys). Late Triassic unconformity, 225-205 Ma (Norian) postorogenic plutonism, and 250-230 Ma syntectonic metamorphism support E-M Triassic age for tectonic events)

Faure, M., W. Lin, Y. Chu & C. Lepvrier (2016)- Triassic tectonics of the southern margin of the South China Block. Comptes Rendus Geoscience 348, 1, p. 5-14.
(M Triassic orogens widespread around and inside S China Block, resulting from oceanic, then continental subduction of S China Block below Indochina. Triassic suture hypothesized offshore of SCB, E of Hainan Island. Within SCB Xuefengshan M Triassic intracontinental orogen)

Faure, M., W. Lin, P. Monie & S. Meffre (2008)- Palaeozoic collision between the North and South China blocks, Triassic intracontinental tectonics, and the problem of the ultrahigh-pressure metamorphism. Comptes Rendus Geoscience 340, p. 139-150.
(Widespread ultrahigh-pressure rocks in Qinling-Dabie suture between N and S China blocks. Structures and zircon dating of migmatites in core of C Qinling suggests Silurian continent collision, before 400 Ma. Late Permian- M Triassic N-ward continental subduction of SCB responsible for development of UHP metamorphism. Age of UHP metamorphism unsettled. Radiometric ages from Neoproterozoic- Cretaceous, with cluster of ages around 240-210 Ma, leading previous authors to accept Triassic age for NCB-SCB collision)

Fiske, P.S., P. Putthapiban & J.Y. Wasson (1996)- Excavation and analysis of layered tektites from northeast Thailand: results of 1994 field expedition. Meteoritics Planetary Science 31, p. 36-41.

Fiske, P.S., C.C. Schnetzler, J. McHone, K.K. Chanthavaichith et al. (1999)- Layered tektites of southeast Asia: Field studies in central Laos and Vietnam. Meteoritics Planetary Science 34, 5, p. 757-761.
(online at: http://onlinelibrary.wiley.com/doi/10.1111/j.1945-5100.1999.tb01388.x/epdf)
(Pleistocene layered tektites particularly big and abundant near Muong Nong (Laos). Layered tektites also common in C Vietnam and NE Thailand. Part of large layered tektites subfield of Australasian strewn field)

Flower, M.F.J., N. Hoang, N. Trong Yem, N.X. Bao, R. McCabe & S.H. Harder (1993)- Cenozoic magmatism in Indochina: lithospere extension and mantle potential temperature. In: G.H. Teh (ed.) Proc. Symposium on tectonic framework and energy resources of the Western margin of the Pacific Basin, Kuala Lumpur 1992, Bull. Geol. Soc. Malaysia 33, p. 211-222.
(Cenozoic basaltic magmatism of Vietnam- Cambodia initiated at ~15Ma, peaked between ~5 and 0.5 Ma, postdates opening of S China Sea and is associated with lithospheric extension)

Fontaine, H. (1954)- Etude et revision des Tabules et Heliolitides du Devonien d'Indochine et du Yunnan. Archives Geol. Vietnam 2, p. 1-86.
('Study and review of Devonian Tabulata and Heliolitidae from Indochina and Yunnan'. Rel. rich Devonian coral assemblages from Laos and S China. Including Heliolites porosus (also in NE Thailand))

Fontaine, H. (1962)- Gisements fossiliferes du Bassin houiller du Quang-Nam. Travaux de Geologie, 1, p. 33-52.
('Fossiliferous beds from the coal basin of Quang-Nam', Vietnam)

Fontaine, H. (1976)- Tectites du Viet-Nam meridional: repartition geographique, richesse des gisements. Comptes Rendus Soc. Geol. France 2, p. 37-39.
('Tektites of southern Vietnam: geographic distribution and richness of the deposits')

Fontaine, H. & D.R. Workman (1978)- Review of the geology and mineral resources of Kampuchea, Laos and Viet Nam. In: P. Nutalaya (ed.) Proc. 3rd Regional Conf. Geology and Mineral Resources of Southeast Asia (GEOSEA III), Bangkok 1978, p. 539-605.
(online at: http://library.dmr.go.th/library/DMR_Technical_Reports/1978/5242.pdf)
(Major review of Paleozoic-Recent stratigraphy, tectonics and mineral occurrences of Cambodia, Laos and Vietnam)

Fromaget, J. (1927)- Etudes geologiques sur le nord de l'Indochine centrale. Bull. Serv. Geol. Indochina, Hanoi, 16, 2, p. 1-368.
('Geologic studies on the north of central Indochina')

Fromaget, J. (1941)- L'Indochine francaise: sa structure geologique, ses roches, ses mines et leurs relations possibles avec la tectonique. Imprimerie d'Extreme-Orient, p. 1-140.
('French Indochina: its geological structure, rocks, mines and their relations to tectonics')

Garnier, V. (2003)- Les gisements de rubis associes aux marbres de l'Asie Centrale et du Sud-est: genese et caracterisation isotopique. Ph.D. Thesis, Institut National Polytechnique de Lorraine, Nancy, p. 1-371.
('The ruby-bearing beds associated with marbles on Central and SE Asia: genesis and isotopic characterization')

Garnier, V., D. Ohnenstetter, G. Giuliani, A.E. Fallick, T. Phan Trong et al. (2005)- Basalt petrology, zircon ages and sapphire genesis from Dak Nong, southern Vietnam. Mineralogical Magazine 69, 1, p. 21-38.
(Basalts with sapphires in S Vietnam. U-Pb dating of zircons from basaltic placers show two eruptional events, at ~6.5 Ma and at ~1 Ma. No evidence that sapphires in recent alluvial deposits came from basalts)

Garnier, V., D. Ohnenstetter, G. Giuliani, H. Maluski, E. Deloule et al. (2005)- Age and significance of ruby-bearing marble from the Red River shear zone, northern Vietnam. Canadian Mineralogist 43, p. 1315-1329.
(Marble-hosted ruby deposits in Red River Shear Zone, N Vietnam. Wide range of zircon ages (266-38 Ma) suggest complex metamorphic history with two main thermal events: (1) zircon in spinel crystallized in Permian (257± 9Ma), (2) Ruby formed at ~38 Ma during Red River Shear Zone ductile deformation peak metamorphism)

Geoscientists of Socialist Republic of Vietnam (1986)- Stratigraphy and sedimentary basins of Viet Nam. ESCAP Atlas of Stratigraphy, Socialist Republic of Viet Nam, Min. Res. Dev. Ser. 54, p. 1-11.

Gonez, P., Hung Nguyen Huu. Phuong Ta Hoa, G. Clement & P. Janvier (2012)- The oldest flora of the South China Block, and the stratigraphic bearings of the plant remains from the Ngoc Vung Series, northern Vietnam. J. Asian Earth Sci. 43, 1, p.51-63.
(Late Silurian- Devonian of Ngoc Vung Series of N Vietnam with plant remains. Late Silurian localities earliest known flora of S China block. Flora supports hypothesis that more derived plants were present on E Gondwana earlier than elsewhere. Devonian localities with thick fibrous stem fragment, of Eifelian-Emsian age)

Gubler, J. (1935)- Etudes geologiques au Cambodge Occidental. Bulletin Serv. Geol. Indochine 22, 2, p.

Gubler, J. (1935)- Les fusulinides du Permian de l'Indochine: leur structure et leur classification. Mem. Soc. Geologique France, n.s., 11, 4, 26, p. 1-173.

('The fusulinids from the Permian of Indochina: their structure and classification'. Incl. NW Cambodia)

Halle, T.G. (1927)- Palaeozoic plants from Central Shansi. Palaeontologica Sinica, ser. A, 2, 1, p. 1-316.
(Extensive documentation of diverse collection of Permian plant fossils from Upper Shihhotze Formation in C Shanxi Province, C-N China (N China Plate, Cathaysian). With comparisons to Late Paleozoic floras from other parts of SE Asia: of all Asian floras most closely related to Jambi flora of Sumatra which is probably Lower Permian in age and of 'northern type', not Gondwanan)

Halpin, J.A., H.T. Tran, C.K. Lai, S. Meffre, A.J. Crawford & Khin Zaw (2016)- U-Pb zircon geochronology and geochemistry from NE Vietnam: a ótectonically disputedô territory between the Indochina and South China blocks. Gondwana Research 34, p. 254-273.
(NE Vietnam complex geological history records collision between Indochina- S China blocks. Magmatic rocks in Lo-Gam-Song Hien domain represent latest Permian- E Triassic (~245-254 Ma) early post-collisional rift, not genetically linked to Late Permian Emeishan Large Igneous Province in Yangtze block of S China)

Hartung, J.B. & C. Koeberl (1994)- In search of the Australasian tektite source crater: the Tonle Sap hypothesis. Meteorics Planetary Science 29, 3, p. 411-416.
(online at: http://adsabs.harvard.edu/full/1994Metic..29..411H)
(Tonle Sap lake in S-C Cambodia may be remnant of source crater of Australasian tektites strewn field))

Hartung, JB. & A.R. Rivolo (1979)- A possible source in Cambodia for Australasian tektites. Meteoritics 14, 1, p. 153-159.
(A 10x6km ring of hills in NE Cambodia is possible impact crater of Australasian tektite strewn field)

Hayami, I. (1964)- Some Lower Jurassic pelecypods from South Vietnam, collected by Dr. H. Fontaine. In: T. Kobayshi (ed.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 1, p. 253-267.
(Lower Jurassic in Indochina transgressive epoch, with marine deposits in several areas. Black shales in Huu-Nien area (C E Vietnam) with poorly preserved bivalves, incl. Grammatodon, Modiolus, Gervillia, Parainoceramus, Chlamys, Cardinia, Goniomiya, etc.)

Hayami, I. (1972)- Lower Jurassic bivalvia from the environs of Saigon. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 10, p. 179-230.
(Shallow marine late Early Jurassic (Toarcian) bivalve assemblage from Lo-Duc, 30km NNE of Saigon. 21 species, incl. Grammatodon tenuis, Parvamussium donaiense, Palaeonucula, Modiolus, Tancredia, similar to first Jurassic transgressive beds over Indosinian unconformity across Thailand (Kozai et al., 2006))

Hayashi, M. (1989)- The hydrocarbon potential and tectonics of Indochina. Bull. Geol. Soc. Malaysia 25, p. 65-78.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1989c05.pdf)

He, B., Y.G. Xu, S.L. Chung, L. Xiao & Y. Wang (2003)- Sedimentary evidence for a rapid, kilometer-scale crustal doming prior to the eruption of the Emeishan flood basalts. Earth Planetary Sci. Letters 213, p. 391-405.
(Investigations in 67 sections of M Permian Maokou Fm that underlies Emeishan flood basalts in SW China suggests domal crustal thinning and uplift of >1000m in area 800 km in radius, before emplacement of basalts. Duration of uplift estimated to be <3 Myr)

He, W., G.R. Shi, Y. Zhang, T. Yang, K. Zhang, S. Wu, Z. Niu & Z. Zhang (2014)- Changhsingian (latest Permian) deep-water brachiopod fauna from South China. J. Systematic Palaeontology 12, 8, p. 907-960.
(45 brachiopod species from latest Permian Talung F of marine deep-water facies of S China)

Hennig, J. (2017)- SE Vietnam U-Pb zircon ages and provenance: correlating the Da Lat zone on land with the Cuu Long basin offshore. American Geophys. Union (AGU) Fall Meeting, New Orleans, EP21A-1830, 1p. *(Abstract and Poster)*
(online at: https://agu.confex.com/agu/fm17/meetingapp.cgi/Paper/223717)

(Onshore SE Vietnam Da Lat zone with Cretaceous intrusions with zircons aged ~122-76 Ma. Jurassic metasediments of Ban Don Gp contain dominant Jurassic, Permo-Triassic and Paleoproterozoic (c. 1.8 Ga) age populations. Oligocene samples from offshore Cuu Long Basin strong Cretaceous age peak (mainly 90-110 Ma, and not much else. M Miocene sandstones mainly Triassic peak (220-240 Ma) and subordinate peaks of Cretaceous and many older oges, mainly 1.8 Ga (from proto-Mekong Delta more distant sources?))

Hennig, J., H.T. Breitfeld, A. Gough, R. Hall, Trinh Van Long, Vinh Mai Kim & Sang Dinh Quang (2018)- U-PB zircon ages and provenance of Upper Cenozoic sediments from the Da Lat Zone, SE Vietnam: implications for an Intra-Miocene unconformity and paleo-drainage of the Proto-Mekong River. J. Sedimentary Res. 88, 4, p. 495-515.
(Oligo-Miocene Di Linh Fm with abundant Cretaceous zircons and subordinate Paleoproterozoic (c. 1.8-1.9 Ga), sourced mainly from Cretaceous plutons. Pliocene- Pleistocene Song Luy Fm with additional Permian-Triassic and Ordovician-Silurian age populations, interpreted to be from basement in C and N Vietnam and reflecting intra-Miocene unconformity)

Hieu, P.T., S.Q. Li, Y.Yu, N.X. Thanh, L.T. Dung, VuLe Tu, W. Siebel & F. Chen (2017)- Stages of late Paleozoic to early Mesozoic magmatism in the Song Ma belt, NW Vietnam: evidence from zircon U-Pb geochronology and Hf isotope composition. Int. J. Earth Sciences (Geol. Rundschau), 106, 3, p. 855-874.
(Song Ma zone in NW Vietnam subduction corridor between Indochina and S China blocks. Two-stage magmatic evolution: ocean subduction at ~290-260 Ma and post-collisional magmatism at ~245-230 Ma)

Hilde, T.W.C. & C.G. Engel (1967)- Age, composition and tectonic setting of the granite island Hon Trung Lon, off the coast of South Vietnam. Geol. Soc. America (GSA) Bull. 78, p. 1289-1294.
(Hon Trung Lon island off S Vietnam composed of Cretaceous high-silica alkali granite with K-Ar age between 70-100 Ma, a previously unrecognized period of intrusion along NE side of Gulf of Thailand)

Hoa, T.T., T.T. Anh, N.T. Phuong, P.T. Dung, T.V. Anh, A.E. Izokh, A.S. Borisenko, C.Y. Lan, S.L. Chung & C.H. Lo (2008)- Permo-Triassic intermediate-felsic magmatism of the Truong Son belt, eastern margin of Indochina. Comptes Rendus Geoscience 340, p. 112-126.
(Permo-Triassic intermediate-felsic magmatism along Truong Son fold belt in N Vietnam, along E margin of Indochina Block: calc-alkaline volcano-plutonic associations (272-248 Ma), peraluminous granites (259-245 Ma), and subalkaline felsic volcano-plutonic associations (<245 Ma). Products of Paleotethys subduction during Indochina/ N Vietnam- S China amalgamation. Event ended in E-M Triassic (246-240 Ma))

Hoang, C.M., M.V. Du, P.K. Hoan & T.D. Hung (2013)- Hydrocarbon potential of Champasak & Saravan area, Southern Lao PDR. In: C. Senebouttalath et al. (eds.) Proc. 2nd Lao-Tai Conf. Geology and Mineral resources, Vientiane, p. 226-235.
(online at: http://library.dmr.go.th/Document/DMR_Technical_Reports/2013/36787.pdf)
(Hydrocarbon exploration in Champasak and Saravan provinces, geologically SE part of Khorat Plateau. No significant hydrocarbon flows obtained yet)

Hoang, N. & M. Flower (1998)- Petrogenesis of Cenozoic basalts from Vietnam: implication for origins of a ôDiffuse Igneous Provinceö. J. Petrology 39, 3, p. 369-395.
(online at: http://petrology.oxfordjournals.org/content/39/3/369.full.pdf+html)
(Widespread M Miocene- Recent basalt plateaux in S and C Vietnam associated with pull-apart structures. Activity does not conform to 'Large Igneous Province', more consistent with clockwise rotating stress field)

Hoang, T.H.A., S.H. Choi, Y. Yu, T.H. Pham, K.H.Nguyen & J.S. Ryu (2018)- Geochemical constraints on the spatial distribution of recycled oceanic crust in the mantle source of late Cenozoic basalts, Vietnam. Lithos 296-299, p. 382-395.
(online at: https://www.sciencedirect.com/science/article/pii/S002449371730405X)
(Geochemical composition of Late Cenozoic intraplate basaltic rocks from C and S Vietnam indicates basalts sourced from mantle dominated by garnet peridotite, and recycled oceanic crustal material (sediment, basalt, and gabbro). Possibly result of entrainment of accumulated Paleo-Pacific slab into rising Hainan plume)

Hoffet, J.H. (1933)- Etude geologique sur le centre de l'Indochine entre Tourane et le Mekong (Annam Central et Bas-Laos). Bull. Service Geol. Indochine, Hanoi, 20, 2, p. 1-154.
('Geologic study of the center of Indochina between Tourane and the Mekong (C Annam and Lower Laos)')

Hoffet, J.H. (1937)- Les lamellibranches saumatres du Senonien de Muong Phalane. Bull. Service Geol. de l'Indochine 24, 1, p. 3-25.
('The freshwater bivalves of the Senonian of Muong Phalane (Laos)'. Upper Cretaceous freshwater molluscs, mainly Trigonoides spp. and Unio spp. and Plicatounio. Locally associated with large reptiles Titanosaurus and Mandchurosaurus)

Hoffet, J.H. (1937)- Note sur la geologie du Bas-Laos. Bull. Service Geol. Indochine 24, 2, p. 1-22.
('Note on the geology of lower Laos')

Hoffet, J.H. (1942)- Description de quelques ossements de Titanosauriens du Senonien du Bas-Laos. Comptes Rendus Seances Conseil Recherches Scient. Indochine 1942, 1, p. 51-57.
('Description of some titanosaurian bones from the Senonian of Lower Laos'. See also Buffetaut 1991)

Hovikoski, J., J. Therkelse, L.H. Nielsen, J.A. Bojesen-Koefoed, H.P. Nytoft, H.I. Petersen, I. Abatzis, H.A. Tuan, B.T.N. Phuong, C.V. Dao & M.B.W. Fyhn (2016)- Density-flow deposition in a fresh-water lacustrine rift basin, Paleogene Bach Long Vi Graben, Vietnam. J. Sedimentary Research 86, 9, p. 982-1007.
(Bach Long Vi Island is crest of inverted Eo-Oligocene Bach Long Vi Graben in Gulf of Tonkin area, at intersection of Song Hong and Beibuwan basins, N Vietnam. 500m-thick Paleogene lacustrine oil-prone source rock succession in Enreca-3 core-hole)

Hu, L., P.A. Cawood, Y. Du, J. Yang & L. Jiao (2015)- Late Paleozoic to Early Mesozoic provenance record of Paleo-Pacific subduction beneath South China. Tectonics 34, 5, p. 986-1008.
(online at: https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1002/2014TC003803)
(NE-trending Yong'an Basin, SE S China craton, preserves Permian-Jurassic marine-continental, clastic-dominated retroarc foreland basin succession. Sources for M Paleozoic- E Mesozoic detrital zircons include input from beyond currently exposed China mainland, possibly from active convergent plate margin along SE rim of craton that incorporated part of SW Japan and is related to subduction of Paleo-Pacific Ocean. Termination of Paleo-Tethys subduction beneath SW margin in Permo-Triassic)

Huang, B.C., R.X. Zhu, Y. Otofuji & Z.Y. Yang (2000)- The Early Paleozoic paleogeography of the North China block and the other major blocks of China. Chinese Science Bull. 45, 12, p. 1057-1065.
(Review of paleomagnetic data of N China, S China and Tarim blocks suggests blocks were adjacent to E Gondwana in low latitudes in E Cambrian)

Huang, K. & N.D. Opdyke (2016)- Paleomagnetism of the Upper Triassic rocks from south of the Ailaoshan Suture and the timing of the amalgamation between the South China and the Indochina Blocks. J. Asian Earth Sci. 119, p. 118-127.
(Paleomagnetic work on redbed samples of U Triassic Yiwanshui Fm S of Ailaoshan Suture in S Yunnan consistent with results previously reported from same section. Indicates Simao and Baoshan terranes amalgamated by Late Triassic times but coalescence between them and S China Block not until end-Triassic)

Ishihara, S. & Y. Orihashi (2014)- Zircon U-Pb age of the Triassic granitoids at Nui Phao, northern Viet Nam. Bull. Geol. Survey Japan 65, p. 17-22.
(online at: https://www.jstage.jst.go.jp/article/bullgsj/65/1-2/65_17/_pdf)
(Zircons from granitoids at Nui Phao in N Vietnam dated as earliest Triassic (~250 Ma). Possibly associated with Sn-W and REE ore deposits hosted in granitoids)

Ishii, K., M. Kato & K. Nakamura (1969)- Permian limestones of West Cambodia. In: T. Matsumoto (ed.) Litho- and bio-facies of sedimentary rocks- a symposium, Palaeont. Soc. Japan, Spec. Paper 14, p. 41-56.

(online at: www.palaeo-soc-japan.jp/download/SP/SP14.pdf)
(Sisophon Limestone hills on plains of SW Cambodia (W of Indosinian Massif; = part of Chanthaburi Terrane/ Sukhothai Arc of Metcalfe 2013?). Limestone ~150-200m thick, on folded and partially metamorphosed Devono-Carboniferous or older rocks. Volcanics- tuffs in basal beds suggest possible deposition of limestone on volcanic seamounts. Nearby granite intrusion with 227 Ma Rb-Sr age (= Late Triassic). Rich in M-U Permian fauna, including fusulinids (incl. Pseudodoliolina, Yabeina, Neoschwagerina, Sumatrina, Verbeekina), corals (incl. Verbeekiella, Lophophyllidium, Wannerophyllum))

Ishii, K. & Y. Nogami (1964)- Contributions to the geology and paleontology of Cambodia. Part 1. Permian fusulinids. J. Geosciences, Osaka City University, 8, p. 9-68.
(online at: http://dlisv03.media.osaka-cu.ac.jp/infolib/user_contents/kiyo/DBe0080002.pdf)
(Late Middle Permian fusulinids, corals and brachiopods from limestone hills W of Siem Reap in NW plains of Cambodia, from where fusulinids were first described by Gubler (1935). Species present include Yabeina (also called Lepidolina) multiseptata, Yabeina elongata, Verbeekina verbeeki, Pseudofusulina aff. crassa padangensis (Lange) and Chusenella cambodgiensis)

Janvier, P., P. Gerienne and T. Tong-Dzut (1989)- Les placodermes, arthropodes et lycophytes des gres devoniens de Do Son (Haiphong, Viet Nam). Geobios 25, 5, p. 625-638.
('The placoderms, arthropodes and lycophytes from the Devonian sandstones of Do Son (Haiphong, Vietnam)')

Janvier, P., T.D. Thanh & D.N. Truong (1994)- Devonian fishes from Vietnam: new data from Central Vietnam and their paleobiogeographical significance. In: P. Angsuwathana et al. (eds.) Proc. Int. Symposium Stratigraphic correlation of Southeast Asia, Bangkok 1994, Dept. Mineral Resources and IGCP 306, p. 69-74.
(Devonian fish of Vietnam mainly in Bac Bo, N Vietnam, and E Devonian age. Faunas similar to S China, with many taxa endemic to S China Block. New M Devonian fish fauna reported)

Janvier, P. & T.D. Tran (1998)- The Silurian and Devonian vertebrates of Viet Nam: a review. J. Geology (Geol. Survey Viet Nam), B 11/12, p. 18-28.

Janvier, P., T.D. Tran, T.H. Phuong & D.N. Truong (1997)- The Devonian vertebrates (Placodermi, Sarcopterygii) from Central Vietnam and their bearing on the Devonian palaeogeography of Southeast Asia. J. Asian Earth Sci. 15, 4, p. 393-406.
(New placoderm fish remains from terrigenous facies of Givetian Dong Tho Fm in C Vietnam confirm close ties between Indochina and S China blocks as early as M Devonian)

Jiang, X.Y., X.H. Li, W.J. Collins & H.Q. Huang (2015)- U-Pb age and Hf-O isotopes of detrital zircons from Hainan Island: implications for Mesozoic subduction models. Lithos 239, p. 60-70.
(Detrital zircon samples from Cretaceous Lumuwan Fm on Hainan Island (SE China/NW S China Sea) suggest three major episodes of Mesozoic magmatic activity along continental margin of E Asia in S China: ~120 and 155 Ma (Yanshanian) and 235 Ma (Carnian/Triassic; Indosinian?))

Johansen, K.B., L. Endebrock, K. Oh & S. Maingarm (2009)- An insight to the petroleum geology in the Kampong Som and Tonle Sap basins, onshore Cambodia. Proc. 2009 SE Asia Petroleum Expl. Soc. (SEAPEX) Conference, Singapore, p. 1-39. *(Abstract + Presentation)*
(Onshore Cambodia Kampong Som and Tonle Sap basins outlined with gravity and reconnaissance seismic. At least three phases of uplift and erosion of pre-Tertiary age. Basins surrounding Tonle Sap Lake at least 5-6 km of Mesozoic and older sediments. Potential Triassic and Permian source rocks mature for oil and gas over large parts of basins. Khorat Plateau-like stratigraphy, with Indosinian? major unconformity)

Jolivet, L., O. Beyssac, B. Goffe, D. Avigad, C. Lepvrier, H. Maluski & T.T. Ta (2001)- Oligo-Miocene midcrustal subhorizontal shear zone in Indochina. Tectonics 20, p. 46-57.
(online at: http://onlinelibrary.wiley.com/doi/10.1029/2000TC900021/pdf)
(Oligo-Miocene left-lateral strike-slip shear deformation along Red River Shear Zone in N Vietnam restricted to upper and middle crust above horizontal shear zone. Deformation associated with low P- low T (greenschist)

parageneses. Above horizontal shear zone active left-lateral transpression during first stage, changing to transtension at ~33Ma, with exhumation of extensional and transtensional metamorphic domes)

Jolivet, L., H. Maluski, O. Beyssac, B. Goffe, C. Lepvrier, Phan Truong Thi & Nguyen Van Vuong (1999)- Oligocene-Miocene Bu Khang extensional gneiss dome in Vietnam; geodynamic implications. Geology 27, 1, p. 67-70.
(Large Oligocene-Miocene extensional gneiss dome in Vietnam, with major NE-dipping extensional shear zone separating Bu Khang dome from less-metamorphosed units above. 40Ar-39Ar ages from 36-21 Ma. NE-SW extension during opening of S China Sea. Kinematic model of left-lateral shear and block rotation)

Katz, M.B. (1993)- The Kannack complex of the Vietnam Kontum Massif of the Indochina Block: an exotic fragment of Precambrian Gondwanaland? In: R.H. Findlay et al. (eds.) Gondwana 8- Assembly, evolution and dispersal, Balkema, Rotterdam, p. 161-164.

Komatsu, T., D.T. Huyen & J.H. Chen (2006)- Depositional environments and fossil bivalves in the lowermost parts of the Triassic systems in North Vietnam and South China. J. Geography (Chigaku Zasshi) 115, 4, p. 470-483.
(online at: www.jstage.jst.go.jp/article/jgeography1889/115/4/115_4_470/_pdf)
(Similar to paper below: E Triassic Claraia, etc. open marine bivalves)

Komatsu, T., D.T. Huyen & J. Chen (2007)- Bivalve assemblages in North Vietnam and South China following the end-Permian crisis. In: S.G. Lucas & J.A. Spielmann (eds.) The Global Triassic, New Mexico Museum Natural History Science Bull. 41, p. 134-136.
(On thin-walled, flat molluscs Claraia spp., Eumorphotis, Towapteria, etc. in basal Triassic calcareous mudstones of Yangtze Block of S China and N Vietnam)

Komatsu, T., D.T. Huyen & J. Chen (2008)- Lower Triassic bivalve assemblages after the end-Permian mass extinction in South China and North Vietnam. Paleontol. Research 12, 2, p. 119-128.
(Lower Triassic bivalve assemblages in S China, and N Vietnam: (1) basinal mudstones carbonates with Claraia wangi; deep ramp with Eumorphotis teilhardi- Towapteria scythica assemblage; shallow ramp with Claraia stachei-C. phobangensis assemblage)

Komatsu, T., H. Naruse, Y. Shigeta, R. Takashima, T. Maekawa, Huyen T. Dang, Tien C. Dinh et al. (2014)- Lower Triassic mixed carbonate and siliciclastic setting containing Smithian to Spathian anoxic to dysoxic facies in the An Chau basin, northeastern Vietnam. Sedimentary Geology 300, p. 28-48.

Krobicki, M., J. Golonka & Khuong The Hung (2008)- Major tectonic events and plates of Northwest Vietnam. In: Proc. Int. Symp. Geoscience resources and environments of Asian Terranes (GREAT 2008), Bangkok, 2008, p. 101-104. *(Extended Abstract)*
(Major tectonic events of NW Vietnam include: Paleozoic (Silurian-Devonian?) suturing of Indochina and S China plate, Triassic Indosinian orogeny associated with strong deformation, metamorphism and magmatic activity and strike-slip faulting related to Cenozoic collision of India with Asia)

Lacassin, R., P.H. Leloup, T. Phan Trong & P. Tapponnier (1998)- Unconformity of red sandstones in North Vietnam: field evidence for Indosinian orogeny in northern Indochina? Terra Nova 10, p. 106-111.
(Black-River (Song Da) region red sandstones/conglomerates, reportedly of Cretaceous age, unconformably above schistose epi-metamorphic M Triassic sediments, probably Indosinian Mesozoic unconformity. Age of deformation poorly constrained. Unconformity strongly deformed, implying Tertiary deformation probably due to India-Asia collision in N part of Indochina block)

Lai, X.L., W. Wang, P.B. Wignall, D.P.G. Bond, H.S. Jiang, J.R. Ali, E.H. John & Y.D. Sun (2008)- Palaeoenvironmental change during the end-Guadalupian (Permian) mass extinction in Sichuan, China. Palaeogeogr. Palaeoclim. Palaeoecology 269, p. 78-93.

(End-Guadalupian mass extinction in Sichuan, SW China. Platform carbonates of Maokou Fm overlain by Emeishan flood basalts. Extinction primarily loss of fusulinaceans and possibly by species turnover amongst calcareous algae (Permocalculus dominant in pre-Emeishan, Mizzia more common after))

Lan, C.Y., S.L. Chung, C.H. Lo, T.Y. Lee, P.L. Wang, H. Li & D. Van Toan (2001)- First evidence for Archean continental crust in northern Vietnam and its implications for crustal and tectonic evolution in Southeast Asia. Geology 29, 3, p. 219-222.
(Indochinese continent previously considered to be composed entirely of Proterozoic-Phanerozoic rocks. First evidence of Late Archean continental crust in SE Asia on S China Block from gneisses of Cavinh Complex, S of Red River shear zone, N Vietnam. Archean Nd model ages 3.4-3.1 Ga, zircon U-Pb ages of 2.8-2.5 Ga first in SE Asia. One of oldest crustal nuclei of South China block)

Lan, C.Y., S.L. Chung, T.V. Long, C.H. Lo, T.Y. Lee, S.A. Mertzman & J.J.S. Shen (2003)- Geochemical and Sr-Nd isotopic constraints from the Kontum massif, central Vietnam, on the crustal evolution of the Indochina block. Precambrian Research 122, p. 7-27.
(Kontum massif, C Vietnam, mainly amphibolite-granulite facies metamorphic rocks and is largest basement core complex of Indochina block. Basement rocks yield depleted-mantle model ages from 1.2-2.4 Ga and TDM of 2.7 Ga for granulite, suggesting Indochina block crustal formation mainly in Paleoproterozoic and Mesoproterozoic, not Archean. During accretion with other SE Asian continental blocks in Permo-Triassic, Indochina core complex subjected to Indosinian orogeny, characterized by high-T, granulite facies metamorphism in lower crust with charnockite magmatism and subsequent regional exhumation)

Lasserre, M., H. Fontaine & E. Saurin (1974)- Geochronologie du Sud Viet-Nam. Archives Geol. Vietnam 17, p. 17-34.
('Geochronology of South Vietnam')

Le Dzuy Bach & Ngo Gia Thang (1995)- Phanerozoic ophiolites in Indochina. In: Proc. Int. Symp. Geology of Southeast Asia and adjacent areas, Hanoi 1995, J. Geology, Hanoi, B, 1995, 5-6, p. 212-221.

Lee, K.Y. (1984)- Geology of the Dian-Qian-Gui foldbelt, Southwest China. U.S. Geol. Survey (USGS), Open-File Report 84-357, p. 1-52.
(online at: http://pubs.usgs.gov/of/1984/0357/report.pdf)

Lee, T.Y, C.H. Lo, S.L. Chun, C.Y. Chen, P.L. Wang, W.P Lin et al. (1998)- 40Ar/39Ar dating result of Neogene basalts in Vietnam and its tectonic implication. In: M.F.J. Flower et al. (eds.) Mantle dynamics and plate interactions in East Asia, AGU Geodynamics Ser. 27, p. 317-330.
(Large scale Late Neogene magmatic activity around S China Sea, from Taiwan Straits, S China to Hainan Island and Indochina Peninsula. Ar/Ar ages of basalts from Vietnam show oldest rocks early M Miocene (~16 Ma; mainly quartz tholeiite). Since Late Miocene (-8 Ma) it changed to olivine tholeiite, and from Pliocene-Quaternary common alkali basalt and basanite. First appearance of igneous activity in Vietnam coincides with cessation of sea-floor spreading in S China Sea. See also Flower et al. 1993, Hoang & Flower 1998)

Leloup, P.H., N. Arnaud, R. Lacassin, J.R. Kienast, T. M. Harrison, T.T. Phan Trong, A. Replumaz & P. Tapponnier (2001)- New constraints on the structure, thermochronology and timing of the Ailao Shan- Red River shear zone. J. Geophysical Research 106, p. 6683-6732.
(Cooling diachronism along Ailao Shan fault suggests left-lateral rates of 4-5 cm/yr from 27 Ma- ~17 Ma. Similarities of deformation kinematics along ASRR and in S China Sea confirms causal link between continental strike-slip faulting and marginal basin opening)

Leloup, P.H., R. Lacassin, P. Tapponnier, U. Scharer, D. Zhong, X. Liu, L. Zhang Liangshang, S. Ji & Phan Trong Trinh (1995)- The Ailao Shan- Red River shear zone (Yunnan, China), Tertiary transform boundary of Indochina. Tectonophysics 251, p. 3-84.
(Red River Fault zone is major geological discontinuity that separates S China from Indochina. Today it corresponds to great right-lateral fault along several metamorphic complexes. U/Pb ages of deformation-

associated melts ~22.4- 26.3 Ma, implying shear in Lower Miocene. ASRR belt site of major left-lateral motion, as Indochina was extruded toward SE as result of India-Asia collision)

Leloup, P., P. Tapponnier, R. Lacassin & M. Searle (2007)- Discussion on the role of the Red River shear zone, Yunnan and Vietnam, in the continental extrusion of SE Asia. J. Geol. Soc. 164, p. 1253-1260.
(Critique and response of Searle (2006) paper)

Lepvrier, C., M. Faure, V.N. Van, T.V. Vu, W. Lin, T.T. Trong & P.T. Hoa (2012)- North-directed Triassic nappes in Northeastern Vietnam (East Bac Bo). J. Asian Earth Sci. 41, 1, p. 56-68.
(NE Vietnam structure system of slightly metamorphosed nappes formed in Triassic, prior to unconformable deposition of U Triassic terrigenous sediments)

Lepvrier, C., H. Maluski, Vu Van Tich et al. (2004)- The Early Triassic Indosinian orogeny in Vietnam (Truong Son Belt and Kontum Massif); implications for the geodynamic evolution of Indochina. Tectonophysics 393, p. 87-118.
(E Triassic (~250-240 Ma) Indosinian Orogeny interpreted as result of synchronous oblique collision of Indochina block with both Sibumasu and S China)

Lepvrier, C., Nguyen V. Vuong, H. Maluski, P.T. Thi, T.V. Vu (2008)- Indosinian tectonics in Vietnam. Comptes Rendus Geoscience 340, 2-3, p. 94-111.
(In Vietnam E Triassic Indosinian collision affected Truong Son belt and Kontum Massif, which were parts of Gondwana-derived Indochina continental block, around 250-240-Ma. Collisional process resulted from NW-striking convergence of Indochina with respect to adjacent blocks. Indosinian evolution applied on continental crust that had been probably affected by Devonian event, as in S China)

Le Van De (1997)- Outline of plate-tectonic evolution of continental crust of Vietnam. In: P. Dheeradilok (ed.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and South Pacific (GEOTHAI'97), Department of Mineral Resources, Bangkok, 2, p. 465-475.

Li, M., M. Yan, X. Fang, Z. Zhang, & X. Liu (2018)- Origins of the Mid-Cretaceous evaporite deposits of the Sakhon Nakhon Basin in Laos: Evidence from the stable isotopes of halite. J. Geochemical Exploration 184, A, p. 209-222.
(online at: https://www.sciencedirect.com/science/article/pii/S0375674217303035)
(Evaporite deposits in Sakhon Nakhon Basin, SE Laos, is northern continuation of M-L Cretaceous salt basin of Khorat Plateau (Thailand; Indochina Plate). Isotopes and trace metals in 600m halite-dominated core suggest continental and hydrothermal origins, with trace marine remnants (probably formed originally by evaporation o seawater, being dissolved in meteoric water and hydrothermal fluid, and subsequently precipitated))

Li, Y., C.Q. Ma, G.F. Xing & H.W. Zhou (2015)- The Early Cretaceous evolution of SE China: insights from the Changle-Nan'ao metamorphic belt. Lithos 230, p. 94-104.
(SE China widespread Jurassic- Cretaceous magmatism, but episode of 'magmatic quiescence' at ~130-110 Ma. E Cretaceous (~140-130 Ma) magmatism in coastal SE China attributed to Paleo-Pacific plate subduction beneath SE China. Collision between W Philippines and SE China blocks at ~130-120 Ma resulted in magmatic quiescence and formation of Changle-Nan'ao metamorphic belt. Post-collisional extension triggered reinitiation of magmatism associated with amphibolite-facies metamorphism at ~110 Ma)

Li, X. (2000)- Cretaceous magmatism and lithospheric extension in Southeast China. J. Asian Earth Sci. 18, p. 293-305.
(E-M Cretaceous 'Yanshanian' magmatism in SE China in four episodes: (1 136-146 Ma, (2) 122-129 Ma, (3) 101-109 Ma (possibly subduction-related calc-alkaline) and (4) 87-97 Ma (A-type granites and bimodal volcanics, marking initiation of extensional environment). Associated with formation of extensional basin systems. Belt of Yanshanian magmatism usually explained as magmatic arc, but width of >1000 km far greater than normally observed in subduction zones (300-400 km))

Li, X.H., Z.X. Li, W.H. Li & Y.J. Wang (2006)- Initiation of the Indosinian orogeny in South China: evidence for a Permian magmatic arc on Hainan Island. J. Geol. 114, p. 341-353.
(Syntectonic granites on Hainan Island, off SE China, with calc-alkaline I-type affinities and zircon ages of 267-262 Ma, reflecting initiation of late E Permian continental margin arc along E margin of China)

Li, X.H., Z.X. Li & W.X. Li (2014)- Detrital zircon U-Pb age and Hf isotope constrains on the generation and reworking of Precambrian continental crust in the Cathaysia Block, South China: a synthesis. Gondwana Research 25, p. 1202-1215.
(S China Block (Yangtze and Cathaysia blocks) one of largest Precambrian blocks in E Asia. Precambrian detrital zircon ages from (meta)sedimentary samples and river sands three major peaks (~2485, 1853 and 970 Ma) and four subordinate peaks (~1426, 1074, 780 and 588 Ma). Five of seven detrital zircon age peaks coincident with crystallisation ages of igneous rocks exposed in Cathaysia (~1.89-1.83 Ga, 1.43 Ga, 1.0-0.98 Ga and 0.82-0.72 Ga. Cathaysia Block is orogenic belt between E Antarctica, Laurentia and Australia during the assembly of Columbia/Nuna supercontinent at ~1.9-1.8 Ga to become part of supercontinent Rodinia. Cathaysia Block amalgamated with Yangtze Block during Sibao Orogeny at ~1.0-0.89 Ga)

Li, X., J. Zheng, S. Li, Bo Liu, L. Xiang, Y. Wang & X. Liu (2016)- Late Triassic orogenic collapse and Palaeo-Pacific slab roll-back beneath central South China: constraints from mafic granulite xenoliths and structural features. In: Evolution of West Pacific Ocean, South China Sea and Indian Ocean, Geological J. 51, Supplement S1, p. 123-136.
(Daoxian mafic granulite xenoliths in basalts from S Hunan Province and structural features of Xuefengshan belt suggest Late Triassic orogenic collapse under central S China Block, accompanied by lithospheric extension and asthenospheric upwelling. Could have contributed to mantle disturbance to enhance rollback of Paleo-Pacific slab)

Li, Z., J.S. Qiu & X.M. Yang (2014)- A review of the geochronology and geochemistry of Late Yanshanian (Cretaceous) plutons along the Fujian coastal area of southeastern China: implications for magma evolution related to slab break-off and rollback in the Cretaceous. Earth-Science Reviews 128, p. 232-248.
(Cretaceous Late Yanshanian magmatic belt along SE coast of China define linear NNE–SSW-trending belt of magmatism. Emplacement mainly ~125-90 Ma, with major peak from 115-90 Ma. First appearance of sparse I-type granitoids with post-collisional extensional granite affinities and emplacement of A-type granites mark start of extension during E Cretaceous at ~125-119 Ma. Subsequent bimodal magmatism at 115-90Ma suggests major igneous event as response to back-arc extension. Break-off and rollback of subducting Paleo-Pacific Plate during Cretaceous responsible for Late Yanshanian tectono-magmatic evolution in area)

Liem, N.V. (1966)- Some Triassic foraminifera from Hoang Mai Limestone, Nghe An Province. Acta Scient. Vietnamica, Sect. Biol. Geol. Geogr., 1, p. 37-44.

Liu, C., Y. Pan & R. Zhu (2012)- New paleomagnetic investigations of the Emeishan basalts in NE Yunnan, southwestern China: constraints on eruption history. J. Asian Earth Sci. 52, p. 88-97.
(Magnetostratigraphic studies of Emeishan basalts and known radiometric ages (peaking at ~260 Ma), suggests eruption period of Emeishan large igneous province <3 Myr)

Liu, H., Y. Wang, P.A. Cawood, W. Fan, Y. Cai & X. Xing (2015)- Record of Tethyan Ocean closure and Indosinian collision along the Ailaoshan suture zone (SW China). Gondwana Research 27, 3, p. 1292-1306.
(online at: http://or.nsfc.gov.cn/bitstream/00001903-5/252870/1/1000014253494.pdf)
(NW-SE trending Ailaoshan suture part of ~2900 km long Jinshajiang- Ailaoshan- Song Ma- Hainan suture, and separates Yangtze (S China Craton) block in N from Simao (Indochina) block in S. Granitic plutons in Ailaoshan zone yield zircon ages of 247-252 Ma. Indosinian magmatism confirmed along Ailaoshan zone. Latest Permian convergent margin magmatism represented by Xin'anzhai granitoid (~252 Ma) terminated through accretion of Simao-Indochina to S China Blocks, marking start of Triassic Indosinian Orogeny, resulting in generation of the ~247 Ma (earliest Triassc) Tongtiange S-type leucogranite)

Liu, H.C., Y.J. Wang, X.F. Guo, W.M Fan & J.J. Song (2016)- Late Triassic post-collisional slab break-off along the Ailaoshan suture: insights from OIB-like metagabbros and associated rocks. Int. J. Earth Sciences (Geol. Rundschau) 106, 4, p. 1359-1373.
(Late Triassic gabbroic intrusion in Mengdong village in S China- Indochina collision zone, Yunnan, SW China, metamorphosed to amphibolite. Late Triassic magmatic flare-up at ~222± 5 Ma in Ailaoshan suture zone post-collisional setting, with heat source from slab break-off and OIB-type asthenospheric mantle upwelling)

Liu, J., M.D. Tran, Y. Tang, Q.L. Nguyen, T.H. Tran, W. Wu, J. Chen, Z. Zhang & Z. Zhao (2012)- Permo-Triassic granitoids in the northern part of the Truong Son belt, NW Vietnam: geochronology, geochemistry and tectonic implications. Gondwana Research 22, p. 628-644.
(N segment of Truong Son belt of NW Vietnam (on N margin Indochina Block) three granitoid complexes. U-Pb dating of magmatic zircons three populations, suggesting M Permian- E Triassic arc magmatism at 280-270 Ma and 250-245 Ma, and magmatism of Dien Bien complex during post-collisional extension at ~229- 202 Ma)

Liu, L. X. Xu & Y. Xia (2016)- Asynchronizing paleo-Pacific slab rollback beneath SE China: insights from the episodic Late Mesozoic volcanism. Gondwana Research 37, p. 397-407.
(Late Jurassic - Cretaceous NW-directed Paleo-Pacific subduction under SE China caused widespread Andean-type active margin magmatism between ~160-88 Ma. Multiple stages: 160-148, 145-130, 130-127 and 110-88 Ma. General SE-ward younging trend in Cretaceous indicates increasing slab dip angle/ slab rollback of Paleo-Pacific subduction after 150 Ma)

Liu, S., R.Z. Hua, S. Gao, C.X. Feng., Z. Huang, S. Lai et al. (2009)- U-Pb zircon, geochemical and Sr-Nd-Hf isotopic constraints on the age and origin of Early Palaeozoic I-type granite from the Tengchong-Baoshan Block, Western Yunnan Province, SW China. J. Asian Earth Sci. 36, p. 168-182.
(Cambrian monzogranite from Tengchong-Baoshan Block, W Yunnan, zircon ages of ~499- 502 Ma. Numerous other granitoids of similar age (490-470 Ma) across Tengchong-Baoshan Block and on Indian Plate and Himalayan Orogenic Belt, both parts Gondwana supercontinent. Tengchong-Baoshan Block also formed part of Gondwana, and separated in Late Paleozoic)

Lovatt Smith, P.F. & R.B. Stokes (1997)- Geology and petroleum potential of the Khorat Plateau basin in the Vientiane area of the Lao P.D.R.. J. Petroleum Geol. 20, 1, p. 27-50.
(N part of Thailand Khorat Plateau Basin extends into Laos. Three gas discoveries. Structural inversion began in mid-Cretaceous, not Tertiary. Permian carbonates main reservoir in basin)

Lovatt Smith, P.F., R.B. Stokes, C. Bristow & A. Carter (1996)- Mid-Cretaceous inversion in the northern Khorat plateau of Lao PDR and Thailand. In: R. Hall & D.J. Blundell (eds.) Tectonic evolution of SE Asia, Geol. Soc., London, Spec. Publ. 106, p. 233-247.
(Regional compressive tectonic event in N Khorat Basin in Aptian-Cenomanian, attributed to distant continent-continent collision to W. Reactivated structural trends parallel to paleo-continental sutures and interrupted latest Jurassic- earliest Paleocene subsidence and continental sedimentation of Khorat Plateau Basin. Some reactivation of mid-Cretaceous structures during regional uplift in Tertiary)

Manaka, T., K. Zaw, S. Meffre, A. Salam & Y. Lim (2014)- An overview of geological setting and ore deposits of southern Indochina- a focus on Cambodia. In: I. Basuki & A.Z. Dahlius (eds.) Sundaland Resources, Proc. Ann. Conv. Indon. Soc. Econ. Geol. (MGEI), Palembang, p. 103-107.
(Brief review of Cambodia porphyry gold-copper deposits, associated with Permian- Triassic (260-230 Ma magmatic system, Cu in Jurassic and gold in Cretaceous magmatic sytems (SW continuation of Yanshanian Orogenic Belt of S China)

Mansuy, H. (1913)- Faunes des calcaires a *Productus* de l'Indochine. Mem. Service Geol. Indochine 2, 4, p. 1-133.
('Faunas of the Productus Limestone of Indochina'. Fossils from Permian brachiopod limestone from Cambodia, Laos and Vietnam, which is also rich in fusulinid foraminifera)

Mansuy, H. (1914)- Faunes des calcaires a *Productus* de l'Indochine- 2 serie. Mem. Service Geol. Indochine 3, 3, p. 1-61.
('Faunas of the Productus Limestone of Indochina- 2nd series'. Fossils from Permian brachiopod limestone)

Mansuy, H. (1916)- Nouvelle contribution a l'etude des faunes des calcaires a *Productus* de l'Indochine. Mem. Service Geol. Indochine, Hanoi, 54, p. 26-38.
('New contribution to the study of the faunas of the Productus Limestone of Indochina'.

Mao, J., H. Ye, K. Liu, Z. Li, Y. Takahashi, X. Zhao & W.S. Kee (2013)- The Indosinian collision- extension event between the South China Block and the Palaeo-Pacific plate: evidence from Indosinian alkaline granitic rocks in Dashuang, eastern Zhejiang, South China. Lithos 172-173, p. 81-97.
(M Triassic (~232 Ma) Dashuang pluton in Jinhua, S China feflect collisional granite, emplaced during Indosinian Orogeny)

Martini, R., L. Zaninetti, J.J. Cornee, M. Villeneuve, N. Tran & T.T. Ta (1998)- Decouverte de foraminiferes du Trias dans les calcaires de la region de Ninh Binh (Nord-Vietnam). Comptes Rendus Academie Sciences, Paris, Ser. IIA, 326, p. 113-119.
('Discovery of Triassic foraminifera in limestones from the Ninh Binh Area (North Vietnam)'. Lower Triassic(?) to Anisian benthic foraminifera in Dong Giao Fm limestones, Ninh Binh area (Song Da Terrane, South China Block, N Vietnam), deposited on wide, shallow water carbonate platform. With Glomospirella, Meandrospira, Arenovidalina, etc. Affinities to coeval faunas from N Malaysia and S China Block suggest connections during Triassic between continental blocks of Indochina Peninsula)

Maung, M., A.N. Thu & H. Suzuki (2014)- Latest Jurassic radiolarian fauna from the Chinghkran area, Myitkyina Township, Kachin State, northern Myanmar. In: Proc. Regional Congress on Mineral and Energy Resources of Southeast Asia (GEOSEA 13), Yangon, p. 38-39. *(Abstract only)*
(Late Jurassic radiolaria chert in Tagaung-Myitkyina belt, a presumed suture zone with ophiolites in Myanmar (= Medial Myanmar Suture Zone of Mitchell et al., 2015= Mesotethys suture?))

Meister, C., Vu Khuc, D.T. Huyen & P. Doyle (2000)- Les ammonites et les belemnites du Jurassique inferieur de Huu Nien, province de Quang Nam, Viet Nam Central. Geobios 33, p. 79-96.
('The ammonites and belemnites of the Lower Jurassic of Huu Nien, Central Vietnam'. Rare and low diversity Sinemurian- Pliensbachian ammonites (incl. Ectocentrites, Tongdzuyites) and belemnites (incl. Atractites) in Liassic of Nong Son basin)

Meister, C., Vu Khuc & D.T. Huyen (2002)- Les ammonites du Jurassique inferieur des provinces de Dak Lak et de Ho Chi Minh Ville, Viet Nam du Sud. Revue Paleobiologie, Geneve, 21, 1, p. 439-483.
('Lower Jurassic ammonites of the Dak Lak province and Ho Chi Minh city. South Vietnam'. Lower Sinemurian rel. unique ammonite fauna)

Meng, Q.R. & G.W. Zhang (1999)- Timing of collision of the North and South China blocks: controversy and reconciliation. Geology 27, 2, p. 123-126.
(Late Triassic collision of S China block with S Qinling orogen along Mianlue suture led to final integration of N and S China blocks)

Metcalfe, I. (2012)- Changhsingian (Late Permian) conodonts from Son La, northwest Vietnam and their stratigraphic and tectonic implications. J. Asian Earth Sci. 50, p. 141-149.
(First record of Late Permian conodonts from Vietnam: Changhsingian Hindeodus julfensis in 40cm thick limestone in M Yenduyet Fm near Son La, NW Vietnam, in Song Da Rift Zone, above basaltic volcanics. Conodont Colour Alteration Index of 5 (T ~600°C), but no evidence of compressional Indosinian Orogeny)

Meyer, K., R. Grenier & D. Hoang (2009)- Exploration in Vietnam: exploration experiences in a re-emerging Cuu Long basin. Proc. 2009 SE Asia Petroleum Expl. Soc. (SEAPEX) Conference, Singapore, p. 1-15. *(Abstract + Presentation)*

(Cuu Long basin off S Vietnam with 12 or more oil discoveries, 80% of oil in fractured-weathered granite basement, with additional production from onlapping and draping clastics)

Miyahigashi, A., H. Hara, K. Hisada, N. Nakano, T. Charoentitirat, P. Charusiri, K. Khamphavong & R. Martini (2017)- Middle Triassic foraminifers from northern Laos and their paleobiogeographic significance. Geobios 50, 5-6, p. 441-451.
(First Triassic foraminifera reported from shallow marine limestones in U Nam Sam Suite, Sam Neua area, N Laos (N part of Indochina Block). 17 taxa, incl. Pilammina densa, Pilamminella grandis, Citaella dinarica, etc.. Age M Anisian (M Triassic). Fauna shares several important species with Sibumasu Block, Sukhothai Zone and S China Block, suggesting these domains formed single paleobiogeographic province in Anisian time)

Nagy, E.A., H. Maluski, C. Lepvrier, U. Scharer, Phan Truong Thi, A. Leyreloup & Vu Van Thich (2001)- Geodynamic significance of the Kontum Massif in Central Vietnam: composite 40Ar/39Ar and U-Pb Ages from Paleozoic to Triassic. J. Geology 109, p. 755-770.
(online at: www.csun.edu/~ean7513/NagyetalKontum.pdf)
(Kontum massif of S-C Vietnam long regarded as Precambrian (Archean) lower continental crust, but younger ages from U-Pb zircon (~250 Ma) and 40Ar/39Ar (243 Ma), implying two Paleozoic thermal events: (1) Permo-Triassic magmatism, probably related to closing of Paleo-Tethys Sea; (2) Carboniferous crustal thickening and heating during suturing of Indochina and S China blocks along Song Ma suture zone may have produced 340 Ma low-T thermal event. Kontum massif and Kannack metamorphic complex are exposures of deep crustal levels of Permo-Triassic orogeny. Kontum massif did not rift from Precambrian granulite belt in Gondwana)

Nagy, E.A., U. Scharer & Nguyen Trung Minh (2000)- Oligo-Miocene granitic magmatism in Central Vietnam and implications for continental deformation in Indochina. Terra Nova 12, p. 67-76.
(Two granitoids intrusions in Bu Khang extensional complex with radiometric ages of 26.0, 23.7 Ma (previously assigned to Precambrian- Devonian))

Nakano, N. (2016)- Variation and evolution of Vietnamese metamorphic rocks. Japanese Mag. Mineralogical and Petrological Sciences 45, 1, p. 26-32

Nakano, N., Y. Osanai, N.T. Minh, T. Miyamoto, Y. Hayasaka & M. Owada (2008)- Discovery of high-pressure granulite-facies metamorphism in northern Vietnam: constraints on the Permo-Triassic Indochinese continental collision tectonics. Comptes Rendus Geoscience 340, 2, p. 127-138.
(High-P mafic granulites from Song Ma Suture zone in N Vietnam, regarded as microcontinental boundary betweenS China and Indochina blocks. U-Th-Pb age of 233±5Ma of pelitic gneiss strongly suggests E-M Triassic metamorphic event)

Nakano, N., Y. Osanai, M. Owada, Tran Ngoc Nam, P. Charusiri & K. Khamphavong (2013)- Tectonic evolution of high-grade metamorphic terranes in central Vietnam: constraints from large-scale monazite geochronology. J. Asian Earth Sci. 73, p. 520-539.
(High-grade metamorphism observed in so-called Precambrian basement terranes in C Vietnam occurred during Permian-Triassic and Ordovician-Silurian, while peraluminous granitoid magmatism is Triassic. Presence of Ordovician- Silurian volcanic arc magmatism in region. Metamorphic rocks from C Vietnam provide continuous record of subduction-accretion-collision tectonics between S China and Indochina blocks: Ordovician- Silurian active continental margin tectonics, followed by continental collision in Late Permian- E Triassic, exhumation in Late Triassic)

Nakano, N., Y. Osanai & M. Owada (2008)- Textural varieties in the Indochinese metamorphic rocks: a key for understanding Asian tectonics. Island Arc, 17, p. 2-5.

Nakano, N., Y. Osanai, K. Sajeev, Y. Hayasaka, T. Miyamoto, N. T. Minh, M. Owada & B. Windley (2010)- Triassic eclogite from northern Vietnam: inferences and geological significance. J. Metamorphic Geol. 28, p. 59-76.

(Eclogites along Song Ma Suture zone, N Vietnam, widely regarded as boundary between S China- Indochina cratons. Major lithology of area pelitic garnet–phengite schist with garnet, with monazite chemical age of 243 Ma, but some monazite inclusions in garnet and cores of zoned monazite in schist record older thermal event (~424Ma). Indicates Indochina craton deeply (>70 km) subducted underh S China craton in Triassic)

Nam, T.N. (1995)- The geology of Vietnam: a brief summary and problems. Geosci. Repts. Shizuoka University. 22, p. 1-10.
(online at: http://ir.lib.shizuoka.ac.jp/bitstream/10297/334/1/KJ00000102390.pdf)

Nam, T.N. (1998)- Thermotectonic events from Early Proterozoic to Miocene in the Indochina craton: implication of K-Ar ages in Vietnam. J. Asian Earth Sci. 16, p. 475-484.

Nam, T.N., Y. Sano, K. Terada, M. Toriumi, P.V. Quynh & L.T. Dung (2001)- First SHRIMP U-Pb zircon dating of granulites from the Kontum massif (Vietnam) and tectonothermal implications. J. Asian Earth Sci. 19, p. 77-84.
(Kontum massif in C Vietnam is largest exposure of crystalline basement of Indochina craton, and commonly thought to be of Archean age. Granulites of Kannack complex, metamorphosed under T of 800-850°C and P 8 kbars, and contain zircons with U-Pb ages of ~254 Ma (one sample ~1400 Ma age for zircon core, with 250 Ma rim), suggesting they formed at E Triassic 'Indosinian' tectonothermal event. Cooling history from 850°C at ~254 Ma to 300°C at 242 Ma)

Neubauer, T.A., S. Schneider, M. Bohme & J. Prieto (2012)- First records of freshwater rissooidean gastropods from the Palaeogene of Southeast Asia. J. Molluscan Studies 78, 3, p. 275-282.
(online at: http://mollus.oxfordjournals.org....)
(First records of freshwater rissooidean gastropods, from uppermost Eocene- Lower Oligocene of Cao Bang Basin, N Vietnam. Dominated by well-preserved new genus Bacbotricula (Pomatiopsidae: Triculinae?), with two new species. Also two other poorly preserved species. Assemblage is among earliest Cenozoic freshwater gastropod faunas from SE Asia. Paleo-Red River may have served as early dispersal corridor for Triculinae. Gastropods likely lived on delta plains in Lake Cao Bang and were preyed upon by cyprinid fishes)

Ngo, T.X., M. Santosh, H.T. Tran, & H.T. Pham (2016)- Subduction initiation of Indochina and South China blocks: insight from the forearc ophiolitic peridotites of the Song Ma Suture Zone in Vietnam. Geological J. 51, 3, p. 421-442.

Nguyen, T.T.B., M. Satir, W. Siebel & S. Chen (2004)- Granitoids in the Dalat zone, southern Vietnam: age constraints on magmatism and regional geological implications. Int. J. Earth Sciences (Geol. Rundschau) 93, 3, p. 329-340.
(Dalat zone Cretaceous Andean-type magmatic arc with granitoids and volcanic rocks. Three suites: Dinhquan at ~112-100 Ma, Cana at ~96-93 Ma and Deoca at ~92-88 Ma. Geochronological data support continuation of Andean-type arc running from SE China via S Vietnam to SW Borneo)

Nguyen, T.T.B., M. Satir, W. Siebel, T. Vennemann & Trinh Van Long (2004)- Geochemical and isotopic constraints on the petrogenesis of granitoids from the Dalat zone, southern Vietnam. J. Asian Earth Sci. 23, p. 467-482.
(Cretaceous granitoids of Dalat zone are of sub-alkaline affinity, belong to high-K calc-alkaline series and display features typical of I-type granites)

Nguyen Van Liem (1981)- A Late Permian microfauna from Ta Thiet Limestone southern Viet Nam. Proc. 4th Regional Conf. Geology, Mineral and Energy Resources of South East Asia (GEOSEA IV), Manila 1981, p. 329-340.

Nguyen, V.V., B.T. Hansen, K. Wemmer, C. Lepvrier, V.V. Tich & T. Thanh (2013)- U/Pb and Sm/Nd dating on ophiolitic rocks of the Song Ma suture zone (northern Vietnam): Evidence for upper Paleozoic Paleotethyan lithospheric remnants. J. Geodynamics 69, p. 140-147.

(Sm/Nd dating of lenses of ophiolitic rocks in Song Ma suture zone, reveals crystallization ages of 387-313 Ma (Carboniferous) for titanites from metagabbros/ metabasalts. Suggests blocks are remnants of E branch of Paleotethys. Metamorphism overprint during Triassic Indosinian orogeny suturing of Indochina- S China blocks. U/Pb and Ar/Ar data show peak metamorphism at 266-265 Ma, followed by cooling at 250-245 Ma)

Nguyen Xuan Dinh (1990)- Phy Cu- Phong Chau sandstone play, Hanoi Basin, Vietnam. In: CCOP/WRGA Play modelling exercise 1989-1990, CCOP Techn. Publ. 23, p. 113-126.
(Assessment of undiscovered hydrocarbons and play description of E Miocene in Oligocene- Pliocene Hanoi rift basin)

Nielsen, L.H., H.I. Petersen, N.D. Thai, N.A. Duc, M.B.W. Fyhn, L.O. Boldreel, H.A. Tuan, S. Lindstrom & L.V. Hien (2007)- A Middle-Upper Miocene fluvial-lacustrine rift sequence in the Song Ba Rift, Vietnam: an analogue to oil-prone, small-scale continental rift basins. Petroleum Geoscience 13, 2, p. 145-168.
(Small Neogene Krong Pa graben within continental Song Ba Rift, Vietnam, which is bounded by strike-slip faults that were reactivated as extensional faults in M Miocene. Thickness of graben-fill ~500m. Basal graben-fill mainly fluvial sandstones, overlain by deep lacustrine sediments, including two excellent oil-prone lacustrine source-rock units. In late phase of graben development return to fluvial sedimentation)

Okui, A., A. Imayoshi & K. Tsuji (1997)- Petroleum system in the Khmer Trough, Cambodia. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Petroleum Systems of SE Asia and Australasia Conf., Indon. Petroleum Assoc. (IPA), Jakarta 1997, p. 365-379.
(Khmer Trough in E part of Gulf of Thailand, with oils generated from lacustrine source rock, probably from upper part of Oligocene section)

Osanoai, Y., N. Nakano, M. Owada, T.N. Nam, T. Miyamoto et al. (2008)- Collision zone metamorphism in Vietnam and adjacent South-eastern Asia: proposition for Trans Vietnam orogenic belt. J. Mineralogical Petrological Sci. 103, p. 226-241.
(online at: www.jstage.jst.go.jp/article/jmps/103/4/103_226/_article)

Osanai, Y., N. Nakano, M. Owada, T. Miyamato, T.V. Tri, T.N. Nam, P. Charusiri, T. Kawakami & K. Yonemura (2008)- Permo-Triassic collision zone metamorphism in Vietnam and South-east Asia. Proc. Int. Symp. Geoscience resources and environments of Asian terranes (GREAT 2008), 4th IGCP 516 and 5th APSEG, Bangkok 2008, p. 112-115. *(Extended Abstract)*
(online at: www.geo.sc.chula.ac.th/Geology/English/News/Technique/GREAT_2008/PDF/034.pdf)
(Various types of Permo-Triassic UHT and UHP metamorphic rocks in Red River zone and Kontum Massif. Peak metamorphic stage took ~250 Ma and result of collision between Indochina and S China cratons)

Osanai, Y., N. Nakano, M. Owada, T.N. Nam, T. Miyamato, Nguyen Thi Minh, Nguyen Van Nam & Tran Van Tri (2008)- Collision zone metamorphism in Vietnam and adjacent South-eastern Asia: proposition for Trans Vietnam Orogenic Belt. J. Mineralogical Petrological Sci. 103, 4, p. 226-241.
(online at: https://www.jstage.jst.go.jp/article/jmps/103/4/103_080620e/_pdf)
(Investigations of Vietnam metamorphic complexes suggest peak metamorphic conditions at Kontum Massif, the Song Ma suture zone and Red River zone are linked and may represent continental collision event between Indochina and S China cratons, which led to formation of Trans Vietnam Orogenic Belt)

Otofuji, Y., Van Duc Tung, M. Fujihara, M. Tanaka, M. Yokoyama, K. Kitada & H. Zaman (2012)- Tectonic deformation of the southeastern tip of the Indochina Peninsula during its southward displacement in the Cenozoic time. Gondwana Research 22, 2, p. 615-627.
(Kontum Massif of S Vietnam, in SE part of Indochina Block, experienced S-ward displacement by 5.1° ± 2.4° between 32-17 Ma. During displacement Kontum massif rotated CCW by 27 ±10° within Indochina block. Left lateral motion along E Vietnam Boundary Fault brought about this CCW rotation)

Owada, M., Y. Osanai, N. Nakano, T. Adachi, I. Kitano, Tran Van Tre & H. Kagami (2016)- Late Permian plume-related magmatism and tectonothermal events in the Kontum Massif, central Vietnam. J. Mineralogical and Petrological Sciences 111, 3, p. 1-15.
(online at: https://www.jstage.jst.go.jp/article/jmps/advpub/0/advpub_151019b/_pdf/-char/en)

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(Rel. complete Permian section in Indochina. With common limestones rich in fusulinid foraminifera)

Phan, C.T. et al. (eds.) (1991)- Geology of Cambodia, Laos and Vietnam. Explanatory note to the geological map of Cambodia, Laos and Vietnam, 2nd ed., Geological Survey of Vietnam, Hanoi, p. 1-156.

Pokorny, R. & Pham Ba Trung (2017)- The trace fossils in Da Lat Basin (Nha Trang district, Khanh Hoa Province, SE Vietnam). Geoscience Research Reports 50, p. 141-146. *(in Czech with English abstract)*
(online at: www.geology.cz/img/zpravyvyzkum/fulltext/10_Pokorny_170628.pdf)
(Da Lat basin in SE Vietnam initiated during marine transgression in E Jurassic (Hettangian, ~198 Ma) and ended by regression in M Jurassic (Bathonian, ~165 Ma). Aalenian- Bajocian with common molluscs (?Myophorella) and mid-outer shelf ichnofossils (Skolithis, Paleophycus, Thalassinoides))

Pubellier, M., C. Rangin, P.V. Phach, B.C. Que, D.T. Hung & C.L. Sang (2003)- The Cao Bang- Tien Yen fault: implications on the relationships between the Red River Fault and the South China coastal belt. Advances in Natural Sciences 4, 4, p. 347-361.

Qian, X., Q. Feng, Y. Wang, C. Chonglakmani & D. Monjai (2016)- Geochronological and geochemical constraints on the mafic rocks along the Luang Prabang zone: Carboniferous back-arc setting in northwest Laos. Lithos 245, p. 60-75.
(Paleotethyan sutures/collisional zones: Luang Prabang tectonic zone in NW Laos links with Jinshajiang-Ailaoshan suture zone to N and Nan suture zone to SW. Diabase and basalt in Luang Prabang tectonic zone with zircon ages of ~335, 305 Ma, suggesting Carboniferous age of mafic rocks (also 430-470 Ma peak). E-MORB-like characteristics with addition of subduction-related component. Ages of mafic rocks along Luang Prabang tectonic zone similar to mafic rocks from Jinshajiang-Ailaoshan, Song Ma and Nan suture zones, and suggest development of Carboniferous back-arc basin separating Sukhothai Terrane and Indochina Block. Luang Prabang tectonic zone remnant of synchronous back-arc basins to NE of Paleotethyan Main Ocean)

Qian, X., Q. Feng, Y. Wang, C. Chonglakmani & D. Monjai (2016)- Petrochemistry and tectonic setting of the Middle Triassic arc-like volcanic rocks in the Sayabouli area, NW Laos. J. Earth Science (China) 27, 3, p. 365-377.
(online at: http://en.earth-science.net/PDF/20160612013151.pdf)
(Volcanic rocks from Sayabouli area in NW Laos traditionally mapped as Permian- E Triassic sequences on geologic map, but basaltic-andesite with zircon U-Pb age of 238±2 Ma, suggests M Triassic age. Rocks similar to continental arc volcanic rocks from Phetchabun belt in NE Thailand, through W Loei sub-belt (E-dipping subduction linked closing of Nan backarc basin between Sukhothai terrane and W margin of Indochina Block))

Qian, X., Q. Feng, W. Yang, Y. Wang, C. Chonglakmani & D. Monjai (2015)- Arc-like volcanic rocks in NW Laos: geochronological and geochemical constraints and their tectonic implications. J. Asian Earth Sci. 98, p. 342-357.
(Loei Fold Belt at W margin of Indochina Block linked to subduction of Paleotethys Ocean. In NW Laos andesitic and rhyolitic samples from Muang Feuang region of Belt have E Carboniferous zircon ages (~330, 335, 350 Ma). Basaltic and basaltic-andesitic samples frome Pak Lay region zircon ages of ~315 Ma. Suggest Carboniferous active continental margin along W margin of Indochina Block)

Racheboeuf, P., P. Ta Hoa, H.H. Nguyen, M. Feist & P. Janvier P. (2006)- Brachiopods, crustaceans, vertebrates, and charophytes from the Devonian Ly Hoa, Nam Can and Dong Tho formations of Central Vietnam. Geodiversitas 28, 1, p. 5-36.
(online at: http://sciencepress.mnhn.fr/sites/default/files/articles/pdf/g2006n1a1.pdf)
(New vertebrate remains from Devonian of C Vietnam (Indochina Block) provide further information about various fish fossils (similar to Yangtse Platform, S China block, brachiopods (Corbicularia, etc.) and charophytes (Sycidium))

Rangin, C., P. Huchon, X. Le Pichon, H. Bellon, C. Lepvrier, D. Roques, Nguyen Dinh Hoe & Phan Van Quynh (1995)- Cenozoic deformation of central and south Vietnam. Tectonophysics 251, p. 179-196.
(Pre-Tertiary basement of C and S Vietnam pervasive strike-slip and normal faulting. Two superposed strike-slip systems: (1) Paleogene (large NW-SE left-lateral strike-slip faults, parallel to Red River Fault; E-W maximum shortening axis) and (2) E Neogene (dominant N 160°E to N-S right-lateral faults). Indochina affected bycollision of India with Eurasia, first through pervasive NW-SE left-lateral strike-slip faulting (extrusion of Indochina), then through N160°E to N-S right-lateral faulting, compatible with large right-lateral sub-meridian shear zone over E margin of Indochina as S China Sea basin was opening)

Roger, F., M. Jolivet, H. Maluski, J.P. Respaut, P. Munch, J.L. Paquette, Tich Vu Van & Vuong Nguyen Van (2014)- Emplacement and cooling of the Dien Bien Phu granitic complex: Implications for the tectonic evolution of the Dien Bien Phu Fault (Truong Son Belt, NW Vietnam). Gondwana Research 26, p. 785-801.
(Dien Bien Phu and Muong Lay granites in N Vietnam exposed E and W of DPB fault. U/Pb age of ~277 Ma and considered related to subduction of Song Ma Ocean under Indochina Block during Indosinian orogeny.

Roger, F., P.H. Leloup, M. Jolivet, R. Lacassin, P.T. Tranh, M. Brunel & D. Seward (2000)- Long and complex thermal history of the Song Chay metamorphic dome (northern Vietnam) by multi-system geochronology. Tectonophysics 321, p. 449-466.
(Song Chay Range with high-grade granitic and metamorphic dome near Cenozoic Ailao Shan-Red River fault zone. Previously considered to be Proterozoic S China basement. Granite with zircon age of 428±5 Ma. Rb/Sr on ands 39Ar/40Ar ages suggest Late Triassic episode of rapid cooling interpreted as due to doming. AFT age of 33.6±3.6 Ma confirms rapid Eocene-Oligocene cooling event, final exhumation of Song Chay dome)

Roger, F., H. Maluski, C. Lepvrier, V.V. Tich & J.L. Paquette (2012)-, LA-ICPMS zircons U/Pb dating of Permo-Triassic and Cretaceous magmatism in northern Vietnam- geodynamic implications: J. Asian Earth Sci. 48, p. 72-82.
(NE Vietnam major tectonic episode with nappes emplacement in Triassic. Allochtonous structures intruded by E-M Triassic post-tectonic granitic melts (Phia Bioc granite intrusive; 245-248 Ma), possibly synchronous with strike-slip faulting events (250-245 Ma) in Truong Son Belt Indosinian orogen. Probably linked with intra-plate magmatism of Emeishan Large Igneous Province or with magmatism associated with Paleotethys closure. Cretaceous Phia Oac granite (87.3 ± 1.2 Ma) probably tied to 'late Yanshanian' Paleo-Pacific subduction)

Rossignol, C., S. Bourquin, E. Hallot, M. Poujol, M.P. Dabard, F. Roger, R. Martini & M. Villeneuve (2016)- Les bassins sedimentaires permo-triasiques Nord vietnamiens: archives de la collision Indochine- Chine du Sud (orogenese Indosinienne). Reunion des Sciences de la Terre 25, Caen, p. 280. *(Abstract only)*
('The Permo-Triassic sedimentary basins of North Vietnam: archives of the Indochina- South China collision (Indosinian orogeny)' Indosinian unconformity in N Vietnam postdates Middle Triassic. E Triassic arc S of Song Ma suture suggests S-dipping subduction of oceanic crust under Indochina Block)

Rossignol, C., S. Bourquin, E. Hallot, M. Poujol, M.P. Dabard, R. Martini, M. Villeneuve, J.J. Cornee, A. Brayard & F. Roger (2018)- The Indosinian orogeny: a perspective from sedimentary archives of north Vietnam. J. Asian Earth Sci. 158, p. 352-380.
(New Triassic stratigraphic framework for Song Da and Sam Nua basins, N Vietnam. Song Da Basin at S margin of S China Block in foreland setting during late E- M Triassic, not rift. Sam Nua basin on N margin of Indochina Block records activity of proximal magmatic arc from late Permian-Anisian, resulting from subduction of S-dipping oceanic slab that separated S China and Indochina blocks. Both basins M-L Triassic

erosion, creating major unconformity from erosion of M Triassic Indosinian S China -Indochina collisional belt. Late Triassic terrestrial syn- to post-orogenic foreland basins with coarse detrital material)

Rossignol, C., S. Bourquin, M. Poujol, E. Hallot, M.P. Dabard & T. Nalpas (2016)- The volcaniclastic series from the Luang Prabang Basin, Laos: a witness of a Triassic magmatic arc? J. Asian Earth Sci. 120, p. 159-183.
(Luang Prabang Basin in NW Laos with long lasting Triassic subduction related arc volcanism (~ 35My; but rock age data mainly E Norian). Zircon ages of volcanic and volcanoclastic rocks ~233-215 Ma. Triassic active margin along W margin of Indochina Block, with E-dipping subduction from ~250(?)-215 Ma. Oceanic subduction episode followed by continental collision of Indochina Block with E Simao Block (area is E of Sukhothai terrane and Nan-Uttaradit suture= closing of Paleotethys or marginal basin/ branch?; see also Blanchard et al. 2013, Qian et al. 2016)

Sanematsu, K. & S. Ishihara (2011)- 40Ar/39Ar Ages of the Da Lien Granite related to the Nui Phao W mineralization in Northern Vietnam. Resource Geology 61, 3, p. 304-310.
(40Ar/39Ar dating of biotite and muscovite of Da Lien granite, Nui Phao, N part of Vietnam on South China Plate indicate Late Cretaceous cooling age (82.8- 81.5 Ma) age of granite with polymetallic mineralization)

Sanematsu, K., H. Murakami, S. Duangsurigna, S. Vilayhack, R.A. Duncan & Y. Watanabe (2011)- 40Ar/39Ar ages of granitoids from the Truong Son fold belt and Kontum massif in Laos. J. Mineralogical Petrological Sci. 106, p. 13-25.
(online at: https://www.jstage.jst.go.jp/article/jmps/106/1/106_091216/_pdf)
(Granitoids of Truong Son fold belt of C Laos formed in Indosinian orogeny, contemporaneous with Late Permian-Early Jurassic granites in SE Asian Tin Belt (253-247 Ma in SW, from 244-199 Ma in NE). Carboniferous-Permian I-type granitoids in Kontum massif of SE Laos (414-252 Ma))

Sanematsu, K., H. Murakami, Y Watanabe, S. Duangsurigna & S. Vilayhack (2009)- Enrichment of rare earth elements (REE) in granitic rocks and their weathered crusts in central and southern Laos. Bull. Geol. Survey Japan, 60, 11/12, p. 527-558.
(online at: https://www.gsj.jp/data/bulletin/60_11_02.pdf)

Sato, T. (1972)- Ammonites du Toarcien au Nord de Saigon (Sud Viet-Nam). In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 10, p. 231-242.
('Ammonites from the Toarcian N of Saigon, S Vietnam'. Ammonites collected by Fontaine at Lo-Duc, NNE of Saigon. Dumortieria lantenoisi, Pseudogrammoceras, Pseudammatoceras molukkanum, Hammatoceras suggest U Toarcian- lower Aalenian age and Tethyan affinities. Associated with rich bivalve fauna described by Hayami 1972)

Saurin, E. (1935)- Sur quelques gisements de tectites de l'Indochine du Sud. Comptes Rendus Hebd. Academie Sciences, Paris, 200, 3, p. 246-248.
('On some deposits of tektites of Southern Indochina')

Saurin, E. (1956)- La geologie de l'Indochine. Proc. 8th Pacific Science Congress, Quezon City 1953, 2, p. 313-324.
('The geology of Indochina'. With fossiliferous sediments of M Cambrian- Quaternary ages)

Saurin, E. (1957)- Indochine. Lexique Stratigraphique International, Congress Geol. Int., Commision de Stratigraphie, Paris, III, Asie 6A, p. 1-149.
(Stratigraphic lexicon of Indochina (Cambodia, Laos, Vietnam); alphabetical listing and descriptions of stratigraphic units from Cambrian- Recent)

Saurin, E. (1960)- Foraminiferes Viseens de Bhan Phit. Ann. Fac. Sciences Saigon, p. 345-376.
('Visean foraminifera of Bhan Phit', Vietnam)

Saurin, E. & A. Millies-Lacroix (1961)- Tectites par 1270m de fond au large du Vietnam. Comptes Rendus Somm. Soc. Geol. France 5, p. 128-129.

Schnetzler, C.C., L.S. Walter & J.G. Marsh (1988)- Source of the Australasian tektite strewn field: a possible offshore impact site. Geophysical Research Letters 15, 4, p. 357-360.
(Large negative Qui Nhon Slope Anomaly is sea surface depression of ~1.5 m over 100km diameter. Corresponds to gravity anomaly of ~ -50 mgal. May be impact structure that produced Australasian strewn field)

Serra, C. (1963)- Presence dôun *Brachoxylon rotnaensis* Mathiesen dans la flore mesozoique du Bas-Laos. ï Comptes Rendus 88 Congres nat. Soc. Savantes Science 2, Clermont Ferrand, p. 469ï 482.
(Presence of Brachoxylon rotnaensis Mathiesen in the Mesozoic flora of lower Laos')

Serra, C. (1966)- Etude anatomique et paleogeographique de quelques especes homoxylees du Sud-Vietnam et du Cambodge. Archives Geol. Vietnam 8, p. 59-131.
('Anatomic and paleogeographic studies of some of homxylous species from South Vietnam and Cambodia'. Jurassic-Cretaceous fossil wood from 4 localities in S Vietnam and Cambodia. Six new conifer species. Mesozoic forests dominated by podocarps, with araucarias and ginkgos also present. Dadoxylon khmerinum n. sp. from Kazanian (Permian) of Sisophon (Cambodia). Brachyoxylon boureaui from 'Gres Superieurs' in Cambodia (also known from Phu Kradung Fm/ Khorat Gp of NE Thailand; Philippe et al. 2004))

Serra, C. (1966)- Nouvelle contribution a lôetude paleoxylologique du Cambodge, du Laos et du Viet-nam. Archives Geol. Vietnam 9, p. 17-40.
('New contribution to the paleoxylological study of Cambodia, Laos and Vietnam'. Incl. Araucarioxylon saravanensis (= Agathoxylon; Philippe et al. 2004))

Serra, C. (1969)- Sur des bois fossiles de lôArchipel de Tho Chau (Golfe de Thailande). Archives Geol. Vietnam 12, p. 1-15.
('On fossil wood of the Tho Chau Archipelago (Gulf of Thailand)'. Fossilized tree trunk in Late Jurassic or Early Cretaceous redbeds of Khorat Group-equivalent of Tho Chau islands, Vietnam part of Gulf of Thailand)

Shellnutt, J.G., C.Y. Lan, T. Van Long, T. Usuki, H.Y. Yang, S.A. Mertzman et al. (2013)- Formation of Cretaceous Cordilleran and post-orogenic granites and their microgranular enclaves from the Dalat zone, southern Vietnam: tectonic implications for the evolution of Southeast Asia. Lithos 182-183, p. 229-241.
(Cordilleran-type batholiths ofDalat zone of S Vietnam preserve evidence of Cretaceous convergent zone magmatism superimposed on Precambrian rocks of Indochina Block. Plutons of Dalat zone transitioned from active continental margin batholiths to highly extended crust with within-plate plutons. Deoca and Dinhquan plutons zircon U/Pb ages ~118-115 Ma, Ankroet pluton zircon age ~87Ma. Compositional change of Dalat zone granitic rocks in M-L Cretaceous indicates tectonic regime evolved from continental arc environment to post-orogenic extension. Region of highly extended crust facilitated opening of S China Sea in Cenozoic)

Shen, J.W., T. Kawamura & W.R Yang (1998)- Upper Permian coral reef and colonial rugose corals in northwest Hunan, South China. Facies 39, p. 35-65.
(Late Permian (Palaeofusulina zone) coral reef limestone in Kanjia-ping, Hunan. Bafflestones formed by in-situ colonies of Waagenophyllum. Associated with fusulinids (Palaeofusulina, Nankinella, Staffella, Codonofusiella) and smaller foraminifera (Colaniella). Reef at Kanjia-ping is youngest Permian reef known)

Shi, M.F., F.C. Lin, W.Y. Fan, Q. Deng, F. Cong, M.D. Tran, H.P. Zhu & H. Wang (2015)- Zircon U-Pb ages and geochemistry of granitoids in the Truong Son terrane, Vietnam: Tectonic and metallogenic implications. Journal of Asian Earth Sciences 101, p. 101-120.
(Truong Son terrane in N Indochina block composed of six or more volcano-plutonic complexes. At least four stages of magmatic activitiy in Paleozoic- E Mesozoic: Ordovician-Silurian (420-470 Ma), Late Carboniferous-E Permian (280-300 Ma), Late Permian- M Triassic (245-270 Ma) and M-L Triassic (200-245 Ma).

Spagnuolo, S.A., J. Chambers & C. Luxton (2009)- Comparison of the geologic evolution and petroleum system of the Hai Phong sub-basin and the Phu Khanh Basin, offshore Vietnam. Proc. 2009 SE Asia Petroleum Expl. Soc. (SEAPEX) Conference, Singapore, p. 1-31. *(Abstract + Presentation)*
(Two underexplored basins off Vietnam, both with initial extension tectonics but have contrasting post syn-rift evolution. Phu Khan Basin no evidence for wrench fault system; mild M Miocene compressional event caused re-activation of pre-existing extensional faults. Compression event appears to have ceased by end M Miocene. Post M Miocene transformation of basin into passive margin with progradational-aggradational mega-sequences. Hai Phong sub-basin in N with major M Miocene and Late Pliocene inversion events)

Steyer, J.S. (2009)- The geological and palaeontological exploration of Laos; following in the footsteps of J.B.H. Counillon and A. Pavie. In: E. Buffetaut et al. (eds.) Late Palaeozoic and Mesozoic ecosystems in SE Asia, Geol. Soc., London, Spec. Publ. 315, p. 25-32.
(Brief history of geological exploration in Laos since late 1800's, mainly by Counillon)

Stokes, R.B. (2013)- Depratôs trilobites and the position of the Indochina Terrane in the Early Palaeozoic. Proc. Int. Symposium Geoscience resources and environments of Asian terranes (GREAT 2008), 4th IGCP 516 and 5th APSEG, Bangkok 2008, p. 201-207.
(Late Ordovician-Silurian trilobite faunas collected by Deprat in ~1915 from Laos and C Vietnam on Indochina Terrane, have European affinities (paleo-location adjacent to Bohemia ? (but topic of controversy in 1919: according to Mansuy trilobites came from Europe and had been 'planted' in Laos by Deprat)

Stokes, R.B., P. Lovatt Smith, A. Racey, C.H.C. Brunton, O. Dawson, A.R.H. Swan & M.F. Whitaker (2012)- Some Upper Palaeozoic fossil localities in the Vientiane Contract Area, Lao PDR, and their geological Importance. J. Science Technol. Maha Sarakham Univ. (MSU) 31, p. 63-73.
(online at: http://journal.msu.ac.th/2012_/index.php/SCI/article/view/286/294)
(New Upper Paleozoic (Carboniferous- Permian) localities from C and W Laos. Includes latest Permian limestone with Palaeofusulina- Colaniella fauna N of Vientiane)

Stokes, R.B., P.F. Lovatt Smith & K. Soumphonphakdy (1996)- Timing of the Shan-Thai-Indochina collision: new evidence from the Pak Lay Foldbelt of the Lao PDR. In: R. Hall & D.J. Blundell (eds.) Tectonic evolution of SE Asia, Geol. Soc., London, Spec. Publ. 106, p. 225-232.
(Pak Lay Foldbelt in NW Laos is product of Indosinian orogeny (collision of Shan-Thai and Indochina along Nan-Uttaradit ophiolite suture). Current hypotheses place timing of collision in Permian or Triassic. However, in area S of Pak Lay M-U Jurassic argillites (with Classopollis spp., Calliatisporites dampieri, etc.) and volcanic rocks in steeply dipping imbricated wedge, which is unconformably overlain by Cretaceous Khorat Gp, suggesting Late Jurassic Shan-Thai-Indochina suturing)

Suasta, M., O. Arifin. & K. Suhanto (2014)- Gold mineralization along Ban Mai- Nakachan trend, west part of Sepon mineral district, Savannakhet Province, LAO PDR. In: I. Basuki & A.Z. Dahlius (eds.) Sundaland Resources, Proc. Indon. Soc. Econ. Geol. (MGEI) Ann. Conv., Palembang, p. 319-329.

Sun, L.Q., H.F. Ling, K.D. Zhao, P.R. Chen, W.F. Chen, T. Sun, W.Z. Shen & G.L. Huang (2017)- Petrogenesis of Early Cretaceous adakitic granodiorite: implication for a crust thickening event within the Cathaysia Block, South China. Science China (Earth Sciences) 60, 7, p. 1237-1255.
(E Cretaceous Lingxi pluton in interior of Cathaysia Block (zircon U-Pb age 100±1 Ma). Granodiorite with geochemical features of adakitic rocks, derived from partial melting of thickened Proterozoic lower continental crust at $P \geq 12$ *kbar (= crust thickness* ≥ 40 *km), leaving garnet-bearing amphibolite residue. Crust thickened by late E Cretaceous compressive event (angular unconformity between Upper Cretaceous rift deposits and folded early Lower Cretaceous or Jurassic). During subsequent lithospheric extension (driven by Paleo-Pacific subduction?) lower crust heated by upwelling asthenospheric materials, resulting in Lingxi and other coeval granitoids in Cathaysia Block)*

Swiecicki, T. & K. Maynard (2009)- Geology and sequence stratigraphy of Block 06/94, Nam Con Son basin, offshore Vietnam. Proc. 2009 SE Asia Petroleum Expl. Soc. (SEAPEX) Conf., Singapore, p. 1-17. *(Abstract + Presentation)*
(Similarities and differences in tectonostratigraphic development of Cuu Long, Nam Con Son and W Natuna basins. W Natuna and Cuu Long Late Eocene/E Oligocene onset of rifting. All three basins with M Oligocene rifting, coincident with sea-floor spreading in S China Sea. Cuu Long Basin compressional reactivation of strike-slip faults in Late Oligocene ; inversion of early grabens in W Natuna Basin in E, M and Late Miocene. Nam Con Son Basin with second period of M -L Miocene rifting following end of sea-floor spreading)

Takemoto, K., N. Halim, Y. Otofuji, Tran Van Tri, Le Van De & S. Hada (2005)- New paleomagnetic constraints on the extrusion of Indochina: Late Cretaceous results from the Song Da terrane, northern Vietnam. Earth Planetary Sci. Letters 229, p. 273-285
(U Cretaceous redbeds of Song Da terrane between Indochina and S China blocks suggest Song Da terrane behaved as part of S China Block, when Shan-Thai Block and S part of Indochina Block experienced 10.5° ± 9.5° S-ward displacement accompanied with CW rotation later than Indo-Asian collision)

Tang, Y., J. Liu, M.D. Tran, Z. Song, W. Wu, Z. Zhang, Z. Zhao & W. Chen (2013)- Timing of left-lateral shearing along the Ailao Shan-Red River shear zone: constraints from zircon U-Pb ages from granitic rocks in the shear zone along the Ailao Shan Range, Western Yunnan, China. Int. J. Earth Sciences (Geol. Rundschau) 102, p. 605-626.
(Zircon U-Pb ages of granites along Ailo Shan- Red River FZ constrain on timing of left-lateral shearing: initiation later than 31 Ma from pre-shearing granitic plutons but earlier than 27 Ma from syn-shearing granitic dykes, and termination ~21 Ma from the post-shearing granitic dykes. Left-lateral shearing result of SE-ward extrusion of Indochina block during Indian-Eurasian plate collision)

Thang, Bui Duc (1989)- Lower Triassic conodonts from North Vietnam. Acta Palaeontologica, Warsaw, 34, 4, p. 391-416.

Thanh, T.D., P. Janvier & T.H. Phuong (1996)- Fish suggests continental connections between the Indochina and South China blocks in Middle Devonian time. Geology 24, 6, p. 571-574.
(Yunnanolepiform antiarch (placoderm fish) from the Givetian Dong Tho Fm of C Vietnam, well S of Song Ma suture, in marginal marine facies. Hitherto known exclusively from Lower Devonian of S China block, suggesting close links between Indochina and South China blocks in M Devonian time)

Thanh, N.X., Mai Trong Tu, T. Itaya & S. Kwon (2011)- Chromian-spinel compositions from the Bo Xinh ultramafics, northern Vietnam; implications on tectonic evolution of the Indochina Block. J. Asian Earth Sci. 42, 3, p. 258-267.
(Bo Xinh ultramafics, N of Song Ma fault zone isolated bodies long considered as remnants of Paleotethys Ocean lithosphere between Indochina and S China blocks. Cr-spinel compositions suggest parental magma was lherzolite-harzburgite in composition, indicating forearc tectonic environment. Combined with information on magmatism, metamorphism and sedimentary environment, suggest presence of S-ward subduction zone since Cambrian and collision of Indochina and S China in Late-Silurian- E Devonian. Permian-Triassic magmatic-metamorphic events in Indochina block linked to N-ward subduction of Paleo-oceanic plate beneath Indochina block, followed by M-L Triassic Sibumasu collision)

Thassanapak, H., M. Udchachon & C. Burrett (2012)- Devonian radiolarians and tentaculitids from central Laos. J. Asian Earth Science 60, p. 104-113.
(Radiolaria (Trilonche spp, Stigmosphaerostylus spp., etc.) and tentaculitids (Homoctenus ultimus, Costulatostylionina vesca) in 4m of thick M-U Devonian section of silicified shales at Ban Phonxai, C Laos (N part of Indochina Terrane). Indicative of Frasnian age. Pelagic deep shelf fauna from Indochina Terrane similar to that from S China)

Thassanapak, H., M. Udchachon & C. Burrett (2017)- Silurian radiolarians from the Sepon Mine, Truong Son Terrane, central Laos and their palaeogeographic and tectonic significance. Geol. Magazine *(in press)*

(Late Silurian radiolarian fauna of 18 species from cherts in Sepon Mine area, C Laos. With Futobari morishitai, F. solidus, Zadrappolus yoshikiensis and Z. tenuis. Evidence from Silurian-Devonian of S Truong Son Terrane indicates deepening to S (radiolarian cherts; terrestrial red sandstone facies to NE). In contact with E Silurian limestone and U Ordovician- E Silurian graptolitic shale, overlain by turbiditic volcaniclastics from nearby Long Dai Volcanic Arc. Arc probably maintained by N-ward subduction along Thakhek-Danang Shear Zone)

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(Cretaceous- E Tertiary paleomagnetic data from Indochina– Shan Thai Block reveal complex patterns of intra-plate deformation in response to India-Eurasia collision)

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(Rel. high diversity 'Tethyan' M Permian fusulinid assemblage with Neoschwagerina from Nui Com, S Vietnam)

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Tien, Nguyen D. (1986)- Foraminifera and algae from the Permian of Kampuchea. In: H. Fontaine (ed.) The Permian of Southeast Asia, Appendix 2, United Nations CCOP Techn. Bull. 18, p. 116-137.
(Well-illustrated summary of foraminifera from Permian limestones from W and S Cambodia, using thin sections originally used by Gubler (1935)for study on fusulinids of Indochina)

Tien, Phan Cu et al. (eds.) (1991)- Geology of Cambodia, Laos and Vietnam. Explanatory note to Geological map, 1,000,000 scale, 2nd ed., Geol. Survey Vietnam, Hanoi, p. 1-158.

Tong-Dzuy, T., A.J. Boucot, J.Y. Rong & Z.J. Fang (2001)- Late Silurian marine shelly fauna of Central and Northern Vietnam. Geobios 34, 3, p. 315-338.
(Late Silurian brachiopods and bivalves from Kien An (N Vietnam) and My Duc (C Vietnam) localities. Both with similar 'Retziella fauna', indicating that during Late Silurian both areas, situated on S China and Indochina Plates respectively, were probably fairly close to each other (Retziella fauna also in E Australia))

Tong-Dzuy, T., P. Ta Hoa, A.J. Boucot, D. Goujet & P. Janvier (1997)- Vertebres siluriens du Viet Nam Central. Compte Rendus Academie Sciences, Paris, IIa, 324, p. 1023-1030.
('Silurian vertebrates from Central Vietnam'. New placoderm fish Myducosteus anmaensis from Indochina Plate, associated with brachiopods)

Tong-Dzuy T., T.H. Phuong, P. Janvier, Nguyen H. Hong, Nguyen T.T. Coc & Nguyen.T. Duong (2013)- Silurian and Devonian in Vietnam- stratigraphy and facies. J. Geodynamics 69, p. 165-185.
(Review of Silurian and Devonian sediments in Vietnam. Most Devonian units in N and C Vietnam consist of shelfal shallow water sediments, apparently deposited in passive margin marine setting)

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(Ophiolites in Sino-Vietnam border, linked to closing of Paleotethys back-arc style oceanic basin flanking NE margin of Indochina Block in Late Paleozoic- E Mesozoic)

Tran Ngoc Nam (1995)- The geology of Vietnam: A brief summary and problems. Geoscience Repts. Shizuoka University 22, p. 1-10.
(online at: https://ci.nii.ac.jp/els/contents110000413364.pdf?id=ART0000542361)
(Vietnam five structural blocks, from N to S: NE, NW, Truongsong, Kontum, Nambo)

Tran Van Tri (1994)- The geotectonic framework of Vietnam and adjacent areas. In: J.L. Rau (ed.) Proc. 29th Sess. Comm. Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Hanoi 1992, 2, p. 183-190.
(Review of Vietnam tectonics. Indochina foldbelt/ Mekong-Indosinian orogeny with folded Carboniferous-Triassic clastics, andesites and ultramafic bodies marks Late Triassic closure of SE branch of Paleo-Tethys and collision of Sino-Vietnamese (Cathaysia), Indosinian, Shan and W Borneo blocks)

Tran Van Tri, Do Canh Duong, Dang Quoc Lich et al. (2016)- Coal-forming episodes in Vietnam, Cambodia and Lao PDR. In: Development of the Asian Tethyan Realm: genesis, process and outcomes, 5th Int. Symposium Int. Geoscience Program (IGCP) Project 589, Yangon, p. 50-53. *(Extended Abstract)*
(online at: http://igcp589.cags.ac.cn/5th%20Symposium/Abstract%20Volume.pdf)
(Coal-forming episodes in Indochina region: M-L Devonian, E Carboniferous, Late Permian, Late Triassic, E Jurassic, Tertiary and Quaternary. Only E Carboniferous, Late Triassic and Tertiary coals economically important)

Trung, N.M., T. Tsujimori & T. Itaya (2006)- Honvang serpentinite body of the Song Ma fault zone, Northern Vietnam: a remnant of oceanic lithosphere within the Indochina- South China suture. Gondwana Research 9, 1-2, p. 225-230.
(Honvang serpentinite body in Song Ma fault zone consists mainly of massive serpentinite, altered gabbro and rare chromitite. Original peridotite was spinel-bearing lherzolitic harzburgite. Serpentinite body of Song Ma fault zone represents remnant of Tethyan oceanic lithosphere between Indochina- S China blocks)

Tsuchiyama, Y., H. Zaman, S. Sotham, Y. Samuth, E. Sato, H.S. Ahna, K. Unoe, K. Tsumura, Masako Miki, Y. Otofuji (2016)- Paleomagnetism of Late Jurassic to Early Cretaceous red beds from the Cardamom Mountains, southwestern Cambodia: Tectonic deformation of the Indochina Peninsula. Earth Planetary Sci. Letters 434, p. 274-288.
(Paleomag of Late Jurassic- E Cretaceous red beds in Phuquoc-Kampot Som Basin (part of Indochina Block) suggests S-ward displacement of 6.0 ± 3.5° and CW rotation of 33 ± 4°. CW rotation ~15° larger than Khorat Basin, attributed to dextral motion along Wang Chao Fault since M Oligocene. Comparison with CCW rotation reported from Da Lat area in Vietnam suggests differential tectonic rotation in S tip of Indochina Block)

Udchachon, M., H. Thassanapak & C. Burrett (2017)- Early Permian radiolarians from the extension of the Sa Kaeo Suture in Cambodia- tectonic implications. Geol. Magazine , p. *(in press)*
(E-W melange-ophiolite belt, 3 km wide-20 km long, separating northern block of amphibolitic Pailin Crystalline Complex from southern area of Triassic submarine fan siliciclastic rocks. Cherts with Asselian-Sakmarian radiolarian fauna of Pseudoalbaillella spp, etc.. Sa Kaeo Suture appears to extends E into Cambodia and possibly then turns S-wards along strike of Pursat-Kampot Foldbelt)

Udchachon, M., H. Thassanapak, Q. Feng & C. Burrett (2017)- Palaeoenvironmental implications of geochemistry and radiolarians from Upper Devonian chert/shale sequences of the Truong Son fold belt, Laos. Geological Journal 52, 1, p. 154-173.
(online at: http://onlinelibrary.wiley.com/doi/10.1002/gj.2743/epdf)
(Frasnian radiolarian chert and siliceous shale in Truong Son fold belt of C Laos (NE part of Indochina Terrane). Radiolarian fauna similar to S China, N Thailand and W Australia. Associated with tentaculitids Homoctenus ultimus and Costulatostyliolina vesca, previously described from S China and Ban Phonxai. Deposited in pull-apart basins along NW-SE trending Thakhek-Danang Shear Zone)

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Ueno, K., T. Charoentitirat, Y. Kamata, H. Hara, M. Ichise, P. Charusiri, K. Khamphavong & K. Hisada (2007)- A new Pennsylvanian fusuline fauna from northern Laos. Acta Micropaleont. Sinica 24, 4, p. 359-369.
(online at: www.eatgru.sc.chula.ac.th/Thai/research/pdf/paper/83.pdf)
(Small fusuline fauna in limestone hill in SW Luang Prabang Province, N Laos (Indochina Block) with Staffella, Neostaffella, Profusulinella, etc., suggests Late Carboniferous (latest Bashkirian- E Moscovian) age)

Ueno, K., T. Charoentitirat, Y. Kamata, H. Hara, M. Ichise, K. Hisada, K. Khamphavong, S. Kongthiphavong & S.P. Charusiri (2007)- Late Paleozoic carbonates in northern Laos: their foraminiferal faunas and geotectonic implications. In: Geological Anatomy of East and South Asia, Third Symposium of IGCP Project 516, Delhi, p. 154-156.

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(online at: www.eatgru.sc.chula.ac.th/Thai/research/pdf/paper_2/102.pdf)
(N Laos Carboniferous and Permian limestones NW of Luang Prabang and S of Sayabouli. Carboniferous limestone with Profusulinella, Fusulinella, Beedeina, and Fusulina. E-M Permian platform carbonates with Yangchienia, Parafusulina, Neoschwagerina, Afghanella, Presumatrina, Verbeekina, etc. Similar to W margin of Indochina Block in Loei area of M Thailand, suggesting link between NE Thailand and NW Laos. Nan-Uttaradit Suture between Sukhothai zone and Indochina Block runs NNE-ward into NW Laos and continues to Lancangjiang suture in W Yunnan)

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(Large Carboniferous-Permian Yangtze carbonate platform of S China (Yangtze) Block), with 26 Late Carboniferous- E Permian cyclothems identified. Probably rel. arid climate))

Ueno, K., Y. Kamata, K. Uno, T. Charoentitirat, P. Charusiri, K. Vilaykham & R. Martini (2018)- The Sukhothai Zone (Permian-Triassic island-arc domain of Southeast Asia) in Northern Laos: insights from Triassic carbonates and foraminifers. Gondwana Research, p. *(in press)*
(Sukhothai Zone Permian-Triassic Paleo-Tethyan island-arc system along W margin of Indochina Block considered to extend from N Thailand to SW Yunnan (China), but no evidence from N Laos in between. Foraminifers from shallow marine limestone in Long area of NW Laos of Triassic (Carnian) age (Aulotortus sinuosus, A. tumidus, Ophthalmidium, Endotriada, Endoteba, Palaeolituonella, etc.). In Thailand similar Carnian limestone only in Doi Long Fm in Sukhothai Zone)

Ueno, K., A. Miyahigashi, Y. Kamata, K. Hisada, H. Hara, K. Uno, T. Charoentitirat, P. Charusiri et al. (2014)- Permian and Triassic carbonates in the Oudom Xai- Luang Namtha area, northern Laos: stratigraphical and paleontological constraints for connecting Northern Laos with Northern Thailand. In: Development of the Asian Tethyan Realm, Proc. 3rd Int. Symposium Int. Geosciences Program (IGCP) Project 589, Tehran 2014, p. 2-4. *(Extended Abstract)*
(Permian limestones in N Laos dominated by sponge- Tubiphytes-microbial reefal boundstone with Colaniella cylindrica, Agathammina, Pachyphloia, Neoendothyra, Reichelina, Palaeofusulina?, etc., referable to Changhsingian (latest Permian). Also M Triassic (Anisian) carbonates with ooid grainstones and Late Triassic (Carnian) sponge-microbial boundstones. In Thailand similar carbonate succession only in Lampang-Phrae-Nan area of Sukhothai Zone, suggesting Sukhothai Zone extends to W part of N Laos)

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(online at: www.igm.nsc.ru/labs/lab212/~safonova/pdf/7thiagrabstracts.pdf)
(U-Pb dating and Hf isotope analysis of detrital zircons from C Vietnam rivers, to characterize continental crust of Indochina block. Zircon dating results: Archean- Cambrian zircons four major clusters (2.5, 1.6, 1.0-0.9 and 0.65-0.5 Ga), younger zircons three clusters (450, 250, 30 Ma). Indochina block long crustal evolution history, involving significant amount of Archean continental crustal components)

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(Zircon analyses of two paragneiss samples of Kham Duc Complex, C Vietnam ~447, 452Ma, different from the available Ar-Ar mineral ages of 254-225 Ma. ~450 Ma zircon rim ages reflect possible crustal thickening event in Late Orrdovician (most likely collisional orogeny between Indochina and S China blocks), while Permo-Triassic Ar-Ar ages would result from Indosinian overprint. Late Neoproterozoic-Neoarchean ages from detrital zircon cores suggest protoliths may have derived from sediments at Gondwana margin)

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('The phytostratigraphic significance of the Mesozoic Nong-Son-Vinh Phuoc coal basin, Central Vietnam, and phylogeny of species')

Vozenin-Serra, C. & D. de Francesci (1999)- Flore du Trias superieur du Vietnam (bassins houillers du Quang-Nam et de Hongay). Palaeontographica, B 249, p. 1-62.
('Flora of the Upper Triassic of Vietnam (coal basins of Quang-Nam and Hongay)'. Vietnam M-U Triassic flora belongs to Dictyophyllum- Clathropteris coastal floristic assemblage of SE China-Indochina- S Japan- NW Borneo. Affinities of plant assemblage with Krusin flora (NW Borneo). Remarkable presence of Gondwanan elements Paleovittaria, Glossopteris indica and Noeggerathiopsis; also observed in Triassic of China)

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Vu Khuc (2000)- Cretaceous environments in Viet Nam, Laos and Cambodia. In: H. Okada, H. & N.J. Mateer (eds.) Cretaceous environments of Asia, Elsevier Science B 17, p. 201-206.
(Indochina Peninsula Cretaceous sedimentation under continental conditions.Some basins with normal red beds, others with volcanogenic formations. Climate became hotter and drier in Late Cretaceous)

Vu Khuc (2000)- The Triassic of Indochina Peninsula and its interregional correlation. In: H. Yin, J.M. Dickins et al. (eds.) Permian-Triassic evolution of Tethys and Western Circum-Pacific, Developments in Palaeontology and Stratigraphy, Elsevier, 18, p. 221-233.

(Triassic correlations in Vietnam, Laos, Myanmar, Thailand. Two types of Triassic: (1) An Chau, with felsic volcanogenic Anisian unconformable on older formations, Carnian continental red beds or absent; (2) Song Da, with calcareous Anisian conformable on Lw Triassic and marine Carnian with deep-water halobiid bivalves)

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('The characteristic fossils of the Triassic of North Vietnam'. Incl. Anisian ammonite Beyrichites sp.)

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(Triassic in SE Asia mainly marine sediments. Fossils mostly bivalves and ammonoids. Biostratigraphic scales to help correlate Triassic sequences of different SE Asian areas. Twelve assemblage zones distinguished. SE Asia Triassic many species in common with S China and Himalayas. M Triassic with thin-shelled bivalves Daonella, Late Triassic with Halobia, etc.)

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(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1997/7641.pdf)
(Discovery of new M Jurassic (E Bajocian) marine fauna in Langa Fm of Datat Basin, S Vietnam, incl. ammonite Fontannesia and bivalves Bositra ornati and B. buchii)

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Wang, Y., J.V. Aitchison & H. Luo (2003)- Devonian radiolarian faunas from South China. Micropaleontology 49, 2, p. 127-145.
(Devonian radiolarians from 4 new sections in SW Yunnan, S China, with 15 genera/ 30 species. Stratigraphic significance of M Devonian Eoalbaillella lilaensis fauna, morphotypic variation within genus Helenifore and abundance and diversity of U Devonian Holoeciscus foremanae fauna discussed)

Wang, Y.J., W. Fan, G. Zhang & Y. Zhang (2011)- Phanerozoic tectonics of the South China Block: key observations and controversies. Gondwana Research 23, 4, p. 1273-1305.
(South China Block: 3 tectonothermal events periods: M Paleozoic (Kwangsian), Triassic (Indosinian) and Late Jurassic- mid-Cretaceous (Yanshanian). Yanshanian wide magmatic belt of >1300 km and broad deformational belt of >2000 km (Jurassic in inland regions, Cretaceous in coastal provinces?). Driven by subduction of oceanic crust from Pacific in E. Zircons of Yanshanian I-, S- and A-type granites three age clusters: 152-180 Ma (mainly calk-alkaline, I-type, peak at ~165-155 Ma= ~Oxfordian), 120-130 Ma (I, S and A-types) and 87-107 Ma (93 Ma peak))

Wang, Y.J. & Q. Yang (2011)- Biostratigraphy, phylogeny and paleobiogeography of Carboniferous- Permian radiolarians in South China. Palaeoworld 20, p. 134-145.
(Carboniferous-Permian radiolarian faunas from deep marine bedded chert of S China (Paleotethys?) divided into 22 radiolarian zones. Panthalassa and Paleo-Tethys no clear biotic differentiation in open ocean environment. Discussion of evolutionary series of Pseudoalbaillella (late Guadalupian P. ishigai- P. fusiformis- P. monacanthus lineage) and Follicucullus (latest Guadalupian- E Lopingian F. scholasticus- F. ventricosus- F. orthogous/F. scholasticus- F. hamatus- F. bipartitus lineage). No locality details)

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(U Permian radiolarian cherts well-developed basins in S China. Six biozones, incl. Follicucullus bipartitus- F. charveti- F. orthogonus Zone, Foremanhelena, Albaillella and Neoalbaillella zones. Paleobiogeographically U Permian radiolarian faunas cosmopolitan in nature)

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(SE coastal area of S China Block generally interpreted as Cretaceous active continental margin due to subduction of Paleo-Pacific plate beneath Eurasian plate. NW-directed ductile thrusting at ~130-105 Ma, before deposition of undeformed (~104 Ma) volcanic rocks and intrusion of ~90 Ma plutons. Interpreted as back-thrust resulting W Philippines microcontinent collision with SCB rather than effect of oceanic subduction)

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(Cenozoic magmatism, mainly along E margin of Asia. Peaks of volcanic activity in Oligocene-Miocene and Pliocene-Pleistocene. Main tectonic controls on volcanism: E Cenozoic subduction along E seaboard, collision of Indian continent, development of back-arc basins, and interactions between Asian- N American plates)

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(Late Triassic foreland basin in W Guizhou and E Yunnan provinces))

Xin, Q., Q. Feng, Y. Wang, W. Yang, C. Chonglakmani & D. Monjai (2016)- Petrochemistry and tectonic setting of the Middle Triassic arc-like volcanic rocks in the Sayabouli Area, NW Laos. J. Earth Science (China) 27, 3, p. 365-377.
(Volcanic rocks from Sayabouli area in NW Laos mapped as Permian- E Triassic, but basaltic-andesite with zircon U-Pb age of 238±2 Ma, suggests M Triassic age. Geochemical affinity to continental arc volcanics, and similar to arc volcanics from Phetchabun belt in NE Thailand, suggesting Late Permian- M Triassic continental margin/ volcanic belt at margin of Indochina Block, from NW Laos to C Thailand through W Loei sub-belt)

Xu, Y., C.Y. Wang & T. Zhao (2016)- Using detrital zircons from river sands to constrain major tectono-thermal events of the Cathaysia Block, SE China. J. Asian Earth Sci. 124, p. 1-13.
(Detrital zircons from Minjiang and Zhujiang Rivers in SE China show five major U/Pb age populations: 90-250 Ma, 400-500 Ma, 0.7-1.2 Ga, 1.6-2.0 Ga and 2.3-2.6 Ga. About 80-90% of present crust in NE and SW Cathaysia Blocks formed by 1.6 Ga. The 140-120 Ma tectono-thermal events likely related to change of subduction direction of Paleo-Pacific plate from N-ward to NW ward at 140 Ma. The 112-90 Ma tectono-thermal events may be correlated with rollback of subducted Paleo-Pacific plate at ~110 Ma)

Yang, Z., V. Courtillot, J. Besse, X. Ma, L. Xing, S. Xu & J. Zhang (1992)- Jurassic paleomagnetic constraints on the collision of the North and South China Blocks. Geophysical Research Letters 19, 6, p. 577-580.
(S China Block underwent final accretion to N China Block in M Jurassic. Accretion of N China Block to Siberia not complete until Late Jurassic and possibly even until E Cretaceous)

Yang, Z., Z. Sun, T. Yang & J. Pei (2004)- A long connection (750-380 Ma) between South China and Australia: paleomagnetic constraints. Earth Planetary Sci. Letters 220, p. 423-434.
(Paleomagnetic study on M Cambrian in N Sichuan Basin (Yangtze Block). S China Block placed against NW Australia, correlating Grenville-age Jiangnan orogenic belt with Rudall belt of W Australia, and subsequently Late Proterozoic Jiangnan and Officer/Adelaide rift systems. Paleobiogeographic evidence indicates this configuration might maintain by M Devonian)

Yao, A., K. Kuwahara, Y. Ezaki, J. Liu & W. Hao (2004)- Permian radiolarians from the Qinfang Terrane, South China, and its geological significance. J. Geosciences Osaka City University 47, 3, p. 71-83.
(online at: http://dlisv03.media.osaka-cu.ac.jp/infolib/user_contents/kiyo/DB00011403.pdf)
(Early- Late Permian radiolarian chert of Qinfang Terrane with nine zones, probably signifying deep basin between Yangzi Block in NW and Cathaysia block in SE)

Yonemura, K., Y. Osanai, N. Nakano, M. Owada & S. Baba (2013)- Petrology, geochemistry, and origin of metamorphosed mafic rocks of the Trans Vietnam orogenic belt, Southeast Asia. J. Mineralogical Petrological Sci. 108, p. 55-86.
(online at: https://www.jstage.jst.go.jp/article/jmps/108/2/108_120813/_pdf)
(NW-SE trending Trans-Vietnam Orogenic Belt thought to have formed by continent-continent collision between S China and Indochina blocks in Permian- Triassic. Amphibolite-facies metamorphosed mafic rocks widespread in Song Ma suture zone, Kontum Massif, etc., derived from arc and oceanic crust between these plates)

Yu, Y., S.S. Gao, K.H. Liu, T. Yang, M. Xue & Khanh Phon Le (2017)- Mantle transition zone discontinuities beneath the Indochina Peninsula: implications for slab subduction and mantle upwelling. Geophysical Res. Letters 44, 14, p. 7159-7167.
(Velocity model shows evidence for presence of slab segments in Mantle Transition Zone beneath C and slab window beneath W Indo-China plate. Also broad mantle upwelling adjacent to E edge of slab segments, which may responsible for widespread Cenozoic volcanism and pervasive low upper mantle velocities in area)

Zeng, G., Z.Y. He, Z. Li, X.S. Xu & L.H. Chen (2016)- Geodynamics of paleo-Pacific plate subduction constrained by the source lithologies of Late Mesozoic basalts in southeastern China. Geophysical Research Letters 43, p. 10,189-10,197.
(SE China Late Mesozoic basalts four age groups: 178-172 Ma, ~150 Ma, 137-123 Ma and 109-64 Ma. Mainly pyroxenites. Subduction of Paleo-Pacific plate most likely candidate for mantle-derived magmatism after ~150 Ma. Slab rollback with increased dip angle possible model for lithological variations of Late Mesozoic mantle)

Zhang, X., H. Ma, Y. Ma, Q. Tang & X. Yuan (2013)- Origin of the late Cretaceous potash-bearing evaporites in the Vientiane Basin of Laos: ǔ11B evidence from borates. J. Asian Earth Sci. 62, p. 812-818.
(Late Cretaceous Maha Sarakham Fm evaporites on Khorat Plateau with one of largest potash deposits in world. Origin has long been controversial. Main borates boracite and hilgardite with isotopic values suggesting marine borates)

Zhao, J., J. Qiu, L. Liu & R. Wang (2016)- The Late Cretaceous I- and A-type granite association of southeast China; implications for the origin and evolution of post-collisional extensional magmatism. Lithos 240-243, p. 16-33.
(SE China coast granites two groups: (1) in N, I-type alkali-feldspar granites generated by mixing of mantle-derived material with crustal-derived magmas (98-96 Ma); and (2) in S, A-type plutons (89-86 Ma). All granites highly siliceous, K-rich. Both granite types emplaced during post-collisional extensional tectonism associated with rollback of steeply subducting Paleo-Pacific Plate (increase of dip angle of subducted Paleo-Pacific plate between Early- Late Cretaceous)

Zhao, L., X. Zhou, M. Zhai, M. Santosh, Y. Geng (2015)- Zircon U-Th-Pb-Hf isotopes of the basement rocks in northeastern Cathaysia block, South China: implications for Phanerozoic multiple metamorphic reworking of a Paleoproterozoic terrane. Gondwana Research 28, p. 246-261
(Zircon age peaks of 1.86-1.87 Ga and 230-250 Ma interpreted to represent time of metamorphic reworking. The extensive ~1870 Ma Paleoproterozoic thermal event may be response of Cathaysia block to assembly of Columbia supercontinent)

Zhao, X., Y. Jiang, G. Xing, M. Yu, J. Mao & S. Yu (2018)- Newly discovered Late Cretaceous adakites in South Fujian Province: Implications for the late Mesozoic tectonic evolution of Southeast China. Island Arc, p. *(in press)*
(Late Cretaceous Yongchun pluton adakitic intrusion in S Fujian, SE China. Zircon U-Pb ages of ~98-100 Ma, similar to those of nearby plutons. Magmas generated by partial melting of Mesoproterozoic continental crust mixed with mantle-derived magmas. Magmatism associated with thickening of lower crust during change in subduction angle and convergence rate of Paleo-Pacific Plate at 100 Ma)

Zhang, D., M. Yan, X. Fang, Y. Yang, T. Zhang, J. Zan, W. Zhang, C. Liu & Q. Yang (2018)- Magnetostratigraphic study of the potash-bearing strata from drilling core ZK2893 in the Sakhon Nakhon Basin, eastern Khorat Plateau. Palaeogeogr. Palaeoclim. Palaeoecology 489, p. 40-51.
(online at: https://www.sciencedirect.com/science/article/pii/S0031018217302080)
(Khorat Plateau one of world's largest potash evaporite deposits. Magnetostratigraphic study of 595m deep borehole in SE Sakhon Nakhon Basin in C Laos penetrated entire potash-bearing Nong Boua Fm and reached underlying sandstone beds. Combined with palynological, isotopic and other evidence, polarity zones correlated to geomagnetic polarity time scale, giving magnetostratigraphic ages of >63.5 Ma- ~92 Ma for evaporite section (= ~Turonian- Maastrichtian?))

Zhong, W.F., Q.L. Feng, C. Chonglakmani, D. Monjai & Z.B. Zhang (2012)- Permian-Triassic stratigraphic correlations between Laos and Yunnan and their tectonic significance. Earth Science (J. China University of Geosciences) 2012, S2, p. 73-80.
(New work in NW Laos shows Permian- Triassic (incl. U Permian clastics with coal) between Luangprabang and Chiang Rai belts are comparable to Simao basin between Ailaoshan and Lancangjiang belts. Nan River belt in N Thailand can therefore not be linked with Lancangjing belt by crossing NW Laos)

Zhou, J.X., K. Luo, Bo Li, Z.L. Huang & Z.F. Yan (2016)- Geological and isotopic constraints on the origin of the Anle carbonate-hosted Zn-Pb deposit in northwestern Yunnan Province, SW China. Ore Geology Reviews 74, p. 88-100.

Zhou, M.F., J. Malpas, M. Sun, X.Y. Song, P.T. Robinson, A.K. Kennedy, C.M. Lesher & R.R. Keays (2002)- A temporal link between the Emeishan large igneous province (SW China) and the end-Guadalupian mass extinction. Earth Planetary Sci. Letters 196, 3-4, p. p. 113-122.
(Emeishan flood basalt province in SW China zircon ages show age of Xinjie intrusion feeder to main phase of EFB volcanism is 259±3 Ma, coincident with proposed end-Guadalupian extinction event at 256-259 Ma)

Zhou, X., T. Sun, W. Shen, L. Shu & Y. Niu (2006)- Petrogenesis of Mesozoic granitoids and volcanic rocks in South China: a response to tectonic evolution. Episodes 29, 1, p. 26-33.
(online at: www.episodes.co.in/www/Backissues/291/26-33.pdf)
(Mesozoic granitoids and volcanic rocks in S China two main phases, responding to regional tectonic regime (1) mainly Late Triassic 'Indosinian' granites, tied to continent-continent collision within Tethyan orogenic domain; (2) Late Jurassic- Cretaceous 'Yanshanian' associated with NW-WNW-ward subduction of Paleo-Pacific ocean. Late Yanshanian K1 granitoid-volcanic rocks represent active continental margin magmatism; K2 tholeiitic basalts (85-105 Ma?) interlayered with red beds are interpreted as genetically associated with development of back-arc extensional basins in interior of S China Block)

Zi, J.W. (2012)- Late Paleozoic- Triassic tectono-magmatism in the Paleo-Tethys ocean, SW China: timing, nature and implications for continental amalgamation and orogenic processes. Ph.D. Thesis, University of Western Australia, Perth, p. 1-189.
(online at: research-repository.uwa.edu.au/files/3214568/Zi_Jianwei_2012.pdf)

Zi, J.W., P.A. Cawood, W.M. Fan, E. Tohver, Y.J. Wang, T.C. McCuaig & T.P. Peng (2013)- Late Permian-Triassic magmatic evolution in the Jinshajiang orogenic belt, SW China and implications for orogenic processes following closure of the Paleo-Tethys. American J. Science 313, 2, p. 81-112.
(Jinshajiang orogenic belt, SW China, records closure of Paleo-Tethys seaway and ensuing collision. Following consumption of ocean, M Triassic (247-237 Ma) collision zone magmatism. From 234-214 Ma emplacement of high-K, calc-alkaline granodiorites-monzogranites prior to isostatic uplift and extension, probably caused by breakoff of subducted slab. Melange and collision-related magmatic suites unconformably overlain by Late Triassic (229-217 Ma) conglomerate-rich sequence that represents overlap assemblage, across Qamdo-Simao terrane (Indochina) and Yangtze Block of S China)

Zi, J.W., P.A. Cawood, W. Fan, Y. Wang, E. Tohver, C. McCuaig & T. Peng (2012)- Triassic collision in the Paleo-Tethys Ocean constrained by volcanic activity in SW China. Lithos 144-145, p. 145-160.

(Collision-related Triassic volcanic rocks in Jinshajiang-Ailaoshan orogenic belt in SW China suggest initial collision and amalgamation of Qamdo-Simao (Indochina) terrane with Yangtze Block (S China) along Jinshajiang- Ailaoshan and Song Ma sutures probably in E Triassic, following consumption of Paleo-Tethys Ocean. 247-246 Ma Pantiange high-Si rhyolites represent early magmatic products. 245-237 Ma bimodal volcanism interpreted as extension within evolving collisional orogen, probably related to oblique convergence)

Zuo, X., L.S. Chan & J.F. Gao (2017)- Compression-extension transition of continental crust in a subduction zone: A parametric numerical modeling study with implications on Mesozoic-Cenozoic tectonic evolution of the Cathaysia Block. PlosS One 12, 2, e0171536, p. 1-35.
(online at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5300286/pdf/pone.0171536.pdf)
(Numerical modeling of transition from Mesozoic compression to extension in Cathaysia Block, SE China (upper plate of Paleo-Pacific subduction zone). Initiation of Late Cretaceous- Paleogene extensional regime probably triggered by roll-back of slowly subducting slab)

IX.6. Malay Basin, Gulf of Thailand

Achalabhuti, C. (1976)- Petroleum geology of Thailand (Gulf of Thailand and Andaman Sea) -summary. In: Proc. Conf. Circum-Pacific Energy and Mineral Resources, Honolulu 1974, American Assoc. Petrol. Geol. (AAPG), Spec. Vol. M25, p. 251-255.

Achalabhuti, C. (1981)- Natural gas deposits of Gulf of Thailand. In: M.T. Halbouty (ed.) Energy Resources of the Pacific Region, American Assoc. Petrol. Geol. (AAPG), Spec. Vol. SG 12, p. 155-166.
(Two commercial gas-condensate fields with reserves up to 5 TCF found in Union Oil Block 12 and Texas Pacific's concession block 15 and block 16. Union field in S Pattani trough, Texas Pacific field in N part Malay basin. Several gas-condensate reservoirs identified in E-M Miocene deltaic sandstones)

Achalabhuti, C. (1981)- Offshore hydrocarbon production and potential of Thailand. In: M.J. Valencia (ed.) Proc. EAPI/CCOP Workshop, Honolulu 1980, Energy 6, 11, p. 1247-1254.
(Four commercial gas/condensate fields delineated in the Gulf of Thailand with gas reserves of >7 TCF. Also small amounts of crude oil in some wells. Continental woody material primary source, minor components from marine algae. Deep water drilling in Andaman Sea revealed Tertiary source beds mainly immature. Pre-Tertiary sedimentary basins beneath offshore areas of Andaman Sea and Gulf of Thailand more favorable for hydrocarbon potential)

Ahmad, M.N. & P. Rowell (2012)- Application of spectral decomposition and seismic attributes to understand the structure and distribution of sand reservoirs within Tertiary Rift Basins of Gulf of Thailand. AAPG Ann. Conv. Exh., Long Beach 2012, Search and Discovery Art. 40992 (2012), 32p. *(Abstract/ Presentation)*

Ahmad, M.N. & P. Rowell (2012)- Application of spectral decomposition and seismic attributes to understand the structure and distribution of sand reservoirs within Tertiary Rift Basins of Gulf of Thailand. The Leading Edge 31, 6, p. 630-634.
(Same story as Ahmad and Rowell (2012), above)

Alqahtani, F.A., C.A.L. Jackson, H.D. Johnson & M.R.B. Som (20175)- Controls on the geometry and evolution of humid-tropical fluvial systems: insights from 3D seismic geomorphological analysis of the Malay Basin, Sunda Shelf, Southeast Asia. J. Sedimentary Res. 87, 1, p. 17-40.
(High-resolution 3D seismic data from Malay Basin Pleistocene- Recent shows six fluvial channel types in eight 18-145m-thick depositional units, with (1) relatively large (300-3000m wide, 15-45m deep) and straight channels at bases, and (2) smaller (75-250m wide, 8-23m deep), highly sinuous channels at tops. Cyclical architecture interpreted as mainly climatically driven changes in fluvial sediment supply. Two large incised valleys interpreted to be formed due relative sea-level fall during Last Glacial Maximum)

Alqahtani, F.A., H.D. Johnson, C.A.L. Jackson & M.R.B. Som (2015)- Nature, origin and evolution of a Late Pleistocene incised valley-fill, Sunda Shelf, Southeast Asia. Sedimentology 62, 4, p. 1198-1232.
(Analysis of 3D seismic data over large (18km wide, 80m deep and >180km long), well-imaged Late Pleistocene incised valley from Malay Basin, Sunda Shelf, S China Sea (' Paleo-Choa Phraya-Johore valley'))

Ampaiwan, T., Minarwan, P. Swire & P. Tognini & P. Charusiri (2016)- Hydrocarbon prospectivity definition, the Kra Basin, Northern Gulf of Thailand. AAPG Geoscience Techn. Workshop Characterization of Asian hydrocarbon reservoirs, Bangkok, Search and Discovery Art. 20357, 10p. *(Extended Abstract)*
(online at: www.searchanddiscovery.com/documents/2016/20357ampaiwan/ndx_ampaiwan.pdf)
(Kra basin in NW Gulf of Thailand is Tertiary N-S rifted, mainly lacustrine basin with hydrocarbon discoveries (Manora Field, Malida well). Top zone VIMT 50 marks top syn-rift mainly lacustrine section and also regional M Miocene Unconformity. Above syn-rift section mainly M- Late Miocene fluvial section. Post-Oligocene source rock potential)

Armitage, J.H. & C. Viotti (1977)- Stratigraphic nomenclature- Southern end Malay Basin. Proc. 6th Ann. Conv. Indon. Petroleum Assoc.(IPA), Jakarta, 1, p. 69-94.

Armitage, J.H. (1980)- A decade of exploration and development by EPMI off the east coast of Peninsular Malaysia. Offshore SE Asia Conf., Singapore 1980 (OFFSEA 80) preprint, 51p.

Barr, D. & K. Dharmarajan (2015)- The hydrocarbon resources of Block A-18, Gulf of Thailand: a brief overview and history. Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) Conf. 2015, Singapore, 6.1, p. 1-24.
(Block A-18 in Malaysia-Thailand Joint Development Area with series of gas fields in stacked E Miocene-Pliocene sandstone reservoirs. Most production from Late Miocene. In central part of North Malay Basin, overlying series of N-S trending horsts and grabens)

Barr, D.C., M.J. Flynn, Ong Cheng Sun & K. Dharmarajan (2012)- Interpreting geological systems from seismic attributes: reasons for caution from the Northern Malay Basin. Proc. Int. Petroleum Techn. Conference, Bangkok, IPTC 14830, 10p.
(Example of channel-like feature clearly imaged from seismic attributes, but where size of channel did not match that implied by pressure transient analysis)

Basu, T., M. Claverie, D. Nolan, K.B. Yahya & M. Suleiman (2004)- Facies analysis; integration of core and log data using a neural network as input for reservoir modeling in Betty Field, Malaysia. The Leading Edge 23, 8, p. 794-797.

Bishop, M.G. (2002)- Petroleum systems of the Malay Basin Province, Malaysia. U.S. Geol. Survey (USGS), Open File Report 99-50T, p. 1-24.
(online at: http://pubs.usgs.gov/of/1999/ofr-99-0050/OF99-50T/OF99-50T.pdf)
(Discovered hydrocarbon reserves in Tertiary Malay Basin 12 billion BOE. USGS assessment of potential added conventional oil, gas and condensate by 2025 is 6.3 BBOE)

Brami, J.B. & M.Y. Muhaiyuddin (1984)- History and geology of the Tinggi Field, offshore Peninsular Malaysia. Proc. 5th Offshore South East Asia Conf., SE Asia Petroleum Expl. Soc. (SEAPEX), Singapore, p. 4.1-4.13.
(Tinggi 1980 oil discovery in J and K sands in small E-W trending anticline in Malay basin)

Brown, A.R., C.G. Dahm, R.J. Graebner (1981)- A stratigraphic case history using three-dimensional seismic data in the Gulf of Thailand. Geophys. Prospecting 29, 3, p. 327-349.
(Early paper on use of 3D seismic. Improved fault resolution and structural definition of gas field in Gulf of Thailand and seismic amplitudes used to map distribution of bars and channels Sands >10m thick mappable)

Bustin, R.M. & A. Chonchawalit (1995)- Formation and tectonic evolution of the Pattani Basin, Gulf of Thailand. Int. Geology Review 37, p. 866-892.
(Pattani Basin the most prolific petroleum basin in Thailand. E-W extension since E Tertiary resulted in series of N-S-trending sedimentary basins. Sediment succession divisible into Late Eocene- E Miocene non-marine synrift and E-M Miocene and younger shallow marine- non marine post-rift sequences. Crustal stretching factor (β) varies from 1.3 at basin margin to 2.8 in center. High heat flow (1.9-2.5 HFU) and geothermal gradient (45-60° C/km))

Bustin, R.M. & A. Chonchawalit (1997)- Petroleum source rock potential and evolution of Tertiary strata, Pattani Basin, Gulf of Thailand. American Assoc. Petrol. Geol. (AAPG) Bull. 81, 12, p. 2000-2023.
(Pattani Basin in Gulf of Thailand with 10 km of synrift U Eocene- Lw Miocene mainly nonmarine clastics and E Miocene- Holocene postrift marine-nonmarine clastics. Organic matter dispersed, terrestrial type III kerogen with minor type II kerogen, and consists primarily of vitrinite. Current depth to top oil window 1.4- 1.7 km. Main phase of hydrocarbon generation began at ~34 Ma. Presence of commercial gas fields suggests source rocks are effective in producing and liberating hydrocarbons, despite low hydrocarbon potential)

Carney, S., I.A. Aziz, W. Martins, A. Low & J. Kennedy (2010)- Reservoir characterisation of the Mio-Pliocene reservoirs of PM301 in the North Malay Basin. Proc. Int. Oil and Gas Conf. Exh. China, Beijing, Soc. Petrol. Engineers (SPE) 131017-MS, 25p.
(Block PM301 in N Malay Basin with seven relatively small and geologically complex gas fields discovered to date. Fields. Reservoir study)

Carson, T.G. & G.G. Phipps (1982)- The exploration applications of seismic DHI analysis in the Malay Basin. In: Offshore Southeast Asia '82 Conf. (OFFSEA 82), Singapore, SE Asia Petroleum Expl. Soc. (SEAPEX), p. 1-18.

Centhonglang, C., P. Promsen, P. Loboonlert, T. Charoenpun & J. Yingyuen (2015)- Success of structural stratigraphic combination trap, Arthit Field, Gulf of Thailand. AAPG/SEG Intl Conf. Exhib., Melbourne, Search and Discovery Art. 20333, 2p. *(Abstract + Poster)*
(online at: www.searchanddiscovery.com/documents/2015/20333centhonglang/ndx_centhonglang.pdf)
(Arthit gas field in NW North Malay Basin, offshore Thailand, mostly in Miocene- Oligocene reservoir. Most of the gas production from stacked channel reservoir in structural traps. 2012 appraisal well confirmed gas in 'nose structure' combination trap)

Chadwick, R.A., D.W. Holliday & W.J. Rowley (1991)- Thermal history of petroliferous basins of the CCOP region: 1. The northern part of the Gulf of Thailand. British Geol. Survey, Techn. Rept. WC/91/01C, p. 1-86.
(online at: www.bgs.ac.uk/research/international/dfid-kar/WC91001C_col.pdf)

Chadwick, R.A., D.W. Holliday & W.J. Rowley (1991)- Thermal history of petroliferous basins of the CCOP region: 1. The Malay Basin. British Geol. Survey, Techn. Rept. WC/91/02C, p. 1- .

Chantraprasert, S. (2000)- Extensional faults and fault linkages, Southern Pattani Basin, Gulf of Thailand. Ph.D. Thesis, University of London, p. *(Unpublished)*

Chen, H.W.W., S. Shukriah, O.A.B Mahmud, N. Pendkar & D. Hasspariah (2013)- An integrated approach of sequence stratigraphic study in southwestern of Malay Basin. Int. Petrol. Techn. Conf., Beijing, IPTC 16787, 7p.
(Sequence stratigraphic framework and implication for petroleum system understanding of SW Malay Basin. Six main 3rd order sequences in Oligocene-Pliocene. Two source rock intervals in study area: Late Oligocene deeper synrift with lacustrine deposits and E Miocene marine inner neritic rocks. Potential reservoirs (fluvial, lacustrine and shallow marine sands) thin basinward (SW to NE))

Chenrai, P. (2013)- Structural style and tectonic evolution of the Nakhon Basin, Gulf of Thailand. Bull. Earth Sci. Thailand (BEST) 4, 2, p. 70-75.
(online at: www.geo.sc.chula.ac.th/BEST/volume4/number2/12_Piyaphong_BEST_4_2_p%2070-75.pdf)
(Nakhon Basin at W margin of Gulf of Thailand. Initial rifting created halfgrabens in Late Oligocene. Rifting followed by inversion and second phase of rifting in M Miocene. Basin formed in response to oblique extension resulting from right-lateral motion)

Chew, H.H. & A.H. Hussein (1986)- Bekok reservoir model study. Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) 7, p. 87-95.
(Reservoir model of E Miocene J18/20 sands in Esso 1971 Bekok field, Block PM-9, Malay Basin)

Chonchawalit, A. (1993)- Basin analysis of Tertiary strata in the Pattani Basin Gulf of Thailand. Ph.D. Thesis University of British Columbia, Vancouver, p. 1-366.
(online at: https://circle.ubc.ca/handle/2429/2079)
(Stratigraphic-structural evolution of N-S trending Pattani basin in Gulf of Thailand. Up to 10 km of Tertiary sediment fill. Synrift phase 3 units: Late Eocene- E Oligocene alluvial-fluvial deposits, Late Oligocene- E Miocene fluvial and E Miocene mixed marine- non-marine deposits. Post rift succession: E-M Miocene regressive shallow marine- fluvial series, late E Miocene transgressive package and Late Miocene-Pleistocene

transgressive package. Organic matter mainly of detrital and continental origin. Modeling suggests main phase of hydrocarbon generaton started around 34 Ma)

Chua, B.Y. & R. Wong (1997)- Some possible new exploration ideas in the northern and western Malay Basin of Peninsular Malaysia. ASCOPE Proc. 2, p. 177-191.

Chua, B.Y. (1998)- A decade (1987-1997) of exploration in Malaysia under the 1985 PSC. Proc. Offshore South East Asia Conference 1998 (OFFSEA 98), Singapore, SE Asia Petroleum Expl. Soc. (SEAPEX), p. 109-122.
(Brief review of new discoveries and new play fairways in Malay Basin (Bunga Kekwa, Yong/North Raya, Rhu) and offshore Sarawak (Jintan gas, Helang gas, Kinabalu oil, Kebabangan oil-gas)

Chuenbunchom, S., A.P. Heward & G. Makel (2000)- The reservoir geology of the 'pre-Tertiary' sequences of palaeokarst structures, Gulf of Thailand. J. Geol. Soc. Thailand 1, p. 8-18.
(online at: http://library.dmr.go.th/library/J-Index/2000/145.pdf)
(Pre-Tertiary 'basement' highs below Late Oligocene/Base Tertiary in Chumphon Basin penetrated variable Permian- Triassic lithologies. 5 of 6 Pre-Tertiary penetrations encountered losses of drilling fluids. Porous zones in carbonate of B6/27 from subsurface hydrothermal leaching, not near-surface tropical weathering)

Clark, S.J.A. & R.C. Davis (2017)- Observations of hydrocarbon migration within the Jasmine Field and the impact on risk assignment for exploration prospectivity in Eastern Block B5/27, Gulf of Thailand. In: Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) Exploration Conf. 2017, Singapore, Session 8, 4p. *(Extended Abstract)*
(Jasmine Field (Jasmine and Ban Yen) in NW Pattani Basin, Gulf of Thailand. Discovered in 1974, cumulative production 65 MMSTB Oil from >160 pools in 30 fault blocks and 27 M-L Miocene reservoirs. Oils appear to be expelled from similar organofacies at similar maturities, from kitchen S of Ban Yen area)

Creaney, S., A.H. Hussein, D. Curry, K.M. Bohacs & R. Hassan (1994)- Source facies and oil families of the Malay Basin, Malaysia. American Assoc. Petrol. Geol. (AAPG) Bull. 78, p. 1139. *(Abstract only)*
(Malay Basin several petroleum systems with Oligocene- M Miocene non-marine source rocks. Lower Oligocene- Lw Miocene lacustrine-dominated, Lw-M Miocene coastal/delta plain coal-related sources. Two lacustrine sources, with low pristane/phytane ratios, low oleanane, general absence of resin-derived terpanes. Multiple sources in coaly section (pristane/phytane ratios up to 8, very high oleanane, often abundant resinous compounds). All source rocks generally overmature in basin center and immature toward basin margin. Oils low in sulfur. Migration largely strata parallel with little cross-stratal mixing of families)

Cuny, G., C. Laojumpon, O. Cheychiw & K. Lauprasert (2010)- Fossil vertebrate remains from Kut Island (Gulf of Thailand, Early Cretaceous). Cretaceous Research 31, p. 415-423.
(Mesozoic vertebrate fauna from sandstones on Ko Kut, E Gulf of Thailand, includes fresh water hybodont sharks, actinopterygians, turtles, goniopholidid crocodiles and theropod dinosaurs. Incl. Heteroptychodus kokutensis n.sp. Fauna same age as Sao Khua Fm (Khorat Group) and not Jurassic, but Berriasian or younger. Tectonic affinities of Kut island unclear, may represent Sibumasu or Indochina Block)

Duval, B.C. & J. Gouadain (1994)- Exploration and development in the Bongkot Field Area (Gulf of Thailand): an integrated approach. In: Proc. 14th World Petroleum Congress, Stavanger 1994, p. 247-257.
(Bongkot gas- condensate field, largest in Gulf of Thailand. Complex geometry of reservoirs: faulted blocks and mid to late Tertiary fluvio-deltaic sands distributed across 2000m thick sedimentary section)

Fontaine, H., D. Rodziah & U. Singh (1990)- A Triassic 'reefal' limestone in the basement of the Malay Basin, South China Sea: regional implications. Bull. Geol. Soc. Malaysia 27, p. 1-25.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1990016.pdf)
(Sotong B1 well in SW part of Malay Basin (4.9° N, 104.8° E) drilled ~300m of Late Triassic limestone at TD. Two limestone types: (1) black wackestone-packstone (10000-10017') with some oolites, sponges, Tubiphytes; (2) grey wackestone-packstone (9736-9761') rich in fragments of sponges, bryozoa, corals (Pinacophyllum,

Thecosmilia?). Common Tubiphytes (= Shamovella), calcareous sponges (Colospongia). Foraminifera: Alpinophragmium perforatum, Opthalmidium, Tetrataxis, etc.. 'Tethyan', probably reefal, Norian-age)

Fontaine, H., D. Rodziah & U. Singh (1990)- Discovery of an Upper Triassic limestone basement in the Malay Basin, offshore Peninsular Malaysia: regional implications. J. Southeast Asian Earth Sci. 4, 3, p. 219-232.
(Same paper as above on limestone at base of Sotong B1 well with Triassic limestone penetrated from 9030-10,017'. With pseudoalgae, foraminifera (Alpinophragmium) and abundant calcisponges)

Fujiwara, M. (2010)- Significant erosion during development of the Middle Miocene unconformity and its effect on hydrocarbon generation in the Gulf of Thailand. AAPG Int. Conf. Exh., Rio de Janeiro 2009, Search and Discovery Art. 20084, p. 1-9.
(online at: www.searchanddiscovery.com/documents/2010/20084fujiwara/ndx_fujiwara.pdf)
(>20 oil-gas fields in Pattani Trough rift basin, with up to 7500m of Tertiary sediment. Source rocks Oligocene lacustrine shales and M Miocene coaly shales. M Miocene Unconformity with ~4500' of erosion at Erawan gas field, based on shale compaction trend and 'paleo-anticline' below MMU, possibly related to 'Himalayan' compressional event in Gulf of Thailand)

Fujiwara, M. (2011)- The Middle Miocene Unconformity (MMU) in the southern part of the Pattani Trough in the Gulf of Thailand. J. Japanese Assoc. Petroleum Technologists 76, 6, p. 545-555.
(online at: https://www.jstage.jst.go.jp/article/japt/76/6/76_545/_pdf)
(In Japanese, with English summary. Gulf of Thailand >4000 wells drilled since 1971. Over 30 oil-gas fields discovered. mainly in Cenozoic Pattani Trough rift basin, 200km long/ 50km wide, with 2 main unconformities: deep MTU (below drill depths) and shallower Mid-Miocene Unconformity (MMU). Compaction trends from sonic logs suggest ~1000m of erosion at MMU (possibly too high). MMU between Florschuetzia levipoli and F. meridionalis zones)

Fujiwara, M., M. Yamada & A. Sasaki (2009)- Possible inorganic origin of the high CO_2 gas reservoirs in the Platong and the Erawan Gas Fields, Gulf of Thailand. AAPG Hedberg Conf., Variations in fluvial-deltaic and coastal reservoirs deposited in tropical environments, Jakarta, Search and Discovery Art. 90102, 2p. *(Extended Abstract)*

Fyhn, M.B.W., L.O. Boldreel & L.H. Nielsen (2010)- Escape tectonism in the Gulf of Thailand: Paleogene left-lateral pull-apart rifting in the Vietnamese part of the Malay Basin. Tectonophysics 483, p. 365-376.
(Vietnamese part of Malay basin large, deep pull-apart basin formed through M-Late Eocene- Oligocene left-lateral strike-slip along NNW-trending fault zones, likely associated with SE Asian extrusion tectonism. Deep rift widens to S and connects with main Malay Basin. Neogene thermal sag led to thick sediment succession. Moderate rifting resumed in E Miocene. Late Neogene basin inversion attributed to 70 km of right-lateral movement across major N-S-trending faults in central part of basin, but not in Vietnamese territory)

Fyhn, M.B.W., S.A.S. Pedersen, L.O. Boldreel, L.H. Nielsen, P.F. Green, P.T. Dien, L.T. Huyen & D. Frei (2010)- Palaeocene- early Eocene inversion of the Phuquoc-Kampot Som Basin: SE Asian deformation associated with the suturing of Luconia. J. Geol. Soc., London, 167, 2, p. 281-295.
(Phuquoc-Kampot Som Basin, Gulf of Thailand (Cambodia- Vietnam) is Late Jurassic-E Cretaceous foreland basin. Paleocene- E Eocene basin inversion-erosion event associated with Luconia suturing to SE Asia and shutdown of Paleo-Pacific subduction under SE Asia segregated larger Mesozoic basin. Inversion focused along Kampot and Khmer-Chanthaburi fold belts and indicate link between initial SE Asian left-lateral strike-slip faulting and Luconia suturing)

Fyhn, M.B.W., H.I. Petersen, A. Mathiesen, L.H. Nielsen S.A.S. Pedersen, S. Lindstrom et al. (2010)- Vietnamese sedimentary basins: geological evolution and petroleum potential. Geol. Survey Denmark and Greenland Bull. 20, p. 91-94.
(online at: www.geus.dk/publications/bull/nr20/nr20_p091-094.pdf)

(Basins in Vietnamese part of Gulf of Thailand: (1) Phu Quoc Basin undrilled, 500 km long, N-S trending Late Jurassic- Cretaceous basin, immediately W of a Jurassic-Cretaceous magmatic arc, inverted in Late Paleocene-E Eocene; (2) Tho Chu basin= NE part of Malay Basin)

Ghosh, D., M.F.A. Halim, M. Brewer, B. Viratno & N. Darman (2010)- Geophysical issues and challenges in Malay and adjacent basins from an E & P perspective. The Leading Edge 29, 436, p. 1-11.
(Malay Basin N-S-trending pull-apart rift basin, formed during Late Eocene-E Oligocene, underwent thermal subsidence and sedimentation in E Miocene. M Miocene structural inversion resulting in E-W anticlines)

Ghosh, D., S. Jirim, S. Isa & P. Abolins (2010)- The roles of coal in hydrocarbon exploration in the Malay Basin: the good, the bad and the ugly. In: Petroleum Geology Conf. Exhib., Kuala Lumpur (PGCE 2010), p. *(Extended Abstract)*

Ghosh, D., M. Sajid, N.A. Ibrahim & B. Viratno (2014)- Seismic attributes add a new dimension to prospect evaluation and geomorphology offshore Malaysia. The Leading Edge 33, 5, p. 536-545.

Goodall, J.G.S., A. Racey & P. Highton (1997)- Early Carboniferous (Tournasian) palynomorphs from the Gulf of Thailand. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, 1, p. 56-61.
(online at: http://library.dmr.go.th/library/Proceedings-Yearbooks/M_1/1997/7622.pdf)
(Clastic basement in wells 7-152-1X and 8-320-1X at W flank of N Pattani Trough in Gulf of Thailand with mod. diverse, cosmopolitan mid-Tournaisian miospore assemblage. Dominant species Punctatisporites/ Retusotriletes spp., Speleotriletes balteatus and Vallatisporites vallatus. Spore color 4-5 (heavily carbonised; in dry gas or barren maturity window))

Halim, M.F.A. (1994)- Geothermics of the Malayan sedimentary basins. Bull. Geol. Soc. Malaysia 36, p. 163-174.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1994031.pdf)
(Study of heat flow distribution in Malay, Sarawak and Sabah sedimentary basins from 400 exploration and production wells. Highest heat flow in Malay basin (av. 143 m W/m2), followed by Sarawak basin (104 mW/m2) and lowest in Sabah basin (74 m W/m2))

Hassaan, M., S.K. Bhattacharya, M.J. Mathew & N.A. Siddiqui (2015)- Understanding basin evolution through sediment accumulation modeling: a case study from Malay Basin. Research J. Applied Sciences, Engineering Technology 11, 4, p. 388-395.
(online at: http://maxwellsci.com/msproof.php?doi=rjaset.11.1792)
(Malay Basin with up to 14 km of sediments. Sedimentation rate analysis and 2D modeling suggest sediment accumulation started at 33.9 Ma towards the basinal side, possibly associated to activation of Tenggol fault. Prior to unit K (25.2 Ma) sediments absent on Tenggol arch. During Late Miocene basin wide inversion sediments still accumulated in SW part)

Hassan, M.H.A., R. Tahir & A.K. Ali (2013)- Facies architecture of a complex, heterolith-filled incised valley system, Miocene Malay Basin, Malaysia. In: Petroleum Geoscience Conf. Exhib. (PGCE 2013), Kuala Lumpur, P15, 4p. *(Extended Abstract)*
(Facies analysis and stratigraphic study of tidal heterolithic deposits infilling deep (up to 43 m thick) incisions in H Group of Field I, WD, ED, CG and C, offshore Malay Basin. Interpret presence of 3 separate, NW-SE trending valley incisions associated with base level fall, which are infilled mainly by tidal heteroliths)

Heward, A.P., S. Chuenbunchom, G. Makel, D. Marsland & L. Spring (2000)- Nang Nuan Field, B6/27, Gulf of Thailand: karst reservoirs of meteoric or deep burial origin? Petroleum Geoscience 6, p. 15-27.
(Permian karst reservoirs in Chumphon Basin of Gulf of Thailand produced oil at >10,000 BBL/day. Previously presumed to be from meteorically karstified buried hills in Ratburi carbonates, but apparently unrelated to subaerial exposure. Highs are probably syn-rift horsts and inversion features, with karstification in karst in Ratburi carbonate reservoirs primarily of deep-burial origin, related to geothermal circulation)

Higgs, R. (1999)- Gravity anomalies, subsidence history and the tectonic evolution of the Malay and Penyu Basins (offshore Peninsula Malaysia)- Discussion. Basin Research 11, 3, p. 285-290.
(Critical discussion of Madon & Watts 1998 paper, suggesting paleobathymetry needed to be incorporated and speculating whether there may be two rift intervals in Malay Basin instead of one (possible renewed rifting in Late Miocene))

Highton, P.J.C., A. Racey, M.I. Wakefield, A.J. Carmichael & N.R.W. Glendinning (1997)- Quantitative biostratigraphy: an example from the Neogene of the Gulf of Thailand. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, p. 563-585.
(online at: http://library.dmr.go.th/library/7657.pdf)
(Gulf of Thailand Eocene?- Recent intra-cratonic basin with up to 8000m Neogene section in mainly non-marine facies. Biostratigraphic zonation mainly based on palynology. Most onshore basins lack coastal palynomorphs like Florschuetzia. Existing zonations can be refined by quantitative analysis of biostrat data. Late M Miocene Unconformity (MMU) separates deformed mainly non-marine section from more marine and less deformed younger section)

Hill, J.A., D.K.Y. Soo & T. Verriah (1992)- Clay mineralogy in subsurface sandstones of Malaysia and the effects on petrophysical properties. Bull. Geol. Soc. Malaysia 32, p. 15-43.

Hou, J., T. Takahashi, A. Katoh, S. Jaroonsiththa, K.P. Chumsena & K. Nakayama (2008)- Application of seismic attributes and neural network for sand probability prediction- a case study in the North Malay Basin. Bull. Geol. Soc. Malaysia 54, p. 115-121.

Ibrahim, N.A. & M. Madon (1990)- Depositional environments, diagenesis, and porosity of reservoir sandstones in the Malong Field, offshore West Malaysia. Bull. Geol. Soc. Malaysia 27, p. 27-55.
(online at: www.gsm.org.my/products/702001-101084-PDF.pdf)

Idris, M.B. (1989)- Early Silurian multielement conodont assemblages from Pulau Tanjung Dendang, northeastern Langkawi Islands, Kedah. Warta Geologi 15, 2, p. 63-68.
(https://gsmpubl.files.wordpress.com/2014/09/ngsm1989002.pdf)
(U Setul Limestone of NW Pulau Tanjung Dendang, NE of Langkawi, with three multi-element species, Pterospathodus pennatus procerus, Panderodus unicostatus and Walliserodus santiclairi, indicating Late Llandoverian- E Wenlockian (E Silurian) age)

Idris, M.B. (1990)- *Araucarioxylon telentangensis*, a new species of fossil coniferous wood from the U1u Endau area, Johore, Malaysia. J. Southeast Asian Earth Sci. 4, p. 55-59.
(Piece of silicified wood 1.5m long, 60cm diameter at Sungai Telentang. Not sure if from Jasin Volcanics (with Late Permian limestones at Kampung Awah and intruded by Late Triassic granites) or from unconformably overlying U Jurassic- Lw Cretaceous Tebak Fm. Described as Araucarioxylon telentangensis n.sp.)

Idris, M.B., M.B. Munawir & N.B. Norazlam (1992)- Plant fossils and some geological aspects of the Ulu Endau Area, Johore-Pahang. Bull. Geol. Soc. Malaysia 31, p. 107-111.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1992007.pdf)
(Area at Johore-Pahang boundary. Conifer plant fossils from light grey mudstones in tributaries of Sg. Telentang: silicified wood identified as Araucarioxylon telentangensis Idris and foliage of Frenelopsis malaiana Kon'no (commonly assigned U Jurassic- Lw Cretaceous))

Intawong, A. (2006)- Evolution of the Chumphon Basin, Gulf of Thailand. Ph.D. Thesis, University of London, p. *(Unpublished)*
(In W Gulf of Thailand close relationship between basins such as Chumphon Basin and NE-SW trending Khlong Marui Fault. S Thailand basins early period of rifting started in Late Eocene and became widespread by Oligocene. Inversion took place in eastern basins (Chumphon, Songkhla) at start of Miocene. Extension was

renewed in E Miocene, and M Miocene corresponds to period of basin subsidence in Chumphon, Songkhla, and Andaman Sea Basins. Second period of inversion in Pliocene in Chumphon Basin, possibly coinciding with uplift on Thai Peninsula and in Andaman Sea)

Jamaludin, S.N.F., A.H. Abdul Latiff & A.A.Kadir (2016)- Interpretation of gas seepage on seismic data: example from Malaysian offshore. In: 3rd Int. Conf. AeroEarth, Jakarta 2015, IOP Conf. Series 30, 012002, p. 1-6.
(online at: http://iopscience.iop.org/article/10.1088/1755-1315/30/1/012002/pdf)
(Features of gas seepage on Malay Basin seismic data (amplitude anomalies, wipe out zones, sag or push down, pockmarks/ craters, etc.)

Jardine, E. (1997)- Dual petroleum systems governing the prolific Pattani basin, offshore Thailand. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Int. Conf. Petroleum Systems of SE Asia & Australia, Jakarta 1997, Indon. Petroleum Assoc., p. 351-363.
(Pattani Basin largest of series of N-S trending Tertiary rifts in Gulf of Thailand. Gas and less oil trapped in Miocene fluvial sandstones in faulted graben systems. Two petroleum systems in basin: (1) dominant Miocene gas-generating coals and shales, currently mature in deeper portions of basin; (2) Oligocene oil-prone lacustrine shales, mature in basin flank areas but overmature in central trough)

Jardine, E. (1997)- Dual petroleum systems governing the prolific Pattani basin, offshore Thailand. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Dept. Mineral Resources, Bangkok, 2, p. 525-534.
(same as Jardine 1997)

Jirin, S., M. Mohamed & S.S. Hasan (2013)- Transgressive-regressive cycles in the Malay Basin: new insights. Int. Petrol. Techn. Conf. (IPTC 2013), Beijing, IPTC 16838, 6p. *(Extended Abstract)*
(8 pulses of marine transgressions in Late Oligocene- Pliocene interval)

Kachi, T., H. Yamada, K. Yasuhara, M. Fujimoto, S. Hasegawa, S. Iwanaga & R. Sorkhabi (2005)- Fault-seal analysis applied to the Erawan gas-condensate field in the Gulf of Thailand. In R. Sorkhabi & Y. Tsuji (eds.) Faults, fluid flow, and petroleum traps, AAPG Memoir 85, p. 59-78.
(Unocal Erawan gas field in Gulf of Thailand with series of E- and W-dipping normal faults that displace E-M Miocene clastic reservoirs. Most faults adequate seal capacity)

Kader, M.S. (1994)- Abnormal pressure occurrence in the Malay and Penyu Basins, a regional understanding. Bull. Geol. Soc. Malaysia 36, p. 81-91.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1994024.pdf)
(Majority of wells in Malay and Penyu basins terminated due to abnormal pressure. Data from 94 exploratory wells show abnormal pressure in progressively older units towards basin margins, which are normally pressured. Onset of abnormal pressure abrupt in N and more gradual in S part of Malay Basin)

Kader, M.S. & W. Leslie (1995)- Occurrence, origin and implications of overpressure in the Malay and Penyu Basins, offshore Malaysia. Bull. Geol. Soc. Malaysia 37, p. 191-204.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1995a14.pdf)
(80% of wells drilled in Malay-Penyu Basin terminated due to overpressure. Overpressure neither depth dependent nor age -related. Margins of Malay Basin and entire Penyu Basin normally pressured; central part of Malay Basin overpressured. Onset of overpressure abrupt in N and more gradual in S portion)

Kaewkor, C., I.M. Watkinson & P. Burgess (2015)- Structural style and evolution of the Songkhla Basin, western Gulf of Thailand. Proc. Int. Conf. Geology, Geotechnology and Mineral Resources of INDOCHINA, Khon Kaen, Thailand (GEOINDO 2015), 12p.
(Gulf of Thailand part of suite of Cenozoic basins within Sundaland, with multiple phases of extension and inversion, rapid post-rift subsidence, low-angle normal faults and Basin and Range-style. Songkhla Basin in SW Gulf asymmetric half-graben, bounded by NNW-SSE- faults along W edge, ~75 km long, 30 km wide. Two oil

fields in basin. Pre-Cenozoic basement fabrics broadly N-S. Sediments thicken to W along growth fault surfaces; most faults E-dipping. Three main tectonostratigraphic packages in basin: 1) Eocene E Miocene syn-rift, with three sub-extensional packages; 2) early M Miocene inversion and deposition of post-rift package, terminated by M-Miocene Unconformity; 3) Late Miocene-Recent post-rift)

Kantatong, K. (2010)- Hydrocarbon distribution in the North Jakrawan Field, Pattani Basin, Gulf of Thailand. Bull. Earth Sci. Thailand 3, 2, p. 33-36.

Kartikasari, H.A. (2011)- Structural style of Songkhla Basin, Gulf of Thailand. Bull. Earth Sciences Thailand 4, 2, p. 38-47.
(online at: www.geo.sc.chula.ac.th/BEST/volume4/number2/4_Heliosita_BEST_4_2_p%2025-31.pdf)
(Songkhla Basin in Western Graben of Gulf of Thailand asymmetric half-graben, bounded by NNW-SSE-trending major extensional faults. Basin fill thicker in W due to growth faulting. Maximum displacement along main boundary fault in W ~1.2 km in E Oligocene. Most faults E-dipping. Three tectonic phases: Eocene or E Oligocene initial rifting, E Miocene inversion, M Miocene resumption of extensional tectonics)

Khanna, M., N. Comrie-Smith, M. Lawlor & M.K. Virdy (2013)- Bualuang Oilfield, Gulf of Thailand: A Successful Development Using Geosteered Horizontal Wells. AAPG Int. Conf. Exhib., Singapore 2012, Search and Discovery Art. 20189, 23p. *(Extended Abstract)*
(online at: www.searchanddiscovery.com/documents/2013/20189khanna/ndx_khanna.pdf)
(Bualuang field in W Basin of Gulf of Thailand, initially discovered in 1993 and named Pornsiri field. Oil 27°API, viscosity 8.5 cp. Main T4 reservoir M Miocene fluvial channel sandstones, >50m thick, porosity almost 30%, av. perm 1.8 darcys. Oil column up to 32 m)

Kongwung, B. & S. Ronghe (2000)- Reservoir identification and characterization through sequential horizon mapping and geostatistical analysis: a case study from the Gulf of Thailand. Petroleum Geoscience 6, 1, p. 47-57.
(Reconstruction of reservoir units/ reservoir geometry in ~50 ms thick interval of 3D seismic data on NW flank of Malay Basin, Gulf of Thailand. Depositional environment fluvio-deltaic, with channel sands, point bars, etc., as potential reservoirs)

Kornsawan, A. & C.K. Morley (2002)- The origin and evolution of complex transfer zones (graben shifts) in conjugate fault systems around the Funan Field, Pattani basin, Gulf of Thailand. J. Structural Geol. 24, p. 435-449.
(On transfer zones between sets of convergent conjugate faults in Pattani Basin, Gulf of Thailand. In Funan Field area graben shift seen as W-dipping faults into zone of E-dipping faults. Initial Oligocene- E Miocene syn-rift fault pattern influenced by pre-existing basement trends. No indication of strike-slip faulting affecting graben shift geometry. Early (Late Oligocene- E Miocene), W-dipping normal faults influenced location of higher M-L Miocene conjugate faults)

Kuenphan, N., K. Kaenmee, Y. Gonecome & R. Shoup (2010)- Application of satellite-based analog studies to resolving reservoir complexity in the North Malay Basin. AAPG Hedberg Conference, Jakarta 2009, Search and Discovery Art. 50256, 17p. *(Extended Abstract)*
(Thailand river patterns used a spotential analogs for N Malay Basin reservoir sand distribution patterns)

Lambiase, J.J. (2016)- Transgressive events in the Lower and Middle Miocene of the Gulf of Thailand: implications for reservoir characterization. AAPG Geoscience Techn. Workshop Characterization of Asian hydrocarbon reservoirs, Bangkok, Search and Discovery Art. 51266, 37p. *(Abstract + Presentation)*
(online at: www.searchanddiscovery.com/documents/2016/51266lambiase/ndx_lambiase.pdf)
(Recognition of two marine transgressions (late E Miocene, M Miocene) and several minor transgressive events, expressed as coaly mudstones in fluvial-dominant E-M Miocene of Pattani Basin, Gulf of Thailand)

Lambiase, J.J., J. Narapan & P. Champasa (2017)- Marginal marine mudstones in the Pattani Basin, Gulf of Thailand: implications for stratigraphic development, reservoir characterization and correlation potential.

AAPG/SPE 2016 Int. Conf. Exhib., Barcelona 2016, Search and Discovery Art. 51366, 21p. *(Abstract + Presentation)*
(online at: www.searchanddiscovery.com/documents/2017/51366lambiase/ndx_lambiase.pdf)
(E-M Miocene late rift- early post-rift sediments in Gulf of Thailand traditionally viewed as fluvial, but also widely distributed marginal marine mudstones and coaly mudstones and tide-dominated sandy facies)

Lau, J.W.E. (1977)- Stratigraphic correlation of Tertiary basins in offshore Malaysia, South China Sea. Ascope, p. 1-30.

Leo, C.T.A.M. (1997)- Exploration in the Gulf of Thailand in deltaic reservoirs, related to the Bongkot Field. In: A.J. Fraser, S.J. Matthews & R.W. Murphy (eds.) Petroleum geology of Southeast Asia, Geol. Soc., London, Spec. Publ. 126, p. 77-87.
(History of Statoil involvement since 1985 in Bongkot Field in NW Thai sector of Malay Basin)

Leong, K.M. (1978)- Malaysia, onshore sedimentary basins of Malaysia. In: ESCAP Atlas of Stratigraphy, 1. Ch. 3, United Nations ECAFE Mineral Resources Development Ser. 44, p. 26-31.

Lian, H.M. & K. Bradley (1987)- Exploration and develoment of natural gas, Pattani Basin, Gulf of Thailand. In: M.K. Horn (ed.) Trans. 4th Circum Pacific Council for Energy and Mineral Resources Conf., Singapore 1986, p. 171-181.
(Gulf of Thailand series of N-S trending mid-Tertiary rift basins with up to 8km of mainly non-marine Upper Tertiary sediments. Four Unocal gas fields in faulted structures at W side of Pattani basin. First gas discovery in 1972, first production in 1981. Gas typically ~65-72% methane, 17-19% C2+ and ~14-17% CO2)

Liew, K.K. (1994)- Structural development at the west-central margin of the Malay Basin. Bull. Geol. Soc. Malaysia 36, p. 67-80.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1994023.pdf)
(Regional structure interprtation of west-central margin of Malay Basin (Dungun Graben, etc.))

Liew, K.K. (1995)- Timing of Cenozoic basin formation in northern Sundaland, Southeast Asia. Bull. Geol. Soc. Malaysia 37, p. 231-251.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1995a161.pdf)
(Cenozoic continental wrench shear basins and back-arc basins developed on present stable N Sundaland, at both sides of Malay Peninsula. Wrench faulting played significant role in basin formation basins. Collision of Indian Subplate with Eurasian Plate in E Cenozoic caused redistribution of stress in region, reactivating zones of weakness. Two major episodes of basin formation in N Sundaland:Eocene- E Oligocene and Late Miocene)

Liew, K.K. (1995)- Structural analysis of the Malay Basin. Bull. Geol. Soc. Malaysia 40, p. 157-176.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1997012.pdf)

Limpornpipat, O., A. Laird, M. Tingay, C.K. Morley, C. Kaewla & H. Macintyre (2012)- Overpressures in the Northern Malay Basin: part 2- implications for pore pressure prediction. Int. Petrol. Techn. Conf. (IPTC), Bangkok 2012, 4, IPTC 15350, p. 3278-3289.
(see also Tingay et al. (2012) for Part 1)
(Pore pressure can be accurately predicted from sonic velocity. In N Malay Basin compaction coefficient varies spatially with geological structure)

Lockhart, B.E., O. Chinoroje, C.B. Enomoto & G.A. Hollomon (1997)- Early Tertiary deposition in the southern Pattani Trough, Gulf of Thailand. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Bangkok, Dept. Mineral Resources, p. 476-489.

Lundegard, P.D. & A.S. Trevena (1990)- Sandstone diagenesis in the Pattani Basin (Gulf of Thailand): history of water-rock interaction and comparison with the Gulf of Mexico. Applied Geochem. 5, p. 669-685.

(In Pattani Basin extensive interaction between Miocene subquartzose alluvial sandstones and formation fluids. Diagenetic rates and pathways strongly influenced by high geothermal gradients, high CO2 and low pore water salinities. Comparisons with other sedimentary basins demonstrate chemical diagenesis of Pattani Basin especially rapid, reflecting high temperatures, with net effect high rate of porosity loss with burial (11%/ km))

Madon, M. (1992)- Note on dolerite, rhyolite, and granophyre in the basement of the Tenggol Arch, offshore Terengganu. Bull. Geol. Soc. Malaysia 31, p. 133-143.
(online at: www.gsm.org.my/products/702001-101045-PDF.pdf)
(Tenggol Arch in well Malong 5G-17.2 well at edge of Malay Basin, 150 km off E coast of Terengganu Basement at 1582 m highly fractured porphyritic rhyolite with dolerite dyke. Overlain by lower Miocene conglomerate composed of rhyolite and granophyre clasts. Dolerite dyke may have been intruded during incipient rifting of basin in early Cenozoic)

Madon, M. (1992)- Depositional setting and origin of berthierine oolitic ironstones in the Lower Miocene Terengganu Shale, Tenggol Arch, Offshore Peninsular Malaysia. J. Sedimentary Res. 62, 5, p. 899-916.
(Berthierine oolitic ironstones in Lower Miocene Terengganu shale of Tenggol Arch, basement high between S Malay Basin and Penyu basin. Ironstones in 30-50m-thick, laterally extensive dark green mudstone, deposited during regional marine transgression over SW margin of ancestral S China Sea. Oolitic ironstones possibly deposited as offshore shelf storm layers and derived from lateritic soils on land)

Madon, M. (1994)- Depositional and diagenetic histories of reservoir sandstones in the Jerneh Field, central Malay Basin. Bull. Geol. Soc. Malaysia 36, p. 31-53.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1994020.pdf)
(U Miocene reservoir sandstones in Jerneh field at 1250-2000m. Sandbodies facies: distributary mouthbar-shoreface in delta front, channel point bar deposits in delta plain. Laterally continuous sheet sandstones characterize shallow marine facies deposited during transgression over delta. Increasing compaction and quartz cementation with depth, resulting in reduced porosities (10% and 25%.). Quartz overgrowths started forming at ~1200m. K-feldspar dissolved by acidic formation waters; plagioclase d relatively stable)

Madon, M. (1995)- Tectonic evolution of the Malay and Penyu Basins, offshore Peninsular Malaysia. Ph.D. Thesis, University of Oxford, p. 1-325.
(online at: http://ora.ox.ac.uk/objects/uuid%3Af00a727d-8769-4ac8-88ab-35d8c662ea61)
(Malay and Penyu Basins formed in E Oligocene as result of regional dextral shear deformation caused by indentation of India into Eurasia. Basement inhomogeneities control basin development. Penyu Basin first developed as isolated grabens at fault intersections, in response to N-S extension. Low-angle listric normal faults, pull-apart grabens and flower structures suggest thin-skinned crustal extension and strike-slip tectonics. E-W Basement faults in Malay Basin oblique to NW basin trend. Basin developed by transtension of NW-trending sinistral shear zone, in which fault-bounded blocks rotate, creating E-trending half-grabens. M-L Miocene transpressive inversion related to rotation of regional stress field by progressive indentation of India into Eurasia. Lithospheric stretching dominant process of basin formation. High heat flows (85-100 mW m^{-2}) consistent with β stretching factors of 1.2- 4.3)

Madon, M. (1997)- Analysis of tectonic subsidence and heat flow in the Malay Basin. In: Geol. Soc. Malaysia Annual Geol. Conf. '97, Terengganu, Bull. Geol. Soc. Malaysia 41, p. 95-108.
(online at: www.gsm.org.my/products/702001-100867-PDF.pdf)
(Malay Basin high present-day surface heat flow (~33-42 m W m2, interpreted as result of lithosphere thinning during basin formation. Basin relatively young (~35 Ma), and still undergoing thermal subsidence. Lithospheric stretching model with rifting over 10 Myrs starting at 35 Ma. Subsidence curves suggest stretching factors (B) of 1.2 on basin flanks to ~4.3 in centre. Basin flanks uplifted during initial rifting, causing subsidence to be delayed for ~10 Ma)

Madon, M. (1997)- The kinematics of extension and inversion in the Malay Basin. Bull. Geol. Soc. Malaysia 41, p. 127-138.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1997029.pdf)

(Malay Basin development began in Late Eocene- E Oligocene with sinistral transtensional shear of NW-trending shear zone that contains pre-existing E-trending basement faults. Shearing caused crustal blocks to rotate anticlockwise and form E trending half-grabens between them. Reversal of shear during E-M Miocene caused transpressive deformation and en echelon pattern of inverted half-grabens. Intensity of deformation increases SE-wards towards W Natuna Basin due to buttressing effect of Natuna basement ridge)

Madon, M. (2006)- Overpressure history of the Malay Basin, offshore Peninsular Malaysia. In: Petroleum Geol. Conf. & Exh. 2003, Kuala Lumpur, Bull. Geol. Soc. Malaysia 49, p. 135-144.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm2004021.pdf)
(Malay Basin present-day depth to top overpressure in basin centre between 1900-2000m, in lower Group E. Top overpressure shallower at basin flanks, <1500m deep along faulted W basin margin. Top overpressure in basin centre influenced by Group F regional shale)

Madon, M. (2007)- Overpressure development in rift basins: an example from the Malay Basin, offshore Peninsular Malaysia. Petroleum Geoscience 13, 2, p. 169-180.
(Malay Basin Tertiary transtensional rift basin with at least two major overpressure compartments, sealed by regional shale units. Main, basin-centre overpressure compartment has domal shape, shallower in basin centre. In basin centre, top of overpressure ~1900-2000m depth and confined mainly to M Miocene unit E. Smaller overpressure compartment on NE flank of basin, sealed by the onlapping, transgressive shale of unit L (Lower Miocene) and at a depth of 2600-3000m. Disequilibrium compaction primary cause of overpressure, and consequence of high subsidence and sedimentation rates)

Madon, M., P. Abolins, J.B.H. Mohammad & B.A. Mansor (1999)- Malay Basin. In: The petroleum geology and resources of Malaysia, Chapter 8, Petronas, Kuala Lumpur, p. 173-217.
(Review of Malay Basin offshore E coast Peninsular Malaysia, straddling Thai border in NW and Vietnam border in NE. Over 50 oil and 30 gas fields discovered since 1969. NW-SE trending Oligo-Miocene rift-sag basin with up to 14km of sediment)

Madon, M. & A. Anuar (1999)- Penyu Basin. In: The petroleum geology and resources of Malaysia, Chapter 9, Petronas, Kuala Lumpur, p. 220-223.
(Review of Penyu Basin offshore of Kuantan, Peninsular Malaysia. Small extensional basinof interior Sundaland, S of main Malay Basin and W of W Natuna Basin. Oligocene non-marine syn-rift sediments overlain by Miocene sag phase. Several sub-basins. Main structures E-M Miocene transpressional folds ('Sunda folds'). Much of section in basin is immature for hydrocarbons. Top of oil window at ~2100m. With Rhu Field sub-commercial oil discovery)

Madon, M.B., A. Anuar & R. Wong (1997)- Structural evolution, maturation history and hydrocarbon potential of the Penyu Basin. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Int. Conf. Petroleum Systems of SE Asia and Australasia, Jakarta 1997, Indon. Petroleum Assoc. (IPA), p. 403-424.
(Penyu Basin offshore Malaysia between Pahang and Johor Platforms on N Sunda Shelf under-explored. Basin structurally contiguous with W Natuna Basin. Comprises half-grabens bounded by two NW and ENE-trending faults, probably formed in E Oligocene by N-S extension. Early Oligocene alcustrine facies, marine incursions starting in Late Oligocene. Inversion of rift faults around E-M Miocene boundary)

Madon, M.B. & A.B. Watts (1998)- Gravity anomalies, subsidence history and the tectonic evolution of the Malay and Penyu basins (offshore Peninsular Malaysia). Basin Research 10, p. 375-392.
(Malay and Penyu basins up to 14 km sediment fill, with 20-30 mGal negative free air gravity anomalies. Modeling suggests basins formed by combination lithosphere stretching and thin-skinned crustal extension)

Madon, M., J.S. Yang, P. Abolins, R. Abu Hassan, A.M. Yakzan & S. B. Zainal (2006)- Petroleum systems of the Northern Malay Basin. In: Petroleum Geol. Conf. & Exh. 2003, Kuala Lumpur, Bull. Geol. Soc. Malaysia 49, p. 125-134.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm2004020.pdf)

(N Malay Basin petroleum province central/basinal gas-rich area, flanked on both sides and to S by mixed oil/gas zones. Non-associated gas fields in central zone mainly in D and E reservoirs, in Late Miocene inversion anticline. Vertical migration dominant process in basin centre. High CO_2 gases typical of reservoirs in groups I and older and derived from inorganic sources. Low CO_2 gas (<6%) more typical of D-E reservoirs and derived from organic thermal degradation)

Madsen, E.B., L. O. Boldreel & S.A.Schack Pedersen (2012)- Thin-skinned thrust-fault complex in the Phu Quoc Basin, SW Vietnam. Proc. Int. Petroleum Techn. Conf. (IPTC), Bangkok 2012, p. 1409-1416.
(Phu Quoc Basin is Late Jurassic- E Cretaceous foreland basin SW of Vietnam in undrilled E part of Gulf of Thailand. Deformation of basin took place during orogenic build-up of Kampot Fold Belt in E-M Cretaceous, which resulted in formation of thin-skinned thrust-fault complex, with complex piggyback basins. Main part of complex concealed under Neogene marine deposits)

Madsen, E.B. & S.A. Schack Pedersen (2012)- Thin-skinned thrust-fault complex in the Phu Quoc Basin, SW Vietnam. Int. Petrol. Techn. Conf. IPTC 2012, Bangkok, IPTC 14624, 8p.
(Phu Quoc Basin Late Jurassic- E Cretaceous foreland basin SW of Vietnam, E Gulf of Thailand. Structural model for basin from reflection seismic. Deformation of basin during orogenic build-up of Kampot Fold Belt in E-M Cretaceous, which resulted in thin-skinned thrust-fault complex. Main part of thrust belt concealed under Neogene marine deposits, but outcrops on Phu Quoc island and islands in Nam Du archipelago)

Maga, D., J. Jong, M. Madon & F.L. Kessler (2015)- Fluid inclusions in quartz: implications for hydrocarbon charge, migration and reservoir diagenetic history of the Penyu Basin and Tenggol Arch, offshore Peninsular Malaysia. Bull. Geol. Soc. Malaysia 61, p. 59-73.
(online at: www.gsm.org.my/products/702001-101675-PDF.pdf)
(In Penyu Basin and Tenggol Arch area, SW of Malay Basin fluid inclusions in quartz in Oligocene Groups L and M reservoirs and in Miocene Groups K and H reservoirs (none in I, J). Two populationsin 'oil quartzes': (1) oil inclusions in detrital quartz grains; (2) oil inclusions in quartz cement, indicating oil migration preceded quartz cementation)

Mansor, M.Y., A.H.A. Rahman, D. Menier & M. Pubellier (2014)- Structural evolution of Malay Basin, its link to Sunda Block tectonics. Marine Petroleum Geol. 58, B, p. 736-748.
(Malay Basin developed partly as result of strike-slip shear of SE Asia continental slabs, as Indian Plate collided into Eurasia, and subsequent extrusion of lithospheric blocks towards Indochina. Sunda Block earliest rift margins are Paleogene W-E rift valleys, formed during NW-SE sinistral shear. Later Eocene NW-SE dextral shear of Indochina Block against E Malaya Block rifted opened Malay Basin, with N-S en-echelon ridges and grabens. Fast subsidence from Late Oligocene- M Miocene. Compressional inversion in Late Miocene, basin sag in Plio-Pleistocene with mild compressional episodes. Mio-Pliocene folding history of Malay Basin connected to collision of Sunda Block against subducting Indian-Australian Plate)

Martens, D., R. Lin & R.G. Hickman (2000)- Source, migration and CO_2 occurrences in the Pailin Field, Gulf of Thailand. American Assoc. Petrol. Geol. (AAPG) Bull. 84, 9, p. 1459-1460. *(Abstract only)*
(Unocal summary of Pailin gas field in S Pattani Trough. Two hydrocarbon sources: (1) fluvial coaly, with high pristane/phytane ratios and high angiosperm resin markers (bicadinanes) and (2) lacustrine shale, with low pristane/phytane ratios and high gammacerane. Lacustrine sources require vertical migration. Majority of hydrocarbons sourced locally from M Miocene coals and carbonaceous shales, with predominantly lateral migration. Gas high CO_2 (5- >65%), from organic and inorganic sources)

Matsubayashi, O. & S. Uyeda (1979)- Estimation of heat flow in certain exploration wells in offshore areas of Malaysia. Bull. Earthquake Research Inst. (Tokyo University) 54, p. 31-44.
(Early paper on heatflow in Malay and Sabah basins. See also Halim 1994)

McClay, K.R., T. Dooley, P. Whitehouse, L. Fullarton & S. Chantraprasert (2004)- 3D analogue models of rift systems: templates for 3D seismic interpretation. In: R.J. Davies et al. (eds.) 3D Seismic technology: application to the exploration of sedimentary basins, Geol. Soc., London, Mem. 29, p. 101-115.

(Rift models paper, with example of S Pattani Basin, Gulf of Thailand)

Miall, A.D. (2002)- Architecture and sequence stratigraphy of Pleistocene fluvial systems in the Malay Basin, based on seismic time slices analysis. American Assoc. Petrol. Geol. (AAPG) Bull. 86, p. 1201-1216.
(3-D seismic data from nonproductive, shallow Pleistocene section in N Malay Basin show 5 types of fluvial systems, from braided systems with >4 km wide channel-belts to small-scale meandering systems with meander-belt widths of few 100m. Incised-valley system 40m deep forms is base of one of two sequence boundaries)

Minezaki, T. & K. Moriyama (2002)- The origin of hydrocarbon and carbon dioxide in the gas fields for the Pattani Trough, the Gulf of Thailand. J. Japanese Association Petroleum Technology 67, 1, p. 16-29.
(online at: https://www.jstage.jst.go.jp/article/japt1933/67/1/67_16/_pdf/-char/en)
(In Japanese with English abstract. Gases in Pattani Trough derived from thermal cracking of Type III kerogens and of pre-existing oils. Oils waxy and heavy, probably of lacustrine algal origin. Two source facies: Oligocene lacustrine-algal and Miocene fluvial-coaly. Oil generation from Oligocene source rocks started in E Miocene; gas generation mainly M-L Miocene in central trough. CO2 contents increase with depth from few to ~25% in Trough. Some wells CO2 as high as 91% (Platong gas field), probably of inorganic origin (magmatic decomposition of carbonate basement)

Mohamad, H., R. Wong & M.F.A. Halim (2001)- Seismic facies analysis of the synrift sediments in the North Malay Basin and their impact on the deep reservoir potential. In: Proc. CCOP 37th Ann. Sess. Bangkok 2000, 2, Techn. Repts., p. 30-32.

Morley, C.K. & R. Westaway (2006)- Subsidence in the super-deep Pattani and Malay basins of Southeast Asia: a coupled model incorporating lower-crustal flow in response to post-rift sediment loading. Basin Research 18, 1, p. 51-84.
(Two Early Cenozoic rifts in SE Asia (beneath Pattani and Malay basins) limited upper-crustal extension (β≤1.5), yet very thick post-rift fill with 6-12 km of Late Cenozoic terrestrial and shallow-marine sediment. Explanation for high post-rift subsidence involves lower-crustal flow caused by sediment loading and erosion of sediment sources)

Morley, C.K., N. Wonganan, N. Sankumarn, T.B. Hoon, A. Alief & M. Simmons (2001)- Late Oligocene-Recent stress evolution in rift basins of northern and central Thailand: implications for escape tectonics. Tectonophysics 334, p. 115-150.
(Thailand Tertiary rift basins evolved under E-W extension, but extension direction changed periodically. Extension interrupted by inversion events. Basins evolution: (1) widespread Oligocene- Lower Miocene extension; (2) In C and N Thailand extension persisted into U Miocene-Pliocene; (3) In W Natuna, Penyu, Malay basins extension ceased in earliest Miocene, in N Gulf of Thailand in M Miocene. Inversion in Gulf of Thailand in Lower and M Miocene. Relationship between strike-slip and extensional and inversion events more complex than can be explained by simple escape tectonic models)

Muhamad, Abdul J. & A.S.A. Jamil (2010)- Organic facies variation in lacustrine source rocks in the southern Malay Basin. Bull. Geol. Soc. Malaysia 56, p. 27-33.
(On source rock quality of Oligocene lacustrine shales in Groups K, L, M in S Malay Basin Anding Barat Laut 1 well. Kerogens mixture of algal, bacterial and higher plant organic matter. Group L lacustrine shales best oil-prone source rock with TOC 0.45-1.95%, HI values 300-400, predominantly Type II kerogen. Groups L- M more algal input, shown by lower Pr/Ph ratio (3.1- 4.0), lower Tm/Ts ratio, high C30-diahopane, etc.. E Miocene Group K more fluvial, more terrigenous organics, higher Pr/Ph ratio (5.1- 6.2), higher oleanane, predominance of C29-steranes. Change in organic facies reflect transition from synrift to post-rift phase)

Ng Tong San (1987)- Trap styles of the Tenggol Arch and the southern part of the Malay Basin. Bull. Geol. Soc. Malaysia 21, p. 177-193.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1987010.pdf)
(Tenggol Arch at S end of Malay Basin rel. stable block between Malay and Penyu E Oligocene(?) rift systems. Drape over basement topography and anticlinal features identified. Anticlines elongated with great reliefs near

E flank of S Malay basin, believed to be related to M Miocene shear movement. 23 wells drilled in area, with several oil-gas discoveries)

Ngah, K. (1990)- Deposition and diagenesis of Oligocene- Lower Miocene sandstones in the Southern Malay Basin. Ph.D. Thesis Imperial College, University of London, p. 1-267.
(online at: https://spiral.imperial.ac.uk/handle/10044/1/46470)
(Deposition and diagenesis of U Oligocene- Lower Miocene reservoir sandstones in S Malay basin from seismic data, cores, and well logs. Depositional model of Miocene Pulai-II Fm reservoirs. Pulai Sst interval no marine microfauna, only Pediastrum and common mangrove pollen; brackish water Miliammina fusca in Terengganu Shale. Deposited during initial marine influence in Malay Basin. Braided fluvial sst in N and NE; lower delta plain in S and SW)

Ngah, K. (2000)- Upper Oligocene- Lower Miocene sandstone reservoirs, Southern Malay Basin. AAPG Search and Discovery Art. 10008, 15p.
(online at: www.searchanddiscovery.com/documents/khalid/)
(Pulai-II Fm reservoirs in S Malay basin deposited during early opening of backarc basin. Braided fluvial channel sandstones dominant in NE, distributary and tidal-channel sands dominate in S. Reservoir quality primarily result of burial diagenesis and depositional facies. Destruction of porosity by precipitation of quartz and ferroan calcite and porosity enhancement by dissolution of framework feldspars and chert. Up to 40% of porosity dissolution by meteoric water introduced during Late Miocene uplift. Porosity up to 45% in braided-channel sandstones. Poor porosity fine sandstones and some m-c sandstones buried deeper than 3000m)

Ngah, K. (2000)- Structural framework of Southeastern Malay Basin. AAPG Search and Discovery Art. 10009, 7p.
(online at: www.searchanddiscovery.net/documents/khalid02/index.htm)
(Malay Basin intracratonic basin in relatively stable Sunda Shelf. Extensional opening from Late Cretaceous-Late Eocene to Late Miocene. Late Miocene- Pliocene compressional phase created anticlinal hydrocarbon traps. Pliocene-Recent extensional basin rejuvenation, with extensive marine incursion. Fault trends N-S in NW Malay Basin, in S two-thirds E-W and NW-SE trends dominant. S Malay Basin relatively oil-prone)

Ngah, K., M. Madon & H.D. Tjia (1996)- Role of Pre-Tertiary fractures in formation and development of the Malay and Penyu basins. In: R. Hall & D.J. Blundell (eds.) Tectonic evolution of Southeast Asia, Geol. Soc. London, Spec. Publ. 106, p. 281-289.
(Major faults in Sundaland trend NNW to NW, WNW, N and E. Old NNW to NW, N and E-striking faults in pre-Tertiary basement of Malay and Penyu basins, reactivated before Late Oligocene and in M-Late Miocene. Common N-striking faults in pre-Tertiary of Sundaland, possibly Jurassic regional fractures. NNW-NW and WNW fractures may have originated as strike-slip faults during late Mesozoic deformation. NW-striking basement faults of Malay basin continue onshore SE Asia as Three Pagodas fault zone. M-Late Miocene stress field change resulted in reversal of slip movement along major wrench faults and structural inversion of sedimentary basins (E-W anticlines located over half-graben))

Ngo T.S., Cu M.H., Phung K.H. & Vu M.T. (2010)- The geology and hydrocarbon potential of a Mesozoic basin in western offshore Vietnam. Proc. 46th CCOP Ann. Sess., Vung Tau 2009, p. 4-17.
(Phu Quoc basin is Mesozoic forearc basin developed on margin of Indochina cratonic block, in contact with Sibumasu block, N of East Malay Basin. Over 8 km of Paleozoic- Mesozoic section in depocenters. Three stages: Paleozoic passive margin, Late Permian- Mesozoic forearc, Tertiary- Quaternary sag)

Noor, H.M. (1987)- Tinggi Field- analyzing the DHIs. Bull. Geol. Soc. Malaysia 21, p. 133-149.
(online at: www.gsm.org.my/products/702001-101131-PDF.pdf)
(Esso Tinggi oil-gas field in Malay Basin 1980 discovery with many uneconomic but hazardous shallow gas sands, with clear gas DHI's on seismic)

Ong Tee Suan, M. Lambert, B. Goodin & M. Othman (2012)- Malaysia East Belumut Field: doubling a marginal field's reserves by understanding the application of "Enabling" technology. Proc. Int. Petroleum Techn. Conference, Bangkok, IPTC 14538, 11p.

Osman, S., M.F. Nianamuthu, F.A. Ismail, J.J.M. Idris & J. Ping (2012)- Sepat Barat Deep-2: the deepest and hottest HPHT well in North Malay Basin. In: Petroleum Geoscience Conf. Exhibition (PGCE 2012), Kuala Lumpur, Warta Geologi 38, 2, p. 122-123.
(online at: https://gsmpubl.files.wordpress.com/2014/09/warta38_21.pdf)
(Abstract. Sepat Barat Deep-2 only well to successfully evaluate N Malay Basin deeper Group F and H deltaic sandstone reservoirs. Total depth 2768m ss. Overpressure started at 1748m, steep pressure ramp for 200m until lower Group F sand. Maximum formation pressure 7826 psi at 2623m and maximum T 340 °F. 8 new hydrocarbon bearing sands encountered with gross thickness of 69 m. F sands over-pressured reservoirs with porosity up to 24%)

Othman, M. (2008)- Angsi K-sands production performance- a case history of hydraulically fractured retrograde gas condensate reservoir. In: 70th EAGE Ann. Conf. Exh., Rome, SPE-113816, 10p.
(Angsi field 170km off Terengganu. Hydrocarbons in Group I, J and K sandstones of Lower Oligocene- M Miocene age. Lower Miocene K-sand is first tight gas reservoir development in Malaysia, developed in 2002. Hydraulic fracturing improved well deliverability, but production declined relatively fast, then stabilized at very low rate due to condensate banking)

Oudomugsorn, P., C. Rojanachan & K. Sakdejayont (1987)- Evaluation of the petroleum potential of the western basin, Gulf of Thailand. Proc. 23rd Sess. Comm. Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Madang 1986, 2, p. 80-97.
(Western basin in N Gulf of Thailand is N-S trending Early Tertiary rift basin. Possibly >3500m of Oligocene-Recent sediments, mainly in fluvial- lacustrine facies. Less than 400m of sediment over basement highs)

Paramita, D. (2012)- Structural evolution of the Songkhla Basin, Gulf of Thailand: a palinspastic restoration Study. Bull. Earth Sciences Thailand 5, 2, p. 38-47.
(online at: www.geo.sc.chula.ac.th/BEST/volume5/number2/Dini_02.pdf)
(Songhla Basin in Gulf of Thailand N-S trending, Eocene rift basin. Early Oligocene and Late Oligocene- E Miocene local inversion structures at E and W sides of basin in overall extensional regime)

Pedersen, S.A.S., L.O. Boldreel, E.B.Madsen, M.B.Filtenborg & L.H. Nielsen (2010)- Thin-skinned thrust-fault tectonics offshore south-west Vietnam. Geol. Survey Denmark Greenland Bull. 20, p. 99-102.
(online at: www.geus.dk/publications/bull/nr20/nr20_p099-102.pdf)
(Phu Quoc basin SW of Vietnam in NE Gulf of Thailand underlain by thin-skinned thrust-fault complex concealed by Neogene marine sediments. Fold belt continues into hills at border between Vietnam of Cambodia and Kampot foldbelt. Width of tectonic complex ~200 km wide; shortening ~50%. Deformation of sedimentary succession in E-M Cretaceous (documented by biostratigraphical studies on Phu Quoc island) and tied to subduction of Pacific Ocean plate. Piggy-back basins formed during displacement along thrust faults. Translations 3-8 km from E to W. See also Madsen et al. 2012))

Petersen, H.I., A. Mathiesen, M.B.W. Fyhn, N.T. Dau, J.A. Bojesen-Koefoed, H. Nielsen & H.P. Nytoft (2011)- Modeling of petroleum generation in the Vietnamese part of the Malay Basin using measured kinetics. American Assoc. Petrol. Geol. (AAPG) Bull. 95, 4, p. 509-536.
(2-D modeling of hydrocarbon generation for Malay-Cho Thu Basin in Gulf of Thailand-S China Sea. Source rocks comprise Oligocene synrift lacustrine mudstones and coals, postrift coals, and coaly mudstones. Main play risks include timing of generation from oil-prone lacustrine synrift deposits relative to structural trap formation and relatively small kitchen areas. Minor contribution from lacustrine deposits after principal trap formation consistent with prominent terrigenous geochemical signature of oils in basin)

Petersen, H.I., N. Sherwood, A. Mathiesen, M.B.W. Fyhn, N.T. Dau, N. Russell, J.A. Bojesen-Koefoed & L.A. Nielsen (2009)- Application of integrated vitrinite reflectance and FAMM analyses for thermal maturity

assessment of the northeastern Malay Basin, offshore Vietnam: implications for petroleum prospectivity evaluation. Marine Petroleum Geol. 26, p. 319-332.
(In NE Vietnam part of Malay Basin oil- gas discovery well 46-CN-1x encountered a ~55 m of lacustrine mudstones with good potential as oil source. Vitrinite reflectance (VR) measurements may be suppresed in alginite-bearing rocksby 0.14%.Modelled temperature histories indicate onset of hydrocarbon generation for the uppermost Oligocene source rocks between 2 Ma and present-day, which post-dates trap formation)

PETRONAS (1999)- The petroleum geology and resources of Malaysia. Petronas Press, Kuala Lumpur, 665p.
(Major review of Malaysian basins and hydrocarbons by collective of authors)

PETRONAS (2007)- Chronostratigraphic chart of the Cenozoic and Mesozoic basins of Malaysia. Petroliam Nasional Berhad, Kuala Lumpur, p. 1-71.
(Elegant review of Cenozoic chronostratigraphy, sequence stratigraphy, biostratigraphy and unconformities of Malaysian basins (incl. Malay Basin, Malacca Straits, Sarawak, Sabah. With extensive reference list)

Pigott, J.D. & N. Sattayarak (1993)- Aspects of sedimentary basin evolution assessed through subsidence analysis. Example: northern Gulf of Thailand. In: B.K. Tan et al. (eds.) 7th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 407-420.
(Oligocene- Recent subsidence analysis suggests N Gulf of Thailand basins exhibit time-transient characteristics of cratonic rift and wrench style basins; basin evolution varied in time and space)

Pigott, J.D., R. Zhai, K.L. Pigott & T. Tonianse (2012)- Searching for the missing link: The regressive system tract- seismic stratigraphic evidence from the Southern Gulf of Thailand In: Int. Petroleum Technology Conference (IPTC), Bangkok 2012, IPTC 15113, 21p.
(Seismic stratigraphic and geomorphic analysis of 3D seismic from S Gulf of Thailand reveal preservation of complete eustatic cycle on Quaternary tropical coastal plain periodically affected by oscillating sea levels. Aggradational interfluvial coastal plain records mainly Highstand Systems Tract)

Pradidtan, S. (1990)- Calculation of heat flow of the Tertiary basins in the Gulf of Thailand. In: B. Elishewitz (ed.) Proc. CCOP Heat Flow Workshop III, Bangkok 1988, CCOP Techn. Publ. 21, p. 99-106.
(Heatflow values from 9 wells in Gulf of Thailand rel. high)

Pradidtan, S. & R. Dook (1992)- Petroleum geology of the northern part of the Gulf of Thailand. In: C. Piencharoen (ed.) Proc. Nat. Conf. Geologic resources of Thailand: potential for future development, Bangkok, Dept Min. Resources, p. 235-246.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1992/6222.pdf)
(Numerous Tertiary intra-cratonic rift basins in N Gulf of Thailand: Sakhon, Paknam, Hua Hin, NW, W, Kra, East Kra, North Kra, Prachuap, Chumphon and N pat of Pattani basin. Tertiary sediments almost entirely non-marine, with limited biostratigraphic controls. three lower units synrift fluvial and lacustrine facies, upper unit Late Miocene- Recent post-rift. Locally organic-rich lacustrine source rocks)

Pradidtan, S. & S. Polachen (1990)- TH-40 sandstone play Hua Hin Basin, Thailand. In: CCOP/WRGA Play modelling exercise 1989-1990, CCOP Techn. Publ. 23, p. 97-112.
(Assessment of undiscovered hydrocarbons and play description of TH-40 Oligocene stacked fluvio-lacustrine sands in rotated fault blocks in Hua Hin Basin, N Gulf of Thailand)

Pradidtan, S. C. Singhasenee & R. Charusirisawad (1990)- Stratigraphy of Tertiary basins in the Gulf of Thailand. In: Proc. Development geology for Thailand into the year 2000, Chulangkorn University, Bangkok, p. 408-429.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1990/24729.pdf)

Priyanto, B., M.N. Ahmad & P. Rowell (2013)- Delineation of rift-related Miocene fluvial sands in the Gulf of Thailand using seismic inversion techniques. Proc. 37th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA13-G-022, p. 1-9.

(Gulf of Thailand basins form series of en-echelon grabens and half-graben systems, with main gas reservoirs in Lower-Middle Miocene fluvial sands. Seismic inversion techniques used to map reservoir sands)

Puchağa, R.J., S.J. Porebski, W.R. Sliwinski & C.J. August (2011)- Pleistocene to Holocene transition in the central basin of the Gulf of Thailand, based on geoacoustic survey and radiocarbon ages. Marine Geology 288, p. 103-111.
(Acoustic and coring record of Last Glacial Maximum and postglacial sea-level rise in central Gulf of Thailand. Valley incision (Kelantan River), followed by estuarine- marine transgression, interrupted by deltaic progradation. Transgressive ravinement followed by thin, condensed cover of modern marine muds)

Radovich, B.J. (1997)- Proximal nonmarine sequence stratigraphy, reservoir quality and tectonic controls in the southern Gulf of Thailand. In: K.W. Shanley & B.F. Perkins (eds.) Shallow marine and nonmarine reservoirs: sequence stratigraphy, reservoir architecture and production characteristics, 18th Ann. Research Conf. Gulf Coast section SEPM Foundation, 18, p. 235-244.
(Texaco 1994 Mayura 1 well in S Pattani Basin of Gulf of Thailand drilled on the ramp side of half-graben. Numerous oil shows in nonmarine reservoirs in synrift section. Permeability of reservoir units compromised by kaolinite in pore system. Typical sequence composed of stacked, fining-upward parasequences that aggrade during times of relative base level rise)

Radzi, A., Y. Bazleigh & A. Khalil (2016)- Quantifying the uncertainty of Gross Rock Volume: a decade of time-to-depth conversion in Sepat Field, Malay Basin. First Break 34, p. 73-77.
(On estimates of GRV from seismic data in Sepat Field in Malay Basin (1983 discovery, structure 30km x 10 km E-W trending structure dissected by normal faults)

Ramli, N. (1986)- Depositional model of a Miocene barred wave- and storm-dominated shoreface and shelf, SE Malay Basin. American Assoc. Petrol. Geol. (AAPG) Bull. 70, 1, p. 34-47.
(J sandstone reservoir in SE Malay basin composed of shoreface and offshore sediments. Barred wave- and storm-dominated shoreface, laterally associated with stacked offshore bars)

Ramli, N. (1988)- Characteristics of J Sandstone (Tapis Formation) reservoirs in the Southeastern part of the Malay Basin, Offshore West Malaysia. In: Offshore South East Asia Conf. 1988, Singapore, Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) 8, p. 239-248.
(Reservoir quality of Miocene J sandstone mainly controlled by sedimentary texture (absence of bioturbation) and presence of secondary porosity)

Ramli, M.N. (1988)- Humid tropical fan-delta sedimentaton: an ancient model from the 'K' sandstones (Late Oligocene-Early Miocene), SE part of the Malay basin, offshore W Malaysia. In: W. Nemec & R.J. Steel (eds.) Fan deltas and related systems: sedimentology and tectonic settings, Blackie Publ., Glasgow, p. 341-353.

Ramli, M.N. (1988)- Stratigraphy and paleofacies development of Carigali's operating areas in the Malay basin. Bull. Geol. Soc. Malaysia 22, p. 153-187.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1988008.pdf)
(Stratigraphic scheme, cross-sections and paleofacies maps for Late Oligocene-Pliocene in Malay Basin Blocks PM 6 and PM 12)

Ramli, M.N. (1989)- Stratigraphy and paleofacies development of Carigali's operating areas in the Malay basin, South China Sea. In: B. Situmorang (ed.) Proc. 6th Regional Conf. Geology mineral hydrocarbon resources of Southeast Asia (GEOSEA VI), Jakarta 1987, IAGI, p. 171-196.
(Similar to Ramli (1988). New time-stratigraphic scheme and regional Late Oligocene- Pliocene paleofacies maps for blocks PM6 and PM12. Predominantly coastal plain- fluviomarine facies)

Reijenstein, H.M., H.W. Posamentier & J.P. Bhattacharya (2011)- Seismic geomorphology and high-resolution seismic stratigraphy of inner-shelf fluvial, estuarine, deltaic, and marine sequences, Gulf of Thailand. American Assoc. Petrol. Geol. (AAPG) Bull. 95, 11, p. 1959-1990.

(3-D seismic-derived images of channels in Pleistocene fluvial, estuarine, marine, and deltaic depositional systems in the upper 80m of central Gulf of Thailand continental shelf. Most fluvial systems lie within incised valleys in lower parts of each depositional sequence)

Restrepo-Pace, P.A., M. Dalrymple & R. Morley (2014)- Finding new exploration targets in ómatureô petroleum basins offshore Thailand: all about nuance. AAPG Int. Conf. Exhib., Istanbul 2014, Search and Discovery Art. 10696, 5p. *(Extended Abstract)*
(Thailand's offshore Tertiary basins yielded nearly 5 BBOE (~80% gas). Exploration started in 1970s and peaked by mid 1990s. Some fields in N Pattani Basin with significant oil (Jasmine, 60 MMBO). Eocene-Oligocene NW-SE grabens, overprinted by narrow N-S faulted depocenters developed during Miocene 'back-arc' stretching of continental Sundaland crust. Basins fill: lower synrift lake/fluvial deposits, post -rift fluvial sequences and drowning brackish intertidal to marine succession. Hydrocarbons sourced from synrift lacustrine shales. Mature stage of exploration, but complex trapping mechanisms still have exploration potential)

Restrepo-Pace, P., S. King, R. Jones, C. Goulder, Y. Ah Chim & C. Russell (2010)- The Penyu Basin revisited: the abandoned ómateô of the Malay-Natuna Basin. In: Proc. Petrol. Geol. Conf. Exhib., Kuala Lumpur 2010, Geol. Soc.Malaysia, p. 141-144. *(Extended Abstract)*
(Penyu basin transtensional-transpressional basin that developed coeval to Malay Basin to N. No commercial discoveries yet made on Malaysian side of basin, but straddling Malay- Penyu basin is ~350-400 MMBO Belida field, an inverted structure on basement ridge that separates Malay from Penyu basin, and not underpinned by source rock. Distinctive oil signature may be linked to contribution from Penyu source. Rhu oil discovery indicates working petroleum system within Penyu)

Robinson, K. (1985)- Assessment of undiscovered conventionally recoverable petroleum resources in Tertiary sedimentary basins of Malaysia and Brunei. Bull. Geol. Soc. Malaysia 18, p. 119-131.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1985005.pdf)

Rivas, S., J.O.W. Grimmer, A. Alaminos & J. Navarro (2017)- Basin modelling at the Songkhla Basin (Gulf of Thailand) or: How many source rocks do I have? AAPG/SEG Int. Conf. Exhib., Barcelona 2016, Search and Discovery Art. 10922, 10p. *(Abstract + Presentation)*
(online at: www.searchanddiscovery.com/documents/2017/10922rivas/ndx_rivas.pdf)
(Songkhla basin in W Gulf of Thailand, with several producing oil fields. Asymmetric Tertiary rift basin formed between 40-20 Ma, controlled by NNW-SSE faults mainly at W side, filled by Eocene-Miocene continental sequence. Reservoir intervals fluvial- alluvial sandstones of Eocene, Lower Oligocene and Lower Miocene age. Lower Oligocene lacustrine shales are supposed source rocks of basin)

Said, A. (1982)- Overview of exploration for petroleum in Malaysia under the PSC's. In: Proc. Offshore SE Asia Conf. (OFFSEA 82), p. 1-14.

Salam, O.A., S.A. Aziz & M.Y. Ali (2008)- Pre-Tertiary carbonate play, offshore Peninsula Malaysia, a revival of forgotten play. In: Petrol. Geol. Conf. Exh. (PGCE), Kuala Lumpur 2008, Paper 25, Geol. Soc. Malaysia, p. 177-181.
(In early 1970's sections of Pre-Tertiary carbonates, 8 -492m thick, tested dry at three localities on Sotong and Bunga Raya structures. New potential Pre-Tertiary carbonate plays identified on 'basement' highs in S Malay Basin near Sotong and Tenggol Arch areas. Model requires mature Oligocene lacustrine source rocks in adjacent deeper grabens)

Samorn, H. (2006)- Fluvial reservoir architecture from near surface 3-D seismic data, Block B8/32, Gulf of Thailand. M.S. Thesis, Colorado School of Mines, p. 1-156. *(Unpublished)*

Sasaki, A. (1986)- Geological studies on origin of carbon dioxide in Platong Field, Gulf of Thailand. J. Japanese Assoc. Petroleum Technologists 51, 3, p. 218-227.
(online at: www.journalarchive.jst.go.jp/...)

(In Japanese, with English abstract) (Platong gas field CO2 content average 15%, locally >40%. Most CO2 in nearby Natuna, Malay, N Sumatra basins tied to carbonates, but here believed to be generated from woody-coaly kerogens during thermal diagenesis, and also from 'magmatic origin' through faults)

Shahar, S. (2008)- Structural evolution of the Tenggol Arch and its implication for basement fracture patterns in the Malay Basin, Malaysia. Masters Thesis Durham University, p. 1-324. *(Unpublished)*
(online at: http://etheses.dur.ac.uk/2233/)
(Evaluation of fracture patterns and hydrocarbon potential of Tenggol Arch, a basement high at W margin of Malay Basin)

Shing, C.Y. (1992)- Petrographic and diagenetic studies of the reservoir sandstone of the Malay Basin. Bull. Geol. Soc. Malaysia 32, p. 261-283.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1992027.pdf)
(Reservoir properties of Late Oligocene-Miocene sandstones of Malay Basin depend on depositional facies, mineralogy and burial diagenesis. Oldest sandstones (Group K) mainly m-grained braided stream deposits, J sandstones f-m brackish- shallow marine; E to I zones sandstones generally fine, matrix-rich estuarine deposits. Clean sands prone to quartz cementation. Secondary porosity generated by dissolution of feldspars, etc. Porosity decreases significantly with depth in sandstones of all groups)

Shoup, R. (2008)- Paleogeographic reconstruction of the Arthit area, North Malay Basin. In: Proc. Int. Symp. Geoscience Resources and Environments of Asian Terranes (GREAT 2008), 4th IGCP 516 and 5th APSEG, Bangkok 2008, p. 375-381.
(online at: www.geo.sc.chula.ac.th/Geology/Thai/News/Technique/GREAT_2008/PDF/112.pdf)
(Paleogeographic evolution of Arthit area, one of Gulf of Thailand E Tertiary rift basins. No age control)

Shoup, R.C., R.J. Morley, T. Swiecicki & S. Clark (2012)- Tectono-stratigraphic framework and Tertiary paleogeography of Southeast Asia: Gulf of Thailand to South Vietnam shelf. AAPG Int. Conf. Exhib., Singapore 2012, Search and Discovery Art. 30246, 16p. *(Abstract and Presentation package)*
(online at: www.searchanddiscovery.com/documents/2012/30246shoup/ndx_shoup.pdf)
(Top Basement map and Oligocene- Miocene paleogeography maps of Tertiary rift basins in Gulf of Thailand-Malay Basin- Natuna- S Vietnam shelf)

Singh, H. (2005)- The occurrence and exploitation of Malaysian oil and gas resources. In: Oil-industry history, Petroleum History Institute, Meadville, 6, 1, p. 129-152.

Singh, I. & C.H. Ford (1982)- The occurrence, causes and detection of abnormal pressure in the Malay Basin. In: Proc. Offshore Southeast Asia 82 Conf. (OFFSEA 82), Singapore, SE Asia Petroleum Expl. Soc. (SEAPEX), p. 1-11.
(Abnormal pressure present throughout Malay Basin, except in SW and NE margins. Attributed to rapid burial, faulting and hydrocarbon column effects)

Supriatna, J.M. (2011)- Maturity modeling of the Songkhla Basin. Bull. Earth Sciences Thailand 4, 2, p. 32-35.
(online at: www.geo.sc.chula.ac.th/BEST/volume4/number2/5_Jana_BEST_4_2_p%2032-35.pdf)

Tan, D.N.K. (2009)- Malay and Penyu Basins. In: C.S. Hutchison & D.N.K. Tan (eds.) The geology of Peninsular Malaysia, University of Malaya and Geol. Soc. Malaysia, Kuala Lumpur, p. 175-196.

Tang, M., A.C. Yee, S. King, R.A. Jones, M. Farouki, K. Agbebi, Z. Ye & A. Betteridge (2013)- The geology of the Tenggol Arch, offshore Peninsular Malaysia. In: Petroleum Geoscience Conf. Exhib. (PGCE 2013), Kuala Lumpur, O54, 4p. *(Extended Abstract)*
(Tenggol Arch Pre-Tertiary structural high is remnant of collapse of regional domal uplift associated with failed rift triple junction of Malay, Penyu and W Natuna Basins. N and S flanks of Tenggol Arch low-angle ramps into Malay and Penyu Basins. Pre-Tertiary basement on crest of arch at 1500m to 2000m depth.

Composed of two distinct seismic facies: (1) transparent facies of high grade metamorphic and granitic rocks and (2) layered facies of sedimentary and low-grade metasediments of most likely Mesozoic age)

Thakharw, A. (2010)- Trap mechanism in the Southern Kra Basin, Gulf of Thailand. Bull. Earth Sci. Thailand (BEST), 3, 2, p. 1-4.
(online at: http://cupetrogeoscience.com/BEST_Thakharw,%20A%20.pdf)
(Main trap styles in S Kra Basin, Gulf of Thailand, NE-SW trending listric normal faults that extend into post-rift reservoir. Faults usually trap hydrocarbons on up-thrown sides. Fault traps higher probability for trapping and sealing basinward, where there is thick shale and large fault throws; traps on basin edge low potential)

The, R., J. Pringle, K. Brazier, G. Peace, A. Laird & R. Kudisri (2013)- Songkhla D and E, exploration & development. Proc. SE Asia Petroleum Expl. Soc (SEAPEX) Conf. 2013, Singapore, p. 1-8. *(Presentation)*
(www.seapex.org/im_images/pdf/Simon/13%20Ronald%20The_Coastal%20Energy%20Songkhla%20D&E_SEC%202013.pdf)
(Brief summary of Songkhla oil field discovery and development in stacked Miocene fluvial sand reservoirs in S Gulf of Thailand (other reports suggest reservoir sands of Oligocene age; JTvG))

Tingay, M., C.K. Morley, A. Laird, O. Limpornpipat, K. Krisadasima, H. Macintyre & Suwit Pabchanda (2012)- Origin and distribution of overpressure in the Northern Malay Basin. AAPG Int. Conf. Exhib., Singapore 2012, Search and Discovery Art. 41103, p. *(Presentation)*
(online at: www.searchanddiscovery.com/documents/2012/41103tingay/ndx_tingay.pdf)
(Gas generation accounts for ~46-67% of measured excess pore pressure in N Malay basin, with remaining 33-54% generated by coincident disequilibrium compaction)

Tingay, M., C. Morley, A. Laird, O. Limpornpipat, K. Krisadasima, S. Pabchanda &, H. Macintyre (2012)- Overpressures in the Northern Malay Basin: part 1- origin and distribution. Int. Petrol. Techn. Conf. IPTC, Bangkok 2012, 4, IPTC 15345, p. 3260-3271.
(see also companion paper Limpornpipat et al. (2012) for Part 2. Pore pressure data and sonic velocity-vertical effective stress plots from 31 wells reveal overpressures in N Malay Basin mainly generated by fluid expansion within 2A, 2B and 2C source rock formations. Gas generation accounts for ~70-50% of excess pore pressure in region, with remaining 30-50% generated by coincident disequilibrium compaction)

Tingay, M.R.P., C.K. Morley, A. Laird, O. Limpornpipat, K. Krisadasima, S. Pabchanda& H.R. Macintyre (2013)- Evidence for overpressure generation by kerogen-to-gas maturation in the northern Malay Basin. American Assoc. Petrol. Geol. (AAPG) Bull. 97, 4, p. 639-672.
(Pore-fluid pressure data and sonic velocity-vertical effective stress plots from 30 wells reveal overpressures in N Malay Basin primarily generated by fluid expansion and are located within Miocene 2A, 2B, and 2C source rock formations. Association of fluid expansion overpressures with gas, combined with sonic density response to overpressure and regional geology that precludes other overpressuring mechanisms, provides in-situ evidence for basinwide gas generation overpressuring. Gas generation accounts for ~1/2 to 2/3 of measured excess pore pressure in region, with remainder generated by coincident disequilibrium compaction)

Tjia, H.D. (1994)- Inversion tectonics in the Malay Basin: evidence and timing of events. Bull. Geol. Soc. Malaysia 36, p. 119-126.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1994027.pdf)
(Pre-Oligocene half grabens of Malay Basin are pull-apart depressions formed by dextral divergent wrenching. Oligocene- U Miocene sediment fill subjected to compressional deformation, probably in Late Miocene. Extensional regime attributed to 'extrusion' of continental SE Asia and Malay Basin basement due to hard collision between India with Asian Plate. Miocene regional compression probably result of change in motion of Pacific Plate from earlier NNW direction to W-ward direction, combined with N-ward progression of Indo-Australian Plate)

Tjia, H.D. (1998)- Origin and tectonic development of Malay-Penyu-West Natuna basins. Bull. Geol. Soc. Malaysia 42, p. 147-160.

(online at: www.gsm.org.my/products/702001-100849-PDF.pdf)
(Late Cretaceous hot spot arched up continental crust of N Sunda Shelf into Malay Dome. Crest broke into three rift arms, now represented by Malay, Penyu and W Natuna basins. Triple junction is still one of highest heat-flow areas of region. Hot spot activity ended by M Eocene, allowing basins to become aulacogens with up to 12 km thick Oligocene and younger sediments. Widespread M Miocene fault inversions and unconformity may be tied to end of South China Sea spreading and end of subduction along N Borneo margin)

Tjia, H.D. (2000)- Tectonic and structural development of Cenozoic basins of Malaysia. Proc. Geol. Soc. Malaysia, Ann. Geol. Conf. 2000, Penang, p. 3-16.
(online at: https://gsmpubl.files.wordpress.com/2014/10/agc2000_01.pdf)
(Cenozoic Malaysian basins in: (1) interior of semi-cratonic continental crust (Malay and Penyu basins); (2) marginal belts of semi-cratonic continental crust (small basins of Strait of Melaka and onshore Peninsular Malaysia); (3) straddling collisional plate boundaries (Sarawak and NW Sabah basins); (4) associated with microcontinent (Sandakan, Labuk Bay, Malawali and Tidung basins). Basins may develop as (a) aulacogens above mantle-plume dome (Malay and Penyu); (b) pull-aparts where wrench faulting is dominant (onshore basins of Peninsular Malaysia and Malacca Straits; inverted structures common). (c) At collisional plate boundaries; (d) NE Sabah and Tidung basins originated as rifts in breakup of E Sabah microcontinent)

Tjia, H.D. (2010)- Growing evidence of active deformation in the Malay basin region. Bull. Geol. Soc. Malaysia 56, p. 35-40.
(online at: https://gsmpubl.files.wordpress.com/2014/08/bgsm2010005.pdf)
Very young crustal movements in Malay basin region point to possibility of late reactivation of regional faults. Malay basin originated in Late Cretaceous as aulacogen on Malay Dome, modified by sinistral transtensional wrenching, post M Miocene transpression and general structural inversion. From Pliocene onward most of basin area considered tectonically quiet, but basement-rooted regional fault zones may intrude into Pliocene-Pleistocene strata and almost reach seabed)

Tjia, H.D., Z. Mohamed, A. S.M. Saad, A. Ridhwan, A. Rahim, J. Baharom et al. (2010)- In the quest of open fractures in the crystalline basement of the Malay and Penyu Basins. Petrol. Geosc. Conf. Exhib., Kuala Lumpur 2010, p. *(Extended Abstract)*

Tjia, H.D. & M.I. Ismail (1994)- Tectonic implications of well-bore breakouts in Malaysian basins. Bull. Geol. Soc. Malaysia 36, p. 175-186.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1994032.pdf)
(In Sarawak Basin well-bore breakout directions follow change of tectonic grain in Rajang Accretionary Prism and major tectonic boundaries (W Baram Line, etc.)) and rotations of certain tectonic domains. Other sets directions associated with SW segment of S China Sea spreading ridge. Breakout patterns in Sabah Basin differentiate SW and NE domains which experienced 25° CW rotation. Sandakan Basin experienced compression normal to its axis and also E-W regional compression that is active)

Trevena, A.S. & R.A. Clark (1986)- Diagenesis of sandstone reservoirs of Pattani Basin, Gulf of Thailand. American Assoc. Petrol. Geol. (AAPG) Bull. 70, 3, p. 299-308.
(Miocene sandstones from Pattani basin gas fields, Gulf of Thailand, show rapid decline in porosity-permeability with depth, from rapid mechanical compaction and cementation by quartz overgrowths, kaolinite, and illite, related to high geothermal gradients. Best porosity- permeability in large pores between 915- 1980m. At greater depths most interparticle pores occluded, and porosity mainly secondary in origin)

Uttarathiyang, T. & J.D. Pigott (2008)- The unexplored post rift Oligocene deltas frontier: North Malay Basin, Thailand. In: Proc. Int. Symp. Geoscience Resources and Environments of Asian Terranes (GREAT 2008), 4th IGCP 516 and 5th APSEG, Bangkok 2008, p. 370-373.
(online at: www.geo.sc.chula.ac.th/Geology/Thai/News/Technique/GREAT_2008/PDF/110.pdf)
(Seismic stratigraphic study of deep post-rift Oligocene deltas in Gulf of Thailand)

Virdy, M.K., S. Adams, T. Kearney, S. Ross & S. Koysamran (2013)- Bualuang Oilfield, Gulf of Thailand: a success story utilising integrated field development planning. Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) Conf. 2013, Singapore, p. 1-22. *(Abstract + Presentation)*
(www.seapex.org/im_images/pdf/Simon/15%20Manjeet%20Kaur%20SEAPEX_Salamander%20Bualuang.pdf)
(Brief summary of Bualuang oil field development in stacked M Miocene fluvial sand reservoirs in W Basin of Gulf of Thailand. W Basin is N-S trending Oligocene half-graben, affected by Late Miocene transtension)

Wan Ismail Wan Yusoff (1984)- Heat flow study in the Malay Basin. CCOP Tech. Publ. 15, p. 77-87.

Wan Ismail Wan Yusoff (1990)- Heat flow in offshore Malaysian basins. In: B. Elishewitz (ed.) Proc. CCOP Heat Flow Workshop III, Bangkok 1988, CCOP Tech. Publ. 21, p. 39-54.
(Heat flows over Malay and offshore Sarawak basins variable, from normal to very high (47- 137 mW/m2). In Sabah and Sandakan basins values between 34.5- 64 mW/m2)

Wan Ismail Wan Yusoff (1993)- Geothermics of the Malay basin, offshore Malaysia. M.Sc. Thesis Durham University, p. 1-202.
(online at: http://etheses.dur.ac.uk/5537/1/5537_2976.PDF)
(Review of temperature/ heat flow data of Malay Basin from 59 exploration wells. Malay Basin average heat flow 86 mWm-2, average geothermal gradient 47°C/km, both high. Heat flow regional highs in NW, S and C portions of basin and lower heat flow in SE and NE peripheries. Anomalous heat flow related to subsurface fluid movement and overpressures)

Waples, D.S., R. Mahadir & Meor S. Mahmood (2000)- Geochemistry of gases in the Malay Basin. AAPG Int. Conf. & Exh. 2000, Bali, American Assoc. Petrol. Geol. (AAPG) Bull. 84, p. *(Abstract only)*
(Three end-member gas types in Malay Basin: biogenic, thermal and basement gas. Most gas samples mixtures. Gases with significant biogenic component limited to NE corner of basin, was probably generated locally and does not appear to offer an important exploration. Gases dominated by CO2 predominantly sourced from basement. North central part of basin gas mainly of "normal" thermal origin, with accumulations of moderate size. "Deep" thermal gas seems to dominate over "normal" thermal gas in large accumulations)

Waples, D.S., R. Mahadir & L. Warren (1995)- Implications of vitrinite-reflectance suppression for the tectonic and thermal history of the Malay Basin. Bull. Geol. Soc. Malaysia 37, p. 269-284.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1995a18.pdf)
(Vitrinite-reflectance (Ro) values in Malay Basin wells lower than expected for high present-day geothermal gradients. Calculated Ro values can only be fitted to measured Ro data by assuming late heat pulse in last few million years. Ro may also be suppressed by abundant liptinite and perhydrous vitrinite. In alternative model paleo heat flow increased during Oligocene rifting and decayed exponentially to modern levels, leading to much earlier hydrocarbon generation)

Waples, D.S. & M. Ramly (1995)- A simple statistical method for correcting and standardizing heat flows and subsurface temperatures derived from logs. Bull. Geol. Soc. Malaysia 37, p. 253-267.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1995a17.pdf)

Waples, D.S. & M. Ramly (1996)- Geochemistry of gases in the Malay Basin. Bull. Geol. Soc. Malaysia 39, 241-258.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1996020.pdf)
(Three end-member gas types in Malay Basin: biogenic, thermal and basement gas. Most gas samples in Malay Basin mixtures of these. Gases with significant biogenic component limited to NE corner of basin, in small accumulations. Gases dominated by CO2 predominantly sourced from basement.North central part of basin gas mainly of 'normal' thermal origin)

Waples, D.W., L. Warren & R. Mahadir (1994)- A thermal model for the evolution of the Malay Basin. American Assoc. Petrol. Geol. (AAPG) Bull.78, p. 1169. *(Abstract only)*

(Reconstruction of thermal structure of Malay Basin: (1) major heating event in last 100,000 yr; (2) low Ro values throughout basin indicates heat flow prior to heating event, only slightly higher stable cratons, (3) present-day heat flow lowest in E Malay Basin and highest in NW, where Pliocene-Pleistocene subsidence greatest. Basin evolution model: (1) slight Late Eocene extension of stable craton without high heat flow, thermal doming or rift development; (2) continued slight extension and downwarping until end of M Miocene, when local compression uplifted basement in E portion of basin, leading to 15 km of erosion in some areas; (3) stronger extensional regime throughout basin during Pliocene, causing submergence and greatest subsidence in W, accompanied by increase in heat flow. Strong subsidence (and presumably the increase in basal heat flow) began at ~5.5 Ma, but thermal effects not noted in upper section until recently)

Watcharanantakul, R. & C.K. Morley (2000)- Syn-rift and post-rift modeling of the Pattani Basin, Thailand: evidence for a ramp-flat detachment. Marine Petroleum Geol. 17, p. 937-958.
(Syn-rift section in Pattani Basin has synformal geometry atypical of rifts. Not all subsidence can be modelled as extension-related. Basin probably developed due to both extensional faulting and as synformal basin developed over ramp-flat geometry along major low-angled extensional fault in upper crust. Discrepancy suggests active mantle processes or non-uniform extension (subduction rollback) beneath Gulf of Thailand)

Woollands, M.A. & D. Haw (1976)- Tertiary stratigraphy and sedimentation in the Gulf of Thailand. In: Offshore SE Asia Conf. 1976, Singapore, SE Asia Petrol. Expl. Soc. (SEAPEX), Paper 7, p. 1-22.
(Subdivide Tertiary of Gulf of Thailand into three major cycles of sedimentation)

Wong, R. & S.S. Karimi (2001)- Occurrences of two major transgressive cycles in the North Malay Basin and their impact on the deep reservoir potential. In: Proc. CCOP 37th Ann. Sess. Bangkok 2000, 2, Techn. Repts., p. 27-29.
(Two major transgressive cycles in N Malay Basin: (1) E-M Miocene Group I, H lower coastal plain sands deepening and fining upwards to M Miocene Group F marine shales; (2) U Miocene Group E and D fluvial coastal sands capped by Pliocene Group A/B marine shales. Sandy formation in Groups I, H, E, and D display high amplitude, continuous seismic signature, shale-prone Groups F and A/B weak amplitude, discontinuous seismic facies. Strong indication of deep reservoir potential below overpressured Group F shales)

Yakzan, M., H. Awalludin, M.N. Bahari & R.J. Morley (1996)- Integrated biostratigraphic zonation for the Malay Basin. Bull. Geol. Soc. Malaysia 39, p. 157-184.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1996015.pdf)
(Biostratigraphic scheme for Malay Basin based on foraminiferal, nannofossil and quantitative palynological data. Stratigraphic relationships in U Oligocene fluvial-lacustrine sediments best determined from miospores and freshwater algae. In E Miocene marine flooding surfaces characterized by benthic foraminifera not age diagnostic, but permit accurate correlations. E-M Miocene boundary marine transgressive unit dated by nannofossils and benthic foram and palynological events. Uppermost Miocene- Pleistocene marine facies dated using planktonic foraminifera and nannofossils)

Yamada, H., T. Kachi, J. Maeda & N. Hashimoto (2008)- Recent exploration and development in the Gulf of Thailand oil and gas fields- Investigation of field developing technology and application of fault seal analysis. J. Japanese Association Petroleum Technology 73, 1, p. 74-82.
(online at: https://www.jstage.jst.go.jp/article/japt/73/1/73_1_74/_pdf/-char/en)
(in Japanese, with English abstract))

Yap, C.B. & R. Wong (1997)- Some possible new exploration ideas in the northern and western Malay Basin of peninsular Malaysia. Proc. ASCOPE 97 Conf., 2, p. 177-192.

Yeo, L.G. (2008)- Investigation of the amount of erosion at the upper Miocene unconformity in the southeastern part of the Malay Basin. M.Sc. Thesis Imperial College, London, p. 1-57. *(Unpublished)*
(Malay Basin underwent inversion period in Late Miocene, which led to erosion and basin-wide unconformity. Erosion greatest in SE basin margin (up to 1400m). Paleogeographic maps support theory that inversion was initiated by rotation of Borneo. Erosion thickness little effect on hydrocarbon generation timing)

Yusak, S.A.M. (2012)- Sedimentological characterization of deeper Group M reservoirs in Malay Basin. Petrol. Geosc. Conf. Exh. (PGCE 2012), Kuala Lumpur, Warta Geologi 38, 2, p. 213.
(Extended Abstract. early Oligocene Group M sediments deposited in early rift continental sequence in braided stream to lacustrine environments)

Zainul, A.J.B. et al. (1999)- Overview of petroleum resources of Malaysia. In: Petronas (1999) The petroleum geology and resources of Malaysia, p. 35-58.

Zhang, J., Y. Lu, B. Shi, N. Xu, G. Fan, F. Lu & D. Shao (2014)- Eocene petroleum play: new petroleum system in northeast Gulf of Thailand. Haiyang Xuebao 36, 7, p. 70-76.
(online at: http://english.hyxb.org.cn/EN/abstract/abstract4519.shtml)
(Chinese with English summary. NE Gulf of Thailand stronger inversion structures than elsewhere, enabling petroleum play with Eocene lacustrine source, Eocene- Oligocene deltaic sandstone reservoirs and Miocene delta front and marine shale seals)

IX.7. South China Sea

Andersen, C., A. Mathiesen, L. H. Nielsen, P. V. Tiem, H. I. Petersen & P. T. Dien (2005)- Distribution of source rocks and maturity modelling in the northern Cenozoic Song Hong Basin (Gulf of Tonkin), Vietnam. J. Petroleum Geol. 28, 2, p. 167-184.
(Oil- source rock correlation indicates coal source for sub-commercial oil and gas accumulations in Miocene deltaic sandstones. Coaly source rock interval entered main oil window prior to formation of Late Miocene inversion traps. Lacustrine mudstones interpreted to be preserved in undrilled NW–SE Paleogene half-grabens NE of Song Lo Fault Zone, based on presence of intervals with continuous, high reflection seismic amplitudes)

Areshev, E.G., T.L. Dong, N.T. San & O.A. Shnip (1992)- Reservoirs in fractured basement on the continental shelf of southern Vietnam. J. Petroleum Geol. 15, 3, p. 451-464.
(Several recent oil- and gas discoveries on continental shelf of S Vietnam in weathered Late Jurassic- E Cretaceous granite- granodiorite reservoirs. Largest field is White Tiger. Fracture porosity reservoir may be >1km thick; oil-water contact not yet located. Flow-rates up to 2000 m3/day. Granitoids overlain by Oligocene- younger argillaceous rocks, 2.5-4.4 km thick (locally up to 8 km). Source rocks mostly E Oligocene argillites (or deep abiogenic origin))

ASCOPE/ CCOP- Asian Council on Petroleum (1981)- Tertiary sedimentary basins of the Gulf of Thailand and South China Sea: stratigraphy, structure and hydrocarbon occurrences. ASCOPE Secretariat, Jakarta, 72p.

Bache, F., P. Despland, R. Johns & Z. Eterovic (2015)- A new tectonostratigraphic model for the evolution of the South China Sea. AAPG Geosciences Technology Workshops, Kota Kinabalu 2015, Search and Discovery Art. 90236, 3p. *(Extended Abstract)*
(online at: www.searchanddiscovery.com/abstracts/pdf/2015/90236apr/abstracts/ndx_bache.pdf)

Bai, Y.L., S.G. Wu, Z. Liu, R.D. Muller, S.E. Williams, S. Zahirovic & D. Dong (2015)- Full-fit reconstruction of the South China Sea conjugate margins. Tectonophysics 661, p. 121-135.
(Restoration of conjugate margins of S China Sea to original Late Cretaceous unstretched geometries. Model suggests more extension of continental basement on W part of conjugate margins relative to E margin prior to initiation of seafloor spreading. Mid ocean ridge initially formed in E and propagated W-ward)

Baillie, P., T.V. Thang, P. Carter, P. Barber & T. Spry (2005)- Petroleum prospectivity in the Indonesia/ Vietnam border region. Proc. 2005 SE Asia Petrol. Expl. Soc. (SEAPEX) Conf., Singapore, 12p.
(TGS Heimdal seismic survey)

Barckhausen, U., M. Engels, D. Franke, S. Ladage & M. Pubellier (2014)- Evolution of the South China Sea: revised ages for breakup and seafloor spreading. Marine Petroleum Geol. 58 B, p. 599-611.
(Continental breakup of S China Sea basin began in latest Cretaceous in NE and propagated S and W over possibly >40 My. Revised interpretation of seafloor spreading anomalies: onset of seafloor spreading in central SCS at 32 Ma. After ridge jump at 25 Ma spreading began in SW sub-basin, ending at 20.5 Ma in entire basin, followed by phase of magmatic seamount formation mainly along abandoned spreading ridge. Seafloor spreading ended probably because due to blocking of subduction zone along E and S margin by collision with N Palawan or part of Dangerous Grounds continental fragment (see also commentary by Chang et al. 2015))

Barckhausen, U., M. Engels, D. Franke, S. Ladage & M. Pubellier (2014)- Reply to Chang et al., 2014, Evolution of the South China Sea: revised ages for breakup and seafloor spreading. Marine Petroleum Geol. 59, p. 679-681.
(Chang et al. (2015) evidence for ~15 Ma end of seafloor spreading in S China Sea, based on age of E Taiwan Ophiolite, may be questioned because it is based on single K-Ar age of questionable accuracy and E Taiwan Ophiolite may not be obducted piece of S China Sea ocean floor)

Barckhausen, U. & H.A. Roeser (2004)- Seafloor spreading anomalies in the South China Sea revisited. In: P. Clift et al. (eds.) Continent-ocean interactions within East Asian marginal seas, American Geophys. Union (AGU), Geophys. Monograph 149, p. 121-125.
(Updated interpretation of seafloor spreading anomalies in S China Sea based on new magnetic data. Symmetric seafloor spreading of 5.6 cm/year full rate began at ~31 Ma at E-W trending ridge in central part of SCS. After ridge jump of ~50 km to S at 25 Ma spreading accelerated to 7.3 cm/ year. Second spreading center became active in SW part of SCS, which remained separated from original spreading axis. Formation of oceanic crust ended at 20.5 Ma at both axes (earlier than generally interpreted age of ~17-16 Ma; JTvG))

Ben-Avraham, Z. & S. Uyeda (1973)- The evolution of the China Basin and the Mesozoic paleogeography of Borneo. Earth Planetary Sci. Letters 18, p. 365-376.
(At least three stages in tectonic evolution of S China Sea basin: (1) N-S extension associated with formation of oceanic crust in middle Mesozoic; (2) and (3) stages of E-W compression associated with closing of China Basin in Tertiary, involving NW movement of Borneo toward Asia with underthrusting along Palawan Trough. Early Mesozoic paleogeographic reconstruction places Borneo adjacent to mainland China and Hainan. Opening of basin explained by simple rotation of small plate, which included Borneo and Natuna Islands)

Blanche, J.B. & J.D. Blanche (1997)- An overview of the hydrocarbon potential of the Spratly Islands archipelago and its implications for regional development. In: A.J. Fraser et al. (eds.) Petroleum geology of Southeast Asia, Geol. Soc., London, Spec. Publ. 126, p. 293-310.
(Hydrocarbon potential of Spratly Islands archipelago relatively unknown and in region of many territorial disputes. Surrounded by oil-producing areas of Vietnam, Natuna, NW Palawan, Luconia Shelf, etc.)

Bochu, Y. (1996)- Tectonic evolution of the South China Sea in Cenozoic. Marine Geol. Quaternary Geol. 16, 2, p. 1-13. *(In Chinese, with English Abstract)*
(S China Sea underlain by Cenozoic oceanic crust. Two episodes of spreading: (1) NW-SE spreading in Late Eocene- E Oligocene (42-35 Ma), producing NW and SW basins; (2) Late Oligocene- E Miocene (32-17 Ma), forming Central Basin. Tectonic evolution controlled by subduction of Pacific plate under Eurasian continent and collision of India plate with Asian continent)

Bochu, Y. (1999)- The geotectonic character of SE Asia and Cenozoic tectonic history of South China Sea. Gondwana Research 2, 4, p. 512-515. *(Extended Abstract)*
(Brief review of SE Asia blocks surrounding S China Sea. Three tectonic movements and two seafloor spreading events in Cenozoic in S China Sea area: (1) late Cretaceous E Tertiary Shenhu movement; (2) Late Eocene- Ey Oligocene Nanhai movement, with seafloor spreading in NW, SW and Zenmu sub-basins, possibly related to collision of Indian plate with Asian plate; (3) late Oligocene- E Miocene second phase of extension, separatiing Liyue-NE Palawan from S China block and forming Central basin. In late M Miocene (~13 Ma), Sulawesi block collided with Great Sunda block, at ~11 Ma, Liyue-NE Palawan block collided with Sulu block)

Bochu, Y., L. Wang, N. Wu & T. Dizhi (2005)- Cenozoic tectonic evolution and the 3D structure of the lithosphere of the South China Sea. Geol. Bull. China 24, 1, p. 1-8. *(In Chinese, with English Abstract)*

Bochu, Y., L. Wang & Z. Liu (2004)- Tectonic dynamics of Cenozoic sedimentary basins and hydrocarbon resources in the South China Sea. Earth Science. J. China University of Geoscience 29, 5, p. 543-549. *(In Chinese, with English Abstract)*

Bojesen-Koefoed, J.A., L.H. Nielsen, H.P. Nytoft, H.I. Petersen, Nguyen Thi Dau et al. (2005)- Geochemical characteristics of oil seepages from Dam Thi Nai, Central Vietnam: implications for hydrocarbon exploration in the offshore Phu Khanh Basin. J. Petroleum Geol. 28, p. 3-18.
(Active oil seepage on E coast of C Vietnam, adjacent to N part of offshore and largely unexplored Phu Khanh Basin. Petroleum generated from Tertiary marine marl source rock)

Bojesen-Koefoed, J.A, H.P. Nytoft & Nguyen Thi Dau (2009)- Petroleum composition in the Cuu Long Basin (Mekong Basin) offshore southern Vietnam. Marine Petroleum Geol. 26, p. 899-908.

(Cuu Long (Mekong) rift basin off S Vietnam important petroleum basin. Oils from four fields are highly paraffinic. Originated from lacustrine source rocks, presumably Oligocene lacustrine shales in syn-rift)

Boubacar, L., J. Ren, J. Zhang & C. Lei (2015)- En echelon faults and basin structure in Huizhou Sag, South China Sea: implications for the tectonics of the SE Asia. J. Earth Science (China) 26, 5, p. 690-699.
(Huizhou sag on N continental margin of S China Sea with en echelon fault distribution at margins of basin, suggesting oblique extension and caused by subduction of Proto-South China Sea towards NW Borneo. Tectonic evolution of basin: rifting (49–32 Ma), post-rift (32–15.5 Ma) and rapid subsidence (15.5-0 Ma))

Boulay, S., C. Colin, A. Trentesaux, S. Clain, Z. Liu & C. Lauer-Leredde (2007)- Sedimentary responses to the Pleistocene climate variations recorded in the South China Sea. Quaternary Research 68, 1, p. 162-172.

Braitenberg, C., S. Wienecke & Y. Wang (2006)- Basement structures from satellite-derived gravity field: South China Sea ridge. J. Geophysical Research 111B, p. 1-15.
(online at: https://www2.units.it/geodin/bib/JGR06.pdf)
(Satellite gravity shows linear feature of ~1000 km length, paralleling S China Sea extinct spreading center. Model crustal thickness between 8-12 km over oceanic, 10- 20 km over continental crust parts of S China Sea. Spreading center is continuous and bends from older E-W orientation to younger SW-NE orientation rather than being made up of two separate axis segments)

Briais, A. & G. Pautot (1990)- Reconstructions of the South China Sea from structural data and magnetic anomalies. In: X. Jin et al. (eds.) Proc. Symposium Recent contributions to the geological history of the South China Sea, Hangzhou 1990, p. 60-70.
(online at: https://epic.awi.de/38705/2/south-china-sea_1990.pdf)
(Oceanic spreading in S China Sea very asymmetric and at least one ridge jump. Spreading probably started at ~26 Ma and stopped synchronously along spreading ridge at ~15.5 Ma. Extension mostly related to extrusion of Indochina Block as consequence of India-Asia collision)

Briais, A., P. Tapponnier & G. Pautot (1989)- Constraints of Sea Beam data on crustal fabrics and seafloor spreading in the South China Sea. Earth Planetary Sci. Letters 95, p. 307-320.

Briais, A., P. Patriat & P. Tapponnier (1993)- Updated interpretation of magnetic anomalies and seafloor spreading stages in the South China Sea; implications for the Tertiary tectonics of Southeast Asia. J. Geophysical Research 98, p. 6299-6328.
(New set of magnetic profiles in NE and SW South China Sea. Spreading between 32-27 Ma created rel. smooth basement, now covered by thick sediments. Ridge jumped S and created rough basement, with thinner sediments than in N, from ~27-16 Ma, while spreading rate was slower. Spreading stopped at ~15.5 Ma. Reconstruction of Oligo-Miocene SE Asia blocks movements tied to extrusion of Indochina after India-Asia collision. Cessation of spreading after 16 Ma synchronous with final increments of left-lateral shear and normal uplift in Ailao Shan (18 Ma) and incipient Australian-Eurasian plates collisions)

Buhring, C., M. Sarnthein & H. Erlenkeuser (2004)- Toward a high-resolution stable isotope stratigraphy of the last 1.1 M.y.: Site 1144, South China Sea. In: W.L. Prell et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results 184, Chapter 2, p. 1-29.
(online at: www-odp.tamu.edu/publications/184_SR/VOLUME/CHAPTERS/205.PDF)
(High-resolution oxygen and carbon stable isotope statigraphy of 518m-long cored Quaternary section of ODP Site 1144 in northern S China Sea. One 5 cm thick layer with Australasian microtektites (386.18- 386.23 mcd) near Brunhes/Matuyama boundary and within transition of lower MIS 19- MIS 20 oxygen isotope stages. Proposed age model layer suggests age of microtektites layer 787 ka. Microtektite layer also in SONNE-95 core 17957 from southern SCS, within MIS 19–20 transition, 10 cm (~11.6 ky) below Brunhes/Matuyama reversal)

Bui Viet Dung (2011)- The Late Quaternary evolution of the southern Vietnamese continental shelf. Ph.D. Thesis, Christian-Albrechts Universitat, Kiel, p. 1-118.
(online at: http://d-nb.info/1013154398/34)

Bui Viet Dung, K. Stattegger, D. Unverricht, P. Van Phach & N.T. Thanh (2013)- Late Pleistocene-Holocene seismic stratigraphy of the Southeast Vietnam Shelf. Global Planetary Change 110, p. 156-169.
(Late Pleistocene-Holocene sequence of SE Vietnam Shelf with basal sequence boundary formed by subaerial exposure during Late Pleistocene sea-level fall and subsequent marine reworking during transgression. Northern incised-valley system narrow and deep V-shape in cross-section (<5 km wide, 10s of m deep) likely result of high-gradient of paleo-shelf. Off Mekong Delta and Ca Mau Peninsula low-gradient paleo-shelf created shallow incised-valleys (5-15 km wide, <15m deep. Lowstand ST prograding outer shelf delta-wedge formed during Last Glacial Maximum. Transgressive ST preserved in incised-valleys, with thickness 15-25m)

Bui Viet Dung, K. Stattegger, N.T. Thanh, P. Van Phach, T.T. Dung & B.X. Thong (2014)- Late Pleistocene-Holocene seismic stratigraphy of Nha Trang shelf, central Vietnam. Marine Petroleum Geol. 58, p. 789-800.
(Two sequences in Late Pleistocene-Holocene on steep and narrow shelf off Nha Trang. Relict beach ridge deposits ~130m below present water depth indicate Last Glacial Lowstand sea level in this area lower than in neighboring areas, probably resulting from subsidence due to high sedimentation rate and/or neotectonic movements of E Vietnam Fault System)

Calvert, S.E., T.F. Pedersen & R.C. Thunnell (1993)- Geochemistry of the surface sediments of the Sulu and South China Seas. Marine Geology 114, p. 207-231.

Cameselle, A.L., C.R. Ranero, D. Franke & U. Barckhausen (2017)- The continent-ocean transition on the northwestern South China Sea. Basin Research 29, S1, p. 73-95.

Cao, Y., C.F. Li & Y. Yao (2017)- Thermal subsidence and sedimentary processes in the South China Sea Basin. Marine Geology 394, p. 30-38.
(Differences in sedimentation rate changes and calculated subsidence between East and SW subbasins of S China Sea. Abrupt increase in sedimentation rates since Pliocene suggestst glacial-interglacial climate variability impacted erosion rates)

Chungkham, P. (2004)- Phu Khanh Basin, a frontier deepwater basin in Vietnam. SEAPEX Press 7, 3, p. 56-69.

Chang, J.H., H.H. Hsieh, A. Mirza, S.P. Chang, H.H. Hsu, C.S. Liu, C.C. Su, S.D. Chiu et al. (2017)- Crustal structure north of the Taiping Island (Itu Aba Island), southern margin of the South China Sea. J. Asian Earth Sci. 142, p. 119-133.
(Taiping Island in Spratly (Nansha) Islands in N part of S margin of SW Sub-basin of S China Sea. Basement highs dominated by fault blocks and volcanic basement structures)

Chang, J.H., T.Y. Lee & H.H. Hsu (2015)- Comment on Barckhausen et al., 2014- Evolution of the South China Sea: revised ages for breakup and seafloor spreading. Marine Petroleum Geol. 59, p. 676-678.
(Youngest available age for fragment of S China Sea (now part of E Taiwan ophiolite) is ~15 Ma, suggesting cessation of S China Sea seafloor spreading more consistent with previous studies than Barckhausen et al (2014) suggested age of 20.5 Ma (validity of K-Ar dating and interpretion of E Taiwan Ophiolite as piece of S China Sea oceanic crust questioned by Barckhausen et al. 2015; Reply))

Choi, T. & J. McArdle (2015)- Hydrocarbon prospectivity of the deep water Phu Kanh Basin. AAPG Asia Workshop, Tectonic evolution and sedimentation of South China Sea region, Kota Kinabalu, Sabah, Search and Discovery Art. 10751, 2p. *(Extended Abstract)*
(online at: www.searchanddiscovery.com/documents/2015/10751choi/ndx_choi.pdf)
(Frontier Phu Khanh Basin, offshore Vietnam, at transition zone between Indochina block and S China Sea margin. Post-2008 deep water wells proved working petroleum system. Two main depocentres with two syn-rift phases (Late Eocene- Oligocene and E-M Miocene). Several Late Oligocene inverted structures, related to opening of S China Sea. Basin history similar to NW Palawan Basin. Play types include basement play, Miocene reefal buildups, U Micene-Pliocene turbidite fans and Oligocene- E Miocene syn-rift clastics under major Mid-Miocene unconformity)

Chung, S.L., H. Cheng, B.M. Jahn, S.Y. OóReilly & B. Zhu (1997)- Major and trace element and Sr-Nd isotope constraints on the origin of Paleogene volcanism in South China prior to the South China Sea opening. Lithos 40, p. 203-220.
(Paleogene volcanics crop out in Sanshui, Heyuan and Lienping basins, in attenuated continental margin of S China. Bimodal lavas from Sanshui basin (64-43 Ma) bimodal, geochemically similar to Cretaceous A-type granites from nearby region. Paleogene volcanic activities resulted from lithospheric extension in S China that migrated S and eventually led to opening of S China Sea during ~ 30-16 Ma)

Clift, P.D. (2015)- Coupled onshore erosion and offshore sediment loading as causes of lower crust flow on the margins of South China Sea. Geoscience Letters 2, 13, p. 1-11.
(online at: https://link.springer.com/article/10.1186/s40562-015-0029-9)
(Several basins around S China Sea with accelerated phases of basement subsidence associated with phases of fast erosion onshore and deposition of thick sediments offshore, causing flow of ductile crust from offshore towards continental interior after end of active extension, partly reversing flow during continental breakup)

Clift, P.D. (2016)- Assessing effective provenance methods for fluvial sediment in the South China Sea. In: P.D. Clift et al. (eds.) River-dominated shelf sediments of East Asian seas, Geol. Soc., London, Spec. Publ. 429, p. 9-29.
(online at: http://www.geol.lsu.edu/pclift/pclift/Publications_files/2015_Clift_GSSP.pdf)
(Thermochronology methods best suited for provenance analysis in S China Sea are, especially apatite fission track, which shows more diversity in sources than U-Pb zircon or Ar/Ar muscovite dating. Triassic Indosinian ages very common in many of source regions)

Clift, P.D., S. Brune & J. Quinteros (2015)- Climate changes control offshore crustal structure at South China Sea continental margin. Earth Planetary Sci. Letters 420, p. 66-72.
(online at: http://earthbyte.org/Resources/Pdf/Clift_etal_2015_Climate_changes_control_offshore_crustal_structure_SouthChinaSea.pdf)
(Rifted continental lithosphere subsides as consequence of combined crustal thinning and mantle lithosphere cooling, but some continental margin basins experience anomalous subsidence after active extension. Deep basins on N margin of S China Sea (Baiyun Sag, etc.) show basement subsidence accelerating after ~21 Ma, postdating extension by several million years. Sediment loading by increased sediment flux after faster onshore erosion following E Miocene monsoon intensification is viable trigger for ductile flow after active extension)

Clift, P., G.H. Lee, N.A. Duc, U. Barckhausen, H.V. Long & S. Zhen (2008)- Seismic reflection evidence for a Dangerous Grounds miniplate: no extrusion origin for the South China Sea. Tectonics 27, TC3008, p. 1-16.
(S boundary of Dangerous Grounds is subduction zone that jammed in M Miocene. Dangerous Grounds bounded by strike-slip zone, also active until ~16 Ma. W Baram Line originates as strike-slip fault in Dangerous Grounds and continuous with Red River Fault Zone. Because Dangerous Grounds independent of Sundaland until ~16 Ma, extrusion impossible as mechanism to rift S China Sea. SE motion by Dangerous Grounds and Sundaland suggests subduction (slab rollback?) main trigger for plate motions. Reconstruction places ~280km upper limit on motion on Red River Fault and ~1400km width to Paleo-S China Sea)

Clift, P. & J. Lin (2001)- Preferential mantle lithospheric extension under the South China margin. Marine Petroleum Geol. 18, p. 929-945.
(online at: www.whoi.edu/science/GG/people/jlin/papers/Clift&Lin_M&P.Geol.2001.pdf)
(Continental rifting in northern S China Sea culminated in seafloor spreading at ~30 Ma (Late Oligocene). Basin and margins classic break-up in juvenile arc crust environment. Extension of crust exceeded that in mantle lithosphere under S China Shelf, but depth-dependent extension rather than lithospheric-scale detachment. Timing of major extension is mid-late Eocene- Late Oligocene (~45-25 Ma))

Clift, P., J. Lin & U. Barckhausen (2002)- Evidence of low flexural rigidity and low viscosity lower continental crust during continental break-up in the South China Sea. Marine Petroleum Geol. 19, 8, p. 951-970.

(S China Sea formed by seafloor spreading in Late Oligocene at ~30 Ma following series of extensional events within Mesozoic continental arc crust. Study of faults on seismic reflection profiles from margins. Forward models based on upper crustal faulting underpredicted subsidence, especially towards continent-ocean transition (COT). Interpreted to indicate preferential extension of continental lower crust along COT on both margins. Forward models based on upper crustal faulting support idea of very weak continental crust)

Clift, P.D., J. Lin & ODP Leg 184 Scientific Party (2001)- Patterns of extension and magmatism along the continent-ocean boundary, South China margin. In: R.C.L. Wilson, R.B. Whitmarsh et al. (eds.) Non-volcanic rifting of continental margins: a comparison of evidence from land and sea, Geol. Soc. London, Spec. Publ. 187, p. 489-510.
(Early Oligocene sea-floor spreading in S China Sea preceded by Maastrichtian and Mid-Eocene continental extension that generated rift basins on margin and outer structural high. Seismic evidence of rift-related volcanic rocks~25 km landward of continent-ocean boundary. S China margin may be intermediate type of continental extension between Iberia-type non-volcanic and Greenland-type volcanic margin)

Clift, P.D. & Z. Sun (2001)- The sedimentary and tectonic evolution of the Yinggehai-Song Hong basin and the southern Hainan margin, South China Sea: implications for Tibetan uplift and monsoon intensification. J. Geophysical Research 111, B06405, 28p.
(Yinggehai-Song Hong large pull-apart basin along Red River fault zone in South China Sea, cross-cutting rifted margin of northern South China Sea. Basins started to open after ~45 Ma, especially after ~34 Ma. Yinggehai basin folded and inverted in M Miocene, after 21 Ma in N and 14 Ma in S, rapidly subsiding again after ~5 Ma. Sediment supply peak in M Miocene. Major uplift in Red River drainage in M Miocene or older)

Collins, D.S., A. Avdis, P.A. Allison, H.D. Johnson, J. Hill, M.D. Piggott, M.H.A. Hassan & A.R. Damit (2017)- Tidal dynamics and mangrove carbon sequestration during the Oligo-Miocene in the South China Sea. Nature Communications 8, 15698, p. 1-12.
(online at: https://www.nature.com/articles/ncomms15698.pdf)
(Evaluation of processes controlling productivity and preservation of mangrove-bearing successions in Oligo-Miocene of basins of S China Sea (Vietnam, Gulf of Thailand, N Borneo). High tidal ranges optimize mangrove development along tide-influenced tropical coastlines. Preservation of mangrove organic carbon promoted by high tectonic subsidence and fluvial sediment supply)

Cossey, S.P.J. & W.T. Valenta (1984)- Seismic hydrocarbon indicators in South China Sea. Oil and Gas J., 13 June 1984, p. 212-224.

Cullen, A., P. Reemst, G. Henstra, S. Gozzard & A. Ray (2010)- Rifting of the South China Sea: new perspectives. Petroleum Geoscience 16, 3, p. 273-282.
(Oligocene seafloor spreading and rift propagation in S China Sea critical tectonic events that overprint earlier regional extension. Two models proposed to explain opening of S China Sea. Sarawak Orogeny attributed to Eocene-Early Oligocene collision of Dangerous Grounds-Reed Bank with Sabah and Palawan. Oligo-Miocene subduction of oceanic crust under NW Borneo is minimal. Sabah Orogeny and younger inversion events related to underthrusting of Dangerous Grounds driven by both opening of the South China Sea and NW-directed subduction beneath SE Sabah in Semporna-Dent Peninsula)

Cuong, T.X. & J.K. Warren (2009)- Bach Ho field, a fractured granitic basement reservoir, Cuu Long basin, offshore SE Vietnam: a "buried-hill" play. J. Petroleum Geol. 32, 2, p. 129-156.
(Bach Ho field originally discovered by Mobil in 1975. Producing since mid-1980's from Late Cretaceous granite-granodiorite, associated with major NE-SW Late Oligocene transpressional fault with ~2000m of lateral displacement cross-cutting Central Block. 1000m liquids column, effective porosities 3-5%)

Dao, D.V. & T. Huyen (1995)- Heat flow in the oil basins of Vietnam. CCOP Techn. Bull. 25, p. 55-61.

Delescluse, M., T. Pichot, N. Chamot-Rooke, M. Pubellier, Y. Qiu, G. Sun, J. Wang & J.L. Auxietre (2015)- Seismic imaging of the SW South China Sea deep crustal structure shows evidence for a ductile lower crust

during rifting. AAPG Workshop 'Tectonic evolution and sedimentation of South China Sea region', Kota Kinabalu, Search and Discovery Art. 30404, 36p. *(Abstract + Presentation)*
(online at: www.searchanddiscovery.com/documents/2015/30404delescluse/ndx_delescluse.pdf)
(S China Sea very wide rifted continental crust margins (~400 km in N, nearly 800 km in SW). Rift-related normal faults of S China Sea rooted in mid-lower-crustal detachment. Extension of SW SCS margins distributed on small-scale and large-scale normal faulting with spacing of ~15-30 km and ~45-90 km, respectively, probably related to presence of competent layers (upper-middle crust and shallow upper mantle) separated by ductile lower crust)

Dien, Phan Trung (1995)- Some Cenozoic hydrocarbon bearing basins on the continental shelf of Vietnam. Bull. Geol. Soc.Malaysia 37, p. 33-54.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1995a03.pdf)
(Offshore basins of Vietnam contain hydrocarbon traps in Tertiary sediments and Pre-Cenozoic fractured basement (with Oligocene source rock and topseal). Basement composed of U Jurassic-Eocene meta-molasses and plutonic-volcanic arcs (45-168 Ma). Sedimentary basins continental shelf filled by Oligocene-Miocene marine and deltaic sediments, related to rifting of S China Sea. Main basins Cuulong, Nam Con Son)

Dien, P.T. (1996)- Some pre-Cenozoic petroleum plays on the continental shelf of Vietnam. Petrovietnam Rev. 1, p. 7-20.

Dien, P.T., C. Andersen, L.H. Nielsen, N.H. Quy, P.V. Tiem & P.S. Tai (2000)- Basin analysis and petroleum system of the Song Hong Basin. Proc. 36th Sess. Coord. Comm. Coastal and Offshore Progr. E and SE Asia (CCOP), Hanoi 1999, p. 1-33.
(Song Hong Basin series of complexly faulted sub-basins on NW margin S China Sea. In NE area oil play in U Devonian- Lw Carboniferous fractured carbonates, sourced from juxtaposed Oligocene syn-rift lacustrine shales. Also U Oligocene- Miocene clastics play)

Dien, P.T., P.S. Tai & N. Van Dung (1997)- Basin analysis and petroleum system of the Cuu Long Basin on the continental shelf of Vietnam. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Petroleum Systems of SE Asia and Australasia Conf., Indon. Petroleum Assoc. (IPA), Jakarta 1997, p. 521-529.

Ding, W.W., D. Franke, J.B. Li & S. Steuer (2013)- Seismic stratigraphy and tectonic structure from a composite multi-channel seismic profile across the entire Dangerous Grounds, South China Sea. Tectonophysics 582, p. 162-176.
(500km long seismic profile across Dangerous Grounds and S China Sea. Two major phases of extension, separated by unconformity, which likely corresponds with beginning of sea-floor spreading in S China Sea. Early extension during continental rifting (Late Cretaceous- E Oligocene), with formation of half-grabens and rotated blocks. Extension continued in Late Oligocene- E Miocene. Dangerous Grounds magma-poor rift system at initial stage of mantle unroofing. Widespread carbonate platform developed across Dangerous Grounds, concurrent with seafloor spreading in SW Subbasin of S China Sea)

Ding, W.W. & J.B. Li (2011)- Seismic stratigraphy, tectonic structure and extension factors across the Dangerous Grounds: evidence from two regional multi-channel seismic profiles. Chinese J. Geophysics 54, 6, p. 921-941.
(online at: www.agu.org/wps/ChineseJGeo/54/06/dww.pdf)
(Two regional NW-SE seismic lines from Dangerous Grounds area to Borneo. Five tectono-stratigraphic units recognized, the SCS, together with seven sequence boundaries. Main extension during E Tertiary continental rifting and resulted in formation of half-grabens and rotated blocks, controlled by deeply rooted detachment system. Late Oligocene- E Miocene second extension phase)

Ding, W.W. & J.B. Li (2016)- Conjugate margin pattern of the Southwest Sub-basin, South China Sea: insights from deformation structures in the continent-ocean transition zone. Geological Journal 51, S1, p. 524-534.
(online at: http://onlinelibrary.wiley.com/doi/10.1002/gj.2733/pdf)

Ding, W.W., J.B. Li, P.D. Clift & IODP Exp. 349 Scientists (2016)- Spreading dynamics and sedimentary process of the southwest Sub-basin, South China Sea: constraints from multi-channel seismic data and IODP Expedition 349. J. Asian Earth Sci. 115, p. 97-113.
(online at: www.whoi.edu/fileserver.do?id=226584&pt=2&p=68128)
(S China Sea three basement domains: hyper-stretched crust, exhumed subcontinental mantle and steady state oceanic crust. SW subbasin has asymmetric geometry and experienced detachment faulting in final stage of continental rifting and exhumation of continental mantle lithosphere. Mantle lithospheric breakup post-dates crustal separation, delaying establishment of oceanic spreading and steady state crust production)

Ding, W.W., J.B. Li, C. Dong & Y. Fang (2015)- Oligocene-Miocene carbonates in the Reed Bank area, South China Sea, and their tectono-sedimentary evolution. Marine Geophysical Res. 36, 2-3, p. 149-165.
(In Reed Bank area wide carbonate platform, developed in Late Oligocene and E Miocene (32-20 Ma), concurrent with opening of South China Sea. Top carbonates is regional unconformity, marking cessation of seafloor spreading with erosional/non-depositional hiatus, spanning 3 or My. Sharp increase in subsidence rate after end of spreading (17 Ma), causing carbonate platforms drowning, except at some structural highs where carbonate sedimentation continued to M Miocene)

Ding, W.W., J.B. Li, C. Dong, Y. Fang, Y. Tang & J. Fu (2014)- Carbonate platforms in the Reed Bank Area, South China Sea: seismic characteristics, development and controlling factors. Energy Exploration & Exploitation 32, 1, p. 243-261.
(Seismic characteristics of Late Oligocene- E Miocene carbonate platforms and other reef types in Reed Bank area. Reefal carbonate build-ups continued in structural highs almost up to M Miocene and to present in Reed Bank. Development of platforms and reefs controlled by tectonics and sea level. Thermal subsidence after cessation of S China Sea opening in E Miocene and rising sea level drowned carbonate platforms)

Ding, W.W., Z. Sun, K. Dadd, Y. Fang & J.B. Li (2018)- Structures within the oceanic crust of the central South China Sea basin and their implications for oceanic accretionary processes. Earth Planetary Sci. Letters 488, p. 115-125.
(online at: https://www.sciencedirect.com/science/article/pii/S0012821X18300736)
(On bright reflectors within Oligocene- M Miocene oceanic crust of S China Sea. Dipping reflectors generally confined to lower crust above Moho reflection)

Dmitriyevskiy, A.N., F.A. Kireyev, R.A. Bochko & T.A. Fedorova (1993)- Hydrothermal origin of oil and gas reservoirs in Basement rock of the South Vietnam continental shelf. Int. Geology Review 35, 7, p. 621-630.
(Oil-saturated granites, with mineral parageneses typical of hydrothermal metasomatism and leaching haloes, near faults in crystalline basement of S Vietnam continental shelf. Presence of native silver, barite, copper, etc., indicates deep origin for mineralizing fluids)

Dong, D.D., S.G. Wu, J.B. Li & T. Ludmann (2014)- Tectonic contrast between the conjugate margins of the South China Sea and the implication for the differential extensional model. Science China Earth Sciences 57, 6, p. 1415-1426.
(Conjugate margins of S China Sea strongly asymmetric)

Dorobek, S.L. (2000)- Cenozoic carbonate buildups of the South China Sea and the early post-rift history of passive continental margins. Geol. Soc. America (GSA), Ann. Mtg. 2000, Abstracts with Programs 32, 7, p. 226. *(Abstract only)*
(S China Sea underlain by Paleogene rifted continental and young (32-15 Ma) oceanic crust. Extensional basement highs became nucleation sites for carbonate sedimentation during latest syn-rift to early post-rift phases. Longest lived, largest and thickest buildups in most offshore rift basins. Large isolated platforms commonly coalescence from smaller buildups. Growth of buildups strongly influenced by long-term subsidence. Many of farthest offshore buildups still growing today. Termination of more inboard Cenozoic buildups due to hypernutrification or increasing turbidity from major river systems. Only in offshore Palawan and E parts of Dangerous Grounds tectonic subsidence rates rapid enough to drown carbonate buildups)

Du Bois, E.P. (1981)- Review of principal hydrocarbon-bearing basins of the South China Sea area. Energy 6, 11, p. 1113-1140.
(S China Sea area basins include: Thai, Malay, West Natuna and Penyu, Saigon and Mekong (Vung Tau), E Natuna, Greater Sarawak including C Luconia and Balingian provinces, Baram Delta/Brunei-Sabah and NW Palawan Shelf. Hydrocarbons commonly associated with M and Upper Miocene age rocks. Oligocene and Pliocene occurrences locally significant.)

Du Bois, E.P. (1985)- Review of principal hydrocarbon-bearing basins around the South China Sea. Bull. Geol. Soc. Malaysia 18, p. 167-209.
(online at: www.gsm.org.my/products/702001-101139-PDF.pdf)
(Review of ~12 basins around S China Sea in Thailand (Kharat, Thai), Malaysia (Malay, Penyu), Vietnam, N Borneo, E and W Natuna, Sarawak, Brunei-Sabah and NW Palawan)

Emery, K.O. & Z. Ben-Avraham (1972)- Structure and stratigraphy of China Basin. American Assoc. Petrol. Geol. (AAPG) Bull. 56, 5, p. 839-859.
(Early seismic interpretation of S China Sea. Acoustic basement in S part of basin that may be continuation of igneous and metamorphic rocks beneath adjacent shelf which were peneplaned during Late Cretaceous- Early Cenozoic. More irregular basement in N of basin may be oceanic basement, etc.)

Emery, K.O. & Z. Ben-Avraham (1972)- Structure and stratigraphy of the China Basin. United Nations ECAFE, CCOP Techn. Bull. 6, p. 117-140.
(Same paper Emery & Ben-Avraham (1972) above)

Fang, P., W. Ding, Y. Fang & Z. Zhao (2017)- Cenozoic tectonic subsidence in the southern continental margin, South China Sea. Frontiers of Earth Science 11, 2, p. 427-441.
(Tectonic subsidence history from seismic profiles across Dangerous Grounds and Reed Bank area in S China Sea. Delay of tectonic subsidence after break-up, likely related to major mantle convection during seafloor spreading. Stage with delayed subsidence rate in Reed Bank area 32-23.8 Ma, in the Dangerous Grounds 19-15.5 Ma, tied to rift propagation)

Flower, M.F.J., M. Zhang, C.Y. Chen, Kan Tu & G. Xie (1992)- Magmatism in the South China Basin: 2. Post-spreading Quaternary basalts from Hainan Island, south China. Chemical Geol. 97, p. 65-87.
(Cenozoic magmatism on N Hainan Island post-dates opening of S China Sea Basin. Tholeiite lava flows from WSW-ENE-trending fissures and interlayered with M Miocene-Quaternary sediments, forming 200-1000m sequence. With time basalts change from thin intercalated quartz tholeiite and alkali olivine basalt flows to more massive olivine tholeiites. Hainan basalts resemble Dupal-type oceanic island basalt)

Fontaine, H. (1980)- Pre-Tertiary hydrocarbon potential of the South China Sea. Proc. 17th Sess. CCOP, Bangkok 1980, p. 304-321.

Fontaine, H. & M. Mainguy (1981)- Pre-Tertiary hydrocarbon potential of the South China Sea. In: Proc. EAPI/CCOP Workshop, Energy 6, 11, p. 1165-1177.
(Mainly brief review of Paleozoic-Mesozoic geology of mainland SE Asia, Sumatra, Borneo and The Philippines. To NW and SE of S China Sea shows and potential have been noted in pre-Tertiary sections)

Fontaine, H. & M. Mainguy (1985)- Pre-Tertiary oil and gas potential in the South China Sea. In: Proc. 2nd EAPI/CCOP Workshop, Energy 10, 3-4, p. 403-412.
(Mainly addendum to paper above on distribution of pre-Tertiary sediments in SE Asia and petroleum potential. Permian limestone section probably best target for petroleum exploration. Pre-Tertiary rocks probably gas prone)

Franke, D. (2013)- Rifting, lithosphere breakup and volcanism: comparison of magma-poor and volcanic rifted margins. Marine Petroleum Geol. 43, p. 63-87.

(Volcanic rifted margins evolve by extension accompanied by extensive extrusive magmatism during breakup, (up to 15km volcanic flows, seaward dipping reflectors). Magma-poor rifted margins with wide domains of extended crust (rotated faults blocks with detachment surfaces near base of continental crust), but limited magmatism. South China Sea intermediate between above end-members, with basin-and-range type rifting followed by formation of oceanic crust)

Franke, D., U. Barckhausen, N. Baristeas, M. Engels, S. Ladage, R. Lutz, J. Montano, N. Pellejera, E.G. Ramos & M. Schnabel (2011)- The continent-ocean transition at the southeastern margin of the South China Sea. Marine Petroleum Geol. 28, 6, p. 1187-1204.
(S China Sea created by magma-poor rifting in Paleogene. Study of continent-ocean transition (COT) at S margin off NW Palawan between continental blocks of Reed Bank and Palawan- Calamian islands. Two major NE trending rifted basins. Continent-ocean transition interpreted at seaward limit of continental crust, but magnetic spreading anomalies terminate ~80-100 km farther N. Area in-between extensive volcanism (dykes, extrusive basaltic lava flows, occurring after breakup). COT varies from distinct outer ridge with steep seafloor relief to rotated fault blocks and half-grabens above eroded pre-rift basement and no seafloor relief. Gravity modelling shows extremely thinned crust across shelf)

Franke, D., D. Savva, M. Pubellier, S. Steuer, B. Mouly, J.L. Auxietre, F. Meresse & N. Chamot-Rooke (2014)- The final rifting evolution in the South China Sea. Marine Petroleum Geol. 58, B, p. 704-720.
(S China Sea ~30-40 Myrs of rifting. Initial latest Cretaceous- E Paleocene rift architecture preserved at distal margins. Rift basins bounded to crustal blocks by listric normal faults on either side and with Moho uplifts under major rift basins. Most basin-bounding faults sole out in middle crust. Only in region within ~50 km from Continent-Ocean Transition normal faults reach mantle, dipping seaward or landward, which may indicate presence of exhumed mantle bordering continental margins. Post-rift (Oligocene-E Miocene) platform carbonates indicate delay in subsidence during rifting. Symmetric process predominate in initial rift stage. Considerable along-margin variations suggested, with alternating 'upper and lower plate' margins. Breakup in major E subbasin of SCS in E Oligocene, breakup of SW subbasin in Late Oligocene)

Funnell, R., R. Allis & T. Huyen (1997)- Thermal regimes in two Vietnamese basins, Cuu Long and Nam Con Son, and implications for hydrocarbon generation. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Petroleum systems of SE Asia and Australasia Conf., Indon. Petroleum Assoc. (IPA), Jakarta 1997, p. 499-509.
(Steady-state surface heat flow ~70 ± 5 mW/m2 for hydrocarbon-producing Cuu Long Basin and 80 ± 8 mW/m2 for Nam Con Son Basin about 100 km to SE)

Fyhn, M.B.W., L.O. Boldreel & L.H. Nielsen (2009)- Tectonic and climatic control on growth and demise of the Phanh Rang carbonate platform offshore south Vietnam. Basin Research 21, 2, p. 225-251.
(Phanh Rang carbonate platform offshore S Vietnam >15,000 km2, one of largest in S China Sea. Platform growth initiated in late M Miocene and terminated in Pliocene. Late Miocene regional uplift and subaerial exposure, causing karstification. Deteriorated growth conditions and fast subsidence resulted in platform split-up, backstepping and local drowning. Isolated platforms nucleated on structural highs as transgression continued. Longest surviving platform now crops out at seafloor at ~500m depth)

Fyhn, M.B.W., L.O. Boldreel & L.H. Nielsen (2009)- Geological development of the central and south Vietnamese margin: implications for the establishment of the South China Sea, Indochinese escape tectonics and Cenozoic volcanism. Tectonophysics 478, p. 184-214.
(Vietnamese margin of S China Sea underlain by Paleogene rift basins established through SE-ward extrusion of Indochina. Late Oligocene, basin inversions offshore contemporaneously with initial right-lateral inversion along Mae Ping Shear Zone and onset of major uplift of metamorphic core complexes, probably in response to N-ward movement of India. Renewed rifting offshore after jump of SCS spreading axis and Neogene SW-ward propagation of continental break-up, consequence of slab-pull associated with subduction of proto-SCS under Borneo. Rifting and continued until end M Miocene. Termination of seafloor spreading marked by latest M Miocene unconformity in Nam Con Son and Phu Khanh basins. Neogene volcanism)

Fyhn, M.B.W., L.O. Boldreel, L.H. Nielsen, T.C. Giang, L.H. Nga, N.T.M. Hong, N.D. Nguyen & I. Abatzis (2013)- Carbonate platform growth and demise offshore Central Vietnam: effects of Early Miocene transgression and subsequent onshore uplift. J. Asian Earth Sci. 76, p. 152-168.
(Miocene carbonate platforms off C Vietnam mainly on two regional platforms separated by E Vietnam Boundary Fault Zone: (1) Tuy Hoa Platform to W (platform growth E-M Miocene, terminated by M Miocene time regional uplift/ subaerial exposure) (2) Triton Platform in E (also initiated in E Miocene, partial drowning in M Miocene; repeated partial drowning events through M-L Miocene resulted in W-wards retreat of platform growth and eventual platform drowning and termination of carbonate deposition). Modern carbonate growth continues on isolated platforms of Paracel Islands)

Fyhn, M.B.W., L.H. Nielsen, L.O. Boldreel, L.D. Thang, J. Bojesen-Koefoed, H.I. Petersen, T.H. Nguyen et al. (2009)- Geological evolution, regional perspectives and hydrocarbon potential of the northwest Phu Khanh Basin, offshore Central Vietnam. Marine Petroleum Geol. 26, p. 1-24.
(Seismic stratigraphic and structural analyses of NW Phu Khanh Basin, off C Vietnam. Initial rifting in latest Cretaceous? or Paleogene controlled by left-lateral transtension. Rifting stopped due to M Oligocene transpression but resumed by left-lateral transtension in Late Oligocene. Thick lacustrine and alluvial sediments deposited in Paleogene rift periods. Late Oligocene rifting ended due to inversion, triggered by right-lateral wrenching near Oligo-Miocene boundary. Direct Hydrocarbon Indicators and oil-gas seeps)

Fyhn, M.B.W., L.H. Nielsen, H.I. Petersen, A. Mathiesen, L.O. Boldreel, J.A. Bojesen-Koefoed, H.P. Nytoft et al. (2010)- Geological evolution and aspects of the petroleum potential of the underexplored parts of the Vietnamese margin. Petrovietnam Journal 10, p. 2-19.
(online at: www.vpi.pvn.vn/Upload/TapChi/TCDK20110522080147.pdf)
(Vietnamese margin includes underexplored basins with significant hydrocarbon potential. Review of origin and petroleum potential of Song Hong, Phu Khanh, Malay-Tho Chu and Phu Quoc basins. Jurassic-Cretaceous magmatic arc (Paleo-Pacific subduction) underlies part of Vietnamese margin. Phu Quoc basin formed in response to magmatic arc and was inverted during Paleocene- E Eocene, plate collision. Eocene-Oligocene left-lateral strike-slip faulting along margin resulted in rifting and source-rock deposition. Widespread Miocene carbonate deposition along E Vietnamese margin. Magmatism affected the margin from Early Neogene; associated Late Neogene onshore uplift and denudation promoted offshore sedimentation)

Fyhn, M.B.W., H.I. Petersen, A. Mathiesen, L.H. Nielsen, S.A.S. Pedersen, S. Lindstrom, J.A. Bojesen-Koefoed, I. Abatzis & L.O. Boldreel (2010)- Vietnamese sedimentary basins: geological evolution and petroleum potential. Geol. Survey Denmark and Greenland Bull. 20, p. 91-94.
(online at: www.geus.dk/publications/bull/nr20/nr20_p091-094.pdf)
(Review of two Vietnam Gulf of Thailand basins. Phu Quoc basin up to 4km of mainly non-marine Late Jurassic- Lower Cretaceous sediments, bordered in E by Jurassic-Cretaceous magmatic arc, unconformably overlain by Eocene-Neogene. AFTA data suggest Late Paleocene- E Eocene cooling, corresponding to uplift and denudation in response to thrust faulting and basin inversion. Malay-Tho Chu basin initiated between M-L Eocene, with mainly NNW-trending rifts)

Fyhn, M.B.W., H.I. Petersen, L.H. Nielsen, T.C. Giang, L.H. Nga, N.T.M. Hong, N.D. Nguyen & I. Abatzis (2012)- The Cenozoic Song Hong and Beibuwan Basins, Vietnam. Geol. Survey Denmark and Greenland Bull. 26, p. 81-84.
(online at: www.geus.dk/publications/bull/nr26/nr26_p81-84.pdf)
(Song Hong Basin offshore Vietnam in NW part of S China Sea with up to 15-20 km of Cenozoic sediment. Not clear yet whether this part of Vietnam margin is transform margin or oblique rift margin. Inverted Eo-Oligocene syn-rift succession outcrops on Bach Long Vi island 500m core demonstrates thick lacustrine section with oil-prone source-rock with 2-7% total organic carbon)

Glass, B.P. & C. Koeberl (2006)- Australasian microtektites and associated impact ejecta in the South China Sea and the Middle Pleistocene supereruption of Toba. Meteoritics Planetary Science 41, 2, p. 305-326.
(Australasian microtektites and associated unmelted ejecta in ODP holes in central S China Sea. Hole 1144A highest microtektites abundance of any known Australasian microtektite site, associated with partly melted

particles with fractured mineral inclusions, probably close to source crater, possibly near 22° N/ 104° E. Parent material for Australasian tektites may be fine-grained (Jurassic?) sedimentary deposit. Size of source crater 43 ± 9 km, based on thickness of ejecta layers and distance from proposed source. Rhyolitic volcanic ash layer just above microtektite layer may be from supereruption of Toba caldera complex ~800 ka ago)

Granath, J.W., W.G. Dickson, J.M. Christ & M.E. Odegard (2004)- Exploration-scale features from high resolution gravity and topographic datasets and their derivatives. In: R.A. Noble et al. (eds.) Proc. Deepwater and Frontier Exploration in Asia & Australia Symposium, Jakarta, Indon. Petroleum Assoc. (IPA), DFE04-PO-052, 11p.
(High-resolution gravity survey examples, mainly from S China Sea)

Guan, D., X. Ke & Y. Wang (2016)- Basement structures of East and South China Seas and adjacent regions from gravity inversion. J. Asian Earth Sci. 117, p. 242-255.

Hao, F. (1988)- Cenozoic reefs- new targets for oil fields in the northern part of the South China Sea. In: H.C. Wagner et al. (eds.) Petroleum Resources of China and related subjects, Circum-Pacific Council for Energy Mineral Resources, Earth Science Series, Houston, 10, p. 199-218.
(Seismic examples of Cenozoic reefs in Pearl River Mouth Basin and Yinggehai Basin in N part of S China Sea)

Hayes, D.E. & S.S. Nissen (2005)- The South China Sea margins: implications for rifting contrasts. Earth Planetary Sci. Letters 237, p. 601-616.
(Dramatic differences in crustal thicknesses along margin of S China. Continental crustal extension much less along E and C segments than W segment of margin. Differences accommodated by early formation of oceanic crust adjacent to E margin, with continued extension of continental crust to W. Two models predict oceanic crust of SCS basin toward W not forming until 6-12 My after initial formation to E (~32 Ma). Total crustal extension ~1100 km, remarkably consistent for all segments)

He, E., M. Zhao, X. Qiu, J.C. Sibuet, J. Wang & J. Zhang (2016)- Crustal structure across the post-spreading magmatic ridge of the East Sub-basin in the South China Sea: tectonic significance. J. Asian Earth Sci. 121, p. 139-152.
(Last phase of opening of S China Sea ~N145° direction of spreading. Seafloor spreading features of East Subbasin cut by post-spreading volcanic ridge, ~E-W in W part (Zhenbei-Huangyan seamounts chain))

He, L., K. Wang, L. Xiong & J. Wang (2001)- Heat flow and thermal history of the South China Sea. Physics Earth Planetary Interiors 126, p. 211-220.
(Heatflow values from S China Sea widely scattered, with mean of 77 mW/m2. Heat flow increases gradually from N margin to central basin, with two high heat flow centers. S margin average heat flow 80 mW/m2, similar to N margin. W margin (Manila trench) average 49 mW/m2. Thermal history inferred from multistage pure-shear extension model shows that since Late Miocene basement heat flow increased as result of greater extension. Present-day high heat flow primarily result of Pliocene extension)

He, L., J. Wang, X. Xu, J. Liang, H. Wang & G. Zhang (2009)- Disparity between measured and BSR heat flow in the Xisha Trough of the South China Sea and its implications for the methane hydrate. J. Asian Earth Sciences, 34, p. 771-780.
(Calculated heat flow from depth of bottom-simulating seismic reflectors (BSRs) on seismic profile in Xisha Trough of S China Sea (32-80 mW/m2) lower than measured heat flow (83-112 mW/m2). Disparity between measured and BSR heat flows may be due to theoretical error. Based on the theoretical model, assuming that the BSR lying at the top of the free gas zone, the methane flux along the Xisha seismic profile is estimated, and the thickness of the methane hydrate occurrence zone is predicted.

Hinz, K. & H.U. Schluter (1985)- Geology of the Dangerous Grounds, South China Sea, and the continental margin of southwest Palawan: results of Sonne cruises SO-23 and SO-27. Energy 10, p. 297-315.
(Seismic, magnetic and gravity data recorded along 51 profiles in SE part of S China Sea (Dangerous Grounds, Palawan Trough), combined with geological sampling. Five unconformities: (1) Miocene-Pliocene; (2) M

Miocene, coinciding with end of seafloor spreading in S China Sea; (3) Lower Miocene, which often marks top of carbonate platform; (4) M-U Oligocene, representing transition from rift to drift phase in S China Sea; (5) Cretaceous-Paleocene, interpreted as onset of rifting. Dangerous Grounds and parts of Palawan Trough underlain by stretched continental crust. Oldest rocks in Dangerous Grounds of U Triassic-Jurassic age. U Oligocene- Lower Miocene carbonate platform extends from Dangerous Grounds E beneath Palawan Trough and C-S Palawan shelf. C-S Palawan part of microcontinent with Dangerous Grounds/Reed Bank, N Palawan and Calamian block. E edge of carbonate platform overlain by wedge of chaotically deformed allochthonous sediments, overthrust from S onto carbonate platform, implying Palawan Trough does not represent the location of ancient subduction zone but is elastic downwarp of crust below overthrust allochthonous wedge)

Hoang Ngoc Dang & C. Sladen (1997)- Petroleum geology of offshore Da Nang, Central Vietnam. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Petroleum systems of SE Asia and Australasia Conf., Indon. Petroleum Assoc., Jakarta 1997, p. 449-460.
(Offshore Da Nang area of Vietnamese S China Sea with gas fields in large Miocene carbonate platform/ buildups on Tri Ton Horst. Source rock most likely E Miocene marine source in Quang Ngai Graben to W and possibly Tri Ton Rift in E. Non-marine lacustrine and carbonaceous claystones source rocks (29m thick) encountered in well 118-CVX-1X beneath carbonates, but these are immature)

Holland, D.C., J.S. Dickens & A.D. Horbury (1992)- A case of drowning; death of a carbonate platform in the South China Sea. AAPG Int. Conf., Sydney 1992, Search and Discovery Art. 91015 *(Poster Abstract)*
(Da Nang carbonate platform in S China Sea off Vietnam with characteristics of terminal drowning event at variety of data scales. Seismic data show backstepping at large scale. Evolution of M Miocene drowning preserved in detail in changes in environmental stress of faunal assemblage, rates of sedimentation and facies, and cementation history. Biostratigraphic data indicate slightly different ages of platform termination at different locations. Exposure surfaces within carbonate, but transition from shallow water carbonate to deeper water carbonates and final covering by deep water clastic sediments without surface exposure)

Hsu, S.K., Y.C. Yeh, W.B. Doo & C.H. Tsai (2004)- New bathymetry and magnetic lineations identifications in the northernmost South China Sea and their tectonic implications. Marine Geophysical Res. 25, p. 29-44.
(Seafloor spreading of S China Sea (SCS) commonly believed to take place between ~32-15 Ma. New magnetic data in northernmost SCS suggests existence of E-W trending magnetic patterns and demonstrate oldest SCS oceanic crust could be Late Eocene (37 Ma, anomaly C17), with half-spreading rate of 44 mm/yr)

Hu, Y., L. Chen, D. Feng, Q. Liang, Z. Xia & D. Chen (2017)- Geochemical record of methane seepage in authigenic carbonates and surrounding host sediments: a case study from the South China Sea. J. Asian Earth Sci. 138, p. 51-61.

Huang, C. & J. Zhong (1995)- Characteristics of Cenozoic sedimentary formation and tectonic evolution of South China Sea. In: G.H. Teh (ed.) Proc. AAPG-GSM Int. Conf. Southeast Asian basins; oil and gas for the 21st century, Kuala Lumpur 1994, Bull. Geol. Soc. Malaysia 37, p. 125-131.
(online at: www.gsm.org.my/products/702001-100957-PDF.pdf)
(Cenozoic sediments of S China Sea classified into three types, stable, substable and unstable, and two cycles, Lower (E1 -E2) and Upper (Q-E3) by Late Middle Eocene unconformity. Lower Cycle (Paleocene- Eocene) mainly fluvial-lacustrine facies. Upper Cycle is onlap sediment and mainly shallow marine or deep ocean. Central Ocean Basin formed after Mid-Oligocene, and nappe and obduction of Philippines Island-Arc and CCW rotation of Kalimantan resulted in gradual closing of Paleo-South China Sea)

Huang, C.Y., M. Zhao, C.C. Wang & G. Wei (2001)- Cooling of the South China Sea by the Toba eruption and correlation with other climate proxies 71,000 years ago. Geophysical Research Letters 28, 20, p. 3915-3918.
(online at: http://onlinelibrary.wiley.com/doi/10.1029/2000GL006113/pdf)
(Toba tephra layer identified in core MD972151 in southern S China Sea (SCS). Tied to 1° cooling for ~1 kyr following Toba eruption (71 ka) during marine isotope stage 5a-4 transition)

Huchon, P., T.N.H. Nguyen & N. Chamot-Rooke (1998)- Finite extension across the South Vietnam basins from 2D gravimetric modeling: relation to South China Sea kinematics. Marine Petroleum Geol. 15, p. 619-634.
(Crustal thickness map over S Vietnam basins from inversion used to estimate stretching: 190 km in E to 30 km in W. Comparison with S China Sea kinematics implies decoupling relative to Indochina block and supports formation of S China Sea in Late Oligocene- E Miocene by S-ward subduction of Proto-South China Sea)

Huchon, P., T.N.H. Nguyen & N. Chamot-Rooke (2001)- Propagation of continent break-up in the south-western South China Sea. In: R.C.L. Wilson et al. (eds.) Non-volcanic rifting of continental margins: a comparison of evidence from land and sea, Geol. Soc., London, Spec. Publ. 187, p. 31-50.
(Bathymetric, seismic and gravity data on SW tip of S China Sea oceanic basin, where propagation of continental break-up occurred before ~15 Ma. Oceanic domain V-shaped, typical of oceanic propagating rifts. Main stretching direction slightly oblique to rift axis. At continent-ocean boundary, continental crust stretched by factor 4, rapidly decreasing to ~2 over few 10s of km (corresponds to >1 Ma of break-up propagation)

Hui, G.G., S. Li, X. Li, L.L. Guo, Y.H. Suo, I.D. Somerville, S. Zhao, M. Hu, H. Lan & J. Zhang (2016)- Temporal and spatial distribution of Cenozoic igneous rocks in the South China Sea and its adjacent regions: implications for tectono-magmatic evolution. In: Evolution of West Pacific Ocean, South China Sea and Indian Ocean, Geological J. 51, Suppl. S1, p. 429-447.
(S China Sea marginal basins with >70 Cenozoic magmatic activities identified. Geodynamic evolution: (1) early bimodal volcanism (>32 Ma) mainly in Paleogene basins at N margin, under dextral transtensional regime from India- Eurasia collision; (2) syn-spreading igneous rocks, with magmatic emplacement resulting from NNE-trending dextral strike-slip pull-apart tectonics; (3) Quaternary E-W-trending post-spreading basalts, under extrusion regime from collision between Luzon–Taiwan Arc and Eurasian Plate. In Indochina and Malay Peninsula, widespread Cenozoic extensional post-spreading plutons possibly derived from mantle plume or controlled by Ailaoshan Red River left-lateral strike-slip fault zone)

Hutchison, C.S. (2004)- Marginal basin evolution: the southern South China Sea. Marine Petroleum Geol. 21, 9, p. 1129-1148.
(Southern S China Sea W of W Baram Line is Sundaland extinct passive margin, with rifting from Eocene (~46 Ma)- E Miocene (19-21 Ma). E of line is convergent margin that became collision zone in M Miocene. Oil-prolific Baram Delta, resulting from uplift and erosion of W Cordillera, built out to NW Borneo Trough. Passive margin continental rise (Dangerous Grounds) underthrust beneath Sabah to cause uplift of W Cordillera. W Baram Line now extinct major right-lateral transform fault)

Hutchison, C.S. (2014)- South China Sea carbonate build-up seismic characteristics. Bull. Geol. Soc. Malaysia 60 (C.S. Hutchison Memorial Issue), p. 19-26.
(online at: https://gsmpubl.files.wordpress.com/2015/04/bgsm2014002.pdf)
(More than 600 active reefs in Spratly Islands and 200 build-ups in C Luconia, buried in U Miocene, all begun at 'Middle Miocene Unconformity' (= late E Miocene). C Luconia build-ups buried by U Miocene influx from nearby Sarawak (Setap Shale). Build-ups at Dangerous Grounds and NW Borneo Trough drowned by rapidly deepening water. Spratly Islands reefs kept pace with deepening sea)

Hutchison, C.S. & V.R. Vijayan (2010)- What are the Spratly Islands? J. Asian Earth Sci. 39, p. 371-385.
(Spratly Islands, Dangerous Ground Province, are active carbonate build-ups that probably initiated in Miocene on NE-SW trending sea-floor cuestas that parallel magnetic anomalies of S part of S China Sea. Cuestas composed of Triassic and Cretaceous strata indicating Dangerous Ground is part of pre-rift Sundaland continent that included S China, Vietnam, Peninsular Malaysia, W Sarawak and possibly part of Sabah)

Janson, X., G.P. Eberli, A.J. Lomando & F. Bonaffe (2010)- Seismic characterization of large-scale platform-margin collapse along the Zhujiang carbonate platform (Miocene) of the South China Sea, based on Miocene outcrop analogs from Mut Basin, Turkey. In: W.A. Morgan, A.D. George et al. (eds.) Cenozoic carbonate systems of Australasia, Soc. Sedimentary Geology (SEPM), Spec. Publ. 95, p. 79-98.

(On carbonate platform margin collapse or slumps, seen on seismic sections across Lower Miocene Zhujiang Platform margin, subsurface Pearl River Mouth Basin. Truncation of margin suggests several slump scars, associated downslope with rotated and folded strata that are still connected to detachment surfaces)

Jian, Z., X. Cheng, Q. Zhao, J. Wang & P. Wang (2001)- Oxygen isotope stratigraphy and events in the northern South China Sea during the last 6 million years. Science in China 44, 10, p. 952-960.
(Stable isotopic analysis of foraminifera from ODP Site 1148 in N South China Sea (SCS). Before ~3.1 Ma SCS more influenced by warm intermediate Pacific water. Decrease in deepwater temperature between 3.1- 2.5 Ma demonstrates formation of N Hemisphere ice-sheet. Sea surface temperature reductions during E-M Pliocene may be related to Antarctic region ice-sheet growth)

Jian, Z., J. Tian and X. Sun (2009)- Upper water structure and paleo-monsoon. In: P. Wang & Q. Li (eds.) The South China Sea: paleoceanography and sedimentology. Springer, Developments in Paleoenvironmental Research 13, p. 297-394.
(Review of Late Cenozoic changes in paleo-sea surface temperature, thermocline depth and paleo-vegetation of the surrounding continents/islands on tectonic and orbital time scales in South China Sea marginal basin)

Jian, Z., P. Wang, M.P. Chen, B. Li, Q. Zhao, C. Buhring et al. (2000)- Foraminiferal response to major Pleistocene paleoceanographic changes in the southern China Sea. Paleoceanography 15, 2, p. 229-243.
(Age model for southern S China Sea core 17957-2 for last 1.5 Myr. δ18O record has clear ~100-kyr cycles after M Pleistocene Revolution near 900 ka. Planktonic foraminifera show increased sea surface temperature and dissolution after MPR)

Johansen, K.B. (2011)- Phu Khanh Basin, offshore Vietnam; the last true frontier of the Vietnam East Sea margin- an insight into the petroleum system. SEAPEX Expl. Conf., Singapore 2011, Presentation 14, 44p.
(Presentation package. Phu Khanh Basin at W side of S China Sea, offshore Vietnam. Eocene- M Oligocene rift half-grabens with locally >3km of syn-rift sediment. Late Oligocene inversion event, E-M Miocene extension, M Miocene inversion, etc. Upper Miocene basin floor fan complexes. Numerous leads)

Katili, J.A. (1981)- Geology of Southeast Asia with particular reference to the South China Sea. In: Proc. EAPI/CCOP Workshop, Energy 6, 11, p. 1077-1091.
(Review of S China Sea- W Indonesia plate tectonics)

Katili, J.A. (1981)- Geology of Southeast Asia with particular reference to the South China Sea. Bull. Geol. Res. Dev. Center, Bandung, 4, p. 1-12)
(Same paper as above)

Kawagata, S., B.W. Hayward & W. Kuhnt (2007)- Extinction of deep-sea foraminifera as a result of Pliocene-Pleistocene deep-sea circulation changes in the South China Sea (ODP Sites 1143 and 1146). Quaternary Science Rev. 26, p. 808-827.
(Late Pliocene- M Pleistocene extinction of many elongate, cylindrical benthic foraminifera in deep South China Sea ODP Sites 1143 and 1146, as part of 'last global extinction' in deep sea. Pulsed decline in abundance and richness, mostly during glacials, particularly during M-Pleistocene Climate Transition (1.2-0.6 Ma). Result of the increased glacial cooling and increased ventilation of deep-sea water masses)

Kenyon, C.S. (1999)- The use of the petroleum system approach in exploration of the Southwest China Sea: an example from the Vung May Basin, offshore Vietnam. Offshore South East Asia Conf. 1998 (OSEA98), Singapore, SE Asia Petroleum Expl. Soc. (SEAPEX), p. 234-255.
(Vung May basin ?Eocene- E Oligocene early synrift sequence, with likely lacustrine source rocks. Miocene-Pliocene carbonate buildups. Earliest Late Miocene inversion event, etc.)

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Koloskov, A.V., P.I. Fedorov & V.A. Rashidov (2016)- New data on the composition of products of Quaternary volcanism at the northwestern margin of the South China Sea shelf zone and the problem of asthenospheric diapirism. Russian J. Pacific Geology 10, 2, p. 79-104.
(Young volcanics from S China Sea shelf zone (Thu, Cu-Lao Re, Hong Jo islands, Katuik- Ile des Cendres) related to same type of rift volcanism in onshore Vietnam, basaltoids of S China Sea, Thailand and N Hainan island, despite different structural zones. Leading role of mantle diapirism in evolution of Indochina volcanism)

Kudrass, H.R., M. Wiedicke, P. Cepek, H. Kreuzer & P. Muller (1986)- Mesozoic and Cainozoic rocks dredged from the South China Sea (Reed Bank area) and Sulu Sea and their significance for plate-tectonic reconstructions. Marine Petroleum Geol. 3, p. 19-30.
(Rocks dredged from NW flank of Reed Bank, S China Sea, include possible M-U Triassic claystone with molds resembling Halobia- Daonella, Late Triassic- E Jurassic deltaic clastics with Dictyophyllum-Clathropteris fern flora (Clathropteris cf. meniscoides leaf), E Cretaceous metamorphics (113-122 Ma) and latest Jurassic amphibolite schist (146 Ma) at NW flank Reed Bank. Late Oligocene- E Miocene carbonate platform developed on this S-drifting continental fragment during seafloor spreading in S China Sea. M Miocene andesite and E-M Miocene reefal carbonates recovered from Cagayan Ridge, Sulu Sea)

Kuhnt, W., A. Holbourn & Q. Zhaq (2002)- The early history of the South China Sea: evolution of Oligocene-Miocene deep water environments. Revue Micropaleontologie 45, 2, p. 99-159.
(Study of Early Oligocene- Miocene deep water benthic forams of ODP Site 1148 in northern S China Sea. 'Flysch-type' assemblages of 'Para-Tethys' character dominant in Oligocene; Miocene assemblages typically 'Pacific'. With detailed species descriptions)

Kullman, A.J., W. Dharmasamdhi, M. Jones, Nguyen Tran Nhu Ngoc, Nguyen Tien Long, Le Tuan Viet et al. (2017)- Low-cost exploration in a frontier area: breaking our model with data, Phu Khanh Basin, East Sea, Vietnam. In: SEAPEX Exploration Conference 2017, Singapore, Session 9, 10p. *(Extended Abstract)*
(Offshore E Vietnam Phu Khanh Basin last remaining true frontier basin in SE Asia. Seafloor coring identified Miocene-Pliocene stratigraphy and thermogenic hydrocarbons)

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(Phu Khanh Basin, offshore C Vietnam, is undrilled basin on Vietnam margin of S China Sea. Seismic data indicate typical rift-margin development. Initial rifting began in Late Cretaceous(?)- Paleogene. Rifting and uplift resumed or continued locally in Late Oligocene- E Miocene. Postrift sedimentation evolved from transgressive ramp phase (with carbonate buildups) to regressive shelf-slope phase. Regressive interval contains number of sequences. Potential source rocks synrift lacustrine sediments. Carbonate complexes, weathered basement, shallow-water sands, and basin-floor fans all have reservoir potential)

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(Glassy microtektites from Pleistocene horizon of deep-sea cores in S China Sea and W Philippine Sea identified as belonging to Australasian tektite strewn field. Impact event dated at 793 ka, in upper Matuyama magnetic chron. Peak concentration of microtektites in S China Sea supports hypothesis of impact crater on Indochina Peninsula. Size of source crater estimated to be 90-116 km in diameter)

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(online at: http://ntur.lib.ntu.edu.tw/bitstream/246246/172571/1/07.pdf)
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Lee, T.Y. & L.A. Lawver (1994)- Cenozoic plate reconstruction of the South China Sea region. Tectonophysics 235, p. 149-180.
(Reconstructions of S China Sea region from 60 to 5 Ma. 2-3 stages of extension: (1) Late Cretaceous- Eocene NW-SE extension (proto-China Sea; probably consumed at Palawan Trough); (2) Late Eocene- E Miocene N-S extension. (3) post-Oligocene; probably NW-SE. Collision of N Palawan microcontinent with W Philippines block stopped opening of S China Sea at end of E Miocene. Spreading switched to Sulu Sea Basin in M Miocene but collision between Sulu Ridge and W Philippines at Mindanao halted opening of Sulu Sea at end M Miocene)

Lee, G.H., K. Lee & J.S. Watkins (2001)- Geologic evolution of the Cuu Long and Nam Con Son basins, offshore Southern Vietnam, South China Sea. American Assoc. Petrol. Geol. (AAPG) Bull. 85, 6, p. 1055-1082.
(Cuu Long and Nam Con Son basins off S Vietnam, initial rifting in Eocene- E Oligocene, followed by uplift and rotation of crustal blocks in Late Oligocene. Erosion of uplifted blocks marks transition from rifting to regional subsidence in Cuu Long Basin. Second rift phase in Nam Con Son Basin until Late Miocene. M-L Miocene inversion in parts of Nam Con Son Basin. Cuu Long Basin oil-prone, with oil mainly in fractured basement highs; Nam Con Son Basin gas-prone, with gas in Miocene sands and Late Miocene carbonates)

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(On relationship between gravity-derived Moho depth and main sedimentary basins in southern S China Sea: crustal thickness of basins indicates transition from continental crust to transitional crust from N to S)

Li, B., Z. Jian, Q. Li, J. Tian & P. Wang (2005)- Paleoceanography of the South China Sea since the Middle Miocene: evidence from planktonic foraminifera. Marine Micropaleontology 54, p. 49-62.
(Late M Miocene- Pleistocene planktonic foraminifera at ODP Hole 1143, southern S China Sea, and age model for last 12 Ma. New ages for Top Globorotalia multicamerata (2.18 Ma), Base Sphaeroidinella dehiscens (3.6 Ma) and Base Globigerinoides conglobatus(6.6 Ma). Transition from Globorotalia siakensis-G. mayeri group to mixed-layer species in early Late Miocene (~9.6 Ma) reflects deepened upper water thermocline, possibly tied to closure of Indonesian seaway. Shoaling of thermocline in N after 3-2.5 Ma. Pleistocene microtektite layer at 42.8m (2cm) in Hole 1143, coinciding with Brunhes-Matuyama paleomagnetic boundary)

Li, B., J. Wang, B. Huang, Q. Li, Z. Jian, Q. Zhao, X. Su & P. Wang (2004)- South China Sea surface water evolution over the last 12 Ma: a south-north comparison from ODP sites 1143 and 1146. Paleoceanography 19, PA1009, p. 1-12.
(online at: http://onlinelibrary.wiley.com/doi/10.1029/2003PA000906/epdf)
(Decrease in deep-dwelling planktonic foram species after ~10 Ma interpreted to reflect depression of upper water thermocline, corresponding to closure of Indonesian Seaway, and initial formation of W Pacific 'warm pool'. Associated with disappearance of Globoquadrina dehiscens at 9.8 Ma. Microtektite layer of 0.79 Ma at ODP Sites 1143 (42.8m) and 1146 (115.85m), approximates Brunhes-Matuyama paleomagnetic boundary and above small Gephyrocapsa acme of 1.01 Ma)

Li, B., Q. Zhao, M. Chen, Z. Jian & P. Wang (2001)- Late Quaternary evolution of planktonic foraminifera in the southern South China Sea and their paleoceanographic significance. Acta Micropal. Sinica 18, 1, p. 1-9.

Li, C.F., J. Li, W. Ding, D. Franke, Y. Yao, H. Shi, X. Pang, Y. Cao, J. Lin, D.K. Kulhanek, T. Williams, R. Bao, A. Briais et al. (2015)- Seismic stratigraphy of the central South China Sea basin and implications for neotectonics. J. Geophysical Research, Solid Earth, 120, 3, p. 1377-1399.
(online at: http://onlinelibrary.wiley.com/doi/10.1002/2014JB011686/epdf)

Li, C.F., J. Lin, D.K. Kulhanek and the Expedition 349 Scientists (2015)- Expedition 349 summary. Proc. Int. Ocean Discovery Program (IODP) 349, p. 1-43.

(online at: http://publications.iodp.org/proceedings/349/EXP_REPT/CHAPTERS/349_101.PDF)
(Summary of results of IODP 349 deep see drilling campaign in S China Sea. Five sites drilled, three recovered oceanic crust basalt basement near fossil spreading center. E Miocene (16-20 Ma) cessation age of spreading in both subbasins. At Site U1435 along continent/ocean boundary, ~33 Ma unconformity, with marine sediment above and littoral sandstones-mudstones below, likely related to continental breakup during initial opening of SCS. Onset of seafloor spreading therefore estimated to be at ~33 Ma. M-L Miocene (~8–13 Ma) volcaniclastic breccia suggesting 5 Myrs of seamount volcanism after cessation of seafloor spreading)

Li, C.F., X. Shi, Z. Zhou, J. Li, J. Geng & B. Chen (2010)- Depths to the magnetic layer bottom in the South China Sea area and their tectonic implications. Geophysical J. Int. 182, 3, p. 1229-1247.
(Depths to base of magnetic layer in S China Sea computed from total field magnetic anomalies. Most of central SCS ocean basin and northern continent-ocean transition zone significantly shallower magnetic base (~22 km; much larger than Moho depth) than surrounding continental block, where it is at ~34 km, close to Moho depth)

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(online at: http://link.springer.com/article/10.1007/s11434-012-5063-9)
(Estimates of oceanic crust age for S China Sea similar to Briais et al. (1993): E sub-basin 32-16 Ma; SW sub-basin 27-16 Ma)

Li, C.F., P. Wang, D. Franke, J. Lin & J. Tian (2012)- Unlocking the opening processes of the South China Sea. Scientific Drilling 14, p. 55-59.
(online at: www.iodp.org/doc_download/3533-55-59sd14southchinaseapdf)
(Results of 2012 workshop, recommending IODP drilling in S China Sea oceanic crust, ages of which are only guestimates from magnetic anomaly interpretations)

Li, C.F., X. Xu, J. Lin, Z. Sun, J. Zhu, Y. Yao, X. Zhao, Q. Liu, D.K. Kulhanek, J. Wang et al. (2014)- Ages and magnetic structures of the South China Sea constrained by deep tow magnetic surveys and IODP Expedition 349. Geochem. Geophys. Geosystems 15, p. 4958-4983.
(online at: http://onlinelibrary.wiley.com/doi/10.1002/2014GC005567/epdf)
(Magnetic anomalies and IODP 349 cores show seafloor spreading started at ~33 Ma in NE S China Sea, but varied slightly by 1-2 Myr along N continent-ocean boundary. S-ward ridge jump of 20 km occurred at ~23.6 Ma in E Subbasin; coeval with onset of seafloor spreading in SW Subbasin, which propagated for ~400 km SW-ward from 23.6-21.5 Ma. End of seafloor spreading 15 Ma in E Subbasin and 16 Ma in SW Subbasin)

Li, C.F., Z. Zhou, H. Hao, H. Chen, J. Wang, B. Chen & J. Wu (2008)- Late Mesozoic tectonic structure and evolution along the present-day northeastern South China Sea continental margin. J. Asian Earth Sci. 31, p. 546-561.

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Li, J.B., W. Ding, J. Gao, Z. Wu & Z.J. Ziyin (2011)- Cenozoic evolution model of the sea-floor spreading in South China Sea; new constraints from high resolution geophysical data. Acta Geophys. Sinica 54, 6, p. 894-906.
(Revision of Cenozoic evolution model of S China Sea from new high resolution gravity- magnetic data. Two major sea-floor spreading episodes, separated by tectonic-sedimentary event near 25 Ma: (1) E and NW sub-basins from ~33.5- 25 Ma, forming oceanic crust with E-W or NEE-oriented magnetic anomalies; (2) Since 25 Ma sea-floor spreading continued with NW-SE-oriented spreading until 16.5 Ma, forming central E and SW sub-basins. NNW-trending transform fault separated E and SW sub-basins, with 95 km sinistral offset of

spreading ridge. Before collision of Luzon arc with Eurasia Plate, S China Sea was a gulf-shape marginal sea opening to Pacific Ocean, resulting from W-ward propagation of spreading center into Sunda Continent)

Li, J.B., W.W. Ding, Z.Y. Wu, J. Zhang & C.Z. Dong (2012)- The propagation of seafloor spreading in the southwestern subbasin, South China Sea. Chinese Science Bull. 57, p. 3182-3191.
(online at: http://csb.scichina.com:8080/kxtbe/EN/Y2012/V57/I24/3182)

Li, L., P.D. Clift & H.T. Nguyen (2013)- The sedimentary, magmatic and tectonic evolution of the southwestern South China Sea revealed by seismic stratigraphic analysis. Marine Geophysical Res. 34, 3-4, p. 341-365.
(SW South China Sea area of continental crust frozen immediately before onset of seafloor spreading. Major continental block separated from shelf margin by basin of hyperextended crust. Oligocene-E Miocene rifting followed by mild compression and inversion prior to 16 Ma, linked to Dangerous Grounds block- Borneo collision. Seafloor spreading continued until ~16 Ma. Scattered Late Miocene and Pliocene volcanic seamounts (~5-10 km across) in or on edge of deeper basins, not linked to tectonic activity. Further inversion of off-shelf in Pliocene, with no brittle faulting, possibly part of wider pattern of magmatism in S China Sea. Prograding clinoforms from shelf edge in S in Pliocene, after 5.3 Ma. Bulk of sediment from Mekong River, with additional supply from Borneo and Malay Peninsula via Molengraaff River and predecessors)

Li, L., P.D. Clift & H.T. Nguyen (2014)- Non-uniform hyper-extension in advance of seafloor spreading on the Vietnam continental margin and the SW South China Sea. Basin Research 26, p. 106-134.
(SW S China Sea preserves propagating oceanic spreading centre and associated continent-ocean transition at continental margin offshore SE Vietnam. Major normal faulting ceases after inversion event at ~16 Ma, main extension phase from ~28 Ma to 22-23 Ma. Depth-dependent extension required to explain depth of basins. Weak crust with high heatflow. Flow in ductile mid-lower crust responsible for much of subsidence before seafloor spreading, which extended ~300 km from tip of mid ocean ridge. Flow dominant towards spreading centre prior to 16 Ma. Extension in Continent-Ocean transition postdates seafloor spreading. Less extended crustal fragments form banks offshore Sunda shelf, surrounded by hyperextended crust of COT)

Li, Q., Z. Jian & X. Su (2005)- Late Oligocene rapid transformations in the South China Sea. Marine Micropaleontology 54, 1-2, p. 5-25.
(ODP Site 1148 unconformities at Lower/Upper Oligocene and Oligocene-Miocene boundaries plus two others in Upper Oligocene, together erasing sediment record of ~3 Ma in period of active seafloor spreading. Initial breakup of SCS probably at 34-33 Ma. Expanded Lower Oligocene section resulted from rifting between 33-29 Ma. Mid-Oligocene unconformity at 28.5 Ma probably related to initial collision between Indonesia and Australia. Narrowed Indonesian seaway may have accounted for Late Oligocene warming and chalk deposition in northern SCS. Unconformities near Oligocene- Miocene boundary probably correspond to changes in rotation of blocks and seafloor; also first New Guinea terrane docking at N Australian craton)

Li, Q., P. Wang, Q. Zhao, L. Shao, G. Zhong, J. Tian, X. Cheng et al. (2006)- A 33 Ma lithostratigraphic record of tectonic and paleoceanographic evolution of the South China Sea. Marine Geology 230, p. 217-235.
(ODP Site 1148 sequence show six major steps of S China Sea geohistory over past 33 Ma. Rapid deposition characterized Early Oligocene (33- 28.5 Ma) rifting. Slow sedimentation signifies S-ward stable seafloor spreading (28.5- 23 Ma) to end of spreading (23-15 Ma). Five major dissolution events. Return of high sedimentation in late Pliocene- Pleistocene caused by intensified down-slope transport)

Li, Q., P. Wang, Q. Zhao, J. Tian, X. Cheng, Z. Jian, G. Zhong & M. Chen (2008)- Paleoceanography of the mid-Pleistocene South China Sea. Quaternary Science Reviews 27, p. 1217-1233.

Li, Q. & S. Wu (1990)- The age of the South China sea terrains rift-departing from South China continent. In: X. Jin et al. (eds.) Proc. Symposium Recent contributions to the geological history of the South China Sea, Hangzhou 1990, p. 101-107.
(Terrains in S China Sea (Nansha Islands, etc.) were part of SE China continent, and their rift-departing process dominated formation and evolution of S China Sea. Terrains rift-departed before E Eocene (inferred from age interpretation of manganese crust and section of Sampaguita 1 well on Reed Bank))

Li, Q., Q. Zhao, G. Zhong, Z. Jian, J. Tian et al. (2007)- Deepwater ventilation and stratification in the Neogene South China Sea. J. China Univ. Geosciences 18, 2, p. 95-108.
(Three periods of deep water ventilation since Miocene in S China Sea, marked by red-brown sediment color: 21-17 Ma, 15-10 Ma, and 10-5 Ma. Pacific Bottom Water marker species rapidly increased since 6 Ma)

Li, Q., G. Zhong, & J. Tian (2009)- Stratigraphy and sea level changes. In P. Wang & Q. Li (eds.) The South China Sea: paleoceanography and sedimentology. Developments in Paleoenvironmental Research 13, Springer Verlag, Chapter 3, p. 75-170.
(Review of Cenozoic biostratigraphy, lithostratigraphy and basins of South China Sea area)

Li, S., C. Lin, Q. Zhang, S. Yang & P. Wu (1989)- Episodic rifting of continental marginal basins and tectonic events since 10 Ma in the South China Sea. Chinese Sci. Bull. 44, 1, p. 10-23.

Li, X., G. Wei, L. Shao, Y. Liu, X. Liang, Z. Jian, M. Sun & P. Wang (2003)- Geochemical and Nd isotopic variations in sediments of the South China Sea; a response to Cenozoic tectonism in SE Asia. Earth Planetary Sci. Letters 211, p. 207-220.
(Variations in geochemistry and Nd isotopic in ODP Site 1148 sediments, S China Sea. Nd isotopes suggests pre-27 Ma sediments flowing into S China Sea dominantly from SW (Indochina-Sunda Shelf, possibly NW Borneo), post-23 Ma sediments N provenance (S China). Response to SE Asia plate reorganization at ~25 Ma)

Liang, D. & Z. Liu (1990)- The genesis of the South China Sea and its hydrocarbon-bearing basins. J. Petroleum Geol. 13, 1, p. 59-70.
(Formation of S China Sea in two phases of spreading of continental margin of Asia: (1) NeoCathaysian (E Cretaceous-Early Tertiary) and (2) Nanhai (Late Oligocene-Early Miocene) tectonic systems. Identified 33 sedimentary basins, 4 basin types)

Liang, X., G. Wei, L. Shao, X. Li and R. Wang (2001)- Records of Toba eruptions in the South China Sea. Chemical characteristics of the glass shards from ODP 1143A. Science in China, Ser. D, Earth Sciences, 44, 10, p. 871-878.
(online at: http://earth.scichina.com:8080/sciDe/fileup/PDF/01yd0871.pdf)
(Three 2cm-thick layers of volcanic tephra from ODP 1143 Site in S China Sea dated as. 0.07, 0.8 and ~1.0 Ma by microbiostratigraphy, presumably from Toba eruption. Dominated by volcanic glass shards with median grain size of 70-75 μm)

Lin, A. T., A.B.Watts & S.P. Hesselbo (2003)- Cenozoic stratigraphy and subsidence history of the South China Sea margin in the Taiwan region. Basin Research 15, 4, p. 453-478.
(N margin of SCS in Taiwan region evolved from Paleogene rift to latest Miocene-Recent foreland basin, reflecting opening SCS and subsequent partial closure by Taiwan orogeny. Rifting (~58-37Ma) formed 4200 km wide extended zone. By ~37 Ma focus of rifting shifted to present-day continent-ocean boundary of S Taiwan, which led to seafloor spreading of SCS at ~30 Ma. Rift-drift transition (~37-30 Ma) coeval with uplift of previously rifted margin, leading to erosion and breakup unconformity. Oligocene uplift followed by rapid, early post-breakup subsidence (~30-18 Ma). Subsidence of inner margin thermally controlled subsidence, subsidence in outer shelf accompanied by faulting during ~30-21 Ma. During ~21-12.5 Ma entire experienced broad margin thermal subsidence. At ~12.5 Ma rifting resumed, and ceased at ~6.5Ma due to overthrusting of Luzon volcanic arc. Taiwan orogeny created foreland basin by loading rifted margin)

Liu, B., B. Xia, X. Li, M. Zhang, B. Niu, L. Zhong, Q. Jin & S. Ji (2006)- Southeastern extension of the Red River fault zone (RRFZ) and its tectonic evolution significance in western South China Sea. Science in China D 49, 8, p. 839-850.
(On SE-ward continuation Red River fault zone into S China Sea. RRFZ separates S China and Indochina block, then extends E along Yuedong fault offshore Vietnam, then continues S-ward and breaks off into two branches: Lupar fault (dies out beneath NW Borneo) and Tinjia fault (reaches Brunei-Sabah area))

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(Clay minerals from IODP Site U1433 and seismic suggest onset of Mekong Delta in present location after 8 Ma, following avulsion from Gulf of Thailand)

Liu, H.L., G. Xie, Yan Pin et al. (2007)- Tectonic implication of Mesozoic marine deposits in the Nansha Islands of the South China Sea. Oceanologia et Limnologia Sinica, 38, 3, p. 272-278. *(in Chinese)*

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(online at: http://ir.gig.ac.cn:8080/bitstream/344008/13234/1/06204.pdf)
('Qiongnan (S Hainan Island) suture zone' in N South China Sea represents Indosinian (Triassic) suture and is remnant of Qiongnan ocean basin, which is extension of main Paleo-Tethys ocean basin in S China Sea)

Liu, H.L., P. Yan, B.Y. Zhang, Y. Sun, Y.Z. Zhang, L.S. Shu, X.L. Qiu & L.Z. Guo (2004)- Role of the Wan-Na fault system in the western Nansha Islands (Southern South China Sea). J. Asian Earth Sci. 23, p. 221-233.
(Seismic data off Nansha (Spratly) Islands, southern S China Sea (SCS). Wan-Na Fault Zone is plate-bounding dextral strike-slip system, with major activity in Eocene- E Miocene. Strike-slip system pull-apart duplex created Wan'an basin)

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Liu, H.L., H. Zheng, Y.L. Wang, C.H. Wu, M.S. Zhao & Y.K. Du (2011)- Layer-block tectonics, a new concept of plate tectonics - an example from Nansha micro-plate, southern South China Sea. In: D. Closson (ed.) Tectonics, Intech, p. 251-272.
(online at: http://cdn.intechopen.com/pdfs/14079/...)
('Layer-block tectonics' interpretation of crustal layers evolution of continental Nansha microplate (= Luconia-Dangerous Ground-Palawan block at SE side of SCS oceanic basin), a Cenozoic micro-plate with Mesozoic marine strata, magmatic rock and metamorphic basement. It is surrounded by several large plate-edge basins, such as Wan'an (W Vanguard bank), Zengmu (= Luconia Shelf?) and Nansha (Borneo-Palawan) Trough, etc.)

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(online at: www.gsm.org.my/products/702001-100956-PDF.pdf)

Liu, Z., Y. Zhao, C. Colin, K. Stattegger, M.G. Wiesner, C.A. Huh, Y. Zhang, X. Li, P. Sompongchaiyakul et al. (2016)- Source-to-sink transport processes of fluvial sediments in the South China Sea. Earth-Science Reviews 153, p. 238-273.

(Review of modern fluvial sediment influx from all sides of S. China Sea and subsequent transport processes to continental shelf and abyssal basin, and effect of Late Quaternary glacial cycles. High diversity of clay mineralogical-geochemical compositions. Land-sea configuration dramatically changed during glacial conditions. In S clay minerals indicate intensive chemical weathering during interglacial periods and increased physical erosion during glacial periods. S-ward shift of Inter-tropical Convergence Zone at 16 ka caused increased sediment contribution from S China. Etc.)

Lloyd, A.R. (1978)- Geological evolution of the South China Sea. Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) 4 Conf., Singapore, p. 95-137.
(Interpretation of SE Asia- South China Sea tectonics in terms of expanding earth. With Precambrian-Pleistocene SE Asia paleogeographic maps)

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(S China Sea three major drowning events: late Early Miocene (17 Ma), early Late Miocene (10.0-8.2 Ma) and E Pliocene (3.4–3.0 Ma), indicating three major sea floor spreading events)

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(Miocene carbonate platforms on intrabasinal structural highs and along S margin of Nam Con Son Basin, SW S China Sea. Platforms initiated in late E Miocene and reached widest extent in M Miocene. Platform margins controlled by synsedimentary faults, associated with carbonate slope failure deposits and/or reef talus. Platform growth history 6 phases: start-up, second start-up, keep-up, exposure, renewal and drowning phases)

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Ludmann, T., H.K. Wong & P. Wang (2001)- Plio-Quaternary sedimentation processes and neotectonics of the northern continental margin of the South China Sea. Marine Geology 172, p. 331-358.
(Seismic profiles on N continental margin of S China Sea permit show four Quaternary 4th order sequences, deposited during e past ~690 ky. Area off Hong Kong and Dongsha Islands two uplift episodes in past 5 Ma, at Miocene/Pliocene boundary and at end of lower M Pleistocene)

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Ly Truong Phuong (1997)- Lithofacies and depositional environments of the Oligocene sediments of the Cuu Long Basin, and their relationship to hydrocarbon potential. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Petroleum Systems of SE Asia and Australasia Conf., Indon. Petroleum Assoc., Jakarta 1997, p. 531-538.
(Facies maps of Oligocene lagoonal, lacustrine to deltaic sediments of Cuu Long Basin, which was closed at time of Oligocene deposition)

Ma, Y., S. Wu, F. Lu, D. Dong, Q. Sun, Y. Lu & M. Gu (2011)- Seismic characteristics and development of the Xisha carbonate platforms, northern margin of the South China Sea. J. Asian Earth Sci. 40, p. 770-783.
(On seismic characteristics of Miocene- Recent Xisha carbonate platform area, which includes modern-day Xisha Atoll, on N continental margin of S China Sea)

Ma, Z.L., Q.Y. Li, X.Y. Liu, W. Luo, D.J. Zhang & Y.H. Zhu (2017)- Palaeoenvironmental significance of Miocene larger benthic foraminifera from the Xisha Islands, South China Sea. Palaeoworld 27, 1, p. 145-157.
(online at: https://www.sciencedirect.com/science/article/pii/S1871174X1730029X)
(Well XK-1 in Xisha (= Paracel) Islands, NW part of S China Sea, penetrated Miocene reef carbonate section with 66 species of larger foraminifera. Three assemblages: (1) 1256-1180m Spiroclypeus higginsi- Borelis pygmaeus (Te5, E Miocene); (2) 1031-577m Nephrolepidina- Miogypsina Assemblage (Tf, M Miocene), and 468-380m Cycloclypeus- Heterostegina Assemblage (Tg, Late Miocene). Facies backreef lagoon-shelf in E

Miocene, normal-frontal reef in early M Miocene, backreef lagoon-shelf in later M Miocene, normal- frontal reef in early Late Miocene, and proximal forereef shelf in later Late Miocene)

Mai, H.A., Y.L. Chan, M.W. Yeh & T.Y. Lee (2017)- Tectonic implications of Mesozoic magmatism to initiation of Cenozoic basin development within the passive South China Sea margin. Int. J. Earth Sciences 107, 3, p. 1153-1174.
(S China Sea classic example of non-volcanic passive margin, situated within three tectonic plates. Reconstruction indicated SE margin of Asia had gone through two crustal thinning events (NW–SE extension in Late Cretaceous and Paleogene). Sites for rifting development controlled by localized thermal weakening of magmatism. Interaction of two continental stretching events by Pacific followed by Neotethys subduction with local magmatic thermal weakening is cause for non-volcanic nature of SCS)

Matthews, S.J., A.J. Fraser, S. Lowe, S.P. Todd & F.J. Peel (1997)- Structure, stratigraphy, and petroleum geology of the SE Nam Con Son Basin, offshore Vietnam. In A.J. Fraser et al. (eds.) Petroleum Geology of Southeast Asia, Geol. Soc., London, Spec. Publ. 126, p. 89-106.
(SE Nam Con Son Basin, offshore Vietnam, experienced rift pulses in Paleogene- earliest Late Miocene in response to interaction of S China Sea rift propagation and regional transtensional shear. Mild contractional deformation in M Miocene, synchronous with inversion structures in W Natuna. Oldest dated Tertiary rocks are Late Oligocene fluvio-deltaic sediments. E-M Miocene non-marine to outer shelf clastics, thickest in N-S to NE-SW-trending half grabens. Regional truncational unconformity of late M Miocene age. Late Miocene deepening of depositional environments, with growth of carbonate build-ups on structural highs, progradation of Paleo-Mekong delta system and associated deep-marine submarine channel development)

Mazur, S., J.M. Whittaker, K. Wilson, M.G. Stewart, P. East, R. Bouatmani & P.J. Markwick (2009)- Application of plate reconstructions and 2D gravity modeling to quantify crustal stretching during continental break-up: a South China Sea case study. Proc. 33rd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA09-G-017, 12p.

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Meng, L. & J. Zhang (2014)- The magmatic activity mechanism of the fossil spreading center in the Southwest sub-basin, South China Sea. Science China, Earth Sciences, 57, 7, p. 1653-1663.
(After end of seafloor spreading, residual magmatic activity still exists in deep basin of S China Sea)

Meyer, L., D. Walley, J. Sutton & M. Schapper (2017)- Ca Voi Xanh Field, Block 118, Offshore Da Nang, Vietnam: exploration highlights and development challenges. In: SE Asia Petroleum Expl. Soc. (SEAPEX) Exploration Conf. 2017, Singapore, Session 10, 1p. *(Abstract only)*
(Ca Voi Xanh field is largest gas discovery offshore Vietnam. Discovered in 2011 by 118-CVX-2X well in M Miocene Da Nang Carbonate, followed by two appraisal wells.. Field lies along NW-SE trending Triton Horst structure. Gas with 30% CO2, decreasing from N to S. Still technical (reservoir) and commercial challenges)

Morley, C.K. (2016)- Major unconformities/termination of extension events and associated surfaces in the South China Seas: review and implications for tectonic development. J. Asian Earth Sci. 120, p. 62-86.
(S China Seas continental rifting began in E basins in Paleocene, propagating W-wards to Vietnam margin in Late Eocene. Continental breakup around 32-28 Ma caused regional reduction in extensional activity. Basins in slope and deepwater N of spreading centre reduced fault activity until 21-20 Ma. Propagation of oceanic crust W-ward between ~25-23 Ma. Termination of seafloor spreading between ~20.5-16 Ma. Dangerous Grounds area extension continued until ~16 Ma. End of seafloor spreading at ~20.5 Ma reflects loss of driving force as thinned continental crust entered NW Borneo subduction zone. Transitional period of ~5-7 my between onset of subduction of continental crust and final jamming of subduction zone (Deep Regional Unconformity). Last pulse of extension in W SCS ended at ~10.5 Ma. Escape tectonics not primary driving force for extension in S China Sea, although secondary role possible. Proto S China Sea development remains uncertain)

Morley, R.J., T. Swiecicki & D.T.T. Pham (2011)- A sequence stratigraphic framework for the Sunda region, based on integration of biostratigraphic lithological and seismic data from Nam Con Son Basin, Vietnam. Proc. 35th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA11-G-002, 22p.
(Stratigraphic successions in Pattani, Malay, Penyu, W Natuna and Nam Com Son Basins many common features: Late Eocene- E Oligocene synrift followed by Late Oligocene and younger post-rift deposition. E-M Miocene variable degrees of inversion and also extension in Nam Con Son Basin, followed by Late Miocene and Plio-Pleistocene regional subsidence. Sequences closely parallel sequence biostratigraphic frameworks of W Natuna and Malay basins)

Morley, R.J., T. Swiecicki & P. Restrepo Pace (2015)- Correlation across the South China Sea using VIM transgressive-regressive cycles. AAPG Workshop 'Tectonic evolution and sedimentation of South China Sea region', Kota Kinabalu, Search and Discovery Art. 51109, 7p. *(Extended Abstract)*
(online at: www.searchanddiscovery.com/documents/2015/51109morley/ndx_morley.pdf)
(Determination of age and environments of deposition in S China Sea region problematic due to sporadic occurrence of marine index microfossils in Late Eocene- Miocene extensional basins from Gulf of Thailand to Nam Con Son and Sarawak-Sabah. Proposed correlations across Vietnam- Indonesia- Malaysia basins using transgressive-regressive cycles deduced from palynomorph and benthonic foraminiferal abundances. Many cycles ~400 ka cyclicity, suggesting glacio-eustacy as driving mechanism. Six main unconformities: (1) M Oligocene (onset of S China Sea spreading);(2) basal Miocene (end of Proto-South China Sea subduction); (3) E Miocene at ~18 Ma (onset of second rifting phase in Nam Con Son Basin and offshore Sarawak); (4) M Miocene at ~11-12 Ma (end of Nam Con Son and offshore Sarawak rifting); (5) one or more Late Miocene with time gaps at ~9, 7.2 and 5.5 Ma; (6) E Pliocene at ~3.5 Ma and also near base Quaternary)

Murray, M.R. & S.L. Dorobek (2004)- Sediment supply, tectonic subsidence, and basin-filling patterns across the Southwestern South China Sea during Pliocene to Recent time. In: P. Clift et al. (eds.) Continent-ocean interactions within East Asian marginal seas, American Geophys. Union (AGU), Geophys. Monograph Ser. 149, p. 235-253.
(Sediment flux to SW parts of S China Sea in Late Cenozoic reflects contributions from E Tibet, W Borneo, and smaller drainages of C Indochina, Vietnam, Malay Peninsula and W Indonesia. Updip basins (Malay, Cuu Long, W Natuna) became filled after Miocene inversion. Paleo-Mekong River and depositional system with probable headwaters on Malay Peninsula began supplying large volumes of sediment to N S China Sea in Late Miocene and Pliocene, respectively)

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(online at: www-odp.tamu.edu/publications/184_SR/VOLUME/CHAPTERS/219.PDF)
(South China Sea Miocene planktonic foram biostratigraphy (N5-N19))

Ngo Thuong San, Nguyen Giao, Tran Le Dong & Hoang Phuoc Son (1997)- Pre-Tertiary Basement- the new objective for oil and gas exploration and production in the continental shelf of South Vietnam. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Petroleum Systems of SE Asia and Australasia Conf., Indon. Petroleum Assoc., Jakarta 1997, p. 461-465.
(Continental shelf of S Vietnam common granitic rocks of E Cretaceous-Late Jurassic age (97-178 Ma). Early phase granodiorite, late phase consists of granite. Fracture zones and weathering caused basement to become an important oil-bearing reservoir. Oil discoveries include Bach Ho, Rong, Ruby and Rang Dong)

Ngo Van Dinh (1997)- Distribution and origin of carbon dioxide in the Song Hong Basin of Offshore Vietnam. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Petroleum Systems of SE Asia and Australasia Conf., Indon. Petroleum Assoc. (IPA), Jakarta 1997, p. 511-513.
(Gas in wells in Miocene carbonates on Triton Horst in S part of Vietnam Song Hong Basin with 70-93% CO2. Rel. little CO2 in gas from N parts of basin. Deep faults, volcanic intrusions and thermodynamically induced mud flows in magmatically active S Song Hong Basin probable causes for CO2 in shallow reservoirs)

Ngoc, P.B., T. Nghi, N.T. Tin, T.V. Tri, N.T. Tuyen, T.T. Dung & N.T.P. Thao (2017)- Petrographic Characteristics and depositional environment evolution of Middle Miocene sediments in the Thien Ung- Mang Cau structure of Nam Con Son Basin. Indonesian J. Geoscience 4, 3, p. 143-157.
(online at: https://ijog.geologi.esdm.go.id/index.php/IJOG/article/view/387/245)
(M Miocene clastics and carbonates in wells of Thien Ung - Mang Cau structure inC area of Nam Con Son Basin, S China Sea)

Nguyen Du Hung & Hung Van Le (2004)- Petroleum geology of Cuu Long Basin- offshore Vietnam. AAPG Int. Conf., Barcelona 2003, AAPG Search and Discovery Art. 10062, p. 1-8.
(online at: www.searchanddiscovery.com/documents/2004/hung/images/hung.pdf)
(Cuu Long basin on S shelf of Vietnam formed during E Oligocene rifting. Late Oligocene- E Miocene inversion intensified fracturing of granite basement to become excellent reservoir. Five main oil fields produce mainly from basement (Bach Ho (White Tiger), Rong, Rang Dong, Ruby and Su Tu Den. Basement rocks usually overlain directly by prolific and widespread Upper Oligocene source rocks)

Nguyen Huy Ngoc, S.B. Aziz & Nguyen Anh Duc (2014)- The application of seismic attributes for reservoir characterization in Pre-Tertiary fractured basement, Vietnam-Malaysia offshore. Interpretation 2, 1, p. SA57-SA66.
(Seismic attributes (amplitude, coherence, curvature, secondary derivative) help predict basement rock type and fracture attributes)

Nguyen Ngoc Khoi (2014)- Mineral resources potential of Vietnam and current state of mining activity. Applied Environmental Research 36, 1, p. 37-46.
(online at: www.thaiscience.info/journals/Article/APER/10905841.pdf)

Nguyen Nhu Trung (2012)- The gas hydrate potential in the South China Sea. J. Petroleum Science Engineering 88-89, p. 41-47.
(Thickness of Gas hydrate stability zone (GHSZ) in S China Sea estimated to be ~225-365m)

Nguyen N.S., Nguyen Q.T., Nguyen H.N., Nguyen V.T., Phan G.L., Nguyen T.L., Le T.V., Nguyen X. P. & Tran N.L. (2017)- Ham Rong Dong & Ky Lan discoveries- a new significance and opening up vast opportunities in the northern offshore part of Song Hong basin. In: SE Asia Petroleum Expl. Soc. (SEAPEX) Exploration Conf. 2017, Singapore, Session 10, 12p.
(Previous discoveries in Song Hong Basin off N Vietnam, marginal-subcommercial, and mainly in Miocene inversion clastics or fractured/karstified Pretertiary carbonate basement plays. Recent discoveries: (1) Ham Rong Dong gas-condensate in Oligocene clastics overlying basement high; (2) Ky Lan gas in E-M Miocene sands in 4-way-dip closure. Recent E well on V Island with ~500m Oligocene lacustrine source rock with TOC up to 9% and mainly Type I and II kerogen)

Nguyen Quang Tuan & Tran Van Tri (2016)- Seismic interpretation of the Nam Con Son Basin and its implication for the tectonic evolution. Indonesian J. Geoscience 3, 2, p. 127-137
(online at: https://ijog.geologi.esdm.go.id/index.php/IJOG/article/view/312/210)
(Nam Con Son Basin off Vietnam two extensional phases: (1) N-S extension, terminated at ~30 Ma, forming E-W trending grabens/half grabens with up to 5km of Eocene?- E Oligocene sediments; (2) graben reactivation during M Miocene NW-SE extension. Most faults inactive by U Miocene except N-S fault system active until recent. U Miocene -Recent post rift sequence associated with onshore uplift, causing increase in sediment supply to basin)

Nguyen Quang Tuan, Bui Viet Dung, Nguyen Thanh Tung & Tran Van Tri (2016)- Depositional environment evolution of the Cenozoic Nam Con Son basin, offshore Vietnam. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 562-564.

Nguyen, T.B.N., T.Q.C. Dang, W. Bac & X.H. Nguyen (2009)- A successful highlight of geological development for fractured granite reservoir. In: Proc. 2nd Reg. Conf. Interdisciplinary Research Natural Resources and Materials Engineering, Yogyakarta 2009, p. 133-139.
(online at: http://lib.ugm.ac.id/digitasi/upload/3114_MU.12110031-nguyen.pdf)
(White Tiger oil field is biggest of fractured granite and gneiss basement reservoirs on Vietnam continental shelf. Reservoir complicated structure, heterogeneous, high temperature and closure stress. Additional oil fields in fractured basement: Rang Dong, Phuong Dong, Ruby, Black Lion, Yellow Lion, Brown Lion, Yellow Tuna, Southern Dragon and Turtle)

Nguyen Trong Tin (1997)- Hydrocarbon trap styles of South Eastern Vietnam offshore basins. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Petroleum systems of SE Asia and Australasia Conf., Indon. Petroleum Assoc., Jakarta 1997, p. 515-520.

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(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1995a01.pdf)

Nguyen, T.T.B., T. Tokunaga, N.R. Goulty, Hoang Phuoc Son & Mai Van Binh (2011)- Stress state in the Cuu Long and Nam Con Son basins, offshore Vietnam. Marine Petroleum Geol. 28, 5, p. 973-979.
(In situ stress data from petroleum wells suggest borderline normal/strike-slip stress regime in normally pressured sequences of Nam Con Son and Cuu Long basins)

Nguyen, V.G. & P.D. Rabinowitz (1999)- Gravity modeling of the Song Hong Basin, Offshore Vietnam. Proc. Offshore Technology Conf. (OTC), Houston, 10745-MS, 10p.
(Song Hong Basin, 200 x 600 km with up to 14 km of sediments. Gravity inversion and rift stretching models suggest basin is passive rift. Rift extension most probably linked to India- Eurasia collision)

Nielsen, L.H., A. Mathiesen, T. Bidstrup, O.V. Vejbaek, P.T. Dien & P.V. Tiem (1999)- Modelling of hydrocarbon generation in the Cenozoic Song Hong Basin, Vietnam: a highly prospective basin. J. Asian Earth Sci. 17, 1-2, p. 269-294.
(Song Hong Basin on N part of Vietnamese shelf. Most likely source rocks (1) oil-prone Eocene-Lower Oligocene lacustrine mudstones and coals, (2) oil- and gas-prone M Miocene coal beds, (3) gas-prone Upper Oligocene-Lower Miocene coals, and (4) gas- and oil-prone Miocene marine mudstones. Modelling demonstrates that the two first-mentioned source rock units are especially important)

Olson, C. (2001)- Timing and tectonic implications of basin inversion in the Nam Con Son basin and adjacent areas. M.S. Thesis, Texas A&M University, College Station, p. 1-352. *(Unpublished)*
(Nam Con Son Basin off SE Vietnam formed during Eocene?- Oligocene rifting. Following cessation of rifting at end Oligocene time W Sunda Shelf basins subjected to E-M Miocene inversions, progressing from W Natuna and W Nam Con Son into S Malay Basin. Most intense inversion in W Natuna Basin in E Miocene, with uplift of S Malay and W Natuna basins in M Miocene. Basin inversions attributed to collision-induced clockwise rotation of Borneo and attached, rigid Natuna Arch and Natuna Basement Ridge)

Parke, M.L., K.O. Emery, R. Szymankiewicz & L.M. Reynolds (1971)- Structural framework of the continental margin in the South China Sea. ECAFE CCOP Techn. Bull. 4, p. 103-142.
(Seismic and geomagnetic traverses in Gulf of Thailand, N Sunda Shelf and adjacent deep-sea show presence of three large sedimentary basins: Gulf of Thailand basin (from Bangkok to Singapore), Mekong and Brunei-Saigon basins. Deep-sea floor in NE contains abyssal plain and broad plateau dotted with seamounts, some of which capped with coral atolls. Prospects for oil and gas appear favorable)

Parke, M.L., K.O. Emery, R. Szymankiewicz & L.M. Reynolds (1971)- Structural framework of continental margin in South China Sea. American Assoc. Petrol. Geol. (AAPG) Bull. 55, 5, p. 723-751.
(Same paper as above. Early mega-regional seismic interpretation of Gulf of Thailand- North Sunda Shelf to N Borneo)

Pautot, G. & C. Rangin (1989)- Subduction of the South China Sea axial ridge below Luzon. Earth Planetary Sci. Letters 92, p. 57-69.
(Scarborough Seamount chain at axis of extinct S China Sea spreading center is being subducted obliquely along Manila Trench)

Pautot, G., C. Rangin, A. Briais, P. Tapponnier, P. Beuzart, G. Lericolais, X. Mathieu, J. Wu, S. Han, H. Li, Y. Lu & J. Zhao (1986)- Spreading directions in the central South China Sea. Nature 321, 6066, p. 150-154.
(S China Sea is 'Atlantic-type' marginal basin of late Tertiary age. Magnetic anomalies in E part consistent with seafloor spreading directed ~N-S. Dominant normal fault scarps, striking N50° E, implying NW-SE spreading, at least in 150-200 km-wide axial region)

Pautot, G., C. Rangin, A. Briais, J. Wu, S. Han, H. Li, Y. Lu & J. Zhao (1990)- The axial ridge of the South China Sea: a seabeam and geophysical survey. Oceanologica Acta 13, p. 129-143.
(Last stage of spreading in S China Sea basin oriented NW-SE and created oceanic crust transected by NW-SE transform faults. Alkalic lavas of Scarborough Seamount chain injected along relict spreading axis and dated at 11-6 Ma, probably emplaced after cessation of spreading. Alternative kinematic interpretations for evolution of SCS basin involve extrusion of Sundaland along large strike-slip faults in response to the India-Asia collision, or 20-30° CCW rotation of rift axis with general kinematic reorganization around 20 Ma)

Pham Tuan Dung (2011)- Exploration and development of the Ca Ngu Vang field fracture basement reservoir. SE Asia Petroleum Soc. (SEAPEX) Exploration Conf. 2011, Singapore, Presentation 15, p. 1-30. *(Abstract + Presentation)*
(Ca Ngu Vang field offshore S Vietnam 2002 oil discovery with first oil in 2008 from Pre-Tertiary fractured granite reservoir and Lower Miocene sandstones)

Phong Van Phung, Anh Vu The & Tung Nguyen Thanh (2017)- The development of palaeokarst systems in the Middle Miocene carbonate reservoir, South Song Hong Basin. Int. J. Applied Engineering Research 12, 22, p. 12844-12851.
(online at: https://www.ripublication.com/ijaer17/ijaerv12n22_148.pdf)
(Numerous paleokarst features seen on offshore 3D seismic in M Miocene carbonate platform on Tri Ton high, S Song Hong Basin, Vietnam. Paleokarst networks beneath unconformity shows erosional topography, sinkholes, rivers/canyons and hills, revealing mature surface drainage system)

Pichot, T., M. Delescluse, N. Chamot-Rooke, M. Pubellier, Y. Qiu, F. Meresse, G. Sun et al. (2014)- Deep crustal structure of the conjugate margins of the SW South China Sea from wide-angle refraction seismic data. Marine Petroleum Geol. 58, p. 627-643.
(New 1000-km long wide-angle refraction seismic profile along conjugate margins of SW South China Sea used to derive 2D velocity model of crust and upper mantle. Most of continental crust deforms in brittle manner. Continent-Ocean Transitions narrow and slightly asymmetric ~60 km on N side and <30 km on S side. No direct indication for mantle exhumation. Moho interface remains rather flat over extended domain, suggesting decollement within ductile lower crust)

Pubellier, M., M. Delescluse, D. Savva, D. Franke, F. Meresse, J.L. Auxietre, M. Aurelio, N. Chamot-Rooke, U. Nanni & L.S. Chan (2015)- Collapse and rifting in the South China Sea. AAPG Workshop 'Tectonic evolution and sedimentation of South China Sea region', Kota Kinabalu, Search and Discovery Art. 30406, 28p. *(Abstract + Presentation)*
(online at: www.searchanddiscovery.com/documents/2015/30406pubellier/ndx_pubellier.pdf)
(S China Sea unusually long period of rifting. Area on upper plate of subduction zone in Mesozoic, then evolved as collapsed continental basin on edge of Yenshanian orogeny. Continental crust rifting from Paleocene- M Oligocene in E, continuing until M Miocene in SW. Sundaland rifting documented since E Eocene only. Jurassic and Cretaceous granitic bodies conditioned location of extension. Present-day morphology of sea floor reflects location of granites on which large reefal platforms developed. Some sub-basins extremely stretched crust (Phu Khanh, W Natuna, NW Palawan, Tainan) and upper mantle may be in contact with sediments. Early

extension started in Late Cretaceous -Paleocene (basement and Mesozoic granitoids exhumation), followed by E Eocene- M Miocene rifting (crust thinned to 12km over large areas by 'boudinage' process). Extension continued after start of spreading and continued after regional MMU (15-12Ma). Structural configuration represents offshore 'Basin and Range'-style province)

Pubellier, M., N. Pinet & C. Rangin (1990)- Docking of the Philippine mobile belt aginst the Eurasian margin: closure of the South China Sea. In: X. Jin et al. (eds.) Proc. Symposium Marine geology and gephysics of the South China Sea, Hangzhou 1990, p. 71-82.
(online at: https://epic.awi.de/38705/2/south-china-sea_1990.pdf)
(Docking of Philippine Arc in late M Miocene in Luzon, Late Miocene (10 My) in Visayas (C Philippines) and Pliocene in Mindanao, and not yet completed in Molucca Sea. Docking rapidly followed by renewal of subduction along E edge of S China Sea, Sulu Sea and Celebes Sea, showing S-ward progression from 11 Ma in Manila Trench to 7 Ma in Negros Trench and Late Pliocene-Pleistocene in Celebes Sea. Subduction reversal from W subduction front (Manila, Negros and Sulu trenches) to Philippine Trench associated with beginning of activity along Philippine Fault s.s. and begins in late Pliocene. Decoupling between Philippine plate and Eurasian plate now along Philippine Trench and Philippine fault system)

Pubellier, M., D. Savva, M. Aurelio, F. Sapin et al. (2016)- Structural map of the South China Sea. Commision Geological Map of the World (CGMW), France.
(Detailed 1:3M scale structural elements map of South China Sea region)

Pugh, A. (2007)- Structural evolution of the Nam Con Son Basin: quantitative fault analysis applied to a 3-dimensional seismic dataset. Ph.D. Thesis University of Durham, p. 1-197.
(online at: http://etheses.dur.ac.uk/2497/)
(3-D seismic dataset from centre of Nam Con Son Basin used to build fault/horizon model of E-M Miocene syn-rift sequence. Fault orientations reflect ~NW-SE regional extension direction and N-S trending basement fabric. Dextral transtension for Nam Con Son Basin synchronous with opening of S China Sea)

Pupilli, M. (1973)- Geological evolution of South China Sea area- tentative reconstruction from borderland geology and well data. Proc. 2nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 223-241.
(Reconstruction of Paleozoic-Mesozoic tectonic elements of W Indonesia-Malaysia-Thailand. M Cretaceous arc in S China Sea suggested by monzonites and granodiorites in wells N of Anambas Islands (110 Ma age at Gabus, 92.4 Ma at AF-1X, 86 Ma at Anambas). Terubuk-1 well TD in metamorphosed lavas of probable andesitic nature and M Jurassic K-Ar age of 169±7 Ma, but could be equivalent of Late Triassic Serian volcanics of W Kalimantan. With SE Asia- W Indonesia tectonic elements maps for Lower Paleozoic, U Paleozoic, E-M Mesozoic, M-U Mesozoic and Tertiary)

Qian, Y. (1990)- Heat flow and age of crust of the South China Sea. In: B. Elishewitz (ed.) Proc. CCOP Heat flow workshop III, Bangkok 1988, CCOP Techn. Publ. 21, p. 79-89.
(S China Sea divided into 5 heatflow zones. Age of crust calculated from thermal models as 15 Ma (SW), 17 Ma (C) and 22 Ma (N))

Rangin, C., J.F. Stephan & C. Muller (1985)- Middle Oligocene oceanic crust of the South China Sea, jammed into Mindoro Collision Zone, Philippines. Geology 13, p. 425-428.
(Mindoro Island, S of Luzon is complex junction between Manila Trench and collision zone of N Palawan block with W Philippines mobile belt. M Oligocene ophiolites in suture coeval with oldest magnetic anomalies of S China Sea basin and are interpreted as fragments of S China Sea oceanic crust, now part of E-M Miocene boundary pile of terranes thrust above N Palawan block)

Rangin, C., M. Klein, D. Roques, X. Le Pichon & L.V. Truong (1995)- The Red River fault system in the Tongking Gulf, Vietnam. Tectonophysics 243, p. 209-222.
(Continuation of Red River fault system in Tonkin Gulf studied with seismic and well data. Continuous left-lateral strike-slip SW of Vinh Minh fault between 30 Ma- 5.5 Ma, but offset probably not more than few 10s of km. No sign of post-5.5 Ma right-lateral motion. Prior to 30 Ma widespread extension in 100-km-wide zone,

possibly related to left-lateral motion. 15.5-Ma unconformity separates transtensional from transpressional regime, coinciding with cessation of sea-floor spreading in S China Sea)

Roques, D. (1996)- Tectonique Cenozoique de la marge centre Vietnam: implications pour l'ouverture de la Mer de Chine meridionale. Doct. Thesis, Universitie Pierre et Marie Curie, Paris VI, p. 1-430. *(Unpublished)* *('Cenozoic tectonics of the Central Vietnam margin: implications for the opening of the South China Sea')*

Roques, D., S.J. Matthews & C. Rangin (1997)- Constraints on strike-slip motion from seismic and gravity data along the Vietnam margin offshore Da Nang; implications for hydrocarbon prospectivity and opening of the East Vietnam Sea. In: A.J. Fraser et al. (eds.) Petroleum Geology of Southeast Asia, Geol. Soc. London, Spec. Publ. 126, p. 341-353.

Roques, D., C. Rangin & P. Huchon (1997)- Geometry and sense of motion along the Vietnam continental margin: onshore/offshore DaNang area. Bull. Soc. Geologique France 168, p. 413-422.

Roberts, D.G. (1988)- Basin evolution and hydrocarbon exploration in the South China Sea. In: H.C. Wagner et al. (eds.) Petroleum Resources of China and related subjects, Circum-Pacific Council for Energy & Mineral Resources, Earth Science Ser., Houston, 10, p. 157-177.
(S China Sea is back-arc basin formed by rifting, spreading, and subduction in response to collision between Asian, Indian and W Pacific plates. Hydrocarbon exploration offshore China, Sarawak and in S China Sea discussed in context of basin evolution as shown from sequence analysis)

Ru, K. & J.D. Pigott (1986)- Episodic rifting and subsidence in the South China Sea. American Assoc. Petrol. Geol. (AAPG) Bull. 70, p. 1136-1155.
(S China Sea experienced at least 3 stages of rifting and two intervening stages of sea-floor spreading since E Cretaceous. Rifting and associated thermal activities initiated in Late Cretaceous (NE-SW trend; with widespread volcanic activity in SE China, Natuna arch and in SW Borneo regional Late Cretaceous uplift), Late Eocene and late Early Miocene (E-W trends). Heatflow data suggest oceanic crust in SW subbasin older (55 Ma) than in NW (35-36 Ma) or E (32 Ma))

Sattler, U., A. Immenhauser, W. Schlager & V. Zampetti (2009)- Drowning history of a Miocene carbonate platform (Zhujiang Formation, South China Sea). Sedimentary Geology 219, p. 318-331.
(Zhujiang carbonate platform (BP Liuhua 11-1 field, 220 km SE of Hongkong) succession of facies types, suggesting deepening-upward trend 1) grain facies with miogypsinid/lepidocyclinid fauna in oligotrophic back-reef setting; 2) in situ corals in patch-reef facies in oligotrophic lagoon (< 10m); 3) rhodoid facies, dominated by Heterostegina sp. and spiroclypeids, possibly capped by subaerial exposure surface; 4) pelagic marine shales burying platform after drowning. No evidence for meteoric diagenesis at drowning unconformity on top of carbonate platform)

Sattler, U., V. Zampetti, W. Schlager & A. Immenhauser (2004)- Late leaching under deep burial conditions: a case study from the Miocene Zhujiang carbonate reservoir, South China Sea. Marine Petroleum Geol. 21, 8, p. 977-992.
(Zhujiang E Miocene carbonates reservoir in Liuhua 11-1 field three porous zones of ~20m intercalated with tight zones, parallel to bedding. Majority of pores late leaching in deep burial settings. Tight zones lack porosity because of meteoric cementation prior to late leaching. Corrosive fluids migrated along bedding-parallel tight zone barriers and leached intervals in-between, emphasizing depositional pattern)

Savva, D., F. Meresse, M. Pubellier, N. Chamot-Rooke, L. Lavier, K. Wong Po, D. Franke, S. Steuer & F. Sapin (2013)- Seismic evidence of hyper-stretched crust and mantle exhumation offshore Vietnam. Tectonophysics 608, p. 72-83.
(Eocene-Recent Phu Khanh Basin opened during rifting of S China Sea, when continental crust ruptured along E-Vietnam Boundary Fault. Extreme crustal thinning and mantle uplift that sometimes places sediments in contact with Moho discontinuity mark central part of basin. Low-angle detachment fault separates several crustal blocks from Moho. Above mantle, upper and lower crusts form large crustal boudins. Three stages of

extension: (1) rift sequence between tilted pre-rift basement and Oligocene (32 Ma); (2) Oligocene- Mid Miocene (15.5 Ma); (3) M Miocene- U Miocene (before 10.5 Ma). Two extension directions, N-S and NW-SE. Cessation of rifting not before 12-10.5 Ma)

Savva, D., M. Pubellier, D. Franke, N. Chamot-Rooke, F. Meresse, S. Steuer & J.L. Auxietre (2014)- Different expressions of rifting on the South China Sea margins. Marine Petroleum Geol. 58, B, p. 579-598.
(Different styles of rifting on continental margins of S China Sea. Inherited structures like granitic plutons or large folds condition geometry and location of normal faults and detachments. Evolution of rifting through time dependent of margins structure and thickness, and rifting migrated toward SW. Very shallow water depth or continental depositional environment characterize rifting until entire basin subsided in Late Miocene)

Shao, L., L. Cao, X. Pang, T. Jiang , P. Qiao & M. Zhao (2015)- Detrital zircon provenance of the Paleogene syn-rift sediments in the northern South China Sea. Geochemistry, Geophysics, Geosystems 17, 2, p. 255-269.
(online at: https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1002/2015GC006113)
(Zircon U-Pb geochronology of syn-rift sequences in northern S China Sea suggests significant intrabasinal provenances in addition to terrigenous supply from China margin in N. Dongsha Uplift considered to account for dominance of E Cretaceous zircons in Eocene samples. Episodic nature of rifting and erosion processes in early S China Sea cause of complex patterns in Paleogene provenance history)

Shao, L., L. Cao, P. Qiao, X. Zhang, Q. Li & D.J.J.van Hinsbergen (2017)- Cretaceous-Eocene provenance connections between the Palawan continental terrane and the northern South China Sea margin. Earth Planetary Sci. Letters 477, p. 97-107.
(Zircon U-Pb geochronology and heavy mineral analysis of Cretaceous and Eocene from northern S China Sea and Palawan continental terrane show similarities of Upper Cretaceous and Eocene, exclude possibility of latest Cretaceous drift of Palawan continental terrane in response to Proto-S China Sea opening. Zircon age signatures suggesting conjugate relationship between Palawan terrane and eastern Pearl River Mouth Basin and remained attached to S China margin until Oligocene oceanization of S China Sea)

Shao, L., A. Meng, Q. Li, P. Qiao, Y. Cui, L. Cao & S. Chen (2017)- Detrital zircon ages and elemental characteristics of the Eocene sequence in IODP Hole U1435A: implications for rifting and environmental changes before the opening of the South China Sea. Marine Geology 394, p. 39-51.
(Littoral M-L Eocene sandstone sequence in IODP Hole U1435A mainly composed of subangular quartz (70-80%) and K feldspar (10-15%), indicating proximal provenance of felsic rocks. Detrital zircon ages mainly Mesozoic (E Cretaceous peak at ~110 Ma, derived from China active continental margin arc). Some grains with ages between ~ 65- 38 Ma, indicating M-L Eocene deposition before opening of S China Sea)

Schimanski, A. (2002)- Holocene sedimentation on the Vietnamese Shelf: from source to sink. Doct. Dissertation Christian-Albrechts Universitat, Kiel, 171p.
(online at: https://d-nb.info/972182144/34)
(Holocene deposits on Vietnamese shelf of S China Sea since last deglacial sea level rise. Sediments from 2 major rivers (Red River, Mekong; mainly deposited in deltas) and numerous small mountainous rivers)

Schimanski, A. & K. Stattegger (2005)- Deglacial and Holocene evolution of the Vietnam Shelf; stratigraphy, sediments and sea-level change. Marine Geol. 214, 4, p. 365-387.
(Shallow high-resolution seismic and sediment cores on Vietnam Shelf analyzed to unravel post-glacial evolution. Southern Shelf sedimentation with abundant incised valley fills, cut into late Pleistocene land surface by Paleo-Mekong River during sea level lowstands and filled with transgressive deposits. Central Shelf narrow and conformable strata. Northern Shelf with paleo-Red River channels incised valleys)

Schluter, H.U., K. Hinz & M. Block (1996)- Tectono-stratigraphic terranes and detachment faulting of the South China Sea and Sulu Sea. Marine Geology 130, p. 39-78.
(5 main terranes in S China Sea, 4 in Sulu Sea. Dangerous Grounds, Reed Bank, Palawan- NW Borneo Trough and Palawan continental terranes developed on proto-China margin by simple shearing in Late Cretaceous- E Paleocene. Rift was abandoned and new W-ward propagating rift system developed N of Dangerous Grounds-

Reed Bank from M Eocene- E Miocene together with seafloor spreading in S China Sea. Leading edge of S-drifting continental terranes collided with Late Cretaceous- E Eocene subduction complex of N-most terrane of proto-Sulu Sea. Continuous convergence, back-arc spreading of SE Sulu Sea terrane and anti-clockwise rotation of Borneo responsible for compression structures of Sulu Sea terranes, including formation of splinters of oceanic crust. NNW-SSE right-lateral systems cut across most terranes, presumably ceasing at 12-16 Ma)

Shi, X.B., X. Qiu, K. Xia & D. Zhou (2003)- Characteristics of surface heat flow in the South China Sea. J. Asian Earth Sci. 22, 3, p. 265-277.
(592 surface heatflow measurements in S China Sea. Oceanic basins, W part of S and W fault system high heat flow values. Heat flow in Nansha (Spratley) Islands ~60 mW/m2 or higher, decreasing from NW to SE. Heat flow on E margin and E part of S margin lower, especially in Luzon Trough (av.<40 mW/m2). Values in SW subbasin lower than predicted from age of ocean floor)

Shi, X.B., Qiu X.L., Xia K.Y. & Zhou D. (2003)- Heat flow characteristics and its tectonic significance of South China Sea. J. Tropical Oceanology 22, 2, p. 63-73.
(Same as Shi et al. 2003, above?)

Shiau, L.J., P.S. Yu, K.Y. Wei, M. Yamamoto, T.Q. Lee, T.E. Fang & M.T. Chen (2008)- Sea surface temperature, productivity and terrestrial flux variations of the southeastern South China Sea over the past 800 000 years (MIAGES MD972142). Terrestrial Atmospheric Oceanic Sci. 19, 4, p. 363-376.

Shoup, R.C. (1995)- Tertiary paleogeography of the East and South China Seas. In: C.A. Caughey et al. (eds.) Proc. Int. Symp. Sequence stratigraphy in Southeast Asia, Jakarta 1995, Indon. Petroleum Assoc., p. 451-456.
(Paleogeographic maps for Late Cretaceous- E Paleocene. Late Paleocene- E Eocene, M Eocene, Late Eocene, Oligocene-E Miocene and Late Miocene of E and S China Seas)

Shyu, J.P., M.P. Chen, Y.T. Shieh & C.K. Huang (2001)- A Pleistocene paleoceanographic record from the north slope of the Spratly Islands, southern South China Sea. Marine Micropaleontology 42, p. 61-93.
(1.4 Ma paleoceanography history of offshore north-central Spratly islands, southern S China Sea)

Sibuet, J.C., Y.C. Yeh & C.S. Lee (2016)- Geodynamics of the South China Sea. Tectonophysics 692, B, p. 98-119.
(online at: http://archimer.ifremer.fr/doc/00316/42686/42059.pdf)
(Onset of seafloor spreading in S China Sea now established at 33 Ma. Chron 12 (32 Ma) is oldest chron identified. Crust of NE part of SCS N of chron C12 not oceanic but thinned continental crust intruded by volcanic elongated features emplaced at 17-22 Ma. End of SCS spreading either 15.5, 20.5 Ma or ?? Post-spreading magmatic activity (~13-3.5 Ma) masks spreading fabric. Bathymetric seafloor trends in C part of SCS, suggest extinct ridge axis trends N055°, with N145° transform faults. From Chron 10 until end of SCS opening, plate boundary between S South China Sea and EU plates jumped W-ward several times from Ulugan fault near Palawan to W limit of SW basin, explaining V-shape of SCS. Opening of SCS linked with N-ward subduction of proto-SCS whose suture is located S of Palawan and extends W in N Borneo)

Simon, B., H.L. ten Haven & C. Cramez (1997)- The petroleum systems of the South Con Son Basin, offshore South Vietnam. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Petroleum systems of SE Asia and Australasia Conf., Indon. Petroleum Assoc. (IPA), Jakarta 1997, p. 467-479.
(S Con Son Basin off SE Vietnam is Oligocene rift with tectonic readjustment in M Miocene. Importance of lacustrine source rock considered to be minor compared to terrigenous source rock)

Song, T. & C.F. Li (2015)- Rifting to drifting transition of the Southwest subbasin of the South China Sea. Marine Geophysical Res. 36, 2, p. 167-185.
(SW subbasin of S China Sea with very wide extended continental margins. Two major unconformities in conjugate margins: (1) breakup unconformity (BRU) at ~23 Ma (initial opening of NE S China Sea at ~33 Ma) (2) M Miocene unconformity erosional truncation. Local thick syn-rift and early spreading deposition beneath

BRU only at seaward concave part of Continent- Ocean Boundary. End of S China Sea seafloor spreading is 15 Ma in E and SW subbasins)

Song, X.X., C.F. Li, Y. Yao & H. Shi (2017)- Magmatism in the evolution of the South China Sea: geophysical characterization. Marine Geology 394, p. 4-15.
(Most igneous emplacements in S China Sea margins after end of seafloor spreading, rare during rifting and spreading phases, supporting magma-poor margins before breakup of continental lithosphere. Post-spreading magmatic activities widespread in continental slope areas and central SCS, likely triggered by extension in relation to cooling and subsidence of oceanic and attenuated continental lithosphere. Possible total thermal contractional displacement up to 24 km)

Steinke, S., H.Y. Chiu, P.S. Yu, C.C. Shen, H. Erlenkeuser, L. Lowemark & M.T. Chen (2006)- On the influence of sea level and monsoon climate on the southern South China Sea freshwater budget over the last 22,000 years. Quaternary Science Reviews 25, p. 1475-1488.
(Changes in freshwater budget in S S China Sea over last 22,000 years from sediment core using Mg/Ca and O oxygen isotopes of planktonic foram Globigerinoides ruber. During Last Glacial Maximum higher freshwater contribution because closer to mouths of Baram, Rajang and N Sunda/ Molengraaff Rivers at that time)

Steinke, S., P.S. Yu, M. Kucera & M.T. Chen (2008)- No-analog planktonic foraminiferal faunas in the glacial southern South China Sea: implications for the magnitude of glacial cooling in the western Pacific warm pool. Marine Micropaleontology 66, p. 71-90.
(Planktonic foraminiferal abundances relatively unchanged in tropical S South China Sea during Last Glacial Maximum, except for relative high abundance of Pulleniatina obliquiloculata and Neogloboquadrina pachyderma (dextral) during glacials)

Steuer, S., D. Franke, F. Meresse, D. Savva, M. Pubellier & J.L. Auxietre (2014)- Oligocene-Miocene carbonates and their role for constraining the rifting and collision history of the Dangerous Grounds, South China Sea. Marine Petroleum Geol. 58B, p. 644-657
(Attenuated continental crust of Dangerous Grounds in SE part of S South China Sea affected by unconformities In NE Dangerous Grounds top of widespread Oligocene - E Miocene (18-20 Ma) carbonate platform. In SW Dangerous Grounds unconformity sealing tectonic activity known as 'M Miocene Unconformity', is of Early Miocene age. Luconia and S Dangerous Grounds sub-aerial during E Miocene, while Reed Bank, N Dangerous Grounds and parts of C Dangerous Grounds mostly submerged, except for some islands on W edge of Borneo-Palawan Trough (foreland basin, where flexural forebulge provided shallow marine conditions that promoted reef growth). Carbonate deposition migrated from Borneo-Palawan trough toward Dangerous Ground)

Su, D., X. Chen & Z. Liu (1995)- The gravity field and tectonics of the Nansha Islands (Dangerous Grounds). In: G.H. Teh (ed.) Proc. AAPG-GSM Int. Conf. Southeast Asian basins; oil and gas for the 21st century, Kuala Lumpur 1994, Bull. Geol. Soc. Malaysia 37, p. 117-123.
Gravity surveys of Nansha Islands in S part of S China Sea show three zones: (1) Zengmu (Sarawak) Basin, where gravity mostly controlled by sediment thickness; (2) Reed Bank Gravity High (highest gravity values in S China Sea), where gravity influenced mostly by deep crustal structure, and (3) Nansha (Palawan) Trough gravity low. Modelled crustal thickness ~25 km for Reed Bank, 20-25 km in reef areas, ~20 km in trough areas, and 17-20 km thick beneath Zengmu Basin)

Su, X., Y. Xu & Q. Tu (2004)- Early Oligocene- Pleistocene calcareous nannofossil biostratigraphy of the Northern South China Sea (Leg 184, sites 1146-1148). In: W.L. Prell et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results, 184, 224, p. 1-24.
(online at: /www-odp.tamu.edu/publications/184_SR/VOLUME/CHAPTERS/224.PDF)
(Oligocene-Pleistocene sequences at Sites 1146 and 1148, northern South China Sea, subdivided into 4 Paleogene and 21 Neogene zones of Martini. Unconformity at Oligocene-Miocene transition, with upper Zone NP25 and lower Zone NN1 missing (missing time span ~1 My))

Sun, W. (2016)- Initiation and evolution of the South China Sea: an overview. Acta Geochimica 35, 3, p 215-225.
(online at: http://english.gyig.cas.cn/pu/papers_CJG/201608/P020160809552862768935.pdf)
(Multiple models proposed for origin of S China Sea. Preferred model involves two-stage backarc extension, induced by N-ward subduction of Neotethys Plate, with normal subduction followed by ridge subduction/ flat subduction. First backarc extension responsible for formation of proto-SCS, second extension responsible for Shenhu event and ultimately formation of SCS)

Sun, X., X. Li & H. Beug (1999)- Pollen distribution in hemipelagic surface sediments of the South China Sea and its relation to modern vegetation distribution. Marine Geology 156, p. 221-226.
(online at: http://users.clas.ufl.edu/krigbaum/6930/Sun_etal_MarineGeology_1999.pdf)
(Distribution of pollen in surface sediments of S China Sea in 28 samples from water depths of 329-4307m)

Sun, X., Y. Luo & H. Chen (2003)- Deep-sea pollen research in China. Chinese Science Bull. 48, 20, p. 2155-2164.
(online at: www.scichina.com:8080/kxtbe/fileup/PDF/03ky2155.pdf)
(Study of pollen distributions in deep sea sediments of S China Sea and E China Sea (mainly Quaternary). Spectral analyses show Milankovich cyclicities in vegetation of surrounding land areas. Changes of herbs and pine pollen percentages in phase with d18O record. Not much detail)

Sun, X., Y. Luo, F Huang, J. Tian & P. Wang (2003)- Deep-sea pollen from the South China Sea: Pleistocene indicators of East Asian monsoon. Marine Geology 201, p. 97-118.
(High-resolution pollen record from northern S China Sea ODP Site 1144, covers last 1.03 My. High, varying proportions of Pinus and herb pollen, forming base of 29 pollen zones that are closely correlated to Oxygen Isotope Stages (MIS) 1-29. Pinus dominant pollen zones correspond to interglacial periods, herb peaks relate to heavier N18O stages assigned to glacials. Exposed N continental shelf covered by grassland during glacials. Relatively high fern percentage with smaller amplitude in variations before 600 ka may suggest more stable humid conditions before intensification of winter monsoon. Microtektites at 386.4m, part of Australasian strewnfield, close to Brunhes/Matuyama boundary (780 ka). Milankovich cyclicity)

Sun, Z., Z. Zhong, M. Keep, D. Zhou, D. Cai, X. Li, S. Wua & J. Jiang (2009)- 3D analogue modeling of the South China Sea: a discussion on breakup pattern. J. Asian Earth Sci. 34, p. 544-556.
(Modeling of S China Sea spreading history, from ~31-16 Ma. Breakup unconformities at ~30 Ma in N, and 23 Ma in S, similar to Briais et al. dating)

Sun, Z., D. Zhou, Z. Zhong, B. Xia, X. Qiu & J. Jiang (2006)- Research on the dynamics of the South China Sea opening: evidence from analogue modeling. J. Science in China, D 49, 10, p. 1053-1069.
(S China Sea continental rifting and early spreading from 32- 26 Ma. From 24 Ma on, spreading in NW-SE direction and ceased spreading at ~15.5 Ma. Early opening accompanied by ~15° CW rotation, while SE sub-sea basin opened with SE extension. Existence of rigid massifs changed orientations of some faults and rift belt, and led to deformation concentrated around massifs. Rifting and drifting of SCS might be caused by slab pull from proto S China Sea subducting toward Borneo and/or mantle flow caused by India-Asia collision)

Sun, Z., D. Zhou, S. Wu, Z. Zhong, M. Keep, J. Jiang & H. Fan (2009)- Patterns and dynamics of rifting on passive continental margin from shelf to slope of the northern South China Sea: evidence from 3D analogue modeling. J. Earth Science 20, 1, p. 136-146.

Tan, M.T. (1995)- Seismic stratigraphic studies of the continental shelf of Southern Vietnam. J. Petroleum Geol. 18, 3, p. 345-354.

Tang, Q. & C. Zheng (2013)- Crust and upper mantle structure and its tectonic implications in the South China Sea and adjacent regions. J. Asian Earth Sci. 62, p. 510-525.
(3D S-velocity model for crust and upper mantle of S China Sea area shows sea basinal regions, island arc and continental regions. Crustal thickness (~15- >50 km and lithospheric thicknesses ~60- >140km, thinnest in S

China Sea, thickest in E Tibet and Yangtze Blocks. Results show: (1) Mesozoic subduction zone along S China margin; (2) influence of Indochina extrusion along Red River Fault limited; (3) slab remnant of proto-S China Sea beneath Borneo. With plate reconstructions at 150, 40, 30, 20, and 15 Ma)

Tang, X., L. Chen, S. Hua, S. Yang, G. Zhang, H. Shen, S. Rao & W. Li (2014)- Tectono-thermal evolution of the Reed Bank Basin, Southern South China Sea. J. Asian Earth Sci. 96, p. 344-352.
(Reed Bank Basin in S margin of S China Sea two stages of Paleogene rifting (~65.5-40.4 Ma and ~40.4-28.4 Ma) recognized from tectonic subsidence rates. Corresponding phases of heating with average basal paleo-heat flow values at end of rifting events ~60 and ~66.3 mW/m2. Thermal attenuation since ~28.4 Ma, with basal heat flow down to ~57.8-63.5 mW/m2 at present)

Taylor, B. & D.E. Hayes (1980)- The tectonic evolution of the South China Basin. In: D.E. Hayes (ed.) The tectonic and geologic evolution of Southeast Asian Seas and Islands- 1, American Geophys. Union (AGU), Geophys. Monograph 23, p. 89-104.
(Magnetics patterns in S China Sea suggests active seafloor spreading from M Oligocene- E Miocene (32-17 Ma). Magnetic lineations trend E-W; position of relict spreading center coincides closely with E-trending linear chain of seamounts near 15°N. N Palawan was most likely attached to Reed-Bank Block and China Margin before M Oligocene. Limited data suggest change in spreading fabric in SW corner of basin)

Taylor, B. & D.E. Hayes (1983)- Origin and history of the South China Sea Basin. In: D.E. Hayes (ed.) The tectonic and geologic evolution of Southeast Asian seas and islands, 2, American Geophys. Union (AGU), Geophys. Monograph 27, p. 23-56.
(New magnetic anomaly data date seafloor spreading in S China Sea as M Oligocene- E Miocene (32-17 Ma). Thick sediments (1-2.5 km) and rel. smooth oceanic basement characterize older parts of basin; thinner sediments (300m-1 km) and blocky basement fabric characterize younger central part of basin. Opening of basin moved microcontinental blocks (incl. N Palawan and Reed Bank) from Paleogene position adjacent to China mainland. Basin initially opened in N-S direction. Seafloor spreading in basin ended slightly before late M Miocene cessation of subduction at Palawan subduction zone to S)

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(New Holocene sea-level record derived from coastal deposits of S Vietnam shelf covers deglacial sea-level history between 13-9 ka. Relatively constant rate of sea-level rise, shoreline retreat of >200 km)

Tjallingii, R., K. Stattegger, A. Wetzel & Phung Van Phach (2010)- Infilling and flooding of the Mekong River incised valley during deglacial sea-level rise. Quaternary Science Reviews 29, p. 1432-1444.
(Abrupt transition from fluvial mud to shallow marine carbnate sand deposition in incised-valley-fill from SE Vietnam shelf records Holocene postglacial transgression after 14 ka. Rapid aggradation of fluvial sediments at river mouth nearly completely filled Mekong incised valley prior to flooding between 13.0- 9.5 ka)

Tran Dai Thang, Nguyen Anh Duc, Mai Thanh Ha & Tran Ngoc Lan (2015)- Geological characteristics and hydrocarbon potential of Nam Con Son Basin deep water. Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) Confe. 2015, Singapore, 10.1, p. 1-5. *(Extended Abstract + Presentation)*
(Review of petroleum prospectivity of E part of Nam Con Son Basin, off S Vietnam. Two rift phases: Eocene- E Oligocene and late E Miocene- Middle Miocene)

Tran Khac Tan & Nguyen Quang Bo (1997)- Geological modelling and reservoir properties of basement rocks of the South Vietnam continental shelf. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Petroleum systems of SE Asia and Australasia Conf., Indon. Petroleum Assoc. (IPA), Jakarta 1997, p. 539-544.
(Basement rocks underlying Cuu Long and Nam Con Son basins mainly granites- granodiorites, but also some metamorphic rocks)

Tran Tuan Dung, Bui Cong Que & Nguyen Hong Phuong (2013)- Cenozoic basement structure of the South China Sea and adjacent areas by modeling and interpreting gravity data. Russian J. Pacific Geology 7, 4, p. 227-236.

Traynor, J.J. & C. Sladen (1997)- Seepage in Vietnam- onshore and offshore. Marine Petroleum Geol. 14, 4, p. 345-362.
(Onshore and offshore hydrocarbon seeps along coast and offshore Vietnam linked to migration from Tertiary source rocks. Residual oil in outcrop in breached traps in Tertiary sections and in exhumed 'buried hill' traps in pre-Tertiary rocks in onshore Hanoi Basin. Active oil seepage on W margin of offshore Phu Khanh Basin through fractured granites at basin margin. Onshore gas seeps in S Vietnam. Sea bed seeps not common)

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(Asian summer monsoon intensity has decreased gradually from maximum in E Miocene but Asian winter monsoon shows phased enhancement since 20 Ma)

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(Rapid increase in weathering erosion and sedimentation around S China Sea around E-M Miocene boundary, (17.2- 15 Ma) correlates closely with Miocene Climate optimum, suggests extreme continental weathering and erosion at time of high temperature and strong precipitation)

Wan, S., A. Li, P.D. Clift & H. Jiang (2006)- Development of the East Asian summer monsoon: evidence from the sediment record in the South China Sea since 8.5 Ma. Palaeogeogr. Palaeoclim. Palaeoecology 241, p. 139-159
(Abrupt decreases in terrigenous accumulation rate grain size, smectite content, etc. in ODP site 1143 at ~5.2 Ma suggests source of Mekong River-derived terrigenous sediment between 8.5-5.2 Ma was mainly from area of surface uplift and M-L Miocene basaltic volcanism in S Vietnam. After 5.2 Ma Vietnam tectonic activity ceased and terrigenous sediment at Site 1143 increasingly dominated by erosion within Tibetan Plateau)

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(Stratigraphic position of M-Pleistocene microtektite layer estimated at 10-12 ka before Brunhes-Matuyama magnetic polarity reversal in deep sea cores from Indian Ocean, Sulu Sea, Celebes Sea and also in S China Sea, suggesting age of widespread Australasian meteorite impact is ~800-802 ka BP)

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(Sediment cores from S China Sea (SCS) with proxy records of past changes in East Asian monsoon climate on millennial to bidecadal time scales over last 220,000 years. Two different regimes of monsoon circulation in SCS over last two glacial cycles: (1) glacial stages with stable estuarine circulation and strong O2-minimum layer via closure of Borneo sea strait; cool surface water during winter; large river input from emerged Sunda shelf; (2) Interglacials with strong inflow of warm water via Borneo sea strait, intense upwelling SE of Vietnam and continental wetness in China during summer; low seasonality)

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Wang, P. & Q. Li (eds.) (2009)- The South China Sea: paleooceanography and sedimentology. Developments in Paleoenvironmental Research 13, Springer Verlag, 506p.
(Extensive review of oceanography, stratigraphy, sedimentology and history of S China Sea)

Wang, P. & Q. Li (2009)- History of the South China Sea- a synthesis. In: P. Wang & Q. Li (eds.) The South China Sea: paleooceanography and sedimentology, Developments in Paleoenvironmental Research 13, Springer Verlag, p. 485-496.
(History of S China Sea three major stages: Early Paleogene pre-spreading rift stage (>37 Ma); (2) Late Eocene- E Miocene (37- 16 Ma) seafloor spreading phase, ending with collision of Nansha Plate and N Borneo; (3) post-spreading or closing stage since Middle-Late Miocene. Late Oligocene unconformity in many basins (~25-23 Ma) probably related to major ridge jump and extrusion of Indochina and associated with shift of main sediment source from SW (Indochina-Sundaland) to North (mainland China). Reduction in clastic influx lead to widespread carbonate deposition in E-M Miocene. Collision of Asian Plate with at E side of SCS and Luzon Arc started at ~6.5 Ma)

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(M Pleistocene changes in the radiolarian/foraminfera ratio, etc., related to global climate cooling of ~900 ka. Pronounced S-ward shift of North Equatorial Current led to lower sea-surface temperatures in S China Sea, with shift of tropical to subtropical radiolarian assemblages, increased radiolarian abundance, etc.)

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('Biostratigraphy, microfacies and diagenesis of Tertiary carbonates from the South China Sea'. Dangerous Grounds dredge samples compared to St Paul Limestone on Palawan and Nido Fm in wells on NW Palawan shelf. Most samples abundant Te5 (U Oligocene- Lower Miocene) larger foraminifera. Various shallow water facies. Carbonates represent drowned Oligocene-Miocene carbonate platform, now at water depths of 2400m. Carbonate stability ranking, from low to high stability: aragonitic skeletons (corals, bivalves), soritids, lepidocyclinids/ miogypsinids, Cycloclypeus, coralline algae, echinoderms, amphisteginids. Low Sr content points to 'marine' diagenesis)

Wirasantosa, S. (1992)- Cenozoic seismic stratigraphy and structure of the continental margin offshore Vietnam, South China Sea. Ph.D. Thesis Texas A&M University, p. 1-180.

Wong, H.K., T. Ludmann, C. Haft, A.M. Paulsen et al. (2003)- Quaternary sedimentation in the Molengraaff paleo-delta, Northern Sunda shelf (Southern South China sea). In: F.H. Sidi, D. Nummedal et al. (eds.) Tropical deltas of Southeast Asia- sedimentology, stratigraphy and petroleum geology, Soc. Econ. Geol. (SEPM), Spec. Publ. 76, p. 201-216.
(Seven seismic units below postglacial unit are prograding shelf-margin lowstand wedges, deposited during forced regressions. Oldest unit may reach back to 570 ka. Outer Sunda shelf was delta plain of Molengraaff river system during last glacial)

Worden, R.H., M.J. Mayall & I.J. Evans (1997)- Predicting reservoir quality during exploration: lithic grains, porosity and permeability in Tertiary clastic rocks of the South China Sea Basin. In: A.J. Fraser et al. (eds.) Petroleum Geology of Southeast Asia, Geol. Soc., London, Spec. Publ. 126, p. 107-115.
(Tertiary sandstones in Gulf of Thailand, Malay and South China Sea basins rich in pelitic metamorphic rock fragments, weathered basic igneous rock fragments and micaceous rock fragments. Rapid loss of porosity with depth at rate commensurate with sandstones with 20-40% ductile grains. Low permeabilities at shallow depths relative to other hydrocarbon provinces which have lower ductile grain contents)

Wright, C.M. (2006)- Neogene stratigraphic relationships within the Nam Con Son Basin, offshore Vietnam resulting from tectonics, eustasy and sediment flux. Ph.D. Thesis, Texas A&M University, p. 1-115.
(online at: http://oaktrust.library.tamu.edu/bitstream/handle/1969.1/ETD-TAMU-1128/WRIGHT-DISSERTATION.pdf?sequence=1))
(Nine sequence boundaries and associated sequences are recognized on seismic along Late Miocene-Pleistocene shelf in E Nam Con Son Basin. Ages assigned to horizons by correlating sequence boundaries with published sea level curves. Two primary Pliocene-Recent sediment sources to SW S China Sea, probably paleo-Mekong Delta and fluviodeltaic system from Sunda Shelf, such as Molengraaff River)

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(online at: /www.episodes.co.in/www/backissues/112/ARTICLES--91.pdf)
(37 Cenozoic sedimentary basins recognized in S China Sea, 18 of which with oil and gas. Grouped in 6 major depositional provinces. With small Eocene, Late Oligocene and M Miocene depositional facies maps)

Wu, J. (1994)- Evaluation and models of Cenozoic sedimentation in the South China Sea. Tectonophysics 235, p. 77-98.
(S China Sea marginal basin geologically complex and characterized by extensive distribution and complicated evolution of thick Cenozoic sediments. Cenozoic divided into eight sedimentary provinces. Line linking Taiwan and Natuna was sea-land boundary of S China Sea in early Cenozoic. Transgression cycle dominant W of this line, while regression prevails to E)

Wu, S., S. Yuan, G. Zhang, Y. Ma, L. Mi & N. Xu (2009)- Seismic characteristics of a reef carbonate reservoir and implications for hydrocarbon exploration in deepwater of the Qiongdongnan Basin, northern South China Sea. Marine Petroleum Geol. 26, 6, p. 817-823.

(Two areas of reef carbonate reservoirs in M Miocene in Qiongdongnan Basin, N S China Sea. Seismic character similar to LH11-1 reef reservoir in Dongsha Uplift and Island Reef of Salawati Basin, Indonesia)

Wu, S., Z. Yang, D. Wang, F. Lu, T. Ludmann, C. Fulthorpe & B. Wang (2014)- Architecture, development and geological control of the Xisha carbonate platforms, northwestern South China Sea. Marine Geology 350, p. 71-83.
(Architecture and evolution of isolated carbonate platforms on continental slope of N South China Sea. Xisha carbonate platforms initiated on Xisha Uplift, in E Miocene and remained active up to present)

Wu, S., X. Zhang, Z. Yang, T. Wu, J. Gao & D. Wang (2016)- Spatial and temporal evolution of Cenozoic carbonate platforms on the continental margins of the South China Sea:response to opening of the ocean basin. Interpretation 4, 3, p. SP1-SP19.
(Widespread and thick Cenozoic carbonate sequences along margins of S China Sea. Platforms developed during rifting and initiated on fault blocks of conjugate rift margins. Most carbonate platforms drowned afterM Miocene. Malampaya Carbonate >600m thick, developed on Oligocene rifted horst block. Subsidence, tectonic tilting, faulting, and foreland bulge controlled drowned carbonate platforms. The tectonic evolution and relative sea-level fluctuations controlled depositional cycles of carbonate platforms. Carbonate platforms flourished in M Miocene due to stable tectonic conditions and shrank during Late Miocene due to rapid subsidence. Relative sea level exerted 2nd-order control on evolutionary trend of carbonate platforms and third-order control on evolutionary periods in each stage)

Wu, X., X. Pang, H. Shi, M. Hen, J. Shen, X. Zhang & D. Hu (2009)- Deep structure and dynamics of passive continental margin from shelf to ocean of the Northern South China Sea. J. Earth Sci. 20, 1, p. 38-48.
(online at: www.earth-science.net/ejournal/paper/2009-1-04.pdf)

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Xia, K.Y. & D. Zhou (1993)- The geophysical characteristics and evolution of northern and southern margins of the South China Sea. In: G.H. Teh (ed.) Proc. Symposium on tectonic framework and energy resources of the Western margin of the Pacific Basin, Kuala Lumpur 1992, Bull. Geol. Soc. Malaysia 33, p. 223-240.

Xia, K.Y., C.L. Huang, S.R. Jiang, Y.X. Zhang, D.Q. Su, S. Xia & Z. Chen (1994)- Comparison of the tectonics and geophysics of the major structural belts between the northern and southern continental margins of the South China Sea. Tectonophysics 235, p. 99-116.
(N margin of S China Sea is divergent margin, S margin (Palawan- Sabah- Sarawak) is convergent/collisional margin)

Xie, X, R.D. Muller, S. Li, Z. Gong & B. Steinberger (2006)- Origin of anomalous subsidence along the Northern South China Sea margin and its relationship to dynamic topography. Marine Petroleum Geol. 23, p. 745-765.
(Cenozoic stratigraphic sections and wells from N South China Sea margin used to assess mechanisms contributing to Late Tertiary tectonic subsidence)

Xu, G.Q., S.H. Wu, L. Zhang, X.G. Li, H. Yi, L. Lei & X. Xu (2013)- Stratigraphic division and depositional processes for the Mesozoic basin in Northern South China Sea. Marine Geophysical Res. 34, 3, p. 175-194.
(N China Sea margin Mesozoic section initial transgression in Late Triassic after Indosinian event, deepening to E Jurassic maximum flooding event. Followed by shallow marine M Jurassic, deep marine Late Jurassic- E Cretaceous, mainly non-marine deposition through Cretaceous. Volcanic episodes)

Xu, H.H., H. Ma, H.B. Song & A.H. Chen (2011)- Eastern South China Sea basin expansion numerical simulation. Chinese J. Geoph. 54, 6, p. 956-966.
(online at: www.agu.org/wps/ChineseJGeo/54/06/xhh.pdf)

(Expansion of S China Sea in E Oligocene- E Miocene (oceanic crust age ~32-15.5 Ma) includes at least one ridge transition. Common large seamounts rise 3000-4000m high above seafloor; much of seamount magmatic activity may be younger than oceanic spreading. Simulation results indicate ridge jump is important process of S China Sea expansion. forming magma chamber between two ridges, creating more submarine volcanoes and higher terrain between ridges)

Xu, H., J. Sun, J. Liao, G. Dong, J. Liu, H. Song, Z. Wang, Z. Sun et al. (2012)- Bioherm petroleum reservoir types and features in main sedimentary basins of the South China Sea. J. Earth Science 23, 6, p. 828-841.
(In S China Sea Neogene organic reefs are reservoirs of largest oil- gas fields, incl. Liuhua 11-1 oilfield in N and large L gas field in S. In SE and S S China Sea organic reefs built up earlier than N. Liuhua oilfield in Pearl River Mouth basin is mainly red algal bindstone. Malampaya buildup in N Palawan basin rich in red algal bindstone and green algal reef segmented rock. In Xisha Islands mainly Miocene red algal framestone and green algal segmented rock)

Xu, H., Y. Zhu, G. Eberli, W. Luo, X. Zhao, Y. Cai, L. Ying, X. Liu et al. (2015)- Characteristics of porosity and permeability layer of fossil *Halimeda* reef mineral rock of Miocene in the Xisha Islands and its genetic model. Acta Oceanologica Sinica 34, 4, p. 74-83.
(Halimeda one of the major reef-building algae in M Miocene of Xisha, making good oil- gas reservoirs)

Xu, J., P. Wang, B. Huang, Q. Li & Z. Jian (2005)- Response of planktonic foraminifera to glacial cycles: Mid-Pleistocene change in the southern South China Sea. Marine Micropaleontology 54, p. 89-105.
(Planktonic foraminifera from ODP Site 1143 in S South China Sea show faunal response to glacial cycles in last 2.1 Ma. Abundances of Globorotalia menardii high in interglacials and low in glacials. Pulleniatina obliquiloculata before Mid-Pleistocene Revolution also higher abundances during glacials)

Xu, Y.G., J.X. Wei, H.N. Qiu, H.H. Zhang & X.L. Huang (2012)- Opening and evolution of the South China Sea constrained by studies on volcanic rocks: preliminary results and a research design. Chinese Science Bull. 57, 24, p. 3150-3164.
(online at: http://download.springer.com/...)

Yan, P., H. Deng, H. Liu, Z. Zhang & Y. Jiang (2006)- The temporal and spatial distribution of volcanism in the South China Sea region. J. Asian Earth Sci. 27, p. 647-659.
(online at: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.455.1789&rep=rep1&type=pdf)
(Very little Cenozoic volcanism associated with rifting and sea floor spreading in S China Sea. Large basement relief caused by extension formed major basins and continental-oceanic transitional zone in N margin reflects high crustal rigidity during rifting- drifting)

Yan, P. & H. Liu (2005)- Tectonic-stratigraphic division and blind fold structures in Nansha Waters, South China Sea. J. Asian Earth Sci. 24, 3, p. 337-348.
(Seismic data from Nansha waters (Spratley Islands; S margin South China Sea. Five tectonic belts: Palawan-Borneo Nappe (NW-thrusted antclines of Neogene sediments), Nansha Trough (deep, undisturbed Neogene), Nanwei-Liyue Compressive Belt (Late Mesozoic paleo-anticlines overlain by undeformed sediments with Paleogene hiatus), Zheng'he Extensional Belt (Paleogene half-grabens, recent reactivationd) and Circum-Southwest Subbasin Belt (Neogene draped on subsided fault blocks related to Late Oligocene-M Miocene seafloor spreading). Nansha Microcontinent Block is collision complex assembled in Late Mesozoic)

Yan, P., Y. Wang & H. Liu (2008)- Post-spreading transpressive faults in the South China Sea Basin. Tectonophysics 450, p. 70-78.
(S China Sea formed by Late Oligocene- M Miocene seafloor spreading. After cessation of spreading, compression due to NW-moving Taiwan-Luzon Arc causing strike-slip motion on E and W margins and basin-wide transpressive fault zones, and young volcanism)

Yan, P., D. Zhou & Z. Liu (2001)- A crustal structure profile across the northern margin of the South China Sea Basin. Tectonophysics 338, p. 1-21.

Yan Q.S., P. Castillo, X. Shi, L.L. Wang, L. Liao & J. Ren (2015)- Geochemistry and petrogenesis of volcanic rocks from Daimao Seamount (South China Sea) and their tectonic implications. Lithos 218-219, p. 117-126.
(Daimao Seamount (16.6 Ma) formed 10 My after cessation of 17°N spreading center. Basaltic breccia clasts in volcaniclastics suggest Daimao and other SCS seamounts typical ocean island basalt composition and 'Dupal' isotopic signature. Daimao Seamount formed through submarine explosive basaltic volcanism at 16.6 Ma. Seamount subsided rapidly, with deposition of shallow-water, coral-bearing carbonates around summit)

Yan, Q.S. & X.F. Shi (2009)- Characteristics of volcaniclastic rocks from seamounts in the South China Sea and its geological implications. Acta Petrologic Sinica 25, 12, p. 3327-3334. *(in Chinese)*
(Volcanoclastic rocks from two seamounts in S China Sea alkali basalts)

Yan, Q., X.F. Shi & P. Castillo (2014)- The late Mesozoic-Cenozoic tectonic evolution of the South China Sea: a petrologic perspective. J. Asian Earth Sci. 85, p. 178-201.
(Late Mesozoic Yanshanian granitoids in (SE China), Pearl River Mouth Basin, micro-block in S China Sea (Zhongsha, Nansha, N Mindoro), continental shelf and Dalat zone in SE Vietnam and Schwaner Mountains in W Kalimantan mainly I-type granites, formed in continental arc tectonic setting (~159-70.5 Ma, av. 100 Ma). Early bimodal volcanism (60-43 Ma or 32 Ma) at N margin of SCS, followed by passive style volcanism during Cenozoic seafloor spreading (37 or 30-16 Ma) within SCS, post-spreading tholeiitic volcanism at 17-8 Ma (mantle plume?), followed by alkali series from 8 Ma- present in SCS region)

Yan, Q., X. Shi & N. Li (2011)- Oxygen and lead isotope characteristics of granitic rocks from the Nansha block (South China Sea): implications for their petrogenesis and tectonic affinity. Island Arc 20, 2, p. 150-159.
(Granitic samples dredged from NW margin of Nansha microblock in S China Sea emplaced between 157-127 Ma (Late Jurasic- E Cretaceous). Age and geochemistry similar to granites from Reed Bank and Yanshanian granites of E China. Isotope ratios tied to Mesozoic subduction zone in SE side of microblock, tectonically affiliated with Nanling-Hainan (S China) block)

Yan, Q., X. Shi, J. Liu, K. Wang & W. Bu (2010)- Petrology and geochemistry of Mesozoic granitic rocks from the Nansha micro-block, South China Sea: constraints on the basement nature. J. Asian Earth Sci. 37, p. 130-139.
(Nansha block one of several micro-blocks dispersed in S China Sea (Xisha-Zhongsha, Reed-NE Palawan block, etc.). Ages for granitic dredge samples of Nansha micro-block 159-127 Ma, comparable to Late Jurassic-E Cretaceous magmatic activity in N margin. Tonalitic and monzogranitic rock groups, related to calc-alkaline Pacific Plate subduction that existed across Taiwan, Palawan to S Vietnam)

Yan, Q.S., X.F. Shi, K.S. Wang, W.R. Bu & L. Xiao (2008)- Major element, trace element, and Sr, Nd and Pb isotope studies of Cenozoic basalts from the South China Sea. Science in China, D: Earth Sciences, 51, 4, p. 550-566.
(K-Ar ages of basalts from S China Sea basin 3.8- 7.9 Ma, suggesting intra-plate volcanism after cessation of spreading of S China Sea, comparable regions around SCS. Belong to alkali basalt series, similar to OIB-type basalt. Also geochemical constraints on Hainan mantle plume)

Yang, F., Z. Sun, Z. Zhou, Z. Wu, D. Gao & Q. Li (2013)- The evolution of the South China Sea basin in the Mesozoic-Cenozoic and its significance for oil and gas exploration: a review and overview. In: D. Gao (ed.) Tectonics and sedimentation: implications for petroleum systems, American Assoc. Petrol. Geol. (AAPG), Mem. 100, p. 397-418.
(Greater S China Sea Basin four evolutionary phases: (1) Late Triassic- M Jurassic divergent continental margin, (2) Late Jurassic- M Eocene convergent intracontinental setting, (3) late Eocene- Miocene divergent continental margin, and (4) Pliocene- Present convergent continental margin setting. (SW Borneo shown as part of mainland SE Asia since Late Triassic or earlier))

Yang, S. & N. Fang (2015)- Geochemical variation of volcanic rocks from the South China Sea and neighboring land: implication for magmatic process and mantle structure. Acta Oceanologica Sinica 34, 12, p. 112-124.
(online at: www.hyxb.org.cn/aosen/ch/...)
(Geochemical study of Kon Tum plateau, Sanshui basin and Daimao seamount volcanic rocks. Basaltic lavas indicate not deep-rooted plume origin, but shallower mantle domain)

Yu, H.S. (1994)- Structure, stratigraphy and basin subsidence of Tertiary basins along the Chinese southeastern continental margin. Tectonophysics 235, p. 56-76.
(Offshore Tertiary basins along broad shelf from Taiwan to Hainan Island with similar characteristics. Paleogene basins mainly NE-SW trending half-grabens and fault blocks)

Yu, X.Z., C. Xue, H. Shi, W. Zhu, Y. Liu & H. Yin (2017)- Expansion of the South China Sea basin: constraints from magnetic anomaly stripes, sea floor topography, satellite gravity and submarine geothermics. Geoscience Frontiers 8, 1, p. 151-162.
(online at: https://www.sciencedirect.com/science/article/pii/S1674987116000050)
(Model for Oligo-Miocene spreading in S China Sea basin. NW-SE expansion of SW subbasin later than N-S expansion of central basin; both expansions end at same time. Expansion of SW sub-basin similar to Japan Sea, likely caused by left-lateral strike slip on central fault zone in S China Sea)

Zampetti, V., U. Sattler & H. Braaksma (2005)- Well log and seismic character of Liuhua 11-1 Field, South China Sea; relationship between diagenesis and seismic reflections. Sedimentary Geology 175, p. 217-236.
(Seismic reflections in Miocene carbonate buildup of Liuhua 11-1 Field (220 km SE of Hongkong) image alternating tight and porous zones. Most porosity related to leaching in deep burial realm that postdates pressure solution, implying seismic reflections do not necessarily image depositional surfaces, although diagenetically induced porosity often follows primary depositional bedding)

Zeng, W., Z. Li, G. Wang & H. Huang (1996)- Global geoscience transect, Guangzhou- Palawan. In: G.P. & A.C. Salisbury (eds.) Trans. 5th Circum-Pacific Energy and Mineral Resources Conference, Honolulu 1990, Gulf Publishing, Houston, p. 421-442.
(Integrated geological-geophysical interpretation of NW-SE transect across South China Sea)

Zhang, C., S.M. Wu & X.L. Qiu (2007)- Formation of foreland basins in the South of the South China Sea. Marine Geology & Quaternary Geology 27, 1, p. 61-70. *(in Chinese with English Abstract)*
(Zhou 2009: Foreland basins in S SCS formed early in SW (Late Eocene) and later in NE (M Miocene), possibly indicating formation of subduction zone along S margin of SCS was from SW to NE)

Zhang, G., H. Qu, S. Liu, X. Xie, Z. Zhao & H. Shen (2016)- Hydrocarbon accumulation in the deep waters of South China Sea controlled by the tectonic cycles of marginal sea basins. Petroleum Research (Chinese Petrol. Soc.) 1, 1, p. 39-52.
(online at: www.sciencedirect.com/science/article/pii/S2096249517300297)
(Two tectonic cycles of marginal sea basins in S China Sea: Palaeo-SCS and Neo-SCS. N part of SCS is rifted continental margin; Nansha Block is drifting rift basin. S part compound compressional basin on active margin; W part is shear-extensional basin on transform continental margin; E part is accretionary wedge at subduction continental margin. Deep-water basins mainly on continental slope and Nansha Block. Three sets of source rocks in N continental margin: Eocene terrestrial facies, E Oligocene transitional and late Oligocene marine facies. Main hydrocarbon reservoir types related to structural traps, deep water fans and reefs)

Zhang, G., W. Tang, X. Xie, Z.G. Zhao & Z. Zhao (2017)- Petroleum geological characteristics of two basin belts in southern continental margin in South China Sea. Petroleum Exploration and Development (China) 44, 6, p. 899-910.
(online at: https://www.sciencedirect.com/science/article/pii/S1876380417301027)
(South China Sea 3 tectonic stages: (1) development of Proto-SCS, (2) subduction of Proto-SCS and (3) development of Neo-SCS (rapid subsidence followed by shrinking). Southern and Northern Tertiary basins belts

in southern continental margin (N Borneo). Main source rocks in S basin belt Miocene coal, nearshore marine (oil) and offshore (gas). In N basin belt, source rocks Eocene -Oligocene, gas-prone, highly mature, with reefs and faulted blocks as main traps)

Zhang, G. & M. Yang (1997)- Study of overthrust nappes and its geodynamic mechanism along the southeastern margin of Nansha Trough. In: P. Dheeradilok et al. (eds.)Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Dept. Mineral Resources, Bangkok, 1, p. 327-336.
(SE margin of Nansha Trough foreland basin in S China Sea (= Palawan Trough) with common SE-to-NW directed thrust-nappe structuring along NW Borneo- Sabah margin. Two important detachment planes (re-interpretation of Hinz et al. 1985 seismic sections. Most nappe structures formed in E Pliocene)

Zhang, J. & J.B. Li (2011)- Gravity inversion and thermal modeling for the crust-mantle structure of the southwest subbasin in the South China Sea. Chinese J. Geophysics 54, 6, p. 907-920.
(online at: www.agu.org/wps/ChineseJGeo/54/06/zj.pdf)

Zhang, L. (2008)- The finding of microtektites from ODP Site 1144 and its significance. Natural Sciences and Museums, Beijing, 4, p. 137-141. *(in Chinese)*
(ODP Site 1144 in northern S China Sea with >969 microtektites and 1543 fragments in 10 cm interval (386.17- 386.27 mcd). All microtektites entirely glassy, mostly spherical and oval in shape and with many bubbles. Composition within the range of Australasian tektites. Source crater probably further to NE and more closer to South China than previously predicted. Size of the crater estimated 50-140 km)

Zhang, L., J. Liu, Q. Zhao & C. Li (2003)- Physicochemical properties and the complicity of parent materials of microtektites from ODP Site 1144. Geology-Geochemistry 31, 2, p. 64-72. *(In Chinese)*
(ODP Site 1144 in northern C China Sea with many microtektites at depths 386.17-386.27 mcd. Shapes mostly spherical and oval, but also teardrops, saddles, buns, dumbbells, disk shapes and fragments. Major elements geochem suggest Australasian microtektites. Parent material may include clastic sediments)

Zhang, X., Z. Du, Z. Luan, X. Wang, S. Xi, B. Wang, L. Li, C. Lian & Jun Ya (2017)- In situ Raman detection of gas hydrates exposed on the seafloor of the South China Sea. Geochem. Geophys. Geosystems 18, 10, p. 3700-3713.
(online at: http://onlinelibrary.wiley.com/doi/10.1002/2017GC006987/epdf)
(Gas hydrates usually buried in sediments, but found exposed on seafloor of S China Sea at water depth of 1130m. Likely cold seep of thermogenic hydrocarbons)

Zhang, Y. (1995)- The characteristics of the magnetic anomaly and magnetosphere structure in the Nansha islands and surrounding areas. Bull. Geol. Soc. Malaysia 37, p. 479-485.
(online at: www.gsm.org.my/products/702001-100933-PDF.pdf)

Zhang, Z.G., Y.S. Du, L.F. Gao, N.Q. Fang, S.X. Yang, J. Liu & C.B. Song (2012)- The Late Mesozoic granodiorites from the southwest basin in the South China Sea and its tectonic implication. J. Earth Science (China) 23, 3, p. 268-276.
(online at: http://en.earth-science.net/PDF/20140514053633.pdf)
(Granodiorite sample dredged from 3100m water depth at S margin of SW basin of S China Sea with 40Ar-39Ar ages of biotites of 110.3±0.5 Ma (Albian). Geochemistry suggest it may represent magmatism in arc or forearc setting)

Zhao, H., J. Deng, K. Li, Y. Di, J. Yu, J. Zhao & Y. Li (2002)- Cenozoic volcanism in South China Sea and its vicinity and South China Sea spreading. J. Earth Science (China) 27, 3, p. 217-224.
(online at: http://en.earth-science.net/WebPage/Article.aspx?id=123)

Zhao, Q. (2005)- Late Cainozoic ostracod faunas and paleoenvironmental changes at ODP Site 1148, South China Sea. In: Marine micropaleontology of the South China Sea, Marine Micropaleontology 54, p. 27-47.

(Earliest Oligocene-Recent deep water ostracod faunas in northern S China Sea suggest spreading of SCS Basin predates Oligocene. Three ostracod assemblages recognized, reflecting paleodepth changes from upper bathyal (<1500m) in Early Oligocene, lower bathyal (1500- 2500m) in Late Oligocene- early M Miocene (26-14 Ma) to depth similar to the present (>2500m) since the late M Miocene- Present)

Zhao, Q., Z. Jian, B. Li, X. Cheng & P. Wang (1999)- Microtektites in the Middle Pleistocene deep-sea sediments of the South China Sea. Science in China, D, 42, p. 531-535.
(Common microtektites at 7.8- 8.1 m depth of core S095-17957-2, S China Sea. Microtektite layer near Brunhes/Matuyama magnetic reversal boundary ~0.78 Ma)

Zhong, G., J. Geng, H.K. Wong, Z. Ma & N. Wu (2004)- A semi-quantitative method for the reconstruction of eustatic sea level history from seismic profiles and its application to the southern South China Sea. Earth Planetary Sci. Letters 223, p. 443-459.
(Eustatic sea level curve since Pliocene (5.3 Ma) derived from high-res seismic data from N Sunda Shelf/ South China Sea (SCS). 36 fourth order sea level cycles recognized with periods ranging from 0.08- 0.29 My)

Zhong, L.F., G.Q. Cai, A.A.P. Koppers, Y.G. Xu & B. Xia (2018)- 40Ar/39Ar dating of oceanic plagiogranite: constraints on the initiation of seafloor spreading in the South China Sea. Lithos 302-303, p. 421-426.
(Oceanic plagiogranite dredged from Penglai Seamount on 17°N fossil spreading center of East Sub-basin of SCS near Manila Trench. 40Ar/39Ar ages of 32.3 ± 0.5 Ma and 28.9 ± 1.9 Ma. Trace elements and isotopic composition similar to mid-oceanic ridge basalts. New geochronology demonstrates that initial opening of South China Sea occurred before 32 Ma (E Oligocene))

Zhou, D., H. Chen, S. Wu & H.S. Yu (2002)- Opening of the South China Sea by dextral splitting of the East Asian continental margin. Acta Geologica Sinica 76, 2, p. 180-190.
(Sea of Japan and S China Sea both West Pacific marginal seas with many common features, implying common origin. E Asian margin was split under the stress field of dextral transtension. Etc.)

Zhou, D., K. Ru & H.Z. Chen (1995)- Kinematics of Cenozoic extension on the South China Sea continental margin and its implications for the tectonic evolution of the region. Tectonophysics 251, p. 161-177.
(N South China Sea large Cenozoic sedimentary basins developed, characterized by episodic rifting, clockwise rotation of rifts, E-ward aging breakup unconformity and intensifying crustal extension to E. Maximum rifting N of maximum thermal subsidence, which was in turn N of seafloor opening. Nansha microcontinent in S of S China Sea dominated by compressional deformation. Asymmetric development of extensional structures around S China Sea Basin explained by Wernicke simple-shear model. Tectonic development of S China Sea consequence of interactions of three major plates: retreat of W Pacific subduction zone in Late Cretaceous, hard collision and impinging of India to Tibet since Late Eocene and fast N-ward subduction of Indian Ocean-Australian plate since late E Miocene)

Zhou, D., Z. Sun, H.Z. Chen, H.H. Xu, W.Y. Wang et al. (2008)- Mesozoic paleogeography and tectonic evolution of South China Sea and adjacent areas in the context of Tethyan and Paleo-Pacific interconnections. The Island Arc 17, 2, p. 186-207.
(Lithofacies maps of six Mesozoic time slices of S China Sea and SE Eurasian continent margin. In E Triassic, Paleotethys Ocean extended E to study area through Song Da passage. Then significant E-W differential evolution began. Late Triassic uplift of W area after collision between Indosinian and S China blocks. Transgression of Paleo-Pacific waters in E and SE formed `E Guangdong-NW Borneo Sea'. E Jurassic marine transgression more pronounced, resulting in connection with Mesotethys Ocean to W. In M Jurassic, short-lived transgression in E Mesotethys with formation of `Yunnan-Burma Sea'. Late Jurassic-E Cretaceous climax of subduction of Mesotethys and Paleo-Pacific towards Eurasian continent, leading to formation of `Circum SE Asia Subduction-Accretion Zone' in M or Late Cretaceous. Evidence for newly recognized segment of this Mesozoic subduction-accretion zone under Cenozoic sediments in NE S China Sea)

Zhou, D., W. Wang, J. Wang, X. Pang, D. Cai & Z. Sun (2006)- Mesozoic subduction-accretion zone in northeastern South China Sea inferred from geophysical interpretations. J. Science in China Series, D, Earth Sciences 49, 5, p. 471-482.
(Segment of Mesozoic subduction-accretion zone inferred from gravity- magnetics across NE S China Sea at ~NE45° orientation. This fills gap of Great Late Mesozoic Circum SE Asia subduction-accretion Zone, which extended from Sumatra, Java, SE Kalimantan to N Palawan, and from Taiwan, Ryukyu to SW Japan)

Zhou, D. & B. Yao (2009)- Tectonics and sedimentary basins of the South China Sea: challenges and progresses. J. Earth Science (China Univ. Geosciences) 20, 1, p. 1-12.
(online at: www.earth-science.net/ejournal/paper/2009-1-01.pdf)
(Introduction to special volume Tectonics and sedimentary basins of the South China Sea, with 19 papers. SCS has passive margin in N, convergent margin in S and E, and transform margin in W. Deepsea basin subdivided into sub-basins NW, E (central), and SW. Correlation of magnetic anomalies 11-5c in E subbasin indicates seafloor spreading from 30- 16 Ma. Wells on N SCS shelf commonly penetrate Late Cretaceous granites (70-105 Ma)

Zhu, M., S. Graham & T. MacHargue (2009)- The Red River Fault zone in the Yinggehai Basin, South China Sea. Tectonophysics 476, p. 397-417.
(Mapping of offshore part of Red River Fault in Yinggehai Basin. Two boundary faults and two basin-center faults mapped. Three deformation phases for offshore Red River Fault e: (1) sinistral movement from ~30-16 Ma, (2) slip reversal between 16-5.5 Ma, and (2) slow dextral movement after 5.5 Ma. Horizontal displacement of dextral movement ~10's of km. Before M Miocene, sinistral movement of Red River Fault likely linked to spreading of S China Sea ('continental extrusion). After M Miocene, distributed shortening explains low rate of dextral accommodation of Red River Fault in response to continuing India-Asia collision)

Zhu, W & Chao Lei (2013)- Refining the model of South China Seaȇs tectonic evolution: evidence from Yinggehai-Song Hong and Qiongdongnan Basins. Marine Geophysical Res. 34, 3-4, p. 325-339.

IX.8. The Philippines (General, Palawan, Luzon)

Abrajano, T.A., J.D. Pasteris & G.C. Bacuta (1989)- Zambales ophiolite, Philippines I. Geology and petrology of the critical zone of the Acoje massif. Tectonophysics 168, p. 65-100
(Acoje massif (northernmost massif of Zambales Ophiolite Complex) relatively intact fragments of Mesozoic oceanic lithosphere)

Abrajano, T.A., N.C. Sturchio, J.K. Bohlke, G.L. Lyon, R.J. Poreda & C.M. Stevens (1988)- Methane-hydrogen seeps, Zambales Ophiolite, Philippines: deep or shallow origin? Chemical Geology 71, p. 211-222.
(Isotopically anomalous CH4-rich gas escapes at low rate from seeps in serpentinized ultramafic rock in Zambales Ophiolite, W Luzon. Gas mainly methane/CH4 and H2 (55 and 42%). d13C-value of CH4 is -7.0 ‰, ~8 ‰ higher than highest published values for CH4 in other natural gases, but similar to values attributed to mantle carbon. Carbon and He isotopic data consistent with derivation directly from reduced mantle, but could also have been produced during low-T serpentinization of ophiolite)

Abrajano, T.A., N.C. Sturchio, B.M.Kennedy, G.L. Lyon, K. Muehlenbachs & J.K. Bohlke (1990)- Geochemistry of reduced gas related to serpentinization of the Zambales Ophiolite. Applied Geochem. 5, 5-6, p. 625-630.
(Methane-hydrogen gas seeps with mantle-like C and noble gas isotopes seep from partially serpentinized ultramafic rocks in Zambales ophiolite, Philippines. Gases products of periodotite hydration)

Acharya, H.K. (1980)- Seismic slip on the Philippine fault and its tectonic implications. Geology 8, 1, p. 40-42.
(Philippine fault is major left-lateral strike-slip fault between two opposing subduction zones along Manila Trench and Philippine Trench. Rate of motion on fault comparable to slip of Philippine and Eurasian plates)

Acharya, H.K. & Y.P. Aggarwal (1980)- Seismicity and tectonics of the Philippine Islands. J. Geophysical Research 85, B6, p. 3239-3250.
(Seismic and volcanic activity used to decipher tectonics of Philippines region. Active E-ward subduction of Eurasian plate along Manila trench near Luzon. Underthrusting of Eurasian plate may have occurred along all of W Philippines from Taiwan to Sulawesi. Subduction has ceased along sections where continental crust is present. Near E Philippines W-ward subduction of Philippine Sea plate)

Acosta, J.G. (2013)- Analysis of high amplitude anomalies of the Early-Middle Miocene Pagasa Formation, Southwest Palawan Basin, Philippines. Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) Conf. 2013, Singapore, p. 1-41. *(Presentation)*
(Offshore SW Palawan E Sabina Block with M Miocene Pagasa Fm deep-water sands above Nido Lst. High amplitude anomalies can not be tied to good quality reservoirs)

Alcantara, P.M. (1980)- Tertiary larger foraminifera from the Argao-Dalaguete region, southern Cebu Island, Philippines. In: H. Igo & H. Noda (eds.) Professor Sabro Kanno Memorial Volume, Ibaraki, p. 221-232.

Almasco, J.N. (1994)- Paleomagnetism of Palawan Island: implications for the opening of the South China Sea and for Philippine geology. Ph.D. Thesis, University of Illinois, Chicago, p. 1-272.

Almasco, J.N., K. Rodolfo, M. Fuller & G. Frost (2000)- Paleomagnetism of Palawan, Philippines. J. Asian Earth Sci. 18, 3, p. 369-389.
(Paleomagnetic studies on Palawan and Busuanga. Cretaceous Espina Basalts of Calatuigas Ophiolite in S Palawan Block N-ward and rotated CCW by 66°±13°, suggesting obduction from S. Jurassic cherts and Cretaceous Guinlo Fm from Busuanga in N Palawan Block paleolatitude comparable to regions of pervasive Cretaceous remagnetization in S China borderland and may reflect similar remagnetization, consistent with N Palawan Block's proposed S China origin)

Amato, F.L. (1965)- Stratigraphic paleontology in the Philippines. The Philippine Geologist (J. Geol. Soc. Philippines) 19, 1, p. 1-24.
(Eocene- Miocene 'Basic zonation' of planktonic forams presented for Philippines)

Amiscaray, E.A. (1987)- Permian fusulinids and other microfossils from northwestern Palawan. In: Pre-Jurassic evolution of Eastern Asia, IGCP Project 224, Report 2, p. 85-104.
(Lower part of Minilog Fm limestone blocks in Busuanga Island Late Jurassic accretionary prism contains Permian fusulinids Verbeekina verbeeki, Neoschwagerina megasphaerica and other N. spp., Nankinella orbicularia, Yabeina globosa, etc.)

Amiscaray, E.A. & M.S. Nilayan (1986)- *Orbitolina* from Tuburan, Cebu. Philippines. Bureau of Mines and Geo-Sciences, 67, 14p.
(Tuburan Limestone of Cebu Island with E Cretaceous Orbitolina and Late Cretaceous rudists. Possibly allochthonous olistoliths within Kansi volcanics and clasts in younger sediments)

Amiscaray, E.A. & F.P. Tumanda (1990)- Paleozoic and Mesozoic limestone of Calamian Island Group; its role in the tectonic development of the North Palawan Complex, Philippines. In: Pre Jurassic evolution of Eastern Asia, IGCP Project Report 224, Report 5, p. 81-95.

Amiscaray, E.A. & M.A. Zepeda (1990)- Southwestern Mindoro, part of the pre Tertiary North Palawan Complex (Philippines) and the role of the Jurassic Mansalay Formation on its evolution. In: K. Ichikawa (ed.) Pre Jurassic evolution of Eastern Asia, IGCP Project 224, Report 5, p. 97-109.

Andal, P.P. (1966)- A report on the discovery of fusulinids in The Philippines. The Philippine Geologist 20, 1, p. 14-22.
(First report of M Permian fusulinid foraminifera (Schwagerina, Pseudofusulina) in limestone pebbles in Eocene conglomerate from Carabao Island, SW Mindoro (see also Koike et at. 1968))

Andal, D.R., J.S. Esguerra, W. Hashimoto, B.P. Reyes & T. Sato (1968)- The Jurassic Mansalay Formation, Southern Mindoro, Philippines. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 4, p. 179-197.
(Mansalay Fm thick series (few 1000's m, but intensely folded) of shales and sandstones near Mansalay, SE Mindoro, Age M Callovian- Oxfordian, based on abundant ammonites and pelecypods, all Pacific-type species. Possibly overlies metamorphic rocks, and overlain by Eocene limestone. U Oxfordian perisphinctid assemblage with Perisphinctes (Kranaosphinctes), Euaspidoceras and Taramelliceras comparable to Mefa Beds of Buru, E Indonesia (?; JTvG). Also faunal affinity with Japanese U Oxfordian. Jurassic unconformably overlain by Eocene limestone (presumably part of N Palawan Terrane; JTvG)

Andal, E.S., S. Arai & G.P.Yumul (2005)- Complete mantle section of a slow-spreading ridge-derived ophiolite: an example from the Isabela ophiolite in the Philippines. Island Arc 14, 3, p. 272-294.
(Isabela ophiolite complete ophiolite sequence along E coast of N Luzon, forming Cretaceous basement complex for NE Luzon block. At N end of trail of ophiolites along E margin of Philippine Mobile Belt. Petrological and mineral compositions suggest Isabela ophiolite of transitional subtype, with fertile lherzolites representing lower sections of mantle)

Antonio, L.R. (1972)- Geology and mineral resources of east Central Zamboanga Peninsula, Mindanao, Philippines. Philippines Bureau of Mines Report, Manilla, p. 1-87.

Arai, S. & M. Kida (2000)- Origin of fine-grained peridotite xenoliths from Iraya volcano of Batan Island, Philippines: deserpentinization or metasomatism at the wedge mantle beneath an incipient arc? Island Arc 9, 4, p. 458-471.
(Peridotite xenoliths from subarc mantle at Iraya volcano of Batan, Luzon arc mainly hartzburgites. F-type peridotite characteristic of upper mantle of island arc, especially incipient arc)

Arai, S., S. Takada, K. Michibayashi & M. Kida (2004)- Petrology of peridotite xenoliths from Iraya Volcano, Philippines, and its implication for dynamic mantle-wedge processes. J. Petrology 45, 2, p. 369-389.
(online at: https://academic.oup.com/petrology/article/45/2/369/1522080/Petrology-of-Peridotite-Xenoliths-from-Iraya)
(Two types of peridotite xenoliths in calc-alkaline andesites from Iraya volcano, NE Batan: C-type (coarse) and F-type (fine; with transitional types). C-type harzburgites similar to arc-type harzburgite and may be from sub-arc lithospheric mantle, strained and deformed during oblique subduction of S China Sea Plate)

Arcilla, C.A. (1991)- Lithology, age, and structure of the Angat Ophiolite, Luzon, Philippine Islands. M.Sc. Thesis, University of Illinois, Chicago, p. 1-212. *(Unpublished)*

Arcilla, C.A. (1998)- Mantle dynamic implications of Philippine arc volcanism. Ph.D. Thesis, University of Illinois, Chicago, p. 1-248. *(Unpublished)*
(Geochem study of 32 Pliocene- Recent volcanic centers of Philippines)

Arcilla, C.A., H.B. Ruelo & J. Umbal (1989)- The Angat ophiolite, Luzon, Philippines: lithology, structure, and problems in age interpretation. Tectonophysics 168, p. 127-135.
(Angat ophiolite complex overlain by sediments with Cretaceous radiolarians. Structural defomation by strike slip faulting in E-M Miocene)

Arfai, J., D. Franke, C. Gaedicke, R. Lutz, M. Schnabel, S. Ladage, K. Berglar, M. Aurelio, J. Montano & N. Pellejera (2011)- Geological evolution of the West Luzon Basin (South China Sea, Philippines). Marine Geophysical Res. 32, 3, p. 349-362.
(Seismic of offshore W Luzon forearc basin between Luzon island and outer arc high of W Luzon subduction zone. Basement, at ~6s TWT, dissected by normal faults, some inverted later. Five regional unconformities. Basin may be (partly) underlain by continental crust, affected by rifting during opening of S China Sea)

Aurelio, M.A. (1992)- Tectonics of the central segment of the Philippine Fault: structures, kinematics and geodynamic evolution. These Doct. Universite Paris 6, Universite Pierre et Marie Curie, T 92-22, Paris, p. 1-500. *(Unpublished)*

Aurelio, M.A. (1996)- A review of mechanisms of ophiolite emplacement: Philippine examples. J. Geol. Soc. Philippines 51, 3-4, p. 87-90.
(Ophiolites originate from oceanic crust- mantle, formed by seafloor spreading at oceanic ridges or marginal sea basins. Presence over volcanic arcs or continental crusts requires mechanism that can explain emplacement of dense ophiolite onto lighter material. In convergent margin setting ophiolites ride over long and flat-lying thrust faults (nappes). Ophiolite presence along shear zones may also suggest role by strike-slip movements)

Aurelio, M.A. (2000)- Tectonics of the Philippines revisited. J. Geol. Soc. Philippines 55, p. 119-183.

Aurelio, M.A. (2000)- Shear partitioning in the Philippines: constraints from Philippine Fault and global positioning system data. Island Arc 9, 4, p. 584-597.
(Philippine Fault is major left-lateral structure in an island arc setting, accommodating component of oblique convergence between Philippine Sea Plate and Philippine archipelago. Formation of fault marks onset of new geodynamic regime in Philippine region around 4 Ma, when Philippine Sea Plate changed relative movement with respect to Eurasia from N-ward to a NW-ward motion)

Aurelio M.A., E. Barrier, C. Rangin & C. Muller (1991)- The Philippine Fault in the late Cenozoic evolution of the Bondoc- Masbate- N. Leyte area, Central Philippines. J. Southeast Asian Earth Sci. 6, p. 221-238.
(In Bondoc-Masbate-N Leyte region Philippine Fault is active left-lateral slip fault, dissects a region of three compressive(M Oligocene, end-Miocene collision between N Palawan Block and W edge Philippine Mobile Belt and final phase associated with Philippine Fault) and two tensional tectonic events (Late Oligocene- M Miocene and Plio-Pleistocene). Present configuration of Philippine Fault not older than M Pliocene)

Aurelio, M.A., M.T. Forbes, K.J.L. Taguibao, R.B. Savella, J.A. Bacud & D. Franke (2014)- Middle to Late Cenozoic tectonic events in south and central Palawan (Philippines) and their implications to the evolution of the south-eastern margin of South China Sea: evidence from onshore structural and offshore seismic data. Marine Petroleum Geol. 58, B, p. 658-673.
(Cenozoic tectonic history of SE margin of S China Sea. S and C Palawan dominated by Mesozoic ophiolites, emplaced over syn-rift Eocene turbidites (Panas Fm). Thrusting sealed by E Miocene (~20 Ma) sediments, constraining younger age of ophiolite emplacement at end Oligocene (~23 Ma). Nido Carbonate underthrusting at end E Miocene (~16 Ma). Tectonic wedge built in M Miocene (~16-12 Ma), forming thrust-fold belt, truncated by M Miocene Unconformity. Continuous convergent regime affected SE margin of S China Sea between end Eocene- end M Miocene. Intensity of thrusting decreases to NE, from NW Borneo Trough area into offshore SW Palawan)

Aurelio, M.A., R.E. Pena & K.J.L. Taguibao (2013)- Sculpting the Philippine archipelago since the Cretaceous through rifting, oceanic spreading, subduction, obduction, collision and strike-slip faulting: Contribution to IGMA5000. J. Asian Earth Sci. 72, p. 102-107.
(Review paper. Philippine archipelago two tectono-stratigraphic blocks, Palawan-Mindoro Continental Block (PCB) and Philippine Mobile Belt (PMB). PCB originally part of Asian mainland that rifted away in Mesozoic and drifted during opening of S China Sea (SCS) in Oligocene. PMB developed mainly from island arcs and ophiolite terranes that started to form in Cretaceous. At present, PMB collides with PCB in Visayas)

Aurelio, M.A., C. Rangin, E. Barrier & C. Muller (1990)- Tectonique du segment central de la faille Philippine (Region de Bondoc-Masbate): un decrochement tres recent. Comptes Rendus Academie Sciences, Paris, 310 (II), p. 403-410.
('Tectonics of the central segment of the Philippine Fault (Bondoc-Masbate Region): a young strike-slip fault'. Central segment of Philippine Fault from Bondoc to Masbate is complex strike-slip fault with extensional and compressive features and events recorded in sediments since Oligocene)

Aurelio, M.A., K.J.L. Taguibao, E.B. Cutiongco & T.S. Bacolcol (2010)- Tectonic inversion processes in Southern Luzon, Philippines. In: C.P. Lee et al. (eds.) 6th Symp. Int. Geol. Correl. Progr. Project 516 (IGCP516), Geological anatomy of East and South Asia, Kuala Lumpur 2010, p. 32-33. *(Extended Abstract)*
(Marine seismic data offshore S Luzon)

Aurelio, M.A., K.J.L. Taguibao, E.B. Cutiongco, J.M. Foronda, Z.M. Calucin & M.T. Forbes (2013)- Structural evolution of Bondoc-Burias area (South Luzon, Philippines) from seismic data. J. Asian Earth Sci. 65, p. 75-85.
(2-D offshore seismic profiles between Bondoc Peninsula and Burias Island, S Luzon, Philippines, show two distinct seismic sequences: lower sequence correlative to Late Oligocene- E Miocene limestone observed onshore in Bondoc Peninsula and Burias Island. Upper sequence, correlative to turbiditic and shallower marine clastic deposits widely exposed in Bondoc Peninsula, affected by thrust faulting and tight folding)

Aurelio, M.A., K.J.L. Taguibao, A.A. Morado, S. Steuer, M. Pubellier, M.T. Forbes & D. Franke (2015)- Twisted Nido Limestone: mark of a mid Tertiary bimodal deformation at the thinned SE edge of Sundaland. 6 AAPG Asia Pacific Workshop Tectonic evolution and sedimentation of South China Sea Region, Kota Kinabalu, Search and Discovery Art. 90236, 4p. *(Extended Abstract)*
(Area of Late Oligocene- E Miocene Nido Lst 1000 km long from W of Calamian Islands in N Palawan to NW Borneo Trough in S. Onland carbonate outcrops in Sabang, C Palawan. S of Sabang, carbonate thrust under tectonic wedges formed between Eocene and M Miocene. Accretionary wedges are overlain by Late Cretaceous ophiolites that began obducting in Eocene. Bimodal deformation of SE Sundaland as S China Sea opened. In S limestone at tail-end of subducting proto S China Sea, pulled down in direction of subduction (SE) and continued to underthrust as ophiolite obduction took place. N segment warping upwards in response to collision of rifted N Palawan continental block with W edge of Philippine arc)

Austria, B.S. & R.A. Reyes (1992)- Possibilities of W. Batangas Basin in Philippines South China Sea. Oil and Gas J. 90, 23, p. 74-80.

Bachman, S.B., S.D. Lewis & W.J. Schweller (1983)- Evolution of a forearc basin, Central Luzon Valley, Philippines. American Assoc. Petrol. Geol. (AAPG) Bull. 67, 7, p. 1143-1162.
(Luzon C Valley with 14 km-thick forearc basin sequence, floored by oceanic crust on seaward (W) side and older accreted terranes on arc (E) side. Initial sedimentation on oceanic crust during E Tertiary N-ward translation and emplacement of crust as ophiolite. Basal sediments pelagic limestones and thin ash layers, overlain by turbidites from uplift and progressive dissection of ophiolite. Arc-derived sediments >8 km thick, shed into E side of basin in late Paleogene- Quaternary convergence along W margin of Luzon. By M Miocene, C Valley became continuous, elongate basin fringed by extensive shelf deposits. Nonmarine deposition began in central portions of basin in Pliocene. Late Miocene- Recent movement along Philippine fault zone caused uplift- folding of adjacent parts of basin. Hydrocarbon potential of C Valley not determined adequately)

Bacud, J., A. Moore & C.S. Lee, C. (1997)- Tectonic structure and petroleum potential of Tayabas Bay southeast Luzon, Philippines. J. Southeast Asian Earth Sci. 15, 2, p. 195-215.
(On AGSO/ PDE marine geological survey in Tayabas Bay. No wells drilled offshore; seismic data tied to onshore Bondoc Peninsula wells and stratigraphy. Geochemistry data confirm presence of mature source rocks in M Miocene Vigo Fm and/or Late Oligocene- E Miocene Panaon Lst, and hydrocarbon migration. Major N-NW-trending strike-slip fault. Oligo-Miocene reefal carbonate reservoirs believed to be present)

Bacuta, G.C. (1979)- Geology of some alpine-type chromite deposits in the Philippines. J. Geol. Soc. Philippines 23, p. 44-81.

Bacuta, G.C., R.W. Kay, A.K. Gibbs & B.R. Lipin (1990)- Platinum-group element abundance and distribution in chromite deposits of the Acoje Block, Zambales Ophiolite Complex, Philippines. J. Geochemical Exploration 37, p. 113-145.
(Platinum-group elements (PGE) in ore-grade concentration in some chromite deposits related to ultramafic section of Acoje Block of Zambales Ophiolite Complex, Luzon. Deposits are of three types)

Balce, G.R., R.Y. Encina, A. Momongan & E. Lara (1980)- Geology of the Baguio District and its implications on the tectonic development of the Luzon Central Cordillera. In: T. Kobayashi, R. Toriyama et al. (eds.) Symposium on the geology and paleontology of SE Asia, Tsukuba 1978, Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 21, p. 265-287.

Alcantara, P.M. (1980)- Stratigraphic horizons and geologic ages of the Philippine Vicarya (Gastropoda).

Balce, G. R., R.Y. Encina, A.L. Momongan & E.D. Lara (1980)- Geology of the Baguio district and its implications on the tectonic development of Luzon Central Cordillera. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 21, p. 265-287.
(Luzon C Cordillera is N-S ridge midway between opposite-dipping subduction zones (Manila trench, N extension of Philippine Trench). Oldest rocks Eocene- E Miocene Pugo Fm volcanoclastics with limestone)

Balce, G.R. & F.B. Esguerra (1972)- "Kuroko-type" ore deposits in Sulat Area, eastern Samar, Philippines. The Philippine Geologist (J. Geol. Soc. Philippines) 28, 1, p. 1-30.

Balce, G.R., A.L. Magpantay & A.S. Zanoria (1979)- Tectonic scenarios of the Philippines and northern Indonesian region. In: Proc. ESCAP CCOP-IOC Working Group Meeting on the Geology and tectonics of Eastern Indonesia, Bandung, Geol. Res. Dev. Centre, p. 9-14.
(First ophiolite zonation of the Philippines, from W to E: (1) Palawan; (2) western Luzon-Panay-Zamboanga-Sulu; (3) Masbate-Leyte- C Mindanao; and (4) Isabela-Bicol-Samar-E Mindanao)

Balce, G.R. & A.S. Zanoria (1982)- Geology and tectonics of the Luzon-Marianas region. Philippine SEATAR Committee Spec. Publ. 1, p. 1-243

Ballesteros, M. & P. Robinson (2012)- Insights into the petroleum potential of theWestern Philippines from new regional seismic data. AAPG Int. Conv. Exh., Singapore 2012, Search and Discovery Art. 10471, p. 1-6.
(online at: www.searchanddiscovery.com/documents/2012/10471ballesteros/ndx_ballesteros.pdf)

Balmater, H., D. Eslava, K. Queano, C. Dimalanta, N. Ramos, B. Payot & G. Yumul (2015)- Samar ophiolitic complex, central Philippines: fragment of a Mesozoic basin at the junction of eastern Neo-Tethys and Panthalassa. In: Proc. 4th Int. Symposium Int. Geosciences Program (IGCP) Project 589, Bangkok 2015, p. 4. *(Abstract only)*
(online at: http://igcp589.cags.ac.cn/4th%20Symposium/Abstract%20volume.pdf)
(Samar Ophiolitic Complex, exposed in eastern C Philippines, and part of Jurassic- Cretaceous ophiolitic belt that serves as basement to most E Philippines islands. Paleomagnetic studies on upper crust of ophiolite suggests paleolatitude of -14º± 6º. This, and results from E Indonesia evidence that ophiolites preserved along W and S margins of Philippine Sea Plate are remnants of Mesozoic oceanic basin E of eastern Neo-Tethys and W of Panthalassa. Cretaceous and Cenozoic intra-oceanic arcs associated with this basin part of the Amami-Daito region, E Philippines, E Indonesia and N New Guinea, and were separated by Eocene opening of PSP)

Balmater, H.G., P.C. Manalo, D.V. Faustino-Eslava, K.L. Queano, C.B. Dimalanta, J.M.R. Guotana, N.T. Ramos, B.D. Payot & G.P. Yumul (2015)- Paleomagnetism of the Samar Ophiolite: implications for the Cretaceous sub-equatorial position of the Philippine island arc. Tectonophysics 664, p. 214-224.
(Samar Ophiolite complete suite at Samar island in E part of C Philippines. K-Ar ages of ~100 and 98 Ma (~Cenomanian). Paleomagnetic data suggest ophiolite formed at paleolatitude of 14°S ± 6°, i.e. several degrees S of three other Mesozoic ophiolites of Philippine Mobile Belt. PMB ophiolites in E and C Philippines share common age, geochemistry and paleolatitude with Halmahera Ophiolite, suggesting origin at Mesozoic supra-subduction zone that extended from few degrees N of Equator to ~15°S)

Bandy, O.L. (1963)- Cenozoic planktonic foraminiferal zonation and basinal development in Philippines. American Assoc. Petrol. Geol. (AAPG) Bull. 47, 9, p. 1733-1745.
(also in J. Geol. Soc. Philippines 16, 2 (1962))
(Planktonic foraminifera zonation Late Oligocene-Pliocene of Central Valley, Luzon, and S Iloilo, Panay, is similar to that recognized in other tropical areas of world. Late Oligocene-Early Miocene commenced with shelf-type conditions and orbitoidal facies, changing upward into increasingly deeper-water bathyal facies. In Late Miocene Central·Valley paralic facies, in Iloilo deep basinal conditions until M Pliocene)

Barretto, J.A.L., C.B. Dimalanta & G.P. Yumul (2000)- Gravity variations along the Southeast Bohol Ophiolite Complex (SEBOC), Central Philippines: implications on ophiolite emplacement. Island Arc 9, 4, p. 575-583.
(Basement complex of Bohol Island consists of SE Bohol Ophiolite Complex, Cansiwang Melange and Alicia Schist. SEBOC is complete, but dismembered ophiolite with outcrops generally trending NE-SW and dipping NW. SEBOC thrusted onto Cansiwang Melange, which is thrusted onto Alicia Schist. Orientation of Bouguer highs suggests thrusting direction of ophiolite units was to SW, not to SE)

Barrier, E., M. Aurelio, C. Muller, M. Pubellier et al. (1990)- La faille philippine; un exemple de grand decrochement actif a l'arriere d'une zone de subduction. Comptes Rendus Academie Sci., Paris, 311 (II), p. 181-188.
('The Philippine Fault: an example of large active displacement behind a subduction zone')

Barrier, E., P. Huchon & M. Aurelio (1991)- The Philippine fault: a key for Philippines kinematics. Geology 19, p. 32-35.
(Motion between Philippine Sea plate and Eurasia is distributed on two boundaries: Philippine Trench and Philippine fault. Geologic data from Visayas provide age of 2 to 4 Ma for fault, in good agreement with beginning of subduction in Philippine Trench. Origin of Philippine fault is flip of subduction from W to E after locking of convergence to W by collision of Philippine mobile belt with Eurasian margin)

Bassoulet, J.P. (1983)- Jurassic microfossils from The Philippines. CCOP Techn. Bull. 16, p. 31-38.

(Late Jurassic foraminifera and algae from samples collected by Fontaine from Ili Island and Cayatong. Ili Lst with typical Tethyan Late Jurassic forams Pseudocyclammina lituus and Nautiloculina oolithica and dasyclad algae Salpingoporella pygmaea (also known from Bau Limestone of W Sarawak and from Sumatra))

Bautista, B.C., M.L. Bautista, K. Oike, F.T. Wu & R.S. Punongbayan (2001)- A new insight on the geometry of subducting slabs in northern Luzon, Philippines. Tectonophysics 339, p. 279-310.
(Earthquake focal mechanisms used to model geometry of Eurasian plate subducted slab beneath N Manila Trench. Model suggests collision and partial subduction of buoyant plateau at around 20°N to explain sharp bend in trench line and shallow dip of subducted slab. Tear in slab evidenced by gap in strain energy release and change in dip. Gap in seismicity may be subducted extinct, but still hot mid-oceanic ridge. High heatflow along extinct MOR. Subducted part of MOR may serve as weakest zone where tear could be localized)

Beauvais, L. (1983)- Jurassic Cnidaria from the Philippines and Sumatra. CCOP Techn. Bull. 16, p. 39-76.
(Brief descriptions of U Jurassic coral and stromatoporoids from W Sumatra and M and U Jurassic corals from reefal limestones in Philippines. Upper Jurassic Ili Lst from Calamian Islands with Oxfordian- Kimmeridgean stromatoporoids (Cladocoropsis miriabilis, C. memoria-naumanni), sponges (Ptychochaetetes ponticus) and corals (Stylina limbata, Pseudocoenia brevisepta, etc.. Also M Jurassic (Bathonan?) corals from Bongabong River area, Mindoro)

Becker, G.F. (1901)- Report on the geology of the Philippine Islands. U.S. Geol. Survey (USGS), 21st Annual Report 1899-1900, III, Washington, p. 1-128.
(online at: http://books.google.com/books/...)
(First? review of Philippines geology and mineral resources (coal, gold, copper, lead, iron). Petroleum has been discovered, but not exploited. With appendix on Tertiary fossils (mainly molluscs) by K. Martin)

Bellon, H. & G.P. Yumul (2000)- Mio-Pliocene magmatism in the Baguio Mining District (Luzon, Philippines): age clues to its geodynamic setting. Comptes Rendus Academie Sciences, Paris, IIA, 331, 4, p. 295-302.
(Baguio Mining District in C Cordillera of Luzon evolved from Eocene marginal basin to Eo-Oligocene island arc setting above W-dipping subduction zone. E-ward subduction after polarity reversal in E Miocene (~17-19 Ma). Late Miocene- Quaternary magmatism and tectonics led to gold and copper mineralization, mainly at 4-2 Ma. Pugo Metavolcanics Fm unconformably overlain by Zigzag Fm with minor E Oligocene limestone units with Eulepidina and Nummulites)

Bellon, H. & G.P. Yumul (2001)- Miocene to Quaternary adakites and related rocks in Western Philippine arc sequences. Comptes Rendus Academie Sciences IIa, 333, 6, p. 343-350.
(Numerous Miocene- Quaternary adakites among calc-alkaline magmatism of W Philippines. Associated with three geodynamic settings: subduction, rifting and collision (Palawan indentation). Slab, lower crust and sediment melting, coupled with assimilation-fractional crystallization, and mantle metasomatism by magmatic liquids responsible for generation of these rocks. Adakite-gold-copper relationship makes these areas good metallogenic exploration targets)

Berger, B.R., R.W. Henley, H.A. Lowers & M.J. Pribil (2014)- The Lepanto Cu-Au deposit, Philippines; a fossil hyperacidic volcanic lake complex. J. Volcanology Geothermal Res. 271, p. 70-82.
(The ~2 Ma high-sulfidation Lepanto copper-gold deposit in Mankayan district was associated with hyperacidic volcanic lake complex)

Besana, G.M. & M. Ando (2005)- The Central Philippine Fault Zone: location of great earthquakes, slow events, and creep activity. Earth Planets and Space 57, p. 987-994.
(online at: www.terrapub.co.jp/journals/EPS/pdf/2005/5710/57100987.pdf)

Beyer, H.O. (1940)- Philippine tektites and the tektite problem in general. Contr. Society Research on Meteorites 2, 6, p. 157-163.
(online at: http://onlinelibrary.wiley.com/doi/10.1111/j.1945-5100.1940.tb00306.x/pdf)

(Philippines hosts world's largest known deposits of tektites. Part of Indo-Malaysianite great shower in mid-Pleistocene time. Largest known tektites in SE Luzon (Bikol Peninsula) up to 1070g and >4 inches in diameter, but average weight for region only 15-20 g)

Billedo, E. (1994)- Geologie de la Sierra Madre septentrionale et de l'archipel de Polillo (ceinture mobile Est Philippine): implications geodynamiques. Doct. Thesis Universite de Nice- Sophia Antipolis, p. 1-215. *(Unpublished)*
('Geology of the Northern Sierra Madre and the Polillo group of Islands (Eastern Philippine mobile belt): geodynamic implications'. Study of two regions in E Philippine Mobile Belt: (1) N Sierra Madre and (2) Polillo Archipelago in S. Five tectonic events distinguished in Late Cretaceous- Miocene. E Philippine composed of 3 zones: (1) Mesozoic ophiolitic basement (Casiguran Ophiolite, with 92 Ma radiometric age for amphibolite), (2) U Cretaceous pelagic limestones in pillow basalts with Globotruncan stuarti, etc. (also Aptian- Albian radiolarian cherts; see Queano, Ali et al. 2013), and (3) Eocene and Oligocene arc volcanics. Cenozoic history dominated by subduction with highly oblique convergence)

Billedo, E., J.F. Stephan, J. Delteil, H. Bellon, F. Sajona & G. Feraud (1996)- The Pre-Tertiary ophiolitic complex of Northeastern Luzon and the Polillo Group of islands, Philippines. J. Geol. Soc. Philippines 51, p. 95-114.
(N Sierra Madre area of NE Luzon with outcrops of basement complex, composed of three rock assemblages: (1) Jurassic?- E Cretaceous ophiolitic units (metamorphic Dibut Bay meta-ophiolite and non-metamorphic Casiguran ophiolitic belt); (2) Late Cretaceous metamorphosed volcanic arc (Lubingan Fm and Dalugan Metamorphics; (3) Late Cretaceous volcanic complex (Dibuakag VC). In Polillo Islands oldest rock units ultramafics and related metamorphics, correlatable with Dibut Bay Meta-ophiolite in NE Luzon and Lagonoy meta-ophiolite found in Caramoan Peninsula dated as Late Jurassic- E Cretaceous and are metamorphic equivalent of Casiguran Ophiolitic Belt.Ophiolitic units in fault contact with Eocene magmatic arc and both unconformably overlain by Late Oligocene - M Miocene clastics)

Bird, P.R., N.A. Quinton, M.N. Beeston & C.S. Bristow (1992)- Mindoro Island, a rifted microcontinent in collision with the Philippines volcanic arc: basin evolution and hydrocarbon potential. AAPG Int. Conf., Sydney 1992, Search and Discovery Art. 91015 *(Abstract only)*
(Mindoro Island is E-most part of Palawan-Mindoro microcontinent that rifted from S China margin in Early Oligocene. Sea floor spreading carried Mindoro S until Late Miocene collision with Philippines Arc began. Structural history 4 phases: (1) syn-rift, E Eocene- M Oligocene; (2) drift, Late Oligocene- M Miocene; (3) collision, M-L Miocene; (4) transpression, latest Miocene- Present)

Bird, P.R., N.A. Quinton, M.N. Beeston & C.S. Bristow (1993)- Mindoro: a rifted micro continent in collision with the Philippines volcanic arc; basin evolution and hydrocarbon potential. In: B.K. Tan et al. (eds.) Proc. 7th Conf. Geology, Mineral and Energy Res. SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 449-468.
(Mindoro Island is easternmost part of Palawan-Mindoro microcontinent that rifted from S China margin in latest Eocene-E Oligocene. Sea floor spreading carried Mindoro S-ward until Late Miocene, when collision with Philippines Arc in E, and other terranes to S began. Syn- and post-rift sedimentary sequences contain prospective source and reservoir intervals. Several oil seeps on Mindoro Island)

Biswas, B. (1986)- Frontier seismic geologic techniques and the exploration of the Miocene reefs in offshore Palawan, Philippines. J. Southeast Asian Earth Sci. 1, 4, p. 191-204.
(Mapping of porosity distribution and oil-water contact in and around the Tara and Libro Lower Miocene patch reefs of offshore Palawan. Maximum hydrocarbon fill in frontal line of traps near shelf-slope break, in lowest structural position and progressive dwindling of fill in structurally higher updip positions)

Bloomer, S.H. & R.L. Fisher (1988)- Arc volcanic rocks characterize the landward slope of the Philippine Trench off northeastern Mindanao. J. Geophysical Research 93, B10, p. 11961-11973.
(Dredge hauls from landward flanks (9300-3600m) of Philippine Trench NE of Mindanao with plagioclase-clinopyroxene phyric basalt, basaltic andesite, and andesite, with small amounts of diabase, identical to arc

volcanic rocks from SE and NE Mindanao (Samar-E Mindanao arc, which collided with C Mindanao-Sangihe island arc in late Oligocene/ E Miocene and part of E margin of Samar-E Mindanao arc. After collision Philippine Trench initiated adjacent to arc massif; no evidence of accretion of subducted Philippine Sea crust)

Bomasang, R., F.K. Bandelon & D. M. Casupang (1987)- Der Kohlebergbau auf den Philippinen. Glueckauf 123, 14, p. 881-886.
('Coal mining in The Philippines')

Bosum, W., J.C. Fernandez, E.G. Kind & C.F. Theodoro (1972)- Aeromagnetic survey of the Palawan- Sulu offshore area of the Philippines. United Nations ECAFE, CCOP Techn. Bull. 6, p. 141-160.

Branson, D.M., P.J. Newman, M. Scherer, P.J. Stalder & R.G. Villafuerte (1997)- Hydrocarbon habitat of the NW Palawan Basin, Philippines. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Petroleum Systems of SE Asia and Australasia Conf., Indon. Petroleum Assoc.(IPA), Jakarta 1997, p. 815-828.
(NW Palawan Basin offshore exploration started in 1970's with drilling of Oligo-Miocene Nido Limestone build-ups in shallow water Nido Shelf part of basin, resulting in few small oil discoveries (Nido, Matinloc). Wells in deeper water W of Nido Shelf discovered mostly gas. With exception of Malampaya/Camago (3.4 Tcf gas) exploration results away from Nido Shelf have been disappointing, with few economic discoveries. Typing of oils in NW Palawan Basin identified three separate families, mainly from marine carbonate or marl source rock, probably of Eocene-Lower Miocene age, deposited in restricted rift half grabens and/or isolated restricted intrashelf basins in post-rift carbonate sequence)

Braxton, D.P. (2007)- Boyongan and Bayugo porphyry copper-gold deposits, NE Mindanao, Philippines: geology, geochemistry, and tectonic evolution.Ph.D. Thesis University of Tasmania, p. 1-277.
(online at: https://eprints.utas.edu.au/18070/1/Whole-Braxton-thesis.pdf)
(Recently discovered Boyongan and Bayugo porphyry copper-gold deposits part of emerging belt of M Pliocene intrusion-centered gold-rich deposits. Formed in association with composite diorite complex; U-Pb zircon ages from ~2.3- 2.1 Ma)

Braxton, D.P., D.R. Cooke, J. Dunlap, M. Norman, P. Reiners, H. Stein & P. Waters (2012)- From crucible to graben in 2.3 Ma: a high-resolution geochronological study of porphyry life cycles, Boyongan-Bayugo copper-gold deposits, Philippines. Geology 40, 5, p. 471-474.
(Boyongan and Bayugo porphyry copper-gold deposits of NE Mindanao geologically short life cycles: Late Pliocene emplacement (2.3-2.1 Ma) at 1.2-2.0 km depth, then exhumed, deeply weathered (600m thick) and buried. E-M Pleistocene supergene event followed period of rapid uplift and exhumation in NE Mindanao (2.5 km/Ma). Subsequent rapid subsidence (≥0.34 km/Ma) attributed to M Pleistocene shift from transpressional to present-day transtensional setting in NE Mindanao)

Braxton, D.P., D.R. Cooke, A.M. Ignacio, R.O. Rye & J. Waters (2009)- Ultra-deep oxidation and exotic copper formation at the Late Pliocene Boyongan and Bayugo porphyry copper-gold deposits, Surigao, Philippines: geology, mineralogy, paleoaltimetry, and their implications for geologic, physiographic, and tectonic controls. Economic Geology 104, 3, p. 333-349.
(Late Pliocene-age Boyongan and Bayugo porphyry copper-gold deposits intrusion-centered gold-rich deposits in NE Mindanao. Exhumation and weathering led to porphyry oxidation profile of 600m at Boyongan and 30-70m at adjacent Bayugo. Etc.)

Braxton, D.P., D.R. Cooke, A.M. Ignacio & J. Waters (2018)- Geology of the Boyongan and Bayugo porphyry Cu-Au deposits: an emerging porphyry district in Northeast Mindanao, Philippines. Economic Geology 113, 1, p. 83-131.
(Boyongan and Bayugo porphyry Cu-Au mineral deposits part of emerging belt of Au-rich Cu mineral deposits in NE Mindanao. Formation. Mineral deposits formed in E Pleistocene, in association with diorite complex containing at least 12 discrete intrusive stages. Repeated cycles transpired rapidly, between 2.3-2.1 Ma)

Bristow, C.S. & P.R. Bird (1994)- Sedimentology of the Semirara Formation in Semirara Island: implications for the Miocene sedimentation and tectonics of South Philippines. In: G.H. Teh (ed.) Proc. Symp. Tectonic framework and energy resources of the western margin of the Pacific Basin, Kuala Lumpur 1992, Bull. Geol. Soc. Malaysia 33, p. 21-32.
(online at: www.gsm.org.my/products/702001-101024-PDF.pdf)
(400m of Miocene sediments on Semirara Island S of Mindoro(W side of Philippines arc) exposed in coal mine at Unong, deposited in small rift basin, subsequently inverted)

Brown, G.F. (1950)- Summary of the geology of the Malangas Sibuguey coalfield, Zambeanga Province, Mindanao. Philippine J. Science 79, 2, p. 155-163.

Brownlee, D.N. & M.W. Longman (1981)- Depositional history of a Lower Miocene pinnacle reef, Nido B oilfield, The Philippines. In: E.D. Gomez et al. (eds.) Proc. 4th Int. Coral Reef Symposium, Manila, 1, p. 619-625.
(First commercial oil production in Philippines is from two Lower Miocene pinnacle reef complexes (Nido A and Nido B fields) in S China Sea ~50 km NW of Palawan. Reefs depth ~2073m, relief ~150-200m, and encased in Lower Miocene shales. Nido B-1 well near center of build-up with packstones- grainstones of benthic foraminifera and fragments of red algae and corals (back-reef sand flat). Nido B-2 cores with abundant corals, encrusting red algae (part of reef framework). Cores from Nido B-3A on edge of buildup shaly micrites rich in planktonic foraminifera, with lithoclast-intraclast packstones (proximal reef talus). Most porosity in back-reef sands is vuggy, moldic; in reef framework and proximal talus mainly in fractures)

Bryner, L. (1968)- Notes on the geology of the porphyry copper deposits of the Philippines. Mineral Engineering Mag. 19, 3, p. 12-23.

Bryner, L. (1969)- Ore deposits of the Philippines- an introduction to their geology. Economic Geology 64, 6, p. 644-666.
(Ore deposits in Philippinese genetically related toMesozoic- Tertiary magmatism and tectonism in Mobile Belt. Deposits considered here (a) chromite (two largest deposits Masinloc and Acoje in belts of peridotitic rock of Zambales ultramafic complex of W Luzon); (b) massive pyritic (Bagacay, Barlo, Hixbar; associated with Tertiary volcanic activity); (c) pyrometasomatic (Larap, Thanksgiving); (d) porphyry copper (8 or more deposits, associated with porphyritic dacite and andesite facies of diorite complexes near orogenic axis of archipelago; main copper mineral chalcopyrite), and (e) gold-bearing veins (enargite-luzonite-telluride deposit at Lepanto, quartz-telluride-gold of Baguio district, etc., related to centers of explosive volcanic activity)

Buchsel, P., M. Kerntke, F. Wolcke & G. Hillmer M. (1991)- Geologic development of Cebu Island/ Central Philippines- Group report. Mitteilungen Geol. Palaeont. Institut Universitat Hamburg 71, p. 53-60.
(Block diagrams illustrating (Jurassic-) E Cretacous to Miocene evolution of Cebu Island, C Philippines. Aptian-Albian island arc with associated carbonate platforms with caprinid rudists, etc.)

Bureau of Energy Development/ Robertson Research (1986)- Sedimentary basins of the Philippines: their geology and hydrocarbon potential. Manila, 12 vols. *(Unpublished)*

Bureau of Energy Development/ Robertson Research (1986)- Sedimentary basins of the Philippines, their geology and hydrocarbon potential, 3: Basins of Visayas and Mindanao. p. 1-305.

Bureau of Energy Development/ Robertson Research (1986)- Sedimentary basins of the Philippines, their geology and hydrocarbon potential, 2: Luzon Basins. p. 1-436.

Bureau of Mines and Geosciences (1972)- Geology and stratigraphy of some sedimentary basins in the Philippines. In: Proc. 4th Symposium on the Development and Petroleum Research in Asian and Far East Mineral and Resources Development Series, 41, Manila, p. 445-451.

Bureau of Mines and Geo-Sciences (1981)- Geology and mineral resources of the Philippines, 1, Geology, Bureau of Mines and Geo-Sciences, Manila, p. 1-406.
(First textbook of Philippines geology since Corby (1951), by staff of Bureau of Mines and Geo-Sciences. See also Second edition by Mines and Geosciences Bureau (2010)

Bureau of Mines Philippines (1986)- Geology and mineral resources of the Philippines, 2, Mineral resources. Bureau of Mines and Geo-sciences, Manila, p.

Caagusan, N.L. (1966)- Petrography of the metamorphic rocks of Northern Mindoro. Bull. Inst. Philippine Geology 1, p. 22-46.

Caagusan, N.L. (1978)- Source material, compaction history and hydrocarbon occurrence in the Cagayan Valley Basin, Luzon, Philippines. Proc. Offshore SE Asia Conf. 1978, Singapore, SE Asia Petroleum Expl. Soc. (SEAPEX), 20p.
(Cagayan Basin is 250 x 80km post-Oligocene trough in NE Luzon. Rapid deposition of turbiditic marine sediments. Organic matter mainly high-humic, land-derived material)

Caagusan, N.L. (1980)- Stratigraphy and evolution of the Cagayan Valley Basin, Luzon, Philippines. In: T. Kobayashi, R. Toriyama et al. (eds.) Symposium on the geology and paleontology of SE Asia, Tsukuba 1978, Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 21, p. 163-182.
(Cagayan Valley basin is post-Oligocene sedimentary Trough in NE Luzon. M Miocene limestone buildups main hydrocarbon exploration targets)

Caagusan, N.L. (1990)- Eocene Oligocene sandstone in buried hill play, Mindoro Basin, The Philippines. In: CCOP/WRGA Play modelling exercise 1989-1990, CCOP Techn. Publ. 23, p. 87-96.
(Description and hydrocarbon assessment of conceptual play in U Eocene- Lower Oligocene sandstones draped draped over Eocene tilted fault blocks on S and E Mindoro island, W Philippines)

Callow, K.J. (1967)- The geology of the Thanksgiving mine, Baguio district, Mountain Province, Philippines. Economic Geology 62, p. 472-481.
(online at: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.922.822&rep=rep1&type=pdf)
(Thanksgiving mine in Baguio District, N Luzon, small sulfide orebodies mined since 1957 for gold, silver, zinc, copper, lead, sulfur and cadmium content. Ore as veins and pods along contacts between diorite porphyry dikes and E-M Miocene Mirador limestone)

Canto, A.P.B., J.T. Padrones, R.A.B. Concepcion, A.D.C. Perez, R.A. Tamayo., C.B. Dimalanta, D.V. Faustino-Eslava, K.L. Queano & G.P. Yumul (2012)- Geology of northwestern Mindoro and its offshore islands: Implications for terrane accretion in west Central Philippines. J. Asian Earth Sci. 61, p. 78-87.
(NW Mindoro Island two terranes: Amnay Ophiolite and Halcon Metamorphic terrane, separated by SW-verging thrust faults. Components of older Mangyan Ophiolitic Complex occur as disrupted bodies in Halcon Metamorphics schists. Late Eocene Lasala Fm has continent-derived character. Accretion of Cretaceous Mangyan Ophiolitic Complex marks collision between Cretaceous oceanic lithosphere and mainland Asia, considered to be protolith of Halcon Metamorphics. Subsequent collision led to amalgamation of Amnay Ophiolite suite to metamorphosed terrane)

Cao, M.J., P. Hollings, D.R. Cooke, N.J. Evans, B.I.A. McInnes, K.Z. Qin, G.M. Li, G. Sweet & M. Baker (2018)- Physicochemical processes in the magma chamber under the Black Mountain porphyry Cu-Au deposit, Philippines: insights from mineral chemistry and implications for mineralization. Economic Geology 113, 1, p. 63-82.
(Black Mountain porphyry Cu-Au deposit in Baguio district, N Luzon, associated with Late Miocene- Pliocene intrusive rocks. Amphibole in felsic rocks aged ~6.4- 2.8 Ma suggest long-lived and hot felsic magma chamber. Large-scale mafic magma recharge (particularly at ~2.8 Ma), likely introduced ore-forming metals to felsic magma chamber, contributing to Cu-Au mineralization)

Cardwell, R.K., B.L. Isacks & D.E. Karig (1980)- The spatial distribution of earthquakes, focal mechanism solutions and subducted lithosphere in the Philippine and Northeastern Indonesian islands. In: D.E. Hayes (ed.) The tectonic and geologic evolution of Southeast Asian Seas and Islands- I. American Geophys. Union (AGU), Geophys. Monograph 23, p. 1-35.
(Incl. data on geometry of 'double-dipping' Moluccas Sea subduction)

Carozzi, A.V. (1995)- Depositional models and reservoir properties of Miocene reefs, Visayan Islands, Philippines. J. Petroleum Geol. 18, 1, p. 29-48.
(Update of earlier depositional-diagenetic models for Miocene reefs in Visayan Islands. Reefs began to develop in E Miocene (Eulepidina, Nephrolepidina, Spiroclypeus, Austrotrillina). Reefs reached final and maximum development in M or M-L Miocene (Miogypsina indonesiensis, Lepidocyclina ferreroi, Katacycloclypeus). Not much specific on localities, thickness, fauna, etc.)

Carozzi, A.V., M.V. Reyes & V.P. Ocampo (1976)- Microfacies and microfossils of the Miocene reef carbonates of the Philippines. Philippines Oil Dev. Co., Manila, Spec. Publ. 1, p. 1-80.

Cena, S.V. S.G. Lastimosa & N.D. Miro (1967)- Investigation of the composition of two Philippine petroleums. The Philippine Geologist (J. Geol. Soc. Philippines) 22, 3, p.
(No commercial production of petroleum in onshore Philippines, but seeps are widely distributed throughout islands. Report of chemical composition of two samples of oil, from Quezon Province and Mindoro Oriental)

Chen, P.F., E.A. Olavere, C.W. Wang, B.C. Bautista, R.U. Solidum & W.T. Liang (2015)- Seismotectonics of Mindoro, Philippines. Tectonophysics 640-641, p. 70-79.
(Mindoro Island is where Palawan Continental Block indented into Philippine Mobile Belt in E Miocene and where Manila Trench terminates after collision ceased. Seismotectonics suggest that slab dips steepen, following decrease in convergence rates from Manila Trench offshore NW Mindoro to onshore SW Mindoro, initiating at ~200 km and propagating upwards. Down-dip extensional stress patterns suggest steepening of slab angles due to negative buoyancy of slab. C and S Mindoro Romblon group and NW Panay mainly characterized by sporadic strike-slip shallow earthquakes)

Cheng, Y. (1989)- Upper Paleozoic and Lower Mesozoic radiolarian assemblages from the Busuanga Islands, North Palawan Block, Philippines. Bull. Natl. Museum Natural Sci., Taiwan, Spec. Publ. 1, p. 129-175.

Cheng, Y. (1992)- Upper Jurassic Pantanelliidae (Pantanelliinae Pessagno, 1977 and Vallupinae Pessagno and MacLeod, 1987) from the Busuanga Islands, Philippines. Bull. Natl. Museum Natural Sci., Taiwan, 3, p. 1-49.
(online at: http://web2.nmns.edu.tw/PubLib/Library/research/199205-1.pdf)
(Diverse radiolarian faunas from bedded chert of Liminangcong Chert of Busuanga Island, N Palawan Block. Including low-latitude Vallupus group uppermost Liminangcong Chert. Six new species of Mesovallupus, nine of Protovallupus, and one of Vallupus, tentatively assigned to upper Tithonian)

Christian, L.B. (1964)- Post-Oligocene tectonic history of the Cagayan Basin, Philippines. The Philippine Geologist (J. Geol. Soc. Philippines) 18, 4, p. 114-147.
(Folds of Cagayan Valley, N Luzon, interpreted as gravity structures which slid off M Pleistocene Central Cordillera. Beneath and around edges of N-striking M Miocene-Recent Cagayan Basin are remnants of NE-trending E Miocene basin, parallel to Palawan-Visayan·Sulu system which still prevails W of Philippine Rift. Similar relict NE trends in pre-M Miocene rocks of C Luzon and S Mindoro, suggesting NE grain more general in Philippines prior to M Miocene)

Claveria, R.J. & H.H. Fischer (1991)- Characterization of the chromite pods and lenses associated with the Ulugan Bay peridotite, Palawan. J. Geol. Soc. Philippines 46, 3-4, p. 21-34.
(Chromitite pods and lenses in Ulugan Bay area occur as concordant and discordant bodies with respect to metamorphic banding in peridotite)

Concepcion, R., C. Dimalanta, G. Yumul, D. Faustino-Eslava, K. Queano, R. Tamayo & A. Imai. (2012)- Petrography, geochemistry, and tectonics of a rifted fragment of mainland Asia: evidence from the Lasala Formation, Mindoro Island. Philippines Int. J. Earth Sciences (Geol. Rundschau) 101, p. 273-290.
(online at: http://basin.earth.ncu.edu.tw/download/courses/seminar_MSc/2012/1115_2_2.pdf)
(NW Mindoro Jurassic Halcon metamorphics, formed as result of arc-continent collision, overlain by Late Eocene Lasala Fm sandstones, shales, basalt flows, minor limestones (with Pellatispira) and conglomerates. Lasala clastics quartzose, mainly of continental, passive margin derivation. Suggests Mindoro is fragment of Mainland Asia similar to Palawan and Busuanga prior to 45 Ma opening of S China Sea)

Cooke, D.R.. & D.C. McPhail (2001)- Epithermal Au-Ag-Te mineralization, Acupan, Baguio district, Philippines: numerical simulations of mineral deposition. Economic Geology 96, p. 109-131.

Cooke, D.R., D.C. McPhail & M.S. Bloom (1996)- Epithermal gold mineralization, Acupan, Bagio district, Philippines: Geology, mineralization, alteration and the thermochemical environment of ore deposition. Economic Geology 91, p. 243-272.

Corby, G.W. (1951)- Geology and oil possibilities of the Philippines. Philippine Bureau of Mines, Techn. Bull. 21, Manila, p. 1-363 + Plates volume
(Classic textbook describing geology and oil-gas seeps and wells of Philippines (not including Palawan, Mindanao). With brief review of oil producing areas in Netherlands East Indies. Numerous oil-gas seeps were found throughout Philippines, but no commercial prodution yet. Tertiary sediment thickness in basins in Philippines does not exceed 5000m, whereas in Netherlands Indies petroleum-producing basins thickness may be up to 7-9km. With cross-sections of main onshore basins)

Cosico, R., F. Gramann & H. Porth (1989)- Larger foraminifera from the Visaya Basin and adjacent areas of the Philippines (Eocene through Miocene). In: H. Porth & C.H. von Daniels (eds.) On the geology and hydrocarbon prospects of the Visayan Basin, Philippines, Geol. Jahrbuch B70, p. 147-205.
(35 species of larger foraminifera, incl. Eocene Pellatispira madaraszi, Discocylina and-Alveolina, Oligocene Nummulites fichteli and Lepidocyclina formosa, Miocene (Te- Lower Tf) Spiroclypeus margaritatus, Miogypsina polymorpha, etc.)

Crespin, I. (1956)- Notes on a *Lepidocyclina*- bearing rock from Cebu, Philippines. In: Papers on Tertiary micropalaeontology, Bureau Mineral Res. Geol. Geoph., Canberra, Report 25, p. 43-46.
(online at: www.ga.gov.au/products-services/legacy-publications/reports.html)
(Thin, large (up to 60mm), E Miocene (upper Te) Lepidocyclina (Eulepidina) badjirraensis Crespin from Magalambac, Mantalongan, Cebu, similar to specimens from type locality at Cape Range, Exmouth Gulf, NW Australia. Associated with Cycloclypeus eidae Miogypsina cf. kotoi, Lepidocyclina (N) borneensis)

Crispin, O.A. & H. Fuchimoto (1980)- K-Ar dating of some Philippine rocks. In: T. Kobayashi, R. Toriyama et al. (eds.) Symposium on the geology and paleontology of SE Asia, Tsukuba 1978, Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 21, p. 93-100.
(Results of K-Ar age dating of 66 samples from Philippines, ranging from Cretaceous- Miocene. Results often do not fit with associated stratigraphic/ paleontological data)

Dancer, N. (2003)- Reservoir characterisation of the Malampaya Field, a carbonate reefal build-up in the Philippines. Proc. 2003 SE Asia Petrol. Expl. Soc. (SEAPEX) Exploration Conf., Singapore, p. 1-36. *(Abstract+ Presentation)*
(Malampaya Field Oligo-Miocene carbonate reservoir with high porosity and large variation in permeability at depth of ~3000m TVDSS. Gas column 650m, oil rim 56m (API 29.4°). In-place reserves ~4.1 TCF gas and 300 MMBO. Porosity affected by diagenesis: (1) early cementation of flanks decreased porosity, meteoric leaching of lagoon increased porosity; (2) late stage burial decreased porosity with cementation along faults, porosity increased by late leaching by mixing of burial fluids and pore waters)

David, P.P. (1980)- Foraminiferal biostratigraphy of well Lagao No. 1, Sultan Sa Barongis, North Cotabato, Philippines. In: T. Kobayashi, R. Toriyama et al. (eds.) Symposium on the geology and paleontology of SE Asia, Tsukuba 1978, Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 21, p. 111-118.
(Entire 3657' drilled in Lagao 1 well, Cotabato Basin, SW Mindanao, of (Late) Pliocene-Pleistocene age. With Globoralia truncatulinoides and Gr. tosaensis in Nicaan Fm shales from 2210' to TD)

David, P.P. & H. Fontaine (1987)- Eocene limestone offshore Northeast Palawan Island, Philippines. Proc. 22nd Sess. Comm. Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Guangzhou 1985, 2, p. 341-345.
(Small islands off NE Palawan mainly composed of radiolarite and limestone with some ultrabasic rocks. Pabellion and Apulit small islands with steeply dipping E-M Eocene grey-black limestone with common Distichoplax biserialis algae, Nummulites, Discocyclina and Asterocyclina. Pellatispira, reported by Grey (1954), was not found again)

David, P.P. & H. Fontaine (1989)- Eocene limestone offshore Northeast Palawan Island, Philippines. Proc. 24th Sess. Comm. Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Bangkok 1987, 2, p. 130-134.
(Same paper as above)

David, S.D. (1994)- Geologie du Sud-Est de Luzon- contributions a l'etude geodynamique ante-Neogene de la Ceinture Mobile Est Philippine. Doct. Thesis Universite de Nice-Sophia Antipolis, Nice, p. 1-352.
('Geology of SE Luzon- contributions to the pre-Neogene geodynamics of the East Philippine Mobile Belt')

David, S.D., J.F. Stephan, J. Delteil, H. Bellon & F.G. Sajona (1996)- Geology, geochemistry, geochronology and structures of the ophiolites in Southeastern Luzon, Philippines. J. Geol. Soc. Philippines 51, p. 115-129.
(Ophiolites identified inW Caramoan Peninsula (Lagonoy Ophiolite) and in Cagraray, Batan and Rapu-Rapu islands. Exposures characterized by imbricated ultramafic rocks, gabbros, basalt flows with pillow structures and volcaniclastics. These are unconformably overlain by Late Cretaceous volcanic arc sequence. K-Ar dating of gabbro near Lagonoy yielded age of ~113 Ma (Aptian-Albian). On Rapu-Rapu diorite cutting ultramafic rocks dated as 77 Ma. Ophiolite sequences generally trend NE-SW, dipping to SW. Metamorphism and strike-slip faulting on ophiolites and overlying Late Cretaceous volcanic arc sequence sealed by M Eocene nummulitic limestone. Ophiolites in SE Luzon are pre-Late Cretaceous in age, probably formed in intra - arc oceanic setting and emplaced during pre-M Eocene)

David, S., J.F. Stephan, J. Delteil, C. Muller & J. Butterlin (1994)- The Tabgon Flysch and Ragas Point Olistostrome in the Caramoan Peninsula: nature, age, structures and their tectonic implications. J. Geol. Soc. Philippines 49, 1, p. 41-63.
(Flysch and matrix of overlying olistostrome sequence in E part of Caramoan Peninsula yielded latest M Eocene- earliest Late Eocene (zones NP17- NP18) nannofossils. Olistostrome with blocks of late Bartonian-E Lutetian limestones and nummulitic conglomerates as youngest olistoliths. Rocks represent important tectonic episode during M-L Eocene, probably corresponding to change in motion of Pacific Plate in M Eocene, which resulted in left lateral strike-slip faulting in E Philippine Mobile Belt)

David, S., J.F. Stephan, J. Delteil, C. Muller, J. Butterlin, H. Bellon & E. Billedo (1997)- Geology and tectonic history of Southeastern Luzon, Philippines. J. Asian Earth Sci. 15, 4-5, p. 435-452.
(SE Luzon in E Philippine Mobile Belt. Three units limited by two NW-SE trending strike-slip faults. N-C unit is M- early Late Cretaceous volcanic arc unconformably overlain by M-L Eocene volcanic arc, followed by E Oligocene intrusives. Median Unit underlain by Late Cretaceous volcanic arc. W unit is pre-Late Cretaceous ophiolitic suite unconformably overlain by Late Cretaceous volcanic arc sequence and M Eocene limestones. Units overlain by Late Oligocene- Pliocene carbonate and clastic sequence)

De Boer, J., L.A. Odom, P.C. Ragland, F.G. Snider & N.R. Tilford (1980)- The Bataan orogene: eastward subduction, tectonic rotations and volcanism in the Western Pacific (Philippines). Tectonophysics 67, p. 251-282.

(Philippine mobile belt crustal fragment between two subduction systems of opposite polarity. Eastern (Philippine-Quezon) system probably originated in Eocene during NW-SW spreading of W Philippine basin. Western (Manila-Bataan) system originated in Oligocene by spreading of S China Sea basin. Arcs migrated E from Miocene-Present, changing composition from tholeiitic via calc-alkaline to shoshonitic. C Luzon rotating counterclockwise due to differential spreading in S China Sea basin)

Defant, M.J., J. De Boer & D. Oles (1988)- The western Central Luzon arc, two arcs divided by rifting ? Tectonophysics 145, p. 305-317.
(W Central Luzon arc complex zone of volcanism. Volcanoes of N (Bataan) segment of arc along two semi-parallel lineaments. N segment cut off from S extension of arc by NE-SW 'cross arc' zone of volcanism, the Macolod Corridor. Volcanoes of S (Mindoro) segment of arc along two parallel lineaments)

Defant, M.J., R.C. Maury, J.L. Joron, M.D. Feigenson, J. Leterrier et al. (1989)- The geochemistry and tectonic setting of the northern section of the Luzon arc (Philippines and Taiwan). Tectonophysics 183, p. 187-205.
(Luzon Arc with Miocene (10 Ma)- Recent volcanism associated with E-ward subduction along Manila Trench for 1200 km, from Taiwan south to Mindoro. Volcanism clearly subduction-related with calc-alkaline affinities. Earliest phase of volcanism tholeiitic, mid-oceanic-ridge basalt-like)

Defant, M.J., R.C. Maury, E.M. Ripley, M.D. Feigenson & D. Jacques (1991)- An example of island-arc petrogenesis: geochemistry and petrology of the Southern Luzon Arc, Philippines. J. Petrology 32, 3. p. 455-500.
(Luzon arc volcanism associated with E-ward subduction of S China Sea floor along Manila Trench. Volcanic rocks typical arc phenocryst mineralogies: olivine, clinopyroxene, plagioclase and titanomagnetite in mafic rocks and clinopyroxene, plagioclase, orthopyroxene, titanomagnetite, amphibole in more felsic samples. Rocks range from basalts to rhyolites and show typical calc-alkaline features. Continental crustal material seems to play significant role, particularly in Macolod Corridor and Mindoro segment)

De Guzman, R.A. (1975)- Geotectonic development of Southern Mindoro geosyncline. The Philippine Geologist (J. Geol. Soc. Philippines) 29, 4, p. 1-19.
(S Mindoro geosyncline two major domains: Paleogene Eugeosynclinal and Neogene Miogeosynclinal)

De Leon, M.M. & P.J. Militante-Macias (1992)- Calcareous nannofossil biostratigraphy of the western part of Tarlac Province Central Luzon Basin. J. Geol. Soc. Philippines 47, 1-2, p.
(Calcareous nannofossils from outcrops of deep marine Aksitero, Moriones, Malinta and Tarlac Fms in W part of Tarlac Province, C Luzon. Represent 11 zones of 'standard' U Oligocene- U Miocene nannofossil zonation)

De Los Santos, V.C. & F.D. Spencer (1968)- Geology and resources of central Polillo Island, Quezon. Philippines Bureau of Mines, Spec. Project Series Publ. 15, Coal, p. 1-57.
(Hashimoto 1982: Includes record of Late Eocene Nummulites- Discocyclina- Pellatispira larger foram fauna in Babacolan Lst overlies meta-volcanic facies in area of Polillo coalfield. Also Late Oligocene Eulepidina-Spiroclypeus without Miogypsina from coal-bearing Burdeos Fm and E-M Miocene Austrotrillina- Miogypsina thecidaeformis from overlying Langoyen Lst))

Deng, J.H., X.Y. Yang, H. Qi, Z.F. Zhang, A.S. Mastoi & W. Sun (2017)- Early Cretaceous high-Mg adakites associated with Cu-Au mineralization in the Cebu Island, Central Philippines: implication for partial melting of the Paleo-Pacific Plate. Ore Geology Reviews 88, p. 251-269.
(E Cretaceous arc volcanics and diorites associated with large porphyry deposit in Cebu Island, C Philippines. Zircon U-Pb age of diorites ~110 Ma, close to formation age of Lutopan diorites in Atlas porphyry Cu-Au deposit. Successive generation of arc volcanics and adakites in Cebu Island responses to subduction and rollback of Paleo-Pacific Plate to proto-Philippine Sea Plate in E Cretaceous)

Deng, J.H., X.Y. Yang, Z.F. Zhang & M.Santosh (2015)- Early Cretaceous arc volcanic suite in Cebu Island, Central Philippines and its implications on paleo-Pacific plate subduction: constraints from geochemistry, zircon U-Pb geochronology and Lu-Hf isotopes. Lithos 230, p. 166-179.

(online at: http://icpms.ustc.edu.cn/laicpms/publications/2015-DengJH-lithos.pdf)
(E Cretaceous arc volcanic suite in Cebu Island of C Philippines with basalt, andesite, etc. (previously viewed as parts of ophiolite complexes). With zircon grains of ~126 and ~119 2 Ma (Aptian). Detrital zircons from river sand peak at ~118 Ma. Similar to E Cretaceous arc basalts in Amami Plateau in N and E Halmahera in S. Zircon Hf isotopes imply E Early Cretaceous subduction of Paleo-Pacific plate. Part of single subduction zone along S, W, N margin of W Philippine Basin before opening of Philippine Sea Plate)

Dickerson, R.E. (1922)- Review of Philippine paleontology. Philippine J. Science, Manila, 20, p. 195-229.
(online at: https://ia700802.us.archive.org/8/items/mobot31753002580576/mobot31753002580576.pdf)
(Paper describing economic uses of paleontology, and review of Mesozoic and Cenozoic fossils in Philippines. Mesozoic limited to ?Jurassic cherts on Panay with radiolaria Cenosphaera affinis and Dictyomitra tenuis. Cenozoic limited to Oligocene- Recent sediments, with fossils (mainly molluscs) at numerous localities)

Dickerson, R.E. (1924)- Tertiary paleogeography of The Philippines. Philippine J. Science, Manila, 25, 1, p. 11-50.
(Philippines sediments limited to chert of questionable Jurassic age, overlain by Miocene- Recent sediments and volcanics (incorrect: Cretaceous- Paleogene sediments also present; JTvG). With broad paleogeographic maps)

Diegor, W.G., P.C. Momongan & E.J. Mamaril-Diegor (1996)- Ophiolitic basement of Cebu. J. Geol. Soc. Philippines 51, 1-2, p.
(Cebu probably developed over oceanic crust. Cansi Volcanics (basic pillow lavas), Tunlob Schist, serpentinite diapirs (cold intrusion during wrench tectonics), Pandan Fm (incl. pillow basalt flow overlain by thin bedded cherts) all suggest ophiolitic affinity. Cansi Fm volcanism apparently began to pour over oceanic crust that may have previously been emplaced perhaps during E Cretaceous)

Dimalanta, C.B., D.V. Faustino-Eslava, J.T. Padrones, K.L. Queano, R.A.B. Concepcion & S. Suzuki (2018)- Cathaysian slivers in the Philippine island arc: geochronologic and geochemical evidence from sedimentary formations of the west Central Philippines. Australian J. Earth Sciences 65, 1, p. 93-108.
(Clastic units from W Central Philippines (Mindoro, Panay and Palawan) likely from sources of Cathaysian origin. U-Pb dating peaks at 185-140 Ma, 140-120 Ma and 112-90 Ma, chronicling Yanshanian magmatic events. Same formations also older intercept at 1.9-1.85 Ga,likely corresponding to orogenic episode in late Paleoproterozoic Cathaysian block. Also rel. strong continental chemical signature)

Dimalanta, C.B., E.G.L. Ramos, G.P. Yumul & H. Bellon (2009)- New features from the Romblon Island Group: key to understanding the arc-continent collision in Central Philippines. Tectonophysics 479, p. 120-129.
(Complete ophiolite sequence and melange in Romblon Island Group, C Philippines. Tablas, Romblon and Sibuyan Islands built on amalgamated crust and mantle rocks. Jurassic- Cretaceous age of formation and late E Miocene age of emplacement suggested for Sibuyan Ophiolite Complex. Emplacement of facilitated through displacements along E-verging thrust faults developed consequent to E Miocene arc-continent collision in C Philippines. K-Ar isotopic ages of 12 Ma for some metamorphic rocks in area)

Dimalanta, C.B., R.C. Salapare, D.V. Faustino-Eslava, N.T. Ramos, K.L. Queano, G.P. Yumul & T.F. Yang (2015)- Post-emplacement history of the Zambales Ophiolite complex: insights from petrography, geochronology and geochemistry of Neogene clastic rocks. J. Asian Earth Sci. 105, p. 215-227.
(Zambales Ophiolite Complex in Luzon made up of two blocks: (1) M Jurassic- E Cretaceous Acoje Block-San Antonio Massif of island arc tholeiite composition and (2) Eocene Coto Block-Cabangan Massif of transitional mid-ocean ridge basalt-island arc tholeiite affinity. Ophiolitic bodies overlain by Miocene- Pliocene sediments with varying quantities of ophiolitic and arc volcanic detritus)

Dimalanta, C.B., L.O. Suerte, G.P. Yumul, R.A. Tamayo & E.G.L. Ramos (2006)- A Cretaceous supra-subduction oceanic basin source for Central Philippine ophiolitic basement complexes: geological and geophysical constraints. Geosciences J. 10, 3, p. 305-320.
(online at: www.geosciences-journal.org/home/journal/...)

(C Philippines several Cretaceous oceanic ophiolite complexes. Antique Ophiolite along W side associated with blueschists, suggesting tectonic erosion accompanied subduction during emplacement. Ophiolites younger to E, indicating convergence accentuated by trench jumping. Oceanic lithosphere fragments in C Philippines probably derived from single Cretaceous ocean basin)

Dimalanta, C. & G. Yumul (2003)- Magmatic and amagmatic contributions to crustal growth of an island-arc system. The Philippine example. Int. Geology Review 45, 10, p. 922-935.
(Numerous volcanoes and ophiolite/ophiolitic complexes attests to significant role of arc magmatism and oceanic lithosphere emplacement to crustal growth in Philippines. Arc magmatism contributed more to crustal growth in Philippines than ophiolite emplacement)

Dimalanta, C.B. & G.P. Yumul (2004)- Crustal thickening in an active margin setting (Philippines): The whys and the hows. Episodes 27, 4, p. 260-264.
(online at: www.episodes.co.in/www/backissues/274/260-264%20Philippine.pdf)
(Significant portion of Philippine archipelago characterized by crust with thickness of ~25-30 km. Two zones with thicker crust (30-65 km): Luzon Central Cordillera and Bicol-Negros-Panay-Central Mindanao regions)

Dimalanta, C.B. & G.P. Yumul (2006)- Magmatic and amagmatic contributions to crustal growth in the Philippine island arc system: comparison of the Cretaceous and post-Cretaceous periods. Geosciences J. 10, 3, p. 321-329.

Dimalanta, C. & G. Yumul (2008)- Crustal thickness and adakite occurrence in the Philippines: is there a relationship? Island Arc 17, 4, p. 421-431.
(Adakites may form in variety of tectonic settings: partial melting of subducted young, hot oceanic slabs, oblique subduction, low-angle or flat subduction, or slab-tearing. Miocene-Recent adakites in Philippines may have not have formed through subduction of young oceanic crust, but are function of thickened crust)

Dimalanta, C. & G. Yumul (2015)- Understanding arc-continent collision and crustal growth: geochemistry of Philippine sedimentary rock sequences. ASEAN Engineering J., C, 2, 2, p. 40-53.
(online at: http://seed-net.org/wp-content/uploads/2015/12/Invited-Paper_UNDERSTANDING-ARC-CONTINENT-COLLISION-AND-CRUSTAL-GROWTH-GEOCHEMISTRY-OF-PHILIPPINE.pdf)
(Geochemistry of clastic rocks from Palawan, Buruanga and NW Mindoro confirms source from continental fragment. Sediments from Baguio (Klondyke, Amlang, Cataguintingan) geochemical signatures consistent with derivation from mafic igneous rocks in oceanic island arc setting)

Dimalanta, C.B., G.P. Yumul & A. Imai (2013)- Geodynamic evolution of the Baguio Mineral District: unlocking the Cenozoic record from clastic rocks. J. Asian Earth Sci. 65, p. 118-130.
(Sediments in Baguio Mineral District reflect change in sediment provenance from quartz-rich in Oligocene to quartz-deficit in Miocene)

Divis, A.F. (1980)- The petrology and tectonics of Recent volcanism in the Central Philippine Islands. In: D.E. Hayes (ed.) The tectonic and geologic evolution of Southeast Asian seas and islands, American Geophys. Union (AGU), Geophys. Monograph 23, p. 127-144.

Divis, A.F. (1983)- The geology and geochemistry of Philippine porphyry copper deposits. In: D.E. Hayes (ed.) The tectonic and geologic evolution of Southeast Asian seas and islands- II, American Geophys. Union (AGU), Geophys. Monograph 27, p. 173-216.
(Three-four major episodes of porphyry intrusion in Philippines, with >40 potential deposits reported and nine are or have been in production. Good correlation with periods of increased subduction rates)

Domingo, B.B. & W.F. Domasig (1996)- Co'O mine, a case history of gold exploration and mining in the Philippines. In: G.P. & A.C. Salisbury (eds.) Trans. 5th Circum-Pacific Energy and Mineral Resources Conference, Hawaii 1990, Circum-Pacific Council for Energy and Mineral Resources, Houston, p. 199-206.
(Co'O gold deposit is on E Mindanao Ridge in S Philippines, associated with Late Pliocene arc volcanics(?))

Domingo, R.M.A. (1989)- Facies and diagenetic aspects of a Miocene carbonate sequence, Santan A- 1XA well, Visayas, Philippines. In: H. Porth & C.H. von Daniels (eds.) On the geology and hydrocarbon prospects of the Visayan Basin, Philippines, Geol. Jahrbuch B70, p. 277-302.
(Santan A-1XA well penetrated ~2500' of M-U Miocene carbonates (lower Tf- upper Tf). Core from top of carbonate rich in coral rubble. Diagenesis includes early freshwater leaching, followed by cementation)

Doo, W.B., S.K. Hsu & L. Armada (2015)- Philippine Island arc system tectonic features inferred from magnetic data analysis. Terrestrial Atmospheric Oceanic Sci. 26, 6, p. 679-686.
(online at: http://www.gep.ncu.edu.tw/upload/thesis/2015/thesis_1474424270.pdf)
(Positive magnetization distribution coincides closely with magmatic arcs. Philippine Fault main tectonic boundary, separating high/ low magnetization areas. Etc.)

Douville, H. (1911)- Les foraminiferes dans le Tertiaire des Philippines. Philippine J. Science 6, p. 53-80.
('The foraminifera in the Tertiary of the Philippines'. Larger foraminifera from samples collected by M. Warren D. Smith. Mainly Miocene Lepidocyclina species, also small Oligocene Nummulites)

Dreher, S.T., C.G. Macpherson, D.G. Pearson & J.P. Davidson (2005)- Re-Os isotope studies of Mindanao adakites: implications for sources of metals and melts. Geology 33, 12, p. 957-960.
(Osmium isotopic data for adakite samples from Mindanao conflict with slab-melting model. Os ratios inconsistent with partial melting of ~50 Ma Philippine Sea lithosphere, but similar to young mid-oceanic-ridge basalts and normal arc rocks, consistent with mantle source)

Durkee, E.F. (1992)- Oil, geology, and changing concepts in the SW Philippines (Palawan and the Sulu Sea). In: 9th SEAPEX Offshore Southeast Asia Conf. (OFFSEA 92), Singapore 1992, Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) 10, OSEA 92217, p. 75-96.
(Brief overview of Philippines basins and discoveries. SW Philippines offshore Palawan oil-gas producing trend in Oligocene- Lower Miocene limestone reefs (Nido, Malampaya, Matinloc) and overlying deep water turbiditic sequences (Galoc, W Linapacan))

Durkee, E.F. (1993)- Oil, geology, and changing concepts in the SW Philippines (Palawan and the Sulu Sea). In: Proc. Conf. Tectonic framework and energy resources of the westem margin of the Pacific Basin, Kuala Lumpur 1992, Geol. Soc. Malaysia Bull. 33, p. 241-262.
(online at: www.gsm.org.my/products/702001-101009-PDF.pdf)
(same as Durkee 1992, above)

Durkee, E.F. (2001)- With Malampaya producing, here are other Philippines exploration targets. Oil and Gas J. 99, 47, p. 46-50.
(Shell-operated Malampaya producing gas since September 2001. Two important areas for gas exploration Reed Bank and S Tanon Strait. Other possible areas Crescent, Santa Monica, N Coron, Amity, Cherry and Hippo. Possibility of oil leg under gas accumulation at Malampaya)

Durkee, E.F. & S.L. Pederson (1961)- Geology of northern Luzon, Philippines. American Assoc. Petrol. Geol. (AAPG) Bull. 45, p. 137-168.
(Luzon Cagayan Valley intermontane basin sediments accumulated in Miocene- Pliocene. E Miocene limestones, marine Miocene, marine- brackish U Miocene-Pliocene to fluviatile U Pliocene-Pleistocene)

Easton, W.H. & M.M. Melendres (1963)- First Paleozoic fossil from Philippine archipelago. American Assoc. Petrol. Geol. (AAPG) Bull. 47, 11, p. 1871-1873.
(Paleozoic cyathopsid coral (Gshelia? or Caninia) in cobble from Late Tertiary conglomerate at Punso, SE Mindoro. Coral probably of M-U Carboniferous age and first Paleozoic fossil derived from basement rocks)

Encarnacion, J.P. (1994)- Geochronological, geochemical and geological constraints on models of ophiolite generation and ARC growth: Evidence from the northern Philippines. Ph.D. Thesis University of Michigan, p. 1-132.
(On Eocene Zambales and Angat ophiolites of S Sierra Madre, Luzon. Zircon U-Pb ages from tonalite and plagiogranite of Zambales ophiolite ~44-45 Ma (M Eocene), Angat Ophiolite ~48 Ma, suggesting parts of a single plate, probably originated in backarc setting. Overlain by Eocene volcanic arc. Also Palawan Ophiolite which was obducted onto microcontinental fragment rifted from SE China)

Encarnacion, J. (2004)- Multiple ophiolite generation preserved in the northern Philippines and the growth of an island arc complex. Tectonophysics 392, p. 103-130.
(Oceanic arcs grow through addition of subduction-generated magmas, but in N Philippines also major contribution from repeated oceanic crust generation with subsequent preservation of basic-ultrabasic units in arc complex. At least five episodes of oceanic crust generation represented in N Philippines by ophiolitic sequences and recent intra-arc seafloor spreading. Ages pre-(?)Jurassic- Quaternary. Most ophiolites generated as back-arc, fore-arc, or intra-arc crust within Philippine arc complex)

Encarnacion, J. (2004)- Northern Philippine ophiolites: modern analogues to Precambrian ophiolites? In: T.M. Kusky (ed.) Precambrian ophiolites and related rocks, Elsevier Developments in Precambrian Geology 13, p. 615-626.
(N Philippines has ~150 My history of multiple, overlapping periods of oceanic crust generation, arc volcanism and deformation. At least five ophiolite complexes. Sedimentary basins probably floored by oceanic crust are dominated by immature sediments and volcanoclastics, locally up to 10 km thick. Entire arc-ophiolite complex being accreted to Eurasia since Miocene)

Encarnacion, J., E.J. Essene, S.B. Mukasa & C.H. Hall (1995)- High-pressure and -temperature subophiolitic kyanite-garnet amphibolites generated during initiation of Mid-Tertiary subduction, Palawan, Philippines. J. Petrology 36, 6, p. 1481-1503.
(Metamorphic rocks near base of pre-M Eocene ophiolite in C Palawan record conditions of ophiolite emplacement onto rifted SE margin of China (Palawan Block). Radiometric ages all around 34 Ma (~Eo-Oligocene boundary). P-T conditions and regional geology suggest metamorphism at depth >30 km in subduction zone. Rapid cooling and exhumation after peak metamorphic conditions in earliest Oligocene)

Encarnacion, J.P. & S.B. Mukasa (1997)- Age and geochemistry of an ánorogenicô crustal melt and implications for I-type granite petrogenesis. Lithos 42, p. 1-13.
(Capoas I-type biotite granite of Late M Miocene age (zircons 15± 3 Ma, monazites~13.4 Ma) at W side of N Palawan Continental Terrane. Intruded into Permian-Jurassic sedimentary rocks of N Palawan Continental Terrane (fragment of Mesozoic Andean margin of SE China that was separated from mainland during Late Oligocene- E Miocene opening of S China Sea). Composed mainly of older continental crust; probably calc-alkaline source rocks of Mesozoic Andean-type margin of S China that underwent partial melting in late M Miocene time in 'anorogenic' setting)

Encarnacion, J., S.B. Mukasa & C.A. Evans (1999)- Subduction components and the generation of arc-like melts in the Zambales ophiolite, Philippines: Pb, Sr and Nd isotopic constraints. Chemical Geology 156, p. 343-357.
(On M Eocene arc-like island arc tholeiites and minor boninitic rocks in Zambales Ophiolite Complex of C Luzon, which are less than ~1 Ma younger (44.2 Ma) than MORB-like sections (45.1 Ma))

Encarnacion, J.P., S.B. Mukasa & E.J. Obille (1993)- Zircon U-Pb geochronology of the Zambales and Angat ophiolites, Luzon, Philippines: evidence for an Eocene arc-back arc pair. J. Geophysical Research 98, p. 19991-20004.
(*Two basement terranes exposed on Luzon: Zambales ophiolite in W and Angat ophiolite in E, separated by 10 km thick and 100 km wide sedimentary basin. Zircon ages from plagiogranites in Zambales ophiolite ~45 Ma (M Eocene), in agreement with Late Eocene age of overlying Aksitero Fm. Zircons from Angat Ophiolite 48 Ma, younger than Late Cretaceous age based on radiolarian fauna from melange sequence SSE of main ophiolite.*

Small age difference between Zambales and Angat ophiolites suggests common origin. Zambales-Angat ophiolite represents preserved Eocene back-arc basin, formed behind Eocene arc, within Cretaceous oceanic basement, therefore not allochthonous terranes)

Endo, R. (1968)- Fossil algae from Mindoro Oriental Province, Mindoro Island, the Philippines. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 4, p. 211-219.
(Algae from conglomeratic beds near Mansalay Fm (probably Jurassic) at Agbahag Point, Mindoro Oriental. Incl. Archaeolithporella hidensis, Vermiporella nipponica (=Vermiporella sumatrana Pia 1937?; JTvG), Macroporella, etc. Most species known from Permian of Japan, suggesting Permian pebbles reworked into Jurassic sediments)

Esguerra, F.B. (1961)- Geochemistry and mineralogy of the Surigao nickeliferous laterites, Mindanao, Philippines. Philippine Geologist 15, p. 1-26.

Evans, C.A., G. Casteneda & H. Franco (1991)- Geochemical complexities preserved in the volcanic rocks of the Zambales Ophiolite, Philippines. J. Geophysical Research, Solid Earth 96, B10, p. 16251-16262.
(Geochemical characteristics of volcanic rocks from Zambales Ophiolite, Luzon, indicate oceanic crust now preserved in ophiolite generated in oceanic subduction zone environment. Volcanic rocks magnesian basalt (including MOR Basalt, island arc tholeiite, and boninite-like lavas) to andesite and dacite and have trace elements suggesting derivation from heterogeneous mantle source). Paleomagnetic studies suggest Zambales Ophiolite formed as oceanic crust in vicinity of present-day Celebes Sea)

Fan, J., S.G. Wu & G. Spence (2015)- Tomographic evidence for a slab tear induced by fossil ridge subduction at Manila Trench, South China Sea. Int. Geology Review 57, 5-8, p. 998-1013.
(Tomography of high-velocity subducted slab of S China Sea beneath Manila Trench. Angle of slab varies along trench: at ~16° N slab dips at 24° ~ 32° for 20-250 km depth. A ~17.5° slabs near vertical from 70-700 km depth, at 20° N from horizontal abruptly to near vertical to 500 km depth. Steepening may indicate slab tear, coincident with axis of fossil ridge in SCS slab at ~17° N. Low-velocity zones above 300 km may represent the formation of slab window. Slab tear could explain volcanic gap and geochemical difference between Miocene and Quaternary volcanoes in Luzon Arc, and distribution of adakites and related porphyry Cu-Au deposits in Luzon area. Initial time of ridge subductio possibly started at ~8 Ma)

Fan, J., D. Zhao & D. Dong (2016)- Subduction of a buoyant plateau at the Manila Trench: tomographic evidence and geodynamic implications. Geochem. Geophys. Geosystems 17, 2, p. 571-586.
(P-wave tomography shows changes in dip angle of subducted Eurasian Plate from N to S along N Manila Trench/ Luzon Arc, consistent with partial subduction of buoyant plateau. Slab tears along edges of plateau in subducted plate and subducted lithosphere may be absent below 250 km at ∼19°N and ∼21°N. Subducted plate at ∼21°N steeper than at ∼19°N. May explain ∼5 km separation of W and E volcanic chains in Luzon Arc at ∼18°N, converging N-ward. Low-velocity zone at 20-200 km beneath Manila Accretionary Prism at ∼22°N, suggesting subduction may stop there. Taiwan Orogeny may originate from subduction of buoyant plateau)

Fan, J., D. Zhao, D. Dong & G. Zhang (2017)- P-wave tomography of subduction zones around the central Philippines and its geodynamic implications. J. Asian Earth Sci. 146, p. 76-89.
(Tomographic data show subducted S China Sea slab under S segment of Manila Trench steepens and tears, resulting in migration of active volcanism in Macolod Corridor, due to between Palawan block- Philippine Mobile Belt collision. Subduction of Philippine Sea Plate along Philippine Trench started at 10-12°N or S of 12°N from at least ∼10 Ma. High-velocity anomaly near mantle transition zone interpreted as subducted Proto S China Sea slab, sinking deeper SE-ward, suggesting Palawan block collision younging from S to N (see also Wu & Suppe 2017))

Faure, M. & K. Ishida (1990)- The mid-Upper Jurassic olistostrome of the West Philippines: a distinctive key-marker for the North Palawan block. J. Southeast Asian Earth Sci. 4, 1, p. 61-67.

(N Palawan island mainly chaotic mix of turbidites, slumps, pebbly mudstone, sandstone and olistostrome, with exotic blocks of Permian- Triassic chert and limestone, M-U Jurassic limestone, acidic lava and volcanoclastic rocks. Callovian- Lower Kimmeridgian radiolarians in mudstone matrix. Olistostrome with exotic blocks overlain by Late Cretaceous-Eocene turbidites. Similar olistostrome at Calamian, Mindoro, Panay and Carabao islands (other authors view this as Jurassic accretionary complex?; JTvG))

Faure, M., Y. Marchadier & C. Rangin (1989)- Pre-Eocene synmetamorphic structure in the Mindoro-Romblon-Palawan area, West Philippines, and implications for the history of Southeast Asia. Tectonics 8, 5, p. 963-979.
(Pre-Eocene 'basement' in Mindoro-Lubang area: (1) pre-Eocene olistostrome; (2) ophiolitic nappe; (3) schistose sequence (pelites, sandstones, etc.); and (4) gneissic unit. Ophiolite and schistose sequence two thrust sheets of oceanic origin thrust upon gneissic unit considered part of continental basement called W Philippines Block. Mindoro metamorphics not younger than Eocene and probably not older than late Paleozoic)

Faustino-Eslava, D.V., A.d.C. Perez, K.L. Queano, R.C. Salapare, J.T. Padrones, C.B. Dimalanta, G.P. Yumul, N.T. Ramos, B.D. Payot & P.M. Operio (2013)- Low-latitude paleoceans in the Philippines. In: 2nd Int. Symposium Int. Geoscience Programme (IGCP) Project 589, Borocay, Philippines, p. 102-103. *(Abstract)*
(online at: http://igcp589.cags.ac.cn/2nd%20Symposium/Abstract%20volume.pdf)
(Fragments of ancient oceanic crusts along entire Philippine Archipelago. Paleomagnetic data from ophiolites and associated formations in Luzon and C Philippines suggest older rocks formed closer to equatorial paleolatitudes: Cretaceous Mangyan meta-ophiolite (Mindoro; ~2.4°S- 1.3°N) and Cretaceous-Eocene Chico River pillow basalts (Luzon; ~6°N). Pillow basalts of Oligocene Amnay Ophiolite in Mindoro ~10°N. Oligo-Miocene-Pliocene rocks of Luzon close to original deposition (e.g. Moriones and Sta. Cruz Fms; ~15°N)

Faustino, D.V., G.P. Yumul, J.V. De Jesus, C.B. Dimalanta, J.C. Aitchison, M.F. Zhou, R.A. Tamayo & M.M. De Leon (2003)- Geology of southeast Bohol, Central Philippines: accretion and sedimentation in a marginal basin. Australian J. Earth Sci. 50, p. 571-583.
(SE Bohol composed of Cretaceous basement complex with Alicia Schist, overthrust by Cansiwang melange, structurally overlain by SE Bohol Ophiolite Complex. Overlain unconformably by ~2000m thick Lower Miocene- Pleistocene carbonate and clastic sediments and igneous units. Accretionary prism beneath ophiolite complex and presence of boninites suggest SE Bohol Ophiolite Complex emplaced in forearc setting. It formed in E Cretaceous in suprasubduction zone environment related to SE-facing arc)

Faustino, D.V., G.P. Yumul, C.B. Dimalanta, J.V. De Jesus, M.F. Zhou, J.C. Aitchison & R.A. Tamayo (2006)- Volcanic-hypabyssal rock geochemistry of a subduction-related marginal basin ophiolite: Southeast Bohol Ophiolite-Cansiwang melange complex, Central Philippines. Geosciences J. 10, 3, p. 291-303.
(E Cretaceous SE Bohol Ophiolite- Cansiwang Melange Complex and Alicia Schist form basement of SE Bohol Island. Four discrete groups in volcanic and ophiolite-melange complex: boninitic rocks, enriched and normal mid-ocean ridge basalts and high-magnesian andesites. Geochemical diversity best explained by supra-subduction zone environment of formation. Formation of Cansiwang Melange concurrent with ophiolite emplacement by subduction-accretion along forearc margin, which was later jammed into inactivity with entry of Alicia Schist that most likely was oceanic bathymetric high)

Fernandez, M.V., A.P. Revilla & S. David (1994)- Notes on the Cretaceous carbonates in Catanduanes Island and Caramoan Peninsula, Philippines. J. Geol. Soc. Philippines 49, 4, p. 241-261.
(Cretaceous rocks of Catanduanes Island and Caramoan Peninsula contain (1) Aptian- Cenomanian shallow water carbonates with Orbitolina texana and Orbitolina cf. conoidea; (2) Late Campanian- E Maastrichtian pelagic wackestones with Globotruncana, etc.; and (3) Late Maastrichtian Lepidorbitoides (Asterorbis) sp. in shallow marine packstones with rudists (possibly reworked in M-U Eocene olistostrome?; JTvG))

Fernando, A.G.S., C.Y. Magtoto, J.D.S. Guballa & A.M. Peleo-Alampay (2016)- Calcareous nannofossils from Cretaceous units in Catanduanes Island. Bull. Natl. Museum Natural Sci., Ser. C, 42, p. 35-47.
(online at: http://www.kahaku.go.jp/research/publication/geology/download/42/BNMNS_C42_35-47.pdf)

(Cretaceous outcrops in Catanduanes Island, E Philippines with two distinct nannofossil assemblages:UC10-UC12 zones (Coniacian-Santonian) and Campanian-Maastrichtian. Previously unmapped black mudstone in N Catanduanes UC5c subzone (Cenomanian-Turonian boundary; possibly oceanic anoxic event 2 (OAE2))

Fernando, A.G.S., A.M. Peleo-Alampay, E.M. Francisco, E.J. Crisologo, M.E. Collado & F.P. Siringan (2007)- Calcareous nannofossils from the Opol Formation, Bukidnon Province (Northern Mindanao), Philippines. J. Geol. Soc. Philippines 63, 1-2, p. 39-50.
(Opol Fm of N Mindanao with Late Miocene- E Pliocene calcareous nannofossil assemblages of zones NN11-NN15, based on occurrence of Discoaster quinqueramus, D. berggrenii, Reticulofenestra pseudoumbilica, etc.)

Fernando, A.G.S., A. Raymund, C. Fernandez, Y. Maac-Aguilar, Y. Kurihara & T. Kase (2008)- Late Miocene calcareous nannofossils from Danao Basin, Bohol (VisayanBasin), Philippines. Bull. Natural Science Museum, Tokyo, C34, p. 27-38.
(online at: http://ci.nii.ac.jp/naid/110007342096/en)
(Shallow marine, mollusk-bearing clastics in Danao basin of C Bohol with Discoaster quinqueramus and D. berggrenii, suggestive of NN11, Late Miocene. Cooler oceanographic conditions suggested for LateMiocene in Visayan Basin)

Fernando, A.G.S., D.N. Tangunan, A.R.C. Fernandez, E.S. Lucero, J.A. Manzano, M.G.B. Collantes & L.S.J. Manzano (2013)- Calcareous nannofossil biostratigraphy of Indahag Limestone (Western Misamis Oriental, Northern Mindanao). J. Geol. Soc. Philippines 64, p. 12-21.
(Pliocene calcareous nannofossils from Indahag Lst (NN15-NN17), N Mindanao)

Florendo, F.F. (1981)- Preliminary report on the geology, geotectonic development and mineralization of western Panay. Proc. 8th Pacific Science Congress (U.S. Nat. Research Council) 2, p. 482-502.

Florendo, F.F. (1994)- Tertiary arc rifting in northern Luzon, Philippines. Tectonics 13, 3, p. 623-640.
(N Luzon Terrane one of largest arc terranes in Philippines. Late Eocene island arc system formed above subducting W Philippine plate. Bifurcating Late Eocene- Late Oligocene magmatic arcs separated by Cagayan basin, formed by Late Oligocene- E Miocene intra-arc rifting, with oceanic crust formed at SW end. Arc rifting may be manifestation of extensional tectonism that affected most of SE Asia in Late Oligocene- E Miocene, during which S China and SE Sulu basins formed. Subsequent to arc rifting, subduction of S China plate along Manila Trench, starting at ~15 Ma)

Florendo, F.F. & J.W. Hawkins (1992)- Comparison of the geochemistry of volcanic rocks of the Zambales Ophiolite, northern Luzon, Philippines: implications for tectonic setting. Acta Geol. Taiwanica, Sci. Reports Natl. Taiwan University, 30, p. 172-176.

Fontaine H. (1979)- Note on the geology of the Calamian Islands, North Palawan, Philippines. United Nat., ECAFE, CCOP Newsletter 6, 2, p. 40-47.
(Same paper as Fontaine 1990. Reconnaissance of geology of Calamian islands, W Philippines, between Mindoro and Palawan Islands)

Fontaine (1990)- Note on the geology of the Calamian Islands, North Palawan, Philippines. In: H. Fontaine (ed.) Ten years of CCOP research on the Pre-Tertiary of East Asia, CCOP Techn. Publ. 20, p. 247-256.
(Reprint of Fontaine (1979) paper. Reconnaissance of geology of Calamian islands, W Philippines, between Mindoro and Palawan Islands. Widespread M Triassic? radiolarian chert. Presence of Rhaetian- Lower Jurassic limestones based on foraminifera described in Fontaine, Beauvais et al. 1979))

Fontaine, H. (1990)- Note on the Jurassic in the Philippines. In: H. Fontaine (ed.) Ten years of CCOP research on the Pre-Tertiary of East Asia, CCOP Techn. Publ. 20, p. 257-260.
(Reprint of Fontaine (1978), CCOP Newsletter 5(3). Brief note on Jurassic rocks in Mansalay area of S Mindoro, with Callovian- Oxfordian ammonites (see also Hashimoto & Sato 1967, 1968). Mention of oil seeps in Jurassic region of Mindoro)

Fontaine, H., L. Beauvais, C. Poumont & D. Vachard (1979)- Donnees nouvelles sur le Mesozoique de 1'Ouest des Philippines. Decouverte de Rhetien marin. Comptes Rendus Somm. Soc. Geologique France 1979, 3, p. 117-121.
('New data on the Mesozoic of Western Philippines; discovery of marine Rhaetian'. Discoveries of M Jurassic limestone with corals (simple forms, Montlivaltiidae) on SE Mindoro. On Calamian islands, W Philippines: Busuanga with thick Upper Triassic siliceous clastics with radiolaria, on Malajon reefal limestone with massive corals (incl. Thaumatoporella) and Rhaetian foraminifera like Involutina, Triasina cf. hantkeni, etc.))

Fontaine, H., P. David & N.D. Tien (1983)- A note on the northwest Panay- Tablas area. CCOP Newsletter 10, p. 8-13.
(NW Panay- Carbao and Tablas islands part of continental 'Palawan Block'. Includes (1) pre-Permian meta-clastics; (2) upper M Permian limestone with fusulinids (Neoschwagerina haydeni), smaller forams (Tuberitina, Pachyploia, Pseudoendothyra, etc.) and dasyclad algae (Mizzia velebitana); (3) E-M Triassic radiolarites)

Fontaine, H., P. David & N.D. Tien (1990)- A note on the northwest Panay- Tablas area. In: H. Fontaine (ed.) Ten years of CCOP research on the Pre-Tertiary of East Asia, CCOP Techn. Publ. 20, p. 261-268.
(Reprint of Fontaine et al. 1983)

Fontaine, H., N.D. Tien & D. Vachard (1986)- Discovery of Permian limestone south of Tara Island in the Calamian Islands, Philippines. In: H. Fontaine (ed.) The Permian of Southeast Asia, CCOP Tech. Bull. 18, p. 161-167.
(Permian limestones in NE part of Calamian islands. Malemeglemeg and Botulan Islands Late Murgabian-Midian age wackestone with forams-algae, incl. Tubiphytes and fusulinids. Getche island oolitic grainstone may be Permian or Triassic)

Forbes, M.T., C.B. Mapaye & J.A. Bacud (2011)- Structural characterization of offshore Southwest Palawan, Philippines using the most recent 2D/3D seismic data. Proc. 2011 SE Asia Petroleum Expl. Soc. (SEAPEX) Conference, Singapore, 16, 25p. *(Abstract + Presentation)*
(Improved seismic imaging allows identification of 4 major structures, Eocene half-graben with thick synrift deposits, varying deformational styles in fold-thrust belt, duplication of Oligo-Miocene Nido Lst reservoir, etc.)

Foronda, J. (1994)- Sequence stratigraphy of an Oligocene-Miocene mixed siliciclastic carbonate system, Visayan Basin, Central Cebu (Philippines). Doct. Thesis, Friedrich-Wilhelms-Universitat Bonn, Bonner Geowissensch. Schriften 11, p. 1-152. *(Unpublished)*

Foronda, J. (1996)- Depositional systems and coal cyclothems in the Upper Malubog Formation (Lower Miocene), Cebu, Central Philippines. In: C.A.Caughey et al. (eds.) Proc. Int. Symp. Sequence stratigraphy in Southeast Asia, Jakarta 1995, Indon. Petroleum Assoc. (IPA), p. 465-476.
(U Malubog Fm in C Cebu spans Lower Miocene NN2- NN3 nannoplankton zones. Thickness at least 620m. Composed of interbedded mudstones, siltstones, sandstones, minor carbonates and conglomerates. Represents single depositional sequence with shelf margin, transgressive, and highstand systems tracts. Coals cap two topmost deltaic cycles. During transgressive phase a retrograding barrier island system developed on top of deltaic deposits. Top of sequence is angular unconformity which represents NN4 hiatus in Visayan Basin)

Foronda, J.M., J.A. Bacud & C.F. Bastero (2007)- New potential plays in the syn-rift sequences in Offshore Palawan. Proc. 2007 SE Asia Petroleum Expl. Soc. (SEAPEX) Conf., Singapore, p. 1-28. *(Abstract + Presentation)*
(Paleogene 'syn-rift' sequences off NW Palawan mainly marine deposits. M Oligocene unconformity in S China Sea Basin separates Syn-Rift from widespread Nido Lst platform carbonates. Exploration targets Nido Lst buildups and fractured platform carbonates and overlying Pagasa Fm turbidites. Outboard highs where most wells have been drilled, syn-rift low net/gross, giving perceived lack of reservoir sands. Potential lowstand plays basin floor fans, leveed channels and incised valley fills. Basin floor fan may reach several km along dip. Leveed channel complex irregular and discontinuous reflections with occasional channels almost 1 km wide.

Incised valley fills typically >2.5 km wide. Exploration risks for syn-rift plays include lack of local condensed section above basin floor fans to serve as seal and drilling sand-poor fill in leveed channels and incised valleys)

Foronda, J.M. & W. Schoell (1987)- Microfacies types of Binangonan Formation, Antipolo-Teresa, Rizal Province. The Philippine Geologist (J. Geol. Soc. Philippines), 41, p. 40-78.
(U Oligocene- Lw Miocene Binangonan Fm carbonates grade up from proximal turbidites into reef buildup and reef-associated carbonates. Basin margin facies mainly planktonic forams. Foreslope facies mainly floatstones and packstones. Main organic buildups comprised of boundstones, and minor packstones/ grainstones)

Forster, H., D. Oles, U. Knittel, M.J Defant & R.C Torres (1990)- The Macolod Corridor: a rift crossing the Philippine island arc. Tectonophysics 183, p. 265-271.
(Macolod Corridor in SW Luzon is 40 km wide zone of active Quarternary volcanism which crosses island in NE-SW direction. Probably pull-apart zone formed by NW-SE oriented shearing)

Forster, M.A., R. Armstrong, B. Kohn, G.S. Lister,M.A. Cottam & S. Suggate (2015)- Highly retentive core domains in K-feldspar and their implications for 40Ar/39Ar thermochronology illustrated by determining the cooling curve for the Capoas Granite, Palawan, The Philippines. Australian J. Earth Sci. 62, p. 883-902.
(online at: http://searg.rhul.ac.uk/pubs/forster_etal_2015%20Capoas%20K-feldspar%20Palawan.pdf)
(K-feldspar from Late Miocene Capoas Granite on NW Palawan with retentive diffusion domains that are closed to argon diffusion at near-solidus temperatures during cooling. High closure T from Capoas Granite K-feldspar consistent with coincidence of 40Ar/39Ar ages with U-Pb zircon ages at ~13.5 ± 0.2 Ma. Cooling rate then accelerated, but slowed by ~12 Ma, then once again accelerated at ~11 Ma)

Fournier, F. (2004)- Evolution de l'edifice carbonate du champ de gaz de Malampaya, Tertiaire, offshore Palawan, Philippines. Implications pour la caracterisation du reservoir. Thesis University of Provence, p. 1-208. *(Unpublished)*
('Evolution of the carbonate buildup of the Malampaya gas field, Tertiary, offshore Palawan, Philippines; implicatons for reservoir characterization'. Malampaya gas field in 850-1200m of water, within Late Eocene- E Miocene shallow-water carbonates. Carbonate system initially developed on crest of tilted block during rifting of S China Sea. High-frequency subaerially exposed cycles in inner-shelf (time scale 10-100ka))

Fournier, F. & J. Borgomano (2007)- Geological significance of seismic reflections and imaging of the reservoir architecture in the Malampaya gas field (Philippines). American Assoc. Petrol. Geol. (AAPG) Bull. 91, 2, p. 235-258.
(North Palawan 1989 Malampaya oil-gas discovery in U Eocene- Lower Miocene carbonate buildup. Porosity distribution mainly controlled by meteoric diagenesis)

Fournier, F., J. Borgomano & L.F. Montaggioni (2005)- Development patterns and controlling factors of Tertiary carbonate buildups: insights from high-resolution 3D seismic and well data in the Malampaya gas field (Offshore Palawan, Philippines). Sedimentary Geology 175, p. 189-215.
(Malampaya buildup off NW Palawan internal carbonate platform architecture. Carbonate system initiated in Late Eocene (Pellatispira) as attached shelf influenced by clastic input. Late Eocene- E Oligocene syn-depositional extensional tectonics (E tilting and block faulting) favoured development of small buildups on highs. After E-ward reef progradation, aggrading shelf developed in Late Oligocene- E Miocene. Demise of buildup in late E Miocene from increase in subsidence and/or nutrient input. Eustacy, oceanographic conditions and type of carbonate producers played subordinate role in buildup development and demise)

Fournier, F., L. Montaggioni & J. Borgomano (2004)- Paleoenvironments and high-frequency cyclicity from Cenozoic south-east Asian shallow-water carbonates: a case study from the Oligo-Miocene buildups on Malampaya (offshore Palawan, Philippines). Marine Petroleum Geol. 21, p. 1-21.
(Malampaya- Camago oil-gas field in Nido carbonate buildup of Late Oligocene- E Miocene age. Microfacies assemblages described. High-frequency cyclicity recognized of 3-10m thick shallowing-upward cycles, often capped by paleosol, probably reflecting Milankovic scale sea level fluctuations)

Francisco, F.U. (1953)- The Pre-Tertiary rocks of Buruanga Peninsula, Panay Island, Philippines. Proc. 8th Pacific Science Congress 2, p. 482-498.
(Buruanga Peninsula of Panay, is uplifted crustal block composed of Mesozoic? Buruanga metamorphic complex, intruded by quartz diorites (probably also pre-Tertiary) in SE, and capped by Tertiary volcanic and sedimentary rocks (now viewed as part of Palawan- Mindoro terrane; JTvG))

Francisco, F.U. (1966)- A review and assessment of oil exploration in the Philippines, 1. Petroleum Division, Philippine Bureau of Mines, p. 1-193.

Francisco, F.U. (1975)- A review of oil exploration and stratigraphy of sedimentary basins of the Philippines, 2. Petroleum Division, Philippine Bureau of Mines, p. 1-95.

Fraser, A.R. & E.B. Guazon (1994)- Geology and petroleum potential of Northeast Palawan Shelf. Australian Geol. Survey Org. (AGSO), Canberra, Record 1994/41, Part 3, p. 1-47.
(online at: https://d28rz98at9flks.cloudfront.net/14753/Rec1994_041.pdf)

Fuller, M., R. Haston & J. Almasco (1989)- Paleomagnetism of the Zambales ophiolite, Luzon, northern Philippines. Tectonophysics 168, p. 171-203.
(Paleomagnetic data suggest CCW rotation and N-ward translation of Zambales ophiolite since Eocene)

Fuller, M., R. Haston & E. Schmidtke (1989)- Paleomagnetism in SE Asia: sinistral shear between Philippine Sea Plate and Asia. In: C. Kissel and C. Laj (eds.) Paleomagnetic rotations and continental deformation, Kluwer Academic Publishers, p. 411-430.
(Paleomagnetic data from Philippine Sea Plate indicate CW rotation since Oligocene. Sinistral shear zone between Philippine Sea Plate and Asia (incl. Philippines))

Fuller, M., R. McCabe, I.S. Williams, J. Almasco, R.Y. Encina, A.S. Zanoria & J.A. Wolfe (1983)- Paleomagnetism of Luzon. In: D.E. Hayes (ed.) The tectonic and geologic evolution of Southeast Asian Seas and Islands- II, American Geophys. Union (AGU), Geophys. Monograph 27, p. 79-94.
(Paleomag of 50 Cenozoic sites in N Philippines. No distinguishable rotations in past 5 My. E-M Miocene results reveal CW rotation of ~20°, but no detectable N-S translation. Eocene sites from Zambales ophiolite and overlying sediments indicate formation at equatorial latitudes. Tectonic model for past 17 My invokes NW motion of Philippine Sea Plate and pinning of N Philippines at S margin by collision with Calamian continental fragment. Continued advance of leading edge of Philippine Sea Plate causes CCW rotation of Luzon and Manila trench, until N end of trench pinned by collision with Taiwan)

Gabo, J.A.S., C.B. Dimalanta, M.G.S. Asio, K.L. Queano, G.P. Yumul & A. Imai (2009)- Geology and geochemistry of the clastic sequences from Northwestern Panay (Philippines): implications for provenance and geotectonic setting. Tectonophysics 479, p. 111-119.
(Whole-rock geochem of clastic sequences in NW Panay show different compositions for Buruanga Peninsula (continental margin provenance; part of Palawan Microcontinental Block) and Antique Range (oceanic island arc provenance; Philippine Mobile Belt))

Galgana, G., M. Hamburger, R. McCaffrey, E. Corpuz & Q. Chen (2007)- Analysis of crustal deformation of Luzon Island, Philippines using geodetic observations and earthquake focal mechanisms. Tectonophysics 432, p. 63-87.
(GPS velocities from Luzon and focal mechanism used to constrain tectonic deformation in plate boundary zone between Philippine Sea Plate and Eurasia (Sundaland block). Luzon is tectonically active plate boundary zone, comprising six mobile elastic tectonic blocks between two active subduction zones. Philippine Fault and associated intra-arc faults accommodate much of trench-parallel component of relative plate motion)

Gallagher, J.J. (1986)- Philippine Islands: a tectonic railroad siding. In: M.T. Halbouty (ed.) Future petroleum provinces of the world, American Assoc. Petrol. Geol. (AAPG), Mem. 40, p. 515-527.

(Philippine islands mix of continental and oceanic crust fragments. Carbonate and clastic sediments of main terranes currently deforming by strike-slip, subduction and extension. Complex tectonic history potentially limits size of hydrocarbon accumulations. With plate tectonic reconstructions M Jurassic- Recent: Mesozoic subduction complex, Late Cretaceous- E Eocene rift and strike slip, E Oligocene- M Miocene drift, M Miocene collision between Cuyo tectonic element and subduction complex to S, Late Miocene and younger accretion)

Gallagher, J.J. (1987)- Philippine microplate tectonics and hydrocarbon exploration. In: M.K. Horn (ed.) Trans. 4th Circum-Pacific Energy and Mineral Resources Conference, Singapore 1986, p. 103-119.
(Similar to Gallager (1986) paper. Early carbonate and clastic stratigraphic traps developed during Mesozoic and Early Cenozoic rifting. Hydrocarbons generated in deep rift basins and migrated to early traps during rifting and drifting. Later Cenozoic compressional activity may have destroyed some traps. With plate tectonic reconstructions Late Triassic- Recent)

Gan, R.M. & F. Rillera (1984)- Lower Miocene carbonates in West Palawan. In: Joint ASCOPE/CCOP Workshop on the hydrocarbon occurrence in carbonate rocks, Surabaya 1982, ASCOPE Techn. Paper 2, Jakarta, p. 433-444.
(On E Miocene Nido Limestone in Palawan area)

Garrison, R.E., E. Espiritu, L.J. Horan & L.E. Mack (1979)- Petrology, sedimentology, and diagenesis of hemipelagic limestone and tuffaceous turbidities in the Aksitero Formation, Central Luzon, Philippines. U.S. Geol. Survey (USGS) Prof. Paper 1112, p. p. 1-16.
(online at: http://pubs.usgs.gov/pp/1112/report.pdf)
(Aksitero Fm of C Luzon is U Eocene- Lower Oligocene sequence of hemipelagic limestone with thin tuffaceous turbidites, overlying Zambales ophiolitic basement complex. Limestone mainly planktonic foraminifera and calcareous nannofossils, with up to 30% volcaniclastic debris. Hydrocarbons migrated into tuffaceous layers early during diagenesis but subsequently flushed out and only bitumen coatings remain. Deposition of Aksitero Fm probably at >1000m water depth in subsiding basin adjacent to active island arc system)

Geary, E.E., T.M. Harrison & M. Heizler (1988)- Diverse ages and origins of basement complexes, Luzon, Philippines. Geology 16. 4, p. 341-344.
(40Ar/39Ar ages from two basement complexes in SE Luzon document first occurrences of pre-Late Cretaceous age rocks in E Philippines: Late Jurassic (Caramoan complex) to E Cretaceous and E Miocene (Camarines Norte- Calaguas Islands complex). Philippine Archipelago amalgamation of allochthonous Mesozoic and Cenozoic island-arc, ocean-basin and continental fragments assembled during Tertiary)

Geary, E.E. & R.W. Kay (1989)- Identification of an Early Cretaceous ophiolite in the Camarines Norte-Calaguas Islands basement complex, eastern Luzon, Philippines. Tectonophysics 168, p. 109-126.
(Pre-Late Cretaceous ophiolite assemblage underlies much of metamorphic basement of E part of Camarines Norte-Calaguas Islands, SE Luzon. Ophiolite lithologies harzburgites, gabbros, pillow lavas, etc., structurally disrupted by W-ward directed thrusting. Minimum age of 100 Ma inferred from Ar/Ar analyses of amphibolites associated with gabbros)

Geary, E.E., R.W. Kay, J.C. Reynolds & S.M. Kay (1989)- Geochemistry of mafic rocks from the Coto Block, Zambales ophiolite, Philippines: trace element evidence for two stages of crustal growth. Tectonophysics 168, p. 43-63.
(Coto Block portion of Zambales ophiolite two-stage crustal history: (1) dominantly N-MORB type ocean crust formation at large or back-arc basin spreading center; (2) soon thereafter chemically modified by incipient island arc magmatism, most probably in proto-forearc setting)

Gervasio, F.C. (1966)- A study of the tectonics of the Philippine Archipelago. The Philippine Geologist (J. Geol. Soc. Philippines) 20, 2, p. 51-75.

Gervasio, F.C. (1966)- The age and nature of orogenesis of the Philippines. The Philippine Geologist (J. Geol. Soc. Philippines) 20, 4, p. 121-140.

Gervasio, F.C. (1967)- Age and nature of orogenesis of the Philippines. Tectonophysics 4, p. 379-402.
(Same paper as Gervasio (1966) above. Orogenesis of Philippines two geotectonic cycles: 'Variscan' Late Paleozoic folding and 'Alpine'. Early Mesozoic sedimentation cycle terminated by orogenic phase at close of Jurassic)

Gervasio, F.C. (1968)- Age and nature of orogenesis of the Philippines. United Nations ECAFE CCOP Techn. Bull. 1, p. 113-128.
(Same paper as Gervasio (1967) above)

Gervasio, F.C. (1971)- Geotectonic development of the Philippines. The Philippine Geologist (J. Geol. Soc. Philippines) 25, 1, p. 18-38.
(Geotectonic development of Philippines two long-term and several short-term cycles of crustal reorganization from Paleozoic to Recent)

Gervasio, F.C. (1971)- Ore deposits of the Philippines Mobile Belt. The Philippine Geologist (J. Geol. Soc. Philippines) 25, 3, p.

Gervasio, F.C. (1973)- Ore deposits of the Philippines Mobile Belt. In: N.H. Fisher (ed.) Metallic provinces and mineral deposits in the Southwest Pacific, Bureau Mineral Res., Geol. Geoph., Bull. 141, p. 191-207.

Gervasio, F.C. (1973)- Geotectonic development of the Philippines. In: P.J. Coleman (ed.) The Western Pacific: island arcs, marginal seas, geochemistry, Western Australia University Press, p. 307-324.

Giese, U., U. Knittel & U. Kramm (1986)- The Paracale intrusion: geologic setting and petrogenesis of a trondhjemitic intrusion in the Philippine island arc. J. Southeast Asian Earth Sci. 1, p. 235-245.

Gonzales, B.A. (1962)- Foraminiferal zonation of SVOC Faire no. 1 well, Cagayan, Luzon. J. Geol. Soc. Philippines 16, 4, p.
(Stanvac Faire 1 well in Cagayan Valley seven M Miocene- Pleistocene foraminiferal zones and three formations. Repetition of beds occurs at 8530' indicated by recurrence of Late Miocene (Tf3) species)

Gonzales, B.A. (1969)- Development and status of paleontological research in the Philippines. United Nations ECAFE CCOP Techn. Bull. 2, p. 87-95.

Gonzales, B.A. (1969)- Development and status of micropaleontological research in the Philippines. J. Geol. Soc. Philippines 23, 4, p. 183-195.

Gonzales, B.A., S.G. Martin & E.P. Espiritu (1978)- Philippines; onshore stratigraphy of the Philippine Tertiary basins. Stratigraphic correlation between sedimentary basins of the ESCAP region V, ESCAP Atlas of stratigraphy I, UN ESCAP 44, p. 33-44.

Grey, R.R. (1956)- Eocene in the Philippines. Proc. Eighth Pacific Science Congress, Quezon City 1953, 2, p. 503-514.
(Eocene in Philippines very limited, and unconformable on Pre-Tertiary rocks. Hashimoto 1969: Occurrences of larger forams Discocyclina, Pellatispira, Nummulites, etc.)

Grey, R.R. (1967)- Time-stratigraphic correlation of Tertiary rocks in the Philippines. The Philippine Geologist (J. Geol. Soc. Philippines) 21, 1, p. 1-20.

Grotsch, J. & C. Mercadier (1999)- Integrated 3-D reservoir modelling based on 3-D seismic: the Tertiary Malampaya and Camago buildups, offshore Palawan, Philippines. American Assoc. Petrol. Geol. (AAPG) Bull. 83, 11, p. 1703-1728.

(On complex complex sedimentary geometries, diagenesis, etc. of Oligocene- E Miocene Malampaya and Camago reefal buildups, offshore NW Palawan. Thickest Nido Lst in area 700m thick. Distribution of reefal Nido Lst facies mainly controlled by underlying NE-SW trending, extensional basement faults. Buildups started in Oligocene (but also report Eocene Discocyclina; JTvG) and drowned in E Burdigalian. Porosity development in buildups predominantly early diagenetic (cementation and leaching during repeated subaerial exposure)

Guballa, J.D.S. & A.G.S. Fernando (2015)- Calcareous nannofossil biostratigraphic study of the Pugo River section of Amlang Formation in the Luzon Central Valley Basin, Philippines. Bull. Natl. Museum Nat. Sci., Tokyo, Ser. C, 41, p. 53-59
(online at: www.kahaku.go.jp/research/publication/geology/download/41/L_BNMNS_C41_53-59.pdf)

Guotana, J.M.R., B.D. Payot, C.B. Dimalanta, N.T. Ramos, D.V. Faustino-Eslava, K.L. Queano & G.P. Yumul (2016)- Petrological and geochemical characteristics of the ultramafic section of the Samar Ophiolite: Implications on the origins of the ophiolites in Samar and Leyte, Philippines. In: Development of the Asian Tethyan Realm: genesis, process and outcomes, 5th Int. Symposium Int. Geoscience Program (IGCP) Project 589, Yangon, p. 25-30. *(Extended Abstract)*
(online at: http://igcp589.cags.ac.cn/5th%20Symposium/Abstract%20Volume.pdf)
(late Early- early Late Cretaceous Samar Ophiolite part of Cretaceous belt of ophiolites and ophiolitic complexes along E Philippines. Peridotites, gabbros and massive flow and pillow lavas at S Samar Island represent mantle and crustal sections of Samar Ophiolite, with chemistry comparable to supra-subduction zone peridotites. Ophiolites also exposed in Leyte Island W of Samar (Tacloban and Malitbog Ophiolite Complexes), but strong affinity with abyssal peridotites)

Guotana, J.M.R., B.D. Payot, C.B. Dimalanta, N.T. Ramos, D.V. Faustino-Eslava, K.L. Queano & G.P. Yumul (2017)- Arc and backarc geochemical signatures of the proto-Philippine Sea Plate: insights from the petrography and geochemistry of the Samar Ophiolite volcanic section. J. Asian Earth Sci. 142, p. 77-92.
(Remnants of Cretaceous lithosphere of arc affinities at peripheries of W Philippine Basin: Amami Plateau, E Halmahera Ophiolite and SSZ ophiolites along E margin of Philippine archipelago (incl. early Late Cretaceous Samar Ophiolite)

Guotana, J.M.R., B.D. Payot, C.B. Dimalanta, N.T. Ramos, D.V. Faustino-Eslava, K.L. Queano & G.P. Yumul (2018)- Petrological and geochemical characteristics of the Samar Ophiolite ultramafic section: implications on the origins of the ophiolites in Samar and Leyte islands, Philippines. Int. Geology Review 60, 4, p. 401-417.
(On Samar, Tacloban and Malitbog Cretaceous ophiolite complexes)

Gutierrez, F.I. & P.J. Militante Matias (1991)- Oligo-Miocene events in the Binangonan Formation, Rizal Province, Philippines. J. Geol. Soc. Philippines 46, p.
(Teresa Tuffaceous Siltstone Mb of Binangonan Fm interbedded limestone with earliest Miocene Spiroclypeus, Miogypsina, etc. and tuffaceous siltstones rich in planktonic forams (Globigerinoides Globoquadrina, Catapsydrax, etc.), suggesting contemporaneous transfer of larger foraminifera from shallow to deeper waters)

Hamburger M., R. Cardwell & B. Isacks (1983)- Seismotectonics of the northern Philippine Island Arc. In: D.E. Hayes (ed.) The tectonics and geologic evolution of southeast Asean seas and islands II, American Geophys. Union Mon. 27, p. 1-22.

Hargreaves, T.J. et al. (1992)- The geology of the Caluit discovery NW Palawan, Philippines. Philippine Exploration Conf., Manila, 13p.

Hashimoto, W. (1969)- Paleontology of the Philippines. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 6, p. 293-329.
(Review of Carboniferous- Pliocene fossils assemblages from Philippines. Oldest rocks from Mansalay region on S Mindoro(1) Permian limestones with fusulinids and algae in Eocene conglomerate; (2) Jurassic with ammonoids Macrocephalites aff. keeuwensis, Perisphinctes taliabuticus, Oppelia, Phylloceras, also bivalve

Trigonia mindoroensis, Inoceramus galoi, etc. (also Andal 1968). Cretaceous with larger foram Orbitolina on Cebu, Globotruncana marls overlain by Eocene limestones in Samaloc area, etc.)

Hashimoto, W. (1975)- Larger Foraminifera from the Philippines. Part IV. Larger Foraminifera from the Mountain Province. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 16, p. 127-139.

Hashimoto, W. (1980)- On the fundamental structural units of the Philippine basement and the extension to the neighbouring countries. In: T. Kobayashi, R. Toriyama et al. (eds.) Geology and Palaeontology of Southeast Asia, University Tokyo Press, 21, p. 303-317.
(Review of Philippines geology- stratigraphy. Oldest unit is Palawan orogenic belt with partly metamorphosed Carboniferous- Permian - E Triassic rocks and Jurassic Mansalay Fm; extends into Semitau metamorphic belt of Borneo? Next older unit Sulu Orogenic Belt)

Hashimoto, W. (1981)- Two types of Tertiary oil basins in the Philippines. Proc. 4th Regional Conf. Geology, Mineral and Energy Resources of Southeast Asia (GEOSEA IV), Manila 1981, p. 277-286.

Hashimoto, W. (1981)- Geologic development of the Philippines. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 22, p. 83-170.

Hashimoto, W. (1982)- Palaeontology of The Philippines, Supplement I. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 24, p. 129-166.
(Continuation of Hashimoto (1969) list. Rel. extensive review of paleontological papers from The Philippines published from 1969-1981 plus additions to the pre-1969 list)

Hashimoto, W., P.M. Alcantara, N. Aoki, G.R. Balce & P.P. David (1978)- *Nummulites* from the Lubingan crystalline schist of Bongabon, Nueva Ecija and their significance on the geologic development of the Philippines. Proc. Japan Academy 54, 1, p. 1-4.
(online at: https://www.jstage.jst.go.jp/article/pjab1977/54/1/54_1_1/_pdf)
Nummulites limestone as float and interbedded green schists NW of Dingalan in E Luzon. Presumably of Early Eocene age)

Hashimoto, W., N. Aoki, P.P. David, G.R. Balce & P.M. Alcantara (1978)- Discovery of *Nummulites* from the Lubingan crystalline schist exposed east of Bongabon, Nueva Ecija, Philippines and its significance on the geologic development of the Philippines. In: Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 19, p. 57-63.

Hashimoto, W. & G.R. Balce (1975)- A new correlation scheme for the Philippine Cenozoic formations. In: H. Ujiie & T. Saito (eds.) Proc. 1st Int. Congress Pacific Neogene stratigraphy, Tokyo 1976, p. 119-132.
(Larger foram range chart and Philippines formations correlation table)

Hashimoto, W., N. Kitamura, G.R. Balce, K. Matsumara, K. Kurihara & E.Z. Aliate (1979)- Larger foraminifera from the Philippines. X. Stratigraphic and faunal breaks between the Maybangain and Kinabuan Formations in the Tanay region. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 20, p. 143-157.
(Tanai- Daraitan section E of Manila shows U Cretaceous Kinabuan Fm Globotruncana mudstones, unconformably overlain by Paleogene Mayabangain Fm sediments, with parts of Maastrichtian- E Paleocene missing. Masungit Lst Mb with 11 E-M Eocene(zone Ta2) larger foram species, incl. Asterocyclina spp., Fasciolites bosci, F. javana, Orbitolites, Nummulites perforatus, N. burdigalensis and other N. spp., Assilina spira (N.B.: no Late Eocene Pellatispira-Spiroclypeus limestone observed in region))

Hashimoto, W. & K. Matsumaru (1975)- Larger foraminifera from the Philippines. Part III. Limestone from eastern coastal ranges of north and central Luzon. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 16, p. 117-125.

Hashimoto W. & K. Matsumaru (1978)- Larger foraminifera from the Philippines, VIII: Larger Foraminifera from Central Samar. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, p. 81-88.
(Three Miocene species)

Hashimoto, W. & K. Matsumaru (1978)- Larger foraminifera from the Philippines. IX. Larger foraminifera found from the Zigzag limestone, south of Boguio, Benguest, Luzon, Philippines. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 19, p. 89-96.
(Five species of lower Middle Miocene)

Hashimoto, W. & K. Matsumaru (1981)- Larger foraminifera from the Philippines. Part XII. Eocene limestone from southeastern Luzon. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 22, p. 63-73.

Hashimoto W. & K. Matsumaru (1981)- Geological significance of the discovery of *Nummulites fichteli* (Michelotti) from the Sagada Plateau, Bontoc, Mountain Province, Northern Luzon, Philippines. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 22, p. 75-82.
(Discovery of generally rare E Oligocene/ zone Td reticulate Nummulites fichteli in N Luzon, in thin limestones in volcanoclastic Sagada Fm. Associated with Lepidocyclina(Eulepidina) and Cycloclypeus cf oppenoorthi)

Hashimoto, W. & K. Matsumaru (1982)- Larger foraminifera from the Philippines. Part XIV. On some larger Foraminifera-bearing rocks from Palawan. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 24, p. 39-44.
(Three outcrop samples from Palawan with Miocene larger foraminifera. No stratigraphic context)

Hashimoto W. & K. Matsumaru (1984)- Mesozoic and Cenozoic larger Foraminifera of the Philippines and references to those found from Borneo by the APRSA's palaeontological reconnaissance. In: T. Kobayashi, R. Toriyama & W. Hashimoto (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 25, p. 147-166.
(Review of Cretaceous (Orbitolina) and Tertiary larger foraminifera occurrences in The Philippines)

Hashimoto W., K. Matsumaru & P.M. Alcantara (1982)- Larger foraminifera from the Philippines. Part XIII. Larger foraminifera from the Trankalan Limestone and the Escalante (Toboso) Formation, West of Lanao River Valley, northeastern Occidental Negros. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 24, p. 31-38.
(Trankalan Lst with Late Oligocene Te2-3- Te4 larger foraminifera (Lepidocyclina, Spiroclypeus, Miogypsinoides companatus, etc., Escalante Fm with Early Miocene Te4-Te5 forams (inc. Miogypsina))

Hashimoto W., K. Matsumaru & H. Fuchimoto (1980)- Consideration on the stratigraphy of the Caraballo Range, Northern Luzon: larger foraminiferal ranges on the Cenozoic of the Philippines. In: T. Kobayashi, R. Toriyama et al. (eds.) Symposium on the geology and paleontology of SE Asia, Tsukuba 1978, Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 21, p. 119-134.
(Caraballo Range of NE Luzon with larger foram-bearing limestones of different ages: low-metamorphic Lubingan Fm 'basement' with Eocene Nummulites Lst (= ~M Eocene metamorphism?). Mamparang Fm volcanics with Oligocene Eulepidina. Unconformably overlain by latest Oligocene- E Miocene (Te) Santa Fe Lst with Miogysinoides, Spiroclypeus, Eulepidian, etc., late E Miocene (Tf1) Natbang Fm)

Hashimoto W., K. Matsumaru & K. Kurihara (1977)- Larger foraminifera from the Philippines. Part V. Larger Foraminifera from Cenozoic limestones in the Mansalay vicinity, Oriental Mindoro, with appendix "An orbitoid-bearing limestone from Barahid, Bongabong". In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 18, p. 59-76.

Hashimoto W., K. Matsumaru & K. Kurihara (1978)- Larger foraminifera from the Philippines. Part VI. Larger foraminifera found from the Pinugay Hill Limestone, Tanay, Rizal, Central Luzon. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 19, p. 65-72.
(Cosico et al 1989: occ. Late Cretaceous Lepidorbitoides, Omphalocyclus and Paleocene Ranikothalia, Distichoplax, Assilina on Luzon)

Hashimoto W., K. Matsumaru & K. Kurihara (1978)- Larger foraminifera from the Philippines. Part VII. Larger Foraminifera found from the Lutak Hill Limestone, Pandan Valley, Central Cebu, Philippines. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 19, p. 73-80.

Hashimoto, W., K. Matsumara, K. Kurihara, P.P. David & G.R. Balce (1977)- Larger foraminiferal assemblages useful for the correlation of the Cenozoic marine sediments in the mobile belt of the Philippines. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 18, p. 103-124.
(Range charts, etc.) showing occurrences of 137 species of larger forams between Paleocene- Miocene, and correlation with planktonic foram zonation)

Hashimoto W., K. Matsumaru & M. Sugaya (1982)- Larger Foraminifera from the Philippines. Part XI. On the Coal Harbor Limestone, Cagraray Island, Batan Island Group, Albay Province. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 22, p. 55-62.
(Five U Oligocene- M Miocene species of larger forams)

Hashimoto, W. & T. Sato (1968)- Contribution to the geology of Mindoro and neighboring islands, The Philippines. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 5, p. 192-210.
(Mindoro and neighboring islands key area for early geologic history of Philippines, with crystalline schists, and folded Triassic, Jurassic and Eocene sediments. M-U Jurassic Mansalay Fm with conglomerates with clasts of metamorphics and Permian fusulinid limestones. Thick Eocene clastics (>1000m) on N Mindoro, with Nummulites and Biplanispira?.)

Hashimoto, W. & T. Sato (1973)- Geological structure of North Palawan and its bearing on the geological history of the Philippines. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University Tokyo Press, 13, p. 145-161.
(N Palawan (mainly Malampaya Sound) low-metamorphic M Permian (with black fusulinid limestones, incl. Neoschwagerina, Verbeekina, Parafusulina)- M Triassic sediments, intensely folded, with NNW-SSE fold axes. In S Mindoro similar rocks unformably overlain by M and U Jurassic)

Hashimoto W. T. Sato & S. Kanno (1984)- Geological summary of the APRSA activities in the Philippines. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University Press, Tokyo, 25, p. 61-108.
(Review of Japanese paleontological work in Philippines)

Hashimoto, S. G. Takizawa, G.R. Balce, E.A. Espiritu & C.A. Baura (1980)- Discovery of Triassic conodonts from Majalon and Uson Islands of the Calamian Island Group, Palawan Province, the Philippines, and its geological significance. Proc. Japan Academy 56, Ser. B, p. 69-73.
(online at: https://www.jstage.jst.go.jp/article/pjab1977/56/2/56_2_69/_pdf)
(Discovery of Epigondolella abneptis, a Lower Norian index conodont of Japan, in limestone at SE coast of Malajon Island, Calamian Islands, N of Palawan. These radiolarites appear to be unconformably overlain by latest Triassic- E Jurassic limestones and clastics described by Fontaine 1979)

Hatley, A.G. (1977)- The Nido reef oil discovery in the Philippines, its significance: Proc. ASEAN Council on Petroleum, Jakarta, p. 263-277.

Hatley, A.G. (1978)- The Nido reef discovery in the Philippines its significance. Oil and Gas J. 24, p. 13-16.

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Hatley, A.G. (1980)- The Philippines Nido reef complex oil field: a case history of exploration and development of a small oil field. Offshore SE Asia Conf. 1980, Singapore, SE Asia Petroleum Expl. Soc. (SEAPEX), p. 16-23.
(Nido complex 1976 oil discovery off NW Palawan. Reservoir two separate small Late Oligocene- E Miocene reefal buildups on E Oligocene carbonate platform. Field produced up to 40,000 barrels of oil/ day)

Hatley, A.G. (1992)- Finding oil where it shouldnꞌt be. In: A.G. Hatley (ed.) The oil finders, a collection of stories about exploration, Centex Press, Utopia, p. 119-140.
(History of Philippines Nido Field discovery)

Hatley, A.G. & R.Y. Harry (1979)- Exploration and development of the Nido Reef complex oil discovery, Philippines. CCOP/SOPAC Tech. Bull. 3, p. 253-260.

Hawkins, J.W. & C.A. Evans (1983)- Geology of the Zambales Range, Luzon, Philippine Islands: ophiolite derived from an island arc- back arc basin pair. In: D.E. Hayes (ed.) The tectonic and geologic evolution of Southeast Asian seas and islands- II. American Geophys. Union (AGU), Geophys. Monograph 27, p. 95-123.
(Geological and geochemical features of Acoje Block of Zambales ophiolite show volcanic arc signatures)

Hawkins, J.W., J.C. Moore, R. Villamor, C. Evans & E. Wright (1985)- Geology of the composite terranes of East and Central Mindanao. In: D.G. Howell (ed.) Tectonostratigraphic terranes of the Circum Pacific region 1, Circum-Pacific Council Energy and Mineral Resources, Earth Science Ser., p. 437-463.
(Phillippine Archipelago formed by amalgamation of many geologic terranes. E Mindanao two composite terranes, sutured together by mid-Tertiary (Late Oligocene?). W Mindanao terrane is extension of Sangihe Arc)

Hayami, I. (1968)- Some Jurassic bivalves from Mindoro. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 5, p. 173-185.
(Descriptions of 8 species of U Callovian- Oxfordian bivalves from dark grey mudstones of Mansalay Fm on Mansalay Island (part of Palawan Block, incl. Inoceramus cf. galoi, Aulacomyella, Plagiostoma, Astarte, Rutitrigonia, Myophorella, etc.)

Hayasaka, I. (1943)- On the Jurassic formation of the Philippines; with a note on *Trigonia*. Taiwan Tigaku Kidi, 14, p. 1-12.
(in Japanese, with English summary. Arkell 1956: Jurassic ammonites in shales of SE Mindoro Island, incl. Arietites, Oppelia, Macrocephalites, Peltoceras, Perisphinctes. Also bivalve Trigonia mindoroensis (see also Andal et al. 1968, Jurassic Mansalay Fm, ammonites interpreted as U Oxfordian in age)

Hayes, D.E. & S.D. Lewis (1984)- A geophysical study of the Manila trench, Luzon, Philippines. 1- Crustal structure, gravity and regional tectonic evolution. J. Geophysical Research, Solid Earth, 89, B11, p. 9171-9195.
(Manila Trench subduction zone is active convergent plate margin between S China Sea and N Philippines. With associated volcanic arc, E-dipping Benioff zone beneath Luzon, and well-developed fore arc basin system. Luzon Trough fore arc basins up to 4.5 km of Cenozoic sediments. Accretionary prism seaward of fore arc basin system. Uplifted Zambales ophiolite forms landward side of fore arc basin. Average convergence at Manila Trench 10-20 mm/yr and may be slowing in N due to collision of Taiwan with Eurasia (see also Lewis and Hayes 1989))

Hayes, D.E. & S.D. Lewis (1985)- Structure and tectonics of the Manila trench system, Western Luzon, Philippines. Energy 10, p. 263-279.
(Manila Trench active subduction zone W of Luzon is plate margin between S China Sea and N Philippines, with E-dipping Benioff zone beneath Luzon, accretionary prism of turbidite sediments, forearc basin with up to 4.5 km of Cenozoic sediments and volcanic arc. Subduction may have been active since Late Oligocene- E Miocene, synchronous with cessation of Paleogene subduction along E Luzon and similar to age of uplift and

tilting of Zambales ophiolite. Trench strata folded and faulted at base of trench slope; major decollement usually near boundary between pelagic sediments and overlying turbidite sediments. Uplifted Zambales ophiolite forms landward side of forearc basin. Uplift of forearc basins only near intersection of relict spreading center of S China Sea plate)

Hayes, D.E. & W.J. Ludwig (1967)- The Manila Trench and West Luzon Trough- II. Gravity and magnetics measurements. Deep Sea Research 14, 5, p. 545-560.
(Manila Trench and W Luzon Troughs W of the Philippine Island Arc at Luzonwith free-air gravity anomalies of -80 mgal and -145 mgalrespectively. Magnetic anomalies cannot be correlated over appreciable distances and are much smaller E of the trench than W of it (see also companion paper of Ludwig et al. 1967)

Hedenquist, J.W., A. Arribas & M. Aoki (2017)- Zonation of sulfate and sulfide minerals and isotopic composition in the Far Southeast Porphyry and Lepanto epithermal Cu-Au deposits, Philippines. Resource Geology 67, 2, p. 174-196.
(online at: http://onlinelibrary.wiley.com/doi/10.1111/rge.12127/epdf)
(On Far Southeast (FSE) porphyry system and adjacent Lepanto Lepanto Cu-Au high-sulfidation deposit of Mankayan mineral district of N Luzon. Age of mineralization ~1.3-1.4 Ma)

Hedenquist, J.W., A. Arribas & T.J. Reynolds (1998)- Evolution of an intrusion-centred hydrothermal system: far Southeast- Lepanto porphyry and epithermal Cu-Au deposits, Philippines. Economic Geology 93, p. 373-404.

Hillmer, G. (ed.) (1991)- Central Philippines: mapping, mining, modern reefs. Mitteilungen Geol.-Palaont. Inst. Universitat Hamburg 71, p. 1-506.

Hinz, K., E.H.K. Kempter & H.U. Schluter (1985)- The southern Palawan-Balabac area: an accreted or non-accreted terrane? Proc. 3rd Conf. Asian Council on Petroleum (ASCOPE), Kuala Lumpur, 2, p. 48-72.
(Palawan Trough not underlain by SW-subducting oceanic plate from which sediments were scraped off in pre-M Miocene time, as Hamilton (1979) a.o. suggested, but by N Palawan continental terrane, which underlies Palawan Trough, the W shelf of Palawan and NW Borneo. Strongly deformed and ophiolite-bearing equivalents of Cretaceous Chert-Spilite and Paleogene Crocker Fms of S and C Palawan were overthrusted in pre-M Miocene time onto N Palawan continental terrane)

Hinz, K. & H.U. Schluter (1985)- Geology of the Dangerous grounds, South China Sea, and the continental margin off southwest Palawan: results of SONNE cruises SO-23 and SO-27. Energy 10, 3-4, p. 297-315.
(Seismic, magnetic and gravity data along 51 profiles in SE S China Sea (Dangerous Grounds, Palawan Trough). Five regional unconformities: Miocene-Pliocene, M Miocene (end of S China Sea seafloor spreading), Lower Miocene (often top of carbonate platforms), M-U Oligocene (rift-drift transition S China Sea) and Cretaceous-Paleocene (onset of rifting). Dangerous Grounds and parts of Palawan Trough underlain by stretched continental crust. Oldest rocks sampled in Dangerous Grounds U Triassic- Jurassic. U Oligocene- Lw Miocene carbonate platform from Dangerous Grounds E under Palawan Trough and Palawan shelf. C and S Palawan part of microcontinent with Dangerous Grounds/Reed Bank, N Palawan and Calamian block. E edge of carbonate platform overthrust from S by chaotically deformed sediments, suggesting Palawan Trough not ancient subduction trench, but loading of overthrust wedge)

Hock, M. & G. Friedrich (1985)- Structural features of ophiolitic chromitites in the Zambales Range, Luzon, Philippines. Mineralium Deposita 20, p. 290-301.
(Chromitite-bearing peridotites of Zambales mafic-ultramafic complex form lowermost level of Zambales ophiolite, which exposes complete ophiolitic sequence. Chromitites close to peridotite/gabbro transition zone)

Hock, M., G. Friedrich, W.L. Pluger & A. Wichowski (1986)- Refractory- and metallurgical-type chromite ores, Zambales ophiolite, Luzon, Philippines. Mineralium Deposita 21, 3, p. 190-199.

(Zambales ophiolite the major source of chromite ore in Philippines. Chromitites are concordant cumulates associated with distinct chromitite-bearing sequences within mantle peridotites. Refractory and metallurgical chromite deposits spatially separated and related to different lithologic associations)

Hollings, P., D.R. Cooke, P.J. Waters & B. Cousens (2011)- Igneous geochemistry of mineralized rocks of the Baguio District, Philippines: implications for tectonic evolution and the genesis of porphyry-style mineralization. Economic Geology 106, 8, p. 1317-1333.
(online at: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.827.8817&rep=rep1&type=pdf)
(Baguio district large copper-gold province in epithermal, porphyry, and skarn deposits that formed in last 3.5 My. Pliocene and Pleistocene igneous rocks associated with mineralization are intermediate- felsic low-medium K intrusions (contaminated by young arc crust), and mafic-intermediate, medium K-shoshonitic hornblende-phyric dikes (primitive mantle-derived melts). Philippine arc currently sandwiched between two active subduction zones)

Hollings, P., G. Sweet, M. Baker, D.R. Cooke & R. Friedman (2013)- Tectonomagmatic controls on porphyry mineralization: geochemical evidence from the Black Mountain porphyry system, Philippines. In: M. Colpron et al. (eds.) Tectonics, metallogeny, and discovery: the North American Cordillera and similar accretionary settings, Society of Economic Geologists, Spec. Publ. 17, p. 301-335.
(Black Mountain SE Cu-Au porphyry system of Baguio district, N Luzon, two orebodies, associated with 6 intrusive phases between ~4.7- 2.8Ma. Porphyry mineralization interpreted to have formed as result of underplating of felsic magma chamber by mafic magma, from mantle recharge related to subduction of aseismic Scarborough Ridge)

Hollings, P., R. Wolfe, D.R. Cooke & P.J. Waters (2011)- Geochemistry of Tertiary igneous rocks of Northern Luzon, Philippines: evidence for a back-arc setting for alkalic porphyry copper-gold deposits and a case for slab roll-back?. Economic Geology and Bull. Soc. Econ. Geol. 106, 8, p. 1257-1277.
(On Late Oligocene- E Miocene volcanic rocks in C Cordillera Range and Cagayan Valley of N Luzon)

Holloway, N.H. (1981)- The North Palawan block, Philippines: its relation to the Asian mainland and its role in the evolution of the South China Sea. Bull. Geol. Soc. Malaysia 14, p. 19-58.
(online at: www.gsm.org.my/products/702001-101199-PDF.pdf)
Mindoro, N Palawan and Reed Bank in SW Philippines form Palawan Block continental fragment. Permian-Paleogene rocks with 4 pre-Neogene unconformities suggest original pre-drift position against S China mainland. Tectonic history: (1) Jurassic-Cretaceous convergent continental margin; (2) Late Cretaceous inception of Philippine island arc system; (3) CCW rotation of arc from Late Eocene onwards; (4) Paleocene-M Miocene opening of South China Sea; (5) E-M Miocene collision with Palawan subduction system)

Holloway, N.H. (1982)- North Palawan Block, Philippines- its relation to Asian mainland and role in evolution of South China Sea. American Assoc. Petrol. Geol. (AAPG) Bull. 66, 9, p. 1355-1383.
(Same as Holloway (1981). See also critique of Wolfe (1984))

Ignacio, E.E. & H.G. Oesterle (1994)- Philippines/ Philippinen. In: H. Kulke (ed.) Regional petroleum geology of the world, I, Borntraeger, Berlin, p. 795-806.
(Review of oil-gas basins and fields of The Philippines)

Ilao, K.A., C.K. Morley & M.A. Aurelio (2018)- 3D seismic investigation of the structural and stratigraphic characteristics of the Pagasa Wedge, Southwest Palawan Basin, Philippines, and their tectonic implications. J. Asian Earth Sci. 154, p. 213-237.
(Pagasa Wedge deepwater orogenic wedge variously interpreted as accretionary prism, former accretionary prism modified by thrusting onto thinned continental margin, and gravity-driven fold-thrust belt. At least external part of wedge dominated by mass transport complexes. Accretionary prism stage (Oligocene) of C Palawan Ophiolite with N-vergent deformation. Deep Regional Unconformity (~17 Ma) likely indicates time when obduction ceased in Palawan. Pagasa Wedge is late-stage product of convergence history. Dominant NW

transport of structures in wedge possibly related to gravity-driven structures responding to uplift of NE-SW Dangerous Grounds margin in M Miocene (related to slab breakoff?))

Imai, A. (2000)- Mineral paragenesis, fluid inclusions and sulfur isotope systematics of the Lepanto-Far Southeast porphyry Cu-Au deposit, Mankayan, Benguet, Philippines. Resource Geology 50, p. 151-168.

Imai, A. (2002)- Metallogenesis of porphyry Cu deposits of the Western Luzon Arc, Philippines: K-Ar ages, SO3 contents of microphenocrystic apatite and significance of intrusive rocks. Resource Geology 52, 2, p. 147-161.
(W Luzon arc has been generating porphyry Cu mineralization associated with intermediate-silicic magmatism related to E-ward subduction since Miocene. K–Ar ages of porphyry Cu deposits in W Luzon arc: Lobo-Boneng (10.5 Ma), Santo Nino (9.5Ma), Black Mountain (2.1 Ma), Dizon (2.5 Ma) and Taysan (7.3 Ma))

Imai, A. (2005)- Evolution of hydrothermal system at the Dizon porphyry Cu-Au deposit, Zambales, Philippines. Resource Geology 55, 2, p. 73-90.
(Dizon deposit Au-rich porphyry Cu deposits in W Luzon arc. K-Ar age of diorite porphyry 2.5 ± 0.2 Ma)

Irving, E.M. (1950)- Review of Philippine basement geology and its problems. Philippine J. Science 79, 3, p. 267-307.

Irving, E.M. (1952)- Geological history and petroleum possibilities of the Philippines. American Assoc. Petrol. Geol. (AAPG) Bull. 36, 3, p. 437-476.
(Philippine geology complex, with relatively small Neogene basins. Certain areas may possess reasonably attractive petroleum possibilities although exploratory efforts to date have been negative)

Irving, E.M. (1953)- A geologic map (biostratigraphic-lithologic) of The Philippines, scale 1:125,000. Philippine Bureau of Mines and US Geological Survey, Manilla.

Ishida, K., S. Suzuki, C. Dimalanta & G.P. Yumul (2011)- Radiolarian dating of ophiolites and the overlying turbidites in the Philippine Mobile Belt, Northern Luzon Island. In: GEOCON 2011, 24th Ann. Geol. Conv. Geol. Soc. Philippines, 2p. *(Abstract only)*
(Zambales Ophiolite Complex chert blocks in serpentinites with Tethyan Late Jurassic- E Cretaceous radiolarians. Montalban Ophiolitic Complex Kinabuan Fm sediment cover topped by radiolarian-bearing bathyal limestone with Santonian- E Maastrichtian planktonic foraminifera; Turonian age suggested by radiolarians and pelagic forams. N Sierra Madre at NW Dingalan red chert blocks in ophiolitic basic tuff phyllite dated as Late Jurassic- E Cretaceous)

Ishida, K., S. Suzuki, C. Dimalanta, G. Yumul & R. Pena (2013)- Radiolarian dating of ophiolite-cover turbidites in Rizal, southern Sierra Madre, central Luzon Island. In: 2nd Int. Symposium Int. Geoscience Programme (IGP) Project 589, Borocay Island, Philippines, p. 13-15. *(Abstract)*
(online at: http://igcp589.cags.ac.cn/2nd%20Symposium/Abstract%20volume.pdf)
(Radiolarian dating of turbiditic carapace of Montalban Ophiolitic Complex in S Sierra Madre, Rizal area. M-U Maybangain Fm turbidites of M Eocene age with Podocyrtis, etc.. Paleocene radiolarians in similar volcaniclastic turbidites on pillow lava, tentatively distinguished as Alas Asin Unit. Montalban Ophiolitic Complex basalts overlain by Turonian- Coniacian turbidites, then Santonian- E Maastrichtian bathyal limestones. Sedimentation of volcanoclastic turbidites in Paleocene- M Eocene. Masungi Lst with M Paleocene-M Eocene larger foraminifera encountered as olistolithic slumps in Maybangain Fm turbidites)

Ishida, K., S. Suzuki, C. Dimalanta, G.P. Yumul, K. Queano, D. Faustino-Eslava et al. (2012)- Recent progress in radiolarian research for ophiolites and the overlying turbidites, Philippine Mobile Belt, Northern Luzon Island. Proc. First Int. Symposium of IGCP-589, Xi'an, China 2012, Acta Geoscientica Sinica 33, Suppl. 1, p. 29-31. *(Extended Abstract)*
(online at: http://igcp589.cags.ac.cn/pdf/15-ISHIDA%20et%20al%20LuzonRad.pdf)

(Basement of Philippine Mobile Belt mainly ophiolites, overlain by Paleogene- Miocene turbidites in C Luzon. Chert blocks believed to form part of sedimentary carapace of Acoje Block of Zambales Ophiolite Complex (ZOC) with M Jurassic- E Cretaceous radiolaria, much older than previously assigned Eocene age of Zambales Ophiolite Complex. Coto block of ZOC formed in Eocene. Late Mesozoic radiolaria from ZOC characterized by Archaeodictyomitra, Pseudodictyomitra, Xitus, Triactoma and Tetraditryma, which are common in Tethyan pelagic environment)

Ishida, K., S. Suzuki, C. Dimalanta, G.P. Yumul, L.R. Zamoras, M. Faure et al. (2015)- Discovery of Triassic microfossils from the Buruanga Peninsula, Panai Island, North Palawan Block, Philippines. Natural Science Research, University Tokushima 29, 2, p. 5-20.
(online at: http://web.ias.tokushima-u.ac.jp/bulletin/nat/nat29-2-1.pdf)
(Buruanga Peninsula of NW Panai Island is part of N Palawan Block. Contains common M and Late Triassic pelagic carbonates, earlier assigned to Jurassicand associated with basalts and cherts, contain late Anisian and late Norian conodonts and radiolarians (conodont zones Gladigondolella tethydis- Paragondolella excelsa). Bedded-chert units with radiolaria ranging from lower Ladinian to M Jurassic)

Ishida, K., S. Suzuki, G.P. Yumul & C.B. Dimalanta (2008)- New micropaleontological evidence for the Dingalan Formation, Central East Luzon, Philippine Mobile Belt. In: Proc. Int. Symp. Geoscience resources and environments of Asian terranes (GREAT 2008), 4th IGCP 516 and 5th APSEG, Bangkok, p. 192-194.
(Radiolarians from Dingalan Fm, Central E Luzon, correlative with M Eocene and <30° low paleolatitude)

Ishida, K., S. Suzuki, G.P. Yumul & C.B. Dimalanta (2011)- Middle Eocene low-paleolatitude radiolarian evidence for the Cabog Formation, Central East Luzon, Philippine Mobile Belt. Gondwana Research 19, 1, p. 61-70.
(Cabog Fm chert- siliceous shale distal turbidites exposed along S Dingalan Bay, CE Luzon, with M Eocene radiolaria of D. mongolfieri Zone/ T. triacantha Zone, and with low paleolatitude affinity. Represents first depositional stage in early arc setting)

Ishijima, W. (1969)- Tertiary and Pleistocene algae from Mindoro, The Philippines. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 6, p. 277-291.
(Descriptions of mainly Eocene and Pleistocene calcareous algae from S part of Mindoro Island, with Archaeolithothamnium, Lithothamnium, Mesophyllum, Lithophyllum, Lithoporella, Amphiroa, Corallina, Jania, etc. Eocene samples associated with larger forams Pellatispira, Biplanispira, Nummulites, Discocyclina)

Ishijima, W. & W. Hashimoto (1969)- Discovery of *Distichoplax biserialis* Dietrich in Upper Eocene limestone lenses exposed in the valley of the Mangamnan River, Marinduque Island, The Philippines. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southest Asia, University of Tokyo Press, 7, p. 87-92.
(Occurrence of characteristic algae Distichoplax biserialis in Eocene limestone on Marinduque Island, associated with Pellatispira, Discocyclina, Nummulites, Assilina?. Previously reported from S Palawan, Cebu and Bicol by Villavicencio and Andal (1964), where associated with Paleocene foraminifera)

Ishiwada, Y. (1971)- Analysis of petroleum source rocks from the Philippines. United Nations ECAFE CCOP Techn. Bull. 4, p. 83-92.
(Summary of geochemical analyses of 60 outcrop samples from Luzon, Mindoro and Panay. Not very useful)

Isozaki, Y., E.A. Amiscaray & A. Rillon (1987)- Permian, Triassic and Jurassic bedded radiolarian cherts in North Palawan Block, Philippines: evidence of Late Mesozoic subduction-accretion. J. Geol. Soc. Philippines 41, p. 79-93.
(Paper also in Pre-Jurassic evolution of eastern Asia, Report IGCP Project 224, no. 3, p. 99-115). In Philippines, pre-Tertiary rocks mostly in SW part (N Palawan Block). Bedded radiolarian cherts have M-L Permian, M Triassic E Jurassic and Late Jurassic ages. Presence of Late Jurassic chert necessitates revision of tectono-sedimentary history of N Palawan Block)

Isozaki, Y., E.A. Amiscaray & A. Rillon (1988)- Permian, Triassic and Jurassic bedded radiolarian cherts in North Palawan Block, Philippines: evidence of Late Mesozoic subduction-accretion. In: K. Ichikawa (ed.) IGGP Project 224, Pre-Jurassic evolution of Eastern Asia, Rept. 3, p. 99-115.
(same paper as Isozaki et al. 1987)

Iwasaki, Y. (1970)- A Miocene molluscan fauna in The Philippines. Trans. Proc. Paleont. Soc. Japan, N.S., 77, p. 205-228.
(online at: www.palaeo-soc-japan.jp/download/TPPSJ/TPPSJ_NS77.pdf)
(Mollusc fauna from E Miocene lower Gumaca Fm (unconformable on basement) in Pitogo area, Tayabas Isthmus, SE Luzon, With 36 species, incl. gastropod Vicarya callosa, Anadara multiformis, Joannisiella cumingi, Strombus tjilonganensis, Paphia exarata, etc. Similar to faunas from Japan and W Java)

Javelosa, R.S. (1994)- Active Quaternary environments in the Philippine Mobile belt. Ph.D. Thesis Int. Training Centre for Aerial Survey (ITC), Enschede, p. 1-179. *(Unpublished)*

Jego, S., R.C. Maury, M. Polve, G.P. Yumul, H. Bellon, R.A. Tamayo & J. Cotten (2005)- Geochemistry of adakites from the Philippines: constraints on their origins. Resource Geology 55, p. 163-187.
(Late Miocene-Quaternary magmatic rocks with compositions within adakitic field (using Sr/Y ratios versus Y contents), found in four subduction zones: Manila Trench (Batan, Luzon), Negros and Sulu Trenches (Negros and W Mindano), Cotobato Trench (S Mindanao) and Philippine Trench (E Mindanao). Lavas from C Mindanao overlie deep remnants of Molucca Sea Plate, emplaced in post-collision setting. Model for genesis of 'typical adakites' is ~20% partial melting of subducted altered oceanic metabasalts converted to eclogite)

John, T.U. (1963)- Geology and mineral deposits of East-Central Balabac Island, Palawan Province, Philippines. Economic Geology 58, p. 107-130.
(Balabac Island part of W Luzon Arc, which continues into Kinabalu Range of N Borneo. East-central Balabac Oldest rocks steeply dipping, isoclinally folded and thrusted U Cretaceous- Lower Eocene chert-spilite Fm, dominated by submarine lava flows, also shales and bedded radiolarian cherts. Associated with ultramafics and copper mineralization. Overlain by less-deformed Miocene Balabac Sst, and Pliocene sandstone and mudstone without economic mineralization. Structural trends similar to nearby Kudat Peninsula in N Borneo. Lorraine Orebody is massive pyrite-chalcopyrite replacement deposit in bedded cherts near Espina Point)

John, T.U. (1963)- Geology and mineral deposits of East-Central Balabac Island, Palawan Province, Philippines. J. Geol. Soc. Philippines 17, 1, p.
(Same as above)

Jurgan, H. & R.M.A. Domingo (1989)- Younger Tertiary limestone formations in the Visayan Basin, Philippines. In: H. Porth & C.H. von Daniels (eds.) On the geology and hydrocarbon prospects of the Visayan Basin, Philippines, Geol. Jahrbuch B70, p. 207-275.
(Outcrop study of M Oligocene- M Miocene carbonates on Cebu, Negros, Masbate, Leyte and Bohol)

Kanno, S., W. Hashimoto, N. Aoki, H. Noda & P.M. Alcantara (1980)- Stratigraphic horizons and geologic ages of the Philippine Vicarya (Gastropoda). In: T. Kobayashi, R. Toriyama et al. (eds.) Symposium on the geology and paleontology of SE Asia, Tsukuba 1978, Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 21, p. 135-161.
(Tertiary gastropod Vicarya widely distributed in Indo-Pacific, incl. M-U Miocene of Philippines. V. callosa widely distributed in E-M Miocene (Te5- Tf3) of Philippines. (In Java, Indonesia viewed as Preangerian/ Tf2-3 marker species by Oostingh 1938)

Kanno, S., S. O'Hara & N.L. Caagusan (1982)- Molluscan fauna from the Tartaro Formation (Upper Miocene) of Central Luzon, Philippines. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 24, p. 51-128.
(Late Miocene- E Pliocene bivalve and gastropod molluscs from Madlum River, San Miguel, C Luzon. Mainly shallow and marginal marine taxa)

Karasawa, H., H. Kato, T. Kase, Y. Maac-Aguilar, M. Kurihara, H. Hayashi & K. Hagino (2008)- Neogene and Quaternary ghost shrimpsand crabs (Crustacea: Decapoda) from the Philippines. Bull. Nat. Science Museum, Tokyo, C34, p. 51-67.
(online at: http://ci.nii.ac.jp/naid/110007342090/en)

Karig, D.E. (1975)- Basin genesis in the Philippine Sea. In: Initial Reports Deep Sea Drilling Project (DSDP) 31, p. 857-879.
(online at: www.deepseadrilling.org/31/volume/dsdp31_42.pdf)
(Philippine plate marginal basins opened rapidly during height of volcanic pulses along associated arc system. Mariana Trough opening at rates up to 10 cm/yr or more during last 2-3 My. Combined Parece Vela-Shikoku basin opened from~25 to 18 Ma at 10 cm/yr. W Philippine Basin extension from ~45-37 Ma)

Karig, D.E. (1983)- Temporal relationships between back arc basin formation and arc volcanism with special reference to the Philippine Sea. In: D.E. Hayes (ed.) The tectonic and geologic evolution of Southeast Asian seas and islands- II. American Geophys. Union (AGU), Geophys. Monograph 27, p. 318-325.
(Back arc basin formation in Philippine Sea previously linked to minima in intensity of arc volcanism, but wordwide study of last 5 My and re-evalution of PS data suggest pulses of spreading and volcanism nearly synchronous)

Karig, D.E. (1983)- Accreted terranes in the northern part of the Philippine archipelago. Tectonics 2, 2, p. 211-232.
(Philippine Archipelago complex array of ophiolites, continental fragments and island arc elements, from W to E: Neogene accretionary prism of W Luzon Arc, Eocene Zambales ophiolite (E-dipping, 70° CCW rotation, exhumed in earliest Miocene). Late Cretaceous Angat ophiolite overlain by Maastrichtian- Eocene arc volcanic turbidites, and formed West of a Cretaceous- Early Tertiary subduction system along E coast of Luzon. Late Cretaceous- E Paleogene volcanic arc built on older East Luzon metamorphic belt. To S, W Luzon terranes juxtaposed against Mindoro metamorphic basement block, which is colliding with N Palawan microcontinent)

Karig, D.E., D.R. Sarewitz & G.D. Haeck (1986)- Role of strike-slip faulting in the evolution of allochthonous terranes in the Philippines. Geology 14, p. 852-855.
(In N Philippines, allochthonous terranes originated primarily within upper plate arc system, were translated along it by strike-slip faults, and 'emplaced' by cessation of that slip. Some originally vertical strike-slip boundaries may have evolved into shallow-dipping 'sutures marked by fold and thrust systems)

Keenan, T.E., J. Encarnacion, R. Buchwaldt, D. Fernandez, J. Mattinson, C. Rasoazanamparanye & P.B. Luetkemeyer (2016)- Rapid conversion of an oceanic spreading center to a subduction zone inferred from high-precision geochronology. Proc. National Academy Sciences USA 113, 47, p. E7359-E7366.
(online at: www.pnas.org/content/113/47/E7359.full.pdf)
(On initiation of subduction zones at spreading centers. In W Philippines oceanic crust was less than ∼1 My old when it was underthrust and metamorphosed at onset of young, short-lived subduction in Palawan. Differences between ages of upper plate (Palawan ophiolite;35.2 Ma), subducting plate (protoliths of oceanic? sole,), and metamorphism (~34.2 Ma) of sole less than ∼1 My. Young and positively buoyant, but weak, lithosphere was preferred site for subduction nucleation)

Kerntke, M. (1991)- Zur geotektonischen Entwicklung der Visayas/ Philippinen und ihres sudost-asiatischen Rahmens. Mitteilungen Geol. Palaeont. Institut Universitat Hamburg 71, p. 61-92.
('On the geotectonic development of the Visayas, Philippines and its SE Asian setting')

Kerntke, M. (1992)- Petrographische, geochemische und geochronologische Untersuchungen der Porphyr-Kupferlagerstatte Atlas Mining auf der Insel Cebu (Phillippinen). Doct. Dissertation Universitat Hamburg, 300p.

Kerntke, M., M. Tarkian & A. Baumann (1991)- Geochemie und Geochronologie der Magmatite von Lutopan und Talamban, Cebu/ Philippinen. Mitteilungen Geol. Palaeont. Institut Universitat Hamburg 71, p. 93-120.
('Geochemistry and geochronology of the magmatic rocks of Lutopan and Talmban, Cebu, Philippines'. First zircon U/Pb determination in Philippines shows age of 109 ± 2 Ma forBiga porphyries, Lutopan, which agrees with new Rb/Sr ages of 103.5- 106.5Ma (Albian))

Keston, S. (1981)- Geological relationship between Reed Bank and offshore western Palawan, Philippines. Proc. 4th Regional Conf. Geology, Minerals and Energy Resources of SE Asia (GEOSEA), Manila 1981, p. 829-834.

Kiessling, W. & E. Flugel (2000)- Late Paleozoic and Late Triassic limestones from North Palawan Block (Philippines): microfacies and paleogeographical implications. Facies 43, p. 39-78.
(Permian- Carboniferous limestones in El Nido area. Paglugaban Fm with M Carboniferous fusulinids (Pseudofusulinella). Permian Minilog Fm Guadalupian fusulinids (Verbeekina verbeeki, Colania douvillei, Parafusulina, Neoschwagerina) and dasycladacean wacke-packstones with Permocalculus, Shamovella (=Tubiphytes) and Mizzia velebitana and colonial coral Waagenophyllum. Busuanga Island Late Triassic (Rhaetian) limestones in reef and platform facies with Triasina hantkeni, etc., similar to E Sulawesi, Banda Basin, Malay Peninsula, Malay Basin, etc. (also Sambosan seamount reefs, SW Japan; Peybernes 2016). Carbonates formed on seamounts surrounded by deep water radiolarian cherts (now in Jurassic- E Cretaceous accretionary complex?). With Golonka Permian-Triassic plate recontructructions. Permian-Triassic carbonates contradict close paleogeographic connection between N Palawan Block collided with S China Block in Late Cretaceous (then separated again with S China Sea opening))

Kintanar (1976)- Petroleum geology of the Philippines. Proc. 2nd Geol. Conv. and 1st Symp. Geology and Mineral Resources of the Philippines, GPS, Manila, 1, p. 401-432.

Knittel, U. (2011)- 83 Ma rhyolite from Mindoro- evidence for Late Yanshanian magmatism in the Palawan continental terrane (Philippines). Island Arc 20, p. 138-146.
(Low-grade meta-rhyolite with age of 83 Ma documents Late Cretaceous magmatism in N Mindoro Island, at NE edge of Palawan Continental Terrane which rifted from SE China in Oligocene. Rhyolite volcanism widespread in SE China in Cretaceous. Provides further evidence that NE Mindoro is indeed part of Palawan Continental Terrane, not part of Philippine Mobile Belt to E)

Knittel, U. & U. Daniels (1987)- Sr-isotopic composition of marbles from the Puerto Galera area (Mindoro, Philippines); additional evidence for a Paleozoic age of a metamorphic complex in the Philippine island arc. Geology 15, p. 136-138.
(Sr-isotopic composition of marbles from metamorphic complex of Puerto Galera area, NE Mindoro, compatible with either Tertiary or Paleozoic age. Late Paleozoic age most likely, implying metamorphic complex not part of basement of Philippine arc, but is accreted terrane)

Knittel, U. & M.J. Defant (1988)- Sr isotopic and trace element variations in Oligocene to Recent igneous rocks from the Philippine island arc: evidence for recent enrichment in the sub-Philippine mantle. Earth Planetary Sci. Letters 87, p. 87-99.
(Oligocene- Miocene plutonic rocks from Philippine island arc and Pliocene-Recent Bicol volcanic chain of S Luzon have Sr isotopic ratios of 0.7035-0.7039 (controlled by fluids from subducting Philippine Sea plate basalt). Volcanics erupted in past 5 Ma in C Luzon, Marinduque and Mindoro have higher radiogenic Sr (0.7042-0.7054; controlled by fluids from subducted S China Sea crust))

Knittel, U., M.J. Defant & I. Raczek (1988)- Recent enrichment in the source region of arc magmas from Luzon island, Philippines: Sr and Nd isotopic evidence. Geology 16, p. 73-76.
(Luzon is wedged between E- and W-directed subducting slabs. W-ward subduction resulted in pre-Miocene igneous rocks from N Luzon typical of intra-oceanic arcs. Pliocene-Holocene volcanoes generated by E-ward subduction along W coast (Bataan- Mindoro arc) and reflect larger amounts of sediment available for

subduction in S China Sea (slivers of continental Mindoro-N Palawan terrane apparently carried down to mantle depths after collision with arc in Miocene)

Knittel, U., C.H. Hung, T.F. Yang & Y. Iizuka (2010)- Permian arc magmatism in Mindoro, the Philippines: an early Indosinian event in the Palawan continental terrane. Tectonophysics 493, p. 113-117.
(online at: https://pdfs.semanticscholar.org/f035/70ff0cfb93c8e998273eb5e47e4b2af13594.pdf)
(Dating of zircons from metamorphic complex of NE Mindoro (=Palawan Continental Terrane) reveal episode of M-L Permian (250-270 Ma) magmatism, suggesting they are part of rifted margin of SE China rather than oceanic arc-dominated Philippine Mobile Belt. Magmatic episode here coincides with arc magmatism in Hainan (China), expanding known extent of that continental arc along SE margin of S China)

Knittel, U., A.G. Trudu, W. Winter, T.F. Yang & C. M. Gray (1995)- Volcanism above a subducted extinct spreading center: a reconnaissance study of the North Luzon Segment of the Taiwan-Luzon volcanic arc (Philippines). J. Southeast Asian Earth Sci. 11, p. 95-109.
(Ridge system of S China Sea, extinct since ~17 Ma, subducts below C part of Taiwan-Luzon volcanic arc. Buoyancy of crust of ridge system may be responsible for high elevation of arc. Volcanism in this part of arc characterized by small volumes of intermediate-felsic magma)

Knittel, U., M. Walia, S. Suzuki, C.B. Dimalanta, R. Tamayo, T.F. Yang & G.P. Yumul (2017)- Diverse protolith ages for the Mindoro and Romblon Metamorphics (Philippines): evidence from single zircon U-Pb dating. Island Arc 26, 1, e12160, p.
(Metamorphic complexes exposed in NE part of Palawan Continental Terrane considered to be rifted parts of Asian margin. Mindoro and Romblon Metamorphics with protoliths of variable age: Late Carboniferous-Late Permian in NE Mindoro; Eocene or younger in NW Mindoro; Miocene at S margin of Mindoro metamorphics (detrital zircon ages 22-56 Ma); and Cretaceous or later on Tablas (zircons as young as 112 Ma). Presence of non-metamorphic sediments of Late Eocene- E Oligocene age in Mindoro (Lasala Fm) suggests metamorphism of sediments of Mindoro result of Palawan terrane collision in Late Miocene (similarities in age spectra of zircons from Eocene-Miocene metamorphics with Eocene - E Miocene Lasala Fm))

Kobayashi, T. (1957)- A trigonian faunule from Mindoro in the Philippine islands. J. Faculty of Science, University of Tokyo, Sect. 2, 10, 3, p. 351-365.
(online at: http://umdb.um.u-tokyo.ac.jp/DKoseibu/pdf/Ref_0151_.pdf)
(Two Jurassic ammonite zones on SE coast of Mindoro: Callovian(?) with Macrocephalites and Oppelia and Oxfordian(?) black shale with perisphinctids (also described by Sato 1961;JTvG). Also probably latest Jurassic age Trigonia- Myophorella mollusc fauna from Agama River)

Koike, T., W. Hashimoto & T. Sato (1968)- Fusulinid-bearing limestone pebbles found in the Agbahag conglomerate, Mansalay, Oriental Mindoro, Philippines. In: T. Kobayshi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 4, p. 198-210.
(M Eocene conglomerate at Agbahag Point on SE Mindoro Island contains Permian fusulinid limestone pebbles. With 13 species, incl. Pseudofusulina fusiformis, P. kraffti, Misellina claudiae, Pseudodoliolina, Neoschwagerina cf simplex, Schubertella giraudi, Yangchienia compressa. Age ~Kungurian, late E Permian)

Kolb, J. & S. Hagemann (2009)- Structural control of low-sulfidation epithermal gold mineralization in the Rosario-Bunawan district, East Mindanao Ridge, Philippines. Mineralium Deposita 44, 7, p. 795-815.

Ku, C.Y. & S.K. Hsu (2009)- Crustal structure and deformation at the northern Manila Trench between Taiwan and Luzon islands. Tectonophysics 466, p. 229-240.
(Philippine Sea Plate overrides Eurasian Plate along E-dipping Manila Trench between Taiwan and Luzon islands. From S to N plate convergence gradually evolves from normal subduction of S China Sea lithosphere to initial collision of Taiwan orogen. Accretionary prism dramatically wider toward Taiwan. Subducting crust in the N Manila Trench area three zones: normal fault zone (where crust starts to bend and induces gravity sliding of upper sedimentary layers), proto-thrust zone and thrust zone (with blind thrust faults along location of pre-existing normal faults)

Kucera, J. (2015)- Diatreme breccia-hosted epithermal gold deposit at Ridge Mountain, Eastern Mindanao, Philippines. In: Proc. PACRIM 2015 Congress, Hongkong, Australasian Inst. of Mining and Metallurgy (AusIMM), Melbourne, Publ. Ser. 2/2015, p. 587-592. *(Extended Abstract)*

Lagmay, A.M.F.A., M.L.G. Tejada, R.E. Pena, M.A. Aurelio et al. (2009)- New definition of Philippine Plate boundaries and implications to the Philippine Mobile Belt. J. Geol. Soc. Philippines 64, p. 17-30.
(Present-day active plate boundaries surrounding Philippine Mobile Belt revised; now does not include E portion of North Luzon)

Lallemand, S., M. Popoff, J.P. Cadet, B. Deffontaines, A.G. Bader, M. Pubellier & C. Rangin (1998)- The junction between the central and southern Philippine Trench. J. Geophysical Research 103, B1, p. 933-950.

Lee, C.S., N.D. Trinidad & M.C. Galloway (1993)- A preliminary result of the Ragay Gulf survey in the Philippines. In: G.H. Teh (ed.) Proc. Symposium on tectonic framework and energy resources of the Western margin of the Pacific Basin, Kuala Lumpur 1992, Bull. Geol. Soc. Malaysia 33, p. 289-301.
(Seismic and geochemical sniffer surveys by AGSO on NE Palawan shelf- Cuyo Platform and SE Luzon Ragay Gulf- Tayabas Bay. Ragay Bay data indicate presence of significant hydrocarbon source rocks)

Lee, C.S., M.C. Galloway, J.B. Willcox, A. R. Fraser, A.M.G. Moore, J.R.L. Aposto, N.D. Trinidad, R.P. Abando, D.V. Panganiban & E.B. Guazon (1994)- Geology and petroleum potential of Ragay Gulf. Australian Geol. Survey Org. (AGSO), Canberra, Record 1994/41, Part 1, p. 1-42.
(online at: https://d28rz98at9flks.cloudfront.net/14753/Rec1994_041.pdf)

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Lewis, S.D. & D.E. Hayes (1984)- A geophysical study of Manila trench Luzon, Philippines. 2. Forearc basin structural and stratigraphic evolution. J. Geophysical Research, Solid Earth, 89, B11, p. 9196-9214.
(Sediment distribution in Manila Trench subduction zone W of Luzon exerts strong influence on tectonic evolution of accretionary prism and fore arc basins. Up to 2600m of turbidites from uplifted collision zone of Taiwan overlie thin hemipelagic sediment layer and oceanic basement in N part of Manila Trench. Size of accretionary prism varies with thickness of turbidite sediments within trench. Thickness of >200m of trench turbidites probably required before accretion and uplift become dominant process in fore arc region)

Lewis, S.D. & D.E. Hayes (1985)- Forearc basin development along Western Luzon, Philippines. Energy 10, 3, p. 281-296.
(Seismic data show up to 2600m of Neogene turbiditic sediments over thin pelagic-hemipelagic sediments and oceanic basement in N part of Manila Trench, W of Luzon. Forearc basin system of Manila Trench receives sediment through submarine canyons incised into W Luzon continental slope. Size of accretionary prism varies along strike and correlates with thickness of turbidite sediments in trench)

Lewis, S.D. & D.E. Hayes (1989)- Plate convergence and deformation, North Luzon Ridge, Philippines. Tectonophysics 168, p. 221-237.
(Marine geophysical and earthquake data indicate N Luzon Ridge (volcano-capped bathymetric ridge system between Luzon and Taiwan) presently undergoing deformation in response to relative motion between Asian and Philippine Sea plates)

Li, F., Z. Sun, D. Hu & Z. Wang (2013)- Crustal structure and deformation associated with seamount subduction at the north Manila Trench represented by analog and gravity modeling. Marine Geophysical Res. 34, 3, p. 393-406.
(Study of deformation in the accretionary wedge associated with subducted seamounts in N Manila Trench)

Liu, W.N., C.F. Li, J. Li, D. Fairhead & Z. Zhou (2014)- Deep structures of the Palawan and Sulu Sea and their implications for opening of the South China Sea. Marine Petroleum Geol. 58, B, p. 721-735.
(Palawan Continental Block defined by quiet magnetic anomalies, etc. Continent-ocean transition zone between Palawan Block and S China Sea characterized by hyper-extended continental crust intruded with magmatic bodies. NW Sulu Sea interpreted as relict oceanic slice; spreading of SE Sulu Sea started in Late Eocene- E Oligocene due to subduction of Proto S China Sea and ended in M Miocene by obduction of NW Sulu Sea onto Palawan Continental Block)

Lloyd, R.M. (1996)- Criteria for successful exploration of Miocene reef production in the Philippines. In: G.P. & A.C. Salisbury (eds.) Trans. 5th Circum-Pacific Energy and Mineral Resources Conference, Honolulu 1990, Gulf Publishing, Houston, p. 537-541.
(Many well-defined carbonate buildups drilled in Philippines, but with only moderate success. Main reasons for failure are absence of competent drape seal over buildups and lack of direct access to mature source rocks)

Longman, M.W. (1980)- Carbonate petrology of the Nido B-3A core, offshore Palawan, Philippines. American Assoc. Petrol. Geol. (AAPG), Carbonate core workshop, 1980, p. 161-183.
(On carbonates from first commercial oil field in Philippines, in Lower Miocene atoll-like buildup. Upper part of Nido B carbonate buildup with larger forams Eulepidina, Mioypsina and Spiroclypeus (=upper Te). Overlying shale seal with planktonic forams including Globigerinoides sicanus, suggests late Early Miocene age. Core from margin of buildup in rel. tight forereef talus facies, with carbonate intraclast packstones with shaly matrix with planktonic foraminifera. Most primary porosity filled by marine calcite. Locally secondary vuggy porosity and hairline fractures)

Longman, M.W. (1982)- Fracture porosity in reef talus of a Miocene pinnacle-reef reservoir, Nido B Field, the Philippines. In: P.O. Roehl & P.W. Choquette (eds.) Carbonate Petroleum Reservoirs, Springer, New York, p. 549-560.
(Core of Nido B oil field off Palawan shows: 1) fore-reef talus susceptible to extensive marine cementation, 2) small fractures can form significant reservoir capable of producing >10 000 BO/D; and 3) when associated with interbedded shales, fore-reef talus susceptible to extensive fracturing by either overpressured fluids or flexure due to compaction)

Loudon, A.G. (1976)- Marcopper porphyry copper deposit, Philippines. Economic Geology 71, p. 721-732.
(Marcopper porphyry copper deposit on Marinduque island, 180 km S of Manila. Mineralization related to intermediate intrusives, on W margin of M Miocene quartz diorite stock, with most copper mineralization within granodiorite porphyry phase)

Loudon, A.G. (1981)- Marcopper porphyry copper deposit, Philippines. The Philippine Geologist (J. Geol. Soc. Philippines) 35, 2, p. 1-23.
(Marcopper porphyry copper near center of island of Marinduque. Mineralization related to M Miocene quartz diorite in Eocene- Oligocene metasediment)

Ludwig, W.J. (1970)- The Manila Trench and West Luzon Trough- III. Seismic-refraction measurements. Deep Sea Research 17, 3, p. 553-562.
(Seismic refraction profiles W of Luzon in S China Sea show E edge of S China Sea Basin has velocity-structure similar to normal oceanic crust, but thickness of main crustal layer 3 only half of normal thickness, and Moho-discontinuity shallower than normal by ~2-3 km. W Luzon Trough (fore-arc basin) with ~4 km of sediment)

Ludwig, W.J., D.E. Hayes & J.I. Ewing (1967)- The Manila Trench and West Luzon Trough- I. Bathymetry and sediment distribution. Deep Sea Research 14, p. 533-544.

Macpherson, C.G. (2008)- Lithosphere erosion and crustal growth in island arcs: insights from the nascent East Philippine margin. Geology 36, 4, p. 311-314.
(Philippine Trench marks nascent plate margin where subduction initiation is propagating from N to S. Magma compositions in E Philippine Arc record thinning of arc lithosphere as it is eroded from below. Lithosphere thicker beneath S part of arc, causing basaltic magma to stall and fractionate garnet at high pressure. In mature N section, basaltic magma differentiates at shallower levels, at pressures where garnet is not stable)

Macpherson, C.G., S.T. Dreher & M.F. Thirlwall (2006)- Adakites without slab melting: high pressure differentiation of island arc magma, Mindanao, the Philippines. Earth Planetary Sci. Letters 243, p. 581-593.
(Pleistocene magmatic rocks from Surigao Peninsula, E Mindanao, typical adakitic traits, but Sr and Nd Nd ratios do not support melting of subducted Philippine Sea Plate; resemble Pliocene arc lavas generated in same subduction zone. This suggests that any subduction zone has potential to produce adakitic magma if basalt crystallises at sufficient depth)

Madrid, A.P. (1985)- Deep-water hydrocarbon exploration in The Philippines. Energy 10, 3-4, p. 493-504.
(Deep-water drilling in Philippines began in 1979, 10 wells drilled over next three years. Primary targets Miocene reef limestones. Hydrocarbons of offshore areas >200m water depth include commercial oil discovery and non-commercial gas discovery in Lower Miocene turbidite sands and gas discovery in Lower Miocene reefal limestone off NW Palawan)

Maglambayan, V.B., D. Ishiyama, T. Mizuta, A. Imai & Y. Ishikawa (1998)- Geology, mineralogy, and formation environment of the disseminated gold-silver telluride Bulawan Deposit, Negros Occidental, Philippines. Resource Geology 48, 2, p. 87-104.
(Bulawan Au-Ag-Te deposit in porphyry copper belt of SW Negros Island, hosted in Miocene dacitic hydrothermal breccia pipes)

Maglambayan, V.B.,·S. Montes,·K. Hipol, M. Mamitag, R.P. Pineda, R. Rodolfo, N. Oliveros & A. Sy (2008)- Carlin-type gold prospects in Surigao del Norte, Mindanao Island, Philippines: their geology and mineralization potential. Resource Geology 55, 3, p. 145-154.
(Three Carlin type-like gold deposits on NE Mindanao in jasperoid lenses in marl of M Miocene Mabuhay Fm)

Magpantay, A.L., U.M. Palaganas, E.A. De Luna, J.L. Perez & E.C. del Rosario (1979)- Geology and mineral resources of Zambales Province. Philippines Bureau of Mines Rept. Inv. 95, p. 1-68.

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(online at: https://www.jstage.jst.go.jp/article/jgeography1889/116/5/116_5_643/_pdf)
(In Japanese, with English Abstract. Fossilized chemosynthetic U Miocene- Lw Pliocene mollusc seep assemblages along coastal area of Tabango and Villaba, NW Leyte. Up to 5m big indurated carbonate blocks with beautifully preserved, large vesicomyid, lucinid, thyasirid and mytilid bivalves. No fossil illustrations)

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Manalo, P.C., C.B. Dimalanta, D.V. Faustino-Eslava, B.D. Payot, N.T. Ramos, K.L. Queano, A. Perez & G.P. Yumul (2015)- Geochemical and geophysical characteristics of the Balud Ophiolitic Complex (BOC), Masbate Island, Philippines: implications for its generation, evolution and emplacement. Terrestrial Atmospheric Oceanic Sci. 26, 6, p. 687-700.
(online at: http://tao.cgu.org.tw/index.php/articles/archive/geophysics/item/1360-geochemical-and-...)
(E Cretaceous Balud Ophiolitic Complex on island of Masbate in C Philippines, with only upper crustal section exposed. Pillow basalts transitional mid-oceanic ridge basalt- island arc tholeiitic compositions. Low Bouguer gravity anomaly values suggest highly dismembered nature, as thin crustal slivers)

Manalo, P.C., C.B. Dimalanta, D.V. Faustino-Eslava, N.T. Ramos, K.L. Queano & G.P. Yumul (2015)- Crustal thickness variation from a continental to an island arc terrane: clues from the gravity signatures of the Central Philippines. J. Asian Earth Sci. 104, p. 205-214.
(Significant differences in gravity anomalies between Palawan Microcontinental Block and Philippine Mobile Belt, with islands of Palawan Block (Mindoro, Tablas, Romblon, Sibuyan, W Panay) registering lower Bouguer anomalies. Crustal thickness thickest (~32 km) in areas with ophiolitic units emplaced during arc-continent collision. Relatively thin crust (~21 km) in collision zone coincides with areas attenuated by intra-arc rifting)

Manalo, P., C. Dimalanta, N. Ramos, D. Faustino-Eslava, K. Queano & G. Yumul (2016)- Magnetic signatures and Curie surface trend across an arc-continent collision zone: an example from Central Philippines. Surveys in Geophysics 37, 3, p. 557-578.
(In C Philippines striking differences between magnetic signatures of islands with continental affinity (negative magnetic anomalies) and island arc terranes (positive anomalies over Philippine Mobile Belt). Linear features in magnetic anomaly map coincide with Philippine Fault and its splays. Deepest point of magnetic crust is under Mindoro at 32 km. Curie surface shallows to E and is 21 km deep between Sibuyan and Masbate, and 18 km deep at junction of Buruanga Peninsula and Panay Island (boundary of the arc-continent collision, with obduction of mantle rocks over continental basement. Coincidence of magnetic boundary and density boundary supports compositional boundary that reflects the crust- mantle interface)

Mapaye, C.B., J.A. Bacud & R.B. Savella (2017)- Miocene clastic play in South West Palawan: a new playground for hydrocarbon exploration. In: SE Asia Petroleum Expl. Soc. (SEAPEX) Exploration Conf. 2017, Singapore, Session 3,p. 1- 37. *(Abstract + Presentation*
(Underexplored SW Palawan Basin clastic play in northern extension of active petroleum system in Sabah ('farm-in brochure'))

Marchadier, Y. & C. Rangin (1989)- Passage subduction-collision et tectoniques superposees a l'extremite meridionale de la fosse de Manille (Mindoro-Tablas, Philippines). Comptes Rendus Academie Sciences, Paris, 308, 2, p. 1715-1720.
('Transition between subduction and collision, and superposed tectonics at the southern end of the Manila Trench, Mindoro-Tablas: the Philippines')

Marchadier, Y. & C. Rangin (1990)- Polyphase tectonics at the southern tip of Manila trench, Mindoro-Tablas islands, Philippines. Tectonophysics 183, p. 273-287.
(S termination of Manila trench in S China Sea continental margin in Mindoro marked by complex polyphase tectonic fabric. Onshore S Mindoro with transpressive tectonic regime, active at least since Late Pliocene, overprinting collision of E Miocene volcanic arc with S China Sea continental margin (San Jose platform). Arc overlies metamorphic basement and Eocene clastics, probably drifted block of S China Sea continental margin)

Marini, J.C., C. Chauvel & R. Maury (2005)- Hf isotope compositions of northern Luzon arc lavas suggest involvement of pelagic sediments in their source. Contr. Mineralogy Petrology 149, p. 216-232.

Mariotto, F.P. & A. Tibaldi (2003)- Do transcurrent faults guide volcano growth? The case of NW Bicol Volcanic Arc, Luzon, Philippines. Terra Nova 15, 3, p. 204-212.
(In NW Bicol Volcanic Arc (Luzon) Quaternary Labo and Caayunan volcanoes aligned with NW-striking transcurrent Philippine Fault System)

Marquez, E.J., J.C. Aitchison & L.R. Zamoras (2006)- Upper Permian to Middle Jurassic radiolarian assemblages of Busuanga and surrounding islands, Palawan, Philippines. In: Radiolaria- Siliceous plankton through time, Eclogae Geol. Helvetiae 99, Suppl. 1, p. 101-125.
(online at: http://dx.doi.org/10.5169/seals-169257)
(N Palawan Block regarded as S-most continuation of Late Mesozoic Busuanga accretionary complex, part of ocean plate stratigraphy now in Jurassic-age subduction complex which developed along length of E Asian

margin. Radiolarians record Late Permian-Late Jurassic pelagic deposition on oceanic plate, with subduction of plate starting by E Cretaceous. U Permian- M Jurassic radiolarians from 13 localities)

Martin, K. (1899)- Ueber tertiare Fossilien von den Philippinen. Sammlungen Geol. Reichs-Museums Leiden, ser. 1, 5, 3, p. 52-69.
(online at: www.repository.naturalis.nl/document/552417)
('On Tertiary fossils from The Philippines'. Many of Tertiary fossils in Semper collection from Philippines similar to Java, incl. Miocene gastropod Vicarya callosa, etc. Also in English as appendix in Becker (1901), p. 129-139)

Martin, S.G. (1976)- A review of oil exploration and stratigraphy of the sedimentary basins of the Philippines. United Nations ESCAP CCOP Techn. Bull. 10, p. 55-102.

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('Lower Cretaceous carbonate platforms with orbitolinids and rudists on Cebu Island, Philippines'. Orbitolinid forams Mesorbitolina texana and Neorbitolinopsis conulus and rudist (similar to Pachytraga= Praecaprotina) limestones associated with island-arc volcanoclastics formerly ascribed to Lower Aptian, now assigned to Late Albian, based on orbitolinids and calcareous algae with Mediterranean or Caribbean affinity.)

Mathisen, M.E. (1984)- Diagenesis of Plio-Pleistocene nonmarine sandstones, Cagayan Basin, Philippines: early development of secondary porosity in volcanic sandstones. In: D.A. MacDonald et al. (eds.) Clastic Diagenesis, American Assoc. Petrol. Geol. (AAPG), Mem. 37, p. 177-193.
(Plio-Pleistocene non-marine vocanic sandstones of Cagayan basin significantly altered by early dissolution and cementation. Fluvial sandstones buried to 400-900m only slightly compacted, but with significant authigenic pore-lining clay and zeolites. Early dissolution of plagioclase, heavy minerals and volcanic fragments in nearly all samples, dissolving up to half framework grains and increasing porosity to 40%)

Mathisen, M.E. & C.F. Vondra (1983)- The fluvial and pyroclastic deposits of the Cagayan basin, northern Luzon, Philippines: an example of non-marine volcaniclastic sedimentation in an interarc basin. Sedimentology 30, p. 369-392.
(Cagayan basin interarc basin of N Luzon 250km long and 80 km wide, contains 900m thick Plio-Pleistocene fluvial and pyroclastic deposits)

Matsukawa, M., S.V. Sendon, F.T. Mateer, T. Sato & I. Obata (2012)- Early Cretaceous ammonite fauna of Catanduanes Island, Philippines. Cretaceous Research 37, p. 261-271.
(Nine Aptian- E Albian ammonoid species from Yop Fm, SW side of Catanduanes Island, E of Luzon. Faunas resemble assemblages from E side of Japan. Were in warm current regime. Ammonite-bearing rocks possibility exotic blocks embedded in chaotic sediments (like Orbitolina-bearing limestone in same area))

Matsumaru, K. (1974)- Larger foraminifera from East Mindanao, the Philippines. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 14, p. 101-115.
(E Mindanao Cretaceous andesites and sediments, unconformably overlain by Tertiary clastics and carbonates. Larger foram assemblages Early Oligocene (Tcd/ with Nummulites fichteli and Borelis pygmaeus) and Miocene (Te1-4, Te5 and Tf1-2))

Matsumaru, K. (2011)- A new definition of the Letter Stages in the Philippine Archipelago. Stratigraphy 8, 4, p. 237-252.
(M Paleocene- Recent Letter Stages for Philippines re-defined in terms of 17 larger foram assemblage zones)

Matsumaru, K. & B.M Barcelona (1982)- Tertiary stratigraphy of the Tayabas Isthmus and central part of Bondoc Peninsula, Luzon, the Philippines and larger foraminifera. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 23, p. 77-90.

Maury, R.C., F.G. Sajona, M. Pubellier, H. Bellon & M.J. Defant (1996)- Fusion de la croute oceanique dans les zones de subduction/ collision recentes: lôexemple de Mindanao, Philippines. Bull. Soc. Geologique France 167, p. 579-595.
('Fusion of oceanic crust in recent subduction/ collision zones: example of Mindanao, Philippines'. Adakites)

Maury, R.C., M.J. Defant, H. Bellon, D. Jacques, J.L. Joron, F. McDermott & P. Vidal (1998)- Temporal geochemical trends in northern Luzon arc lavas (Philippines); implications on metasomatic processes in the island arc mantle. Bull. Soc. Geologique France 169, p. 69-80.
(Neogene and Quaternary lavas from N Luzon arc (Batan, Babuyan de Claro, Camiguin, Calayan islands) display temporal increases in incompatible elements including Cs, Rb, Ba, K, La, Ce, Th, U, Ta, Hf and Zr from volcanoes >3 Ma to younger ones, suggesting hydrous fluids are not only metasomatic agents operating in mantle wedge but slab-derived melts (adakitic magmas) may also be involved)

McCabe, R., J. Almasco & W. Diegor (1983)- Geologic and paleomagnetic evidence for a possible Miocene collision in western Panay, Central Philippines. Geology 10, p. 325-329.
(Palawan metamorphic terrane, represented by Paleozoic basement on NW tip of Panay, collided with remainder of island between Late Oligocene and M Miocene. Evidence for collision is (1) juxtaposition of old melange terrane against metamorphosed Paleozoic continental sediments similar to Palawan island, and (2) Miocene thrusting in melange terrane oriented parallel to suture. Paleomagnetic studies show Panay island rotated 20° CW since E Miocene, whereas N Philippines rotated CCW, consistent with collision of Philippine arc with NE-converging Palawan block)

McCabe, R., J.N. Almasco & G. Yumul (1988)- Terranes of the Central Philippines. In: D.G. Howell (ed.) Tectonostratigraphic terranes of the Circum Pacific Region, Circum-Pacific Council Energy and Mineral Resources, Earth Sci. Ser., p. 421-436.
(Philippine Archipelago is collection of volcanic arcs, ophiolite fragments and rifted continental blocks, welded together by Late Miocene. Five terranes in C Philippines: (1) C Philippine arc terrane with Lower Cretaceous-Recent island arc debris; (2) Mindoro-Panay disrupted terrane, related to Miocene collision between Philippine arc and N Palawan continental terrane; (3) N Palawan continental terrane with late Paleozoic and Mesozoic continental-derived sequences overlain by Cenozoic marine sediments; (4) S Palawan disrupted terrane and (5) Sulu-Zamboanga disrupted terrane. Two additional terranes classified as suspect: (1) East Luzon-Samar-Mindanao disrupted terrane and (2) Cagayan arc terrane, a volcanic ridge in central part of Sulu Sea, composed of Miocene volcanics and limestones)

McCabe, R., E. Kikawa, J.T. Cole, A.J. Malicse, P. Baldauf, J. Yumul & J. Almasco (1987)- Paleomagnetic results from Luzon and the Central Philippines. J. Geophysical Research 92, B1, p. 555-580.
(Plio-Pleistocene paleomagnetic data show no rotation, suggesting terranes that make up Philippine Arc behaved as single unit in past 5 My. Late Miocene sites two groups: W Luzon ~20° of CW rotation; Bicol region, Negros, Marinduque, and Mindanao not rotated. E Neogene results also two populations: Marinduque large CCW rotation, Panay, Cebu and Mindanao CW rotation. E Neogene data consistent with M-L Miocene collision of Palawan Continental Terrane and C Philippine Arc. Dikes of possible Oligocene age from Zambales Ophiolite rotated ~60° CW. VGP of Mindoro displaced S-ward from Late Jurassic VGP of S China, suggesting post-Jurassic S-ward migration of Mindoro)

McDermott, F., M.J. Defant, C.J. Hawkesworth, R.C. Maury & J.L. Joron (1993)- Isotope and trace element evidence for three component mixing in the genesis of the North Luzon lavas (Philippines). Contrib. Mineralogy Petrology 113, p. 9-23.
(Post-3Ma volcanics from N Luzon arc exhibit systematic variations in 87Sr/86Sr, 143Nd/144Nd and 208Pb/206Pb along arc over ~500 km. Reflect varying contributions from mantle wedge, slab-derived hydrous fluid, and isotopically enriched subducted S China Sea terrigenous sediment)

McGuinness, D. & J. Branson (1989)- Deep-water reservoir appraisal in the Philippines: an innovative extended test. Australian Petrol. Explor. Assoc. (APEA) J. 40, p. 24-32.

McMurtrie, G., R. Jason, C. Lambert & J. Pattillo (2011)- Deepwater potential the NW Palawan Basin, Philippines. Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) Expl. Conf., Singapore 2011, Presentation 17, 24p. *(Abstract +Presentation)*
(Undrilled deep water NW of Palawan Island. Present-day shallow-water reservoir fairways like Nido Limestone, extend into deepwater. Outbord half grabens with potential source rocks modeled to be oil-mature. Seabed coring indicates widespread thermogenic microseepage. Inversion structures, gas chimneys, etc.))

Meresse, F.;D. Savva, M. Pubellier, S. Steuer, D. Franke, F. Cordey, C. Muller et al. (2012)- Late tectonic uplift of an inverted oceanic basin in South East Asia: the case of Palawan Island (western Philippines). EGU General Assembly, Vienna 2012, p. 11644. *(Abstract Only)*
(Palawan island bounded by two marginal basins (S China Sea to N, Sulu Sea to S) composed of remnants of inverted Proto-South China Sea basin, thrusted onto margin of continental terrane which rifted away from Chinese- Vietnamese margin. Island consists of: (1) Palawan wedge (deformed Cretaceous- Tertiary slope to ocean deposits; (2) ophiolite bodies on top of wedge, comprising Albian ribbon cherts, likely relicts of subducted Proto S China Sea; (3) central and southern parts of island large wavelength antiform of NE-SW trend, sealed by E Pliocene marls unit; (4) necking zones bordered by N-S trending transform faults)

Metrich, N., P. Schiano, R. Clocchiatti & R.C Maury (1999)- Transfer of sulfur in subduction settings: an example from Batan Island (Luzon volcanic arc, Philippines). Earth Planetary Sci. Letters 167, p. 1-14.

Middleton, C., A. Buenavista, B. Rohrlach, J. Gonzalez, L. Subang & G. Moreno (2004)- A geological review of the Tampakan copper-gold deposit, southern Mindanao, Philippines. In: Proc. PACRIM 2004 Conf., Adelaide 2004, Australasian Inst. of Mining and Metallurgy (AusIMM), Melbourne, p. 173-187.
(Tampakan copper-gold deposit on SE Mindanao major high-sulfidation epithermal deposit superimposed on an underlying porphyry copper system. Hosted by subaerial andesitic flows of highly eroded andesitic stratavolcanic complex of Pliocene age. Four volcanic cycles/ centres that sequentially developed and eroded)

Militante-Matias, P.J. (1995)- *Orbitolina*-bearing rocks of Philippines. Proc. 15th Int. Symp. Kyungpook National University, p. 257-264.
(On Early Cretaceous Tethyan larger foram Orbitolina in Philippines)

Militante-Matias, P.J., M.M. de Leon & E.J. Marquez (2000)- Cretaceous environments of the Philippines. In: H. Okada & N.J. Mateer (eds.) Cretaceous environments of Asia, Developments in Palaeontology and Stratigraphy 17, Elsevier, p. 181-200.
(Cretaceous rocks in Philippines exposed in several areas in C Philippines and Palawan. Composed of metamorphic basement rocks, crust-mantle sequences (Ophiolites?) and magmatic-volcanic arc complexes, generally capped by deep water pelagic cherts and limestones. Late Cretaceous more common shallow marine, locally with Orbitolina, rudists, etc., all suggesting tropical environments. Cretaceous sediments and volcanics often unconformably overlain by Eocene)

Milsom, J., J.R. Ali & K.L. Queano (2006)- Peculiar geometry of northern Luzon, Philippines: implications for regional tectonics of new gravity and paleomagnetic data. Tectonics 25, p. 1-14.
(N termination of Philippine Archipelago remarkably abrupt. Paleomagnetic data favor possibility that in Paleogene Central Cordillera and Sierra Madre were combined as parts of arc at S margin of Philippine Sea. Sicalao Ridge interpreted as rift margin feature, created during detachment of Luzon from continental Sundaland. With plate reconstructions 45-20 Ma)

Milsom, J., J. Barretto, N. Aguda, D. Bringas, R. Ho & J. Aitchison (2009)- The gravity fields of Palawan and New Caledonia: insights into the subsurface geometries of ophiolites. J. Geol. Soc., London, 166, p. 985-988.
(Palawan and New Caledonia similar ophiolites, both emplaced during arc-microcontinent collision and both ended subduction and also ended oceanic spreading that displaced microcontinent. Gravity data suggest both ophiolites derived from root zones just offshore on both islands, resting on basal surfaces that change abruptly

in depth by up to 5 km. Geometries of thrust sheets are as important to understanding emplacement histories as exposure patterns)

Mines and Geosciences Bureau (2010)- Geology of the Philippines (2nd Edition). Mines and Gesciences Bureau, Quezon City, p. 1-532.
(Revised textbook of Philippines geology. Part 1 discusses major geological features, incl. tectonics, major faults, sedimentary basins and present-day plate motions. Part 2 is discussion of stratigraphy and petrology based on stratigraphic groupings)

Miranda, F.E. (1975)- Data on Philippine mineral resources. Bureau of Mines, Republic of the Philippines, Manila, Information Circular 22, p. 1-60.

Mitchell, A.G.H. & G.R. Balce (1990)- Geological features of some epithermal gold systems, Philippines. J. Geochemical Exploration 35, p. 241-296.
(Philippines numerous epithermal gold deposits, mainly in Cenozoic and locally Cretaceous arc systems, built on ophiolite and metamorphic basement rocks. Epithermal gold deposits mostly Pliocene, along axes of volcanic arcs)

Mitchell, A.H.G., F. Hernandez & A.P. de la Cruz (1986)- Cenozoic evolution of the Philippine archipelago. J. Southeast Asian Earth Sci. 1, 1, p. 3-22.
(Late Cretaceous or earliest Tertiary detachment of ophiolite, W-ward subduction and subsequent accretion of arc and continental fragments to E Philippines was followed by mid-Miocene collision of this arc with SE-facing Sulu-Masbate arc. Ophiolites in Zambales, Mindoro, Panay and Palawan interpreted as remnants of single slab of Paleocene oceanic lithosphere, emplaced onto Asian margin during collision starting in Late Eocene. Continued convergence during Late Oligocene- E Miocene opening of S China Sea. E-ward subduction of S China Sea basin in Manila Trench resulted in Pliocene collision in Taiwan. Late Eocene collision accompanied by back-thrusting which initiated NW subduction of Celebes Sea in Sulu Arc. SE Sulu Sea and N extension through Panay opened in Oligocene by back-arc spreading behind Sulu Arc. Panay segment of Sea closed by Pliocene collision, following E-ward subduction in Negros Trench)

Mitchell, A.G.H. & T.M. Leach (1991)- Epithermal gold in the Philippines: island arc metallogenesis, geothermal systems and geology. Academic Press, London, p. 1-457.
(Comprehensive account of Philippine gold deposits and geology)

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(online at: https://d28rz98at9flks.cloudfront.net/14753/Rec1994_041.pdf)

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(Extended Abstract + Presentation)
(NW Palawan area still considered to be attractive area for hydrocarbon exploration)

Morishita, T., E.S. Andal, S. Arai & Y. Ishida (2006)- Podiform chromitites in the lherzolite-dominant mantle section of the Isabela ophiolite, the Philippines. Island Arc 15, p. 84-101.
(Isabela ophiolite in E Luzon complete ophiolite sequence with lherzolite-dominated mantle section, probably formed at slow-spreading mid-ocean ridge, later intruded by arc magmatism in response to change in tectonic setting during its obduction at convergent margin. Several podiform chromitites. Large chromitites in relatively depleted harzburgite hosts)

Motegi, M. (1975)- Mineralization of the Philippines: a geohistorical review by. The Philippine Geologist (J. Geol. Soc. Philippines) 29, 4, p.
(also in Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 15, p. 393-417)
(Eight Philippines mineralization periods: 1) Cretaceous-Paleogene eugeosynclinal basaltic volcanism forming bedded (strata-bound) ore deposits, 2) Paleogene diorite intrusives forming porphyry copper deposits, 3) Paleogene ultramatics forming chromite-nickel deposits, 4) Eocene-Oligocene diorites forming metasomatic iron deposits; 5) Post-Oligocene submarine acidic volcanism forming Kuroko-type ore deposits, 6) Miocene diorite intrusives forming many porphyry copper deposits and skarn type deposits, 7) Pliocene energite-luzonite deposits, and 8) Quaternary native copper mineralizations)

Motegi, M. (1977)- Porphyry copper deposits in Philippines- their tectonic setting and present status of development. Mining Geology 27, p. 221-230.

Mou, D.C. & D.F. Collins (1996)- Camago No. 1, a gas and condensate discovery along the deepwater Lower Miocene reef trend, NW Palawan offshore, Philippines. In: G.P. & A.C. Salisbury (eds.) Trans. 5th Circum-Pacific Energy and Mineral Resources Conference, Honolulu 1990, Gulf Publishing, Houston, p. 556-569.
(Camago 1 tested new deep water productive Lower Miocene pinnacle reef trend off NW Palawan, outboard of Nido- Pandan- Matinloc shelf margin. Gross wet gas column 655m)

Muller, C., H. Jurgan & H. Porth (1989)- Paleogeographic outlines of the Visayan Basin. In: H. Porth & C.H. von Daniels (eds.) On the geology and hydrocarbon prospects of the Visayan Basin, Philippines, Geol. Jahrbuch B70, p. 303-315.
(Visayan Basin in tectonically active region since Oligocene, resulting in rapid changes in sedimentary conditions. Predominantly clastic sediments, episodes of volcanic activity, carbonate buildups along shelf edges and on structural highs, etc.)

Muller, C. & C.H. von Daniels (1989)- Stratigraphical and paleoenvironmental studies (Oligocene-Quaternary) in the Visaya Basin, Philippines. Newsletters on Stratigraphy 10, 1, p. 2-64.
(Biostratigraphic- paleoenvironmental results from Visayan Basin, from calcareous nannoplankton and foraminifera. With geological evolution of basin from M Oligocene-Pleistocene)

Muller, C., C.H. von Daniels, P. Cepek, F. Gramann et al. (1989)- Biostratigraphy and paleoenvironmental studies in the Tertiary of the Visayan basin, Philippines. In: H. Porth & C.H. von Daniels (eds.) On the geology and hydrocarbon prospects of the Visayan Basin, Philippines. Geol. Jahrbuch B70, p. 89-145.

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(online at: www.gsm.org.my/products/702001-101355-PDF.pdf)
(Manila Trench- W Taiwan Foldbelt is anomalous W-facing island arc segment of W Pacific, postulated to be young, E- dipping subduction zone which flipped in Pliocene from W-dipping position on E side of Luzon and Taiwan, where it probably formed continuous subduction zone with Ryukyu and Philippine Trenches)

Musper, K.A.F.R. (1937)- Das Erdol und seine Verwandten in den Philippinen. De Ingenieur in Nederlandsch-Indie (IV), 4, 8, p. 141-157.
('Oil and its relatives in the Phillipines'. On occurrences of oil and bitumens in The Philippines)

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(Octon 1 1990 gas discovery in NW Palawan province in E Miocene turbiditic sandstones of Galoc Clastic Unit)

Neuhaus, D., J. Borgomano, J.C. Jauffred, C. Mercadier, S. Olotu & J. Grotsch (2004)- Quantitative seismic reservoir characterization of an Oligocene- Miocene carbonate build-up, Malampaya Field, Philippines. In: G.

Eberli et al. (eds.) Seismic imaging of carbonate reservoirs and systems, American Assoc. Petrol. Geol. (AAPG), Mem. 81, p. 169-184.
(Complex reservoir architecture of Malampaya carbonate buildup offshore Palawan, Philippines, initially controlled by rugged clastic basement morphology, which was overgrown by atoll structures in Oligocene and E Miocene. Additional factors are frequent and high-amplitude relative sea level fluctuations, ocean currents, and prevailing wind directions. Primary depositional reservoir-quality distribution overprinted by diagenetic events, primarily as result of repeated platform-top exposure and submarine cementation)

Noda, H. (1979)- Some Neogene Arcids from the Philippines. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 20, p. 159-176.
(Mainly systematic description of Miocene- Pliocene bivalves of Arca group from Bondoc Peninsula area, E Philippines. Miocene Anadara spp. from Batan Island associated with Vicarya callosa)

Ohara, J. (1969)- Heavy minerals in the Miocene Singit and Tarao Formations in Panay Island, The Philippines. In: T. Kobayashi & R. Toriyama (eds.) Geology and palaeontology of Southeast Asia, University of Tokyo Press, 7, p. 97-113.
(Analyses of heavy mineral assemblages in 43 sandstone samples from Miocene of Iloilo Basin, S Panay Island. Dominated by hornblende, pyroxene, magnetite and biotite, derived from andesite and schist sources)

Onoue, T, T. Nikaido, L.R. Zamoras & A. Matsuoka (2011)- Preservation of larval bivalve shells in a radiolarian chert in the Late Triassic (Early Norian) interval of the Malampaya Sound Group, Calamian Island, western Philippines. Marine Micropaleontology 79, p. 58-65.
(Silicified thin bivalve shells E Norian radiolarian chert of Malampaya Sound Gp, part of Late Jurassic- E Cretaceous subduction-related accretionary complex in N Palawan Block. Deep-sea sediment that accumulated in an open-ocean realm of Panthalassa Ocean)

Orberger, B. & J. Alleweldt (1994)- Mineralogical and geochemical characteristics of platinum, palladium and Ni-Cu-sulfide bearing black serpentinite of the Acoje ophiolite block, Zambales, Philippines: mineralogical and geochemical characteristics. J. Southeast Asian Earth Sci. 9, 3, p. 229-239.

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(Black serpentinites with Ni-Cu sulfide, platinum and palladium mineralisation in Acoje ophiolite compared to non-mineralised green serpentinites. Study confirms magmatic character of Ni-Cu-sulfide mineralisation)

Pablico, E.F. & C.S. Lee (1994)- Geology and petroleum potential of Cuyo Platform. Australian Geol. Survey Org. (AGSO), Canberra, Record 1994/41, Part 4, p. 1-22.
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(Cenozoic sediments of S Samar Island in E Philippines record unroofing history of ancient arc terrane. Late Oligocene- E Miocene Daram Fm common chert and volcanic fragments, late M Miocene- E Pliocene Catbalogan Fm mainly composed of ultramafic components. Daram Fm eroded crustal portions of ophiolite, Catbalogan Fm represents later exhumation and erosion of ultramafic section. Oceanic island arc setting proposed for both formations)

Padrones, J.T., A. Imai & R. Takahashi (2017)- Geochemical behavior of Rare Earth Elements in weathered granitic rocks in Northern Palawan, Philippines. In: 5th Asia Africa Mineral Resources Conf., Quezon City, Philippines 2015, Resource Geology 67, 3, p. 231-253.
(Two geochemically similar plutons investigated for potential for placer-type LREE deposits on Palawan Block in Philippines: M Miocene Kapoas pluton (13.2 Ma) and Late Cretaceous Daroctan Granite (= Late Yanshanian of SE China))

Padrones, J.T., K. Tani, Y. Tsutsumi & A. Imai (2017)- Imprints of Late Mesozoic tectono-magmatic events on Palawan Continental Block in northern Palawan, Philippines. J. Asian Earth Sci. 142, p. 56-76.
(Late Cretaceous Daroctan Granite intruded Mesozoic melange in N-most Palawan Island. Monazite U-Th-Pb dating yielded Late Cretaceous age, similar to some Mesozoic granites surrounding S China Sea. Maximum ages of sediments and semi-schist Jurassic-E Cretaceous, with Late Cretaceous maximum age of deposition for meta-sediments. Palawan block accreted units possibly located at margin of continent-ocean collision in Mesozoic and eventually broke off from SE Eurasian margin)

Palmer, S.E. (1984)- Effect of water washing on C15+ hydrocarbon fraction of oils from NW Palawan. American Assoc. Petrol. Geol. (AAPG) Bull. 68, 2, p. 137-149.
(On geochemical changes in C15+ hydrocarbon fraction of crude oil from water-washed carbonate reservoir in Cities Service wells Tara-1 and Libro-1, offshore NW Palawan)

Partridge, A.D. (1994)- Palynological analysis of San Francisco 1 and Katumbo Creek-1, Bondoc sub-basin, Luzon Island. Australian Geol. Survey Org. (AGSO), Canberra, Record 1994/41, Appendix 6, p. 1-25 +plates.
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Pautot, G. & C. Rangin (1989)- Subduction of the South China Sea axial ridge below Luzon (Philippines). Earth Planetary Sci. Letters 92, p. 57-69.
(Scarborough Seamount chain at axis of extinct S China Sea spreading center subducted obliquely along Manila Trench. Fabric of ridge characterized by N60°E trending normal faults and N130°E transform faults. Ridge can be traced into forearc area, result of underplating of ridge fragments accreted to upper plate)

Payot, B.D., S. Arai, A. Tamura, S. Ishimaru & R.A. Tamayo (2009)- Unusual ultradepleted dunite from Sibuyan Island (The Philippines): a residue for ultra-depleted MORB? J. Mineralogical Petrological Sci. 104, p. 383-388.

Payot, B.D., S. Arai, R.A. Tamayo & G.P. Yumul (2009)- What underlies the Philippine island arc? Clues from the Calaton Hill, Tablas island, Romblon (Central Philippines). J. Asian Earth Sci. 36, p. 371-389.
(High-T metamorphic/ plutonic complex in Calaton Hill, Tablas island representative of lower crust underlying Philippine island arc)

Payot, B.D., S. Jego, R.C. Maury, M. Polve, M. Gregoire, G. Ceuleneer, R.A. Tamayo, G.P. Yumul, H. Bellon & J. Cotten (2007)- The oceanic substratum of Northern Luzon: Evidence from xenoliths within Monglo adakite (The Philippines). Island Arc 16, 2, p. 276-290.
(A 8.65 Ma adakitic intrusive sheet near Monglo in Baguio District of N Luzon contains ultramafic and mafic xenoliths. One amphibolite xenolith with K-Ar age of 115.6 Ma (Barremian). Carried by ascending adakitic magmas from Lower Cretaceous ophiolitic complex at depth)

Pena, R.E. (1998)- Further notes on the stratigraphy of Baguio District. J. Geol. Soc. Philippines 53, 3-4, p.

Pena, R. (1996)- On recent interpretations on the ophiolites of Central Luzon and ophiolite associations in northern Luzon. J. Geol. Soc. Philippines 51, 1-2, p. 37-47.
(Discussion of recent papers on ophiolites of Luzon by Encarnacion et al. (1993; proposing contemporaneous Eocene arc-back arc pair origin for Zambales and Angat ophiolites) and Florendo (1994; postulating Late Oligocene-Early Miocene intra-arc rifting in N Luzon that led to formation of oceanic crust represented by Itogon Ophiolite. Earlier studies clearly indicate Late Eocene sediment cover of Zambales ophiolite was

deposited in deep open ocean, far from terrestrial/ arc sources. Cretaceous (Turonian-(Coniacian) dating of Angat Ophiolite well established by paleontologic dating of sedimentary cover. Etc.)

Pena, R.E. (2008)- Lexicon of Philippine Stratigraphy, 2008. Geol. Soc. Philippines, Manila, p. 1-364.

Pena, R.E. & M.V. Reyes (1970)- Sedimentological study of a section of the 'Upper Zig-Zag Formation' along Bued River, Tuba, Benguet. J. Geol. Soc. Philippines 24, 1, p. 1-19.
(Sediments below M Miocene Kennon Lst mainly fluvial conglomerates, derived from volcanic terrain)

Perez, A. d.C., D.V. Faustino-Eslava, G.P. Yumul, C.B. Dimalanta, R.A. Tamayo et al. (2013)- Enriched and depleted characters of the Amnay Ophiolite upper crustal section and the regionally heterogeneous nature of the South China Sea mantle. J. Asian Earth Sci. 65, p. 107-117.

Perez, A., S. Umino, G.P. Yumul & O. Ishizuka (2018)- Boninite and boninite-series volcanics in northern Zambales ophiolite: doubly vergent subduction initiation along Philippine Sea plate margins. Solid Earth 9, p. 713-733.
(online at: https://www.solid-earth.net/9/713/2018/se-9-713-2018.pdf)
(Boninites are high-magnesium andesites that are key component of subduction-initiation suites, and is predominant in W Pacific forearc terranes. New discovery of boninite in Acoje Block of M Eocene (~44 Ma) Zambales ophiolite of W Luzon. Paleolatitudes place juvenile arc of N Zambales ophiolite in W margin of Philippine Sea plate, possibly in doubly vergent subduction initiation setting)

Philippines Bureau of Mines (1976)- A review of exploration and stratigraphy of sedimentary basins of the Philippines. UN Econ. Comm. Asia Far East (ECAFE), CCOP, Techn. Bull. 10, p. 55-102.

Pinet N. (1993)- Repartition des mouvements decrochants et chevauchants le long de la frontiere NW de la plaque mer des Philippines. Comptes Rendus Academie Sci., Paris, 316, p. 217-223.

Pinet, N. & J.F. Stephan (1990)- The Philippine wrench fault system in the Ilocos Foothills, northwestern Luzon, Philippines. Tectonophysics 183, 1, p. 207-224.
(On Luzon Philippine Fault runs parallel to Philippine archipelago for >1300 km, and is active, left-lateral, strike-slip fault which forms a braided system. In Ilocos Foothills faults pattern results from two major tectonic episodes:(1) late M- Late Miocene episode Abra River strike-slip faulting; (2) The Pliocene(?)- Quaternary strike-slip activity propagating W-ward from Abra River Fault to Vigan-Aggao wrench fault)

Polve, M. R.C. Maury, S. Jego, H. Bellon, A. Margoum, G.P. Yumul, B.D. Payot, R.A. Tamayo & J. Cotten (2007)- Temporal geochemical evolution of Neogene magmatism in the Baguio gold-copper mining district (Northern Luzon, Philippines). Resource Geology 57, 2, p. 197-218.
(Baguio porphyry copper-epithermal gold province in N Luzon, associated with E Miocene- Quaternary calc-alkaline and adakitic intrusions. Three magmatic pulses: E Miocene (21.2-18.7 Ma; related to W-dipping subduction of W Philippine Basin), M-L Miocene (15.3-8 Ma; subduction of S China Sea along Manila Trench) and Pliocene-Quaternary (3-1 Ma). Quiescence period, from 8-3 Ma possible consequence of docking of Zambales ophiolitic terrane to N Luzon)

Popenoe, W.P. & R.M. Kleinpell (1978)- Age and stratigraphic significance for Lyellian correlation of the fauna of the Vigo Formation, Luzon, Philippines. Occasional Papers California Academy Sci. 129, p. 1-73.
(online at: http://archive.org/details/occasionalpapers129cali.pdf
(On Miocene molluscs and foraminifera from Vigo Group, Bondoc Peninsula, and comparisons with faunas and zonations from Indonesia)

Porth, H. (1989)- On the petroleum prospects of the Visayan Basin, Philippines. In: H. Porth & C.H. von Daniels (eds.) (1989)- On the geology and hydrocarbon prospects of the Visayan Basin, Philippines. Geol. Jahrbuch B70, p. 385-406.

(Numerous oil seeps known from Cebu, NW Leyte and NE Negros islands. First oil exploration well in Visayan Basin drilled at oil seep near Toledo, Cebu. 208 wells drilled by 1980 in Visayan region, some with oil and gas shows or minor production, but no commercial oil or gas discoveries yet. Offshore basins up to 5-6 km of Tertiary sediments. Sandstones commonly rich in volcanoclastics, with poor permeability. Main reservoir potential in Miocene carbonate buildups)

Porth, H. & C.H. von Daniels (eds.) (1989)- On the geology and hydrocarbon prospects of the Visayan Basin, Philippines. Geol. Jahrbuch B70, 428p.
(Collection of papers from German- Philippine co-operation project on geology, stratigraphy, biostratography of the Visayan islands, C Philippines)

Porth, H., C. Muller & C.H. von Daniels (1989)- The sedimentary formations of the Visayan region. In: H. Porth & C.H. von Daniels (eds.) (1989)- On the geology and hydrocarbon prospects of the Visayan Basin, Philippines. Geol. Jahrbuch B70, p. 29-87.
(Visayan basin Basement folded, low metamorphic Cretaceous volcanics and sediments, incl. Aptian-Albian Orbitolina limestone. Overlain by rare M-L Eocene limestone, M Oligocene limestone and widespread Late Oligocene-Recent sediments. Three phases of uplift-erosion: E-M Miocene boundary, M-L Miocene boundary, Late Pliocene)

Pratt, W.E. (1915)- Petroleum and residual bitumens in Leyte. Philippine J. Science, A, 10, 4, p. 241-279.
(online at: http://ia902605.us.archive.org/0/items/philippinejo101915phil/philippinejo101915phil.pdf)

Pratt, W.E. (1915)- On the occurrence of petroleum in the provinces of Cebu. Philippine J. Science, A, 10, 4, p. 281-287.

Pratt, W.E. (1915)- The persistance of Philippine coal beds. Philippine J. Science, A, 10, 5, p. 289-301.
(online at: http://ia902605.us.archive.org/0/items/philippinejo101915phil/philippinejo101915phil.pdf)

Pratt, W.E. & W.D. Smith (1913)- The geology and petroleum resources of the southern part of Bondoc Peninsula, Tayabas Province, P.I.. Philippine J. Science, A, 8, 5, p. 301-376.
(online at: http://ia600202.us.archive.org/21/items/philippinejourna81913phil/philippinejourna81913phil.pdf)

Pratt, W.E. & W.D. Smith (1913)- Petroleum on Bondoc Peninsula, Tayabas Province, Philippines. In: The mineral resources of the Philippine islands for the year 1912.The Bureau of Science, Manila, p. 49-57.
(Light oil proven present in seeps and shallow wells on Bondoc Peninsula, not in commercial quantities. Miocene Globigerina-rich Vigo Shale may be source of oil)

Pubellier, M., B. Deffontaines, R. Quebral & C. Rangin (1994)- Drainage network analysis and tectonics of Mindanao, southern Philippines. Geomorphology 9, p. 325-342.
(Mindanao, S Philippines, is site of arc-continent collision which began in Late Pliocene. Tectonic features not easily detectable due to cover of Pleistocene- Holocene sediments and volcanics. Study of drainage pattern in Agusan-Davao and Cotabato Basins compared with other data enables a correlation of distant seismic lines)

Pubellier, M., R. Quebral, M. Aurelio & C. Rangin (1996)- Docking and post-docking escape tectonics in the southern Philippines. In: R. Hall & D. Blundell (eds.) Tectonic evolution of Southeast Asia, Geol. Soc, London, Spec. Publ. 106, p. 511-523.
(Philippine archipelago structure results from juxtaposition of volcanic belt against Eurasian margin fragments and associated marginal basins. Docking compression began in early Late Miocene. Post-dockingbegan in E Pleistocene, in N Mindanao represented by paired subduction zone and strike-slip fault)

Pubellier, M., R.D. Quebral, B. Deffontaines & C. Rangin (1993)- Neotectonic map of Mindanao Island Philippines (1:800,000). Explanatory notes, 22p.

Pubellier, M., R. Quebral, C. Rangin, B. Deffontaines, C. Muller & J. Butterlin (1991)- The Mindanao collision zone: a soft collision event within a continuous Neogene strike-slip setting. J. Southeast Asian Earth Sci. 6, p. 239-248.
(Two volcanic belts presently juxtaposed on Mindanao in S Philippines. To S collision still active in Molucca Sea zone of doubly verging subduction. Philippine Fault is neotectonic feature. Mindanao two composite terranes (1) W: Eurasian margin continental terrane (N-ward extension of Sangihe arc; Kudarat Plateau and Zamboanga Peninsula; (2) E: oceanic terrane (Philippine Mobile Belt- Halmahera arc). Since Late Pliocene- both terranes affected by NNE and E-W compression)

Queano, K.L. (2005)- Upper Miocene to Lower Pliocene Sigaboy Formation turbidites, on the Pujada Peninsula, Mindanao, Philippines: internal structures, composition, depositional elements and reservoir characteristics. J. Asian Earth Sci. 25, p. 387-402.
(Turbidites of U Miocene- Lw Pliocene Sigaboy Fm on Pujada Peninsula, SE Mindanao, overlie ophiolite. Channelized and unchannelized of submarine fan deposits, derived from Sangihe arc and its uplifted outer arc ridge (now Pujada Peninsula), following initial subduction of Snellius Plateau- Halmahera Arc in Mindanao (latest M Miocene) and prior to initiation of Philippine Trench (<5 Ma). Porosity very low, rarely >5%.)

Queano, K., J. Ali, J. Aitchison, G. Yumul, M. Pubellier & C. Dimalanta (2008)- Geochemistry of Cretaceous to Eocene ophiolitic rocks of the Central Cordillera: implications for Mesozoic-Early Cenozoic evolution of the Northern Philippines. Int. Geology Review 50, 4, p. 407-421.
(Central Cordillera in N Philippines underlain mainly by Cretaceous- Eocene ophiolitic basement, with supra-subduction signature and generated in back-arc setting. Relationships similar to Cretaceous- Eocene Lepanto Metavolcanics and Pugo Fm, comprising ophiolitic basement in S portions of range, suggesting C Cordillera floored by common volcanic basement)

Queano, K.L., J.R. Ali, J. Milsom, J.C. Aitchison & M. Pubellier (2007)- North Luzon and the Philippine Sea plate motion model: insights following paleomagnetic, structural, and age-dating investigations. J. Geophysical Research 112, B05101, p. 1-44.
(Paleomagnetic data from N Luzon show combination of major plate and local rotations in CW and CCW directions. Inclination data suggest N Luzon traveled as part of Philippine Sea Plate for most of Eocene-Pliocene history. N Luzon is placed on W edge of Philippine Sea Plate, just W of where Benham Plateau formed at ~40 Ma. Substantial N-ward migration since start of Neogene, with earlier interval stretching back to equatorial latitudes in mid-E Cretaceous. Post-15 Ma motion of plate involved indentation of Palawan microcontinent into W side of Philippine Archipelago)

Queano, K.L., J.R. Ali, M. Pubellier, G.P. Yumul & C.B. Dimalanta (2009)- Reconstructing the Mesozoic-early Cenozoic evolution of northern Philippines: clues from palaeomagnetic studies on the ophiolitic basement of the Central Cordillera. Geophysical J. Int. 178, 3, p. 1317-1326.
(First paleomagnetic data from Cretaceous Eocene ophiolitic basement (pillow basalts, diabase dykes) in C Cordillera on N Luzon suggest ophiolitic rocks formed at subequatorial latitudes (6.3°N ± 3.1°), close to where island was during E Cenozoic. These rocks could be relicts of proto-Philippine Sea Plate)

Queano, K.L. C.B. Dimalanta, G.P. Yumul, D.V. Faustino-Eslava, E.J. Marquez, N.T. Ramos, K. Ishida et al. (2012)- The Zambales Ophiolite Complex, Philippines revisited: implications for its Tethyan origin. Proc. First Int. Symposium of IGCP-589, Xi'an, China 2012, Acta Geoscientica Sinica 33, Suppl. 1, p. 58. (Abstract)
(Zambales Ophiolite Complex needs to be deconstructed into M Jurassic- Lower Cretaceous Acoje Ophiolite and Eocene Coto Ophiolite)

Queano, K.L. C.B. Dimalanta, G.P. Yumul, E.J. Marquez, D.V. Faustino-Eslava, S. Suzuki & K. Ishida (2017)- Stratigraphic units overlying the Zambales Ophiolite Complex (ZOC) in Luzon, (Philippines): tectonostratigraphic significance and regional implications. J. Asian Earth Sci. 142, p. 20-31.
(Zambales Ophiolite Complex on W Luzon several massifs. Coto Block overlain by clastic sediments previously dated as Eocene, with similar ages obtained from diabase, granodiorites, etc., suggesting Eocene age for ZOC.

Radiolarian cherts in E-M Miocene clastics, derived from Acoje Block of ZOC, suggest Late Jurassic- E Cretaceous age)

Queano, K.L., E.J. Marquez, J.C. Aitchison & J.R. Ali (2013)- Radiolarian biostratigraphic data from the Casiguran Ophiolite, northern Sierra Madre, Luzon, Philippines: stratigraphic and tectonic implications. J. Asian Earth Sci. 65, p. 131-142.
(Cherts- limestones overlying Casiguran Ophiolite, Luzon, with Lower Cretaceous radiolarian assemblages (U Barremian- Aptian/Albian; incl. several 'Tan Sin Hok species'), older than U Cretaceous stratigraphic range previously reported in region, providing additional evidence for Mesozoic oceanic substratum upon which Luzon and neighboring regions of Philippine archipelago were likely built. Age closely resembles ages of ophiolite in SE Luzon, oceanic crust of Huatung Basin E of Taiwan and ophiolites in E Indonesia)

Queano, K.L., E.J. Marquez, C.B. Dimalanta J.C. Aitchison, J.R. Ali & G.P. Yumul (2017)- Mesozoic radiolarian faunas from the northwest Ilocos region, Luzon, Philippines and their tectonic significance. Island Arc 26, 4, e12195, p. 1-10.
(Dos Hermanos melange in NW Ilocos Norte, NW Luzon, with peridotites and metamorphic rocks blocks in sheared sandy matrix. Thrust onto the Eocene Bangui Fm turbidite succession and capped by U Miocene Pasuquin Limestone. With uppermost Jurassic- Lower Cretaceous radiolarian assemblages in deep marine bedded chert blocks (incl. many 'Tan Sin Hok species'. Tectonic melanges in C Philippines attributed E-M Miocene arc-continent collision involving Philippine Mobile Belt and Palawan Microcontinental Block)

Quebral R., M. Pubellier & C. Rangin (1996)- The onset of movement on the Philippine fault in eastern Mindanao: a transition from a collision to strike slip environment. Tectonics 15, 4, p. 713-726.
(Evolution of Philippine fault in E Mindanao from zone of active arc-arc collision to strike-slip environment. Diachronous unconformity along Philippine Fault marking end of collision-related deformation reflects S-ward propagating nature of collision and provides limits on age of initiation of Philippine Fault)

Querubin, C.L. & G.P. Yumul (2001)- Stratigraphic correlation of the Malusok volcanogenic massive sulfide deposits, Southern Mindanao, Philippines. J. Resource Geology 51, 2, p. 135-144.
(Volcanogenic massive to semi-massive sulfide lenses in Main and SE Malusok areas confined within single stratigraphic interval)

Rammlair, D. (1987)- The evolution of the Philippine Archipelago in time and space: a plate-tectonic model. Geol. Jahrbuch B81, p. 3-48.

Rammlair, D., H. Raschka & L. Steiner (1987)- Systematics of chromitite occurrences in Central Palawan, Philippines. Mineralium Depositae 22, 3, p. 190-197.
(Chromitite occurrences in C Palawan ophiolite classified into four groups)

Ramos, S.G., J.B. Rosell, A.M. de Guzman & A.P. Revilla (2003)- Sedimentological and biostratigraphic details of well Fuga-1, Babuyan Channel, Philippines. In: B. Ratanasthien et al. (eds.) Pacific Neogene paleoenvironments and their evolution, 8th Int. Congress on Pacific Neogene Stratigraphy, Chiang Mai, 2003, p.
(Fuga-1 well drilled to 5892'on Fuga island, Babuyan Channel, to test gas potential of M Miocene Sicalao Limestone. Encountered E Miocene- Pleistocene neritic-bathyal clastics. Carbonates at N17-Tf3 boundary at 1970' and within the Middle Miocene sequence at 3290'-4500'. E Miocene (NN1-NN4) clastics from 4500' to 5892' consist of basaltic hyaloclastite and volcanic conglomerate in the upper part and fine-grained clastics in the lower section. Top Late Miocene- E Pliocene sedimentation influenced by episodic andesitic volcanism)

Rangin, C. (1991)- The Philippine Mobile Belt: a complex plate boundary. J. Southeast Asian Earth Sci. 6, p. 307-318.
(Philippine archipelago is product of Late Cenozoic oblique collision of Philippine Sea Plate with thinned margin of Eurasia. Philippine Mobile Belt mainly composed of Philippine arc (Paleogene volcanic arc belonging to Philippine Sea Plate) and crustal fragments belonging to Eurasian Plate)

Rangin, C., C. Muller & H. Porth (1989)- Neogene geodynamic evolution of the Visayan region. In: H. Porth & C.H. von Daniels (eds.) (1989)- On the geology and hydrocarbon prospects of the Visayan Basin, Philippines. Geol. Jahrbuch B70, p. 7-27.

Rangin, C. & M. Pubellier (1990)- Subduction and accretion of oceanic fragments along the Eurasian margin: southern Japan- Philippine region. Some constraints for continental growth. In: J. Aubouin & J. Bourgois (eds.) Tectonics of Circum Pacific Continental margins, VSP Int. Publ., Utrecht, p. 139-164.

Rangin, C., J.F. Stephan, R. Blanchet, D. Baladad, P. Bouysee et al. (1988)- Seabeam survey at the southern end of the Manilla trench. Transition between subduction and collision processes, offshore Mindoro Island, Philippines. Tectonophysics 146, p. 261-278.
(S tip of the Manila trench subduction-collision transition zone. Where oceanic crust is subducted, simple accretionary prism-fore arc basin pattern is developed. Where continental margin is subducted, intraplate deformation is randomly distributed across fore arc area which is fragmented into various crustal microblocks)

Rangin, C., J.F. Stephan, J. Butterlin, H. Bellon, C. Muller, J. Chorowicz & D. Baladad (1991)- Collision neogene dôarcs volcaniques dans le centre des Philippines: stratigraphie et structures de la chaine dôAntique (ile de Panay). Bull. Soc. Geologique France 162, 3, p. 465-477.
('Neogene volcanic arc collision in C Philippines: stratigraphy and structures of the Antique Range, Panay'. Antique Range of W Panay is boundary between Eurasia and Philippine Sea plates, and represents Neogene accretion of intra-oceanic arc terrane to continental margin previously affected by rifting and spreading)

Rangin, C., J.F. Stephan & C. Muller (1985)- Middle Oligocene oceanic crust of the South China Sea, jammed into Mindoro Collision Zone, Philippines. Geology, 13, p. 425-428.
(Mindoro Island is between Manila Trench and collision zone of N Palawan block with W Philippines mobile belt. M Oligocene ophiolites in suture part of terranes thrust above N Palawan block at E-M Miocene boundary. Ophiolites interpreted as fragments of S China Sea oceanic crust between two continental blocks)

Ranneft, T.S.M., R.M.J. Hopkins, A.J. Froelich & J.W. Gwinn (1960)- Reconnaissance geology and oil possibilities of Mindanao. American Assoc. Petrol. Geol. (AAPG) Bull. 4, p. 529-568.
(Structural features in E Mindanao strongly influenced by active Philippine rift. W and C Mindanao reflect merging of diverse tectonic and volcanic trends. Two major sedimentary basins: Agusan-Davao Trough and Cotabato basin with 6000-15000' of mostly Miocene- Pliocene deep marine strata, both with possibilities for commercial hydrocarbon accumulations. Eocene limestone in Agusan-Davao Trough, contemporaneous with volcanism and intrusion in W Mindanao.)

Raschka, H., E. Nacario, D. Rammlmair, C. Samonte & L. Steiner (1985)- Geology of the ophiolite of Central Palawan Island, Philippines. Ofioliti B10, 2-3, p. 375-390.
(C Palawan Island with ophiolitic rocks over ~100 km in SW-NE direction. Ophiolite suite of basal tectonized peridotite, grading upward to foliated gabbro to pillow basalts with associated cherts. Sheeted dyke complex missing. Ophiolite overlain by Late Cretaceous-Oligocene flysch-type sediments (radiolarian ages?), covered by younger shallow water sediments. Intensely foliated rocks of mainly basaltic origin at peridotite contacts towards flysch (metamorphosed in amphibolite and greenschist facies, with K/Ar ages of ~40 Ma))

Rehm, S.K. (2003)- The Miocene carbonates in time and space on- and offshore SW Palawan, Philippines. Ph.D. Dissertation, Christian-Albrechts Universitat, Kiel, p. 1-242.
(online at: http://eldiss.uni-kiel.de/)
(Late Early- Middle Miocene carbonates on Palawan compared to equivalent deposits offshore. Laterally extensive platform carbonates unconformably overlie Cretaceous- Lower Tertiary clastics. Some isolated reefal buildups formed on top of platform during M Miocene drowning. Carbonate thickness ~650-1000m, displaying overall deepening-upward facies. Carbonates covered by Late Miocene-Recent prograding clastics)

Reyes, M.V. (1977)- Cenozoic reef developments in the Visayas, Philippine Islands. Proc. First ASCOPE Conf., Jakarta, 1, p. 253-261.

Reyes, M.V. & E.P. Ordonez (1970)- Philippine Cretaceous smaller foraminifera. The Philippine Geologist (J. Geol. Soc. Philippines) 24, 2, p. 1-67.

Reyes, R.A. (1979)- Hydrocarbon distribution and carbon isotope variations in the surface petroleum occurrences and potential sources rocks in Northwest Leyte. The Philippine Geologist (J. Geol. Soc. Philippines) 33, 1, p.
(Analyses of surface seeps and potential source rocks in NW peninsula of Leyte suggest: (1) land·derived organic matter contributed strongly to potential source of Taog, Tagnocot, Bata Fms (2) bitumen in Bata Fm sandstone not autochthonous and migrated from prolific source rock (3) surface hydrocarbon occurrences originated from common source, possibly from mature Taog Fm)

Reynolds, N.A., R. Ayres, R.N.McLean & G. Maude (2015)- The Mabilo copper-gold-iron deposit- a new skarn discovery in The Philippines. In: Proc. PACRIM 2015 Congress, Hongkong, Australasian Inst. of Mining and Metallurgy (AusIMM), Melbourne, Publ. Ser. 2/2015, p. 431-437.
(Mabilo skarn deposit in S of Pacarale mineral district in Luzon, 200km ESE of Manila. Mineralized skarn replaces dipping Tumbaga Fm Eocene limestone/ volcanics in aureole of Miocene quartz-diorite intrusion)

Ribeiro, J.M., R.C. Maury & M. Gregoire (2016)- Are adakites slab melts or high-pressure fractionated mantle melts? J. Petrology 57, 5, p. 839-862.
(Adakites are unusual felsic igneous rocks commonly associated with asthenospheric slab window opening or fast subduction of young (<25 Ma) oceanic plate that may allow slab melting at shallow depths (in forearc settings). Incl. examples from Philippines)

Ringenbach, J.C., N. Pinet, J.F. Stephan & J. Delteil (1993)- Structural variety and tectonic evolution of strike slip basins related to the Philippine fault system, northern Luzon, Philippines. Tectonics 12, 1, p. 187-204.
(N part of Philippine fault zone in Luzon complex system of left-lateral strike-slip faults, with strike-slip basins along main splays of fault zone. Those located along N striking cordilleran faults formed in late E Pliocene-Pleistocene time when Philippine fault initiated. Structural setting result of E Miocene collision between Benham Rise and E margin of Luzon, and subsequent inception of NW striking strand of Philippine fault)

Roberts, M. (1983)- Seismic example of complex faulting from NW shelf of Palawan. In A.W. Bally (ed.) Seismic expression of structural styles, American Assoc. Petrol. Geol. (AAPG), Studies in geology 15, 3, 4.2, p. 18-24.
(N Palawan-Calamian block separated from S China by N-S seafloor spreading beginning in M Oligocene. Spreading in ceased in E Miocene, but tectonism on NW shelf of NPC block continued into latest Miocene. Subsidence of at least outer shelf area in late E Miocene, synchronous with cessation of sea floor spreading, followed by M and L Miocene uplifts. Late Miocene events marked by high-angle basement faulting, here interpreted as wrench and reverse faulting, possibly resulting from collision between NPC block and main Philippine arc in SW Luzon-Mindoro-Panay region. Parts of crust of Mindoro and Panay may have been continuous with NPC block crust. Reed Bank and Dangerous Ground areas W and SW of NPC block, also thought to have separated from China (and Indochina) by sea-floor spreading, but drift not well documented)

Roeder, D. (1977)- Philippine arc system- collision or flipped subduction zone? Geology 5, p. 203-206.
(Between Taiwan and Molucca strait, an arc-arc collision migrating southward between Late Oligocene and E or M-Pliocene time was followed by renewed subduction at former sites of arc-associated wrenching. Possibly triggered by polarity changes along strike of collision, post-collisional trenches offset and of opposed polarity)

Roque, V.P., B.P. Reyes & B.A. Gonzales (1972)- Report on the comparative stratigraphy of the east and west sides of the mid-Luzon Central Valley, Philippines. Mineral Engin. Mag., September 1972, p. 11-51.

Rossman, D.L., G.C. Castanada & G.C. Bacuta (1989)- Geology of the Zambales ophiolite, Luzon, Philippines. Tectonophysics 168, p. 1-22.
(Zambales ophiolite complex of W Luzon. Age established by limiting strata is Late Eocene. Ophiolitic rocks exposed by uplift, and ultramafic part exposed to erosion in earliest Miocene or Late Oligocene)

Rutland, R.W.R. (1967)- A tectonic study of part of the Philippine Fault Zone. J. Geol. Soc. London 123, p. 293-323.
(Philippine Fault Zone trends N40°W is major strike-slip fault comparable to San Andreas fault. In SE Luzon, low-grade metamorphic rocks, of probable pre-Tertiary age, occur on NE side of Rift. Two main episodes of faulting: (1) Late Miocene on northerly faults and (2) Plio-Pleistocene on NW faults. Structural relations argue against major post-Miocene strike-slip movements)

Rutland, R.W.R. & M.R. Walter (1974)- Philippine Archipelago. In: A.M. Spencer (ed.) Mesozoic-Cenozoic orogenic belts, Geol. Soc., London, Spec. Publ. 4, p. 491-500.
(Brief review of Phillippines geology. Cretaceous-Tertiary orogen of the Philippines forms link between mobile regions of Taiwan to N and Sulawesi/W Irian to S. Basement of belt is Carboniferous -Permian ophiolitic rocks and flysch metamorphosed to amphibolite facies. Overlying basement are Triassic conglomerates and Jurassic greywackes and shales, locally with spilites. These were folded at end Jurassic and are overlain by Cretaceous)

Sajona, F., H. Bellon, R.C. Maury, M. Pubellier, J. Cotton & C. Rangin (1994)- Magmatic response to abrupt changes in geodynamic settings: Pliocene-Quaternary calc-alkaline and Nb-enriched lavas from Mindanao (Philippines). Tectonophysics 237, p. 47-72.

Sajona, F.G., H. Bellon, R.C. Maury, M. Pubellier, R.D. Quebral, J. Cotton et al. (1997)- Tertiary and Quaternary magmatism in Mindanao and Leyte (Philippines): geochronology, geochemistry and tectonic setting. J. Asian Earth Sci. 15, 2-3, p. 121-153.
(Several volcanic sectors in Leyte, Daguma and Mindanao. Composition of Tertiary-Recent arc magmatism linked to tectonic settings and used to refine reconstruction of tectonic history of Philippine archipelago. Identification of adakites used to date timings of subduction initiations and arc polarity reversals. In Daguma area (S Mindanao) Oligocene (30 Ma) arc tholeiitic diorites intrude older arc sequences. Miocene (17-7.7 Ma) calc-alkaline andesites with minor adakites at 18 Ma. Calc-alkaline volcanic substratum of Pliocene-Recent volcanoes(1.8 Ma -present) 8-6 Ma old. C Mindanao, Miocene andesites (20, 16 Ma), Pliocene (2.5 Ma) calk-alkaline volcanism and Quaternary lavas (1 Ma- present))

Sajona, F.G. & R.C. Maury (1998)- Association of adakites with gold and copper mineralization in the Philippines. Comptes Rendus Academie Sciences, Paris, IIA, 326, 1, p. 27-34.
(Adakites are intermediate- acidic volcanic and plutonic rocks derived from partial melting of subducted oceanic crust when subducting slab is young (< 20 Ma) and hot, at start and end of subduction. In Philippines most porphyry Cu and epithermal Au deposits related with these and related magmas (Nb-enriched basalts and adakite-linked andesites). E Luzon arc is example of adakite-Cu-Au area underthrusted by young crust)

Sajona, F.G., R.C. Maury, H. Bellon, J. Cotton & M. Defant (1996)- High field strengh element enrichment of Pliocene-Pleistocene island arc basalts, Zamboanga Peninsula, western Mindanao (Philippines). J. Petrology 37, p. 693-726.

Sajona, F.G., R. Maury, H. Bellon, J. Cotten, M. Defant & M. Pubellier (1993)- Initiation of subduction and the generation of slab melts in western and eastern Mindanao, Philippines. Geology 21, p. 1007-1010.
(Adakite in E and W Mindanao Island, with low heavy rare earth elements, high Sr/Y ratios, etc., considered to be result of melting of young subducted oceanic crust, leaving eclogite residue. Pliocene-Quaternary adakites from W Mindanao probably from melting of Miocene Sulu Sea crust, currently subducting under Zamboanga. In E Mindanao, Pliocene-Quaternary adakites mark trace of Philippine fault. Underlying Philippine Sea crust of Eocene age cannot melt under normal subduction thermal conditions, but thermal models indicate melting at start of subduction can occur. Subduction of Philippine Sea plate began at 3-4 Ma beneath E Mindanao)

Sajona, F.G., R.C. Maury, M. Pubellier, J. Leterrier, H. Bellon & J. Cotton (2000)- Magmatic source enrichment by slab-derived melts in a young post-collision setting, central Mindanao (Philippines). Lithos 54, p. 173-206.
(C Mindanao was place of Pliocene (4-5 Ma) arc- arc collision event followed by basaltic to dacitic magmatism starting at 2.3 Ma. Lavas calc-alkaline to shoshonitic, including adakites and Nb-enriched basalts. Chemistry attributed to interaction of slab-derived melts, i.e., adakites, with arc mantle)

Salapare, R.C., C.B. Dimalanta, N.T. Ramos, T. Noelynna, P.C. Manalo, D.V. Faustino-Eslava, K.L. Queano & G. Yumul (2015)- Upper crustal structure beneath the Zambales Ophiolite Complex, Luzon, Philippines inferred from integrated gravity, magnetic and geological data. Geophysical J. Int. 201, 3, p. 1522-1533.
(Zambales Ophiolite Complex in W Luzon, exposure of emplaced crust-upper mantle ophiolitic sequences. Two juxtaposed blocks: (1) Acoje Block (NW; M Jurassic- E Cretaceous; island arc tholeiite composition) with low Bouguer gravity (<135 mGal) and magnetic (<69 nT) anomalies and (2) Coto Block (SE; Eocene; transitional mid-oceanic ridge-basalt/island arc composition) with high Bouguer gravity (>150 mGal) and magnetic (>110 nT) anomalies. Blocks separated by Lewis Fault Zone, with right lateral and vertical displacements)

Saldivar-Sali, A. et al. (1983)- Geology of offshore NW Palawan. Oil and Gas J., Nov 30, 1983, p. 119-128.

Saldivar-Sali, A., N.L. Caagusan & R.S. Rieza (1981)- Paleogene petroleum possibilities in the Philippines. In: M.J. Valencia (ed.) Proc. EAPI/CCOP Workshop, Honolulu 1980, Energy 6, 11, p. 1207-1224.
(Older Paleogene section is most probable source rock for hydrocarbons produced from Lower Miocene carbonates in Philippines. Paleogene sandstone also probably cleaner (less volcanic) than Neogene sandstones. With Cretaceous- Recent stratigraphic section of Reed Bank well Sampaguita 1, S China Sea)

Saldivar-Sali, A., A.P. Madrid, R.A. Reyes & L.G. Flower (1987)- Tectonic setting and petroleum possibilities of Philippine sedimentary basins. In: M.K. Horn (ed.) Trans. 4th Circum Pacific Energy Mineral Resources Conf., Singapore 1986, p. 223-242.
(Philippines consist of island arc systems, microcontinental plates and 13 associated sedimentary basins. Basins classified as forearc, backarc (associated with arcs) and rift basins (associated with microcontinents). Numerous potential hydrocarbon plays. With Paleogene- Miocene paleogeographic maps and paleotectonic schematic profiles)

Saldivar-Sali, A., H.G. Oesterle & D.N. Brownlee (1981)- The geology of offshore Northwest Palawan, Philippines. Proc. 2nd Asian Council on Petroleum (ASCOPE) Conf. Exhib., Manila 1999, p. 99-123.

Saldivar-Sali, A., J. Suppe & R.E. Bischke (1996)- A Middle Miocene reconstruction of the Philippines and its consequences concerning petroleum exploration. In: G.P. & A.C. Salisbury (eds.) Trans. 5th Circum-Pacific Energy and Mineral Resources Conference, Honolulu 1990, Gulf Publishing, Houston, p. 617-625.
(Middle Miocene reconstruction of Philippines. Continental Palawan-Mindoro blocks collided with Visaya Islands (also with contain continental affinities) in ~M Miocene, uplifting C Mindoro and deforming basement and sediments along line from N Luzon to Negros. Oligo-Miocene volcanic arc formed during subduction along ancestral Manila trench. Etc.)

Sales, A.O., E.C. Jacobsen, A.A. Morado, J.J. Benavidez, F.A. Navarro & A.E. Lim (1997)- The petroleum potential of deepwater northwest Palawan block GSEC 66. J. Asian Earth Sci. 15, p. 217-240.

Samaniego, R.M. (1964)- The occurrence of *Globorotalia velascoensis* in the Philippines. Philippine Geologist (J. Geol. Soc. Philippines) 18, 3, p. 65-74.
(First record of Paleocene planktonic foraminifera in S Palawan)

Sano, S.I., Y. Iba, P.W. Skelton, J.P. Masse, Y.M. Aguilar & T. Kase (2014)- The evolution of canaliculate rudists in the light of a new canaliculate polyconitid rudist from the Albian of the Central Pacific. Palaeontology 57, 5, p. 951-962.

(New polyconitid rudist Magallanesia canaliculata of probable Late Albian age from Pulangbato, C Cebu Island, Philippines and Takuyo-Daini Seamount, now in NW Pacific. It is similar to Praecaprotina Yabe and Nagao, 1926, a Japanese- C Pacific endemic genus of late Aptian- E Albian age. Cebu rudists few genera of polyconitids and a requieniid in 10m thick limestone in volcanoclastic sequence (not melange))

Santos, G. (1974)- Mineral distribution and geological features of the Philippines. In: W. Petrascheck (ed.) Metallogenetic and geochemical provinces, Symposium Leoben 1972, Osterreichische Akademie Wissenschaften, Vienna, Springer Verlag, p. 89-105.
(Philippine mineral deposits divided into two main groups: (1)' frontal arc suite': nickel, laterite, chromite and cupriferous massive sulfide, associated with ultrabasic and basic volcanics and subordinate intermediate intrusive-metamorphic (schist) rocks; (2) 'third arc suite': mainly gold-bearing copper sulfides with pyrite and minor magnetite and molybdenite, related to intermediate intrusives and volcanics. Sulu Sea Basin may have formed as result of extensional rifting of part of frontal arc)

Santos, R.A. (1997)- Chromite and platinum group mineralization in arc-related ophiolites: constraints from Palawan and Dinagat Ophiolite Complexes, Philippines. Ph.D. Thesis, University of Tokyo, p. 1-193. *(Unpublished)*

Sarewitz, D. & D.E. Karig (1986)- Processes of allochthonous terranes evolution in Mindoro Island, Philippines. Tectonics 5, 4, p. 525-552.
(Two tectonostratigraphic terranes on Mindoro Island, with unclear relationships: (1) N Palawan block rifted off S China in Oligocene, and comprises most of shallow S end of S China Sea. E part includesM-L Jurassic Mansalay Fm (NW dipping) and Eocene- E Oligocene Caguray Fm quartz-rich clastics and limestone, thick Lumintao complex mid-Oligocene submarine rift basalts and U Oligocene-Miocene graben fill deposits. (2) Mindoro block, with lower greenschist facies metamorphic basement (protoliths submarine arc volcanics?) with tectonic slices of serpentinite, overlain by U Cretaceous and U Eocene strata, recording several episodes of intense deformation of Mesozoic and Tertiary age. Mindoro Suture steeply dipping faults with serpentinized ultramafic rock, amphibolite, and rocks derived from both bounding terranes, probably mid-Tertiary transcurrent faulting. W side of C Philippine archipelago was left-lateral transform boundary)

Sarewitz, D.R. & D.E. Karig (1986)- Geologic evolution of western Mindoro Island and the Mindoro suture zone, Philippines. J. Southeast Asian Earth Sci. 1, p. 117-141.
(Two tectonostratigraphic terranes on Mindoro Island: N Palawan and Mindoro blocks, separated by steeply-dipping Mindoro Suture Zone. N Palawan block is continental fragment rifted off Eurasia when S China Basin opened in mid Tertiary, with evidence of crustal stretching starting in Late Eocene or earlier. Large volumes of basalt extruded in mid Oligocene. Mindoro block with pre-upper Cretaceous Mindoro Metamorphic basement. Mindoro Suture Zone active in Late Paleogene- E Neogene. Numerous large bodies of serpentinized ultramafic rock along suture. Interpreted as strike-slip boundary, juxtaposing Mindoro and N Palawan blocks in M-L Miocene. Subsequent latest Miocene and younger W-vergent thrust faulting between Mindoro Suture Zone and Manila Trench)

Sarewitz, D.R. & S.D. Lewis (1991)- The Marinduque intra-arc basin, Philippines: Basin genesis and in situ ophiolite development in a strike-slip setting. Geol. Soc. America (GSA) Bull. 103, 5, p. 597-614.
(Marinduque marine intra-arc basin in N-C Philippine volcanic arc system. Rhombic in shape, with long axis trending N-NW, with ENE trending volcanic ridge dividing it into two depocenters. Magnetic anomalies parallel to central volcanic ridge indicate it formed by extension in N-S direction by process analogous to sea-floor spreading. Marinduque basin is composite pull-apart basin whose floor is in part composed of oceanic-type crust. Evolution of central volcanic ridge presents actualistic model for development and emplacement of ophiolites in island-arc setting. Overall history of Marinduque basin suggests strike-slip processes may play important role in origin of intra-arc basins)

Sato, T. (1961)- Les ammonites oxfordiennes de l'ile de Mindoro. Japan J. Geol. Geography 32, 1, p. 141-143.

('The Oxfordian ammonites of Mindoro Island'. Incl. Parawedekindia arduennensis, Pseudopeltoceras from thick (but intensely folded) interbedded sandstone-shales in Mansalay area of SE Mindoro. First ammonites described from Philippines (see also Sato et al. 2012))

Sato, T., T. Kase, Y. Shigeta, R.S.P. De Ocampo, P.A. Ong, Y.M. Aguilar & W. Mago (2012)- Newly collected Jurassic ammonites from the Mansalay Formation, Mindoro Island, Philippines. Bull. Natl. Museum Natural Sci., Taiwan, Ser. C, 38, p. 63-73.
(online at: www.kahaku.go.jp/research/researcher/papers/123549.pdf)
(Four species of Jurassic ammonite from Mansalay area in SE Mindoro Island, Philippines: Physodoceras cf. gortanii and Perisphinctes (Liosphinctes) sp. from Amaga River valley near Mansalay, and P. (L.) cf. laevipickeringius and unidentifiable perisphinctid from Colasi Point. Assemblage indicative of M Oxfordian age and close affinity with Tethys-Pacific faunas)

Sato, T. & Y. Seki (1972)- Finding of lawsonite-bearing rock as a pebble in a Jurassic conglomerate bed in the southeastern part of Mindoro Island, Philippines. Proc. Japan Academy 48, 7, p. 495-499.
(online at: https://www.jstage.jst.go.jp/article/pjab1945/48/7/48_7_495/_pdf
(Lawsonite-bearing metavolcanic rock pebble in conglomerate in M Jurassic Mansalay Fm in SE Mindoro. Associated pebbles volcanics, schists, red chert, slate and Permian fusulinid-bearing limestones (Mindoro probably fragment of Mainland Asia similar to Palawan and Busuanga; JTvG))

Schweller, W.J. & D.E. Karig (1982)- Emplacement of the Zambales Ophiolite into the West Luzon margin. In: J.L. Watkins & C.L Drake (eds.) Studies in continental margin geology, American Assoc. Petrol. Geol. (AAPG), Mem. 34, p. 441-454.
(Zambales Ophiolite >10 km thick igneous sequence, formed in Late Eocene. It is a large fragment of oceanic crust, uplifted several km without being obducted onto continental margin. 120m of Late Eocene- Oligocene pelagic limestone on ophiolite changes to ophiolite- derived clastics in E Miocene)

Schweller, W.J., D.E. Karig & S.B. Bachman (1983)- Original setting and emplacement history of the Zambales Ophiolite, Luzon, Philippines, from stratigraphic evidence. In: D.E. Hayes (ed.) The tectonic and geologic evolution of Southeast Asian seas and islands- II, American Geophys. Union (AGU), Geophys. Monograph 27, p. 124-138.
(Oldest sediments above Zambales ophiolite U Eocene pelagic limestone. M-Late Oligocene increasing dilution of limestone pelagic limestone with volcanoclastic turbidites. Thick Lower Miocene sandstone changes from volcanoclastic to ophiolitic composition over few Myrs, indicating rapid ophiolite uplift)

Schweller, W.J., P.H. Roth, D.E. Karig & S.B. Bachman (1984)- Sedimentation history and biostratigraphy of ophiolite-related Tertiary sediments, Luzon, Philippines. Geol. Soc. America (GSA) Bull. 95, 1, p. 1333-1342.
(Late Eocene- E Oligocene pelagic limestone of Lower Aksitero Fm caps volcanic complex of Zambales Ophiolite. U Aksitero Fm with volcaniclastic sandy turbidites in M-U Oligocene. Lower Miocene Moriones Fm clastics characteristic of deep-sea fans with debris of serpentine and other ultramafic components. Zambales deeply eroded by E Miocene and probably first emerged above sea level in M-L Oligocene, only 10 to 15 My after it formed as new ocean crust. Zambales Ophiolite originally part of marginal basin, not island arc)

Sevillo, D., J.F. Stephan, J. Delteil, C. Muller, J. Butterlin, H. Bellon & E. Billedo (1997)- Geology and tectonic history of Southeastern Luzon, Philippines. J. Asian Earth Sci. 15, p. 435-452.
(SE Luzon part of E Philippine Mobile Belt. Three major units limited by NW-SE left-lateral strike-slip faults. North-central Catanduanes Structural Unit characterized by M- early Late Cretaceous volcanic arc sequence unconformably overlain by M- L Eocene arc sequence, followed by E Oligocene intrusives. Median Structural Unit underlain by Late Cretaceous volcanic arc sequence followed by two chaotic sequences from end Cretaceous- Paleocene and latest Middle Eocene-earliest Late Eocene. W Caramoan Structural Unit pre-Late Cretaceous ophiolitic suite unconformably overlain by Late Cretaceous volcanic arc sequence and M Eocene limestones. All units overlain by Late Oligocene to Pliocene carbonate and detrital sequence. Polyphase left-lateral strike-slip faulting recorded from end of Cretaceous to Early-Late Oligocene boundary. Faults probably represent traces of Proto-Philippine Fault System in SE Luzon)

Sheldon, R.A. (1973)- Stratigraphy and petroleum prospects of Southwestern Cebu, Philippines. American Assoc. Petrol. Geol. (AAPG) Bull., p. 1343-1347.
(First recorded indication of oil in Philippines well was near Toledo, Cebu, in 1896 in folded Lower Miocene sediments. Since that time sporadic and unsuccessful efforts to discover commercial accumulations of oil throughout Philippines. 51 wells drilled in Toledo-Cletom area, 23 of which reported shows of oil or gas. Hydrocarbons present in Miocene clastics of SW Cebu, but basin structure rel. complex and relatively cool (?). Crude oils paraffinic with a pour-point 75-100°F and API gravity of 38-44°)

Sherlock, R.L. & T.J. Barrett (2003)- Geology and volcanic stratigraphy of the Canatuan and Malusok volcanogenic massive sulfide deposits, southwestern Mindanao, Philippines. Mineralium Deposita 39, 1, p. 1-20.

Sherlock, R.L., T.J. Barrett & P.D. Lewis (2003)- Geological setting of the Rapu Rapu gold-rich volcanogenic massive sulfide deposits, Albay Province, Philippines. Mineralium Deposita 38, 7, p. 813-830.
(Gold-rich Fe-Cu-Zn volcanogenic massive sulfide deposits hosted by dacitic volcanic rocks of probable Jurassic age on E Rapu Rapu Island, off SE Luzon, at S end of NW-trending Eastern Regional metamorphic complex)

Shuto, T. (1969)- Neogene gastropods from Panay Island, the Philippines. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 6, p. 1-250.
(136 species of Miocene- Pleistocene gastropods from E margin of Iloilo Basin, Panay Island)

Shuto, T. (1969)- Neogene gastropods from Panay Island, the Philippines. Mem. Fac. Science, Kyushu University, ser. D., Geol. 19, 1, p. 1-250.
(Same paper as Shuto 1969 above; 136 species of Miocene- Pleistocene gastropods from E margin of Iloilo Basin, Panay Island)

Shuto, T. (1971)- Neogene bivalves from Panay Island, the Philippines. Mem. Fac. Science, Kyushu University, ser. D, Geol., 21, 1, p. 1-73.

Shuto, T. (1982)- Miocene molluscs from the Macasilao and Paghu Mayan Formations, Negros Island, the Phlilippines. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 23, p. 101-135.

Sibuet, J.C. & S.K. Hsu (1997)- Geodynamics of the Taiwan arc-arc collision. Tectonophysics 274, p. 221-251.
(Luzon arc entered into collision with subduction zone in Late Miocene. With Miocene-Recent plate reconstructions of greater South China Sea area)

Sibuet, J.C. & S.K. Hsu (2004)- How was Taiwan created? Tectonophysics 379, p. 159-181.

Sillitoe, R.H., C.A. Angeles, G.M. Comia, E.C. Antioquia & R.B. Abeya (1990)- An acid-sulphate-type lode gold deposit at Nalesbitan, Luzon, Philippines. J. Geochemical Exploration 35, p. 387-411.
(Nalesbitan lode gold deposit on Bicol peninsula of SE Luzon, Philippines is of acid-sulphate type, with ~15 tonnes of Au. Mineralization hosted by Pliocene andesitic volcanic rocks transected by NW-striking sinistral strike-slip fault zone)

Sillitoe, R.H. & I.M. Gappe (1984)- Philippine porphyry copper deposits: geologic setting and characteristics. UNDP Comm. Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP) Techn. Bull. 14, p. 1-89.
(Comprehensive review of 48 porphyry Cu-Au deposits in Philippines)

Smith, W.D. (1906)- *Orbitoides* from the Binangonan Limestone (with some notes on early connections between Formosa, The Philippines and Java). Philippine J. Science 1, p. 203-209.

(Description of Orbitoides richthofeni n.sp. from Binangonan Peninsula (= Oligo-Miocene Lepidocyclina (Eulepidina); JTvG)

Smith, W.D. (1908)- The mineral resources of the Philippine islands, with a statement of the production of commercial mineral products during the year 1907. The Bureau of Science, Manila, p. 1-39.
(online at: http://archive.org/details/acc6331.1907.001.umich.edu)

Smith, W.D. (1910)- The mineral resources of the Philippine islands, with a statement of the production of commercial mineral products during the year 1909. The Bureau of Science, Manila, p. 1-81.

Smith, W.D. (1911)- The mineral resources of the Philippine islands, with a statement of the production of commercial mineral products during the year 1910. The Bureau of Science, Manila, p. 1-80.

Smith, W.D. (1912)- The mineral resources of the Philippine islands for the year 1911. The Bureau of Science, Manila, p. 1-99.

Smith, W.D. (1913)- The mineral resources of the Philippine islands for the year 1912. The Bureau of Science, Manila, p. 1-76.

Smith, W.D. (1913)- Contributions to the stratigraphy and fossil invertebrate fauna of the Philippines Islands. Philippines J. Sci, A, 8, 4, p. 235-300.
(online at: http://ia600202.us.archive.org/21/items/philippinejourna81913phil/philippinejourna81913phil.pdf)
(Early review of geological and paleontological studies in Philippines)

Smith, W.D. (1915)- Notes on the geology of Panay. Philippines J. Sci, A, 10, 3, p. 211-230.
(online at: http://ia902605.us.archive.org/0/items/philippinejo101915phil/philippinejo101915phil.pdf)

Smith, W.D. (1922)- Geological reconnaissance of the Pidatan Oil Field, Cotabato Province, Mindanao. Philippine Jour. Sci. 20, p. 23-44.

Smith, W.D. (1925)- Geology and mineral resources of the Philippine islands. Bureau of Mines, Manila, Publ. 19, p. 1-529.
(online at: https://ia800308.us.archive.org/19/items/acw7735.0019.001.umich.edu/acw7735.0019.001.umich.edu.pdf)

Smoczyk, G.M., G.P. Hayes, M.W. Hamburger, H.M. Benz, A, Villasenor & K.P. Furlong (2013)- Seismicity of the Earth 1900-2012, Philippine Sea Plate and vicinity: U.S. Geol. Survey Open-File Report 2010-1083-M.
(online at: http://pubs.usgs.gov/of/2010/1083/m/)
(Earthquake distribution around Philippine sea Plate, which is bordered by Pacific, Eurasia and Sunda plates. All borders zones of plate convergence)

Sofer, Z. (1985)- An unusual occurrence of light hydrocarbon gases in a well offshore Northeast Palawan Island, the Philippines. Precambrian Research 30, 3, p. 179-188.

Sonntag, I., R. Kerrich & S.G. Hagemann (2011)- The geochemistry of host arc volcanic rocks to the Co-O epithermal gold deposit, Eastern Mindanao, Philippines. Lithos 127, p. 564-580.
(Mindanao island in S Philippines comprises suture zone between Eurasian and Philippine plates (Philippine Mobile Belt). E Mindanao Philippine Mobile Belt outcrops mainly Eocene- Pliocene arc volcanics and sediments. Co-O epithermal Au deposit hosted in Oligocene volcanic series)

Sonntag, I., C. Laukamp & S.G. Hagemann (2012)- Low potassium hydrothermal alteration in low sulfidation epithermal systems as detected by IRS and XRD: an example from the Co-O mine, Eastern Mindanao, Philippines. Ore Geology Reviews 45, p. 47-60.

Spencer, F.D. & J.F. Vergara (1957)- Coal resources of The Philippines. Philippine Bureau Mines, Spec. Project Ser. 20, p. 1-52.

Sta. Ana, M.C. (2006)- Characterization of Miocene-Pliocene carbonate platforms, Southern Southwest Palawan Basin, Philippines. M.Sc. Thesis University of Texas, p. 1-59. *(Unpublished)*
(online at: http://txspace.tamu.edu/bitstream/handle/1969.1/ETD-TAMU-1796/STA.-ANA-THESIS.pdf)
(Seismic examples of Middle-Late Miocene carbonate buildups)

Stephan, J.F., R. Blanchet, C, Rangin, B. Pelletier, J. Letouzey & C. Muller (1986)- Geodynamic evolution of the Taiwan-Luzon-Mindoro belt since the Late Eocene. Tectonophysics 125, p. 245-268.
(Geodynamic evolution of boundary between Eurasia and Philippine Sea plates from Eocene- Recent. Major geodynamic events (1) opening of S China Sea in Lower Oligocene, contemporaneous with obduction of Zambales and Angat ophiolites on Luzon; (2) subduction of Mesozoic? oceanic basin along proto-Manila trench from U Oligocene- Lower Miocene; (3) obduction of S China Sea oceanic crust onto Chinese and Reed Bank- Calamian passive margins in M Miocene (14-15 Ma) related to major kinematic reorganization (end of opening of SCS); (4) beginning of collision between Luzon microblock and two margins of SCS in U Miocene (~7 Ma). Collision still active in Taiwan whereas it stopped in Mindoro in Pliocene)

Stephan, J.F., R. Blanchet, C.Rangin, B. Pelletier, J. Letouzey & C. Muller (1986)- Geodynamic evolution of the Taiwan-Luzon-Mindoro belt since the Late Eocene. Mem. Geol. Soc. China 7, p. 69-90.
(online at: http://twgeoref.moeacgs.gov.tw/star/1986/19860301/0069.pdf)
(Same paper as above)

Stephan, J.F. & C. Rangin (1984)- Superimposed collision episode in the northeastern part of the Sulu Sea from Middle Miocene to Present, Panay Island, Central Philippines. In: Symposium on Geodynamics of the Eurasian-Philippines Plateboundary, p. 69. *(Abstract only?)*

Steuer, S., D. Franke, F. Meresse, D. Savva, M. Pubellier & L. Auxietre (2012)- Time constraints on the evolution of Southern and Central Palawan Island from correlation of Miocene limestone formations. AAPG Int. Conf. Exh., Singapore 2012, Search and Discovery Art. 50772, 18p.
(online at: www.searchanddiscovery.com/documents/2012/50772steuer/ndx_steuer.pdf)
(Palawan offshore wedge is continuation of Palawan fold-thrust belt and ties Borneo-Palawan Trench to Dangerous Grounds and to Palawan Island. Development of wedge constrained by ages of overlying Tabon Lst (U Miocene- Lw Pliocene; ~9-4 Ma) and underlying E-M Miocene Nido Lst: wedge deformation started in upper M Miocene (~12 Ma) and continued to W until latest Miocene- E Pliocene (~5 Ma). S and C Palawan formed in second pulse of compression and uplift in Late Pliocene)

Steuer, S., D. Franke, F. Meresse, D. Savva, M. Pubellier, J.L. Auxietre & M. Aurelio (2013)- Time constraints on the evolution of Southern Palawan Island, Philippines from onshore and offshore correlation of Miocene Limestones. J. Asian Earth Sci. 76, p. 412-427.
(Timing of deformation of S and C Palawan Island fold- thrust belt and adjacent offshore wedge constrained by ages of E Miocene Nido Limestone (pre-deformation) and overlying LateMiocene- E Pliocene Tabon Lst (post-deformation))

Stoll, W.C. (1958)- Geology and petrology of the Masinloc chromite deposit, Zambales, Luzon, Philippine Islands. Bull. Geol. Soc. America (GSA) 69, p. 419-448.
(Masinloc mine at Goto, Zambales, Luzon, is world's largest producer of refractory-grade chrome ore. Ore occurs with other chromite deposits in layered ultramafic complex, overlapped by Miocene sediments. Ultramafics composed of gneissose norite, olivine gabbro, massive saxonite serpentine and dunite serpentine)

Suerte, L.O., A. Imai & S. Nishihara (2009)- Geochemical characteristics of intrusive rocks, Southeastern Mindanao, Philippines; implication to metallogenesis of porphyry copper-gold deposits. Resource Geology 59, 3, p. 244-262.

(Intrusive rocks associated with porphyry copper deposits in SE Mindanao include biotite and hornblende-bearing diorite porphyry (Kingking deposit) and other diorite porphyry and quartz diorite in other areas in SE Mindanao. They are adakitic in Sr/Y-Y diagram, but not in La/Yb-Yb diagram. Oligocene-Miocene diorite intrusive complex associated with porphyry-type copper-gold mineralization)

Suerte, L.O., S. Nishihara, A. Imai, K. Watanabe, G.P. Yumul & V.B. Maglambayan (2007)- Occurrence of ore minerals and fluid inclusion study on the Kingking porphyry copper-gold deposit, Eastern Mindanao, Philippines. Resource Geology 57, 2, p. 219-229.

Suerte, L.O. & J.O. Suerte (2013)- Development of the Asian Tethyan Realm: genesis, process and outcomes. Second Int. Symposium Int. Geoscience Progr. (IGPP) 589, Field Guidebook, p. 1-21.
(online at: http://igcp589.cags.ac.cn/2nd%20Symposium/Field%20Guidebook.pdf)

Suerte, L.O., G.P. Yumul, R.A. Tamayo, C.B. Dimalanta, M.F. Zhou, R.C. Maury, M. Polve & C.L. Balce (2005)- Geology, geochemistry and U-Pb SHRIMP age of the Tacloban Ophiolite Complex, Leyte Island (Central Philippines): implications for the existence and extent of the Proto-Philippine Sea Plate. Resource Geology 55, 3, p. 207-216.
(Age and origin of oceanic basement of C Philippines ophiolitic massifs debated. Tacloban Ophiolite Complex NW-SE trending massif in NE Leyte Island, with U-Pb ages of zircons in gabbro of ~145 and 125 Ma (E Cretaceous). Overlain by several 10's m of Cretaceous red siliceous pelagic Palanog Sediments, unconformably overlain by Miocene-Pliocene marine sediments and Pleistocene volcaniclastics. Ophiolite suite of subduction-related origin, generated in marginal basin, with Late Miocene minimum age of emplacement. E Cretaceous age limits possible progenitor of ophiolite to proto-Philippine Sea Plate)

Suggate, S.M., M.A. Cottam, R. Hall, I. Sevastjanova, M.A. Forster, L.T. White, R.A. Armstrong, A. Carter & E. Mojares (2014)- South China continental margin signature for sandstones and granites from Palawan, Philippines. Gondwana Research 26, 2, p. 475-491.
(online at: http://searg.rhul.ac.uk/pubs/suggate_etal_2014%20Palawan.pdf)
(N Palawan Continental Terrane metasediments derived mainly from granitic and metamorphic rocks of continental character, with zircons indicating Late Cretaceous maximum depositional age and S China origin. S Palawan Terrane Miocene sandstones similar heavy mineral assemblages. Also similar to Lower Miocene Kudat Fm sandstones of N Borneo, suggesting short-lived episode of sediment transport from Palawan to Borneo in E Miocene following arc-continent collision. U-Pb dating of zircons show Central Palawan granite is Eocene (42 Ma). Capoas granite 13.8- 13.5 Ma. Inherited zircon ages from Capoas granite imply melting of continental crust from S China margin and Cenozoic rift-related and arc material)

Suppe, J. (1988)- Tectonics of arc-continent collision on both sides of the South China Sea: Taiwan and Mindoro. Acta Geol. Taiwanica 26, p. 1-18.
(On Miocene-Recent collisions of Philippine-Taiwan island arc system with China and its rifted margins)

Suzuki, S., D. Asiedu, S. Takemura, G.P. Yumul. & S.D. David (2001)- Composition of sandstones from the Cretaceous to Eocene successions in Central Palawan, Philippines. J. Geol. Soc. Philippines 56, p. 31-42.

Suzuki, S., K. Ishida, G.P. Yumul & C. Dimalanta & (2011)- Age and correlation of basement geology of Aurora, Rizal and Zambales areas, Luzon, Philippines. In: GEOCON 2011, 24th Ann. Geol. Conv. Geol. Soc. Philippines, 2p. *(Abstract + Presentation)*
(online at: http://rwg-tag.bravehost.com/Conferences/geocon/ppt/1100-1120%20Suzuki.pdf)

Suzuki, S., R.E. Pena, T.A. Tam, G.P. Yumul Jr., C.B. Dimalanta, M. Usui & K. Ishida (2017)- Development of the Philippine Mobile Belt in northern Luzon from Eocene to Pliocene. J. Asian Earth Sci. 142, p. 32-44.
(N Luzon in central part of Philippine Mobile Belt with pre-Paleocene ophiolitic complex, Eocene sediments, Eocene-Oligocene igneous complex and late Oligocene-E Pliocene sediments. In M Eocene PMB was primitive island arc. Late Oligocene- E Miocene time volcanic island arc setting. In M Miocene- Pliocene remained as mafic volcanic island arc)

Suzuki, S., S. Takemura, G.P. Yumul, D.D. Sevillo & D.K. Asiedu (2000)- Composition and provenance of the Upper Cretaceous to Eocene sandstones in Central Palawan, Philippines: constraints on the tectonic development of Palawan. The Island Arc 9, 4, p. 611-626.
(U Cretaceous- Eocene turbiditic sandstones from C Palawan common quartz, acidic volcanics, K-feldspar and granitic rock fragments. Derived from continental source region, probably continental margin of S China)

Suzuki, S., G.P. Yumul, C.B. Dimalanta, R.E. Pena, T. Tam & K. Isihida (2013)- Sandstone composition of the upper Cretaceous to Neogene successions of the Philippine Mobile Belt and the Palawan Continental Block. Proc. 2nd lnt. Symposium Int. Geoscience Programme (IGP) Project 589, Borocay Island, p. 28-31. *(Abstract)*
(online at: http://igcp589.cags.ac.cn/2nd%20Symposium/Abstract%20volume.pdf)
(Sandstone compositions of Philippine Mobile Belt suggest it formed in Eocene as primitive basaltic volcanic arc and developed to basaltic-andesitic arc in Oligocene-Pliocene time. Sandstones from U Cretaceous in Palawan Continental Block rich in quartz and felsic volcanic rock fragments, suggesting PCB was part of continent and supports idea that PCB collided with PMB to form Philippine Archipelago)

Taguibao, K.J.L. & R. Takahashi (2018)- Whole-rock geochemistry of host rocks and K/Ar Age of hydrothermal mineral of the Co-O epithermal gold deposit, Mindanao, Philippines. Open J. of Geology 8, p. 383-398.
(online at: https://file.scirp.org/pdf/OJG_2018041215444466.pdf)
(Co-O epithermal gold deposit located along Pliocene-Quaternary calc-alkaline magmatic zone at E Mindanao. Intermediate sulfidation epithermal Au quartz vein type, hosted in Eocene- Oligocene island arc basaltic-andesitic volcanics and volcaniclastic rocks. K/Ar ages of hydrothermal minerals ~28.6 Ma (Late Oligocene) and ~31.7 Ma (E Oligocene))

Takanyagi, Y., T. Takayama & M. Oda (1977)- Notes on the Late Cenozoic planktonic foraminifera and calcareous nannofossils from Panay, Philippines. In: T. Kobayashi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 18, p. 77-86.

Tamayo, R.A., P.Y. Graciano, R.C. Maury, H. Bellon, J. Cotten, M. Polve T. Juteau & C. Querubin (2000)- Complex origin for the south-western Zamboanga metamorphic basement complex, western Mindanao, Philippines. The Island Arc 9, p. 638-652.
(N portion of SW Zamboanga metamorphic basement complex, W Mindanao, amphibolites with relict textures from cumulate gabbro protoliths and with magmatic arc-related signature. Unconformably overlain by metasedimentary quartz-muscovite-feldspar-kyanite schist of continental basement origin. Metamorphism at T 550-700°C and P of 5-9 kbar. K-Ar ages of metamorphic event 24.6, 22.2 and 21.2± 1.2 Ma. Results in agreement with plate tectonic models describing SW Zamboanga metamorphic basement as continental terrane with slivers of magmatic arc crust)

Tamayo, R.A., R.C. Maury, G.P. Yumul, M. Polve, J. Cotten, C.B. Dimalanta & F.O. Olaguera (2004)- Subduction-related magmatic imprint of most Philippine ophiolites: implications on the early geodynamic evolution of the Philippine archipelago. Bull. Soc. Geologique France 175, 5, p. 443-460.
(Basement complexes of Philippines at least 20 ophiolitic complexes, with volcanic sequences similar to MORB, transitional MORB-island arc tholeiites and arc volcanic rocks originating from modern Pacific-type oceans, back-arc basins and island arcs. Most volcanic sequences in Philippine ophiolites formed in subduction settings. Associated gabbros and peridotites tie to supra-subduction zone environments. Early geodynamic evolution of Philippines dominated by opening and closing of oceanic basins, providing substratum of Cretaceous -Recent volcanic arcs)

Tamayo, R.A., G.P. Yumul, R.C.Maury, M. Polve, M. Cotton & M. Bohn (2001)- Petrochemical investigation of the Antique Ophiolite (Philippines): implications on volcanogenic massive sulfide and podiform chromitite deposits. Resource Geology 51, p. 145-164.
(Antique Ophiolite of W Panay in E Miocene suture zone between Philippine Mobile Belt and 'Eurasian' N Palawan Block, E of Sulu Sea/ Negros Trench. Includes dismembered fragments of basaltic sequence, sheeted

dikes, gabbros, mafic-ultramafic rock sequences and serpentinites, mostly as clasts and blocks within serpentinites. Ophiolite probably represents mix of oceanic ridge and fore-arc crust fragments. Overlying basal conglomerate of M Miocene age, suggesting exhumation no later than M Miocene. Volcanic rock chemistry intermediate between MORB and island arc basalt. Volcanogenic massive sulfide-copper deposits occur near the contact between pillow basalts and overlying sediments or interbedded with sediments)

Tamesis, E.V. (1981)- Hydrocarbon potential of Philippine basins. In: M.J. Valencia (ed.) Proc. EAPI/CCOP Workshop, Honolulu 1980, Energy 6, 11, p. 1181-1206.
(First oil exploration well in Philippines in 1896 in Visayan Region, Cebu Island. Since then >367 exploratory wells drilled in 12 basins. First commercial oil discovery 1976 Nido field off Palawan. Philippine sedimentary basins in complexly deformed zone between Philippine Sea Plate and Eurasian Plate. Main plays pursued are Oligocene- M Miocene carbonate buildups. Clastic reservoir plays in structural traps not encouraging due to rapid facies changes and low permeabilities of sands, mostly derived from volcanic detritus)

Tamesis, E. V., R.A. Lorentz, R.V. Pascual & E. M. Dizon (1982)- Stratigraphy and geologic structures of the Central Valley Basin, Luzon, Philippines. In: Geology and Tectonics of the Luzon-Marianas Region, Proc. CCOP-IOC-SEATAR Workshop, Philippines 1981, Manila, p. 83-118.

Tamesis, E.V., E.V. Manalac, C.A. Reyes & L.M. Ote (1973)- Late Tertiary geological history of the continental shelf off northwestern Palawan, Philippines. In: B.K. Tan (ed.) Proc. Reg. Conference on the Geology of SE Asia, Kuala Lumpur 1972, Bull. Geol. Soc. Malaysia 6, p. 165-176.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1973012.pdf)

Tangunan, D.N., A.M. Peleo-Alampay, J.B. Abuda, L.A.T. Mambuay, C.R.A. Ramos, A.G.S. Fernando et al. (2014)- Post-collision deposition of Balanga Formation in Northwest Mindoro, Philippines. Stratigraphy 11, 3-4, p. 235-243.
(Calcareous nannofossils from Balanga Fm calcareous sedimentary sequence in Mamburao, NW Mindoro (Palawan Block). Late Pliocene- E Pleistocene age (NN14- NN19; 1-~1.7- 4.1 Ma), formed after E-M Miocene collision of Palawan-Mindoro Block with Philippine Mobile Belt)

Tangunan, D.N., A.G.S. Fernando & C.A. Arcilla (2013)- Occurrence of Cretaceous calcareous nannofossils from Codon Formation, Catanduanes, Philippines. J. Geol. Soc. Philippines 64, p. 35-39.
(Cretaceous calcareous nannofossils from limestone units of Codon Fm in Codon Point, SW Catanduanes. Occurrence of M. prinsii suggests Late Maastrichtian age (in N Catanduanes also Yop Fm with mid-Cretaceous Orbitolina))

Tangunan, D.N., R.J.M. Antonio, A.R.C.Fernandez, A.C. Balota, M.L.C. Abad, A.M. Peleo-Alampay & A.G.S.F. Fernando (2013)- The Catbalogan Formation (Northern Samar, Philippines): new age data from calcareous nannofossils. J. Geol. Soc. Philippines 64, p. 40-47.
(Catbalogan Fm clastics in N Samar late E Miocene- early Late Miocene calcareous nannofossils (NN4- NN9))

Teodosio, N.R. (1987)- An overview of coal deposits in the Philippines. ESCAP Series on Coal. 5, p. 142-150.

Teves, J.S. (1953)- The pre-Tertiary geology of southern Oriental Mindoro. Philippine Geologist 8, 1, p. 1-36.

Teves, J.S. (1955)- Philippine structural history and relation with neighboring areas. Philippine Geologist 9, 2, p. 18-41.
(Philippine Archipelago structural lines are mainly N-S trending extensions of mainly E-W structures of Indonesia. Major structural development in mid-Tertiary)

Teves, J.S. (1957)- Philippines. In: Lexique Stratigraphique Int., Congress Geol. Int., Commision de Stratigraphie, Paris, III, Asie 5, p. 1-167.
(Stratigraphic lexicon of The Philippines. Alphabetical listing and descriptions of stratigraphic units. With correlation chart of Tertiary- Quaternary formations. Updated in 2008)

Tumanda, F.P. (1991)- Permian to Jurassic radiolarian biostratigraphy of Busuanga Island, Palawan, Philippines. Doct. Science Dissertation, University of Tsukuba, p. 1-270.
(see also Marquez et al. 2009)

Tumanda, F.P. (1991)- Radiolarian biostratigraphy in central Busuanga Island, Palawan, Philippines. J. Geol. Soc. Philippines 46, p. 49-104.
(Permian-Jurassic radiolarian biostratigraphy (see also Marquez et al. 2006))

Tumanda, F.P. (1994)- Permian radiolarian from Busuanga Island, Palawan, Philippines. J. Geol. Soc. Philippines 49, p. 119-193.
(Permian radiolarians in chert from five sections in C Busuanga lsland suggest four Permian interval zones: Follicucullus monacanthus (late Early Permian), Follicucullus scholasticus (early Late Permian) Latentifistula similicutis (middle Late Permian), and Neoalbaillella ornithoformis (late Late Permian))

Tumanda-Mateer, F., K. Sashida & H. Igo (1996)- Some Jurassic radiolarians from Busuanga Island, Calamian Island Group, Palawan, Philippines. In: H. Noda & K. Sashida (eds.) Professor H. Igo Commemorative volume on Geology and Paleontology of Japan and Southeast Asia, Gakujyutsu Tosho Insatsu, Tokyo, p. 165-191.
(see also Yeh and Cheng (1996), etc.)

Ujie, H. & T. Samata (1973)- Pliocene- Upper Miocene planktonic foraminiferal faunas Northern Mindanao, Philippines. In: T. Kobayasi & R. Toriyama (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 13, p. 129-144.
(Planktonic foraminifera spanning zones upper N17- lower N21 in Opol Fm of N Mindanao)

United Nations Development Program (1987)- Geology and mineralization in the Baguio area, Northern Luzon. UNDP Tech. Rept. 5, p. 1-82.

Villaplaza, B.R.B., A.E. Buena, N.A.D. Pacle, B.D. Payot, J.A.S. Gabo-Ratio, N.T. Ramos et al. (2017)- Alteration and lithogeochemistry in the Masara gold District, Eastern Mindanao, Philippines, as tools for exploration targeting. Ore Geology Reviews 91, p. 530-540.
(Intermediate-low sulfidation epithermal gold deposit in Masara, E Mindanao, associated with diorite porphyry of Late Miocene Lamingag Intrusive Complex. Five major alteration zones, at least two mineralizing events)

Villavicencio, M.L. & P.P. Andal (1964)- *Distichoplax biserialis* Dietrich in the Philippines. Philippine Geologist (J. Geol. Soc. Philippines) 18, 4, p. 103-113.
(First report of Paleocene- Lower(?) Eocene (Ta) index algal genus Distichoplax biserialis from Philippines. In S Palawan associated with Discocyclina, Miscellanea and small Paleocene foraminifera. Also found in Cebu and Bicol)

Vogel, T., T. Flood, L. Patino, M. Wilmot, R. Maximo, C. Arpa, C. Arcilla & J. Stimac (2006)- Geochemistry of silicic magmas in the Macolod Corridor, SW Luzon, Philippines: evidence of distinct, mantle-derived, crustal sources for silicic magmas. Contrib. Mineralogy Petrology 151, 3, p. 267-281.
(Silicic volcanic deposits relatively abundant in Macolod Corridor, SW Luzon. Possibly from partial melting of mantle-derived, moderate to K-rich calc-alkaline magmas that ponded and crystallized in mid-crust)

Walia, M., U. Knittel, S. Suzuki, S.L. Chung, R.E. Pena & T.F. Yang (2012)- No Paleozoic metamorphics in Palawan (the Philippines)? Evidence from single grain U-Pb dating of detrital zircons. J. Asian Earth Sci. 52, p. 134-145.
(Palawan Continental Terrane is fragment of margin of SE China that drifted S as result of Cenozoic opening of S China Sea. Presence of non-metamorphic Permian and Triassic sediments in N of island suggested Paleozoic age for metamorphics. Detrital zircons as young as 80-98 Ma in all metamorphic units, suggesting Late Cretaceous or younger age, so Caramay Schist not basement for rest of units in C Palawan. Zircon ages two major peaks, at ~115 Ma and 1.8 Ga. Source of zircons N part of Cathaysia Block, S China)

Walia, M., T.F. Yang, U. Knittel, T.K. Liu, C.H. Lo, S.L. Chung, L.S. Teng, C.B. Dimalanta, G.P. Yumul & W.M. Yuan (2013)- Cenozoic tectonics in the Buruanga Peninsula, Panay Island, Central Philippines, as constrained by U-Pb,40Ar/39Ar and fission track thermochronometers. Tectonophysics 582, p. 205-220.
(Buruanga Peninsula at westernmost Panay Island is a part of Palawan Continental Terrane, formerly attached to SE China. Collided with Philippine Mobile Belt. Paleoproterozoic and Permian zircon U-Pb ages from Saboncogon Fm emphasize derivation from SE China. Zircon and AFT ages of 51 Ma and 16 Ma constrain exhumation age. Age data suggest tectonic events at ~14 Ma, ~11-12 Ma and ~7-8 Ma, following intrusive activity at ~18 Ma (Patria-Diorite). Collision started at ~14-15 Ma and ended before 8 Ma)

Walston, V.A. & H. Oesterle (1992)- Geology of the West Linapacan 'A' Field, Offshore Palawan, Philippines. In: 9th Offshore Southeast Asia Conf., Singapore 1992, Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) 10, OSEA 92171, p. 67-74.
(West Linacapan A field 1990 discovery off N tip Palawan Structure is large wrench fault-related anticline. Hydrocarbons in Lower Miocene Galoc Fm deep water sands and underlying fractured deep water Linacapan Limestone, which is rich in planktonic foraminifera (zones N4-N6). Oil API gravity 28.5°, sulfur content 2.6%. Recoverable reserves ~100 MBO (but cumulative production 1992-1996 only 8.6 MBO, then shut-in; JTvG))

Walther, H.W., H. Forster, W. Harre, H. Kreuzer, H. Lenz, P. Muller & H. Raschka (1981)- Early Cretaceous porphyry copper mineralization on Cebu island, Philippines, dated with K/Ar and Rb/Sr methods. Geol. Jahrbuch D48, p. 21-35.
(K/Ar dates on biotites from Tapian mine, Marinduque (21 Ma) and Sipalay mine, Negros Occidental (30 Ma) in agreement with geological knowledge. On Cebu Island Atlas porphyry-Cu mineralization dated by K/Ar and Rb/Sr methods as late Early Cretaceous (~108 Ma= Albian), probably related to conformity between E Cretaceous Cansi Fm and overlying Pandan Fm)

Warrlich, G., C. Taberner, W. Asyee, B. Stephenson, M. Esteban, M. Bya-Ferrero, A. Dombrowski & J.H. van Konijnenburg (2010)- The impact of postdepositional processes on reservoir properties: two case studies of Tertiary carbonate buildup gas fields in Southeast Asia (Malampaya and E11). In: W.A. Morgan et al. (eds.) Cenozoic carbonate systems of Australasia, Soc. Sedimentary Geology (SEPM), Spec. Publ. 95, p. 99-127.
(Comparison of two Tertiary gas-bearing carbonate buildups formed in similar depositional environments and ages: E11 in Luconia, off N Borneo and Malampaya, off Philippines. Diagenetic histories different: (1) E11 secondary porosity formed by dolomitization and late leaching; (2) Malampaya by exposure and burial-related leaching. Low-porosity zones in Malampaya result of meteoric diagenesis during exposure and late cementation; in E11 non-leached, deeper-water argillaceous wackestones. Early diagenetic alterations follow depositional trends. Diagenetic overprints in burial realm may be guided by faults)

Waters, P.J., D.R. Cooke, R.I. Gonzales & D. Phillips (2011)- Porphyry and epithermal deposits and 40Ar/39Ar geochronology of the Baguio District, Philippines. Economic Geology and Bull. Soc. Economic Geol. 106, 8, p. 1335-1363.
(Baguio district in C Cordillera of N Luzon numerous Pliocene-Pleistocene porphyry copper-gold, epithermal gold-silver and skarn gold-lead-zinc deposits. District floored by Cretaceous-Eocene metavolcanic and metasediments, overlain by E Miocene-Pliocene sediments and volcanics. Arc magmatism related to E-directed subduction of S China Sea plate along Manila Trench produced major E Miocene batholith (Ar/Ar ages ~20-23 Ma). Porphyry copper-gold and skarn deposits formed around 3.1-2.8 Ma, 1.5 Ma, 1.1 Ma and 0.5 Ma. Mineralization in district triggered by E-directed subduction of Scarborough Ridge, causing decrease in subduction angle. Fertile magmas emplaced into transtensional strike-slip relay basins)

Wehner, H. (1989)- Organic-geochemical studies in Visayan Basin, Philippines. In: H. Porth & C.H. von Daniels (eds.) On the geology and hydrocarbon prospects of the Visayan Basin, Philippines, Geol. Jahrbuch B70, p. 317-348.
(Geochemical analyses of Tertiary sediments and oils from seeps and wells of Visayan islands)

Withjack, E.M. (1985)- Analysis of naturally fractured reservoirs with bottomwater drive: Nido A and B fields, offshore Northwest Palawan, Philippines. J. Petroleum Technology 37, 8, p. 1481-1490.
(Computer simulations of influence of reservoir characteristics on performance of naturally fractured reservoirs with bottom water drive in Nido A and B fields off Palawan, Philippines)

Williams, H.H. (1997)- Play concepts- Northwest Palawan, Philippines. J. Asian Earth Sci. 15, p. 251-273.
(NW Palawan offshore with 4 proven exploration plays: (1) pinnacle reefs on Nido carbonate platforms (Nido, Matinloc, Cadlao); (2) seaward horst block reef fairway with large pinnacle reefs (Malampaya-Camago trend); (3) E Miocene Galoc Clastics turbidites (Octon, Galoc); and (4) four-way dip closures (W Linapacan, Octon). Recent discovery at Calauit Field shows potential exploration play in deep-water Nido Lst turbidites. To date, only economically productive play has been Nido Lst reefs)

Williams, H., E.N. Reyes & R.T. Eubank (1992)- Geochemistry of Palawan oils, Philippines: source implications. In: Offshore SE Asia Conf. 1992, Proc. 9th SE Asia Petroleum Expl. Soc. (SEAPEX), Singapore, p. 115-129.
(Palawan non-waxy oils traditionally interpreted as marine sourced. Oils from recent Calauit fields characteristics of non-marine algal source)

Willis, B. (1937)- Geologic observations in the Philippines Islands. Nat. Res. Council Philippines Bull. 13, p. 1-127.

Willis, B. (1939)- The Philippine Archipelago: an illustration of continental growth. Proc. 6th Pacific Science Congress, California, 1, p. 185-200.

Wolcke, F. (1991)- Geologische und hydrogeologische Untersuchungen im Gebiet nordlich von Cebu City (Philippinen). Mitteilungen Geol. Palaeont. Institut Universitat Hamburg 71, p. 121-241.
('Geological and hydrogeological investigations in the area north of Cebu city, Philippines')

Wolcke, F. & J. Scholz (1988)- Uber die palaeobiogeographische Bedeutung eines Vorkommens caprinider Rudisten aus der Unterkreide von Cebu (Philippinen). Mitteilungen Geol. Palaeont. Inst. Universitat Hamburg 67, p. 121-133.
('On the paleobiogeographic significance of an occurrence of caprinid rudists from the Lower Cretaceous of Cebu, Philippines'. Rudists from Barremian-Aptian Pandan Fm reefal limestones in volcanoclastic succession, Pulanbato area, Central Cebu (?Amphitriscoelus sp., ?Polyconites sp.), associated with larger foram Palorbitolina lenticularis (now believed to be seamount fauna of Albian age; Skelton et al. 2013))

Wolfart, R., P. Cepek, F. Gramann, E. Kemper & H. Porth (1986)- Stratigraphy of Palawan Island. Newsletters Stratigraphy 16, p. 19-48.
(North Palawan: Miniloc Lst with Late Permian fusulinids and E-M Triassic conodonts. Liminangcong Fm rich radiolarian assemblages with M Triassic and M Jurassic ages. Overlying Coron Lst Fm with Girvanella, forams Hemigordius and Triasina and pelecypod Paramegalodus suggests Late Triassic (Rhaetian) age. S-C Palawan: sedimentary succession rel. young; Late Cretaceous/ ?earliest Tertiary 'Espina Fm' chert- shale, oldest rock unit in South/Central Palawan)

Wolfe, J.A. (1972)- Potassium-Argon dating in the Philippines. The Philippine Geologist (J. Geol. Soc. Philippines) 26, 2, p. 11-22.
(K-Ar dating on Philippine igneous rocks suggest oldest diorite intrusion cycle was at ~60 Ma ago (end-Paleocene). Datings of andesites and diorites scattered through Eocene-Miocene with peak of ~9 Ma)

Wolfe, J.A. (1981)- Philippine geochronology. The Philippine Geologist (J. Geol. Soc. Philippines), 35, 1, p. 1-35.

Wolfe, J.A. (1983)- Origin of The Philippines by accumulation of allochthons. The Philippine Geologist (J. Geol. Soc. Philippines) 37, 3, p. 17-33.

Wolfe, J.A. (1984)- North Palawan Block, Philippines- its relation to Asian mainland and role in evolution of South China Sea: Discussion. American Assoc. Petrol. Geol. (AAPG) Bull. 68, 7, p. 914-915.
(Critique of Holloway (1982). Philippines thought to have nucleated around Cretaceous fragments as result of formation of E-facing trench near present location of Luzon at ~50 Ma. Archipelago accumulated as allochthons in 'eddy' between 3300 km W-ward and 3300 km N-ward motion of ocean plates. Igneous activity welded islands together, and sediment has been shed into intervening basins)

Wolfe, J.A. (1988)- Arc magmatism and mineralization in North Luzon and its relationship to subduction at the East Luzon and North Manila Trenches. J. Southeast Asian Earth Sci. 2, 2, p. 79-93.
(Oligocene phase of subduction on E Luzon Trench coincided with opening of S China Sea and both activities ceased when spreading of S China Sea ceased. Period of porphyry copper mineralization in graben at Baguio from 8-10 Ma relates to Manila Trench on W side of Luzon, with igneous activity starting at ~15 Ma)

Wolfe, J.A. & S. Self (1983)- Structural lineaments and Neogene volcanism in southwestern Luzon. In: D. Hayes (ed.) The tectonics and geological evolution of Southeast Asian seas and islands 2, American Geophys. Union (AGU), Mon. 27, p. 157-172.

Wolfe, R.C. (2001)- Geology of the Dipidio region and paragnesis of the Dinkidi Cu-Au porphyry deposit. Ph.D. Thesis, University of Tasmania, p. 1-200.
(online at: http://eprints.utas.edu.au/11283/2/Wolfe_-Whole.pdf)
(Dinkidi Cu-Au porphyry deposit in N Luzon, Philippines. Hosted within Late Oligocene- E Miocene multi phase intrusive Didipio Igneous Complex, formed during alkaline magmatism related to Late Oligocene rifting event that formed Cagayan Valley Basin, and to final stages of W-directed subduction along E Luzon trench)

Wu, W.N., C.L. Lo & J.Y. Lin (2017)- Spatial variations of the crustal stress field in the Philippine region from inversion of earthquake focal mechanisms and their tectonic implications. J. Asian Earth Sci. 142, p. 109-118.

Yabe, H. (1919)- Notes on a *Lepidocyclina*-limestone from Cebu. Science Reports Tohoku Imperial University, 2nd ser. (Geol.), 5, 2, 15p.
(online at: http://ir.library.tohoku.ac.jp/re/bitstream/10097/30169/1/KJ00004176245.pdf)
(Late Oligocene- E Miocene limestone, overlying coal-bearing series of Cebu coalfield, at Pauting Botow near city of Cebu. With common Lepidocyclina (Eulepidina) formosa and other spp., L. (Nephrolepidina) angulosa, Spiroclypeus margaritatus, etc.)

Yabe, H. & S. Hanzawa (1925)- Notes on some Tertiary foraminiferous rocks of the Philippines. Science Reports Tohoku Imperial University, 2nd Ser. (Geol.), 7, 4, p. 97-109.
(online at: http://ir.library.tohoku.ac.jp/re/bitstream/10097/30184/1/KJ00004177562.pdf)
(Miocene lepidocyclinids in rocks collected by Dickerson)

Yabe, H. & S. Hanzawa (1929)- Tertiary foraminiferous rocks of the Philippines. Science Reports Tohoku Imperial University, 2nd Ser. (Geol.), 11, 3, 54p.
(online at: http://ir.library.tohoku.ac.jp/re/handle/10097/30209)
(Eocene and younger limestone samples collected by Dickerson from various Philippines islands))

Yan, Y., D. Yao, Z. Tian, C. Huang, W. Chen, M. Santosh, G.P. Yumul, C.B. Dimalanta & Z. Li (2018)- Zircon U-Pb chronology and Hf Isotope from the Palawan-Mindoro Block, Philippines: implication to provenance and tectonic evolution of the South China Sea. Tectonics 37, 4, p. 1063-1076.
(Palawan-Mindoro Block drifted from mainland Asia with spreading of S China Sea. U-Pb age and Hf isotopic data on detrital zircon grains from Eocene-Miocene sediments in Palawan-Mindoro Block show four major age groups (80-120, 160-180, 1600-2100 and 2200-2700 Ma). Eocene samples from Palawan-Mindoro similar to Taiwan, suggesting P-M Block still attached to South China margin in Eocene. Different zircons in Miocene samples reflect S-ward drifting of Palawan-Mindoro Block at or before that time)

Yang, T.F., T. Lee, C.H. Chen, S.N. Cheng, U. Knittel, R.S, Punongbayan & A. Rasdas (1996)- A double island arc between Taiwan and Luzon: consequence of ridge subduction. Tectonophysics 258, p. 85-101.
(Taiwan-Luzon Arc between Taiwan and Luzon double arc structure: two volcanic chains separated by 50 km N of Luzon (18°N), and converge near 20°N. Islets in W chain older and mainly Miocene- Pliocene volcanics; E chain mainly Quaternary active volcanoes. Double arc structure where Benioff zone suddenly changes, and possibly tectonic manifestation of subduction of Scarborough Seamount Chain, the extinct mid-ocean ridge of S China Sea. When ridge reached subduction zone at 5-4 Ma, its buoyancy temporarily interrupted subduction, caused regional uplift and massive reef formation in W chain. When subduction started again, dip angle became shallower in response to buoyancy of downgoing ridge, leading to E-ward shift of volcanic front)

Yeh, K.Y. (1990)- Taxonomic studies of Triassic radiolaria from Busuanga Island, Philippines. Bull. Natl. Museum Natural Sci., Taiwan, 2, p. 1-63.
(online at: http://web2.nmns.edu.tw/PubLib/Library/research/199012-1.pdf)
(Liminangcong Fm bedded chert on SE Busuanga Island often with rich M-U Triassic radiolaria. Three assemblages: Ladinian Busuanga cheni, Carnian Trialatus megacornutus and Upper Norian Livarella sp. assemblages (part of continuous L Permian- Jurassic deep sea series with radiolaria; part of convergent margin of SE Asia that stretches from Japan to Borneo)

Yeh, K.Y. (1992)- Triassic radiolaria from Uson Island, Philippines. Bull. Natl. Museum Natural Sci., Taiwan, 3, p. 51-91.
(online at: http://web2.nmns.edu.tw/PubLib/Library/research/199205-51.pdf)
(Late Ladinian- E Rhaetian radiolaria from bedded chert on S Uson island, just S of Busuanga Island. Cherts lithologically similar to those from Busuanga island and believed to be part of Late Permian-Jurassic Liminangcong cherts of N Palawan Block)

Yeh, K.Y. & Y.N. Cheng (1996)- An Upper Triassic (Rhaetian) radiolarian assemblage from Busuanga Island, Philippines. Bull. Natl. Museum Natural Sci., Taiwan, 7, p. 1-43.
(E Rhaetian radiolarian faunas from red chert on Busuanga Island, NW Philippines, closely resemble Rhaetian radiolaria from Japan)

Yeh, K.Y. & Y.N. Cheng (1996)- Jurassic radiolarians from the Northwest Coast of Busuanga Island, North Palawan Block, Philippines. Micropaleontology 42, 2, p. 93-124.
(M Jurassic (Aalenian) radiolarians from Liminangcong red ribbon chert in Palawan olistostrome (part of Late Permian-Late Jurassic ocean plate stratigraphy at edge of N Palawan block). 56 species, with multicyrtid nassellarians (Praeparvicingula, H suum, Elodium). Similar to C and SW Japan. Presence of common Praeparvicingula and abundant pantanellids indicates N Tethyan or S Tethyan assemblage (~22-30°N or S)

Yeh, K.Y. & Y.N. Cheng (1998)- Radiolarians from the Lower Jurassic of the Busuanga Island, Philippines. Bull. Natl. Museum Natural Sci., Taiwan, 11, p. 1-65.

Yokoyama, K., Y. Tsutsumi, T. Kase K.L. Queano & M.A. Yolanda (2012)- Provenance study of Jurassic to Early Cretaceous sandstones from the Palawan Microcontinental Block, Philippines. Mem. Nat. Museum Nat. Science, Tokyo, 48, p. 177-199.
(online at: http://www.kahaku.go.jp/research/publication/memoir/download/48/4811.pdf)
(Palawan microcontinental block in Philippines separated from SW coast of Asian continent during opening of S China Sea in Oligocene-Miocene times. Jurassic- E Cretaceous sandstones from Palawan block (Busuanga, Mindoro, Panay islands) with bimodal age distribution of detrital monazites: 140-260 Ma and 1800-2000 Ma. Pattern unlike SE China Sea or Indochina Peninsula, but similar to Korean Peninsula and in Zhejiang Province in E China. Jurassic- E Cretaceous sandstones of Palawan area deposited on E side of present-day Taiwan?)

Yoshida, K., N. Pulido & E. Fukuyama (2016)- Unusual stress rotations within the Philippines possibly caused by slip heterogeneity along the Philippine fault. J. Geophysical Research, Solid Earth, 121, 3, p. 2020-2036.

Yu, S.B, Y.J. Hsu, T. Bacolcol, C.C. Yang, Y.Ch. Tsai & R. Solidum (2013)- Present-day crustal deformation along the Philippine Fault in Luzon, Philippines. J. Asian Earth Sci. 65, p. 64-74.
(Left-lateral Philippine Fault results from oblique convergence between Philippine Sea Plate and Sunda Block/Eurasian Plate, transecting Philippine archipelago from NW corner of Luzon to SE end of Mindanao for about 1200 km. GPS results show horizontal velocities with respect to Sunda Block gradually decrease from N to S along W Luzon at rates of 85-49 mm/yr in WNW direction)

Yumul, G.P. (1993)- Angat Ophiolitic Complex, Luzon, Philippines: a Cretaceous dismembered marginal basin ophiolitic complex. In: B.K. Tan et al. (eds.) Proc. 7th Conf. Geology, Mineral and Energy Res. SE Asia (GEOSEA VII), Bangkok 1991, J. Southeast Asian Earth Sci. 8, p. 529-537.
(Geochemistry of Angat Ophiolite Complex suggests formation in environment with both Mid-Ocean Ridge Basalt and Island Arc tholeiite signatures, probably in marginal basin setting)

Yumul, G.P. (1994)- A Cretaceous to Paleocene- Eocene South China Sea Basin origin for the Zambales Ophiolite Complex, Luzon, Philippines? Island Arc 3, 1, p. 35-47.
(Eocene Zambales Ophiolite Complex with transitional mid-ocean ridge basalt/ island arc tholeiite characteristics, formed in subduction-related marginal basin. Geophysical evidence suggests SW sub-basin of S China Sea Basin is probably Cretaceous to Paleocene-Eocene in age; Zambales Ophiolite Complex could have come from this sub-basin)

Yumul, G.P. (1994)- A marginal basin crust basement for the Baguio Mining District, Luzon, Philippines. J. Geol. Soc. Philippines 49, p. 79-87.

Yumul, G.P. (1994)- The Acoje Block platiniferous dunite horizon, Zambales Ophiolite Complex, Philippines: melt type and associated geochemical controls. Resource Geology 51, 2, p. 165-174.
(Zambales Eocene-age supra-subduction zone ophiolite complex made up of mid-ocean ridge-related Coto block and island arc-related Acoje block. Platinum-group elements in Acoje block in nickel sulfides and chromitite deposits of high-MgO basalt to boninitic magmas. Main platiniferous zone in Acoje block transition zone dunite)

Yumul, G.P. (2003)- The Cretaceous Southeast Bohol ophiolite complex, Central Philippines: a highly disaggregated supra-subduction zone ophiolite. J. Asian Earth Sci. 21, 8, p. 957-965.
(SE Bohol (NW of Mindanao) Ophiolite Complex complete ophiolite sequence with pelagic chert cap yielding E Cretaceous age. Basement is Cretaceous-Paleogene Alicia Schist. Peridotite suite dominated by harzburgite with rare lherzolite and dunite pods. Includes sheeted dike complex and preponderance of sheet flows over pillow lavas in volcanic section. Geochemical affinities transitional between Mid-Ocean Ridge basalt and island arc tholeiite, suggesting formation in subduction-related marginal basin. Formed in a fast-spreading center, emplacemed as forearc ophiolite)

Yumul, G.P. (2007)- Westward younging disposition of Philippine ophiolites and its implication for arc evolution. Island Arc 16, 2, p. 306-317.
(Philippine island arc system made up of 2 main blocks: Philippine Mobile Belt and Palawan microcontinental block in W. Ophiolites in Mobile Belt younging W-ward, resulting from CW rotation of Philippine arc system during NW-ward translation in Eocene, resulting in W boundary collision with Sundaland-Eurasian margin, causing accretion of ophiolites/ melanges along W side. New zonation with four belts: (1) Late Cretaceous ophiolite complexes/ metamorphic soles along E Philippines; (2) Cretaceous dismembered ultramafic-mafic complexes/ melanges exposed W of E Philippines; (3) Cretaceous- Eocene to Oligocene ophiolites, emplaced between Philippine Mobile Belt and Sundaland-Eurasian margin; (4) ophiolite complexes emplaced along continental margins (Palawan and Zamboanga-Sulu). Whole Philippine Mobile Belt, except strike-slip fault bounded Luzon Eocene Zambales ophiolite complex, may be underlain by Cretaceous proto-Philippine Sea Plate fragments)

Yumul, G.P. & G.R. Balce (2003)- Supra-subduction zone ophiolites as favorable hosts for chromitite, platinum and massive sulfide deposits. J. Southeast Asian Earth Sci. 10, p. 65-97.

(Supra-subduction zone ophiolites, as exemplified by Zambales Ophiolite Complex, Philippines, host extensive chromitite, volcanic-hosted massive sulfide deposits and, to a lesser degree, platinum-group minerals. Mid-ocean ridge basalt ophiolites almost barren of economic mineral deposits. Marginal basins more easily emplaced than large, open sea oceanic basin ophiolites which are usually subducted)

Yumul, G.P., G.R. Balce & R.T. Datuin (1993)- Ophiolites and ophiolitic complexes in the Philippines as viable exploration targets. J. Geol. Soc. Philippines 48, p. 35-54.
(Twenty ophiolitic complexes in Philippines. Ultramafic-mafic complexes with complete oceanic crust-mantle sequences classified as Tethyan, incomplete dismembered ones grouped as Cordilleran. Majority of Philippine ophiolitic complexes are supra- subduction zone (SSZ) ophiolites, exhibiting subduction related affinity. Most of` economically viable chromitite, massive nickel- copper sulfides and platinum group minerals hosted by these SSZ ophiolites)

Yumul, G.P., G.R. Balce, C. Dimalanta & R.T. Datuin (1997)- Distribution, geochemistry and mineralization potentials of Philippine ophiolite and ophiolitic sequences. Ofioliti 22, p. 47-56.
(Philippines ophiolites range from complete oceanic crust-mantle sequences (Tethyan type) to incomplete dismembered ones (Cordilleran type). Majority subduction-related. With viable chromitite, volcanic/ ultramafic-hosted massive nickel-copper sulfide and platinum-group mineral deposits. Subduction-related ophiolitic sequences better exploration targets for metallic mineral deposits than mid-ocean ridge ophiolites)

Yumul, G.P., W.W. Brown, C.B. Dimalanta, C.A. Ausa, D.V. Faustino-Eslava, B.D. Payot, N.T. Ramos, A.N.L. Lizada et al. (2017)- Adakitic rocks in the Masara gold-silver mine, Compostela Valley, Mindanao, Philippines: different places, varying mechanisms? J. Asian Earth Sci. 142, p. 45-55.

Yumul, G.P., R.T. Datuin & J.C. Manipon (1990)- Geology and geochemistry of the Cabangan- San Antonio massifs, Zambales Ophiolite Complex, Philippines: tectonically juxtaposed marginal basin island arc terranes. J. Geol. Soc. Philippines 45, p. 69-100.
(San Antonio part of Zambales Ophiolite complex with arc-like geochemistry)

Yumul, G.P., J.V. De Jesus & F.A. Jimenez (2001)- Collision boundaries along the Western Philippine Archipelago. Gondwana Research 4, p. 837-838. *(Extended Abstract)*
(Philippines island arc system interaction of two plates, Sundaland in W, Philippine Sea Plate in E. Part of Sundaland (S China Sea) subducts along Manila Trench since E Miocene, ocean floor in C-S Philippines (SE Sulu Sea, Celebes Sea) goes down along Negros-Cotabato Trench. Philippine Sea plate subducts obliquely along Philippine Trench since ~5 Ma))

Yumul, G.P. & C.B. Dimalanta (1997)- Geology of the southern Zambales ophiolite complex (Philippines): juxtaposed terranes of diverse origin. J. Southeast Asian Earth Sci. 15, p. 413-421.
(Eocene Zambales Ophiolite Complex three massifs, generated in subduction-related marginal basin)

Yumul, G.P., C.B. Dimalanta, H. Bellon, D.V. Faustino, J.V. De Jesus et al. (2000)- Adakitic lavas in the Central Luzon back-arc region, Philippines: lower crust partial melting products? Island Arc 9, 4, p. 499-512.
(Volcanism in the back-arc region of C Luzon, behind Manila Trench, characterized by fewer and smaller volume volcanic centersthan forearc side volcanic arc rocks. Back-arc side volcanics include basalts, andesites and dacites with adakite-like geochemical characteristics, most probably formed by partial melting of garnet-bearing amphibolitic lower crust. Adakitic lavas not necessarily arc–trench gap region slab melts)

Yumul, G.P., C.B. Dimalanta, J.V. De Jesus, D.V. Faustino, E.J. Marquez, J.L. Barretto, K.L. Queano & F.A. Jimenez (1999)- Geochemistry of arc volcanic rocks in Central Luzon, Philippines. In: G.H. Teh (ed.) Proc. 9th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA ꞌ98), Kuala Lumpur 1998, Bull. Geol. Soc. Malaysia 43, p. 77-84.
(online at: www.gsm.org.my/products/702001-100832-PDF.pdf)
(C Luzon volcanoes in two volcanic chains: W and E Volcanic Chains. W Chains include volcanics generated in forearc and main volcanic arc regions with respect to Manila Trench, E Chains extruded on back arc side.

Across- and along-arc variation, with adakites and adakitic rocks in forearc, main volcanic arc and back-arc region. All siliceous rocks exhibit island arc affinity)

Yumul, G.P., C.B. Dimalanta, J.V. De Jesus, D.V. Faustino, E.J. Marquez, J.L. Barretto, R.A. Tamayo, K.L. Queano & F.A. Jimenez (1999)- Subic Bay fault zone: its role in the geologic history of the Zambales Ophiolite Complex, Philippines. In: G.H. Teh (ed.) Proc. 9th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA ®98), Kuala Lumpur 1998, Bull. Geol. Soc. Malaysia 43, p. 85-94.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1999009.pdf)

Yumul, G.P., C.B. Dimalanta, D.V. Faustino & J.V. De Jesus (1998)- Translation and docking of an arc terrane: geological and geochemical evidence from the southern Zambales Ophiolite Complex, Philippines. Tectonophysics 293, p. 255-272.
(Zambales Ophiolite Complex three massifs: Masinloc, Cabangan and San Antonio. San Antonio is rifted terrane from Acoje block, translated S to present position through W Luzon Shear- Subic Bay Fault Zone)

Yumul, G.P., C.B. Dimalanta & F.T. Jumawan (2000)- Geology of the southern Zambales Ophiolite Complex, Luzon, Philippines. Island Arc 9, 4, p. 542-555.
(Zambales Ophiolite Complex attained present-day configuration through juxtaposition of arc terrane (San Antonio massif) to back-arc crust (Cabangan massif). Massifs separated by left-lateral strike-slip fault)

Yumul, G.P., C.B. Dimalanta, V.B. Maglambayan & E.J. Marquez (2008)- Tectonic setting of a composite terrane: a review of the Philippine island arc system. Geosciences J. 12, p. 7-17.
(online at: www.geosciences-journal.org/home/journal ...)
(Modern review of Philippines tectonic evolution, as result of interplay of arc magmatism, ophiolite accretion, ocean basin closure and other tectonic processes, related to interaction of four major plates: Sundaland, Philippine Mobile Belt, Philippine Sea and Indo-Australian plate. Collision zones system characterized by involvement of oceanic bathymetric highs (seamounts, spreading ridge, submerged continental fragment). Philippine Fault Zone major strike-slip fault traversing entire archipelago)

Yumul, G.P., C.B. Dimalanta, V.B. Maglambayan & R.A. Tamayo (2003)- Mineralization controls in island arc settings: insights from Philippine metallic deposits. Gondwana Research 6, p. 767-776.
(Review of gold-copper, volcanogenic massive sulfide and ultramafic-hosted deposits in Philippines)

Yumul, G.P., C.B. Dimalanta, E.J. Marquez & K.L. Queano (2009)- Onland signatures of the Palawan microcontinental block and Philippine mobile belt collision and crustal growth process: a review. J. Asian Earth Sci. 34, 5, p. 610-623.
(Collision of Palawan microcontinent with Philippine mobile belt multiple events with several fragments. Late Early-early M Miocene age (20-16 Ma) for major collision between Palawan indenter and Philippine mobile belt. Collision boundary from N Mindoro through Central mountain range swinging E of Sibuyan Island, along Buruanga Peninsula and E side of Antique Ophiolite Complex before connecting with Negros Trench)

Yumul, G.P., C.B. Dimalanta, T.A. Tam & E.G.L. Ramos (2008)- Baguio Mineral District: an oceanic arc witness to the geological evolution of northern Luzon, Philippines. Island Arc 17, p. 432-442.
(Baguio gold-copper mining district rocks evidence evolution from subduction-related marginal basin to island arc setting. E- M Miocene arc polarity reversal from E (termination of subduction along proto-E Luzon Trough) to W (initiation of subduction along Manila Trench))

Yumul, G.P., C.B. Dimalanta & R.A. Tamayo (2005)- Indenter-tectonics in the Philippines: example from the Palawan microcontinental block- Philippine Mobile Belt collision. Resource Geology 55, 3, p. 189-198.
(Aseismic Palawan microcontinental block collided with Philippine Mobile Belt since E Miocene. Tectonic microblocks N (Luzon) and S (W Visayas Block) of collision front rotated in opposite senses. Rotation converted adjacent strike-slip faults to subduction zones (Manila and Negros Trenches))

Yumul, G.P., C.B. Dimalanta, R.A. Tamayo & J.A.L. Barretto (2000)- Contrasting morphological trends of islands in Central Philippines: speculation on their origin. The Island Arc 9, 4, p. 627-637.
(Palawan microcontinental block collided with Philippine Mobile Belt, resulting in CCW rotation of Mindoro-Marinduque and CW rotation of Panay. Collision also caused CW rotation of NE Negros, Cebu, NW Masbate and Bohol (W Visayan block), resulting into present-day NE-SW trend. SE Sulu Sea sub-basin is inferred to have undergone CW rotation which can account for E-W magnetic lineations. Paleomagnetic data suggest collision-related rotation commenced during E -M Miocene and had ceased by Late Miocene)

Yumul, G.P., C.B. Dimalanta, R.A. Tamayo & H. Bellon (2003)- Silicic arc volcanism in Central Luzon, Philippines: characterization of its space, time and geochemical relationship. The Island Arc 12, 2, p. 207-218.
(In C Luzon volcanic centers dated to ~5 Ma are silicic in composition, those between 5- 1 Ma expose basaltic to andesitic rocks. Volcanic centers of <1 Ma range from basaltic through andesitic to dacitic. Also W-ward shift in location of volcanic centers, attributed to changes in dip of subduction of S China Sea crust along Manila Trench. Flat subduction resulted from subduction of Scarborough Seamount Chain along Manila Trench W of N Luzon)

Yumul, G.P., C.B. Dimalanta, R.A. Tamayo & D.V. Faustino-Eslava (2013)- Geological features of a collision zone marker: The Antique Ophiolite Complex (Western Panay, Philippines). J. Asian Earth Sci. 65, p. 53-63.
(Antique Ophiolite Complex exposed on W side of Panay, C Philippines, derived from Jurassic- Cretaceous proto-S China Sea oceanic leading edge of Palawan microcontinental block. Closure of ocean basin resulted in emplacement of ophiolite fragment along boundary of microcontinental block and Philippine mobile belt. Transitional mid-ocean ridge-island arc geochemistry characterize ophiolite rocks)

Yumul, G.P., C.B. Dimalanta, R.A. Tamayo & R.C. Maury (2003)- Collision, subduction and accretion events in the Philippines: a synthesis. The Island Arc 12, p. 77-91.
(Baguio District in N Luzon, Palawan-Central Philippine region and Mati-Pujada area in SE Mindanao resulted from events related to subduction polarity reversal leading to trench initiation, continent-arc collision and autochthonous oceanic lithosphere emplacement. Baguio District E Miocene trench initiation for E-dipping Manila Trench after Late Oligocene cessation of subduction alongW-dipping proto- E Luzon Trough. Manila Trench initiation attributed to collision of Palawan microcontinental block with Philippine Mobile Belt. Several collision-related accretionary complexes in Palawan- C Philippine region)

Yumul, G.P., C.B. Dimalanta, R.A. Tamayo, R.C. Maury, R.C. Bellon, M. Polve et al. (2004)- Geology of the Zamboanga Peninsula, Mindanao, Philippines: an enigmatic South China continental fragment? In: J. Malpas et al. (eds.) Aspects of the tectonic evolution of China, Geol. Soc., London, Spec. Publ. 226, p. 289-312.
(Mindanao Island in S Philippines two blocks: (1) E-C Mindanao island arc block and (2) continental Zamboanga Peninsula with several ophiolitic bodies and melanges, separated by NW-SE M Miocene Siayan-Sindangan collision suture zone, a subduction zone complex reactivated as sinistral strike-slip fault. M-Late Miocene lava flows from Zamboanga Peninsula consistent with possible existence of E Miocene Sulu Trench. Zamboanga Peninsula possibly part of Palawan microcontinental block)

Yumul, G.P., C.B. Dimalanta, R.A. Tamayo & M.F. Zhou (2006)- Geology and geochemistry of the Rapu-Rapu Ophiolite Complex, Eastern Philippines: possible fragment of the Proto-Philippine Sea Plate. Int. Geology Review 48, 4, p. 329-348.
(E Cretaceous Rapu-Rapu ophiolite complex is dismembered ophiolite, formed at intermediate- fast spreading center and interpreted as supra-subduction zone ophiolite. Volcanic and gabbroic rocks show predominance of a marginal basin geochemical signature, but spinels more indicative of mid-ocean ridge affinities. Together with other fragments of oceanic lithosphere exposed along E Philippine Ophiolite belt, probably derived from proto-Philippine Sea plate)

Yumul, G.P., F.T. Jumawan & C.B. Dimalanta (2009)- Geology, geochemistry and chromite mineralization potential of the Amnay ophiolitic complex, Mindoro, Philippines. Resource Geology 59, 3, p. 263-281.
(Amnay Ophiolitic Complex in Mindoro emplaced Cenozoic S China Sea oceanic lithosphere as result of collision between Palawan microcontinental block and Philippine mobile belt. M Oligocene sediments

intercalated with MORB-like pillow lavas suggest generation of ophiolite complex in spreading ridge in back-arc basin setting. Volcanic rock geochemistry suggests supra-subduction zone ophiolite)

Yumul, G.P., M.F. Zhou, R.A. Tamayo, R.C. Maury, D.V. Faustino, F.O. Olaguera & J. Cotton (2001)- Onramping of a cold oceanic lithosphere in a forearc setting, the Southeast Bohol Ophiolite Complex, Central Philippines. Int. Geology Review 43, p. 850-866.
(E Cretaceous ophiolite complex on SE Bohol island formed in subduction-related marginal basin. Negative Nb, Zr, and Ti anomalies, suggest island-arc affinity. Ophiolite thrust on top of Cansiwang tectonic melange, which is thrust over Alicia Schist (metamorphosed oceanic crust sliver of chlorite, amphibolite and quartz-sericite schist). Serpentinite between ophiolite and Alicia Schist indicates amphibolite schists not emplacement-related metamorphic sole of ophiolite. Crust-mantle sequence emplaced at relatively low T (<500°C). Onramping of SE Bohol Ophiolite Complex as forearc ophiolite, followed by collision and suturing with Alicia Schist in Late Cretaceous. Ophiolite may represent fragment of Cretaceous proto-Philippine Sea plate)

Zamoras, L.R. (2000)- Jurassic-Early Cretaceous accretionary complex in the Calamian Islands, North Palawan Block (Philippines). Ph.D. Thesis, Niigata University, p. 1-120. *(Unpublished)*
(Study of part of Jurassic- E Cretaceous 'East Asian subduction zone' on SE margin of Indochina and S China blocks, now NE part of Palawan Block (Late Permian- Late Jurassic/E Cretaceous deep marine sediments of NNW-traveling Izanagi oceanic plate, imbricated in Jurassic- Cretaceous)

Zamoras, L.R. (2013)- Accretion and post-accretion tectonics of the North Palawan Block. Proc. 2nd lnt. Symposium lnternational Geoscience Programme (IGP) Project 589, Borocay Island, p. 19-20. *(Abstract)*
(online at: http://igcp589.cags.ac.cn/2nd%20Symposium/Abstract%20volume.pdf)
(N Palawan Block 4 episodes: M Permian- Jurassic oceanic plate travel, with deposition of chert and clastics; (2) M-Jurassic- E Cretaceous accretion of chert-clastic sequences at E Asian continental margin during Paleo-Pacific subduction; (3) M Oligocene- E Miocene opening of S China Sea, resulting in S-ward movement of N Palawan Block; (4) M Miocene collision between N Palawan Block and Philippine Island Arc)

Zamoras, L.R. & A. Matsuoka (2000)- Early Late Jurassic radiolarians from the clastic unit in Busuanga Island, North Palawan, Philippines. Science Reports, Niigata University, E (Geology), 15, p. 91-109.
(At least 60 species of radiolarians in siliceous mudstone of Tulbuan Plain, Busuanga Island. Assemblages dominated by smaller nassellarians. Abundance of Stylocapsa(?) spiralis indicates zone JR6 of Matsuoka (1995). Associated occurrence of Stylocapsa tecta, Dicolocapsa conoformis, Guexella nudata, etc., narrows age down to lower part of zone, of Late Callovian or E Oxfordian age (see also Marquez et al. 2006; JTvG))

Zamoras, L.R. & A. Matsuoka (2001)- Malampaya Sound Group: a Jurassic-Early Cretaceous accretionary complex in Busuanga Island, North Palawan Block (Philippines). J. Geol. Soc. Japan, 107, p. 316-336.
(online at: http://dspace.lib.niigata-u.ac.jp:8080/dspace/bitstream/10191/6268/1/10_0010.pdf)
(Busuanga Island accretionary complex, collectively called Malampaya Sound Gp, composed of M Permian-Jurassic radiolarian cherts, M Jurassic- E Cretaceous clastics and various-age limestones, with minor melange bodies. Incl. M Permian limestone with fusulinids (Verbeekina verbeeki, Neoschwagerina spp.) and U Jurassic limestone with Cladocoropsis miriabilis, Pseudocyclammina lituus, Salpingoporella. Rocks are off scraped sedimentary deposits from subducted oceanic plate, imbricated during Jurassic- E Cretaceous accretion. Transition from chert to siliceous mudstone to terrigenous clastics indicates change from open ocean to subduction zone sedimentation, and is younging to N)

Zamoras, L.R. & A. Matsuoka (2004)- Accretion and postaccretion tectonics of the Calamian Islands, North Palawan Block (Philippines). Island Arc 13, p. 506-519.
(Accretionary complex of N Palawan block with U Paleozoic-Mesozoic sequences of chert (Liminangcong Fm), clastics (Jurassic-Cretaceous Guinlo Fm) and limestones. Three accretionary belts on Busuanga Island (all with N-dipping beds, steepest in N; extent of complex ~22-25 km): (1) N Busuanga Belt (M Jurassic; with Permian- Aalenian pelagic sediments and Bathonian- Callovian clastics), (2) M Busuanga Belt (Late Jurassic; with M Permian- Bajocian cherts, overlain by Bathonian- Oxfordian clastics) and (3) S Busuanga Belt (E Cretaceous; with Triassic- Jurassic cherts, U Tithonian sandstones). Age progression reflects facies changes by

gradual plate movement from remote oceanic environment towards subduction zone. Limestone blocks that formed over seamounts became juxtaposed with chert-clastic sequence during accretion. In Late Cretaceous accretion-subduction along E Asian margin subsided. M Oligocene seafloor spreading disconnected N Palawan block from Asian mainland, which then migrated S. Collision between N Palawan block and Philippine Island Arc in M Miocene generated megafold structure in Calamian Islands as result of CW turn of accretionary belts in E Calamian from NE-SW to NW-SE)

Zhu, J., Z. Sun, H. Kopp, X. Qiu, H. Xu, S. Li & W. Zhan (2013)- Segmentation of the Manila subduction system from migrated multichannel seismics and wedge taper analysis. Marine Geophysical Res. 34, 3-4, p. 379-391.

Zamoras, L.R., M.G.A. Montes, K.L. Queano, E.J. Marquez, C.B. Dimalanta, J.A.S. Gabo & G.P. Yumul (2008)- Buruanga Peninsula and Antique Range: two contrasting terranes in Northwest Panay, Philippines, featuring an arc- continent collision zone. Island Arc 17, 4, p. 443-457.
(Buruanga Peninsula of NW Panay with Jurassic pelagic rocks as part of ocean plate stratigraphy of N Palawan terrane. Differ from Antique Range M Miocene basaltic to andesitic pyroclastic and lava flow deposits with reefal limestone and arkosic sandstone of Philippine Mobile Belt (see also Ishida et al. 2015; Jurassic pelagics= M-L Triassic?; JTvG))

Zhu, J., Z. Sun, H. Kopp, X. Qiu, H. Xu, S. Li & W. Zhan (2013)- Segmentation of the Manila subduction system from migrated multichannel seismics and wedge taper analysis. Marine Geophysical Res. 34, 3-4, p. 379-391.
(Manila subduction system three segments: (1) N Luzon, (2) seamount chain segment and (3) Luzon segment)

IX.9. South Philippines (Celebes Sea, Sulu Sea, Sandakan)

Abando, R.P. & G.H. Ansay (2002)- Sulu Sea- East Palawan Basins: frontier basin case study. Coord. Comm. Geosc. Programs in East and SE Asia, 15p.
(at: www.ccop.or.th/projects/PPM/Case_Study_Phillipines_files/SuluSeaBasin.pdf)
(Discussion of petroleum potential in Sulu Sea (Sandakan sub-basin) and East Palawan Basin (Balabac and Bancauan subbasins))

Andrews, J.E. (1980)- Morphologic evidence for Celebes and Sulu marginal basins: constraints from ODP Leg 124. Geology 8, p. 140-143.

Beddoes, L.R. (1976)- The Balabac Sub-Basin, Southwestern Sulu Sea, Philippines. Offshore South East Asia Conf. 1976, Singapore, SE Asia PetroleumExpl. Soc. (SEAPEX), Paper 15, p. 1-22.
(Balabac sub-basin rel. small wrench-faulted M Miocene- E Pliocene depression in NW Sulu Sea, with up to 7000m of sediments. Underlain by E Miocene deep-water shale (probably deformed Rajang Gp; Hutchison 2005), acting as 'acoustic basement'. Overlain by Late Pliocene- Recent shallow water carbonates)

Beiersdorf, H. (1993)- Tectonic and sedimentary processes at the submarine Antique Ridge and the accretionary wedge of Negros (Sulu Sea, Philippines): results of an underwater television and photographic survey by R/V Sonne. The Island Arc 2, 3, p. 116-125.
(Numerous Neogene/Quaternary marl outcrops of submarine Antique Ridge and S Negros accretionary complexes (Sulu Sea, Philippines) formed by oversteepening of slope by collision with Cagayan Ridge and Cuyo Platform and by erosion)

Beiersdorf, H., W. Bach, G. Delisle, E. Faber, P. Gerling, K. Hinz et al. (1997)- Age and possible modes of formation of the Celebes Sea basement, and thermal regimes within the accretionary complexes off SW Mindanao and N Sulawesi. In: P. Dheeradilok et al. (eds.) Proc. Int. Conf. Stratigraphy and tectonic evolution of Southeast Asia and the South Pacific (GEOTHAI'97), Dept. Mineral Resources, Bangkok, 1, p. 369-387.
(E Celebes Sea floor generated by seafloor spreading. Crustal age of 43 Ma at ODP Sites 767 and 770 places chron 20 along latitude 5°30' N. Celebes Sea crust moved over hotspot along E-W path, still active around 40 Ma (seamount chain near latitude 3°N). New anomaly pattern places central seafloor spreading anomaly at 4°N, created possibly at 39 Ma (chron 18). Positive magnetic anomalies N and S of chron 20 identified as chron 21 and provide highest age of E Celebes Sea crust (~48 Ma), with spreading rate of 4 cm/yr. Cessation of seafloor spreading between 34-40 Ma. Central seafloor anomaly obscured by NW-trending wrench fault. Possible large crustal splinter of oceanic crust in accretionary prism off Mindanao. Locally high methane concentrations at lower slope off Sulawesi)

Bell, R.M. & R.G.C. Jessop (1974)- Exploration and geology of the west Sulu Sea, Philippines. The Australian Petrol. Explor. Assoc. (APPEA) J. 14, 1, p. 21-28.
(West Sulu Basin in W part of Sulu Sea. Minor M-L Miocene inversion and wrench structures in Sandakan and Bancauan basins)

Bellon, H. & C. Rangin (1991)- Geochemistry and isotopic dating of Cenozoic volcanic arc sequences around the Celebes and Sulu Seas. In: E.A. Silver et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results, 124, p. 321-338
(online at: www-odp.tamu.edu/publications/124_SR/VOLUME/CHAPTERS/sr124_23.pdf)
(K-Ar ages >50 igneous rocks from onshore Philippines, Sabah and N Sulawesi. Onshore ages 32- near 0 Ma. Two types of island arcs: those related to progressive closing of Celebes and Sulu marginal basins and those belonging to Philippine Sea Plate. Sulu Sea/ Cagayan Ridge volcanics E-M Miocene, 13.8- 21 Ma)

Belviso, S., P. Jean-Baptiste, B.C. Nguyen, L. Merlivat & L. Labeyrie (1987)- Deep methane maxima and 3He anomalies across the Pacific entrance to the Celebes Basin. Geochimica Cosmochimica Acta 51, 10, p. 2673-2680

(Several methane seeps along flanks of two S Mindanao submarine ridges (Sangihe and Talaud East-Mindanao), at 2000-3000 meter depth. Isotopic ratio of added δ3He indicates input of hydrothermal fluids, both mantle and crustal/ sedimentary components. Methane anomalies partially associated with 3He excess, comparable to observed in spreading axis hydrothermal fields. Also major methane anomaly few 10's of km from Sangihe Ridge with no 3He enrichment, that could originate largely from shallow sedimentary layers)

Berner, U. & P. Bertrand (1991)- Light hydrocarbons in sediments of the Sulu Sea basin (Site 768); genetic characterization by molecular and stable isotope composition. Proc. Ocean Drilling Program (ODP), Scient. Results 124, p. 227-231.
(online at: www-odp.tamu.edu/publications/124_SR/VOLUME/CHAPTERS/sr124_16.pdf)
(Gases and interstitial waters from ODP Site 768 in Sulu Trench/Philippines points in-situ generation of methane down to sub-bottom depth of ~720m. Below this depth hydrogen isotope data indicate migration of light hydrocarbons into sediments. Occurrence of propane-pentane coincides with vertical distribution of mature organic matter. Gases in this zone of mixed microbial and thermal origin)

Bertrand, P., U. Berner & E. Lallier-Verges (1991)- Organic sedimentation in Celebes and Sulu basins: type of organic matter and evaluation of organic carbon accumulation rates. In: E.A. Silver et al. (eds.) Proc. Ocean Drilling Program (ODP) 124, Scient. Results, p. 217-225.
(online at: www-odp.tamu.edu/publications/124_sr/volume/chapters/sr124_15.pdf
(Organic matter in wells of ODP sites 767 (Celebes Sea) and Site 768 (Sulu Sea) mainly of terrestrial origin with the highest TOC in M Miocene turbiditic sequences that relect major compressive event between Philippine Mobile Belt and Palawan, Cagayan, and Sulu Ridges. Eocene and Lower Miocene in Celebes Sea low TOC and only highly degraded terrestrial particles, suggesting poor preservation conditions for organic carbon during open-ocean phase of Celebes Basin. Better preservation in younger sediments)

Bertrand, P., E. Lallier-Verges, F. Laggoun-De Farge, M. Pubeller, U. Berner, M. von Breymann & A. Desprairies (1996)- Organic sedimentation response to tectonic and paleogeographic influences in Celebes and Sulu basins, West Pacific (ODP Leg 124). In: G.P. & A.C. Salisbury (eds.) Trans. 5th Circum-Pacific Energy and Mineral Resources Conference, Honolulu 1990, Gulf Publishing, Houston, p. 23-29.
(In Celebes (Site 767) and Sulu Sea (Site 768) sediments organic matter mainly of terrestrial origin, with highest concentrations and accumulation rates in M Miocene turbiditic sequences; autochthonous marine amorphous organic material more common in younger sediments. Massive turbiditic inputs related to major compressive event between Philippine Arc and Palawan/Cagayan/ Sulu ridges in M-L Miocene times. Thermal maturities indicates much higher paleogeothermal gradient in Sulu than in Celebes Sea)

Betzler, C., A.J. Nederbragt & G.J. Nichols (1991)- Significance of turbidites at Site 767 (Celebes Sea) and Site 768 (Sulu Sea). In: E.A. Silver et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results, 124, p. 431-446.
(online at: www-odp.tamu.edu/Publications/124_SR/VOLUME/CHAPTERS/sr124_32.pdf)
(Mio-Pliocene turbidites deposition in Celebes- Sulu Sulu Seas tied to eustatic and tectonic events. Three types of source of siliciclastics in Celebes Sea Site 767: (1) dominated by mature quartz and quartz-lithic clasts with abundant plant debris, probably reworked shallow marine/continental environment with abundant vegetation; (2) change in source area indicated by paucity of quartz in upper system B and relative abundance of chert and other rock fragments (Sabah?); (3) clastic source from volcanic terrain. Also carbonate turbidites)

Burton, C.K. (1986)- Geological evolution of the Southern Philippines.In: G.H. Teh & S. Paramananthan (eds.) Proc. 5th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA V), Kuala Lumpur 1984, 1, Bull. Geol. Soc. Malaysia 19, p. 87-102.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1986008.pdf)
(Philippines is collage of geologic terranes of disparate origin, with at least one continental fragment)

Castillo, P.R., P.E. Janney & R. Solidum (1999)- Petrology and geochemistry of Camiguin Island, southern Philippines: insights into the source of adakite and other lavas in a complex arc tectonic setting. Contrib. Mineralogy Petrology 134, 1, p. 33-51.

(Some young Camiguin high-silica lavas similar to high-silica lavas from Mindanao, formerly identified as 'adakites', derived from direct melting of subducted basaltic crust (butMindanao adakites not pure slab melts))

Castillo, P.R., S.J. Rigby & R.U. Solidum (2007)- Origin of high field strength element enrichment in volcanic arcs: geochemical evidence from the Sulu Arc, southern Philippines. Lithos 97, 3, p. 271-288.
(Lavas from active Sulu Arc, S Philippines, enriched in high field strength elements (HFSE), not typical volcanic arc geochemical signature. May be from metasomatism of mantle wedge peridotites by melts derived from subducting oceanic lithosphere, through formation of amphibole, etc.. From subduction of Sulu Sea crust)

Castillo, P.R. , R.U. Solidum & R.S. Punongbayan (2002)- Origin of high field strength element enrichment in the Sulu Arc, Southern Philippines, revisited. Geology 30, p. 707-710.
(HFSE enrichment in Sulu Arc lavas unlikely sourced from subducted Sulu Sea basaltic crust, but from melting of geochemically enriched component in mantle wedge)

Desprairies, A., M. Riviere & M. Pubellier (1991)- Diagenetic evolution of Neogene volcanic ashes (Celebes and Sulu Seas). In: E.A.Silver et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results, 124, p. 489-503.
(online at: www-odp.tamu.edu/publications/124_sr/volume/chapters/sr124_36.pdf)
(Forty Late Miocene (8 Ma)- Pleistocene ash layers in Celebes and Sulu Seas Sites 767, 768, 769. Replacement of volcanic glass by smectite-phillipsite in tephra layers dated at 3.5-4 Ma. Also M Eocene to E Miocene ash beds in brownish pelagic claystones from Celebes Sea Site 767. In M Miocene no volcanic activity)

Durkee, E.F. (1993)- Oil, geology and changing concepts in the southwest Philippines (Palawan and the Sulu Sea). In: G.H. Teh (ed.) Proc. Symp. Tectonic framework and energy resources of the Western margin of the Pacific Basin, 1992, Kuala Lumpur 1992, Bull. Geol. Soc. Malaysia, Spec. Publ. 33, p. 241-262.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1993018.pdf)
(Review of oil-gas potential in S Philippines. Palawan shelf Oligocene- E Miocene reef play with proven discoveries in NW. Sulu Sea basins Balabac, Bancauan and Sandakan in SE poorly explored)

Fitch, F.H. (1963)- Geological relationship between the Philippines and Borneo. Philippine Geologist (J. Geol. Soc. Philippines) 17, 2, p. 41-47.
(Two major geosynclines from Cretaceous to mid-Tertiary: (1) NW Borneo geosyncline, probably extending NE-ward between Palawan island and Sulu deep rather than in Panay or Negritos; (2) Philippine geosyncline, probably extending SE in E Kalimantan)

Fontaine, H., A.A. Amiscaray & J.R. Sta. Cruz (1987)- Note on the Cuyo Archipelago, Sulu Sea, Philippines. Proc. 22nd Sess. Comm. Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Guangzhou 1985, 2, p. 333-339.
(Cuyo Archipelago in N part Sulu Sea formed by Pre-Tertiary metamorphosed limestones and radiolarite, intruded by M Miocene (15 Ma) diorite. Locally overlain by Quaternary basalts)

Futalan, K., A. Mitchell, K. Amos & G. Backe (2012)- Seismic facies analysis and structural interpretation of the Sandakan sub-basin, Sulu Sea, Philippines. AAPG Int. Conv. Exhib., Singapore 2012, Search and Discovery Art. 30254, p. 1-18.
(online at: www.searchanddiscovery.com/documents/2012/30254futalan/ndx_futalan.pdf)
(Summary of seismic facies mapping work in Sandakan Sub-basin. Basin evolved from Late-Middle Miocene actively prograding fluvio-deltaic system, mainly fed by Kinabatangan River in Borneo, to Pliocene-Pleistocene shelfal carbonate environment)

Graves, J.E. & D.A. Swauger (1997)- Petroleum systems of the Sandakan Basin, Philippines. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Int. Conf. Petroleum Systems SE Asia & Australia, Jakarta 1997, Indon. Petroleum Assoc. (IPA), p. 799-813.
(Geochemical analyses reveal mid-Miocene mixed oil-gas prone marginal marine mudstones. Distribution of hydrocarbon indicators on seismic suggests marginal marine source, along with migration-bounding listric

normal faults, limit significant hydrocarbon entrapment to distal delta complex. Extensive Miocene uplift, erosion, and redistribution of Eocene-Oligocene Crocker Fm siliciclastics account for most of Sandakan Basin fill. Stacked 5-30 m thick sandstone reservoirs, with expected 20-25% porosity and 200-500 mD perm at target depths. Structures include normal faults, shale diapirs and ridges, and distal toe-of-slope compressional folds and thrusts, all probably formed in response to rapid sedimentation rates (1m/1000 yrs)).

Hinz, K. & M. Block (1990)- Summary of geophysical data from the Sulu and Celebes Seas. In: E.A. Silver et al. (eds.) Proc. Ocean Drilling Program (ODP), Initial Reports, 124, p. 87-92.
(online at: www-odp.tamu.edu/publications/124_IR/VOLUME/CHAPTERS/ir124_05.pdf)
(Brief report on geophysical site survey for ODP Leg 124 wells. With seismic line showing thrusting of crustal sliver in Sulu Trench inner wall)

Hinz, K., M. Block, H.R. Kudrass & H. Meyer (1991)- Structural elements of the Sulu Sea, Philippines. Geol. Jahrbuch A 127, p. 483-506.
(Structure and tectonic history of Sulu Sea marginal oceanic basin between Sabah in SW and Philippines in NE, from seismic and ODP 124 well data. SE Sulu Sea basin underlain by Late Oligocene- E Miocene oceanic crust, now being subducted under Sulu Ridge (remnant part of Borneo Microplate). NW Sulu basin older, and part of N Borneo- Sulu collisional belt with occurrences of E Cretaceous-age ophiolites)

Hsu, V., H. Shibuya & D.L. Merrill (1991)- Paleomagnetic study of deep-sea sediments from the Cagayan Ridge in the Sulu Sea: results of Leg 124. In: E.A. Silver, C. Rangin et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 124, p. 511-516.
(online at: www-odp.tamu.edu/publications/124_sr/volume/chapters/sr124_38.pdf)
(Sulu Sea Cagayan Ridge is volcanic arc that became inactive around 18 Ma. Soft sediment cover shows no noticeable rotation/ migration in paleomag data for last 9 My, suggesting spreading of Sulu Sea backarc basin did not cause rotation. Nearby Philippine Islands and Celebes Sea did have CCW rotation in their history)

Huang, Z., F.M. Gradstein & K.E. Louden (1991)- Subsidence and sedimentation analysis of marginal basins: Celebes Sea and Sulu Sea, Leg 124, Sites 767 and 768. In: E.A. Silver et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results, 124, p. 399-408.
(online at: www-odp.tamu.edu/publications/124_sr/volume/chapters/sr124_30.pdf)
(Celebes Sea Site 767: Basalts from normal MORB (mid-ocean ridge basalt), overlain by M Eocene oceanic reddish brown claystones. Sulu Sea ODP Site 768: intra-arc or back arc E Miocene age basalt transitional between MORB and island-arc tholeites, overlain by thin E Miocene oceanic brown/red claystone, then ~200m of pumice-rich marine tuffs, overlain by ~800m M Miocene- Recent pelagic sediments)

Hutchison, C.S. (1992)- The Southeast Sulu Sea, a Neogene marginal basin with outcropping extensions in Sabah. Bull. Geol. Soc. Malaysia 32, p. 89-108.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1992017.pdf)
(Sulu Sea marginal basin resulting from E Miocene intra-arc rifting. Sabah ophiolite complex predates late early Miocene opening of Sulu Sea basin and represents Lower Cretaceous ocean floor on which arc was built)

Hutchison, C.S. (ed.), R. Sukamto, A.P. Madrid & C.S. Hutchison et al. (1995)- Studies in East Asian tectonics and resources (SEATAR), Crustal transect VIII, South China-Sulu-Sulawesi-Maluku-Philippine seas. Geol. Res. Dev. Centre (GRDC), Bandung, Spec. Publ. 20, p. 1-45.

Jezek, P.A., D.J. Whitford & J.B. Gill (1981)- Geochemistry of recent lavas from the Sangihe-Sulawesi arc, Indonesia. In: A.J. Barber & S. Wiryosujono (eds.) Geology and tectonics of Eastern Indonesia, Proc. CCOP-IOC SEATAR Working Group Mtg., Bandung 1979, Geol. Res. Dev. Centre, Spec. Publ. 2, p. 383-389.

John, T.U. (1963)- Geology and mineral deposits of East- Central Balabac island, Palawan Province, Philippines. Economic Geology 58, 1, p. 107-130.
(Balabac Island SW of Palawan (SW-most island of Philippines), comprises Upper Cretaceous- Lower Eocene chert-spilite formation, highly deformed with serpentinite masses, and Miocene Balabac sandstone. Structural

trends similar to nearby N Borneo Kudat Peninsula. Lorraine pyrite-chalcopyrite ore body in bedded cherts near Espina Point)

Jong, J. & K. Futalan (2015)- Structural interpretation, seismic facies analysis and depositional model of offshore Sandakan Sub-Basin. In: Asia Petroleum Geoscience Conf. Exh. (APGCE 2015), Kuala Lumpur, p. 443-447.
(Sandakan sub-basin in Sulu Sea off NE Sabah relatively under-explored. Paleogeography of Sandakan sub-basin evolved from active fluvio-deltaic progradation setting in late E Miocene- early Late Miocene to shelfal marine deposition in Pliocene)

Kaminski, M.A. & Z. Huang (1991)- Biostratigraphy of Eocene to Oligocene deep water agglutinated foraminifers in the red clays from Site 767, Celebes Sea. In: E.A. Silver et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 124, p. 171-180.
(online at: www-odp.tamu.edu/publications/124_SR/VOLUME/CHAPTERS/sr124_12.pdf)
(Deep water agglutinated benthic foraminifera in Celebes Sea ODP site 767 similar to assemblages in Carpathians and Atlantic Ocean. Three zones/ assemblages: (1) Paratrochamminoides- Hormosina ovulum assemblage: tubular genera and Spiroplectammina spectabilis; Early Eocene; (2) Reophax elongatus; latest E Eocene- E Oligocene and (3) low diversity assemblage of long-ranging forms, including Rhizammina, Reophax, Glomospira and Reticulophragmium amplectens; ?Oligocene. Basal assemblage probably Early Eocene age, suggesting underlying oceanic crust E Eocene age or older)

Koaler, F.C., D. Almogela, P. Estupigan, N.F. Exon, M. Hartmann, P.J. Muller & M.J. Whiticar (1979)- The Sulu Sea Basin: R.V. Valdivia cruise report and preliminary results. CCOP Newsletter 6, 1, p. 43-52.

Kopp, C., E.R. Flueh & S. Neben (1999)- Rupture and accretion of the Celebes Sea crust related to the North-Sulawesi subduction: combined interpretation of reflection and refraction seismic measurements. J. Geodynamics 27, p. 309-325.
(New seismic suggests N Sulawesi accretionary wedge entirely sedimentary. Celebes Sea typical oceanic crust, but thickens from 7 to 12 km below accretionary wedge)

Krause, D.C. (1966)- Tectonics, marine geology, and bathymetry of the Celebes Sea- Sulu Sea region. Geol. Soc. America (GSA) Bull. 77, p. 813-818.
(Rel. dated paleobathymetry maps Celebes Sea and surrounding seas)

Ku, Y.P., C.H. Chen, S.R. Song, Y. Iizuka & J.S. Shen (2009)- Late Quaternary explosive volcanic activities of the Mindanao-Molucca Sea collision zone in the Western Pacific as inferred from marine tephrostratigraphy in the Celebes Sea. Terrestrial Atmospheric Oceanic Sci. 20, 4, p. 587-605.
(Long piston core from E Celebes Sea basin provides high resolution 350 kyr marine tephrostratigraphy: 65 tephra layers, probably from volcanoes in Mindanao-Molucca Sea collision zone (S Philippine, Sangehi Arc, Halmahera Arc). Declining trend of explosive volcanism after ~180 ka, Late M Pleistocene. Shoshonitic volcanism in C Mindanao became extinct at ~151 ka, much younger than reported)

Kudrass, H.R., P. Muller, H. Kreuzer & W. Weiss (1990)- Volcanic rocks and Tertiary carbonates dredged from the Cagayan Ridge and the Southwest Sulu Sea, Philippines. In: C. Rangin et al. (eds.) Proc. Ocean Drilling Program (ODP), Initial Reports 124, p. 93-100.
(online at: www-odp.tamu.edu/Publications/124_IR/VOLUME/CHAPTERS/ir124_06.pdf)
(Dredged calkalkaline rocks suggest Cagayan Ridge originated as volcanic arc. K-Ar dates of basaltic rocks from N end of Ridge suggest volcanic activity at ~10-20 Ma. Shallow-water carbonates dredged from N end of Ridge at 1600-3800m depth with foraminifera Lepidocyclina, Cycloclypeus, indicating E-M Miocene age)

Kudrass, H.R., M. Wiedicke, P. Cepek, H. Kreuzer & P. Muller (1986)- Mesozoic and Cainozoic rocks dredged from the South China Sea (Reed Bank area) and Sulu Sea and their significance for plate-tectonic reconstructions. Marine Petroleum Geol. 3, 1, p. 19-30.

(Dredging and coring in S China Sea and Sulu Sea. Late Triassic deltaic sandstones with plant remains are oldest sediments recovered. Late Jurassic/Early Cretaceous metamorphism indicated by schists on NW flanks Reed Bank. These rocks, with gabbro, diorite, dacite, rhyolite and siliceous shale prove Dangerous Grounds and Reed Bank underlain by continental fragment. During seafloor spreading in S China Sea Late Oligocene- E Miocene carbonate platform developed on this SW-drifting continental fragment, which subsided in M Miocene. M Miocene andesite and E-M Miocene reefal carbonates recovered from Cagayan Ridge in Sulu Sea)

Lewis, S.D. (1991)- Geophysical setting of the Sulu and Celebes Seas. In: E.A. Silver et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results, 124, p. 65-73.
(online at: www-odp.tamu.edu/publications/124_sr/volume/chapters/sr124_05.pdf
(Celebes Sea oceanic basement mainly Middle Eocene age; Sulu Sea younger, late E to early M Miocene)

Mascle, A. & P.A. Biscarrat (1978)- The Sulu Sea: a marginal basin in Southeast Asia. In J. S. Watkins, L. Montadert & P.W. Dickerson (eds.) Geological and geophysical investigations of the continental margins. American Assoc. Petrol. Geol. (AAPG), Mem. 29, p. 373-381.
(Sulu Sea marginal sea with two basin types: (1) Outer Sulu Sea basin, formed inside old Palawan island arc ; (2) Inner Sulu Sea basin with oceanic crust. It is fringed to SE and E by active margin, the remains of larger Tertiary active margin which extended along W side of Philippines from Luzon to Negros and perhaps from Sulu Archipelago to NE part of Sabah)

Metzger, E.J. & H.E. Hurlburt (1996)- Coupled dynamics of the South China Sea, the Sulu Sea and the Pacific Ocean. J. Geophysical Research 101, p. 12331-12352.
(Modeling of water circulation in S China Sea, Sulu Sea, and area around Philippine Islands)

Mubandi, A.S.S., Y.S. Djajadihardja & B.M. Ganie (1999)- Petrogenesis of basic igneous rock of the Celebes Sea Basement. In: I. Busono & H. Alam (eds.) Developments in Indonesian tectonics and structural geology, Proc. 28th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 1, p. 113-120.
(Basaltic rocks dredged from NE and SE Celebes Sea seamounts by SONNE 98 cruise charateristics of ocean island tholeiite. M Eocene radiometric age (44.9 +/- 1.5 Ma))

Muller, C.M. (1991)- Biostratigraphy and geological evolution of the Sulu Sea and surrounding area. Proc. Ocean Drilling Program (ODP), Scient. Results, 124, p. 121-131.
(online at: www-odp.tamu.edu/publications/124_sr/volume/chapters/sr124_09.pdf)
(Biostratigraphic and lithologic data from Leg 124 in Sulu Sea, placed in context of surrounding areas: Palawan, N Borneo and Zamboanga Peninsula. Main events: (1) M Eocene emplacement of ophiolites in Palawan and Sabah; (2) opening of S China Sea since late Oligocene, linked to subduction of proto China Sea; (3) opening of Sulu Sea since E Miocene, (4) cessation of volcanic arc activity in Sulu Sea in early M Miocene (nannofossil zone NN5), possibly related to collision of Cagayan volcanic arc with drifted Chinese continental margin, and ending spreading in S China Sea; (5) subduction of oceanic crust of SE Sulu Sea Basin to S probably since latest Miocene and initiation of Sulu volcanic arc. Includes geological cross-sections from N Borneo to Sulu Sea)

Murauchi, S., W.J. Ludwig, N. Den, H. Hotta, T. Asanuma, T. Yoshii, A. Kubotera & K. Hagiwara (1973)- Structure of the Sulu Sea and the Celebes Sea. J. Geophysical Research 78, 17, p. 3437-3447.
(Seismic refraction profile through Sulu Sea and Celebes Sea marginal basins. NW part of Sulu Sea basin part of Palawan-Calamianes archipelago ridge that subsided. Deeper SE part of Sulu Sea basin and Celebes Sea basin oceanic crust. Sulu archipelago ridge characteristic of island arc, upon which sedimentation has produced flat sea floor in most places)

Murray, C. (2015)- Deepwater Sandakan Basin, Philippines: exploration of a new gas frontier. Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) Conf. 2015, Singapore, 7.3, p. 1-6. *(Extended Abstract)*
(Sandakan Basin prospective, under-explored deep water basin in SW Sulu Sea, sharing similarities with other circum-Borneo Basins, where oil and gas fields discovered in Late Miocene turbidite reservoirs outboard of major delta systems, sourced from terrestrially derived kerogens)

Nagasaka, K., J. Francheteau & T. Kishii (1970)- Terrestrial heat flow in the Celebes and Sulu Seas. Marine Geophysical Res. 1, p. 99-103.
(Two heat flow measurements in Celebes Sea and three in Sulu Sea show mean values of 2.0 μcal/cm2 sec, higher than overall mean heat flow of oceans and close to mean value for marginal seas. Celebes Sea values (1.5) cooler than Sulu Sea (2.2- 2.6 mcal/cm sec°C)

Nederbragt, A.J. (1991)- Distribution and preservation of Cenozoic planktonic foraminifers from the Celebes and Sulu seas, Leg 124. In: E.A. Silver et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 124, p. 159-170.
(Celebes Sea sites 770 and 767 M Eocene- Recent pelagic carbonates and marls on late M Eocene mid-oceanic ridge basalts. Sulu Sea late E Miocene- Recent sediment, with pelagic carbonates only in Late Pliocene and Pleistocene, suggesting falls in carbonate compensation depths at ~3.5 Ma, 2.4 Ma, 1.6 Ma, etc.)

Nichols, G., C. Betzler, G. Brass, Z. Huang, B. Linsley, D. Merril, C. Muller et al. (1990)- Depositional history of the Sulu Sea from ODP Sites 768, 769 and 771. Geophysical Research Letters 17, 11, p. 2065-2068.
(ODP Site 768 in SE sub-basin and Sites 769 and 771 on flanks of Cagayan Ridge. SuIu Basin originated in late E Miocene (~18.8 Ma) in backarc setting. Cagayan Ridge was site of E- early M Miocene arc volcanism with thick andesitic to basaltic volcaniclastics. Basin center E Miocene pelagic sequence interrupted by rhyolitic-dacitic pyroclastic flows. M-L Miocene sedimentation more continental, with thick quartz-rich turbidites. Decrease in supply from arc and continental sources and Late Pliocene change in carbonate compensation depth resulted in Late Pliocene- Pleistocene pelagic carbonate deposition)

Nichols, G. & R. Hall (1999)- History of Celebes Sea basin based on its stratigraphic and sedimentological record. J. Asian Earth Sci. 17, p. 47-59.
(online at: http://searg.rhul.ac.uk/pubs/nichols_hall_1999%20Celebes%20Sea.pdf)
(Oceanic Celebes Sea Basin between N Borneo and N Sulawesi opened in M Eocene (50-37 Ma), formed by spreading behind N-dipping subduction zone accommodating N-ward movement of Indian Ocean Plate. Sites 767 and 770 basement basalt with MORB affinity, overlain by late M Eocene pelagic mudstones, followed by condensed pelagic sequence (90m in 20 Ma) below CCD until E Miocene. M-L Miocene quartz-rich turbidites probably from E Borneo, peaking at ~10 Ma, caused by collision events on island. Clastic supply ended in Late Miocene, as S-ward subduction of Celebes Sea oceanic crust beneath N arm of Sulawesi began)

Oda, H., H. Shibuya & V. Hsu (2000)- Palaeomagnetic records of the Brunhes/Matuyama polarity transition from ODP Leg 124 (Celebes and Sulu seas). Geophysical J. Int. 142, p. 319-338.
(Paleomagnetic records of Brunhes/Matuyama geomagnetic polarity transition (0.78 Ma) in deep-sea sediment cores of ODP Leg 124 in Celebes and Sulu seas. Microtektite layer at Site 769A with sharp magnetic intensity pea, pegged at 789.5 ka)

Oke, B., J. Keall, P. Carroll, R. Noble & T. Setzer (2004)- Zebra Prospect- reading between the stripes. In: R.A. Noble et al. (eds.) Proc. Deepwater and Frontier Exploration in Asia & Australia Symposium, Jakarta, Indon. Petroleum Assoc. (IPA), DFE04- OR-048, 13p.
(Sandakan Basin off N Borneo Pliocene seismic amplitude anomalies corresponded to uneconomic, thin, gas-bearing, very fine sand-silt units)

Oppo, D.W., B.K. Linsley, Y. Rosenthal, S. Dannenmann & L. Beaufort (2003)- Orbital and suborbital climate variability in the Sulu Sea, western tropical Pacific. Geochem. Geophys. Geosystems 4, 1, 1003, p. 1-20.
(online at: http://onlinelibrary.wiley.com/doi/10.1029/2001GC000260/epdf)
(Planktonic δ18O from sediment core MD97-2141 in Sulu Sea reveals that for past 400 kyr, δ18O variability on orbital timescales similar to that caused by changes in ice volume alone)

Pederson, S.L. (1996)- Hydrocarbon potential, Southwest Sulu Sea, Philippines. In: G.P. & A.C. Salisbury (eds.) Trans. 5th Circum-Pacific Energy and Mineral Resources Conference, Honolulu 1990, Gulf Publishing, Houston, p. 587-594.

(SW Sulu Sea in Philippine Territorial waters three Tertiary subbasin, from NWto SE: Balabac, Bancauan and Sandakan. Gas-condensate tested in Sabah sector of Sandakan basin at Nymphe Norde 1. Oil and gas in Superior 333-1 well in Philippine sector of Sandakan subbasin)

Poblete, R.G. & A.A. Morado (1999)- The NW Sulu Sea Basin, Philippines: an attractive frontier area for petroleum exploration. Proc. Palawan 99 Conference, 12p.

Pouclet, A., M. Pubellier & P. Spadea (1991)- Volcanic ash from Celebes and Sulu Sea basins off the Philippines (Leg 124): petrography and geochemistry. In: E.A. Silver et al., Proc. Ocean Drilling Program (ODP), Scient. Results 124, p. 467-487.
(online at: www-odp.tamu.edu/publications/124_sr/volume/chapters/sr124_35.pdf)
(Volcanic material in deep-sea sediments Late Oligocene (32, 25 Ma) in Celebes Sea and E Miocene (18, 10 Ma) in Sulu Sea. Late E Miocene Sulu Sea tuffs from Cagayan arc, early Late Miocene ashes from Sulu arc. All ash compositions calc-alkaline and arc-related. E Pliocene activity in Celebes and Sulu Seas from new Sangihe arc and from Sulu, Zamboanga and Negros arcs. Late Pliocene- E Pleistocene renewal of activity in Sangihe-Cotobato and Sulu and Negros arcs. Last volcanic pulse in late Pleistocene)

Pubellier, M., P. Spadea, A. Pouclet, R. Solidum, A. Desprairies & H. Cambray (1991)- Correlations of tephras in Celebes and Sulu Sea basins; constraints on geodynamics. In: E.A.Silver et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 124, p. 459-465.
(online at: www-odp.tamu.edu/publications/124_SR/VOLUME/CHAPTERS/sr124_34.pdf)
(In Eocene and Oligocene Celebes Basin recorded activity of large volcanic arc that could be Philippine or more likely Sunda arc. W Philippine Basin decrease of ash component in E Oligocene, with no volcanic activity until latest Miocene except pyroclastic flows on flank of Cagayan Ridge and Sulu Basin. Volcanic series known in Philippines and on Sabah in E Miocene (21-17 Ma) and M Miocene (15-11 Ma) may not have produced explosive volcanism. E Pliocene basaltic tephras may tie to volcanic ridges of N Zamboanga. Pleistocene renewal of volcanic activity from two different magmatic series compatible with incipient volcanism along Cotabato Trench and with basaltic plateaus of Central cordillera of Mindanao. New geodynamic framework consistent with new subduction along Philippine Trench around 4 Ma)

Rabinowitz, P.D., F.H. Syed & R. McCabe (1998)- Gravity studies across the Sula Arc. Proc. Offshore Technology Conf. (OTC), Houston 1998, 1, 8891-MS, p. 647-656.
(Should be Sulu arc. Three models proposed for tectonic origin of Sulu and Celebes Seas basins: (1) trapped fragments of oceanic plate, (2) back-arc spreading, and (3) rifting from SE Asia margin. Basins are separated by shallow partly emerged Sulu volcanic Ridge extending from W Mindano to NE Borneo. Gravity observations across Sulu Arc and adjacent basinal structures consistent with subduction zones along both flanks of Sulu Arc and also that extinct spreading centers exist in both Sulu and Celebes Seas)

Rangin, C. (1989)- The Sulu Sea, a back-arc basin setting within a Neogene collision zone. Tectonophysics 161, p. 119-141.
(SE Sulu Sea small oceanic basin that opened in M Miocene in back-arc setting along Sundaland margin during subduction of Celebes Sea plate beneath Sulu arc. Back-arc extension post-dates early M Miocene compression. Progressive, still incomplete closing of basin, initiated in Late Miocene, result of collision of exotic terranes with Sundaland margin, which also induced flipping of the Sulu subduction zone. Evolution of Sulu Sea modern example of how young oceanic crust can be incorporated in orogenic belt. Nice geologic cross-sections)

Rangin, C. (1991)- Southeast Asian marginal basins (South China, Sulu and Celebes Seas): new data and interpretations. CCOP Techn. Publ. 24, 25th Anniversary Volume, p. 156-174.
(Celebes and S China Seas rifted from Asian continental margin in Paleogene. Proto-South China Sea, now completely subducted, probably had same origin. Paleogene was period of intense stretching of Eurasian margin and opening of marginal basins, Neogene corresponds to progressive subduction of these oceanic basins)

Rangin, C. & E.A. Silver (1991)- Geological setting of the Celebes and Sulu Sea. In: E.A. Silver et al. (eds.) Proc. Ocean Drilling Program (ODP), Initial Reports, 124, p. 35-42.
(online at: www-odp.tamu.edu/Publications/124_IR/VOLUME/CHAPTERS/ir124_03.pdf)
(Celebes and Sulu Seas are deep restricted basins between Borneo and Philippine Archipelago. They are part of succession of trending NE subparallel oceanic basins. Separating basins from S China to Banda are ridges such as Cagayan Ridge, Palawan and Sulu archipelagos, arms of Sulawesi, and Sula platform)

Rangin, C. & E.A. Silver (1991)- Neogene tectonic evolution of the Celebes-Sulu basins: new insights from Leg 124 drilling. In: E.A. Silver et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 124, p. 51-63.
(online at: www-odp.tamu.edu/publications/124_sr/volume/chapters/sr124_04.pdf)
(Synthetic cross section from S China Sea to Sulawesi, and correlation of major magmatic and tectonic events. Basins and their margins (Celebes-Sulu block) collided with rifted margin of China (Reed Bank) around 16 Ma. Submarine pyroclastics emplacement coincided with this collision. Sulu Basin probably opened in back-arc position for Cagayan volcanic arc in Early Miocene. Incipient closing of Sulu and Celebes basins still active)

Rangin, C., E. Silver and Leg 124 Team (1989)- Forages dans les bassins marginaux du SE Asiatique: resultats preliminaires du leg 124 (Ocean Drilling Program), Comptes Rendus Academie Sciences, Paris, Ser. II, 309, 12, p. 1333-1339.
('Wells in the marginal basins of SE Asia: preliminary results of ODP Leg 124'. ODP Leg 124 determined ages of Sulu Sea (E Miocene or E-M Miocene boundary) and Celebes Sea (M Eocene). Both basins record significant and synchronous influx of quartz-rich terrigeneous material at end of M Miocene, in response to major compressive tectonic event corresponding to closure of these SE Asian marginal basins (see also Rangin and Silver 1991)

Rangin, C., E. Silver, M.T. von Breymann et al. (eds.) (1991)- Volume 124 Scientific Results. Proc. Ocean Drilling Program (ODP), Initial Reports, 124, College Station, Tx, p. 1-552.
(online at: www-odp.tamu.edu/publications/124_SR/124TOC.HTM)
(Scientific results from wells and studies of ODP Leg 124 in Sulu and Celebes Seas)

Roeser, H.A. (1991)- Age of the crust of the Southeast Sulu Sea basin based on magnetic anomalies and age determined at Site 768. In: E.A. Silver et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 124, p. 339-343.
(online at: www-odp.tamu.edu/publications/124_sr/volume/chapters/sr124_24.pdf)
(Age of Sulu Sea oceanic crust at ODP site 768 about 17-15 Ma. Magnetic anomalies rel. weak and not parallel to Palawan/ Cagayan Ridge/ Sulu Archipelago, but suggest N-S spreading direction. Sulu Sea probably started to open at 30-35 Ma (E. Oligocene= too early?; JTvG). Spreading continued until 10 Ma (Late Miocene). Most oceanic crust already subducted)

Scherer, R.P. (1991)- Radiolarians of the Celebes Sea, Leg 124, Sites 767 and 770. In: E.A. Silver, C. Rangin et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 124, p. 345-357.
(online at: www-odp.tamu.edu/publications/124_sr/volume/chapters/sr124_25.pdf)
(Celebes Sea ODP Sites 767 and 770 brown clays over basalt at both sites contain radiolarians of late M Eocene Podocyrtis chalara Zone. No Late Eocene radiolarians due to probable hiatus or condensed section. Oligocene represented by Theocyrtis tuberosa and Dorcadospyris ateuchus zones. Pelagic sedimentation until E Miocene, when sedimentation became strongly influenced by continentally derived material)

Scherer, R.P. (1991)- Miocene radiolarians of the Sulu Sea, Leg 124. In: E.A. Silver, C. Rangin et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 124, p. 359-368.
(online at: www-odp.tamu.edu/publications/124_SR/VOLUME/CHAPTERS/sr124_26.pdf)
(Radiolarians generally rare in ODP Leg 124 sediments from Sulu Sea)

Schluter, H.U., M. Block, K. Hinz, S. Neben, D. Seidel & Y. Djajadihardja (2001)- Neogene sediment thickness and Miocene basin-floor fan systems of the Celebes Sea. Marine Petroleum Geol. 18, 7, p. 849-861.

(M Miocene turbidites correlated from ODP site 767 throughout Celebes Sea basin study area. Differences in thickness and distribution indicate two source areas: (1) M Miocene fans of C and S Celebes Sea basin controlled by paleo-Tarakan Delta system, tectonic events and basin floor morphology; (2) area along S Sulu Arc sourced from Mindanao. Correlations suggest post-M Miocene to pre-Pliocene age for Cotabato Trench accretionary wedge and Plio-Pleistocene age for N Sulawesi subduction wedge)

Schluter, H.U., K. Hinz & M. Block (1996)- Tectono-stratigraphic terranes and detachment faulting of the South China Sea and Sulu Sea. Marine Geology 130, p. 39-78.
(Five main tectono-stratigraphic terranes defined for S China Sea and four for Sulu Sea. Dangerous Grounds, Reed Bank, Palawan-NW Borneo Trough and Palawan Island continental terranes, developed on proto-China margin by simple shearing in Late Cretaceous-E Paleocene)

Schneider, D.A., D.V. Kent, & G.A. Mello (1992)- A detailed chronology of the Australasian impact event, the Brunhes-Matuyama geomagnetic polarity reversal, and global climate change. Earth Planetary Sci. Letters 111, p. 395-405.
(Australiasian microtektite peak layers in Sulu Sea ODP Holes 767B (49.63 mbsf) and 769A (61.31 mbsf))

Scibiorski, J., J. Jong, J. Rosser, P. Boss & B. Cassie (2009)- Prospectivity and exploration challenges of SC41 deepwater Sandakan Basin, South Sulu Sea. Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) Exploration Conf. 2009, Singapore, p. 1-38. *(Abstract + Presentation)*
(Sandakan Basin off NE Sabah mainly in Philippine waters. Under-explored Tertiary sag basin with up to 6 km of Miocene -Pliocene deltaic and deepwater sediments. Previous exploration in basin focused on shallow water deltaic and carbonate plays; failure attributed to seal failure due to high sand content and cross fault leakage)

Serri, G., P. Spadea, L. Beccaluva, L. Civetta, M. Coltorti et al. (1991)- Petrology of igneous rocks from the Celebes Sea basement. In: E.A.Silver, C. Rangin et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 124, p. 271-296.
(online at: www-odp.tamu.edu/publications/124_SR/VOLUME/CHAPTERS/sr124_20.pdf)
(ODP Site 770 basaltic basement below M Eocene radiolarian-bearing red clays drilled for 106 mainly pillow lavas and pillow breccias, intercalated with massive amygdaloidal lavas. Two dolerite sills also recognized. All rocks studied show effect of low-temperature seafloor alteration, causing almost total replacement of olivine and glass. Textural and mineralogical features and crystallization sequences analogous to primitive or weakly fractionated mid-ocean-ridge basalts (MORBs). No detectable influence of subduction-related component)

Shibuya, H., V. Hsu, D. Merrill & ODP Leg 124 scientists (1989)- Paleomagnetic results of ODP Leg 124, Celebes and Sulu Seas. EOS 70, 43, p. 1365.

Shibuya H, D.L. Merill, V. Hsu & Leg 124 party (1991)- Paleogene counterclockwise rotation of the Celebes Sea-orientation of ODP cores utilizing the secondary magnetization. In: E.A. Silver et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 124, p. 519-523.
(online at: www-odp.tamu.edu/publications/124_SR/VOLUME/CHAPTERS/sr124_39.pdf)
(Paleomag work suggesting Celebes Sea Site 770 rotated up to 60° CCW between M Eocene and Late Oligocene. No rotation indicated after Late Oligocene)

Shyu, J.P. D. Merrill, V. Hsu, M.A. Kaminski, C.M. Muller, A.J. Nederbragt et al. (1991)- Biostratigraphic and magnetostratigraphic synthesis of the Celebes and Sulu Seas. In: E.A. Silver et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 124, p. 11-35.
(online at: www-odp.tamu.edu/publications/124_SR/VOLUME/CHAPTERS/sr124_02.pdf)
(Summary of ODP Leg 124 late M Eocene- Quaternary biostratigraphic and paleomagnetic studies)

Shyu, J.P. & C.M. Mueller (1991)- Calcareous nannofossil biostratigraphy of the Celebes and Sulu Seas. In: E.A. Silver et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 124, p. 133-159.
(online at: www-odp.tamu.edu/publications/124_SR/VOLUME/CHAPTERS/sr124_10.pdf)

(Sites 767 and 771 in Celebes Sea post-Oligocene sediments below carbonate compensation depth (CCD) and calcareous nannofossils recovered only from turbidites. From late M Eocene to Late Oligocene Site 771 was above CCD and accumulated pelagic clay. Highest occurrence of Chiasmolithus grandis just above basement and indicates late M Eocene age for Celebes Sea Basin crust. In SE Sulu Basin nannofossils preserved only in post- early M Miocene. Base Gephyrocapsa oceanica s.l. closest datum to top Olduvai paleomagnetic event and most suitable biohorizon for approximating Pliocene-Pleistocene boundary in Celebes and Sulu Seas)

Silver, E.A. & C. Rangin (1989)- Celebes and Sulu marginal basins: constraints from ODP Leg 124. EOS Transactions, AGU, 70, p. 1365.

Silver, E.A. & C. Rangin (1991)- Leg 124 tectonic synthesis. In: E.A. Silver et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 124, p. 3-9.
(online at: www-odp.tamu.edu/Publications/124_SR/VOLUME/CHAPTERS/sr124_01.pdf)
(Plate tectonic setting of M Eocene Celebes Sea oceanic crust ambiguous, but do not favor origin as fragment of Indian Ocean or W Philippine Sea plates. We cannot exclude origin as fragment of mostly subducted Molucca Sea Plate or basin rifted from edge of E Asian mainland. Sulu Sea likely to formed by back-arc spreading behind Cagayan Ridge in E Miocene. Cessation of spreading in Sulu Sea and volcanic activity on Cagayan Ridge were coeval, possibly related to collision between Palawan and Cagayan ridges)

Silver, E.A. & C. Rangin (1991)- Development of the Celebes Basin in the context of Western Pacific marginal basin history. In: E.A. Silver et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 124, p. 39-49.
(online at: www-odp.tamu.edu/Publications/124_SR/VOLUME/CHAPTERS/sr124_03.pdf)
(Celebes Sea marginal basin origin still uncertain.Little paleomagnetic evidence of latitudinal change. Clay minerals no change from red to green claystones. Eocene-Oligocene sediments indicate open ocean origin for early basin history. If formed by rifting of edge of SE Asia, it did so without terrigenous input and allowed free interchange with ocean waters. Celebes Sea presently subducting, as are many W Pacific marginal basins)

Silver, E.A. & C. Rangin (1996)- Origin and history of the Sulu and Celebes basins: ODP Leg 124. In: G.P. & A.C. Salisbury (eds.) Trans. 5th Circum-Pacific Energy and Mineral Resources Conference, Honolulu 1990, Gulf Publishing, Houston, p. 51-60.
(Celebes basin formed in M Eocene time in environment protected from terrigenous sedimentation (red clay deposition until E Miocene. Gradually increasing influx of terrigenous sediments to high sedimentation rates in late M Miocene. Basement rocks MORB tholeiites, including pillow basalts, sheet flows, and sills. SE Sulu basin formed in intra-arc environment (200m of rhyolitici dacitic tuffs above basement in radiolarian brown claystone section. Activity in adjacent Cagayan arc ceased shortly after the opening of Sulu Sea. Both basins high rates of terrigenous turbidites in M Miocene, correlative with tectonism in Sabah and possibly Philippines)

Smith R.B., G.W. Betzler, G.W. Brass, Z. Huang et al. and Leg 124 Scientific Party (1990)- Depositional history of the Celebes Sea from ODP Sites 767 and 770. Geophysical Research Letters 17, 11, p. 2065-2068.
(Sites 767 and 770 in N Celebes Sea reached late M Eocene basaltic basement. From late M Eocene to Early Miocene pelagic sedimentation prevailed with little influence from continental or volcanic arc sources. First major continental influence in M Miocene time as thick sequence of quartzose turbidites on basin floor, possibly in response to M Miocene orogeny in N Borneo.Late Miocene arc volcanism began to contribute hemipelagic sediments and ash layers and remained dominant sediment to present. Celebes Sea now surrounded by volcanic arcs, but absence of volcanoclastics in Eocene- E Miocene suggests basin did not form by back-arc spreading)

Smith R.B., M. von Breymann & Z. Huang (1991)- Site backtracking and the Eocene- Oligocene calcite compensation depth in the Celebes Sea. In: E.A. Silver et al. (eds.) Proc. Ocean Drilling program (ODP), Scient. Results 124, p. 447-457.
(online at: www-odp.tamu.edu/publications/124_sr/volume/chapters/sr124_33.pdf)
(Oceanic crust at Sites 767 and 770 in N Celebes Sea overlain by Eocene-Oligocene pelagic sediments. Brown clay accumulated below the calcite compensation depth (CCD) at deeper Site 767 throughout this time interval. Shallower Site 770 brief episode of non-calcareous clay deposition in earliest Oligocene, indicating abrupt

lowering of the CCD by 500m, synchronous with drop in CCD in Pacific and Atlantic Oceans, showing open deep-water connections between Celebes Sea and Pacific or Indian Oceans in Eocene-Oligocene)

Smith, T.E., C.H. Huang & F.G. Sajona (1991)- Geochemistry and petrogenesis of basalts from Holes 767C, 770B and 770C, Celebes Sea. In: E.A. Silver, C. Rangin et al. (eds.) Proc. Ocean Drilling program (ODP), Scient. Results 124, p. 311-320.
(online at: www-odp.tamu.edu/Publications/124_SR/VOLUME/CHAPTERS/sr124_22.pdf)
(Compositionally Celebes Sea basalts very similar to normal mid-ocean ridge basalts. Celebes Sea interpreted as fragment of basement of Jurassic Argo abyssal plain trapped during Eocene (most unlikely; JTvG)).

Spadea, P., L. Beccaluva, L. Civetta, M. Coltorti, J. Dostal et al. (1991)- Petrology of basic igneous rocks from the floor of the Sulu Sea. In: E.A. Silver, C. Rangin et al. (eds.) Proc. Ocean Drilling program (ODP), Scient. Results 124, p. 251-269.
(online at: www-odp.tamu.edu/publications/124_SR/VOLUME/CHAPTERS/sr124_19.pdf)
(Sulu Sea basement rocks, cored for ~220m beneath late E Miocene pelagic sediments, consist of pillow basalts, dolerite microgabbro. Basalts and dolerites suffered seawater alteration (secondary fill of cracks and amygdaloidal textures by carbonate, zeolites, and clay minerals) and low-grade greenschist facies oceanic metamorphism (chlorite, serpentine, etc.). E Miocene oceanic crust creation in Sulu Basin (Site 768) from basaltic MORB-like mantle sources, modified by subduction-related geochemical components)

Spadea, P., M. D'Antonio & M.F. Thirlwall (2004)- Source characteristics of the basement rocks from the Sulu and Celebes Basins (Western Pacific): chemical and isotopic evidence. Contrib. Mineralogy Petrology 123, 2, p. 159-176.
(Sulu Basin developed ~18 Ma as backarc basin, associated with Cagayan Ridge Arc. Celebes Sea Basin formed ~43 Ma, subsequently developing as open ocean until M Miocene. In both basins late M Miocene collision and Late Miocene onset of volcanic activity on adjacent arcs. Sulu and Celebes Sea Basins basalts isotopically similar to depleted Indian Ocean MORB, and distinct from E Pacific Rise MORB. Signature possibly inherited by Indian Ocean mantle during rupture of Gondwanaland, when fragments of this mantle may have migrated to position of Celebes, Sulu and Cagayan sources)

Subandrio, A.S., Y. Jayadiharja & B.M. Ganie (1999)- Petrogenesis of basaltic rock of Celebes Sea floor. Proc. 28th Ann. Conv. Indon. Assoc. Geol. (IAGI), p. .

Szarek, R., H. Nomaki & H. Kitazato (2007)- Living deep-sea benthic foraminifera from the warm and oxygen-depleted environment of the Sulu Sea. Deep Sea Research, II, 54, p. 145-176
(Sulu Sea is semi-enclosed oceanic basin with warm (~10°C) and oxygen depleted deep waters. Samples from water depths 534-4635m. Foraminifera assemblages above 3000m dominated by Angulogerina, bolivinids (Bolivina pacifica, B. spathulata) and uvigerinids (U. auberiana, Neouvigerina ampullacea). Below 3000m foram faunas mainly agglutinants (Spiroplectammina, Ammoscalaria, Reophax). Most living foraminifera in top 2cm of sediment, except Valvulineria and Globobulimina pacifica. Tubular arenaceous tubular forams (e.g. Hyperammina, Rhabdammina, Rhizammina) common at all sites)

Tamesis, E.V. (1990)- Petroleum geology of the Sulu Sea Basin, Philippines. In: 8th Offshore South East Asia Conf., Proc. SE Asia Petroleum Expl. Soc. (SEAPEX), Singapore, 9, p. 45-54.
(Sulu Sea several NE trending sub-basins (NW and SW Sulu) and three W Sulu small basins on Sabah shelf (Balabac, Bancauan, Sandakan). W Sulu Sea 21 wells. Basins inception in Late Paleogene, followed by Neogene subsidence. Miocene- Pliocene fluvio-deltaics with oil and gas shows and Pliocene regional marine transgression with Late Pliocene- Pleistocene carbonate deposition)

Trinidad, N.D. & R.T. Barcelona (1999)- Notes on the geology and hydrocarbon potential of the Sibutu block, southern Philippines. In: Proc. Palawan'99 Int. Conf. Tectonics, stratigraphy and petroleum and mineral systems of Palawan, Borneo and surrounding areas, Palawan Island, Philippines, 8p.

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(Palynological study of ODP Site 767 in Celebes Sea indicates presence of extensive wetlands in area in Middle and Late Miocene. At start of Late Pleistocene montane vegetation expanded, probably due to tectonic upheaval)

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(Sandakan Basin is largest of three basins in SW Sulu Sea, with up to 6-8 km of Lower Miocene -Recent sediments. Complex history involving Paleogene arc tectonism and subbasin formation punctuated by obduction and transpressional events. Deltaic sedimentation with outer shelf reef growth characterized Neogene. Reservoir and intra-formational seals are ubiquitous. Source rocks are deltaics, similar to Baram and Mahakam Deltas. 15 exploration wells, 11 of these invalid tests. Similarities in stratigraphic and structural style between Baram Delta and Sandakan Basin suggest significant hydrocarbon potential)

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(Celebes Sea magnetic lineations striking N65°E mapped as anomalies 18-20, suggesting oceanic crust is of Eocene age. Magnetic anomaly shapes suggests little net change in latitude since Eocene. Intermediate heatflow of 1.58 HFU average corresponds to age of 51 Ma)