Cover Photograph
Thin section of Middle Miocene limestone with common larger foraminifera (*Katacyclopyeus, Lepidocyclina, Amphistegina*) and calcareous algae, offshore Vietnam.
"A bad fossil is more valuable than a good working hypothesis"

This listing contains >3300 papers on biostratigraphy/ paleontology of Indonesia and surrounding areas. It combines all papers previously listed under Biostratigraphy as well as papers with significant biostratigraphic- paleontologic content previously listed under the various regions in the 'Bibliography of the geology of Indonesia and surrounding areas' ("Edition 5.1"; online at www.vangorselslist.com).

It is organized chronologically (except Chapter 9) in nine chapters:

1. General Papers .......................................................................................................................... 4
2. Quaternary, Recent distribution .............................................................................................. 6
3. Tertiary ...................................................................................................................................... 42
4. Cretaceous .................................................................................................................................. 153
5. Jurassic ...................................................................................................................................... 174
6. Triassic ....................................................................................................................................... 198
7. Permian- Carboniferous ............................................................................................................ 228
8. Ordovician- Devonian ................................................................................................................ 291
9. Hominids, Quaternary Mammals ............................................................................................. 303
BIOSTRATIGRAPHY AND PALEONTOLOGY OF INDONESIA

1. General Papers

(Brief review of distribution of Paleozoic rocks and fossils in Indonesia (Sumatra, Timor, W Papua))

(Extensive compilation of Timor Permian stratigraphy and paleontology, with specialist reviews of brachiopods, bryozoans, cephalopods, conodonts, corals, echinoderms, foraminifera, molluscs, trilobites, etc.)

(Overview of Triassic successions of Timor, exposed in fold-and-thrust belt and melange complex. Three formal lithostratigraphic units defined previously (Niof, Aitutu and Babulu Fms), with a fourth, Wai Luli Fm, primarily Jurassic in age but extending down into Triassic. Triassic extension not associated with major volcanism, unlike Early Permian extension)

(Listings of species of fossil fish, reptiles and birds known from Indonesia)

Escher, B.G., I.M. van der Vlerk, J.H.F. Umbgrove & P.H. Kuenen (eds.) (1931)- De palaeontologie en stratigrafie van Nederlandsch Oost-Indie, Leidsche Geologische Mededelingen. 5 ('Feestbundel Prof. Dr. K. Martin'), 1, p. 1-648.
(The palaeontological and stratigraphical knowledge of Nederlandsch Oost-Indie. Commerative volume at 80st birthday of Prof. Dr. K. Martin. Voluminous book with 20 chapters summarizing 'state of knowledge' of paleontology and stratigraphy in Netherlands East Indies. With listings of species and fossil localities and stratigraphic tables. No illustrations of fossils)

(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)

(Overview of coral species and occurrences Indonesia: Devonian (New Guinea), Carboniferous (Sumatra), Permian (Timor mostly endemic solitary species), Triassic (Timor, Ceram, Misool, Sumatra), Jurassic-Cretaceous (very rare; Sumatra only), Tertiary (rel. widespread))

(Mainly on Misool Archipelago M Triassic to Cretaceous macrofossil succession)

(Extensive review of geology, paleontology (brachiopods, bivalves, ammonoids, etc.), biostratigraphy and stratigraphy of Misool Island, and correlations with other regions)

(Review of Paleozoic- Mesozoic marine macrofossil biostratigraphy of Indonesia, particularly in Misool island)

(Summary of state of knowledge of ammonites and belemnites in Indonesia in 1931)

(Radiolarian biostratigraphy in Thailand, S China, Malaysia, etc., constrains ages of Paleotethys Ocean opening (Devonian) and closing (Triassic))

(Summary of state of knowledge of fossil brachiopods in Indonesia in 1931)

(Listing of Permo-Carboniferous- Pleistocene fossil plant species known from Indonesia and adjacent areas)

('The Permian, Triassic and Jurassic formation on Timor and Rotti in the Indies Archipelago'. Descriptions of many new Permian-Jurassic macrofossils from Indonesia, mainly collected by Wichmann 1888-1889. Permian-Triassic material from Ayer Mati area, SE of Kupang, W Timor, includes Permian brachiopods Spirifer, Productus, bivalve Atomodesma, coral Zaphrentis, ammonites Arcestes and Cyclolobus persulcatus and crinoids. From Rotti some Permian fossils in mud volcano material. Also white-red thin-bedded limestones with 'alpine' U Triassic Monotis salinaria and Halobia spp. Also in mud volcano material 'Tethyan' Early Jurassic ammonites Arieties spp. and Stephanoceras (Coeloceras) and M Jurassic Belemnites gerardi)

(Three lists of literature references on invertebrate fossils of Indonesia: Paleozoic (11p), Mesozoic (11p.) and Cenozoic fossils (10p.), with cross-index tables)

(Listings of fossil echinodermata described from Indonesia)

(Comprehensive review of distribution of Mesozoic rocks and fossils in E Indonesia, Sumatra, Borneo, etc.)
2. Quaternary, Recent fauna- microflora distribution


(Planktonic foraminiferal assemblages differ between Flores, Lombok and Savu Basins. In Flores Basin Ng. dutertrei is dominant followed by Gr. menardii, Pulleniatina obliquiloculata, Hastigerina siphonifera and Globigerina bulloides. Lombok and Savu Basins dominated by Gr. menardii, with Pulleniatina obliquiloculata, Gs. ruber and Gr. tumida)


('Microfauna and recreational potential of the water of Benoa, Bali')


(Abbundant planktonic foraminifera in Makassar Straits bottom samples between 42- 2300m, collected during Snellius II expedition. Globigerinoides ruber dominant in North, Neogloboquadrina dutertrei in S part)


('Foraminifera from seafloor sediments of the Bangka- Belitung Straits')


('White sands' along coasts of E Bali, W Lombok, N Sumbawa and S Flores composed mainly of rounded foraminifera Schlumbergerella floresiana (formerly also called Tinoporus, Baculogypsina, Baculogypsinoides; HvG). Forams derived from adjacent coral reefs)


('Benthic foraminifera of Senggigi Beach, W Lombok, and its associations, etc.')


(Benthic foraminifera from East Lombok coast and Alas strait shallow waters down to 90m. In N and central parts Amphistegina lessonii dominant and associated with Calcarina. In S Asterorotalia ('Rotalinoides') gaimardii dominant, still with Amphistegina. Beach samples in N with common Schlumbergerella and Baculogypsinoides, derived from coral reef. Planktonic foraminifera rare)


('Catalog of Foraminifera collected from Indonesian seas')


(Foraminifera from 12 seafloor samples in Sunda Straits and adjacent Indian Ocean between 52- 2180m. Rel. common planktonic foram species Neogloboquadrina dutertrei, possibly related to rel. low salinity)
(online at: http://isjd.pdii.lipi.go.id/admin/jurnal/1303110.pdf)
(‘Foraminifera in sediments offshore Mahakam Delta, E Kalimantan’. Foraminifera distribution in samples mainly from 10-100m water depth)

(Descriptions of 75 species of modern mainly solitary deep-sea corals from East Indonesia, collected during Siboga Expedition 1899-1900)

(Palynology study of Holocene raised peat bog near Marudi (Sarawak) and Miocene coal near Berakas (Brunei) and compared with present-day swamp vegetation along NW Borneo coast. 76 pollen and spore types recognized. Floristic composition of mixed swamp forest stage in both bogs closely comparable. Only one spore type, Stenochlaena areolaris became extinct in Borneo)

Barbin, V., J.C. Cailliez & D. Decrouez (1987) - Sable a Schlumbergerella floresiana (foraminifere) et Conus mobilis skinneri (gasteropode) de Kesuma Sari (SSE Bali, Indonesie). Revue Paleobiol. 6, 1, p. 159-164.
(Sands composed of Schlumbergerella floresiana large globular forams and Conus gastropods in SE Bali)

(Useful taxonomic revision of beautifully illustrated modern deep water foraminifera book of Brady (1884) (see also Jones (1994))

(On subrecent foraminifera in E part of Indonesia (Sulawesi, Moluccas, Halmahera))

(‘Holocene benthic foraminifera and microhabitat distribution of Kau Bay’)

(‘Influence of environment on planktonic foraminifera distribution in Kau Bay, Halmahera’)


(On modern corals and larger foraminifera distribution in Indo-Pacific. Eastward decline in diversity due primarily to shallowing of thermocline and significant cooling of Equatorial Undercurrent in E Pacific)


slope and medium deep terraces of Massa Lima, sediments rich in planktonic foraminifera and coccoliths; glauconite may be abundant)


(On ostracod fauna in Mahakam delta area. In front of delta mouth number of species decreases, Hemicytheridea reticulata relatively common, and ornamentation of polymorphic species decreases. Between delta mouths ornamentation increases, probably due to less degradation of organic matter here)


('Ecosystems and paleoenvironments of the Mahakam Delta zone since the end of the Neogene'. Good overview of delta plain environments and distribution of foraminifera and ostracodes. With data from Misedor core hole on Handil Anticline)


(Paleoenvironments in deltas can be defined by biological tracers, mainly benthic foraminifera and ostracods. In 200 m of core these biomarkers show four transgressive marine sequences since 125,000 yr B.P., with sharp asymmetry in transgression/progradation cycle)


(online at: http://www.19thcenturyscience.org/HMSC/HMSC-Reports/Zool-21/htm/doc.html)

(Descriptions of Recent larger foram Orbitolites complanata from coast of Australia and Fiji (= Marginopora vertebralis Quoy and Gaimard; HvG))


(Three foraminifera assemblages in deepwater Gulf of Papua Pleistocene-Holocene: (1) high Uvigerina peregrina- Bolivina robusta (higher organic carbon flux or lower oxygen water at maximum siliciclastic fluxes to slope with falling sea level); (2) high Globocassidulina subglobosa (lower organic carbon flux or elevated oxygen, corresponding to lowered siliciclastic fluxes to slope due to sediment bypass during sea level lowstand); (3) high % neritic benthic species like Planorbulina mediterranensis (increased off-shelf delivery of neritic carbonates, when carbonate productivity on outer shelf increased significantly when reflooded)


(Well-illustrated latest Pliocene- Holocene planktonic foraminifera biostratigraphy (N19-N23) in cores from Queensland and Townsville Troughs)


(online at: http://ntur.lib.ntu.edu.tw/bitstream/246246/172607/1/27.pdf)

(Oxygen isotope time-scale based on planktonic foram Globigerinooides sacculifer at piston core site MD012380 in water depth 3232m in Banda Sea was established for past 820 ky. Spectral analysis of 18 O time-series reveals distinct periodicities of 100, 41, and 23 ky, indicating strong orbital forcing)

(Larger foraminifera common around Fongafale Island, Tuvalu. In shallow lagoon mainly larger foraminifera (Amphistegina lessonii, A. lobifera, Baculogypsina sphaerulata, Calcarina spengleri, Marginopora vertebralis, Sorites marginalis). In deeper water Halimeda replaces foraminifera)


(Mangrove swamp samples from Setiu wetlands of NE Peninsular Malaysia with 13 infauna taxa. Six taxa found live in all cores: Ammobaculites exigus, Bruneica clypea, Caronia exilis, Haplophragmoides, Siphotrochammina and Trochammina inflata. Upper-mangrove swamp populations characterized by Arenoparella mexicana (=Trochammina inflata mexicana), Haplophragmoides wilberti, Miliammina fusca, Miliammina obliqua, Trochammina inflata, and the calcareous species Helenina anderseni. Low-mangrove and adjacent mudflat populations dominated by calcareous species such as Ammonia aoteana, Rosalina sp., Elphidium oceanicum, and Triloculina oblonga)

(Four benthic foraminifera thanatofacies in Setiu wetlands of NE Peninsular Malaysia, related to variations in salinity and hydrodynamics: (1) low salinity estuarine: low diversity assemblage dominated by Ammotium directum, Trochammina amnicola, Miliammina fusca and Ammobaculites exigus; (2) medium salinity lagoon: dominated by Ammobaculites exigus; (3) high salinity estuary and lagoon: high diversity, dominated by A. exigus and Ammonia aff. A. aoteana; (3) normal marine salinity inlet and adjacent lagoon: high diversity dominated by Amphistegina lessonii, Ammonia aff. A. aoteana)

(Brief descriptions of new species of deep water foraminifera from Albatross Expedition in Philippines)

Cushman, J.A. (1919)- The relationships of the genera Calcarina, Tinoporus and Baculogypsina as indicated by recent Philippine material. U.S. Nat. Museum Bull. 100, 1, 4, p. 363-368.
(online at: http://archive.org/details/relationshipssofg00cushiala)

(online at: http://books.google.com/books/...)
(Extensive descriptions of Recent benthic and planktonic foraminifera from 600 shallow and deep water dredge samples collected during 'Albatross Expedition' around Philippines)


(online at: http://si-pddr.si.edu/dspace/bitstream/10088/10059/1/USNMB_16111932_unit.pdf)
(Part 1 of descriptions of Recent foraminifera in deep water samples from around Equatorial Pacific islands)
(online at: http://si-pddr.si.edu/dspace/bitstream/10088/10058/1/USNMB_16121933_unit.pdf)

(online at: http://si-pddr.si.edu/jspui/bitstream/10088/10057/1/USNMB_16131942_unit.pdf)


(online at: http://pubs.usgs.gov/pp/0260h/report.pdf)

(On low diversity fresh water Thecamoebian assemblage in Lake Sentani, NE Papua)

(Distributions of 46 species of deep-sea benthic foraminifera from 131 core-top samples (322-5013 m) from across Indian Ocean. Two faunal provinces: (A) NW (Arabian Sea): with high organic flux and pronounced oxygen minimum zone (dominated by Uvigerina peregrina, Robulus nicobarensis, Bolivinita spp., Bulimina aculeata, Bulimina alazanensis, Ehrenbergina carinata and Cassidulina carinata); (B ) S, SE and E Indian Ocean (dominated by Nuttallides umbonifera, Epistominella exigua, Globocassidulina subglobosa, Uvigerina proboscidea, Cibicides wuellerstorfi, Cassidulina laevigata, Pullenia bulloides, Oridoralis umbonatus, Gyroidinoides soldani ) suggesting well-oxygenated, cold deep water)

(Descriptions and environmental conditions of 1000 species of Recent foraminifera found around New Caledonia)

(Online: www.ird.nc/biodec/downloads/Compendium/Version%20v%E9rouill%E9e/Debenay-Cabioch-v.pdf)  
(Listing and some illustrations of modern forams around New Caledonia)

(online at: http://jfr.geoscienceworld.org/content/40/1/36.full.pdf)  
(152 species of epiphytic foraminifera identified from New Caledonia)

Deep-sea core from water depth 2542 m off SE Sumatra shows ‘blooms’ of giant diatom Ethmodiscus rex in Indian Ocean during last glacial period, particularly in Last Glacial Maximum. Blooms caused by increases in salinity and nitrate levels near surface. No major upwellings recorded during glacial times. During glacial period Indonesian Archipelago was much drier, preventing low-salinity ‘cap’ at surface of oceans.


De Neve, G.A. (1949)- Foraminifera from the shore zone of Parigi and Poso (Gulf of Tomini). Chronica Naturae 105, 10, p. 252.


Dewi, K.T., A. Muller (2003)- Do Quaternary ostracods reflect sea level changes in the Timor Sea? Proc. 32nd Ann. Conv. Indon. Assoc. Geol. (IAGI) and 28th Ann. Conv. Geologists (HAGI), Jakarta, 11 p. (Samples from E of Timor in water depth 1768m show several small ostracod diversity peaks. Peaks of deep-sea taxa like Krithe, Bradleya, Cytheropteron, Acanthocythereis and Ambocythere related to changes in paleoproductivity. Other peaks with mixed shallow-water (Paracytheridea, Quadracythere, Limuloides, Polycythere, and Loxoconcha) and deep-sea taxa suggest downslope transport of sediments, possibly regressive events)


(In montane areas in Sunda-Sahul region Upper Montane rainforest appears to be absent in Late Pleistocene. Estimates of temperature lowering in Late Pleistocene strikingly greater in mountains than in lowlands)


Frerichs, W.E. (1971)- Paleobathymetric trends of Neogene foraminiferal assemblages and sea floor tectonism in the Andaman Sea area. Marine Geol. 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)

Fujita, K. & S. Kato (2011)- Distribution of gravel-sized empty tests of large benthic foraminifers as practical depositional indicators in tropical reef and shelf carbonate environments. Facies 57, 4, p. 525-541. (Depth and spatial distributions of Large Benthic Forams in 39 surface sediment samples from W coast of Miyako Island (Ryukyu Islands, NW Pacific))

Fujita, K., Y. Osawa, H. Kayanne, Y. Ide & H. Yamano (2009)- Distribution and sediment production of large benthic foraminifers on reef flats of the Majuro Atoll, Marshall Islands. Coral Reefs 28, p. 29-45. (Estimates of sediment production by Large Benthic Forams, mainly Calcarina and Amphistegina, on reef flats of Pacific atolls. Both live attached to seagrass/algae and most abundant on ocean reef flat (ORF) and in inter-island channel near windward, sparsely populated islands. Calcarina density higher on windward sides)

Gastaldo, R.A. (2012)- Taphonomic controls on the distribution of palynomorphs in tidally influenced coastal deltaic settings. Palaios 27, p. 798-810. (Includes discussion of Recent palynomorph distribution in meso- to macrotidal Rajang River Delta, Sarawak. Mangrove pollen found throughout delta and alluvial plain sediments, as far as 75 km inland from mouth of rivers in frequencies of 5% of pollen spectra)


Glenn-Sullivan, E.C. & I. Evans (2001)- The effects of time-averaging and taphonomy on the identification of reefal sub-environments using larger foraminifera: Apo Reef, Mindoro, Philippines. Palaios 16, 4, p. 399-408. (Foraminifera ~40% of sediment at small, isolated Apo Reef. Comparisons of live and dead assemblages show time-averaged assemblages, the product of taphonomic processes, more effective in delineating reefal sub-
environments than do live assemblages. Robust calcarinids are in shallow seaward zones; free-living miliolids and small rotaliines in leeward zones. Planktonics and large thin rotaliines in fore reef)


Hada, Y. (1943)- The relation between the foraminifera and deposits of the Java Sea. J. Oceanogr. Soc. Japan 12, 4, p. 27-36. (in Japanese with English Abstract) (Bottom samples from 31 stations in shallow areas of Java Sea rich in foraminifera. Some genera more abundant in sandy deposits (incl. Textularia, Operculina, Amphistegina, Siderolites (=Baculogypsina?; HvG), Planorbulinella, Alveolinella), some more abundant in muddy deposits (Eponides praecinctus, Rotalia Schroeteriana, Quinqueloculina))


Haig, D.W. (1988)- Miliolid foraminifera from inner neritic sand and mud facies of the Papuan lagoon, New Guinea. J. Foram. Res. 18, 3, p. 203-236. (online at: http://jfr.geoscienceworld.org/content/18/3/203.full.pdf) (101 species of miliolids from five physiographic settings in Papuan Lagoon, SE coast of PNG. Miliolids generally 10-40% of total foram assemblage, which is dominated by rotaliids)


Hallock, P. (1981)- Production of carbonate sediments by selected large benthic foraminifera on two Pacific coral reefs. J. Sedim. Res. 51, p. (Carbonate production rates by foram families Asterigerinidae, Calcarinidae, and Nummulitidae in Palau, W Caroline Islands: seaward reef flats up to 2.8 kg CaCO3/m2/yr, equivalent to deposition of almost 1 mm/yr. Productivity on lagoonal reef slopes about one-fifth. In Hawaii, production rates much lower because of slower growth rates and absence of family Calcarinidae)


(14 samples with Recent Cycloclypeus from off Ryukyu Islands from 87-133m water depth, one from 235m)

(Distribution of terrestrial palynomorphs in Mahakam Delta surface sediments from 12 depositional environments from head of delta to shelf edge can be explained by transport and depositional processes. Amounts of marine palynomorphs (foram linings, copepod eggs, dinocysts) increases gradually offshore)

(‘Contribution to the knowledge of the microscopic fauna and flora from the Banda Sea’ Early report on foraminifera, radiolaria, etc. from Recent deep Banda Sea sediment samples between 1200-4000 fathoms)

(Study on distribution of small agglutinated benthic foram Miliammina fusca in three modern depositional settings, Klang Delta, Pahang Delta and Sedili Besar River. Generally associated with brackish conditions. In Malay Basin M. fusca used as indicator of marine incursions into basin, particularly in Lower Oligocene (upper Group L and Group K)


(Shallow Holocene peat near Pekan Nanas, Johore, with 47 pollen and spore types. Pollen profile shows succession from open swamp vegetation with mangrove influence to marginal peat swamp facies with river bank vegetation. Radiocarbon dating on deepest peat yielded ~4.9 ka)

(Brief, general overview of pollen and spores, processing and application in determination of paleoenvironments. ‘Palynology in SE Asia still at early stage of development’)

(Modern intertidal foraminifera in mangrove-lined microtidal distributary of Barron River Delta (Queensland): (1) saltmarsh: Trochammina inflata assemblage; (2) regularly inundated tidal flat: dominated by Ammonia beccarii; (3a) high tidal flat: >70% Ammonia beccarii and low diversity, and (3b) low tidal flat: 55-65% Ammonia beccarii and diverse small allochthonous species transported into estuary from shelf)


(Black’s (1884) monograph on living foraminifera from Challenger Expedition samples contains 18 species (mainly elongate, benthic foraminifera like Pleurostomella, Stilostomella, Orthomorphina, etc.) known become extinct in M Pleistocene, between 1.2- 0.6 Ma. Majority (14 species) come from two stations off Kei Islands, Banda Sea (191A, 192). Station 192, from ~250 m depth, is considerably shallower than established fossil bathymetric ranges of extinct species, suggesting tectonic uplift)


(Samples from Lower Perak and Kelantan lowlands (Malay Peninsula) allowed palynological characterization of environments: shallow offshore, deltaic/esturine, mangrove, fresh water swamp, peat swamp


(Modern foraminifera in seafloor samples collected by Siboga Expedition in Indonesia, part 1 of 3)


(Modern foraminifera in seafloor samples collected by Siboga Expedition in Indonesia, part 2 of 3)

Hofker, J (1948)- Foraminifera of the Bay of Jakarta, Java. Bijdragen tot de Dierkunde 37, p. 11-59.

(Recent foraminifera from shallow marine Jakarta Bay, dominated by Pseudorotalia schroeteriana, Asterorotalia pulchella, Elphidium batavum, Operculina complanata, Quinqueloculina. Highest diversity in NW part of bay. Pseudorotia most common in muddy substrates in SE, Baculogypsinoides and miliolids mainly in NW, away from delta muds)


(Online at: http://www.repository.naturalis.nl/document/155300)

(462 species of foraminifera from 78 sea bottom samples at depths 85-5138m, collected by 1929-1930 Snellius Expedition to East Indonesia, and a few other shallow marine samples)


(Living larger foraminifer restricted to photic zone. Peneroplids in shallow-water from intertidal (common Peneroplis) to 40 m (Dendritina, sandy substrates). Soritids subtidal, from reef moat down to 60 m. Amphisorus and Marginopora common down to 30 m, Parasorites in deeper parts of reef slope. Alveolinella in upper 40 m of reef slope. Amphistegnids in entire photic zone, with test flattening with increasing depth. Calcarinids cling to firm substrates. Baculogypsina restricted to high energy reef flat regions. Calcarina similar facies, extending to fore reefs down to 80 m. Baculogypsinoideas dominant calcarinid genus from 30-70 m depth. Heterostegina prefers hard substrates on reef slope. Operculina frequent in deeper part, independent of substrates. Sandy bottoms from 30-60 m are inhabited by Nummulites (Operculina) venosus. Cycloclypeus restricted to fore reef areas below 50 m down to base of photic zone)


Hohenegger, J. (2004)- Depth coenoclines and environmental considerations of Western Pacific larger foraminifera. J. Foram. Res. 34, p. 9-33. (Good overview of depth distribution modern larger benthic forams in W Pacific)


Hohenegger, J. & E. Yordanova (2001)- Depth-transport functions and erosion-deposition diagrams as indicators of slope inclination and time-averaged traction forces: applications in tropical reef environments. Sedimentology 48, p. 1025-1046. (Comparisons of distributions of living versus dead tests of larger foraminifera indicate common downslope transport in two NW Pacific off-reef transects)


Hohenegger, J., E.K. Yordanova, Y. Nakano & F.Tatzreiter (1999)- Habitats of larger foraminifera on the upper reef slope of Sesoko Island, Okinawa, Japan. Mar. Micropal. 36, p. 109-168. (Peneroplis common on reef flat, hardgrounds down to 30 m. Dendritina on sandy bottoms avoids uppermost slope, found down to 50 m. Alveolinella similar distribution, common on hard bottom. Parasorites restricted to sandy substrates, 20-80 m. Sorites and Amphisorus firm substrates between reef edge and 50 m. Amphistegina species prefer hardgrounds. A. radiata also common on sand. Calcarinids withstand high energy, abundant on firm substrates close to reef edge. Baculogypsinoides deeper slope, sandy bottom, avoids shallowest parts. Hard substrates settled by Heterostegina down to 80 m, occasionally on sandy bottoms. Nummulites on sands between 20-70 m. Operculina, starting at 20 m, sandy substrates, rare individuals on rubble)


Ho Kiam Fui (1971)- Distribution of recent benthonic foraminifera in the ñinnerô Brunei Bay. The Brunei Mus. J. 2, 3, p. 124-137. (Three foraminifera assemblage in nearly landlocked Brunei Bay: (1) Trochammina cf. lobata and other small arenaceous species (tidal inlets); (2) Ammobaculites (large part of inner bay); (3) Asterorotalia trispinosa with Ammonia, Elphidium, Florilus (seaward part of inner bay))
(Atlas describing and illustrating 300 common Jurassic-Recent deep-sea benthic foraminifera species)

(Samples behind barrier reef with water depths from 4.2-48 m. Two foraminiferal zones: inner shelf with Elphidium hispidulum, Pararotalia venusta, Planispirinella exigua, Quinqueloculina venusta and Triloculina oblonga; and middle shelf dominated by Amphistegina lessonii, Dendritina striata and Operculina complanata)

(Modern foraminifera and associated environmental information from Cocoa Creek, a mesotidal fringing mangrove environment on Great Barrier Reef. Three elevational zones. Zones I (highest) and II dominated by agglutinated species Trochammina inflata and Miliammina fusca, respectively; and Zone III (lowest) dominated by calcareous species, notably Ammonia tepida and Elphidium discoidale multiloculum. These assemblage zones similar to those found in both tropical and temperate intertidal environments)

(Intertidal foraminifera from Tukang-Besi islands off SE Sulawesi. Agglutinated species like Arenoparella mexicana, Miliammina fusca and Trochammina inflata most common at landward margin, and small calcareous species Ammonia tepida, Elphidium advanum and Quinqueloculina dominant at seaward margin of mangrove belt)

(Modern diatoms from mangrove swamps of Kaledupa (Tukang Besi island). 95 species, dominated by mesohalobous species (Amphora coffeaeformis, Amphora turgida, Achnanthes delicatula, Nitzschia sigma, Tryblionella balatonis) and oligohalobous (Amphora veneta, Diploneis ovalis, Progonoia didiomatia) taxa)

(Depth distribution of larger foraminifera controlled by temperature, light, symbionts, substrate, etc. Three major biogeographic provinces, (1) Caribbean, (2) Mediterranean and (3) Indo-Pacific (with Cycloclypeus, Operculinoids, Marginopora, Alveolinella))


(online at: http://jfr.geoscienceworld.org/content/15/1/13.full.pdf)
(56 species of foraminifera in Halimeda gravels from Ontong Java Atoll lagoon between 31-38 m water depth. Amphistegina lessonii and Heterostegina depressa two most common species in all samples)

(Samples from 8-65 water depth in Avatiu and Avarua channels of Rarotonga Island, S Pacific. Foraminifera mainly Cymbaloporeta bradyi, Borelis schlumbergeri, Heterostegina depressa, Peneroplis pertusus, Planorbulinella larvata, Siphogenerina raphanus, Sorites marginalis, Spirillina vivipara, Rosalina globularis, Amphistegina radiata, Planispirinella exigua and small miliolids)

(Sedili River of S Malay Peninsula enters S China Sea through wide estuary at Sedili Besar. Samples collected for foraminiferal analysis from estuary upstream yield biofacies associations that could be used to determine Tertiary palaeoenvironments in wells in S China Sea. Lower estuarine, mangrove-fringed regime with normal marine salinity (34 ppt) has mixed calcareous and agglutinated autochthonous foraminiferal assemblage with Trochammina spp., Tiphotrocha comprimata, Haplophragmoides spp. and Ammobaculites spp. and surge-transported inner neritic calcareous benthonic foraminifera (Asterorotalia, Cellanthus, Triloculina, Ammonia, Elphidium, etc.) and rare planktonics. Estuarine, mangrove-fringed regime upstream of lower estuarine contains diverse, rich agglutinated foraminiferal assemblages dominated by Trochammina spp., Tiphotrocha, Cribrostomoides and Ammobaculites. Upper estuarine, freshwater-slightly brackish Pandanus- grass-fringed tidal regime supports rare, low diversity agglutinated foramin assemblages dominated by Miliammina fusca and Spirolocammina sp. Upstream freshwater areas of Nipa palm and grass-fringed river banks do not contain foraminifera. Thecamoebae include Difflugia oblonga, Cucurbitella tricuspid and Nebela colaris)

('Systematic and ecological investigations of the diatom floras of Java, Bali and Sumatra...')

(online at: http://isjd.pdii.lipi.go.id/admin/jurnal/24109112.pdf)  
(Distribution of nannoplankton and foraminifera in 26 shallow marine surface sediment samples from Madura Strait and 24 samples from open marine water N of Madura)


(Distribution of foraminiferal detritus in sediments of Heron Island Reef, Great Barrier Reef Province. Dominant genus Calcarina spp. Baculogypsina sphaerulata and Marginopora vertebralis mainly in outer parts of reef flats. Amphistegina, Elphidium, Operculina, Peneroplis and Alveolinella quooi relatively rare)

(In deepwater S China Sea different foram assemblages associated with Intermediate Water Mass (Globocassidulina subglobosa), Deep Water Mass (Astronion novozelandicum and Bulimina aculeata) and Deep water below CCD (Eggerella bradyi))
(During periods of high organic carbon flux during last glacial maximum (~10 ka; possibly due to increased surface productivity, induced by increased input of nutrients from nearby river runoff) detritus feeders like Bulimina aculeata and Uvigerina peregrina dominated benthic foraminiferal assemblages. Suspension feeders like Cibicidoides wuellerstorfi and ‘opportunistic’ species like Oridorsalis umbonatus, Melonis barleeanum and Chilostomella ovoidea gradually became more abundant as soon as organic carbon flux decreased)

(Updated taxonomy and reproductions of foraminifera from H.B. Brady (1884) Challenger report)

(Updates to Jones (1994) updates to names of foraminifera in Brady Challenger Report)

(online at: http://www.deepseadrilling.org/27/volume/dsdp27_42.pdf)
(Site 262 is near axis of the Timor Trough, 75 km S of W tip of Timor at water depth 2315 m. Sediments mainly nanno oozes with some terrigenous material. Diatoms present only in upper 250m (M-U Pleistocene) and not numerous. Diatoms well preserved. 97 species, dominantly oceanic (38). All samples contain species of oceanic Thalassionema and Thalassiotrix)

(‘Foraminifera in seafloor sediments of Semangko Bay and Lepas beach, S Sumatra’)

(Foram distributions in 96 samples of coastal sediments down to 3m depth along E coast India. Faunas dominated by Miliolidae, followed by Rotaliidae, Elphididae, Nonionidae,Cassidulinidae, etc.)

(Mainly on Recent and Quaternary dinoflagellates in Molengraaf paleo-river area of N Sunda Shelf)

(13 species of podocopid and one platycopid ostracode species from 28 stations in E Indnesean Seas)

(Percentages of planktonic foraminifera in 561 seafloor samples from narrow Brunei and Sabah shelf between 4-113m increase with depth: rare between 0-20m, <5% between 20-40m, 5-40 % between 40-100m, up to 80% between 100-200m. Distinct increases in relative abundance of Orbulina, Pulleniatina, Globorotalia menardii below 40-50m. Globorotalia truncatulinoides, Gr. crassafomis and Sphaeroidinella dehiscens only below 100m)

(Discussion of distribution of 4 species of Miocene- Recent ostracode genus Paijenborchella in Brunei, Cebu-Philippines, etc.)


Kleijne, A. (1990)- Distribution and malformation of extant calcareous nannoplankton in the Indonesian Seas. Marine Micropaleont. 16, p. 293-316. (Calcareous nannoplankton distribution in 202 samples from Snellius-II Expedition in Banda Sea and adjacent seas. 36 living species recorded; most common Gephyrocapsa oceanica, Umbellosphaera irregularis, Emiliania huxleyi and *U. sibogae*. Coccolithophorids present, but devoid of coccoliths during NW monsoon, suggesting low salinity and nutrient depletion of surface waters restrict coccolith formation, since normal coccoliths do develop during SE monsoon when upwelling causes nutrient enrichment and normal salinity)

Koba, M. (1978)- Distribution and environment of Recent Cycloclypeus. Science Repts. Tohoku University, ser. 7, 28, p. 283-311. (Tropical larger foram Cycloclypeus widely distributed in Recent of Indo-Pacific oceanic region. Common on outer reef slopes, and confined by the 200 m isobath. Not present in pelagic environments, reef banks, lagoons or bays. In Recent samples found between 32-1419m depth, but clear abundance peak around 90m)

Lambert, B. (2003)- Micropaleontological investigations in the modern Mahakam delta, East Kalimantan (Indonesia). Carnets de Geologie/Notebooks on Geology, 2003/02, p. 1-21. (Distribution of benthic foraminifera in Mahakam Delta system controlled by three main parameters: fluvial input of fresh water and sediment, tides, and north to south drift current. Delta front environments and characteristic forams are: (1a) mud flats with Trochammina, Ammolitum saltatum, Arenoparrella mexicana, *Miliammina fusca*; (1b) tidal flats (0-2m) with *Trochammina*, *Ammobaculites agglutinans*, *Eggerelloides scabrum*, *Ammonia beccarii*; (2) internal delta front and river mouth bars with *Ammonia beccarii*, *Elphidium*; (3) external delta front (1-5m) with *Asterorotalia trispinosa*; (4) prodelta (>5m) with *Operculina gaymardi*, *Pseudorotalia conoides*, *Ammonia annectens*)


(Main distributions of recent larger foraminifera species. Main provinces: (1) Central Pacific with Baculogypsoides spinosus, Schlumbergerella floresiana, Operculina heterosteginoides, Pseudorotalia indopacifica; (2) Indo-Pacific with Marginopora vertebralis, Alveolinella quoyii, Amphistegina radiata., Calcarina spp., Nummulites venosus and Cycloclypeus carpenteri; (3) W Indian Ocean and (4) Caribbean)


(Benthic foraminifera distribution shows four clusters in Madang lagoon at NE coast of PNG)


(Recent foraminifera off W Java SW of Labuan three assemblages (1) Haplophragmoides- Haplophragmium, (2) Operculina ozawaia and (3) Dendritina-Aveolinella)


(Living species of Alveolinella quoyi in water depths of 3-12m, mainly on algae-covered coral rubble and around bases of living coral heads in rel. sheltered areas. Dead tests scattered over wider bathymetric range. Virtually absent on back-reef flats)


(Three epiphytic calcarinid species on Great Barrier Reef and limited to W Indo-Pacific (absent from Indian Ocean and E of 170°W). Calcarina spengleri (=hispida) dominant and common in shallow water on reef flat. Calcarina mayori smaller and dominates in deeper water off reef flat. Baculogypsina sphaerulata is shallow water high-energy species. Best preserved Calcarina at Green Island Reef in windward shoals)


(Recent foraminifera from Timor Trough and Sahul Shelf, collected in 1961. Mainly descriptions of species: 946 species of 428 genera; 101 new species)


(Extraordinary species richness and endemism in Indo-Australian Archipelago. Present distribution patterns of species shaped largely by pre-Pleistocene dispersal and vicariance events, whereas more recent changes in the connectivity of islands within the Archipelago have influenced the partitioning of intraspecific variation)


(Palynological information on SE Asia Holocene from deep sea cores, archeological sites and land cores)
(Large chart with Ediacaran- Recent time scale and biozonations)


(On shallow marine, reef flat foramin assemblages around hydrothermal vents in ~8m of water at Ambitle Island, Tutum Bay, E of New Ireland, PNG)

(Recent ostracodes from Snellius Expedition to East Indonesia, incl. Pterobairdia maddocksae n. sp.)

(Study of foraminifera from surface sediments from Phetchaburi coastal area, Thailand Gulf, from margin of vegetated zone, to depth of ~20 m, and core in Mae Khlong delta plain. Area characterized by inflow of Mae Khlong river. Typical low diversity brackish-water faunas. Four assemblages, with salinity fluctuation controlling factor)

(Benthic foraminifera in surface sediment samples from S China and Sulu Seas. Low abundances but high diversity. Four faunal assemblages; (1) Globocassidulina subglobosa/ Uvigerina < 1500m; within oxygen minimum zone); (2) Bulimina aculeata between 1700- 2000 m in SE S China Sea, also associated with high organic carbon content; (3) Astronomon pusillum in S China Sea between 1500-3200m; (4) below lysocline (~3200m) in S China Sea agglutinated Rhabdammina abyssorum assemblage, in water mass that is highly undersaturated with respect to calcite. In Sulu Sea Pyrgo murrhina assemblage 1400 to 2200m; below 2200m assemblages dominated by Oridorsalis umbonatus)


(Reprinted by Antiquariaat Junk, Lochem, 1970) 
(17 papers on foraminifera from samples collected by A. Durrand at 30 stations along transect from N Australia to Malay Peninsula)

(Extended Abstract)
(Malay Basin dominated by paralic facies, where agglutinated foraminifera are useful in characterising biofacies. Three modern localities studied for biofacies analogs: Sedili Besar Estuary, Klang-Langat Delta and Pahang River Delta. Occurrences of species such as Ammobaculites exiguus, Textularia sp and Arenoparrella mexicana used to differentiate nearshore, shallow marine and brackish intertidal depositional settings)


(Foraminifera in Sedili Besar River Estuary dominated by Ammonia cf. takanabensis (also identified as Ammonia beccarii) in stratified water column of marine base and freshwater top. In Klang-Langat and Pahang Deltas, where minimal salinity stratification, Ammonia assemblages are quite scattered. Agglutinated forms (mainly Arenoparrella group) dominate less stratified water column)

(Study of planktonic foraminifera in surface sediment samples from fore-arc basins in W and SW Indonesian Archipelago. Present-day oceanography and marine productivity are reflected in tropical to subtropical and upwelling assemblages of planktonic foraminifera in surface sediments. Opal in surface sediments corresponds to upwelling-driven increased marine productivity)


(online at: http://www.odp.tamu.edu/publications/133_SR/VOLUME/CHAPTERS/sr133_26.pdf)
(Useful overview of foram distribution on and around Great Barrier reef)

(‘Recent ostracods from the central Sunda Shelf, between the Malay Peninsula and Borneo’)

(Ostracods from recent reefal flat sample off Sanur, SE Bali, at a depth of about 1.5 m. Assemblage of 34 species, dominated by dominated by Loxoconcha peterseni, Auradilus convolutus, Auradilus australiensis, Paranesidea conulifera, etc. Fauna belongs to East Indian biogeographical province of Titterton and Whatley (1988) in tropical littoral zone of Indo-W Pacific. Associated with foraminifera Schlumbergella floresiana, Calcarina hispida, etc.))

(‘The ostracodes of the Siboga Expedition’)

(57 core tops between 700-4335m from E Indian Ocean between Australia and Indonesia. Seven key-species useful for environments. Two species groups: (1) Oridorsalis tener umbonatus, Epistominella exigua and Pyrgo murrhina (cold, well-oxygenated, low carbon flux to sea floor) and (2) Nummuloculina irregularis and Cibicidoides pseudoungerianus (upper-bathyal). Uvigerina proboscidia mainly at low latitudes, with high carbon flux due to higher primary productivity at sea surface, and low oxygen levels due to organic matter oxidation and presence of oxygen-depleted Indonesian Intermediate Water and N Indian Intermediate Water)


(Chagos Archipelago is surface expression of thin limestone cap on Eocene volcanic basement in central Indian Ocean. Principal larger foraminifera in surface samples from 0-43m are Amphisorus hemprichii and Sorites orbiculus widespread in shallow lagoon Heterostegina depressa patchy distribution, most common between 18-25m. Operculina ammonoides generally in deeper lagoon, below 12m)


('Recent Ostracoda within offshore sediment around Pulau Tioman, Pahang'.34 species of ostracodes identified in samples from shallow waters around Tioman Island. most common species Loxoconcha paiki, Pistocythereis bradyi, Venericythere papuensis)

(On distribution of modern calcareous nanofossils off Japan, Taiwan, Gulf of Thailand (mainly Emiliania huxleyi, Gephyrocapsa oceanica, Florisphaera profunda; G. oceanica most abundant in coastal stations) and Arafura Sea- Gulf of Carpenteria (mainly G. oceanica and E. huxleyi; F. profunda rel. rare). F. profunda dominates associations in deep basins)


('Contributions to the knowledge of the mollusk fauna of S Sumatra'. Listings of Recent mollusces from southernmost Sumatra, along Sunda straits)

(Recent foraminifera distribution in shallow water grab samples, Exmouth Gulf)


(Recent benthic foraminiferal distribution on Ayeyarwaddy Delta Shelf, off Myanmar shows Asterorotalia trispinosa has preference for low salinity. Variations in abundance used as proxy for delineation of past wet and dry periods: dry climate prior to 1650 AD and warm and wet climate since 1650 to present)


(Comprehensive inventory of modern foraminifera from 334 samples in 0-34m water depth of subtropical Ningaloo Reef in E Indian Ocean, off NW Australia. Descriptions and illustrations of 404 species)


(Two coral-reef lagoons comprise eight foraminifera assemblages with 270 species. Three assemblages reefal and dominated by Amphistegina and Calcarina. One lagoon assemblage with abundant Ammonia and smaller miliolids. Species diversity in Maldives higher than W Indian Ocean, but not as high as central Indo-Pacific)


Pickett, E.J., Harrison, S.P., Hope, G., Harle, K., Dodson, J.R., Kershaw, A.P., Prentice et al. (2004) - Pollen based reconstructions of biome distributions for Australia, Southeast Asia and the Pacific (SEAPAC region) at 0, 6000 and 18,000 14C yr BP. J. Biogeography 31, p. 1381-1444.


(Study of benthic forams along transect from Fly River Delta to shelf edge (~140m depth), near N end of Great Barrier Reef. Three areas different benthic foram assemblages. High relict content in surface samples)


(Palynology of 18m core from small lake in Dieng Plateau, C Java. Montane forest assemblages record climate changes)


(Asterorotalia trispinosa dominates sparse foraminiferal assemblage of shallow, mud-dominated Muthupet Lagoon on SE coast of India, where salinities are slightly lower than normal marine)


Rathburn, A.E. & Q. Miao (1995)- The taphonomy of deep-sea benthic foraminifera: comparisons of living and dead assemblages from box and gravity cores taken in the Sulu Sea. Marine Micropal.25, p. 127-149. (Benthic foraminifera from 500 m-4000m water depth in Sulu Sea. Bolivina, Bulimina, Globobulimina, Chilostomella and Uvigerina most abundant in water shallower than 1500 m, but rel. rare in deeper water. Most dominant taxa below 2000 -m are Cibicidoides bradyi and Oridorsalis umbonatus.)


Recent larger foraminifera from Bali total 19 species. Species richness similar to SW Sulawesi and Cebu, but different composition. Schlumbergerella locally abundant and geographically restricted to Lesser Sunda Islands and Java. Very low abundance of imperforate species probably due to climatic or oceanographic parameters, most likely periodic upwelling, which causes seasonal seawater temperature drops.


(Diameter-thickness ratio (D/T) of Amphistegina and Operculina varies with depth. Increased turbulence thickens the test, whilst decreased light intensity causes flatter test)


(Modern large benthic forams on Berau shelf two- three depth-controlled assemblages: shallow (20-50m; dominated by Operculina ammonoides) and deeper (50-85m; dominated by Operculina complanata and Planostegina operculinoides). Deepest living LBF at 115m. Cycloclypeus carpenteri between 55-95m)


(Composition of larger foram assemblages (35 species) on Berau carbonate shelf with barrier reef system and some reefs outside barrier. Four clusters corresponding to substrate type)


(On distribution of symbiont-bearing larger foraminifera on 'Thousand Islands' off Jakarta. Diversity and habitat fractionation increases as terrestrial and nutrient influence decline. Assemblages in nearshore reefs dominated by generalist species, while, additionally, more specialist species occur at more offshore reefs)


(Reefal habitats dominated by algae are inhabited by Calcarinidae larger foraminifera)


(Fossil and molecular evidence reveals at least three hotspots of high marine biodiversity in past 50 million years. They moved across globe, with timing and locations coinciding with major tectonic events. Birth and death of successive hotspots highlights link between environmental change and biodiversity patterns. Antiquity of taxa in modern Indo-Australian Archipelago hotspot emphasizes role of pre-Pleistocene events)


(Distribution patterns of 20 species of larger benthic foraminifera in Spermonde Archipelago, off SW Sulawesi. 13 transects sampled, down to 33m water depth. Substrate type, hydrodynamic energy, light intensity, nutrient availability and environmental stability determine distribution)


(On identity of Recent reef dwelling larger foram Calcarina spengleri (Gmelin 1791). Commonly confused with Calcarina mayori Cushman 1924, C. gaudichaudii d’Orbigny 1840 and C. hispida Brady 1876)
(Modern larger foram distribution on Spermonde Shelf)

(Palynology of Quaternary lake deposits on karst surface of Gunung Sewu (Southern Mountains), C Java)

(online at: http://jfr.geoscienceworld.org/content/20/2/170.full.pdf)
(Study of larger foram Calcarina gaudichaudii, abundant in high-energy shallow reefal facies of W Pacific. Based on material from Adorius island, Micronesia and Komodo island, Indonesia)

(On Calcarina larger foram in Recent reefal limestone deposits)

('The application of foraminifera as bioindicators for contaminated estuarine deposits')

('Agglutinated foraminifera and possible application as indicators of sediments that underwent compression')

(Globigerina ooe forms major fraction of bottom sediment in Makassar Strait. Diversity and richness of benthic foraminifera decrease with water depth. High abundance of Uvigerina asperula may be proxy of oxygen minimum zone)

(online: http://repository.ipb.ac.id/bitstream/handle/123456789/53434/08%20Karakteristik%20Komunitas.pdf)
(The characteristics of the foraminiferal community in Jakarta Bay: (1) coastal water and estuary dominated by Ammonia beccarii; (2) Calcarina and other larger foraminifera common in coral reef area; (3) Elphidium and Nonion depressulum common in open waters area. Higher diversity than coastal water of Semarang and Cirebon. Reef area has highest diversity)

('Type of estuary as factor on foraminifera communities; results of study at mouths of Ciawi and Bekasi Rivers')


Aquarium experiments on living larger forams Amphistegina radiata and Heterostegina depressa, collected from Great Barrier Reef normally at temperatures of 23-28°C, show bleaching and lack of growth at temperatures of 31°C and higher.


Stuijts, J.C., J.C. Newsome & J.R. Flendley (1988) - Evidence for Late Quaternary vegetational change in the Sumatran and Javan highlands. Rev. Palaeobot. Palynology 55, p. 207-216. (Late Pleistocene pollen records from above 2000 m on tropical mountains indicate cooler climates and more arid climates below 1200 m. Sumatran and Javan sites at intermediate altitudes show higher altitude vegetation from ~18,200 yr B.P. to ca. 12,400 yr B.P., suggesting much lower forest altitudinal boundaries than today's)


Suhartati ,M.N. (1992)- Preliminary study on the benthic foraminifera and its association with ostracoda in Porong Delta, East Java. Toyama Univ., 10p. (15 sediment samples from 0.6- 21.5m along Porong delta front, Madura Straits. Most abundant species Ammonia beccarii, Calcarina calcar and Elphidium advenum. Also common Elphidium crispum, Asterorotalia trispinosa, Pseudorotalia Schroeteriana and Quinqueloculina)


Suhartati, M. Natsir (1998)- First record of brackish water agglutinated foraminifera from Java. Reopical Biodiversity 5, 1, p. 57-63. (Ammobaculites agglutinans and Textularia pseudogramen common in Recent sediments near Solo and Poreng River mouths, E Java)


Suhartati M.N. (2010)- First record of agglutinated foraminifera from Lombok. J. Coastal Dev. 13, 1, p. 48-55. (online at: http://www.omicsonline.com/open-access/first-record-of-agglutinated-foraminifera-from-lombok-1410-5217-13-276.pdf) (Benthic foram assemblages around Gili islands, NW Lombok, have more agglutinated individuals in stations close to bay, mainly Ammobaculites agglutitans and Haplophragmoides canariensis)

Suhartati M. Natsir (2010)- The distribution of benthic foraminifera in Damar and Jukung Island, Seribu Islands. Marine Research in Indonesia (LIPI) 35, 2, p. 9-14. (Benthic foraminifers on Jakarta Bay islands. Jukung Island higher diversity than Damar Besar Island. Larger foraminifera of both islands Amphistegina, Calcarina, Heterostegina, Marginophora, and Operculina)

Suhartati M. Natsir (2010)- Foraminifera bentik sebagai indikator kondisi lingkungan terumbu karang perairan Pulau Kotok Besar dan Pulau Nirwana, Kepulauan Seribu. Oseanol. Limnol. Indonesia 36, 2, p. 181-192. ('Benthic foraminifera as indicator of environmental conditions of coral reefs in Kotok Besar and Nirwana islands of Seribu islands'. Kotok Besar Island healthy reef growth due to FORAM Index of ~7.6. Dominant symbiont bearing foraminfera are Amphistegina, Calcarina and Tinoporus. Nirwana Island was dominated by opportunistic foraminfera Ammonia, Elphidium, Quinqueloculina and Spiroloculina, showing stressed conditions unsuitable for reef growth as shown by FORAM Index of 1.6-1.9)


(Nine sediment samples from around Handeuleum Islands off Ujung Kulon Peninsula contain 14 genera of benthic foraminifera and some Ostracoda and Bryozoa. Most specimens from sand sediments of coral reefs community. Most common foraminifera are opportunistic taxa such as Ammonia beccari and Elphidium
craticulatum and E. crispum. Also present are symbiont bearing foraminifera Amphistegina, Calcarina, Sorites also Cymbaloporella, Oolina, Quinqueloculina and Spiroloculina)

(Recent foraminifera in shallow waters around Tambelan Archipelago in S China Sea dominated by Amphistegina lessonii and Assilina ammonoides. Also common Quinqueloculina, Pseudorotalia, Amphistegina and Elphidium)

(Recent foraminifera in shallow waters around Tambelan Archipelago in S China Sea dominated by Amphistegina lessonii and Assilina ammonoides. Also common Quinqueloculina, Pseudorotalia, Amphistegina and Elphidium)


(Benthic foraminifera in waters and Duri River, Pontianak, W Kalimantan)

(Recent foraminiferal assemblages around Porong and Solo River Deltas dominated by small agglutinated forams, mainly Textularia pseudogramen, Ammobaculites agglutinans, Haplophragmoides, Ammotium, etc.)

(Benthic foraminiferal from six sampling sites around Belitung Islands 29 species of 18 genera. Most abundant benthic foraminifera in Nasik Strait on coarse sand substrate with coral reef (Peneroplis, Calcarina, Operculina, etc.). Seagrass beds of Nasik Strait dominated by opportunistic foraminifera Heterostegian, Calcarina, Elphidium, Ammonia, Acervulina, Spirolina, Quinqueloculina and Lenticulina. Most abundant species of all sites is Peneroplis pertusus)

(‘Benthic foraminifera as indicators for water quality of coral reefs ecosystem in Bidadar and Ringit Islands, Thousand Islands’, off NW Java.)

(online at: http://biosains.mipa.uns.ac.id/P/P0101/P010119.pdf)
(Foraminifera from 5 shallow shelf stations around Tambelan Archipelago in South China Sea, off NW Kalimantan (34-50m water depth). Sediments mainly clay and mud. Assemblages 64 species, dominated by Operculina ammonoides (‘Assilina depressa’), Amphistegina lessonii and miliolids)

(Sea floor samples from Java Sea, Bali Strait and Karimata Strait with 3 new species of miliolid benthonic foraminifera, Quinqueloculina aberensis, Triloculina malayensis and Triloculina stiuriensis)

(Summary of benthic foraminifera from 1700-1800 m depth, sampled during geohazard survey, offshore, Lariang Basin. Mainly calcareous benthics usually found in outer shelf- upper bathyal instead of arenaceous tests that are common in bathyal zone. This suggests deposition is allochtonous sediment debris from upslope)


(Palynology/ environments of Holocene sediments from Lower Barito and Martapura Rivers shallow cores)


(High-resolution pollen record for last 820 ka of ODP Site 1144, northern S China Sea. 29 pollen zones, mainly defined by alternations of Pinus-dominant (interglacial) vs. herb-dominant (glacial) zones correspond to Marine Oxygen Isotope Stages 1-29. Clear 100 ka Milankovich cyclicity)


(Benthic foraminifera distribution patterns on Vietnam Shelf and Sunda Shelf of SW S China Sea, based on 75 sites along two transects in 50-2000 m water depth. Shallow water (<200 m) assemblages from Vietnam and Sunda Shelves significantly different species composition and distinct distribution patterns. Bathyal faunas exhibit more uniform species composition)


(Recent benthic foraminifera distribution on Sunda Shelf around Natuna Island between 60-226m depth. Four biofacies: (A) inner shelf (Ammomassilina alveolinformis- Asterorotalia pulchella), in fine grained sediments; (B) high-energy inner shelf (Heterolepa dutemplei- Textularia lyhostrota, Asterorotalia gaimardi) in sand and silt dominated sediments NE of Natuna; (C) high-energy outer shelf biofacies (Cibicidoides pachyderma- Textularia bocki, Operculina ammonoides) in neritic relict sand; (4) outer shelf (Facetocochlea pulchra- Bulimina marginata, Bolivina) in area covered with modern silt and mud)


(Benthic foraminiferal distribution from the winter upwelling region off Borneo on continental slope of Sunda Shelf and from continental slope of S Vietnam Shelf. Faunas highly diverse. Four biofacies: (1) Upper Bathyal (Siphotextularia foliosa- Cibicidoides robertsonianus); (2) Middle Bathyal (Uvigerina auberiana- Nuttallides rugosus; within oxygen minimum zone); (3) uppermost Lower Bathyal (Lagenammina diffugiformis - Uvigerina peregrina) and (4) Lower Bathyal (Paratrochammina challengei- Parrellloides bradyi))


(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 foramin faunas mainly agglutinants (Spiroplectammina, Ammoscalaria, Reophax). Most living foraminifera in top 2cm of sediment, except Valvulinieria and Globobulimina pacifica. Tubular arenaceous tubular forams (e.g. Hyperammina, Rhabdammina, Rhizammina) common at all sites)


(75 species, 3 biofacies controlled by salinity)


Titterton, R., R.C. Whatley & J.E. Whittaker (2001)- A review of some key species of mainly Indo-Pacific ostracoda from the collections of G.S. Brady. J. Micropal. 20, p. 31-44. (Review of 15 modern (mainly deep water?) ostracode species from Brady's Challenger collection)


(Short note listing 44 species of ostracods from two samples, one off Sarawak, one from Batu Island, W coast of Sumatra. Incl. new genus Hemikrithe orientalis)

(Numbers of radiolarians in sea-floor sediments of Banda Sea vary widely: low from 0-950m, high between 950-4800m, and low again below 4800m water depth. Distribution reflect sediment influx and occurrence of highly productive areas in surface water)


Van der Horst, C.J. (1921) - Madreporaria Fungida. Siboga Expeditie Monogr. 16b, p. 1-46.
(First of series of papers on Recent corals of Indonesia, collected during Siboga Expedition)

Van der Horst, C.J. (1921) - Madreporaria of the Siboga Expedition, Part 2. Siboga Expeditie Monogr. 16b, p. 53-98.


(Pollen analyses on Late Quaternary sediments from E Indonesia marine piston cores show vegetation and environmental record for E Indonesia and N Australia. On Halmahera and N Australai montane oak forest largely replaced tropical lowland vegetation during last glacial period, while climate was cooler and drier than today, with maximum grassland cover at ~18 ka. One piston-core (G6-4) extends to 300 ka. and also shows glacial periods characterised by expanding grassland vegetation, and during interglacials increases in woodland and fern cover. Mangrove vegetation expansions suggest rises in sea-level at ~244, 220 and 130 ka)

(online at: http://www.odp.tamu.edu/publications/124_SR/VOLUME/CHAPTERS/sr124_27.pdf)
(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)


(Palynological record from deep-sea core off SW Sumatra used to reconstruct monsoon circulation and vegetation of SW Sumatra over the last 83 ky. During marine isotope stage (MIS) 5a, SW Sumatra was covered
Van der Kaars, W.A. & M.A.C. Dam (1995)- A 135,000-year record of vegetational and climatic change from the Bandung area, West-Java, Indonesia. Palaeogeogr. Palaeoclim., Palaeoecol. 117, p. 55-72. (Sediment cores from Bandung intramontane basin provide paleoclimatic record for Java for last 135,000 years. Anomalously dry conditions in penultimate glacial period, around 135 ka, and very warm and humid interglacial conditions from 126- 81 ka. Reduction in Asplenium ferns from 81- 74 ka suggests drier conditions, while increased numbers indicate slightly wetter climate from 74-47 ka. Distinctly cooler and possibly drier climate from 47- 20 ka. For Last Glacial Maximum 4-7 °C lower temperatures recorded)


Van der Marel, H.W. (1947)- Diatomaceous deposits at Lake Toba. J. Sedim. Res. 17, 3, p. 129-134. (Description of Early Quaternary fresh-water diatomaceous deposits around Toba caldera lake, N Sumatra, now at 150m above lake level. Layers up to 75-100 cm thick. Some diatomites mainly composed of mainly of Synedra rumpens, others mainly Denticula species)

Van Iperen, J.M., A.J van Bennekom & T.C.E. van Weering (1993)- Diatoms in surface sediments of the Indonesian Archipelago and their relation to hydrography. In: H. ten Dam (ed.) Twelfth Int. Diatom Symposium, Hydrobiologia 269-270, 1, p. 113-128. (Recent marine diatoms from 53 seafloor samples between 350-7200 m water depth in Indonesian Archipelago, collected during Snellius II Expedition. Three significant assemblages, related to parameters of overlying water mass: (1) related to warm saline surface waters of Pacific and Indian Ocean origin; (2) low-salinity lobe in Makassar Strait; (3) seasonal upwelling areas in Arafura Sea and S of Java. Also three groups of allochthonous species, indicators of productivity in littoral environment, bottom currents and river outflow)


Plankton percentage of foram fauna in 36 seafloor samples between 40-2119m depth from Australian-Irian Java continental margin increases with water depth. Percentage- Depth Transform derived from data set. Examples: around 100m water depth plankton % = ~50%, below 500m >90%

Van Waveren, I. (1989)- Pattern analysis of organic component abundances from deltaic and open marine deposits: palynofacies distribution (East Java, Indonesia). Netherlands J. Sea Res. 23, 4, p. 441-447. (Eleven types of organic debris types in sea floor samples from Java Sea, off Solo Rivr Delta, Porong Delta, etc.. Mix of open marine (foraminifera, dinoflagellates) and land-derived material (spores-pollen, etc.))


Varol, O. (1985)- Distribution of calcareous nannoplankton in surface sediments from intertidal and shallow marine regimes of a marginal sea: Jason Bay, South China Sea. Marine Micropal. 9, p. 369-374. (Sediments collected from intertidal and shallow marine (0–20 m) parts of Jason Bay. S China Sea contain calcareous nannoplankton assemblages with 99% Gephyrocapsa oceanica and rare Helicosphaera carteri, Umbilicosphaera sibogae, Scapholithus fossilis, Cyclococcolithus leptoporus, Syracosphaera pulchrae. Nannoplankton species abundance increases with depth, becoming abundant below ~20 m)

Vavra, V. (1906)- Ostracoden von Sumatra, Java, Siam, den Sandwich-Inseln und Japan (Reise von Dr. Walter Voltz). Zool. Jahrbuch, Syst. Okol. Geogr. Tiere 23, p. 413-436. (On Recent fresh-water ostracodes from swamps, lakes, etc. of Sumatra, Java, etc.)


low-oxygen organic-rich clays. Coarser seafloor rich in oxygen with Amphisteginids, Nodosariidae and planktonics bathymetric markers on slope. In bathyal areas mostly agglutinants. Model above valid only for highstand situations, comparable to present day. Sediments deposited during last lowstand period cored and correlated. Shelf microfaunas thin-walled, due to low oxygen and low carbonate concentrations; Rotaliidae indicate low salinities at shelf edge, where they coexist with Operculina and Amphistegina, close to deeper facies with planktonics, Buliminidae and Nodosariidae

Waller, H.O. (1960) - Foraminiferal biofacies off the South China Coast. J. Paleontology 34, 6, p. 1164-1182. (Benthic foraminifera from shelf S of Taiwan and in Gulf of Tonkin. Four depth-related faunas: (1) Inner Shelf (65-150') Elphidium advenum, E. sagrum, Nonion japonius, Quinqueloculina; (2) C Shelf (151-275') Amphistegina lessonii, Hanzawaia nipponica, Streblus tepidus, Operculina bartschi; (3) Outer Shelf (276-400') Biloculinella labiata, Cassidula neocarinata, Spiroloculina communis; (4) U Bathyal (401-656') Bolivina spathylata, Uvigerina auberiana, U. schwageri)


Wang, R., A. Abelmann, B. Li & Q. Zhao (2000) - Abrupt variations of the radiolarian fauna at Mid-Pleistocene climate transition in the South China Sea. Chinese Science Bull. 45, 10, p. 952-955. (Core 17957-2 from S China Sea shows distinct changes in radiolarian/foraminifera ratio and radiolarian assemblages that can be related to global climate cooling observed at M Pleistocene revolution at ~900 ka)


Whatley, R.C. & Q. Zhao (1987) - Recent ostracoda of Malacca Straits (Part I). Rev. Espanola Micropal. 19, 3, p. 327-366. (18 bottom samples of modern sediments from Malacca Straits over depth range of 10-100m contain 129 species of ostracodes (22 new). Faunas close affinity to South China Sea and Indonesia)

(Recent foraminifera from Pitcairn Islands, Pacific Ocean. Living forams almost exclusively from phytal (attached or clinging) habitats. Foraminifera in sediment samples mainly thanatocoenoses. Fauna all calcareous, low diversity, dominated by large soritids (Marginopora, Amphisorus, Sorites) and Amphistegina, with small miliolids and small attached genera (discorbids, etc.). Apparent absence of Calcarina, small rotalids, elphidids and agglutinating species, common in W Pacific islands)

'Distribution of benthic foraminifera off Papateo Island, Pulau Seribu, Java Sea'. Forams from 18 samples from 21-30m depth)

(Foraminifera distribution in intertidal zone tied to elevation. Agglutinated foram assemblage of Miliammina fusca, Trochammina inflata, Ammoutium and Haplophragmoides between just above Mean Low Water of Neap Tides to Highest Astronomical Tide level (vertical range 1.8 m). Ammonia aoteana-dominated assemblage between just below Mean Low Water of Neap Tides and Mean High Water of Neap Tides (vertical range 0.8 m)

(Diatoms in 62 sediment samples from 101-4185m water depths. 256 species, dominated by Coscinodiscus africanus, C oscinodiscus nodulifer, C yclotella styloformis, Hemidiscus cuneiformis, Melosira sulcata, Nitzschia marina, Roperia tesselata, Thalassionema nitzschioides, etc.. Seven zones)

(Palynomorph distribution patterns in three fluvial systems on W (Klang-Langat River) and E (Pahang and Sedili Besar Rivers) coasts of Peninsular Malaysia. Ecological groups. mangrove (Rhizophora), back mangrove (Acrostichum, Nypa) and hinterland pollen. Pollen and spores redistributed by currents and less by wind. Sediments in offshore area contain pollen signals which approximately mirror vegetation character onshore)

(Palynology of Late Pleistocene sediments from Pantai tin mine, W coast of Malay Peninsula, with freshwater Pandanus peat over lain by mangrove peat)

(Latest Pliocene- Recent ages for sediments in piston cores in forearc offshore E Java)

(Present-day fresh water fish distributions classified into 19 biogeographical zones/main river systems Sundaic islands grouped into four pairs: Malay Peninsula- N Sumatra, C Sumatra-W Borneo, N Borneo-E Borneo-Sarawaka and S Borneo-Java. Java is a relatively small but landbridge island connected with large islands of Sumatra and Borneo during Pleistocene low sea level periods)

(Relations between water depth and shape in Operculina, Planoperculina and Planostegina in Ryuku islands. Thick Operculina with intensively coiled spirals predominate in shallow water (20-40m); in deep euphotic zone (~120m) thin forms with weakly coiled spiral. Thin Planoperculina heterosteginoides restricted to deep euphotic zone (>80m) can extend distribution to just below euphotic zone, where it develops very thin tests)


(Buoyancy experiments on modern tropical larger foraminifera)


(Zong, Y. & B.H. Kamaludin (2004)- Diatom assemblages from two mangrove tidal flats in Peninsular Malaysia. Diatom Research 19, p. 329-344.)
3. Tertiary


(Eocene Karangsambung melange of C Java with exotic blocks, including huge Jatibungkus limestone olistolith. Larger forams (Ranikothalia, Miscellanea, rotalids and discocyclinids), corals (11 species) and calcareous algae (incl. Distichoplax biserialis) suggest Late Paleocene age (Thanetian; foram zones SBZ3/ SBZ4). Three main depositional environments)


(No major changes in larger foram faunas distribution at Oligo-Miocene boundary. In Indonesia- W Pacific first appearance of Miogypsina best marker event)

(Review of evolutionary patterns of Cenozoic larger foraminifera (Miogypsina, Cycloclypeus, Lepidocyclina, etc.), related to climate changes and tectonism (Early Miocene disconnection of Mediterranean and Indian Ocean, etc.)


(Three subgenera, Lepidocyclina (Lepidocyclina), L. (Eulepidina), and L. (Nephrolepidina), discriminated on nature and arrangement of peri-embryonic chambers. Two groups of species recognized within L. (Lepidocyclina) on basis of equatorial chamber shape)


(Late Oligocene- M Miocene (lower Te- Lower Tf zones) LBF assemblages in ~190m thick limestones capping a truncated basaltic volcanic cone in the Indian Ocean off SW Java. Mention of Eocene limestone, but no details)

(Reticulogyra mirata, a new complex miliolid species from M Eocene Lower Chimbu limestone. Associated larger forams include Fasciolites, Nummulites javanus, Dictyoconus chimbuensis)

(In most Indo-Pacific localities Eocene terminated by disconformities, with extinction of Discocyclina, Pellatispira, Spirocyclus vermicularis, etc., as in localities worldwide. Possibly triggered by global sea level fall with climatic deterioration.

(Online at: http://www.archive.org/details/bulletinofbritis32geollond)
(Katacycloclypeus limited to Middle Miocene Lower Tf letter stage. Microspheric forms from Fiji up to 90 mm)

(Geographic distribution of larger foraminifera shows continuous connection between Mediterranean and Indian Ocean closed by mid-Burdigalian)

(Paleotemperatures derived from some isotope studies are too low to account for distribution and diversity of many Tertiary tropical- subtropical taxa)
*(Last surviving species of *Lepidocyclina*, *L. radiata*, becomes extinct at N18/N19 boundary, near top Miocene)*


*('Age of the Waripi and Yawee limestone in Wamena and the Faumai and Ainod Formations in Timika, Papua, based on larger foraminifera')*

*('Biostratigraphy of the Cimandiri Formation in the Central Jampang area, Sukabumi, based on planktonic and larger foraminifera'. M Miocene, SW Java)*


*('Hiatus between Eocene and Upper Miocene on the Roo Rise, Indian Ocean S of East Java, based on nannoplankton biostratigraphy')*

*(Paleocene nannoplankton on phillipsite crystals in core from Roo Rise, 3880- 3914 m below sea level)*

*(Early Miocene shallow water limestone samples with Miogypsina-Miogypsinoides dredged from sites D1 and D2 (1500 and 2100 m) in Bali-Flores Basin, N of Sumbawa. May be reworked into Pliocene- Pleistocene deep water sediments from nearby uplifted fault blocks. Not much detail on sample positions)*


*(Samples from Tagogapu/ Cikaming part of Rajamandala Limestone in W Java with both planktonics (zones N2-N4)- and larger forams (mainly Te1-4, at top Te5; Late Oligocene- earliest Miocene)*

(Localities on Jatirogo Quadrangle, NE Java: (1) Miogypsina cushmani in Middle Rembang Beds below Ngrayong-equivalent quartz sands, and (2) Miogypsina antillea in 200m thick 'Upper Rembang Fm/ Tlatah Limestone Beds', probably equivalent of Middle Miocene 'Platen Limestone')


Akmaluddin, A. Kano & K. Watanabe (2012)- Paleoceanography of Central Java and closing of Indonesian Seaway reconstruction based on oxygen isotope composition of foraminifera. Proc. 41st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 2012-SS-10, p. (Oxygen isotopes study of planktonic and benthic foraminifera from Ngalang river section, Southern Mountains, C Java, Indonesia. Consistently low planktonic δ18O values indicate sea surface temperature in this area was higher than other tropical areas during E-M Miocene, probably related to development of W Pacific Warm Pool, which moved to present-day location in W Pacific after ~10Ma, due to closure of Indonesian seaway. Low δ18O values (warming of bottom water) of benthic foraminifera at ~18 Ma and ~12 Ma. Gradual δ18O increase (cooling) in Late Miocene (~12 Ma) in all taxa can be correlated to global cooling and/or closing of Indonesian seaway. Decreasing of carbon δ13C in Late Miocene likely correlates to 'carbonate crash', at ~11-10Ma)

Akmaluddin, T. Susilo & W. Rahardjo (2006)- Calcareous nannofossils biostratigraphy of Ngalang River section, Southern Mountain area, Gunung Kidul, Yogyakarta. Proc. 35th Ann. Conv. Indon Geol. Assoc. (IAGI), Pekanbaru 2006, 1 p. (Abstract only) (Samples from Miocene Sambipitu and Oyo Fms of Ngalang River section, S Mountains, C Java. Sambipitu Fm shows 5 zones (NN2-NN6; E-M Miocene), Oyo Fm 3 zones (NN8-NN10; M-L Miocene). Results suggest gap between Sambipitu and Oyo Fms. Suggesting younger ages than dated previously)


(Calcareous nannofossil analysis on Miocene Sambipitu and Oyo Fms at Kali Ngalang section. Sambipitu Fm 5 zones (NN2-NN6; E-M Miocene), Oyo Fm 3 zones (NN8-NN10; M-L Miocene). Results indicate gap between Sambipitu and Oyo Fms, with absence of NN7. Foraminifera biostratigraphy of Sambipitu Fm 4 zones (N6-N8a), good agreement with nannofossil biozones, but M Miocene (Oyo Fm) suggest hiatus of N10-N12, inconsistent with nannofossils. 40Ar/39Ar date of 10.0±1.3 Ma of Oyo Fm tuff layers in agreement with biostratigraphic ages (tuff layers 10m above FO Discoaster hamatus (10.7 Ma) and FO Globigerina nepenthes (11.7 Ma), 20m below LO D. hamatus (9.4 Ma))

(Stromium isotopes used to calibrate ages of Oligocene- early Late Miocene Darai Limestone. Age of larger foram zonal boundary Tf1/Tf2 (12.2 Ma) younger than generally accepted age of 15.0 Ma. Te/Tf1 boundary older (20.3 Ma) than generally accepted age of 18.5 Ma. Nummulites possibly ranges in Late Oligocene)


(On the use of foraminifera in sequence stratigraphy in NE Java)

(Online at: http://journal.itb.ac.id/index.php?i=article_detail&id=645)
('Foraminifera distribution patterns within sequence stratigraphy; a case study in Blora and surrounding areas'. Age, paleobathymetry and sequences identification at Braholo, Guiwo, Ledok and Ngliron River sections. Ngrayong Sst Fm generally age N9-N10)

('Identification of fossil debris in Miocene beds of the Kutai Basin and its geological implications')

(Extended Abstract only) (online at: http://geology.um.edu.my/gsmpublic/NGC2013/...)
(Miocene larger foraminifera from Spit Lst unit of Kalumpang Fm in Teck Guan Quarry, Tawau, SE Sabah, with 14 species of larger foraminifera, incl. Lepidocyclina (Nephrolepidina) spp., Lepidocyclina (Eulepidina), Miogypsina, Cycloclypeus (Katacycloclypeus) annulatus, Flosculinella bontangensis, etc. (most likely age E Middle Miocene; Langhian; HvG))

(Cycloclypeus larger foram assemblages common in Miocene carbonates of Philippines. Mainly Cycloclypeus carpenteri)

(online at: http://www.dwc.knaw.nl/DL/publications/PU00017038.pdf)
(Larger foram from limestones from Weber collection from small islands S of Misool identified as Eocene (Alveolina on Jef Lili) and Miocene (Spiroclycpeus, Lepidocyclina from 7 islands) genera. However, all
"Miocene" identifications erroneous and should also be Eocene (Baggelaar 1938). Also critiqued by Musper in N. Jb. Geol. Palaeontol., 1937, p. 926-927)

Baggelaar H. (1938)- Some correcting notes on 'Tertiary rocks from the Misool-Archipelago (Dutch East Indies)'. Proc. Kon. Nederl. Akad. Wetensch., Amsterdam, 41, 3, p. 301. (online at: http://www.dwc.knaw.nl/DL/publications/PU00017168.pdf) (Lepidocyclina and Spiroclypeus identified from seven islands S of Misool are Discocyclina and Asterocyclina, and probably also Pellatispira (fig. 10 from Sabenibnoe island W). All limestones therefore appear to be of Eocene age, not Miocene)


Banda, R.M. (1998)- The geology and planktic foraminiferal stratigraphy of the Northwest Borneo basin, Sarawak, Malaysia. Ph.D. Thesis, Univ. of Tsukuba, Japan, 145p. (online at: http://www.tulips.tsukuba.ac.jp/limedio/dlam/B14/B1451308/...). (Overview of NW Borneo/ West Sarawak geology, mainly reflecting Early Cretaceous- Eocene period of S-directed subduction, creating accretionary complexes, which ceased after Late Eocene Luconia Block collision. Followed by study of planktonic foraminifera from overlying Late Oligocene-Pliocene basin)

Banda, R.M. (2000)- The planktic foraminiferal biostratigraphy of the Miри-Gunong Subis area, Sarawak, Malaysia. Techn. Papers Min.Geosc. Dept. Malaysia 1, p. 89-131. (Miri-Gunong Subis area four lithostratigraphic unit: Suai Fm metamorphosed shale (Ga binaensis Zone; early Early Miocene), Sibuti mudstone (Gs sicanus Zone; Mid Early Miocene), Lambir sandy alternations (Orbulina suturalis-Gr peripheronda Zone; early Mid Miocene) and Miri Fm (barren) sandy alternations)

Bande, M.B. & U. Prakash (1986)- The Tertiary flora of Southeast Asia with remarks on its palaeoenvironment and phytogeography of the Indo-Malayan region. Rev. Palaeobot. Palynol. 49, p. 203-233. (Compilation of information on Paleogene and Neogene floras of SE Asia, with reconstruction of Tertiary environments of region. SE Asia flora compared with that of India and migration of various families and genera between these two areas is traced)

Bandy, O.L. (1963)- Cenozoic planktonic foraminiferal zonation and basinal development in Philippines. 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 when Central Valley paralic facies, in Iloilo, deep basinal conditions until M Pliocene)

(On Archaia-type soritid species formerly assigned to Orbitolites. In SE Asia characterizes carbonate platform facies of zone Tf1 (late E Miocene). With meandrine, involute chambers in large microspheric specimens. May be same species as Archaia vandervlerki De Neve from E Kalimantan.)

(New genus names Tansinhokella for Eocene members of Spiroclypeus group and Vlerkina for involute Heterostegina)

(Neogene limestones of Nias and Tuangku, W of Sumatra, with new acervulinid forma Alanlordia niasensis n.gen., n.sp., in Late Pliocene (looks like Maastrichtian Vanderbeekia of Middle East). Serravallian limestones contain ancestral A. niasensis primitiva, n. subsp., and deeper marine and simpler A. banyakensis n. sp. (looks like Eocene Wilfordia))

(Monograph on foram genus Operculina, including descriptions of Tertiary material from Borneo and Sumatra. Genus comprises nine species)


(Core K12 N of Halmahera spans last 27,000 yrs. Glacial time climate drier than today, indicating weakened NW winds. Drier climate and lower sea level resulted in expansion of Lower Montane oak forests on Halmahera. Surface water salinities probably higher. Also well-developed ‘Deep Chlorophyll Maximum layer’ (elevated Neogloboquadri pachyderma, Ng. dutertrei in glacial times))

(Palynological study of the Tertiary of SE Asia (Kalimantan/Mahakam Delta and S China Sea/ Beibu Permit))


(The foraminifera of the Late Eocene to the base of the Miocene in the Pasir Basin, S Kalimantan' Planktonic foraminifera faunas and zonation in open marine Eocene- Oligocene section of Pasir Basin, SE Kalimantan. No illustrations of fossils)

(Listings of Middle Eocene mollusc assemblages from Nanggulan, W of Yogyakarta, studied earlier by Boettger 1883 and Martin 1914, 1931. Of 74 mollusc species, 16 also found in other Tethys basins, while 35 others have affinities with European Eocene species)

Beets, C. (1942)- Mollusken aus dem Tertiary des Ostindischen Archipels. Leidsche Geol. Meded. 13, 1, p. 218-254. ('Molluscs from the Tertiary of the East Indies Archipelago'. Three short papers on molluscs from collections in The Netherlands: (1) gastropod Buccinum in E Indies, (2) Notes on some interesting molluscs from E Indies, (3) Observations on small Neogene mollusk fauna from E Kalimantan (collected by Rutten))

Beets, C. (1943)- Beitrage zur Kenntnis der angeblich oberoligocanen Mollusken-Fauna der Insel Buton, Niederlandsch-Ostindien. Leidsche Geol. Meded. 13, p. 256-328. ('Contributions to the knowledge of the supposedly Oligocene-age mollusk fauna of Buton Island, Netherlands East Indies'. Description of mollusks from asphalt beds on Buton in collections in The Netherlands. Looks like diverse, but endemic faunas (51 new species+ 11 species already described by Martin 1933- 1935, 1937). Age of fauna uncertain, but possibly Late Oligocene as suggested by Martin. (in Beets 1952 believed to be younger))


Beets, C. (1943)- On Waisiuthyrina, a new articulate brachiopod genus from the Upper Oligocene of Buton (S.E. Celebes), Dutch East Indies. Leidsche Geol. Meded. 13, p. 341-347. (Description of new species of terebratulid brachiopod from asphalt rocks of Buton. Brachiopods are generally very rare in Tertiary of Indonesia)

Beets, C. (1943)- Weitere Verwandtschaftsbeziehungen zwischen den Oberoligocänen Mollusken von Buton (S.E. Celebes) und den Neogenfaunen des Ostindischen Archipels. Leidsche Geol. Meded. 13, p. 349-355. ('Additional relationships between the Upper Oligocene mollusks from Buton (SE Sulawesi) and the Neogene faunas of the East Indies archipelago'. 'Oligocene' Buton mollusk faunas mostly endemic in character, but most similarities with Late Neogene of E Indonesia)


(Mollusks from asphaltic marls of Buton previously considered Oligocene- lowermost Miocene in age due but here re-interpreted as Mio-Pliocene, partly based on associated diatoms (Reinhold) and foraminifera (Keijzer). The low % of Recent species is because this is deep water mollusk fauna, of which Recent representatives are poorly known)


(online at: http://www.repository.naturalis.nl/document/148753)

(Two small Late Miocene mollusc assemblages from NE Kutai Basin, E Kalimantan)


(Mentawir Beds NE of Balikpapan originally assigned to M Miocene Tf2 (Miogypsina, Lepidocyclina), but molluscs suggest probably Late Miocene/Tf3 age)


(Mollusks from two localities around Sangkulirang Bay, E Kalimantan, collected by Schmidt in 1902 and Rutten 1912 mainly gastropods of Preangerian age)


(Molluscs collected by Witkamp in 1908 on N flank Kari Orang anticline 27 species are of Preangerian age (Late Miocene; Tf3). Associated corals described by Felix 1921 and Gerth 1923)
(Molluscs collected by Rutten in Lower Sangkulirang Marl's Preangerian, Tf3 (Late Miocene) age, not Early Miocene (Tf2) as originally interpreted)

(online at: http://www.repository.naturalis.nl/document/148808)  
(Molluscs collected in 1916 by BPM from Mandul Island, Tarakan basin. First examined by K Martin in 1916: 22 species, and age 'uppermost Old Miocene' or 'Upper Miocene'. Restudy identified 42 species, suggesting mixed faunas and Miocene age)

(online at: www.repository.naturalis.nl/document/148710)  
(Molluscs fossils collected Schmidt in 1902 from hill near Sekurau, N Kutai, in Late Miocene clays with limestones and sandstones, overlain by Pliocene coral limestones. Sixty species suggesting Preangerian age (Tf3) and shallow marine conditions)

(online at: http://www.repository.naturalis.nl/document/148740)  
(Compilation of investigations of molluscs collected Rutten from Late Miocene Gelingseh Beds, E Kalimantan)

(online at: www.repository.naturalis.nl/document/148746)  
(Description of molluscs collected by BPM in Klasaman Fm of West Birds Head in 1930. Subsequently dated as 'Late Miocene- Pleistocene' on basis of foraminifera by NNGPM. 35 species identified. Age determination difficult. Some species belong to genera whose living species are restricted to Australian waters)


(Micropal analysis of 26 samples from Tabu area, Permit 22, 47 m NW of Port Moresby and 10 m NE of Cape Suckling, collected by Papuan Apinaipi Petroleum Ltd. All material M Miocene- Pliocene age)

(online at: www.ga.gov.au/products/servlet/controller?event=GEOCATDETAILS&catno=10317)  
(Papuan Apinaipi Petroleum Co. Kaufana 1 well with diverse M Miocene and younger bathyal marine calcareous forams above 600' (incl. Miocene Lepidocyclina at 350'). From 640-3348' (TD) poor deep arenaceous water foraminifera faunas only, probably all still of Miocene age)

(All rel. deep marine sediments of M Miocene- Pliocene age)

(Tuffaceous limestones collected by J.E. Thompson at Milne Bay (SE tipe of PNG mainland) probably all of Lower Miocene age (Upper Te with Spiroclypeus, Lepidocyclina (E.), Miogypsina))
(Miocene-Pliocene sediments)

(Samples from Wira anticline all Late Miocene-Pliocene deep marine faunas)

(online at: https://www.ga.gov.au/products/servlet/controller?event=GEOCATDETAILS&catno=10621)
(Summary of analysis of cutting samples from well Ossulari 1 (2840'-3010') and Ossulari 1a (2960'-3100'). All contain mixed Permian, Jurassic-Cretaceous and?Miocene fauna)

(online at: https://www.ga.gov.au/products/servlet/controller?event=GEOCATDETAILS&catno=10686)
(Biostrat of 76 outcrop samples collected by Timor Oil Co in Timor Leste. Oldest rocks with Permian foraminifera and one sample with mollusc Atomodesma exarata. Tertiary samples M-U Eocene (with Nummulites and planktonics and reworked Upper Cretaceous plankton), Lower Miocene (Te with Spiroclineus and reworked U Cretaceous Globotruncana limestone) and pelagic U Miocene (more likely Plio-Pleistocene; HvG). Also several samples rich in radiolaria, probaly Mesozoic. No locality maps)

(online at: https://www.ga.gov.au/products/servlet/controller?event=GEOCATDETAILS&catno=10733)
(Biostrat of 56 outcrop samples collected by Timor Oil Co. Oldest samples are of Permian age (foraminifera). Radiolarian-rich sediments are probably of Triassic age (probable Halobia). Also an Eocene limestone with Alveolina and planktonics-rich U Miocene sediments (more likely Pliocene?; HvG; one sample with reworked Permian). No locality maps)

(Thirty-four species of planktonic foraminifera described from Miocene-Pliocene beds of PNG)

(Summary of biostratigraphy of Matai 1 cuttings (370'-2000'). Interval 370-760' regarded as 'block clay' of Upper Miocene age (but faunal lists include Pleistocene Gr. truncatulinoides and Hyalinea balthica; HvG) with reworked Upper Cretaceous and Eocene forams. Eocene limestone with Discocyclina and Alveolina rel. common at 760-830'. Also limestone chips between 880-1000' with Late Eocene Discocyclina and Pellatispira, but not sure if in situ. Sample gap between 1040-1300', and no microfossils observed between 1300-2000')

(Basal Miocene carbonates on unidentified Mesozoic section)

(43 outcrop samples, ranging in age from U Cretaceous to E Miocene/ Te. Eocene Pellatispira reworked in E Miocene (but Lower Te= Late Oligocene; HvG))
(Seven cores from Oil Search well Wuroi 1, ranging in age from M Miocene- Mesozoic)

(online at: www.ga.gov.au/products/servlet/controller?event=GEOCATDETAILS&catno=11686)
(Very brief report on outcrop samples from Star Mountains. Mainly E-M Miocene limestones, overlain(?) by zone N8 planktonics from 'Iwoer Fm')

(online at: http://www.ga.gov.au/)  
(Comprehensive taxonomy/ descriptions of 156 Mio-Pliocene marine benthic foraminifera species. Little or no stratigraphic info)

(online at: www.ga.gov.au/)  
(Palaeocene planktonic forams described from PNG areas Wabag in W Highlands and Cape Vogel in SE. Fourteen species assigned to Subbotina, Globigerina, Globorotalia and Chiloguembelina. Mainly from Globorotalia pseudomenardii Subzone; oldest beds may be Globigerina daubjergensis- G. trinidadensis Zone)

(online at: www.ga.gov.au/)  
(Three more species of Mio-Pliocene planktonic foraminifera recorded and figured from PNG: Globorotalia crassaformis, G. archaeomenardii and Sphaeroidinellopsis kochi (mainly from Ramu Atitau area))

(Foraminifera from rocks collected by Dow on way to Carstensz peak include Late Eocene (Discocyclina, Nummulites, Lacazinella, etc.), Late Oligocene and E-M Miocene larger forams from Carstensz limestone and Late Oligocene N3 planktonics from marly interbeds)

(online at: www.ga.gov.au/products/servlet/controller?event=GEOCATDETAILS&catno=76)
(Appendix in Smith & Davies (1976). Listings and illustrations of Upper Cretaceous planktonic foraminifera, Eocene planktonic and larger foraminifera, Late Oligocene- Miocene larger foraminifera and Plio-Pleistocene planktonics and smaller benthics from SE PNG)

Belford, D.J. (1977) - Quasicyclammina gen. nov. and Thalmannammina (Foraminiferida) from the Paleocene of Papua New Guinea. BMR J. Austral. Geol. Geoph. 2, 1, p. 35-42.
(New genus and species of complex agglutinated foraminifera from Upper Paleocene)

(Three species of small benthic agglutinated foram Triplasia in Lower Miocene Yangi beds in Wabag area)

(online at: http://www.ga.gov.au/)
(Fauna with both larger foraminifera Lepidocyclina (N.) howchini; Lower Tf) and planktonic foraminifera (zones N11-N12) in Miocene samples from New Ireland, PNG)

Belford, D.J. (1982) - Redescription of Miogypsina neodispana (Jones & Chapman), Foraminiferida, Christmas Island, Indian Ocean. BMR J. Austral. Geol. Geoph. 7, 4, p. 315-320. (Miogypsina neodispana (Jones & Chapman, 1900) redescribed from Christmas Island type locality, Indian Ocean. It is referred to subgenus Lepidosemicyclina and is senior synonym of M. droogeri Mohan & Tewari. Age probably Letter zone Tf1, late Early Miocene)

Belford, D.J. (1982) - Planorbulinella solida sp. nov. (Foraminiferida) from the Miocene of Papua New Guinea. BMR J. Austral. Geol. Geoph. 7, 4, p. 321-325. (online at:www.ga.gov.au/) (New species name for Linderina sp.indet. as recorded from Cape Vogel area, PNG. Rel. widespread in Early Miocene (Te5-Tf1) of PNG)


Classic text on Eocene-Recent planktonic foraminifera zonations, using the N and P-numbered zones widely used in Indonesia. Parts of this work are based on Indonesian sections like Bojonegoro I well, etc.)


Blow, W.H. & Banner (1966) - The morphology, taxonomy and biostratigraphy of Globorotalia barisanensis LeRoy, Globorotalia fohsi Cushman and Ellisor and related taxa. Micropaleontology 12, 3, p. 286-302. (Taxonomy of planktonic foraminifera around E-M Miocene boundary, particularly the evolution of the Gr. peripheroacuta-Gr. praefohsi-Gr. fohsi lineage, described earlier as Globorotalia barisanensis by LeRoy, 1939 from the Lower Palembang Fm of the Kassikan section, Barisan mountain front, C Sumatra)


Boehm, J. (1922) - Arthropoda. In: Die Fossilien von Java auf Grund einer Sammlung von Dr. R.D.M. Verbeek und von anderen bearbeitet durch Dr. K. Martin. Sammlung. Geol. Reichs-Museum Leiden (N.F.) 1, 2, 3, p. 521-535. (Crab fossils from Priangan, Yogyakarta and Rembang regencies from collections of Verbeek and Martin. Incl. Upper Eocene Calianassa etc. from Nanggulan, Miocene of W Progo, Nyalindung, C Lalang, etc.)

Boettger, O. (1875) - Die fossilen Mollusken der Eocaformation auf der Insel Borneo. In: R.D.M. Verbeek et al., Die Eocaformation von Borneo und ihre Versteinerungen, Palaeontographica Suppl. 3, 1, p. 9-59. ('The fossil mollusks of the Eocene of Borneo’. Includes descriptions of molluscs from Eocene Tanjung Fm near Pengaron, Meratus Mts. 18 species of gastropods and many more bivalves, most of them marine, but the lowest clay beds associated with coals have mainly large fresh-brackish water Cyrena species)

Boettger, O. (1877) - Die fossilen Mollusken der Eocaformation auf der Insel Borneo. Jaarboek Mijnwezen Nederl. Oost-Indie 6 (1877), 2, p. 16-110. ('The fossil mollusks of the Eocene of Borneo’. Same paper as Palaeontographica (1875) paper above)

Boettger, O. (1880) - Die Conchylien der unteren Tertiarschichten (Die Conchylien der Untereocänschichten von Westsumatra; Die Conchylien des sumatranischen Krebsmergels; Die Conchylien des sumatranischen Orbitoidenkalks; Die Conchylien der unteren Miocanschichten vom Flusse Kamoemoe, etc.). In: R.D.M. Verbeek et al., Die Tertiarformationen von Sumatra und ihre Tierreste I, Palaeontographica Suppl. 3, 8-9, p. 29-120. ('The mollusks of the Lower Tertiary beds (The bivalves of the Lower Eocene beds of Sumatra, The bivalves of the Sumatran crab marls; the bivalves of the Sumatran orbitoid limestone; the bivalves of the Lower Miocene beds of Kamoemoe River, etc.).' Series of chapters on Eocene-Miocene molluscs from various localities of Sumatra, collected by Verbeek)

Boettger, O. (1880) - Die fossilen Mollusken von Batoe Radja am Fluss Ogan. Palaeontographica Suppl. 3, 8-9, p. 92-98. ('The fossil molluscs from Batu Raja on the Ogan River’ (= type locality of Baturaja Limestone in S Sumatra))


('The molluscs of the Oligocene beds of the Bawang River, etc'. Reprint of Boettger (1883) paper above)


(Additional short papers on Eocene- Miocene molluscs from Sumatra, collected by Verbeek)


('Orbitoidal foram limestone from the West coast of Sumatra')


(Classic study of E Miocene (G. insueta zone) to Pliocene (Gr. menardii zone) planktonic foraminifera, based on continuous core samples from 1934 BPM well Bodjonegoro 1. (Showed validity of the then new ‘global’ E Miocene- Pliocene planktonic foram zonation in Indonesia. Deep water benthic forams from same well described by Boomgaart, 1949; HvG))


(Comprehensive review of Oligocene- Recent planktonic foraminifera and zonations)


(Classic study of E Miocene- Pliocene benthic foraminifera in continuously cored Bodjonegoro 1 well E of Cepu (BPM, 1934. One of first examples of the use of benthic forams for paleobathymetry interpretation. Entire late Early Miocene- Pliocene section is in bathyal mudstone facies)


(online at: http://www.dwc.knaw.nl/DL/publications/PU00016873.pdf)

(Distribution of benthic foraminifera in samples from Late Pliocene- Pleistocene sediments from eastern Kendeng zone near Mojokerto, E Java. Mainly shallow marine miliolids, rotalids. No location maps, stratigraphy)


(‘Miocene- E Pliocene Tacipi Fm of Sulawesi deposited in large area of shallow marine carbonate production with deeper water sediments deposited to N. Co-occurrence of planktonic foraminifera and larger benthic foraminifera allowed refinement of biostratigraphic ranges of Katacyclocypeus and Flosculinella, and enlargement of our knowledge about Tg and Th “letter stages”')


Boudagher-Fadel, M.K. & A.R. Lord (2000)- The evolution of Lepidocyclina (L.) isolepidinoides, L. (Nephrolepidina) nephrolepidinoides, L. (N.) brouweri in the Late Oligocene-Miocene of the Far East. J. Foram. Res. 30, p. 71-76. (Re-description of well-known evolution of Lepidocyclina (L) to Lepidocyclina (N) at Oligo-Miocene boundary in material from NE and SE Kalimantan and Nias, off Sumatra)


Boudagher-Fadel, M.K., J.J. Noad & A.R. Lord (2000)- Larger foraminifera from Late Oligocene-earliest Miocene reefal limestones of North East Borneo. Rev. Espanola. Micropal. 32, 3, p. 341-362 (Gomantong Limestone of S Sabah was deposited along E-W trending shoreline in Late Oligocene- E Miocene. Sixteen species described, one new (Lepidocyclina banneri). (see also McMonagle et al. 2011))


(Description of foraminifera collected by Verbeek 1873-1874. Including Eocene Nummulites and Discocyclina from Nias island. Also 1st description of Paleozoic foraminifera in Indonesia: U Carboniferous or Permian fusulinids named Fusulina princeps (= Verbeekina verbeeki) from Guguk Bulat Padang Highlands)

(Reprint of 1875 paper above)

(online at: http://deepseadrilling.org/07/volume/dsdp07pt2_28.pdf)
(Extensively documented M Miocene- Recent planktonic foram zonation of DSDP holes of Ontong Java Plateu and East Caroline Basin N of PNG, SW Pacific)

(online at: http://www.dwc.knaw.nl/DL/publications/PU00014925.pdf)
(English version of paper above. Two fish fossils of probable Miocene age in fine-grained 'lithographic' limestone block from roadcut near Patoenoeang Asoe E, Maros district. Rocks probably lagoonal deposit in Eocene-Miocene reefal limestone complex. Fish identified as Clupea (Sardinella) brouweri n.sp. and Lutjanus)

('About the six Selachier (shark) teeth found in the Lower and Middle Palembang Beds'. Collected by Tobler)


(Over 40 Early Miocene- Pliocene diatom datum levels in Equatorial Pacific)

(Marine diatoms from Late Miocene- Pliocene Njepung section, Kendeng zone, E Java. Foraminifera studied by Saint-Marc & Suminta,1979. Lower part of Globigerina marls in Late Miocene- E Pliocene Thalassiosira convexa zone, middle part M Pliocene Nitzschia jousea zone. Open oceanic environment with strong upwelling suggested by presence of Thalassiosira nitschioides, especially in lower part of section)

('Micropaleontological investigations of the Tertiary of Kai Besar'. Well-illustrated descriptions of limestones with Eocene (incl. Lacazina; should be Lacazinella; HvG) and Early Miocene larger forams)


(Update of earlier depositional-diagenetic models for Miocene reefs in Visayan Islands. Reefs began to develop in E Miocene (Eulepidina, Nephrolepidina, Spiroclypeus, Austroturillina). 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.)


Caudri, C.M.B. (1934)- Tertiary deposits of Soemba. Doct. Thesis, Leiden University, p. 1-225. (Eocene carbonates (zones Ta2 and Tb) with Nummulites spp., Assilina, Discocyclina, Asterocyclina, alveolinids (Fasciolites), Pellatispira (= Sundaland; not Australia/ New Guinea; HvG), unconformably over folded and intruded Mesozoic (Jurassic?). Oligocene angular unconformity separates Late Eocene-earliest Oligocene (Tb-Tc) limestones with dips of 30°, from more horizontal Earliest Miocene (zone Te5) sediments with Lepidocyclina (N.), Spirolyypeus and Miogypsina)


Chaisson, W.P. & R.M. Leckie (1993)- High resolution Neogene planktonic foraminifer biostratigraphy of Site 806, Ontong Java Plateau (Western Equatorial Pacific). In: W.H.Berger et al. (eds.) Proc Ocean Drilling Program, Sci. Res. 130, College Station, Texas, p. 137-178. (E Miocene- Pliocene planktonic foraminifer biostratigraphy of Site 806. Dominance of surface dwellers (P. kugleri, P. mayeri, D. altispira, Globigerinoides spp.) in E-M Miocene replaced by more equitable distribution of surface, intermediate (G. menardii), and deep (Streptochilus spp.) dwellers in Late Miocene, reflecting shoaling of thermocline along Equator, following closing of Indo-Pacific Seaway (Late Miocene, ~8-10 Ma) and initiation of large-scale glaciation in Antarctic (latest Miocene; ~5-6 Ma))


Chaproniere, G.C.H. (1980)- Late Oligocene to Early Miocene planktic foraminiferida from Ashmore Reef No. 1 well, Northwest Australia. Alcheringa 5, p. 103-131. (N3-N6 planktonic foram zonation in ~750-1250m interval of Ashmore Reef 1 well)


(Two larger foram assemblages in Eocene limestones on Eua Island, Tonga, one without Pellatispira and with late M Eocene Zone P14 planktic fauna (letter stage Ta3), and one with Pellatispira and latest Eocene Zone P17 planktic fauna (Tb))


Choiriah, S.U. (1999)- Palaeoclimatic interpretation using calcareous nannoplankton, Solo River Ngawi area, Indonesia. Abstract, AAPG Foundation Grants-in-Aid Recipients 1999, AAPG Bull. 83, 11 p. 1896. *(Late Miocene - M Pleistocene of Kendeng zone analyzed, showing climate changes in nannoplankton. Twelve alternating warm and cold zones found. Two zones (Zone 1 and 2) of the Kerek Formation are the warm zone and cold zone of lower NN12 and NN12-NM13 respectively. Kalibeng Formation subdivided into eight zones: transitional zone (Zone 3; age of NN13-NN14), Zone 4 warm (NN14-NN15), Zone 5 (cold., NN15), Zone 6 (warm, NN16), Zone 7 (cold zone, NN16), Zone 8 (warm, NN16), Zone 9 (transitional, NN16), and Zone 10 (warm, NN16-NN18). Last two zones belong to Klitik Formation: zone 11 cold, NN18, whilst zone 12 zone two warm zones, 12a & 12b, NN19 and NN20, with a barren zone between 12a and 12b)*


Clarke, W.J. & W.H. Blow (1969)- The inter-relationship of some Late Eocene, Oligocene and Miocene larger foraminifera and plankton biostratigraphic indices. In: P. Bronnimann & H.H. Renz (eds.) Proc. First Int. Conf. Planktonic Microfossils, Geneva 1967, Brill, Leiden, 2, p. 82-97. *(One of first papers calibrating the Eocene- Recent larger and planktomic foramnifera zonations, which are rarely found together due to different facies. Includes section on records of Miogypsinidae in Indonesia (W Java, Sumatra))*


(Description of larger foraminifera from from Palau islands, Micronesia, SW Pacific: Late Eocene (Tab) with Pellatispira and M Miocene (Tf) with Katacycloclypeus, Lepidocyclina ruuteni, Lepidocyclina palauensis n.sp. (latter re-assigned to Lepidocyclina radiata by Cole (1963))

(Description of 37 Oligocene- Recent foramin species from two wells (2556') of Bikini Atoll)

(62 species of Late Eocene (Asterocyclina, Nummulites, Biplanispira, Pellatispira), Late Oligocene (Eulepidina, Heterostegina borneensis, Borelis, Miogypsinoides, Spiroclypeus), Miocene (Miogypsinida, Flosculinella) and Pliocene- Recent (Calcarina, Marginopora, Sortites) larger foraminifera from three Eniwetok Atoll drill holes. Deeper water genus Cycloclypeus rare, suggesting continuous shallow marine facies)

(Larger foramin assemblages for Saipan island: Late Eocene Tb (20 species; Pellatispira, Nummulites, Asterocyclina, etc.), Late Oligocene- E Miocene Te (35 species; incl. Miogypsinoides, Heterostegina borneensis) and Pleistocene (7 species))

(Descriptions of Late Eocene (Nummulites, Pellatispira, Spiroclypeus, Discocyclina, Asterocyclina) and Early Oligocene (Nummulites fichteli, Gipsina discus) larger foraminifera from main island of Fiji)


(Study of Lepidocyclina from Tf (Miocene) of Futuna Lst of Lau, Fiji Islands, assigned to Lepidocyclina radiata)

(Late Eocene (Asterocyclina, Nummulites, Pellatispira, Biplanispira, Halkyardia), Oligocene (Nummulites fichteli), E-M Miocene (Miogypsinoides dehaartii, Katacycloclypeus annulatus) and Pleistocene (Calcarina, Baculogypsina, Cycloclypeus carpenteri) larger foraminifera from outcrops on Guam)

(Early Miocene Te larger forams (Miogypsinoides dehaartii, Spiroclypeus, Austrotrillina striata) in deeper part of 1261' deep well)


Cotton, L.J., P.N. Pearson & W. Renema (2014)- Stable isotope stratigraphy and larger benthic foraminiferal extinctions in the Melinau Limestone, Sarawak. J. Asian Earth Sci. 79A, p. 65-71. (Major extinction of larger benthic foraminifera close to Eocene-Oligocene boundary in Melinau Limestone already recognized by G. Adams. Isotope analyses (δ13C and δ18O) of rock samples studied by Adams show that end-Eocene LBF extinction event in Melinau Limestone occurs below isotope excursion)

Cox, L.R. (1924)- Some Late Kainozoic pelecypoda from the Aru Islands. Geol. Mag. 61, 2, p. 56-63. (Brief descriptions of ?Mio-Pliocene pelecypods, incl. Ostrea, Pecten spp., Clementia, etc.)


Crespin, I. (1938)- The occurrence of *Lacazina* and *Biplanispira* in the Mandated Territory of New Guinea. Bureau of Mineral Res., Canberra, Palaeont. Bull. 3, p. 3-8. (Limestone near Chimbu aerodrome in PNG is rich in Eocene Lacazina and also rare Biplanispira. These genera not normally found associated (but: Biplanispira was not seen in these rocks by Bain & Binnekamp 1973; HvG)


(Micropalaeontology of rocks collected by D. Dow in W Papua Central Range. Localities of Eocene limestone with larger forams (*Lacazinella, Nummulites, Asterocyclina*, etc.). Meleri River sample near Tiom E Miocene limestone with reworked 'Asian-Pacific' Eocene *Pellatispira-Biplanispira. Marls from Ilaga valley with E Miocene planktonic forams)


(107 samples collected by J.E. Thompson from Cape Vogel area, E end of Papuan Peninsula, are mainly U Miocene- Pliocene open marine fauna. A few limestones contain Lower Tf (M Miocene) larger forams, incl. *Miogypsin polymorpha*, *Katacycloclypeus*, etc.)

(Samples of E and M Miocene limestones, clastics with common reworked U Cretaceous and Paleocene planktonics, etc. For geology of area see Perry (1956))

(Micropalaeontological analysis of outcrop samples collected by McMillan & Johnson (1960) around E part of Bismarck Range/ Goroka Valley. In Watabung and Bena-Bena area at S side of Bismarck anticline U Cretaceous with *Pseudorbitoides*, Eocene pebbles with *Nummulites, Discocyclina* and *Pellatispira* spp, Oligocene and Miocene with *Lepidocyclina, Miogypsin*., etc.. No locality maps)

('Investigations on the Pliocene flora of Java'. Plant fossils from tunnel drilled in volcanic terrains of Gunung Kendang, E of Sukabumi and SW of Cianjur, W Java)


Currie, E.D. (1924) - On fossil Echinoidea from the Aru Islands. Geol. Mag. 61, 2, p. 63-72. (Brief descriptions small collection of ?Mio-Pliocene echinoids from limestones and sandy limestones of Aru Islands. Believed to be of probable Pliocene age)

66

De Beaufort, L.F. (1926)- On a collection of marine fishes from the Miocene of South Celebes. Jaarboek Mijnwezen Nederl.-Indie 54 (1925), Verhand. 1, p. 115-148. (*Fish fossils collected by Brouwer in 1923 from lithographic (lagoonal?) platy limestone near Patanuang Asi, Maros district, S Sulawesi Fifteen coastal marine fish species, including herring-like Sardinella brouweri and Lutjanus. Associated foraminfera identified by Rutten as Early Miocene age. No location or stratigraphy info)*

De Beaufort, L.F. (1928)- On a collection of Miocene fish-teeth from Java. Wetensch. Meded. Dienst Mijnbouw Nederl. Indie 8, p. 3-6. (*Fish teeth (incl. shark) and teeth of ?crocodile and Cetacea (whales) in agglomerate at base of manganese ore seam in Kleripan mine, Kulan Progo, Yogyakarta district. Seam is between Miocene limestones, possibly with Lepidocyclina flexuosa. Kleripan fish fauna similar to that of oil-bearing limestone in Ngembak described by Martin 1919, presumably with Cycloclypeus annulatus (= M Miocene)*)


De Bock, J.F. (1976)- Studies on some Miogypsinoides-Miogypsinia s.s. associations with special reference to morphological features. Scripta Geol. 36, p. 1-137. (*Detailed morphological studies of MioceneMiogypsinia and Miogypsinoides, partly based on material from Madura and Larat (Kai islands)*)


Demchuk, T.D & T.A. Moore (1993)- Palynofloral and organic characteristics of Miocene bog-forest, Kalimantan, Indonesia. Organic Geochem. 20, 2, p. 119-134. (*20m-thick Miocene Warukin Fm Sarongga lignite from SE Kalimantan distinct vertical variations in palynofloras. Three palynofloral zones of bog-forest and mangrove affinity. Palynofloras and low sulphur content suggest predominantly freshwater deposition. Plant material in Miocene lignite mainly derived from arborescent angiosperms Increasing abundances of mangrove pollen suggests encroachment of mangrove swamp toward bog-forest. Little variation in organic characteristics within seam)*


('Characteristics of recent and fossil Dipterocarp species'. With descriptions of fossil wood from West Java, incl. Dryobalanoxylon javanicum, D. tobleri, etc.)


(New larger foraminifer species Archaias vandervlerki from Miocene Poelobalang beds, Bengalan river region, E Kalimantan. (May be same as Pseudotaberina malabarica, Burdigalian (Banner & Highton 1989))


('On the presence of Pellatispira in the Eocene of New Caledonia'. Very short note reporting the presence of Pellatispira, Discocyclina and Nummulites in Eocene of New Caledonia)


('Note on the foraminiferal fauna of the Neogene of Kutai'. Summary of foraminifera distribution and BPM stratigraphy of Kutai Basin, E Kalimantan. Boundary between Beboeloe and Poeloe Balang stage characterized by extinction of Eulepidina. Alveolinella (= Flosculinella) bontangensis restricted to Poeloe Balang stage. With detailed Neogene foraminifera range chart)


(New cheilostome bryozoan from rocks around Burdigalian-Langhian boundary near Bontang, Kutai Basin. Colonies encrust undersides of platy scleractinian corals that formed patch reefs in turbid shallow waters)


(Langhian patch reef exposed near Bontang, E Kalimanta, with 61 species of bryozoans, almost double number of species (31) previously reported from Cenozoic of Indonesian Archipelago)


(S Mangkalihat- N Kutai material allows some larger and planktonic foramin foram zone calibrations: Late Oligocene N2-N3 correlates with Tel1, Early Miocene N4-N5 zones correlate with Te5)


(In Indonesian) (Larger foraminifera from base of Wonocolo Fm at Kedungatta River, Larangan village, Pati District. Three species: Cycloclypeus eidae, Lepidocyclina (T.) rutteni and Lepidocyclina B form, indicating zone Tj1-2 age, upper M Miocene- lower Late Miocene. Can be correlated with planktonic foraminifera zones N15/N16. Deposited in middle neritic environment)

('Ostracodes from NE Borneo'. 16 species of Oligocene- U Miocene ostracodes from 43 localities in NE Kalimantan, sampled by Leupold. Includes 14 new species, 11 of genus Nesidea, one of Cythere, Cytheridea and Cythereis)

('On some fossil corals from the Netherlands Indies'. Brief description of five Late Tertiary corals collected by Verbeek from C Timor, E Seram and Daweloo island near Babar)

Donovan, S.K., W. Renema & D.N. Lewis (2010)- A new species of Goniocidaris Desor (Echinoidea, Cidaroida) from the Middle Miocene of Java. Alcheringa 34, 1, p. 87-95.
(Distinctive cidaroid echinoid spines from M Miocene Bulu Fm, 5 km NNW of Sale, along Rembang-Bojonegoro road, E Java. Described as Goniocidaris paraplu n.sp.. Associated with Katabycloclypeus annulatus, Nephrolepidina, Miogypsina, etc.)

(On fragments of diadematoid echinoids from Miocene-Pliocene of Java, Kalimantan and Sulawesi. First report of such fossils from Neogene of region)

(M Eocene- E Oligocene Nummulites from Gerth Java collections. No locality maps, stratigraphy)

('The foraminifera in the Tertiary of Borneo'. M Eocene- Miocene larger forams from SE Kalimantan, collected by Buxtorf. Description of Spiroclypeus new genus and two species. No locality maps, but according to Verbeek (1908, p. 481 from Meratus Mt front between Rantau and Barabai)

('On the Lepidocyclinas from a limestone from Kai Besar island'. Description of Aquitanian Lepidocyclina (Eulepidina) from Tamangil, Kai Besar, collected by Verbeek)

('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)

('The foraminifera from Nias Island'. Descriptions of larger foraminifera from Nias, collected by Schroder and Verbeek. Includes Middle Eocene Nummulites bagelensis, N. pengaronensis, Discocyclina (here called Orthophragmina) and Assilina javana. Also Early Miocene Lepidocyclina spp. (Eulepidina and Nephrolepidina). No stratigraphy, no maps (locality map in Van der Veen 1913; HvG))

('Some foraminifera from Java'. Eocene from Kali Poeroe, Nanggulan, with well-preserved Nummulites, Discocyclina)

(‘The foraminifera from the Rembang Beds’. Miocene Cycloclypeus annulatus and Lepidocyyclina from Ngampel, Ngandong, etc., S of Rembang in NE Java, sampled by Martin. Also Flosculinella bontangensis from Sedan in sample collected by Verbeek)


(‘On some foraminifera from the eastern Moluccas and from New Guinea’. Brief description of Eocene larger forams in samples collected by Brouwer in Halmahera (Nummulites, Discocyclina, Alveolina), Roti (large Nummulites, Discocyclina), Seram (E Miocene Lepidocyyclina in breccia with reworked angular clasts of Upper Cretaceous pelagic limestone), New Guinea, Kai Besar (rounded fragments of Eocene Lacazina in quartz sandstone, etc. No location info)


(Revision of lepidocyclinid Tertiary larger foraminifera, including material from various parts of Indonesia)


(Miogypsinella used for primitive miogypsinids with simple, non-lamellar lateral walls. Miogypsinella bermudezi n.sp. from Cuba with 15-19 spiral chambers)


(Revision of eight miogysinid species described from Indonesia, four considered valid. Miogypsinlla Hanzawa is synonym of Miogysinoides Yabe and Hanzawa)


(Mixed assemblages of Oligo-Miocene miogypsinids suggesting reworking, etc.)


(Measurements on Cycloclypeus eidae from Tji/ Burdigalian of E Borneo, 40 km N of Balikpapan. No predominance of Tan Sin Hok’s 1932 ‘elementary species’ found; samples represent single populations)


(online at: http://www.dwc.knaw.nl/DL/publications/PU00011102.pdf)

(Overview of evolution of Cretaceous and Tertiary larger foraminifera)


(Skull of Eocene anthracocere (Hippopotamus relative) from N West Timor has Laurasiatic affinities. Can not be autochtonous, unless part of Timor is Asian continental microplate that migrated S and collided with Timor)


(Late Eocene hippopotamus-like mammals from Krabi Basin)


Duncan, P.M. (1864)- Note on a coral from Mount Sela in the island of Java. Quart. J. Geol. Soc. 20, p. 72-73. (One of first descriptions of fossil corals from Java)

Durham, J.W. (1940)- Aturia in the Upper Miocene of Java. J. Paleontology 14, 2, p. 160-161. (Brief note on first reported occurrence of nautiloid Aturia aturi in Indonesia, in Late Miocene dark shales of Middle Bodjongmanik beds, 4 km N of Jasinga, W Java, below beds with Lepidocyclina)


Felix, J. (1913)- Die fossilen Anthozoa aus der Umgegend von Trinil. Palaeontographica 60, p. 311-365. ('The fossil corals from the surroundings of Trinil’, Central Java. (probably Late Pliocene- Early Pleistocene))


Felix, J. (1920)- Jungtertiare und Quartare Anthozoen von Timor und Obi-II. In: J. Wanner (ed.) Palaeontologie von Timor 8, 13, Schweizerbart, Stuttgart, p. 1-40. (‘Late Tertiary and Quaternary anthozoans from Timor and Obi- part 2’)

Felix, J. (1919)- Die fossilen Anthozoa aus der Umgegend von Trinil. Palaeontographica 60, p. 311-365. ('The fossil corals from the surroundings of Trinil’, Central Java. (probably Late Pliocene- Early Pleistocene))

('Fossil corals from Borneo'. Miocene corals from Kutai Basin outcrops, collected by BPM geologists)


(Depositional environments of E Miocene Bekasap Fm interpreted as fluvial delta plain to distal delta front or prodelta. Biotic distributions controlled primarily by salinity and pH gradients. Association of large coastal foraminifera with minute deeper water forms implies shoreward transport of latter and supports concept of tide-dominated Bekasap delta)


('A Pliocene fauna from Seram (Moluccas). Descriptions of open marine smaller benthic foraminifera')


('Contribution to the knowledge of the Pliocene fauna of the Moluccan islands of Seram and Obi'. Mainly on molluscs from Fufa outcrop and well near Bula, Seram. Also molluscs and foraminifera from Akalamo valley on Obi)


(Vertebrae and ribs of indeterminate sirenian from Burdigalian-Serravallian (Tf1) section, 150m below top of Darai Limestone in Selminum Tem cave, Hindenburg Range, W PNG. Represent the earliest mammal recorded from island of New Guinea)


('Global geographic distributions of Tethyan Eocene larger foram assemblages')


('Age of Wonosari Lst in eastern Southern Mountains of SE Java with Flosculinella bontangensis (Lower Tf larger foram stage= planktonic foram zone N8-N9 or slightly younger)"


('37 species of fish otoliths from Neogene of oil field terrains of N Sumatra. Appear to be of limited biostratigraphic value')


(First description of SE Asian Tertiary ostracodes: nine species from Pliocene clay along Mota Talau near Atambua, based on samples collected by Molengraaff Timor expedition of 1910-1912. Includes Paracypris
zealandica, Nesidea molengraaffi, N. mulleri, Loxoconcha australis, L. alata, Cytheridea (now called Neocyprideis) timorensis n.sp.), C. spinulosa,

(Classic paper on tropical Tertiary palynology by Shell on sections from Venezuela, Nigeria and Borneo)

(Tertiary corals from Java, in collections of Verbeek and Martin)

(Tertiary echinoids chapter in Martin's Fossils of Java volume from collections of Verbeek and Martin)

(The coral fauna of the Late Tertiary of Borneo. Descriptions of ~120 species of Miocene- Pliocene coral from 52 localities in E Kalimantan and Sabah, from museum collections in Leiden, Utrecht, Basel, etc.)

('Late Tertiary corals from Nias, Java and Borneo, with an overview of the Cenozoic species known from the Indies Archipelago. Includes descriptions of corals from N Nias, Tegal residency of C Java and E Kalimantan)

('On some Pliocene-Quaternary echinoids from Timor')

(Short paper with larger foram distribution table; not much new)

(online at: http://www.dwc.knaw.nl/DL/publications/PU/00015901.pdf)
('A new Eocene locality near Yogyakarta on Java'. White limestone outcrops of Gunung Gamping, 4 km W of Yogyakarta. Abundant Pellatispira and some Nummulites demonstrate Late Eocene age. Typical reefal limestone with common coral, i.e. different facies from and also younger than nearby Nummulites limestone localities of Jiwo and Nanggulan?)

('New contributions to the knowledge of the coral fauna of the Tertiary of Java. I. The corals of the Eocene and older Neogene'. Descriptions of four species of solitary corals from Nanggulan, W of Yogyakarta, and species from Oligo-Miocene of Rajamandala, Serayu and Rembang areas. Little stratigraphy and locality information)

(online at: http://www.dwc.knaw.nl/DL/publications/PU/00016716.pdf)
(Table of Eocene-Miocene larger foram zonation on Java and comparisons with India, Europe and Americas)


Ghose, B.K. (1977)- Paleoeocology of the Cenozoic reefal foraminifers and algae- a brief review. Palaeogeogr., Palaeoclim., Palaeoecol. 22, p. 231-256. (Review of ecologic distribution of Cenozoic larger foraminifers: (1) common 'Alveolina' in back-reef near reef core; (2) Orbitolites and Marginopora in sheltered waters on reef-flat and back-reef; (3) nummulitids and Discocyclina in both fore- and back-reef shoal areas; (4) Heterostegina in quieter waters of back-reef lagoons and reef-flat pools; (5)Pellatispira typical fore-reef form. Also on calcareous algae)

Ghosh, M. & P.K. Saraswati (2002)- Biostratigraphic reliability of the grade of enclosure of Neogene Lepidocyclina (Nephrolepidina). Indian J. Petrol. Geol. 11, 2, p. 85-92. (Grade of enclosure of protoconch by deuteroconch good estimate of relative age, but rel. high variation within sample requires statistically sufficient number of measurements. Calibrations may be different for different biogeographic provinces)


Glaessner, M.F. (1942)- The occurrence of the New Guinea turtle (Carettochelys) in the Miocene of Papua. Records Australian Museum 21, 2, p. 106-109. (online at: http://australianmuseum.net.au/Uploads/Journals/17293/262_complete.pdf) (Mold of turtle bone in Miocene dark tuffaceous sandstone in quarry near APC 01 well location, on road leading from left bank of Vailala River near mouth of Kariava Creek)


Glaessner, M.F. (1959)- Tertiary stratigraphic correlation in the Indo-Pacific region and Australia. J. Geol. Soc. India 1, p. 53-67. (Correlation of local Tertiary biozonations of India, Indonesia, New Zealand and Australia, largely based on larger foraminifera. Includes record of zone Te limestones with Spiroclypeus in Portuguese Timor (probably 'Cabilac Limestone' of Audley Charles; HvG), associated with Aquitanian Globorotalia kugleri zone planktonic foraminifera in interbedded shales (Eames et al. 1962))

Glaessner, M.F. & M. Wade (1956)- The foraminiferal genus Lepidocyclina in South Australia. Austral. J. Sci. 18, 6, p. 200-

('The Tertiary flora of the island of Java, after discoveries of Mr Fr. Junghuhn, described and placed in context of total flora of the Tertiary period. First description of Tertiary plant leaves and petrified wood fragments from Java, collected by Junghuhn. Mainly from 3 localities)


Grandesso, P. (2001) - Contribution to biostratigraphy of the Nanggulan Formation (Java) based on planktonic foraminifera. Mem. Scienze Geol., Padova, 53, p. 23-28. (Nanggulan section W of Yogya: lower part (Kalisoronggo Mb, 200m) with planktonic foraminiferal assemblages of zones P11- P14 (M Eocene), upper part (Seputih Mb, 60m) zones P15-P19 (Late Eocene-Early Oligocene))

Grandjean, J.B. & T. Reinhold (1933) - De diatomeeenaarde van Darma in Cheribon. De Mijningenieur 14, p. 40-46. ('The diatomaceous earth of Darma in Cirebon')


Gunther, A. (1876) - Contributions to our knowledge of the fish-fauna of the Tertiary deposits of the Highlands of Padang, Sumatra. Geol. Mag. Decade 2, 3, p. 433-440. (First description of Eocene or younger fresh-water fish fauna of Ombilin Basin, Padang Highlands. Collected by Verbeek in 1874. Nine genera, including new species Auliscops sumatranus, Pseudutropius verbeekii, Bagarius gigas, etc. See also Von der Marck 1876, Rutimeyer 1880, Sanders 1934, Musper 1935)
(Reprint of 1876 paper above)

(Calibration between Tertiary planktonic foram zones and larger foram ‘E Indies Letter Classification’ by Shell micropaleontologists)

(online at: http://www.dwc.knaw.nl/DL/publications/PU00016326.pdf)
(‘On fossils from the Early Miocene of Rembang, N Java’. Study of molluscs collected by Erb from Ngrayong Beds at North side Lodan saddle. Grey and brown-grey clays interbedded with Lepidocyclina limestones, marls and quartz sandstones. Molluscs 47 species, 17% Recent)

(online at: http://www.dwc.knaw.nl/DL/publications/PU00016359.pdf)
(‘On Late Neogene mollusk faunas from the Bengkulu and Palembang Residencies, SW Sumatra’. Molluscs from Bengkulu area collected by Erb in 1902 along coast between Bengkulu and Krue (72 species, 36% Recent, suggesting Late Neogene age), and from Lower Palembang Fm at Talang Akar anticline N of Talang Abab, Palembang Province (50 species, 26% Recent, suggesting Miocene age))

(‘Plio-Pleistocene nannofossil biostratigraphy of the Soe area, Timor’)

(‘Revision of the age of the Batilembuti Formation, Tanimbar, Moluccas: implications for age and nannoplankton biostratigraphy’. Upper Tertiary calcarenites-shales of Batilembuti Fm of Yamdena Island with E Pliocene NN14-NN15 nannofossils)

(‘Studies of nannoplankton and Tertiary biostratigraphy in Indonesia’. Summary of analyses of nannoplankton from samples from (1) C Java Karangsambung, Kulunprogo and Nanggulan areas (Eocene- Miocene), (2) C Timor (Batu Putih Fm near Soe): CN12a-CN14b, Late Pliocene- Pleistocene, (3) Yamdena (Tanimbar Islands): Pliocene Batimafudi and Batilembuti Fms; NN5- NN15M Miocene- Pliocene, and Tungustuban Fm sand-shale in Oktofan area, Wermatang; Late Eocene?)


(online at: http://www.journalarchive.jst.go.jp/...)
(First paper on calcareous nannofossils of ~70m thick section of Wungkal Fm, E side of Gunung Pendul, Bayat area, 20km E of Yogyakarta. Range from Late Eocene/CP 14- Early Oligocene/CP 16c. Eocene-Oligocene boundary recognized by last occurrence of Discoaster saipanensis, Discoaster barbadiensis and Cribrocentrum reticulatum. Subzone CP 16c in upper part of section identified by co-occurrence of Reticulofenestra umbilicus, Cyclargolithus floridanus and Reticulofenestra biseptata)
(Paleogene of Loh Ulo mainly olistostromes with mudstones and scaly clays with exotic blocks. Lower part (Karangsambung Fm) with late M Eocene NP16-NP17 and reworked Upper Cretaceous nannofossils; upper part (Totogan Fm) Oligocene age)


Haig, D.W. (1987)- Tertiary foraminiferal rock samples from the western Solomon Sea. Geo-Marine Lett. 6, 4, p. 219-228. (Rock fragments dredged from four stations: E Eocene upper bathyal biomicrite from Trobriand Platform; Lt Oligocene-E Miocene neritic limestones off Trobriand Platform and inner wall New Britain Trench; Miocene bathyal sediments from Trobriand Platform; similar Pliocene from inner wall New Britain Trench and central part Solomon Sea Basin. No reworked pre-Tertiary foraminifera)

Haig, D.W. (1994)- Zone N18 in foreland basin and oceanic platform sequences, Lower Pliocene, Papua New Guinea. In: Forams ’94 International Symposium on Foraminifera, Berkeley, Paleobios 16, 2, Suppl., p. 33. (Planktonic and benthonic foraminifera from zone N18 in the siliciclastic Orubadi Beds of Papuan Foreland Basin. Type section > 2000 m thick and includes two mid bathyal- inner neritic shallowing upward sequences, Orubadi Beds and underlying Puri Lst (pelagic middle bathyal base of sequence) belong to N17B and N18. No reworking in foraminiferal assemblages, although reworked nannofossils and dinoflagellates flood mud fraction of sediment, suggesting extensive sediment plumes clouded surface waters of foreland basin)

Haig, D.W., M. Smith & M.C. Athorpe (1997)- Middle Eocene Foraminifera from the type Giralia calcarenite, Gascoyne Platform, southern Carnarvon Basin, western Australia. Alcheringa, 21, p. 229-245. (M Eocene larger foram assemblage from 40m thick Giralia calcarenite of Gascoyne Platform, NW Australia. Discocyclina, Asterocyclina, Nummulites (but no Pellatispira as reported by Chapman and Crespin, 1935). Rare Distichoplax algae near base)

Hallock, P. & E.C. Glenn (1985)- Numerical analysis of foraminiferal assemblages: a tool for recognizing depositional facies in Lower Miocene reef complexes. J. Paleontology 59, 6, p. 1382-1394. (late Early Miocene larger foram facies assemblages in wells Matinloc 2 and Libro 1, off NW Palawan, Philippines. Assigned to zone Te5, but more likely Lower Tf7; associated with N8 planktonic forams)


(online at: http://www.um.u-tokyo.ac.jp/publish_db/Bulletin/no17/no17000.html)
(Review of studies on extensive listing of Recent and fossil ostracodes described from SE Asia)

Hanzawa, S. (1930)- Note on foraminifera found in the Lepidocyclina-limestone from Pabeasan, Java. Sci. Rept. Tohoku Univ., ser. 2 (Geol.), 14, 1, p. 85-96.
(Late Oligocene larger forams collected by Yabe in 1929 from limestone cliff at N foot of Pasir Pabeasan, W of Tagogapu, W Java: Lepidocyclina (N), Eulepidina, Heterostegina borneensis, Borelis pygmaea n.sp. (This assemblage, with absence of Spiroclypeus and Miogypsinoideos suggestive of T1/ Early Chattian ; HvG)

(Descriptions of Eocene larger foram Lacazina wichmanni from subsurface limestone of Birds Head region, New Guinea)

(Foraminiferal assemblage of a limestone block in river near Nakana, New Britain, includes two new species, Pellatispira reticularis and Acervulina linearis and resembles Eocene fauna of Palau island)

(Haha-jima entirely formed of Eocene rocks. Uppermost horizon Priabonian limestone with Biplanispira. Underlying Lutetian friable rock with Nummulites boninensis n.sp. in lower half, Actinoecyclina predominant in upper half, Alveolina javanus var. and Eorupertia boninensis persist throughout Lutetian)


(Online at http://ir.library.tohoku.ac.jp/re/bitstream/10097/28776/1/KJ00004219393.pdf)

(Restudy of Discocyclina spp. and Nummulites acutus from Nanggulan and Jiwo Hills, Java)

(online at: https://www.jstage.jst.go.jp/article/prpsj1951/1967/65/1967_65_19/_pdf)
(Incl. new genus Tayamaia from Aquitanian of Saipan and Quasirotalia from Pliocene of Guam)

(On palm-like pollen types from M Eocene lignite in lower Nanggulan Fm at Watupuru River, Kalisonggo, Nanggulan, C Java. Two monosulcate forms (Iguanurinae) are compared to fossil form-genus Palmaepollenites
kutchensis and Palmaepollenites sp. Third pollen type referred to Dicolpopollis malesianus (Calaminae). Also present in E Java Sea, W Sulawesi and India subcontinent)

(Sentolo Fm overlying 'Old Andesites' in W Progo Mts are Burdigalian- Pliocene in age)

(NE Java basin biostratigraphy and paleogeography)

(Planktonic foraminifera study in shallow wells Tobo 5, 6, 8 near Cepu. Deepest well Tobo 5 penetrated Late Miocene Ledok sands-shales between 412-451 m, overlain by rel. thin (60m?), but complete Pliocene Munda marl section. Entire section apparently deep water with rich planktonic foram faunas)

(Major, limited edition compilation of foraminifera described from Indonesia, in 3 volumes)

(Listings and illustrations of 2200 species of benthic foraminifera described from Cenozoic of Indonesia)

(Miocene- Pliocene planktonic foram zonation, based on 7 Pertamina wells in NW Java)

(First record from Java of of Late Eocene planktonic foram Hantkenina from shallow corehole along Kali Progo, 6 km N of Nanggulan, W of Yogyakarta. Associated with larger forams Nummulites Discocyclina, Pellatispira)

(Eocene planktonic foraminifera from Eocene of Nanggulan, C Java, including new species of Hantkenina)


(Larger foram range chart and Philippines formations correlation table)

(Eleven Eocene species)


(Biometric study of Early Oligocene Nummulites (N. fichteli, N. intermedia) from two zone Tc localities in SE Kalimantan: (1) 'Masoeokoe Limestone' near kampong Masukou on N flank of Tandjung oil field anticline and (2) kampong Tunggul Baru, right bank of Riam Kawa River, S of Pengaron. Large microospheric forms previously described as N. intermedius, megalospheric forms are of Nummulites fichteli type)


(Three Miocene species)


(Five species of lower Middle Miocene)

Hashimoto, W. & K. Matsumaru (1981)- Larger foraminifera from Sabah, Malaysia, 1, Larger foraminifera from the Kudat Peninsula, the Gomanton area, and the Semporna Peninsula. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 22, p. 49-54.


(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 (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 et al. (eds.) Geology and Palaeontology of Southeast Asia, Univ. Press, Tokyo, 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 Eacalante (Toboso) Formation, West of Lanao River Valley, northeastern Occidental Negros. In: In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 24, p. 31-38.


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 et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 18, p. 59-76.


(Range charts, etc.) showing occurrences of 137 species of larger forams between Paleocene- Miocene, and correlation with planktonic foram zonation)

Hashimoto, W., K. Matsumara, K. Kurihara, P.P. David & G.R. Rice (1977)- Larger foraminiferal assemblages useful for the correlation of Cenozoic marine sediments in the mobile belt of the Philippines. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 19, p. 103-123.

(Distribution of 137 Paleocene- Miocene genera-species and correlation with planktonic foram zones)


(Five species from U. Oligocene- M Miocene)


(New oyster species from M Eocene Malawa Fm that unconformably overlie Late Cretaceous Balangbary flysch in Doidoi village, S of Ralla, S Sulawesi. O. (T.) doidoiensis is from basal marine beds above the two coal beds of Malawa Fm and is associated with gastropods, solitary corals ond other bivalves)


('Biostratigraphy of Cenozoic mollusks in Java, Indonesia'. Review of Eocene- Pliocene mollusc biostratigraphy of Java. With extensive reference list)

(Middle Eocene oyster species from Bayah Fm, Banten, SW Java. Species originally described from SW Sulawesi Malawa Fm and may also be present in Nanggulan Fm of C Java)


(online at: http://twgeoref.moeacgs.gov.tw/star/1939/19390077/0009.PDF)

(Eocene limestone blocks found in Besleo area, Niki-Niki region, SW Timor, otherwise known mainly for its abundant Permian fossils and Cretaceous manganese-bearing beds with abundant shark teeth. Descriptions of alveolinids (Fasciolites timorensis, F. wichmanni) and Nummulites cf. perforata)


(online at: http://www.sil.si.edu/smithsoniancontributions/Paleobiology/pdf_lo/SCtP-0036.pdf)


(Group of ~100 species of elongate, cylindrical deep-sea benthic foraminifera (families Stilostomellidae, Pleurostomellidae, Nodosariidae) became extinct during increasingly cold glacial periods in Late Pliocene-mid-Pleistocene Climate Transition (~2.6-0.6 Ma).


('On fossil plants from Sumatra'. Description of 13 species of plants from Eocene marls near coalfields of Ombilin Basin, Padang Highlands, collected by Verbeek in 1874. Believed to be Miocene age by Heer. Associated with marls with fish fauna described by Rutimeyer 1874, Sanders 1934, etc.)


('Contributions to the fossil flora of Sumatra'. Descriptions of 32 species, incl. Ficus, Daphniphyllum, Dipterocarpus, etc.)


('On fossil plants from Sumatra'. Reprint of Heer (1874))


('Contributions to the fossil flora of Sumatra'. Reprint of Heer (1879))


(online at: http://www.bgl.esdm.go.id/publication/index.php/dir/article_detail/403)

(Batuasih Fm overlies (Eocene?) Walat Fm and grades upwards into Late Oligocene Rajamandala Lst Fm. Outcrops in 3 sections W of Sukabumi, W Java: Batuasih Village, 36m; Cibatu River, 113m; Padaarang, 2.6m. Mainly black shaly claystone, with limestone intercalations in upper part. Foraminifera poorly preserved black benthic and planktonic foraminifera, deposited in shelfal marine environment in E Oligocene (zone P19))

(Foraminifera from the Eocene and Early Miocene of Timor). Larger foraminifera of Eocene (Nummulites, Discocyclina, alveolinids, Pellatispira) and Early Miocene age (Spiroclypeus, Miogypsina, Lepidocyclina (Nephrolepidina)) from W and E Timor)

(Pliocene benthic foraminifera from DSDP Hole 586A on Ontong Java Plateau, NE of New Guinea. Benthic fauna 262 taxa, 83 genera. Three assemblages, linked to changes in paleoenvironment: (1) Nuttallides umbonifera-dominated assemblage, reflecting well-oxygenated water mass, undersaturated with respect to calcite, (2) Cibicidoides wuellerstorfi, Epistominella exigua, Globocassidulina subglobosa, Oridorsalis umbonatus, and Pullenia bulloides, similar to present fauna on Ontong Java Plateau, associated with deep oxygen minimum layer of Pacific Intermediate Water, reflecting reduced oxygen content associated with episodes of upwelling; (3) Uvigerina peregrina-dominated assemblage reflects episodes of further depletion in oxygen content due to intensified upwelling or changes in thermohaline circulation)

(Gulf of Thailand Eocene? Recent intracratonic basin with up to 8000m Neogene section in mainly non-marine facies. Biostrat zonation mainly based on palynology. Existing zonations can be refined by quantitative analysis of biostrat data. Late Miocene Unconformity (MMU) separates deformed mainly non-marine section from more marine and less deformed younger section)

(Evolution of planktonic foram lineage Globorotalia (Fohsella) Miocene between 23.7-11.8 Ma and forms basis for subdivision of early M Miocene Zones N 10-N 12 ). Most rapid changes in morphology of Fohsella between 13- 12.7 Ma, coinciding with increase in the d18O ratios. O values suggest change in depth stratification associated with expansion of thermocline in W Equatorial Pacific. After adapting to deeper water habitat at 13.0 Ma, Fohsella lineage became extinct at 11.8 Ma during period of shoaling of thermocline)

(Correlation between Lepidocyclina degree of curvature and planktonic foram zonation in E-M Miocene of C Luconia wells, Sarawak)

(Occ. Spiroclypeus and Heterostegina assilinoides on seamount between Japan and Hawai)


(Oligocene smaller benthic foram Rotalia mexicana/ mecatepecensis commonly placed in genus Pararotalia, but should be Neorotalia)
(Detailed study of morphology of Late Eocene Pellatispira- Biplanispira- Vacuolispira group, partly based on well-preserved specimens from Kalimantan. Widespread distribution across Neotethys)

(Thin limestone in Kungkuan Tuff with Miogypsina, Miogypsinoidea formasensis and Lepidocyclina (N). Degree of curvature indicates Aquitanian age; associated planktonic forams zone N5)-

Huang, T. (1964)- ‘Rotalia’ group from the Upper Cenozoic of Taiwan. Micropaleontology 10, 1, p. 49-62.  
(On stratigraphic ranges of 24 species of Neogene Rotalia group (Ammonia, Asterorotalia, Pararotalia, Pseudorotalia))


(online at: http://jfr.geoscienceworld.org/content/16/1/34.full.pdf)  
(Abyssamina quadrata, previously recorded from Paleocene- Eocene of Atlantic Ocean, found in upper bathyal sediments of NE Kalimantan (zone N5, E Miocene) and in zones N1-N4 (Late Oligocene) of Malajon 1 well, offshore Palawan Island, Philippines. In both localities associated with upper bathyal benthic species)

(‘On Tertiary and Quaternary deposits of Nias Island’. Mainly description of molluscs. No maps)


(‘Characterization of Rajamandala Fm carbonate rocks based on larger foraminifera in the Padalarang area, West Java’. Cluster analysis shows larger foraminifera biofacies: (1) open sea shelf: planktonic foraminifera; (2) deep shelf margin: planktonic foraminifera, Cycloclypeus, Operculina, Heterostegina, Amphistegina, Spiroclypeus; (3) foreslope: Lepidocyclina, Miogypsinoidea, Pararotalia and Spiroclypeus; (4) organic buildup: coral; (5) open platform: Quinqueloculinids and Austrotillina, Pararotalia, coral and alga; (6) restricted platform/ lagoon: Quinqueloculinids, Austrotillina, Borelis)

(Cabog Fm exposed in CE Luzon with M Eocene radiolaria of low paleolatitude affinity and represents first depositional stage in early arc setting)


(Nannoplankton and planktonic foraminifera biostratigraphy of Batuasih Fm near Cibadak, W Java, suggest Late Oligocene (Gr. opima and Sphenolithus distentus- S. ciperoensis zone) to earliest Miocene? (Catapsydrax dissimilis and D. druggi-Triq. carinatus zone) age (underlies latest Oligocene Rajamandala Limestone; HvG))


Jafar, S.A. & O.P. Singh (1999) - Late Miocene coccoliths from Neill Island, Andam Sea, India. J. Palaeontol. Soc. India 44, p. 119-134. (Late Miocene Discoaster beggreni (CN9A)/lower Discoaster quinqueramus zone (NN11) from Neill Island)


Jeannet, A. & R. Martin (1937) - Ueber Neozoische Echinoidea aus dem Niederlandisch-Indischen Archipel. Leidsche Geol Meded. 8, 2, p. 215-308. ('On Neozoic echinoids from the Netherlands Indies Archipelago’. Mainly paleontological descriptions of Neogene echinoid fossils from Java, Madura, Kalimantan, Timor, Ceram, N Sumatra, etc., from various European University collections)

Jenkins, H.M. (1864) - On some Tertiary Mollusca from Mount Sela, in the island of Java. Quart. J. Geol. Soc. 20, p. 45-73. (Early paper on Tertiary gastropods from Gunung Sela, S of Ciremai volcano, Kunigan District, Cirebon)
Jennings, A.V. (1888)- Notes on the orbitoidal limestone of North Borneo. Geol. Mag. 5, 12, p. 529-532.

(Limestones of uncertain location, probably Silungen in Soubis and from Batu Gading, collected by Burls contains Discocyclina spp. and Asterocyclina, probably Eocene in age)

(online at: http://pubs.usgs.gov/pp/0260m/report.pdf)

(online at: http://pubs.usgs.gov/pp/0280e-j/report.pdf)
(Most Eocene- Recent algae from Saipan are mainly red algae, some are green. 18 genera and 88 species described. Calcareous algae can be rock builders. Main use is in paleoecology; of limited use in stratigraphy)

(online at: http://archive.org/details/bulletinofbritis11brit)
(41 species of red calcareous algae from Eocene-E Miocene limestones of Melinau Gorge and Paleocene localities of upper Baram and Belukan River regions)

(Tertiary coralline algae, including five new species (Lithothamnium borneoense, L. nanosporum, Mesophyllum javaense, Lithophyllum parricellum, Corallina delicatula) from Eocene and Miocene of E Kalimantan and W Java, collected by LeRoy. Most common species is Lithoporella melobesioides)


Johnson, K., B.W. Hayward & A. Holbourn (2011)- Impact of the Middle Miocene climate transition on elongate, cylindrical foraminifera in the subtropical Pacific. Marine Micropal. 78, p. 50-64.
(58 species of elongate, cylindrical benthic foraminifera of 'Extinction Group (Nodosariidae, Stilostomellidae, Pleurostomella; extinct during M Pleistocene Climate Transition) in ODP Sites 1146, (S China Sea) and 1237 (SE Pacific) show no major changes during major cooling in M Miocene (14.0-13.7 Ma))

(Thorough review of applied biostratigraphy)

(Borelis melo melo ranges throughout Miocene, B. melo curdica restricted to late E- M Miocene. Both subspecies occur only in Indo-Pacific Province in late E Miocene (Burdigalian), but also present in Mediterranean province in latest Early- early M Miocene (M Burdigalian- Langhian))

(Descriptions of foram content of Tertiary limestones, mainly from Flying Fish Cove. Larger foraminifera include Lepidocyclina spp. and Discocyclina)

(Two late Early Miocene nannofossil zones in 103m deep BR-2 hole in Sentolo Fm marls, W of Yogyakarta: Helicosphaera ampliaperta and Sphenolithus heteromorphus)

(Oligocene nannofossil biostratigraphy of Batuasih Fm Bogor Basin’)

(On E Miocene- early M Miocene nannofossils of Sambipitu Fm stratotype of Batur Agung escarpment, Southern Mountains, SE of Yogyakarta)

(Discussion of paleoenvironments and fossils of Late Pliocene- Pleistocene formations of Sangiran Dome)

(Apparent diachronous ages of Batuasih marl- Rajamandala Limestone succession: older in East. Nannofossils from Batuasih Fm in Sukabumi area CP18, CP19a, CP19b, over lain by Rajamandala Lst with Upper Te zone larger forams. At E end of Rajamandala ridge (Padalarang) Batuasih Fm nannos zone CP18, planktonic foram zone N1, overlain by Rajamandala Lst with Lower and Upper Te zone larger forams)

(Review of Oligocene-Pliocene stratigraphy/ biostratigraphy of Kutai Basin)

(Nannofossil biostratigraphy of Tonasa Fm in Rala area, S Sulawesi, show Late Eocene- Early Oligocene ages)

(Descriptions of planktonic foraminifera from small outcrops of open marine marls of latest Miocene age in SW Bali and calcareous sandstone from SE Bali)

(Samples from 500-600m thick, S-dipping limestones of southern peninsula of Bali, with Lepidocyclina, Cycloclypeus and some planktonic foraminifera including Orbulina. Most likely age Middle-Late Miocene)

(online at: http://jfr.geoscienceworld.org/content/5/1/1.full.pdf)  
(One of first studies of planktonic foraminifera in Java. 46 E-M Miocene species identified in Sentolo Fm, Nanggulan area, W of Yogya. One new: Hastigerina klampisensis)
(One of first studies of planktonic foraminifera in Java. 46 late Early- early M Miocene planktonic foram species identified in Sentolo Fm, Nanggulan area, W Progo Mts, S Java. One new: Hastigerina klampisensis)

(Planktonic foraminifera zones N21-N23 in 201 m deep Ambengan core hole)


(13 Early Miocene- Pliocene biozones in Sentolo Fm, overlying “Old Andesites” W of Yogyakarta)

(Four shallow marine benthic foram zones recognized in Late Pliocene Kalibeng Fm, two brackish lagoonal zones in Pleistocene Pucangan Fm)

(Lower Kalibeng marls with Early Pliocene fauna. Upper Kalibeng interbedded limestone- sandstone Late Pliocene N20-N21, with common reworked planktonic foraminifera. Pleistocene Pucangan Fm barren)

(Key documentation of Miocene- Pliocene foram biostratigraphy of outcrop sections of Java Southern Mountains and Banyumas- Kebumen areas)

(Descriptions and ranges of Ammonia, Pseudorotalia, Asterorotalia in Miocene of NE Java, confirming the rotalid biozonation established in E Kalimantan can also be applied in NE Java)

(Well-documented study of six Late Oligocene- M Miocene planktonic foram zones in C Sumatra subsurface. Early M Miocene hiatus in Minas and other fields, called Duri event, spans zone N10)


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 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 Early Eocene age or older.


Kapid, R. & S.U. Choiriah (2000)- Batas umur Pliozen/Plistosen berdasarkan analisis nanofosil pada lintasan sungai Bengawan Solo daerah Ngawi Jawa Timur. Jurnal Teknologi Mineral 7, 1, p. 29-42. (Quantitative analysis of calcareous nanofossils from Solo River, Ngawi. Pliocene-Pleistocene boundary defined based on top Discoaster s.l. and first appearance of Gephyrocapsa s.l. Same boundary as Van Gorsel and Troelsstra (1981) based on appearance of Gr. truncatulinoides. Comparison between this study and palynology analysis indicates same climatic changes at Plio-Pleistocene boundary. Also shoreline displacement of Java Sea toward E since Late Pliocene)


Kapid, R. & A.H. Harsolumakso (1996)- Studi nannoplankton pada Formasi Karangsambung dan Totogan di daerah Luk Ulo, Kebumen, Jawa Tengah. Bul. Geol. 26, 1, p. 13-43. (Nannoplankton from C Java Karangsambung Fm scaly clays Mid to Late Eocene (NP16-NP21), suggesting compressional deformation in C Java continued into this time. Overlying Totogan Fm clay breccia with various blocks with Late Eocene (NP 18-20) to Oligocene-earliest Miocene (NP23-NN2) nanofossils)


Kapid, R. & S.E. Suprijanto (1996)- Batas Miosen-Pliosen berdasarkan nannoplankton pada Formasi Ledok dan Mundu di daerah Bukit Kapuan, Jawa Timur. Bul. Geol. 26, 1, p. 55-64. (Late Miocene- Early Pliocene in Kali Cilik section, 12 km N of Bojonegoro, E Java. Ledok Fm roughly NN11-lower NN12/ D. quinqueramus zone, Late Miocene, 5-7 Ma. Underlying Wonocolo Fm is NN10/ Late Miocene, overlying Mundu Fm is upper NN12-NN14/ Early Pliocene)

(Klitik Mb of U Kalibeng Fm along Solo River in Sonde area, E Java, Indonesia contains diverse shallow marine molluscs that have been standard of Neogene mollusc sequences in Indonesia, and were vaguely dated as Late Pliocene. Planktonic foraminifera in Klitik Mb along Solo River at Bangun, 2 km W of Sonde, suggest age between 3.95 Ma- 3.58 Ma, ~mid Pliocene (NB: unusual mix of shallow marine molluscs and silstones with abundant deeper planktonic forams, which may be reworked from older Kalibeng Fm. Klitik Beds younger than concluded here?: HvG))

(Includes summary and discussion of Indonesian Miocene to Recent cowries)

(Suangpai quarry in Tajau area of N Kudat Peninsula has basal marl with Late Paleocene planktonic forams, overlain by dense white limestone with Discocyclina, Akinocyclina, Asterocyclina (Ta zone) and the algae Distichoplax biserialis, restricted to Paleocene- E Eocene in other areas of the Tethys. No maps or other stratigraphy info)

(Distichoplax biserialis found in Suangpai Lst of N Kudat peninsula, with common Discocyclina- Akinocyclina and nearby marls with Late Paleocene planktonic forams. Also in Banggi Limestone at SW coast of Banggi island indicates Early Eocene age)

(Late Cretaceous- Paleogene flysch deposits across >550 mile belt from Sarawak to Sabah (Crocker range). Forams dominated by monotonous bathyal arenaceous 'Bathysiphon-Cyclammina-Trochasmina' assemblages, with rare calcareous benthics and planktonic foraminifera. Subtle variations between relative abundances probably reflect environmental factors like oxygenation)

Keij, A.J. (1964)- Neogene to Recent species of Cytherelloidea (Ostracoda) from northwestern Borneo. Micropaleontology 10, 4, p. 415-430.
(Cytherelloidea common in Neogene-Recent ostracode assemblages of N Borneo. Fifteen species, ten new)


(Buton asphalt-bearing marls with 333 species of deep marine benthic foraminifera and common planktonics. Age (Late Miocene-?) Pliocene, not Oligocene as previously postulated. One Pliocene sample is breccia with reworked Upper Cretaceous clasts and Globotruncanca planktonic forams, and may be indicative of mud
volcanism. (Amphimorphinella butonensis Keijzer 1953 possibly indicator of hydrocarbon seepage?; Hayward et al. 2011))


Kingma, J.T. (1948)- Contributions to the knowledge of the Young-Cenozoic Ostracoda from the Malayan region. Doct. Thesis University Utrecht, Kemink, p. 1-119. (Late Neogene ostracods from outcrop samples in Aceh (N Sumatra) and S Kendeng zone (E Java; 31 species), from the Miocene-Pliocene of Bojonegoro 1 well (E Java; 41 species), and Recent forms from Snellius Expedition samples in eastern Java Sea (19 species). Six new genera (Hemicytheridea, Atjehella, Patijenborchella, Tanella, Javanella), 94 species of which 40 new. Includes description of Caudites javana Kingma, a widespread species in Indo Pacific. Limited stratigraphy/stratigraphic results)


(online at: http://retro.seals.ch/entmng?type=pdf&rid=egh-001:1925-1926:19::987&subp= hires)
(Middle Tertiary foraminifera from Bulongan, NE Kalimantan'. Listing of 255 deeper marine foram species, mainly from Late Oligocene marls in Sajau and Binai rivers drainage, NE Bulongan. First descriptions of planktonic foram marker species like Globigerina binaiensis and G. tripartita)

(online at: http://retro.seals.ch/)
('Name changes of some Tertiary foraminifera from Netherlands East Indies'. Brief note about name changes for species described by Koch (1926): Globigerina aspera= G. binaiensis, Globigerina bulloides var. tripartita= G. tripartita, etc.)


('The Tertiary woods of Southeast Asia (with exclusion of Dipterocarpaceae', Part 1-

('The Tertiary woods of Southeast Asia (with exclusion of Dipterocarpaceae', Part 2)

('Fossil wood from the Tertiary of South Sumatra'. Descriptions of Miocene silicified woods collected by Tobler. Up to 10m long silicified tree trunks in tuffaceous Upper Miocene Lower Palembang Fm. Some name changes suggested by Den Berger (1923))

(Online at http://www.dwc.knaw.nl/DL/publications/P100014846.pdf)
('On a fossil tree trunk from Bolang, Java; a contribution to the knowledge of the fossil flora of Netherlands Indies'. Bolang locality has silicified tree trunks up to 2m long, 60 cm in diameter. Age of deposits uncertain. Specimen from dipterocarp tree family, deemed to be new species named Dipterocarpoxylon javanense (= Dryobalanoxylon javanense according to Berger, 1927; HvG)

Krausel, R. (1923)- Nipadites borneensis n. sp. eine fossil Palmenfrucht aus Borneo. Senckenbergiana 5, p. 77-81.
(On a new species of fossil fruit of a Nypa-type palm from the Eocene of Borneo)

('The state of knowledge of the Tertiary flora of the Netherlands Indies'. Review of known fossil plant occurrences on Java, Borneo, Sumatra)

('On some fossil woods from Java'. Petrified wood from Late Tertiary deposits of Bandung and Batavia belongs to Dipterocarpaceae. Naucleoxylon spectabile of Crie (1888) re-assigned to Dipterocarpxylon (then Berger 1927 re-assigned to Dryobalanoxylon; HvG)
('Fossil plants from the Tertiary of South Sumatra'. Description of plants collected by Tobler from M and U Palembang Fms. Late Miocene S Sumatra forests not much different from present-day. No locality maps, stratigraphy)

(On barnacles on Spondylus mollusc collected by Verbeek in 1899 from Pleistocene marls near N coast Sumba)

('The genus Spiroclypeus in the Indo-Pacific region')

Krijnen, W.F. (1931)- Annotations to the map of the more important fossil localities in the Netherlands East Indies. Leidsche Geol. Meded. 5, p. 509-551.

(Online at http://paleopolis.rediris.es/cg/CG2005_M01)
(Commonly used chronostratigraphic markers (foraminifera, spores and pollen) are rare or absent in most of the Kutei Basin. Calcareous nannofossils present in prodelta shales, but also poor and dominated by Discoasters. Propose modified Miocene nannofossil zonation of 13 zones for Outer Kutei basin, based on Discoasters only)

('Contribution to the knowledge of the Tertiary echinoids of the Sonde Islands (=Indonesia'). On regular echinoderms from Java, Borneo, Sumbawa and Timor)

(Long-necked bird skeleton from ?Eocene fish-rich lacustrine clays in Ombilin basin, collected by Musper in 1927. Oldest known member of Anhingidae water-bird family. With common gastroliths (= stomach stones))

('Study on a fossil plant from marine Tertiary deposits of S Sulawesi'. Plant fossils associated with fish fauna in Early Miocene lithographic limestone at Patanuang Asu, NE of Makassar, collected by Brouwer. Mainly shallow marine seaweed Cymodocea michelotti)

(Nanggulan Fm age diagnostic M-L Eocene fauna and palynomorph assemblages. Many palynomorphs affinity with Indian forms, suggesting plant migration into SE Asia following plate collision in E Tertiary. Distribution of similar M Eocene palynomorph assemblages suggests Sundaland extended from Java to SW Sulawesi. Podocarpidites pollen in upper unit indicates cooling, probably equivalent to M-L Eocene boundary event recorded elsewhere. Nanggulan Fm is transgressive sequence)

('Revision of Eocene pollen zonation')


Lelono, E.B. (2007) - Gondwanan palynomorphs from the Paleogene sediments of East Java?; the evidence of earlier arrival. Proc. Joint Conv. 32nd HAGI, 36th IAGI, and 29th IATMI, Bali, JCB2007-010, 14p. (Appearance of regular Gondwanan/ Australian pollen, including Dacrydium and Casuarina, in Late Eocene-Oligocene of wells in N Madura- E Java Sea is unusual, as these are generally first recorded in Early Miocene of other areas such as NW Java Sea, S Sumatra and C Java, S Sulawesi and Natuna, after collision of Australian plate and Sundaland in latest Oligocene. This may indicate earlier arrival of Gondwanan/ Australian fragment in East Java area than in other areas of Indonesia)


(Proposes alternative dispersal route of Australian taxa Dacrydium and Casuarina to SE Asia. Previously thought to have migrated to Sunda region after collision of Australian and Asian plates, or arrival with Gondwanan fragment in Early Oligocene. Records of Dacrydium in Eocene of Ninety East Ridge and the Indian subcontinent may support alternative dispersal route into SE Asia via Indian plate)


(same paper as above)


(Listings and illustrations of type material of 229 taxa of Tertiary and Permian corals in Leiden Natural History Museum, mainly from Martin, Gerth and Umbgrove collections)
(online at: http://www.repository.naturalis.nl/document/143887)
(Updated, expanded and illustrated version of Van den Hoek Ostende et al. (2002) of type specimens of Tertiary bivalves, gastropods and scaphopods from Java in K. Martin collection at Naturalis Museum, Leiden. With listing of fossil localities and 289 color plates)

(Descriptions of 95 species of Miocene small benthic foraminifera and six species of ostracoda from Telisa and Palembang formations along E front of Barisan mountains)

(Fourteen new species of ostracode Cytherelloidea from Indonesia, incl. 3 from Late Miocene of NE Kalimantan, 4 from Mio-Pliocene from Bantam, W Java and 7 species from Miocene of C Sumatra)

(Same paper as above: 14 new species of ostracode Cytherelloidea from Indonesia, incl. 3 from Late Miocene of NE Kalimantan, 4 from Mio-Pliocene from Bantam, W Java and 7 species from Miocene of C Sumatra)


(Descriptions of 183 species of Miocene small benthic foraminifera from Telisa and L-M Palembang formations along E front of Barisan mountains. Little or no stratigraphic or locations information)

(Descriptions of 107 species of small benthic foraminifera from Miocene marls at Tjijarian bridge, E of Pelabuhan Ratu, W Java)

(Includes discussion and illustrations of growth stages of Cythereis holmani from Telisa Fm of C Sumatra)

(Lowest stratigraphic occurrence of pelagic foraminifer Orbulina universa proposed to be a good mid-Miocene markerhorizon. With discussion of stratigraphy and faunas of Kassikan section near Alicantan, Sultanate of Siak, C Sumatra, where this event occurs near top of Telisa Fm)
*(Lowest occurrence of planktonic foram Orbulina within Telisa Fm of C Sumatra good base of Middle Miocene marker horizon. With chart of foraminifera distribution in Telisa- M Palembang formations in Kasikan section, Barisan mountain front)*

*(online at: http://pubs.usgs.gov/pp/0454f/report.pdf)*


*(Overview of Tertiary stratigraphy across ‘Netherlands East Indies’ in K. Martin memorial volume. With distribution chart of larger foraminifera and ‘Letter Classification’ zonation)*

*(Brief descriptions of Tertiary calcareous algae from Borneo, Java, etc., in Leiden collection. No location/stratigraphy info)*

*(M Eocene) and Campanian radiolarian faunas from basement rocks of SE South Andaman Island affirm Paleocene- E Eocene sedimentological hiatus)*

*(Basal sedimentary unit on Waigeo is Tanjung Bomas Fm and contains late M Eocene radiolarian assemblage. Overlies ?Late Jurassic- Early Cretaceous ophiolite complex and thin volcanioclastic Kapadiri Fm with Early Cretaceous calpionnelids)*

*(Well-preserved Early Eocene radiolarian assemblages confirms presence of Eocene marine sediments on Waigeo Island, NW of Birds Head)*

*(M Eocene radiolarians in red chert from SW Nias constrains oldest age of emplacement of ophiolitic basement. (Similar to M Eocene radiolarians on ophiolite of S Andaman (Ling and Srinivasan 1993))*

*(online at: http://palaeontologicalsociety.in/vol38/v1.pdf)*

*Ling et al. 1991)*

(Mainly Miocene open marine shelf foraminifera from below Great Barrier Reef. 69 species nodosarids and buliminids)


Lloyd, A.R. (1974)- Time measurement of geological time and precision in correlation. Proc. SEAPEX Conv. 1, Singapore, p. 31-43. (On stratigraphic correlations, with examples from SE Asia)


Ludbrook, N.H. (1965)- Tertiary fossils from Christmas Island (Indian Ocean). J. Geol. Soc. Australia, 12, p. 285-294. (Algal limestones of Christmas Island in Indian Ocean of Late Eocene (Tb) and Early Miocene (Te-Tf) age. Upper Eocene limestone with Discocyclina, Nummulites, Heterostegina. Lower Miocene limestone lower part with Lepidocyclina (Eulepidina), followed by Miogypsinoideas dehaarti, then Flosculinella bontangensis. No rocks younger than Burdigalian identified other than young fringing reef)


Mandang, Y.I. & D. Martono (1996)- Keanekaragaman fosil kayu di bagian barat pulau Jawa. Bul. Penelitian Hasil Hutan 14, 5, p. 192-203. (‘Fossil wood diversity in the western part of Java Island’. Of 199 wood fossils, 81% belong to family Dipterocarpaceae (Dryobalanops, Alstonia, Calophyllum, Dillenia, etc.))

Mao, Limi & S.Y. Foong (2013)- Tracing ancestral biogeography of Sonneratia based on fossil pollen and their probable modern analogues. Palaeoworld 22, p. 133-143. (Review of biogeography of tropical mangrove pollen Florschuetzia, which is ancestral to modern Sonneratia. Florschuetzia documented from Late Eocene- M Miocene in palaeotropics around Tethyan region. Migrated from center of origin in SE Asia probably during E Eocene, and radiated and expanded China, Japan, Australia and E Africa. Until warm early M Miocene (Langhian) Sonneratia had largest geographical range)

Marks, P. (1954)- Contributions to the geology of Timor. III. An occurrence of Miogypsina (Miogypsinella) complanata Schlumberger in the Lalan Asu area, Timor. Indonesian J. Natural Science 110, p. 78-80. (Lalan Asu area polymict basal conglomerate above amphibolite, originally described by Tappenbeck 1939, contains latest Oligocene larger forams Miogypsinoides complanata (with >21 spiral chambers) and Spirochypheus. Probably equivalent of Base Cablac Limestone in E Timor (Called Aquitanian by Marks, but age should be Late Chattian, Latest Oligocene; HvG)

Marks, P. (1956)- Smaller foraminifera from well No. 1 (sumur 1) at Kebajoran, Djakarta. Djawatan Geologi, Publ. Keilmuan 30, Ser. Paleont., Bandung, p. 25-47. (Study of foraminifera in water well drilled to 255m in 1950 at S side of Jakarta. Mainly barren, non-marine section with 3-4 thin intervals with shallow marine microfauna (Asterorotalia, Pseudorotalia, Elphidium, etc.). Uppermost samples rich in reworked planktonic forams. Age of section latest Pliocene- Pleistocene)

Martin, K. (1879-1880)- Die Tertiarschichten auf Java, nach den Entdeckungen von Fr. Junghuhn, Palaeontologischer Teil. E.J. Brill, Leiden, p. 3-164. ('The Tertiary beds of Java; after the discoveries of Fr. Junghuhn; paleontological part'. One of earliest descriptions of Tertiary macrofossils from Java, with many new species, incl. Cycloclypeus annulatus from Citarum valley, W Java. Chapter on corals p. 132-146, mainly from Miocene of Nyalindung area, W Java)


Martin, K. (1899)- On brackish water-deposits of the Melawi in the interior of Borneo. Proc. Kon. Akad. Wetensch., Amsterdam, 1, p. 245-248. (online at www.digitallibrary.nl) (Molluscs collected by Wing Easton and Molengraaff in sediments of Melawi River area, Upper Kapuas, C Kalimantan, mainly fresh (Melania, Paludomus) or brackish water (Cyrena, Corbula), but also some shallow marine species. Age Tertiary, possibly Eocene)

Martin, K. (1900)- Die Eintheilung der Versteinerungs-führenden Sedimente von Java. Jaarboek Mijnwezen Nederl. Oost-Indie (1900), 108 p. ('The classification of the fossiliferous rocks of Java' Overview of fossils and discussion of probable ages of formations from various parts of Java and Madura. Very 'wordy'; no maps or other illustrations)
(The classification of the fossiliferous rocks of Java. Same paper as above)

(Young Tertiary limestones from Bacan and Obi. Occurrence of probably Early Miocene age limestone with Lepidocyclina and Heterostegina in SW Bacan and N-Central Obi)

(‘An Early Miocene gastropod fauna from Rembang, with comments on stratigraphic value of nummulitids’. Listing of 40 gastropod species from Sedan and Gunung Butak, Rembang District, NE Java, only 6 species still known from recent faunas. Fauna held for Early Miocene (but associated with Cycloclypeus annulatus, so more likely Middle Miocene age, probably Bulu Limestone; HvG))

(‘Systematic overview of Tertiary and younger gastropods from Java’. Listing of 648 gastropod species names. No illustrations, ranges, descriptions, etc.)

(Paleozoic, Mesozoic and Cenozoic fossils from foothills from SW New Guinea expeditions 1907-1909. Brief review of fossils collected in foothills South of Central Range by Heldring. Flanks of Wilhelmina (=Trikora) peak composed of Eocene Nummulites and Alveolina limestones. Float in Setakwa (Otakwa) river with Mesozoic limestone with ammonite (Coeloceras?) and Eocene Lacazina limestone. In Noordwest River hard quartz sandstone with brachiopods Rhynconella and Spiriferina (Permian?). In Noord/ Lorentz River Paleozoic grey limestone with trilobite fragments, also blue gray rock with orthoceratid, probably Actinoceras. In B-River (upper tributary of Eilanden R.) Jurassic ammonites (Macrocephalites?), belemnites, also Eocene Nummulites and Alveolina limestones, E Miocene Lepidocyclina limestone, etc. No plates)

(‘Miocene gastropods from E Kalimantan’)

(online at: http://bhl.ala.org.au/bibliography/50429/summary)  
(‘The fauna of the Upper Eocene of Nanggulan, C Java, A. Gastropoda’. Descriptions of very well-preserved gastropods from U Eocene marls of Nanggulan, W of Yogyakarta)

(online at: http://bhl.ala.org.au/bibliography/50429/summary)  
(‘The fauna of the Upper Eocene of Nanggulan, Central Java, B. Scaphopoda, Lamellibranchiata, Rhizopoda and general part’. Part 2 of Martin (1914) paper. Descriptions of well-preserved molluscs from Eocene marls of Nanggulan, W of Yogyakarta)

(‘The Early Miocene fauna of the West Progo Mountains on Java, A. Gastropods’, SW of Yogyakarta)
(The Early Miocene fauna of the West Progo Mountains on Java- Scaphopoda, Lamellibranchiata, etc.)

(online at www.digitallibrary.nl)  
(Fish fossils found by Abendanon near Enrekang along lower Saadang River, believed to be of Oligocene age by Dollfus, based on presence of Vicarya. However, this is misidentified and mollusk fauna more likely of Neogene age)

(online at www.digitallibrary.nl)  
(Rich Miocene macrofossils from right bank of Progo River, W of Yogyakarta, Main localities: marls at Gunung Spolong and clay Kembang Sokkoh (well preserved, still some shine and color). Shallow marine Indo-Pacific mollusc assemblage, 103 species, only 7% still alive today. Associated with Miogypsina thecidaeformis. Most likely age Early Miocene)

('Our paleozoological knowledge of Java, with introductory remarks on the geogy of the island'. Early overview of Cretaceous- Recent Java fossils)

(The molluscs of the Nyalindung Beds, part 1, Gastropods'. Molluscs from M Miocene, SW Java)

(The molluscs of the Nyalindung Beds, continuation, Scaphopoda, Lamellibranchiata, General Part')

(Pliocene fossils from Cirebon in Java. Shallow marine and brackish water molluscs from Pliocene of Tji Doerei, SW of Karang Suvung)

('Supplement to the Neogene molluscs from Java'. Additions to Martin (1919) paper, based on new Miocene-Pliocene mollusc material collected by Geological Survey in W Progo Mts (C Java), Nyalindung Beds (W Java) and Tjilanang Beds. No maps or stratigraphy info)

(Descriptions of Neogene mollusks from Aceh, N Sumatra, collected by 'Dienst Mijnwezen'. Indo-Pacific fauna)

(online at http://www.dwc.knaw.nl/DL/publications/PU00015579.pdf)  
(One-page communication summarizing work on molluscs from ~3000m thick Pliocene deposits of N Aceh. Department of Mines collected >6000 molluscs, belonging to 347 different species. Typical Indo-Pacific fauna)

('A new Argonautid genus from Sumatra'. New octopod nautiloid shell, described as Kapal batavus, from clay nodule in M-L Miocene Lower Palembang Beds of Pangudang, 25 km W of Sekayu, S Sumatra)
(Molluscs from the Upper Eocene of Nanggulan. Follow-up of Martin 1915 paper. Taxonomic descriptions of molluscs (mainly gastropods) from the shallow marine Upper Eocene of Nanggulan, C Java, collected by Zwierzycki, Van der Vlerk and Gerth. 72 new species. No stratigraphy, locality descriptions)

(An Eocene nautilus from Java. New Nautilus species from Eocene of Kali Puru, Nanggulan, C Java)

(Report on fossils from Kedung Waru in Surabaya. Shallow marine Pliocene molluscs from Kedung Waru anticline along road Jetis-Sidotoko)

(A new Tertiary mollusc fauna from the Indies Archipelago. Mollusc assemblage of 26 new species from Buton asphalt-bearing marls/limestones, which are unconformable over folded Mesozoic sediments. Assigned Late Oligocene or E Miocene age. Later interpretations generally favor Late Miocene-Pliocene age (e.g. Beets 1952, Keyzer 1953))

(Oligocene gastropods from Buton)

(The Oligocene mollusks from Buton, interpreted as clasts in mud volcano. Molluscs from Buton originally dated as Oligocene, here regarded as mud volcano ejecta. Subsequently found to be Mio-Pliocene age; Beets 1952)

(The fossil gastropods. Late Pliocene - E Pleistocene gastropods from Trinil, collected by Selenka expedition)

(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))

(Review of Eocene- Recent larger foram occurrences and zonation in Japan and correlation with Indonesian letter zonation. Three abundance peaks: (1) M-L Eocene, (2) Late Oligocene; (3) latest E Miocene-M Miocene)

(M Paleocene- Recent Letter Stages for Philippines re-defined in terms of 17 larger foram assemblage zones)


Kinabatangan Lst mid-Oligocene (coral-rich, larger foram zone Te1, nannofossil zone NP24, Sr isotope ages 28.8-27.6 Ma); (2) Gomantong Lst Early Miocene (LBF zone Te5/earliest Tf1, Sr age 21.0 Ma); (3) Togopi Limestone with Alveolinella quoyi and abraded Calcarina (Pliocene-Pleistocene; Sr age 1.72 Ma)

(‘Manual for the identification of larger foram genera of Indonesia’. Small atlas of key larger foraminifera genera of Eocene- Recent of Indonesia)

(‘Sigmoilina personata n.sp., an index species from the Eocene of SE Borneo and Java’. Description of new small miloloid Sigmoilina personata, an index species for Upper Eocene in SE Kalimantan (Asem Asem and many other E Kalimantan localities) and C Java (Nanggulan))

(‘Lepidocyclina crucifera new species from the Burdigalian of E Kalimantan’. Stellate and advanced nephrolepidine Lepidocyclina with four rays from Sungai Mandai, Berau area. Associated larger foram assemblage includes Miogypsina and Miogypsinoides and suggests zone Tf1, Burdigalian)

(‘On the occurrence of Alveolina and Neoalveolina in Kalimantan’. Eocene Alveolina rel. common in NE Kalimantan, but not S of Sangkulirang Bay. Also common in Lutetian, M Eocene (Ta), but not in Priabonian. Neoalveolina (N. pygmaeus group= Borelis; HvG) first occurs at base of Tc/ Oligocene, commonly associated with Nummulites fichteli)

(‘Spiroclypeus and Flosculinella in limestones of the coastal ranges between Pacitan and Blitar, SE Java’, Southern Mountains. Suggests Aquitanian age for Spiroclypeus limestone and Burdigalian age for Flosculinellera-bearing limestones)

(‘The age of the Eocene limestone of Gunung Gamping W of Yogyakarta, Java’. Limestone of Gamping outcrop W of Yogya is Upper, rather than Lower Eocene and represents reef deposit formed at same time as Nanggulan limestones farther W (already identified as Late Eocene Pellatispira limestone by Gerth 1930; HvG))

(‘Flosculinella reicheli, a new species of globular flosculinellid from foram-rich marl of Te5/Burdigalian age, in Hajup rubber plantation N of Tanjung, Hulu-Sungei area, N Barito basin, E Kalimantan)


(Dinoflagellate cysts in three Miocene surface sections in West and C Java: Cipimangkis River near Jatiluhur (Late Miocene Cisubuh Fm), Kali Jaya NNE of Kebumen (around E-M Miocene boundary) and Cijarian River along Bogor- Pelabuhan Ratu road (M Miocene Cimandiri Fm). Most samples common dinoflagellate cysts. 29
species, 15 new, from genera Achomosphaera, Dilabidinium, Edwardsiella, Hystrichosphaeropsis, Javadinium, Lejeunecysta, Operculodinium, Spiniferites, etc.)

(Two Oligocene surface sections studied in W Java, Batuasih Fm near Cibadak and equivalent section near Padalarang, both marine claystones overlain by Rajamandala Fm limestones. Foraminifera and nannoplankton date Batuasih section around Early-Late Oligocene boundary. Dinoflagellate cysts in phosphatic nodules heavily affected by thermal metamorphism. Padalarang section planktonic foraminifera indicative of zones P20-P21, also around Early- Late Oligocene boundary. Dinoflagellate cysts may indicate slightly younger age than Batuasih. Twenty-six dinoflagellate species found, including three new species)

(Up to eight palynozones in Oligocene-Quaternary, mainly based on evolution of Florschuetzia species of mangrove pollen, building on Germeraad et al. 1968 work)


(On four pollen-morphological evolutionary trends and Eocene-Pliocene fossil record of genus Alangium, a flowering plant, in SE Asia)

(Palynology is only biostratigraphic tool for correlation of non-marine sediments and correlation across facies. Age-restricted palynomorphs are relatively few, so in Tertiary application of palynology is mainly in correlation rather than dating. Higher resolution requires quantitative palynological zonation schemes)

(On palynomorph distribution patterns in sequences/ systems tracts)

(online at: http://searg.rhul.ac.uk/publications/books/biogeography/biogeog_pdfs/Morley.pdf)
(Tertiary plant dispersals reflect tectonic and climatic evolution of SE Asia. Sunda Eocene flora stretched as far East as S arm of Sulawesi, and after Makassar Straits opening, part of this flora became stranded E of Wallace Line. Small number of plant taxa dispersed W across Wallace line since Miocene, at 17 Ma, 14, 9.5, 3.5 and ~1 Ma. Much of Sunda region moisture deficient in Oligocene-earliest Miocene, ever-wet rainforest becoming widespread at ~20 Ma, after which they repeatedly expanded and contracted. Greatest extent of rainforest at beginning of M Miocene. Quaternary ‘glacial’ periods with low sea levels and more seasonal climates, leading to more pine forests and savannah. New Guinea mountains formed in M Miocene allowing dispersal of Gondwana taxa from S. Some, like Podocarpus imbricatus, Phylocladus subsequently dispersed into SE Asia)

(Incl. SE Asia chapter describing Cenozoic vegetation response to plate tectonic evolution, as reflected in Indonesia palynology records. In M Eocene SW Sulawesi has Laurasian flora, and was attached to E Kalimantan. Makassar Straits became floral-faunal migration barrier in Late Eocene. First Australian- New Guinea floral elements (Casuarina, etc.) start appearing in W Java Sea around 22-21 Ma)


(Review of dispersal of megathermal angiosperms between tectonic plates in Cretaceous and Tertiary. Early Cretaceous radiation of angiosperms unrelated to formation of Tethys. Nine dispersal routes, some tied to Late Cretaceous- E Tertiary Gondwana break-up and routes formed since M Eocene phases of plate collision)


(online at: http://smithsonianrex.si.edu/index.php/scb/article/download/175/131)
(Tropical Podocarpaceae family appeared in Triassic of Gondwana and essentially remained southern family. Podocarpus s.l. dispersed into SE Asia in Late Eocene, explained by dispersal from India and possibly multiple dispersal events from Australia. Dacrydium reached SE Asia in E Oligocene and expanded range to Japan during M Miocene climatic optimum. Dacrycarpus and Phyllocladus dispersed into New Guinea as island emerged in Late Miocene, then island hopped to Borneo in M Pliocene. Dacrycarpus reached Sumatra and Malay Peninsula in Pleistocene)

(Summary of Cenozoic climatic and environmental history of Sunda region, from Sulawesi to S Vietnam, based on palynological record, occurrence of coals (form only during periods of everwet climate) and palaeosols)

Morley, R.J. (2013)- Cenozoic ecological history of Southeast Asian peat mires based on comparison of coals with present day and Late Quaternary peats. J. Limnology 72, 2s, p. 36-59.

(28 sequences identified in M Miocene- Pleistocene of Makassar Straits)


(Summary of palynology work in Java (Eocene of Nanggulan and Bayah), Sumatra (E Oligocene Pematang Fm, Late Oligocene Talang Akar Fm, E Miocene Gumai Fm, M Miocene Air Benakat Fm)

(Neogene climate history of Makassar Straits from palynological studies of Late Quaternary cores from ocean floor and petroleum exploration wells penetrating E Pleistocene- M Miocene section. Distinctly seasonal climate during last glacial maximum. Equatorial climate has been everwet since M Miocene, but at subequatorial latitudes seasonal climates became established from Late Pliocene onward)


(online at: http://www.jlimnol.it/index.php/jlimnol/article/view/704)

(On development widespread rift lake systems in Oligocene of SE Asia and eventual demise of these lakes following marine transgression. Pollen and spores content illustrate variety of fresh and brackish water swamp communities around their margins)


(Palynology and foraminifera from two shallow Late Pleistocene- Holocene cores from Makassar Straits and offshore SW Sulawesi)


(15 climate cycles interpreted from Late Eocene- M Miocene. Arang Fm climate cycles reflect mainly very wet climates, but with cool lowstand phases, and warm climate highstands. Barat, Udang and Gabus cycles characterized by cool and dry lowstands and warm and slightly wetter highstands. Belut Group cycles trend from drier to wetter with little temperature change)


(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)


(online at: www.biodiversitylibrary.org/)

(Descriptions of Mio-Pliocene crab fossils from NW Borneo. Abnormally high proportion of leucosiids)


(New biostrat data from Cretaceous- Miocene of various parts of Kalimantan)


'Microfacies and limestone diagenesis of the Zaag Fm of Misool island and surroundings'. Paleocene-Eocene
Zaag Fm carbonates on Misool two facies: (1) packstones with Fasciolites (Alveolina) and Lacazinella and (2)
grainstones with Fasciolites (Alveolina), miliolids and algae

Muller, J. (1964)- A palynological contribution to the history of mangrove vegetation in Borneo. In: L.M.
Cranwell (ed.) Ancient Pacific floras, the pollen story, University of Hawaii Press, Honolulu, p. 33-42.


Muller, J. (1972)- Palynological evidence for change in geomorphology, climate and vegetation in the Mio-
Dept. Misc. Ser, 13, p. 6-16.

Muller, J. (1978)- New observations on pollen morphology and fossil distribution of the genus Sonneratia

(Earliest reliable occurrence of Sonneratia mangrove pollen is from E Miocene of Sunda area)

Musper, K.A.F.R. (1936)- Einige Bemerkungen zur fossilen Fischfauna von Padang (Sumatra). De Ingenieur In
Nederl. Indie (IV) 3, 4, p. 70-74.

('Some remarks on the fossil fish fauna from Padang (Sumatra)'. Critique of Sanders (1934) monograph of
Eocene fresh or brackish water fish fauna)

Musper, K.A.F.R. (1938)- Fundorte und stratigraphisches Lager neuer Aufsammlungen Tertiärer Landpflanzen-

('Localities and stratigraphic position of new collections of Tertiary land plants- particularly silicified wood
remains on Sumatra and Java'. 2020 samples of Tertiary plants and wood from C Sumatra (Padang Highlands,
Indragiri), S Sumatra (SW of Palembang) and W Java)

Musper, K.A.F.R. (1939)- Kritische Betrachtungen über Herkunft und genaueres Alter der aus dem Tertiär

(online at: http://62.41.28.253/cgi-bin/...)

('Critical notes on the origin and precise ages of Tertiary wood fossils described from Netherlands Indies'. On
locations (S Sumatra, Java) and ages (mainly Miocene) of 30 petrified wood species)


('Radiolarian-bearing rocks from Sumatra'. New localities with radiolarians in S Sumatra. No true radiolarites)


(online at: http://www-odp.tamu.edu/publications/184_SR/VOLUME/CHAPTERS/219.PDF)

(South China Sea Miocene planktonic foraminiferal biostratigraphy (N5-N19))

in Jawa, Indonesia. Indonesia- Japan Joint Research Program on Regional Tectonics of Southeast Asia, GRDC
Spec. Publ. 6, p. 81-89.

Nederbragt, A.J. (1991)- Distribution and preservation of Cenozoic planktonic foraminifers from the Celebes

(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 compesation depths at ~3.5 Ma, 2.4 Ma, 1.6 Ma, etc.)
Newton, R.Bullen (1916)- Notes on some organic limestones, etc., collected by the Wollaston expedition in Dutch New Guinea. In: Reports on the collections made by the British Ornithologists Union Expedition and the Wollaston Expedition in Dutch New Guinea 1910-1913, 2, 20, p. 1-20. (Mainly on larger foraminifera from limestones collected by Wollaston Expedition in 1912-1913 along Utakwa River, on way to Carstensz Peaks. Dominated by Lepidocyclina spp (Nephrolepidina and Eulepidina types) and Spiroclypeus (not Cycloclypeus; latest Oligocene - Early Miocene age; HvG). Also occurrence of Jurassic mollusk Ctenostreon cf. terquemi in pebbles of Utakwa River. With review of older paleontological literature of New Guinea)

Newton, R.B. (1918)- Foraminiferal and nullepire structures in some Tertiary limestones from New Guinea. Geol. Mag. 6, 5, 5, p. 203-212. (Pebbles from Upper Fly River, PNG, collected by MacGregor in 1890 include Eocene limestone with Alveolina wichmanni, Lacazinella wichmanni and Orthophragmina (=Discocyclusina) and Miocene limestone with Carpenteria, Alveolina and Lithothamnium)


O'Herne, L. (1972)- Secondary chamberlets in Cyclolyctyeus. Scripta Geol. 7, p. 1-35. (Biometrical study of Miocene Cyclolyctyeus from Van der Vlerk collection from NE Java, Madura and Larat)


Okada, H. (1981)- Calcareous nannofossils of Cenozoic formations in Central Java. In: T. Saito (ed.) Micropaleontology, petrology and lithostratigraphy of Cenozoic rocks of the Yogyakarta region, Central Java. Spec. Publ. Dept. Earth Sci, Yamagata University, Japan, p. 25-34. (Nannofossils from M Eocene-M Oligocene Nanggulan Fm, E Miocene Sentolo Fm, etc. ‘Old Andesites’ underlain by Mid-Oligocene Sphen. distentus, over lain by middle E Miocene S. belemnos zone CN2. Upper part Sentolo Fm may be Early Pliocene)


Oostingh, C.H. (1934)- Aanteekeningen over eenige bivalven uit het Neogeen van Java. De Ingen. in Nederl.-Indie (IV) 1, 4, p. 19-22. ('Notes on some bivalves from the Neogene of Java'. On Mio-Pliocene Metis and Cardilia from various localities on Java)

Oostingh, C.H. (1934)- Die Cardiiden aus dem Cheribonien von Bentasari in Tegal, Java. De Ingen. in Nederl.-Indie (IV), 1, 5, p. 76-78.
The cardiids from the Cheribonian of Bentasari in Tegal, Java. Three species of Cardium-type molluscs from Pliocene of Bentarsari basin, C Java, including a Laevicardium described here for first time from Indonesia

('Some new gastropods from the Miocene of Middle Banten (Java)'. New species from coal-bearing Middle Bojongmanik beds, West Java, collected by Ziegler and Koolhoven)

('The mollusks from the Pliocene of Bumi Ayu, Java')

('The mollusks from the Pliocene of South Banten in W Java’. First of series of 10 papers)

('The mollusks from Pliocene of South Banten in W Java-2’. Descriptions of species of gastropod Clathrodrillia group)

('The mollusks from the Pliocene of South Banten in W Java-3’. Descriptions of species of gastropod family Terebridae)

('The mollusks from the Pliocene of South Banten in W Java-4’. Descriptions of species of gastropod families Volutacea, Olividae, Harpidae)

('The mollusks from the Pliocene of South Banten in W Java-5’. Descriptions of species of gastropod family Marginellidae)

(Discussion of mollusks as index fossils for Neogene. No illustrations, range charts, etc. Very few of Neogene Java species known from elsewhere (unlike Eocene species; HvG))

Oostingh, C.H. (1939)- Die Mollusken des Pliocaens von Sud-Bantam in Java- VI. De Ingen. in Nederl.-Indie (IV) 6, 1, p. 7-16.
('The mollusks from the Pliocene of South Bantan, Java’; part 6’. Descriptions of species of gastropod family Mitridae)

Oostingh, C.H. (1939)- Die Mollusken des Pliocaens von Sud-Bantam in Java- VII. De Ingen. in Nederl.-Indie (IV) 6, 4, p. 43-51.
('The mollusks from the Pliocene of South Bantan, Java’; part 7’. Descriptions of species of gastropod group Mitra)

('The mollusks from the Pliocene of South Banten in W Java-8’)
(‘The mollusks from the Pliocene of South Bantam, Java’; part 9’. Descriptions of species of gastropod family Nassariidae, etc.)

Oostingh, C.H. (1939)- Note on the stratigraphical relations between some Pliocene deposits in Java. De Ingen. in Nederl.-Indie (IV), 6, 9, p. 140-141.
(On correlations of Pliocene formations in Cirebon, Bumiayu and Kendeng regions)

Oostingh, C.H. (1940)- Die Mollusken des Pliocaens von Sud-Bantam in Java-X. De Ingen. in Nederl.-Indie (IV) 7, 4, p. 45-60.
(‘The mollusks from the Pliocene of South Bantam, Java’. Last of series of 10 papers. Descriptions of species of gastropod families Pyrenidae and Muricidae)

Oostingh, C.H. (1941)- Three new species of gastropods from the Pliocene of Semarang (Central Java). De Ingen. in Nederl.-Indie (IV) 8, 7, p.

(‘On the Tertiary mollusc fauna from Palembang’. Three faunas of bivalves and gastropods distinguished: Lower Telisa (21 species), basal Lower Palembang and typical Lower Palembang (52 species))

(‘Foraminifera from the North coast of Aceh’. At several localities limestone at base of Neogene, rich in Lepidocyclina (Nephrolepidina) spp., also Miogypsina, Cycloclypeus. Associated Lepidocyclina (Eulepidina) may be Tribiliolepida. Interbedded with marls with Orbulina universa. (Age assumed to be Aquitanian, but more likely Middle Miocene; HvG))

(Overview of geology and fauna of ~200m thick Middle Eocene section of Nanggulan, ~20 km W of Yogyakarta. Three levels: basal quartz sandstone (>80m; marine transgression; Axinea= Glycymeris Beds) with a 1m thick coal bed and layers rich in Nummulites (Djokdjokartae Beds), overlain by marls with Discocyclina and tuffs (Discocyclina Beds), overlain by andesitic sandstone, also with Discocyclina. Eocene intruded and overlain by E Miocene 'Old Andesites')

(Work on corals from Bandung survey collections from four localities on Java: Geger Tjabe (C Java, SE of Tegal; Pliocene reef), Pamitran (SW of Nyalindung, SW Java; M-U Miocene), Djunggrangan (E Miocene) and Punung (Southern Mountains, C Java, NW of Pacitan; M Miocene)

(On corals from uplifted Plio-Pleistocene reef terraces near Lalan Asu, collected by De Waard expedition. Material generally poorly preserved)

(‘Early Tertiary corals from Java, part 1’)
('Early Tertiary corals from Java, part 2')

('Description of some Tertiary corals of Java')

('The use of corals in Tertiary and Quaternary stratigraphy of Indonesia'. Elegant review with listings of all Eocene- Pliocene fossil coral faunas described from Indonesia. Percentage of living coral species increases from 0% in Eocene-Oligocene, 6-9% in Early Miocene, 15-30% in M Miocene, 30-60% in Late Miocene- Pliocene and ~80% in Pleistocene. With range charts)

('On some foraminifera from the Eocene of Celebes'. Larger forams from marl near Dongala, N Sulawesi, collected by Bonarelli. With Miogypsinooides complanata, Spirolycteus, Baculogypsina, looks more like Late Oligocene assemblage)

(Degree of Curvature in 2 wells between Miocene planktonic foraminifera zones N4- N14 from N Australia. Above Orbulina datum DOC 60-75%)

(Lepidocyclina, Miogypsina, etc. in 300m of Late Tertiary above thin Late Oligocene marine sands)

(Jatibungkus section (Karangsambung Fm) with continuous M Eocene (P 14) earliest Oligocene (P 17) marine section with planktonic foraminifera. Jatibungkus Mb ~80m thick reefal limestone in middle of section between pF zones P14-P15, and with Late Eocene larger foraminifera Discocyclina and Pellatispira (LBF zone Tb). This is relatively coherent package in overall chaotic olistostrome area. Late Eocene faulting/ uplift event, tied to S-ward shift of subduction zone, caused period of non-deposition, with sedimentation resuming in Late Oligocene (zone N2) clay-breccia formation. Succession almost normal, although probably part of Eocene olistostrome complex).

('Contributions to the knowledge of the Early Miocene mollusk fauna of Rembang (Java). Descriptions of Early Miocene mollusks, mainly from Sedang oil concession, Rembang zone, NE Java. Little or no stratigraphy')

(New high resolution Neogene-Quaternary nannoplankton zonation for Indonesia, mostly based on material from NE Java, NW Java, Sumatra, Kutei, S Sulawesi, Salawati, Bintuni and Waipoga-Waropen Basins. The 21 standard zones of Martini (1971- can be subdivided into 58 subzones)

('Revision of the basal Early Miocene nannoplankton zonation (zones NN1-NN2) in the NE Java Basin')
(Late Miocene calcareous nannoplankton zonation (7 zones; NN9- NN12), based on samples from 23 unidentified wells in Kutai Basin)

(Late Miocene- Pliocene planktonic foram zonation on samples from deep sea cores and Fiji outcrop samples)


(Collection of ten short papers by Italian students on Middle Eocene stratigraphy and molluscs of Nanggulan section, 20km W of Yogyakarta)


(Nanggulan exceptionally rich Eocene mollusc faunas, known since Verbeek & Fennema 1896. 300m thick mudstone-dominated section, subdivided into Axinea Beds at base, (Nummulites) Djokokartae Beds in middle and Discocyclina Beds at top, and mainly of Middle Eocene age)

Piccoli, G. & E. Savazzi (1984)- Five shallow benthic faunas from the Upper Eocene (Baron, France; Priabona, Italy; Garoowe, Somalia; Nanggulan, Java; Takashima, Japan). Bol. Soc. Paleont. Italiana 22, p. 31-47.

(Thick Late Tertiary intermontane lacustrine and fluvialite deposits in the Morobe District, NE PNG, with vertebrate fossils. Pyroclastic rocks below mammal horizons K/Ar ages 6.1-7.6 Ma; 5.7 Ma associated with faunal locality. Fauna include incisor of earliest known rodent from Australian region and new representatives marsupials; also gastropods, crocodilians, snakes, birds, and dasyurid)

(Palynological analysis of outcropping shales from 3 low-grade coal occurrences in Pindiu area, central Huon Peninsula with spores-pollen ranging in age from E Miocene- Pliocene and representing deposits of low diversity tropical/freshwater swamp vegetation)

(First record of Tertiary larger foraminifera in Thailand, on Thai side of offshore Mergui Basin. Tai Fm reefal limestones rests unconformably on pre-Late Eocene schist basement in Central High of Mergui Basin. Coral/algal reefal limestones, and upper unit of calcarenites interbedded with shales and sandstonesWith Lepidocyclina (N.) japonica, Spiroclupeus yabei, Miogyspina, Miogyspinoides (=Upper Te, E Miocene; HvG))


Polhaupessy, A.A. (2009)- Polen Paleogen- Neogen dari daerah Nanggulan dan Karangsambung, Jawa Tengah. J. Sumber Daya Geol. 19, 5, p. 325-332. *(Paleogene- Neogene pollen from the Nanggulan and Karangsambung areas, Central Java'. Study of pollen fossils from Nanggulan area suggest Eocene- Oligocene age; Karangsambung pollen indicate M Eocene-Pliocene age range. Pollen from both from areas deposited in littoral environments)*


Provale, I. (1908)- Di alcune Nummulitine e Orbitoidine dell’isola di Borneo. Riv. Ital. Paleont. 14, p. 55-80. (‘On some nummulitids and orbitoidal foraminifera from the island of Borneo’. Late Eocene Nummulites, Discocyclina (called Orthophragmina) and Pellatispira (here called Assilina) from ‘Oudjou Halang’ in C Borneo, collected by Bonarelli. No locality maps or stratigraphy)

Provale, I. (1909)- Di alcune Nummulitine e Orbitoidine dell’isola di Borneo (parte seconda). Riv. Ital. Paleont. 15, p. 1-34. (Second part of above paper. Late Eocene- Early Miocene LBF from SE, E and NE Kalimantan. No locality maps or stratigraphy)


Rahardjo, Wartono (1982)- Depositional environment of nummulitic limestones of the Eastern Jiwo Hills, Bayat area, Central Java. Geol. Indonesia (IAGI) 9, p. 36-39. (Nummulites limestones are blocks redeposited in deeper water environment)


(11 species of Miogypsinidae reported from offshore wells E of Andaman Island. Oldest forms Late Oligocene Miogypsinooides complanata, youngest M Miocene Miogypsinia antillea)


(Main correlation tools in Thailand Neogene basins are vertebrate fossils and palynology)


(Middle Miocene and younger diatoms from 'Globigerina Marls' of C and E Java)


(Diatoms from asphaltic marls of Buton with species related to Upper Miocene Globigerina marls of Java: Actinodiscus, Coscinodiscus, Hemidiscus, etc.)


(‘An occurrence of Nummulites limestone at N edge of the ‘Western border mountains’, Yogyakarta region’. Dark grey breccious limestone with Nummulites below m1 breccia-layers, near villages Gegerbajing and Plana, between Nanggulan and Purworejo)


(Late Oligocene- Miocene Planorbulinella from Java, SE Borneo, W Sulawesi. Two new species)


(Argues for maintaining Lepidocyclina and Eulepidina as separate genera)


(Overview of Far East Tertiary larger foraminifera zonations)


(Soritid LF Pseudotaberina malabarica described from material collected by Martin in 1911 from Burdigalian (Tf1) Jonggrangan Fm near Yogyakarta, C Java. Also known from W Java (Tf2), E Kalimantan, PNG, etc.)

Renema, W., A. Racey & P. Lunt (2002) - Palaeogene Nummulitids (Foraminiferida) from the Indonesian Archipelago: a review. Cainozoic Res. 2. 1-2, p. 23-78. (also in Renema 2002, Scripta Geol. 124, p. 110-165)

(60 species of Nummulites reported from Indonesia, only 7 believed to be valid. Sangiran mud volcano boulders of Nummulites-Pellatispira limestone with N. gerthi/ N. pengaronensis and planktonic foraminifera (P15; around M-L Eocene boundary. Timor Miomaffo samples with Nummulites and Pellatispira)


Riedel, W.R. (1952)- Tertiary Radiolaria in western Pacific sediments: Goteborgs Kungl. Vetensk. Vitterh. Samh. Handl., B, 6, 3, p. 1-18. (First to suggest that the radiolarian assemblages described by Tan Sin Hok (1927) from Roti are of Mesozoic age, not Late Neogene age)

Riedel, W.R. (1953)- Mesozoic and late Tertiary Radiolaria of Rotti. J. Paleontology 27, 6, p. 805-813. (Re-examination of the radiolarian fauna described by Tan Sin Hok (1927) from calcareous sediment from Bebalain, Rotti Island. Fauna previously assigned Pliocene age, but includes reworked(?) Cretaceous forms (Spongosaturnalis, Stylosphaera, Tricolocapsa, Stichomitra etc.). Also true Late Neogene sample with 21 species)


Robba, E., S. Sartono, D. Violanti & E. Erba (1989)- Early Pleistocene gastropods from Timor (Indonesia). Mem. Scienze Geol., Padova, 41, p. 61-113. (Marine gastropods (56 species) and foraminifera from E Pleistocene marl (Batuputih Fm) from Oe Sapi creek, Tinu, 1 km NE of Atambua town, W Timor. Associated with rich marine foraminiferal fauna (85% planktonics, incl. Globorotalia tosaensis, Neogloboquadrina pachyderma, etc.)). Interpreted to be deposited in 150-250m of water, influenced by cold currents)


Rocha, A. Tavares & M. de Lourdes Ubaldo (1964)- Contribucao para o estudo foraminiferos do Terciario superior de Timor. Garcia de Orta 12, 1, p. 153-158. ('Contribution the the study Late Tertiary foraminifera of Timor')

Rolando, A. (2001)- The new species Terebellum olympiae n.sp. (Gastropoda, Seraphidae) from the Middle Eocene mollusc assemblage of Nanggulan (Yogyakarta province, Java, Indonesia). Mem. Scienze Geol., Padova, 53, p. 41-44. (Listing of 44 mollusc species, one new, from water well outcrop near Watumarah, 4 km W of Nanggulan, in upper part of Nanggulan Fm. Age late M Eocene, planktonic foram zones P13-P14)


('Studies on foraminifera from East Asia, 2. Foraminifera from the Upper Kapuas-Murung area, South Kalimantan'. Early Miocene foram limestones from Sg. Mahanjong with large Lepicyclina formosa and Cycloclypeus communis)


('Studies on foraminifera from East Asia, 3. A new Alveolinella from East Kalimantan'. Alveolinella bontangensis n. sp. from Miocene marl with Miogypsina 20 km W of Bontang. Now assigned to Flosculinella)


('Studies on foraminifera from East Asia, 4. New localities of Tertiary foraminifera in E Kalimantan'. Mainly on Miocene Lepidocyclina near Balikpapan, Bontang)


('Some foraminifera from the east arm of Sulawesi'. Includes an Eocene sample with Alveolina wichmanni n. sp.. Rutten footnote: “it is remarkable that the Eocene fauna of Celebes is more similar to samples from New Guinea than Java and Borneo”)


('Studies on foraminifera from East Asia, 6. Lepidocyclinea limestones of Bau Putih near Puruk Cahu, South Kalimantan'. Coralline nummulitid limestones described by Hirschi from Batu Putih rich in large Lepidocyclina formosa (= Eulepidina), therefore not Eocene, but Oligocene or early Miocene age)


('Studies on foraminifera from East Asia, 7. Two localities with Lepidocyclina on Java'. W Java limestone belt between Cibadak- Sukabumi- Tagogapu (=Rajamandala Limestone; HvG) characterized by large Lepidocyclina. Rutten not sure if earliest Miocene or Oligocene)


('Description of foraminifera-bearing rocks from the 1903 Netherlands New Guinea Expedition collected by Wichmann. Includes reports of Lacazina larger foram in Eocene of Dramai Island SE of Triton Bay, Miocene Lepidocyclina associated with arc volcanics on Arimoa Islands off N New Guinea, etc.)


('Studies on foraminifera from East Asia, 8. Four Eocene localities in East Kalimantan'. Eocene at Sg Bungalun (with Pellatispira, but called Calcarina), Mangkalihat Peninsula, Tj. Seilor (N. fichteli= E Oligocene ?) and black Nummulites limestone from Sebuku River)


('Studies on foraminifera from East Asia, 9. Miocene and Eocene larger forams from Balambangan and Banguery islands, North of British Borneo)

Four occurrences of Eocene in East Borneo. Description of rocks and forams collected by Munniks de Jong

(Orthophragmina (=Discocyclina) omphalus and Nummulites bagelensis demonstrate Eocene age of marl formation above the sandstone-coal beds on Pulau Laut, SE Borneo)

(‘Foraminiferal limestones from the Tidung Lands, NE Kalimantan’. Follow-up of Rutten (1915) description of Eocene limestones collected by Munniks de Jongh (1913) in upper Tarakan basin. With Nummulites bagelensis, N. javanus, Discocyclina dispensa, Alveolina. Sample from Sungai Apat also rich in Pellatispira, previously described as Calcarina)

(online at http://www.digitallibrary.nl)
(Eocene Alveolina-Lacazina and Nummulites and Miocene Lepidocyclina foraminiferal limestone pebbles from Lorentz River (S foreland of Central Range). Eocene Alveolina-Lacazina limestone from top of Wilhelmina (Trikora) peak. Unlike N New Guinea, no fragments of volcanic rocks observed in limestones and sandstones)

(Short notes on foraminifera from the Dutch Indies’. See English version below)

(‘On the occurrence of Halimeda in Old-Miocene coast reefs of East Borneo’. Calcareous algae Halimeda rel. common in modern coastal reefs in E Indonesia, but rel. uncommon in Miocene limestones. Several E Miocene limestones from E Kalimantan have Halimeda, probably same as recent species H. opuntia)

(English version of Dutch paper above)

(English version of Rutten (1920). Includes: (1) occurrence of Late Neogene Linderina (=Planorbulinella; HvG) limestone from Bacan; (2) Lepidocyclina acuta, a stellate species from Balikpapan area. (3) Late Neogene age of limestones on Karama(ng) Island in Pare-Pare Bay, S Sulawesi, and (4) very small Lepidocyclina cf. epigona from Globigerina-chert from Skru Island, W New Guinea))

(Larger forams from limestone from series with fish fossils in S Sulawesi (Brouwer 1924). Fish-bearing limestones with non-diagnostic Heterostegina only. Spiroclypeus and Lepidocyclina (N.) brouweri n.sp. in nearby samples suggest E Miocene age)

('Foraminifera-bearing rocks from the area of the 'Birds Head' on New Guinea'. Brief descriptions of foramin-bearing samples, including globigerinid limestone near SE coast (= Imskin Fm of subsequent authors), Eocene Nummulites-Alveolina-Lacazina in Horna region and many E-M Miocene limestone localities)

('On fossiliferous Tertiary limestones from British North Borneo'. Kudat Peninsula N of Kinabalu Eocene limestones with Discocyclina, Spiroclypeus and Pellatispira, but some samples with younger Lepidocyclina)

('On Tertiary foraminifera-bearing rocks from Beraw, E Kalimantan'. Oligocene and Miocene larger forams Lepidocyclina, Miogypsina, etc. from widespread limestones in Beraw region, NE Kalimantan, collected by Weber (NKPM) and Beucker Andreas. Most Tertiary clastic sediments contain rounded fragments of Mesozoic radiolarite, suggesting significant Pre-Tertiary uplift)

('Tertiary foraminifera from E Sulawesi'. Part of Von Loczy (1934) E Sulawesi mapping report)

('Rocks and fossils from Pisang Island and from New Guinea'. Pisang Island, E of Misool, samples, include Eocene limestone with Lacazinella, Nummulites, Discocyclina, etc.; no Pellatispira)


(online at: http://www.dwc.knaw.nl/DL/publications/PJ00018769.pdf)
(Larger foram genus Lepidocyclina very rare in Eocene of SE Asia. First and only occurrence is Lepidocyclina zieijlmani Tan Sin Hok 1936 from northern Central Borneo. L. birmanica Rao 1942 from Eocene of Burma is distinct, but closely related species. Both belong in subgenus Polylepidina)


('Planktonic foraminifera biostratigraphy of the sand member of the Pasangkayu Formation, Pasangkayu, W Sulawesi'. Study of N Lariang basin upper M Miocene- E Pliocene, consisting of three zones)

(online at: http://jfr.geoscienceworld.org/content/9/2/106.full.pdf)
(Planktonic foram biostratigraphic study of Late Miocene- Pliocene Globigerina Marls Fm of Ngepung section, ENE of Ngawi, Kendeng zone, E Java. Marls with sandy and tuffaceous intercalations, 640m thick, with abundant planktonic foraminifera. Correlation with Bodjonegoro sequence relatively easy)


(Saito, T., L.H. Burckle & J.D. Hays (1975)- Late Miocene to Pleistocene biostratigraphy of equatorial Pacific sediments. In: Late Neogene Epoch boundaries, Micropaleontology Press, p. 226-244.


(First record of Paleocene planktonic foraminifera in S Palawan)


('On the mollusk fauna of the large freshwater lakes of Central Sulawesi')


('Materials for the natural history of the island of Sulawesi, 1. The fresh-water molluscs of Celebes island'. Volume 1 of 5 of the classic work on the late 1800's geographic- geological travels in Sulawesi by cousins P. and F. Sarasin)


('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)
(‘On the identification of Lepidocyclina’s.)

(‘East Indies Lepidocyclinids’. Paleontological paper describing dozen new 'species' and varieties of Lepidocyclina. Little or nothing on localities, stratigraphic significance, etc.)


(‘The Buton asphalt with its foraminifera’. Obscure reference reporting presence of planktonic foraminifera Pulvinulina (=Globorotalia) menardii and Orbulina universa in asphalt-bearing rocks of Buton. This clearly suggests M Miocene or younger age, not Oligocene as originally suggested by Martin (1934), etc.)

(Three stages in Late Paleocene- E Eocene Tethys carbonate platforms: (1) late Paleocene: coralgal-dominated at low-mid paleolatitudes;(2) latest Paleocene: coralgal reefs dominant at middle paleolatitudes and larger foraminifera-dominated (Miscellanea, Ranikothalia, Assilina) at low paleolatitudes; (3) E Eocene larger foraminifera-dominated (Alveolina, Orbitolites, Nummulites) platforms at low-middle paleolatitudes. Onset of larger foraminifera-dominated platform correlates with Paleocene/Eocene Thermal Maximum. Decline of coralgal reefs in low latitudes related to warming, with sea-surface temperatures in tropics beyond maximum temperature range of corals)

(‘Molluscs from the post-Tertiary beds of Sulawesi’. Descriptions of molluscs from Kajoe ragi area, collected by Fennema)

(Celebes Sea ODP Sites 767 and 770 brown clays over basalt at both sites contain radiolarians of late M Eocene Podocystis charala Zone. No Late Eocene radiolarians due to probable hiatus or condensed section. Oligocene represented by Theocytis tuberosa and Dorcadospyris ateuchus zones. Pelagic sedimentation until E Miocene, when sedimentation became strongly influenced by continentally derived material)

(Radiolarians generally rare in ODP Leg 124 sediments from Sulu Sea)

(‘Neogene Cypraeacea from East Java’. Descriptions of cowrie shells from Miocene of Lodan anticline, Pliocene of Solo River and E Pleistocene of Mojokerto region, collected during mapping by Bandung Geological survey)

(‘On some fossil Cypraea from the Sunda Archipelago’)

(‘Part of series of papers on Kendeng Beds marine mollusc by Van Regteren Altena 1938-1950 and Schilder)


(‘Three E-M Miocene miogypsinid species assemblages from same samples studied for lepidocyclinids and planktonics by Van der Vlerk and Postuma (1967): rel. long-lived M. globulina (N5-N7?), M. cougheni (~N8?) and M. antillea (Gr. peripheroronda zone; N9))


(‘First description of (Austro)Trillina howchini from Muddy Creek, Victoria, S Australia)


(‘Lacazina wichmanni new species described from (Eocene) limestone from Triton Bay area, Lengguru foldbelt, collected by Wichmann. Species also known from New Caledonia?; Koolhoven 1929)


(‘Description of Recent species Baculogypsina floresiana n.sp. from S coast of Flores, and comparison with Baculogypsina sphaerulata, common in Indian and Pacific Oceans)


(‘Note on two species of Lepidocyclina from the Netherlands Indies’. Lepidocyclina insulae natalis (probably E Miocene Euleidina; HvG) from Ngembak well, E Java and stellate Lepidocyclina martini from Miocene of Madura, collected by Verbeek)


(‘Note on a new Lepidocyclina from Borneo’. Lepidocyclina formosa (= Eulepidina; HvG), a new species from Teweh, upper Barito area, SE Kalimantan)


(online at: http://www.landesmuseum.at/pdf_frei_remote/VerhGeolBundesanstalt_1910_0318-0328.pdf)

(‘Biometric investigations on foraminifera (...) from the Pliocene of Ceram’. Extensive measurements on selected planktonic and smaller benthic forams from ?Pliocene Fufa Beds foram marls from Wai Wahai hinterland of N Central Seram. Not very useful. Most of samples collected by Weber.)


(online at: http://www.landesmuseum.at/pdf_frei_remote/VerhGeolBundesanstalt_1910_0318-0328.pdf)

(‘On foraminifera and a fish otolith from a fossil Globigerina marl of New Guinea’. Listing of Pliocene deep marine smaller foraminifera from blueish marls of Torricelli Mountains. Incl. new species Globigerina fistulosula (= Globigerinoides fistulosus))


(online at: http://www.landesmuseum.at/pdf_frei_remote/VerhGeolBundesanstalt_1910_0395-0398.pdf)

(‘On the occurrence of Miogypsin and Lepidocyclina in Pliocene marls from the Bismarck Archipelago’. New species of Miogypsin M. epigona and M. laganiensis (These shallow marine larger forams look like M Miocene age, but are associated with younger deep water fauna; HvG))
(online at: http://www.landesmuseum.at/pdf_freiremote/AbhGeolBA_20_0001-0130.pdf)
(‘Fossil foraminifera from the Bismarck Archipelago and some adjacent islands’ Oligocene-Miocene limestones with larger foraminifera (incl. Flosculinella n.gen. and Lepidocyclina) and Late Miocene-Pliocene Globigerina-rich pelagic sediments)

(online at: http://www.landesmuseum.at/pdf_freiremote/JbGeolReichsanst_063_0127-0150.pdf)
(‘Contribution to the fossil foraminiferal fauna of Sulawesi’. Foraminifera from North Arm and N part of East arm of Sulawesi, collected by Koperberg. Mainly young Miocene-Pliocene. Some E-M Miocene carbonates with Miogypsina, Lepidocyclina)

(‘Fossil foraminifera from Kar-Nikobar’. First or one of earliest studies on foraminifera from SE Asia. Taxonomy updated by Srinivasan & Sharma (1980))

(New family to accommodate fossil crab Martinocarcinus from Late Eocene of Kali Puru, Nanggulan, C. Java)

(‘The fossil dipterocarp woods’. Includes descriptions of new species of petrified wood from Miocene-Quaternary of Sumatra (Jambi, Palembang), Java (Bogor, Banten), E Kalimantan (Dryobalanoxylon musperi, D. bangkoense, D. borneense, D. sumatrense, etc.))

(Eocene fossil molluscs from Nanggulan, C Java. Two Tethyan molluscs species recorded for first time from Nanggulan. Looks like typical Tethyan fauna)

(New gastropod species from M Eocene lower Nanggulan Fm(‘Axinea Beds’))

(20 shallow benthic zones in Paleo-Eocene, based on alveolinids, nummulitids and orthophragminids. Correlation with Berggren et al. (1995) time scale based on magnetostratigraphic data from Pyrenean Basin and correlation with nanoplankton and planktonic foraminifera zonations in E and C part of Tethys)

(a.o. find overlapping ranges of Globigerinoides primordius and Globorotalia opima in combined zone N3/N4. Globigerinoides first appearance datum is in Late Oligocene)

(Oligocene-M Miocene in E Java grouped into three stratigraphic intervals, Kujung, Tuban and Ngrayong Fms. Larger foraminifera and planktonic foraminifera overlap in occurrence in many localities. Biostratigraphic ranges of larger benthic and planktonic foraminifera tied to the ages from Strontium isotope dating)


(Neogene of Andaman and Nicobar Islands deep water marine facies rich in Radiolaria. Nicobar islands Nancowry and Kamorta moderately rich radiolarian assemblages studied here, with 120 species belonging to the Dorcadospyris alata Zone (about 15-13 Ma)

(Paleoenvironmental distribution of Large Benthic Foraminifera, etc.)


(Taxonomic revisions of many of the new gastropod species described by K. Martin, mainly Miocene- Pliocene turritellids. With range chart, but no information on localities)


(online at: http://www.palaeo-soc-japan.jp/download/TPPSJ/TPPSJ_NS111.pdf)
(On gastropod genera Buccinulum (E Miocene and younger), Siphonofusus (M Miocene and younger) and Euthria (Eocene and younger). With descriptions of species from Java, Kalimantan)

(Second part of taxonomic revisions study of many of the new gastropod species described by K. Martin)


Siesser, W.G, D.W. Orchiston & T. Djubiantono (1984)- Micropalaeontological investigation of Late Pliocene marine sediments at Sangiran, Central Java. Alcheringa 8, 2, p. 87-99. (Upper Kalibeng Fm and marine intercalations of Lower Pucangan Fm at Sangiran contain > 30 calcareous nannoplankton taxa, indicating Late Pliocene age for both. Upper Kalibeng Fm assigned to Zone NN 16 (3.25-2.3 Ma), Lower Pucangan Fm within NN 16-NN 18 interval (3.25-1.65 Ma)


Sieverts, H. (1934)- Fossile Brechiten (Aspergillen), besonders aus dem ostindischen Tertiar. Palaeontol. Zeitschr. 16. p. 263-275. ('Fossil Brechites (Aspergillen), particularly from the East Indies Tertiary'. Descriptions of tube-dwelling molluscs, including fossils from Pliocene of Muna Island and Miocene of Brunei, collected by Bothe)


Simmons, M.D. & M.J. Johnston (1991)- Permocalculus iagifuensis sp.nov.; a new Miocene gymnocodiacean alga from Papua New Guinea. J. Micropalaeontology 9, 2, p. 239-244. (New species of gymnocodiacean alga from Miocene Darai Limestone Fm of PNG. Previously only recorded from Permian and Cretaceous. Associated microfauna and other microflora described)


('Analysis of the Jatibungkus Limestone, Karangsambung, Central Java'. Eocene limestone study; see also Paltrinieri et al. 1976)


(online at: http://svr4.terrapub.co.jp/e-library/cjm/pdf/0175.pdf)

(No gene planktonic foram biostratigraphy of Ninety East Ridge, N Indian Ocean, DSDP sites. Major epoch boundaries marked: by Top Globigerinoides fistulosus (Plio-Pleistocene), Base Globorotalia tumida (base Pliocene), Base Globozoquadrina dehiscens (Base Miocene). Top Globozoquadrina binaiensis is useful marker close to N5-N6 boundary in tropical Indian Ocean and Indo-Pacific region. Absence of Pulleniatina spectabilis suggests effective closing of Indonesian Seaway in M Miocene, etc.)


(Revision of taxonomy of foraminifera described in the early classic work of Schwager (1866))


(Many new species of fish otoliths from North Borneo)

(The first Early Tertiary mammal remains from the Sunda islands. Two teeth from probable Eocene beds in Sanggau area, W Borneo, are first record of Early Tertiary mammals in Indonesia. Probably belong to small anthracocerid Artiodactylus, a family rel. common in the M-U Eocene of Asia and Europe)


(Sedimentary rocks from mud volcano include limestones (M and Late Eocene with Nummulites- Pellatipira; E Miocene sandy limestones with Spirolyceps, Lepidocyclina, Miogypsinina, Miogypsinoides) and marls with Eocene, Oligocene, Miocene and Pliocene planktonic forams)

Sudijono (1997) - On the age of the limestone in the island of Lombok, West Nusatenggara. J. Geol. Sumberdaya Min. 7, 72, p. 14-34. 
(Biostratigraphy of limestones in S mountains of Lombok. Three zones: Te1-4 (Latest Oligocene Sekotong Lst with large foram Miogysinoides complanatus), upper Te5-Tf1-2 (E-M Miocene) and Tf3/ N16 (Late Miocene)).

Sudijono (2005) - Biostratigraphy and depositional environment of the Toraja Limestone at the Nanngala river section, Toraja, South Sulawesi. J. Sumber Daya Geol. (GRDC) 15, 1, p.

Sudijono (2005) - On the age of the Makale Formation of the Makale-Totumbang Road section, Tana Toraja, South Sulawesi. J. Sumber Daya Geol. (GRDC) 15, 2, p. 3-23.
Makale Fm limestones in S Sulawesi mainly Tf1 Letter stage, possibly also Te5 near base and Tf2 at top. Presence of Austrotrillina howchini, Cycloclypeus (Katacycloclypeus) annulatus, Flosculinella bontangensis, Miogypsin a antillea, etc. Age late E Miocene- early M Miocene

Sudijono (2005)- Age and the depositional environment of the Kalibiuk Formation of the Cisaat river section, Bumi Ayau, Central Java. J. Sumber Daya Geol. (GRDC) 15, 2, p. 118-135. (Foraminifera suggest mainly Late Pliocene ages (upper N20-N21) for Kalibiuk Fm)


Tan Sin Hok (1926)- On a young Tertiary limestone on the isle of Rotti with coccoliths, calci and manganese peroxide spherulites. Proc. Kon. Nederl. Akad. Wetensch., Amsterdam, 29, 8, p. 1095-1105. (Early description of Late Tertiary calcareous nannofossils and radiolaria in pelagic limestone with radiolaria and small manganese nodules from S part of Roti island, collected by Brouwer)
Tan Sin Hok (1927) - Over de samenstelling en het ontstaan van krijt- en mergel-gesteenten van de Molukken. Jaarb. Mijnwezen Nederl.-Indie 55 (1926), Verhand. 3, p. 5-165. (also Ph.D. Thesis, Delft University, 165p.) ('On the composition and origin of chalks and marls of the Moluccas'. Pioneering study of radiolarians and calcareous nannoplankton from deep water sediments of Timor, Roti, Yamdena, Halmahera, etc. Very little stratigraphic context of samples. (N.B. Several of the radiolarian species described from marls on Roti believed to be of Late Tertiary age by TSH, but are of Early Cretaceous age (e.g. Eucyrtidium (now Archaeodictyomitra) brouweri; Baumgartner 1992, Jasin & Haile 1996). Many of the new radiolarian species from Roti also present in Early Cretaceous of SW Sulawesi; Munasri 2013))


Tan Sin Hok (1930) - Enkele opmerkingen over de stratigraphische verspreiding van Tryblioledipina v.d. Vlerk. De Mijningenieur 11, p. 144-146. ('Some remarks on the stratigraphic distribution of Tryblioledipina'. This most evolved Lepidocyclina subgenus regarded by Van der Vlerk as limited to upper Tertiary, but questioned by TSH)

Tan Sin Hok (1930) - Over Spiroclypeus met opmerkingen over zijn stratigraphische verspreiding. De Mijningenieur 11, 9, p. 180-184. ('On Spiroclypeus and its stratigraphic distribution'. Larger foram Spiroclypeus evolved from Heterostegina in middle part of Tertiary e= Late Oligocene)

Tan Sin Hok (1931) - Over Cycloclypeus: voorlopige resultaten eener biostratigraphische studie. De Mijningenieur 11, 12, p. 233-242. ('On Cycloclypeus: preliminary results of a biostratigraphic study'. Larger foram genus known from Early Oligocene-Recent. Reported in more detail in 1932))

Tan Sin Hok (1931)- Discoasteridae, Coccolithinae and Radiolaria. In: B.G. Escher et al. (eds.) De palaeontologie en stratigraphie van Nederlandsch Oost-Indie, Feestbundel K. Martin, Leidsche Geol. Meded. 5, p. 92-114. (Listings of calcareous nannoplanton and radiolaria species reported by 1931 from Indonesia)


Tan Sin Hok (1934) - Uber mikrosphare Lepidocyclinen von Ngampel (Rembang, Mitteljava). De Ingen. in Nederl.-Indie (IV), 1, 12, p. 2-3-211. ('On microspheric Lepidocyclinas from Ngampel (Rembang, C Java)'. Large microspheric Lepidocyclina from Lusi River near Ngampel, collected by Ter Haar, assigned to Lepidocyclina papulifera Douville)

Tan Sin Hok (1935) - Uber Lepidocyclina gigantea Martin von Sud-Priangan (West-Java), Tegal (Mittel-Java) und Benkoelen (Sud-Sumatra). De Ingen. in Nederl.-Indie (IV), 2, 1, p. 1-8. ('On Leidocyclina gigantea Martin from S Priangan (W Java), Tegal (C Java) and Bengkulu (S Sumatra)'. Large microspheric Lepidocyclinids)

Tan Sin Hok (1935) - Zwei neue mikrosphare Lepidocyclinen von Java. De Ingen. in Nederl.-Indie (IV), 2, 2, p. 9-18. ('Two new microspheric Lepidocyclinas from Java'. Two M-L Miocene new species described, Lep. (B) stratifera from Pasean village, C. Java, collected by Bothe and Lep. (B) omphalus, a stellate form from W Java)
Tan Sin Hok (1935)- Die peri-embryonalen Aquatorialkammern bei einigen Orbitoiden. De Ingen. in Nederl.-Indie (IV, Mijnbouw en Geologie), 2, 12, p. 113-126.

('General discussion of initial chamber morphologies in Cretaceous and Tertiary orbitoidal foraminifera')


('*Lepidocyclina zejlmansi* n.sp., a new Polylepidina from Central Borneo, with remarks on the various origins of the Lepidocyclinids'. New, primitive species of Lepidocyclina from Eocene in Tjihan River, tributary of Mahakam River, C Kalimantan. Possibly close to *Lep. boetotenensis* from Eocene(?) of Buton)


('Discussion of value of various larger foraminifera genera for biostratigraphic subdivision of the Tertiary')


('Remarks on Cycloclypeus from Sipura, Mentawai Islands')


('First Polylepidina-type *Lepidocyclina from the Indo-Pacific, from tributary of Mahakam River, E Borneo')


('Mainly a critical review of Barker & Grimsdale 1936 paper on American lepidocyclinids. No figures or data')


('Lepidocyclina zejlmansi, a polylepinid orbitoid from Central Borneo, with remarks on various classifications of the lepidocyclinids’. First (and only?) record of Eocene lepidocyclinid from Indonesia)


('On the knowledge of Miogypsinsids’. First of series of five papers on miogypsind evolution and species in Indonesia. Miogypsinids probably evolved from Rotalia. Five types/ stages: M. complanata, M. borneensis, M. ecuadorensis, M. indonesiensis and M. bifida)

Tan Sin Hok (1936)- Zur Kenntnis der Miogypsiniden. I Fortzetsung. De Ingen. in Nederl.-Indie (IV) 3, 5, p. 84-98.

('On the knowledge of the Miogypsinids- First continuation’. Discussion of more 'obscure' Miogypsinian species and details of chamber patterns and stolons)

Tan Sin Hok (1936)- Zur Kenntnis der Miogypsiniden. II Fortzetsung und Schlus. De Ingen. in Nederl.-Indie (IV), 3, 7, p. 109-123. (online at website Koninklijk Instituut voor de Tropen)

('On the knowledge of the Miogypsinids- Second continuation and end'. Discussion of growth patterns of miogypsinid and other larger forams and remarks on stratigraphic distribution and interregional correlations. No illustrations)

Tan Sin Hok (1936)- Over verschillende paleontologische criteria voor de geleding van het Tertiair. De Ingen. in Nederl.-Indie (IV), 3, 9, p. 173-179.

('On the different paleontological criteria for the subdivision of the Tertiary')

Tan Sin Hok (1937)- Note on *Miogypsina kotoi* Hanzawa. De Ingen. in Nederl.-Indie (IV), 4, 2, p. 3-32.
Tan Sin Hok (1937) - Weitere Untersuchungen über die Miogypsiniden I. De Ingen. in Nederl.-Indie (IV), 4, 3, p. 35-45.
('Further investigations on the Miogypsinids- I'. *Miolepidocyclina excentrica* n.sp. from Madura)

Tan Sin Hok (1937) - Weitere Untersuchungen über die Miogypsiniden II. De Ingen. in Nederl.-Indie (IV), 4, 6, p. 87-111.
('Further investigations on the Miogypsinids- II'. Mainly on *Miogypsina indonesiensis* group, here reclassified as subspecies of *M. cushmani*)

Tan Sin Hok (1937) - On the genus *Spiroclypeus* Douville with a description of the Eocene *Spiroclypeus vermicularis* nov. sp. from Koetai in East Borneo. De Ingen. in Nederl.-Indie (IV), 4, 10, p. 177-193.
('Review of larger foram genus *Spiroclypeus*. Stratigraphic range Late Oligocene- E Miocene (zone Te) and also in Late Eocene (Tb). On p. 179: mention of *Biplanispira* in Wani series of Buton)

Tan Sin Hok (1939) - The results of phylomorphogenetic studies of some larger foraminifera (a review). De Ingen. in Nederl.-Indie (IV), 6, 7, p. 93-97.
(Brief general review)

(Brief paper with comments on larger foram 'letter zonation'. *Miogypsinoïdes* appears in Late Oligocene, etc.)


(online at: http://www.dwc.knaw.nl/DL/publications/PU00016907.pdf)
('On Tertiary foraminifera rocks from Sipura (Mentawai Islands)', off W Sumatra. Larger foraminifera in M Eocene black limestone (zone Ta with *Assilina*, *Nummulites*); Early Miocene (zone Te with *Spiroclypeus*, *Miogypsinas*, *Nephrolepidina* spp.); and Late Miocene (Tf with *Pliolepidina* and *Cycloclypeus* cf. *guembelianus*) marl and limestones)


('A red algae-sponge symbiosis from the Lower Miocene of Indonesia')

('Late Tertiary and Quaternary molluscs from Timor- part 1'. Mainly taxonomic descriptions of mollusks collected by Wanner, Molengraaf 1909, 1911 expeditions. Faunas dominated by gastropods, 113 species, 17 new. With table listing localities; no map)

Tesch, P. (1920) - Jungtertiare und quartare Mollusken von Timor-II. In: J. Wanner (ed.) Palaeontologie von Timor 8, 14, p. 41-121.
('Late Tertiary and Quaternary molluscs from Timor- part 2'. Continuation of above monograph, species 114-233. In stratigraphic conclusions samples grouped in 3 categories: Late Miocene?-Early Pliocene, Late Pliocene- Early Pleistocene and Pleistocene)

(online at: http://retro.seals.ch/centmgr?type=pdf&expid=egh-001:1933:26::270&subp= hires)
‘Two new representatives of the genus Rotalia Lamarck: R. cubana new name and R. trispinosa’. Short paper. New name Rotalia trispinosa for Rotalia pulchella, described by Brady (1884) from Bangka Straits.


Thalmann, H.E. (1935) - Mitteilungen uber Foraminiferen II. Eclogae Geol. Helv. 28, 2, p. 592-606. (online at: http://retro.seals.ch/digbib/...) ('Communications on foraminifera- II'. Includes chapter 8, description of Pseudorotalia indopacifica n.sp. from Late Tertiary and E Quaternary of N Java)


(Descriptions of planktonic and smaller benthic foraminifera from Late Eocene (172 species), Late Oligocene (61 species) E-M Miocene (161 species) sediments. Recent foram faunas dominated by Indo-Pacific reef genera Calcarina, Baculogypsina and also Marginopora)


Ujie, H. (1970)- Miocene foraminiferal faunas from the Sandakan Formation, North Borneo. In: Geology and Palaeontology of Southeast Asia 8, University of Tokyo Press, p. 165-185. (Sandakan Fm on Sandakan Peninsula, NE Sabah, >4500m thick clastic series, mostly barren, 3 samples with middle Miocene planktonic forams (Gr. foehsi zone))


Ujie, H. (1977)- New species and subspecies of benthonic foraminifera from the Miocene Sandakan Formation, North Borneo. In: Geology and Paleontology of Southeast Asia 18, University of Tokyo Press, p. 87-102. (Descriptions of marine benthic forams from Middle Miocene Sandakan Fm. New species of Bolivina, Ammonia, Pseudorotalia borneensis, Gyroidina, etc. No stratigraphy or biozonations)


Umbgrove, J.H.F. (1928)- A second species of *Biplanispira* from the Eocene of Borneo. Leidsche Geol. Meded. 10, p. 82-89.

(*Biplanispira absurda* n.sp. from Eocene of Sungei Sangajam, Tanah Bumbu, SE Kalimantan, with double arrangement of chambers on both sides of a median plane. Considered to be aberrant specimens of *Pellatispira madaraszi* or *Pellatispira mirabilis* by Cole (1970))


('Anthozoa from NE Borneo'. Low diversity coral assemblages from Late Miocene- Pliocene Menkrawit, Antijang and Domaring beds, collected by Leupold in NE Kalimantan)


(New species of *Lepidocyclina* from marly limestone in Ayer Laje, a few km S of Bataraja, S Palembang, S Sumatra. Embryon advanced nephrolepidine to trybliolepidine. Probabbly Upper Tj, Middle-Late Miocene age)


(Describing difficulties in Indonesia- Europe biostratigraphic correlations due to faunal provincialism)


(Listings of foraminifera species reported from Indonesia Tertiary)


(*Description of Late Eocene larger foram Heterospira miriabilis* n.gen., n.sp.. Genus renamed *Biplanispira* in 1937)

Umbgrove, J.H.F. (1938)- A second species of *Biplanispira* from the Eocene of Borneo. Leidsche Geol. Meded. 10, p. 82-89.


(Corals collected by Kuenen during Snellius expedition from marine marl near Mahammale, Talaud Island. Well preserved, 15 species, all still living, so young, probably Pleistocene- Holocene age)


(Miocene corals from Papang, etc.)


(Pliocene corals from Buton asphalt deposits at Waisiu. 35 species)


(Reefal limestone lenses in U Halang Beds along Cisande River, N of Lurahgung, C Java. Associated with *Aceratherium boschi* rhinoceros tooth (oldest land mammal fossil known from Java). Twenty-one coral
species, 15 could be identified, 47% still living. Percentage suggests Cisande limestone older than coral-bearing localities in Pliocene Sonde beds (Th), maybe around Mio-Pliocene boundary)

(Small hill of Gunung Linggapadang near Prupuk, C Java, is Lower Pliocene patch reef in marly Tapak Beds. Reef comparable to patch reefs in Bay of Jakarta. Well-preserved coral fauna of 70 species)

(online at: http://www.dwc.knaw.nl/DL/publications/PU00018197.pdf)
(35 coral species from Late Pliocene Upper Kalibeng Beds at Sonde in W part Kendeng zone, E Java, collected by members of Geological Survey)

(Miocene and Eocene corals (mainly solitary species: Phyllangia, Hydnophyllia, Goniastrea, Diploastaea) from Witkamp collection from W Sumba)

(Percentage-of-living-species figures useful for stratigraphic dating and correlation)

(Review of investigations on coral reefs in E Indies in last 15 years before WWII. Every atoll and barrier reef studied shows evidence of subsidence. Extreme thickness of some reefs, as demonstrated by their steep submarine slopes, cannot be explained by glacial control only. Prevailing wind and wave action are important influence on upper structure of reefs. Additional examples of currents as factors of morphological importance)

(40 species of corals from lower Pleistocene Pucangan beds of Kendeng zone, E Java, with only 50% living species. This abnormally low percentage probably due to special character of fauna which consists mainly of solitary ‘deep water’ corals)

(‘Larger foraminifera from limestones of the Gamping- Wungkal Fm, W Jiwo, Bayat, C. Java’. M-U Eocene (zone Ta3) larger forams from classic Jiwo Hills locality include Nummulites javanus, N. djokdjakartae, N. pengaronensis, Assilina spp., Pellatispira orbitoidea, Discocyclina spp. and Spirocylopeus vermicularis)


(online at : http://www.dwc.knaw.nl/DL/publications/PU00018566.pdf)
(Study of Nummulites perforatus from Mollo, W Timor, collected by Tappenbeck. Nummulites javanus (Verbeek) considered to be younger synonym of N. perforatus)


(Monograph of fresh water molluscs from collections of Dubois, Elbert and Selenka and Bandung Geological Survey, mainly from Latest Pliocene-Pleistocene of Kendeng zone/ Trinil area)


(Includes review of biostratigraphy in Brunei region (p. 81-96))


(Lepidocyclinids from Early Miocene 'orbitoidal limestone (OK)' of Rembang Beds near Sumberan, Bringin and Gegunung oilfield, SE of Rembang, collected by Wanner. Molluscs from same samples described by Wanner & Hahn (1935). Seven Lepidocyclina species, mainly subgenus Nephrolepidina, some Multilepidina. Lepidocyclina wanneri n.sp. introduced for specimens with multilepidine embryo)


(Attempt to establish dinoflagellate cyst biozonation for Late Miocene- Recent in deep-water wells off Sabah and Brunei. Palynological assemblages dominated by land plant material; marine elements (dinoflagellate cysts, acritarchs, algae) only 2-5% of microflora. Dinoflagellate cyst assemblages similar to open oceanic assemblages from E Indian Ocean and NE Australian margin)


(Listing and re-descriptions of Tertiary mollusk type specimens in K. Martin collection at Naturalis Museum, Leiden, mainly from Java. Contains 3700 type specimens of 912 species)


(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)


(129 species of mainly deeper marine foraminifera in Pliocene marls. Samples collected by Rutten in SW corner of 109-Lamongan map sheet. No location map, no stratigraphic context)


(‘Studies on Nummulinidae and Alveolinidae. Their occurrence on Sumbawa and significance for the geology of East Asia and Australia’. Limestone samples from Sumbawa with Miocene larger foraminifera, incl. Lepidocyclina spp., Alveolinella, Miogypsina, Cycloclypeus (incl. C. annulatus), etc. (Looks like mainly M
Miocene, equivalent of Wonosari Lst of South Java. With discussions on Indonesia larger foram species and distribution. With locality map. Little stratigraphic info; HvG)

('A new Cycloclypeus species from East Borneo'. Sample from Gunung Mlendong near Kari Orang, Kutai basin (no map or stratigraphy info) rich in ?M Miocene larger forams. Contains Cycloclypeus martini n.sp., which looks like and is associated with C. annulatus with concentric rings, but is smaller and supposedly has somewhat different embryon. Associated with Cycloclypeus annulatus, Flosculinella bontangensis, Lepidocyclina spp., etc.)

('A transitional form between Orthophragmina and Lepidocyclina from the Tertiary of Java'. Description of new genus and species Orthocyclina soeroeanensis from Kali Soeroean, Bagelen area, C Java. Looks like an advanced M-L Miocene radiate Lepidocyclina (Trybliolepidina). Names never used by other workers; HvG)

(New miogysinid larger foram species from Larat, an island off SW coast of New Guinea, collected by BPM geologist De Haart. No locality info. No lateral chambers, so should be assigned to genus Miogypsinoides)

(Miocene larger forams from W. Java: Lepidocyclina rutteni n.sp. from Tji Lalang beds and Lepidocyclina/Miogypsina/Cycloclypeus and Rotalia beccarii atjehensis n. var. from Nyalindung beds near Sukabumi)

('The distribution of the foraminiferal genus Lepidocyclina and its significance for paleogeography')

(Late Oligocene- Early Miocene larger forams from Naintoepo and Tempilan beds, NE Kalimantan, collected by Leupold. Three new species of Spiroclypeus. Little or no stratigraphy)

('The larger foram genus Spiroclypeus and its significance for the stratigraphy of the Tertiary of the Indo-Australian Archipelago')

(New species of Lepidocyclina (Eulepidina) from Sungei Telakai, Pasir, SE Kalimantan. Associated with Lepidocyclina (Eulepidina) formosa and Spiroclypeus, suggesting Late Oligocene- E Miocene age)

(Classification of Indo-Pacific Lepidocyclina, primarily based on characteristics of embryon: Eulepidina, Trybliolepidina, Nephrolepidina, Isolepidina and Pliolepidina)

Van der Vlerk, I.M. (1928)- The genus Lepidocyclina in the Far East. Eclogae Geol. Helv. 21, 1, p. 182-211.
('Larger foraminifera from NE Borneo'. NE Borneo Eocene-Miocene larger forams collected by Leupold from Tidungsche Landen, Bulungan and Mangkalihat Peninsula. With stratigraphic table; no maps)

(Listing of all Cenozoic mollusc species described from Indonesia before 1931)

(Summary of Tertiary larger foram Ta-Tg 'Letter zonation' used in shallow marine carbonates of Indonesia)


(Description of type specimen of M-L Miocene Lepidocyclina radiata from south coast of W Java)


(Three limestone samples from central part of Larat Island (=Kai Besar?), collected by Weber (BPM), with miogypsinids already described by Drooger (1953). Type locality of Miogypsinoides dehaartii Van der Vlerk 1924. No locality map or local stratigraphy. Miogypsinoides dehaartii and Miogypsin borneensis suggest Aquitanian age. No locality descriptions or local stratigraphy)

('Stratigraphy of the Tertiary of the Indo-Pacific and Mesogean domains (attemp of correlation'). Strat-igraphic correlations between Far East and Europe using evolutionary stages of Lepidocyclina

(“Degree of curvature” preferred method over “grade of enclosure” to characterize evolutionary stage of Lepidocyclina)

(On the different ways of classifying Lepidocyclina)

(Includes measurements on Operculina foram material from SE Asia. Observed gradual decrease in grade of enclosure of second chamber by third in specimens from Eocene-Recent)

(Larger foraminifera can be used by field geologists to determine broad ages of Tertiary limestones)

(Documentation of Eocene limestones with Pellatisspira and Miocene limestones in different parts of Sulawesi)

(Measurements on embryonic chambers of Lepidocyclina from Java and Madura. Extent to which deuteroconch encloses protoconch or extent to which dividing-wall between them is curved (“degree of curvature”) increases from 10% in M Oligocene to 67% in M Miocene. Rate of evolution changes from very slow to very fast to slow again and to fast again. First rapid change in M Oligocene when genus migrated from America to Europe and to Far East- Australia. Second phase of rapid evolution from earliest Miocene up to extinction of genus)

(Composite section of Oligo-Miocene sediments of E Java and Madura with Lepidocyclinas and planktonic foraminifera. Lepidocyclinas 'grade of enclosure' increases systematically from 36% to 65% up section. Oligo-Miocene boundary placed above Globigerina ciperoensis ciperoensis zone)

(Small guidebook describing principal larger foram genera from the Tertiary of Indonesia. One of earliest papers to define the Eocene-Recent larger foram zonation known as the 'East Indies Letter Classification')

(Some foraminifera-bearing limestones from South Palembang (Sumatra'). Larger foraminifera from Early Miocene (lower Tj) Baturaja limestones between Batu Raja and Muara Dua)

(E-M Miocene Lepidocyclinids and Miogypsina from 4 localities on Gedongratoe map, Lampong Districts, collected by Van Tuyn. Telisa Fm E-M Miocene (Te5- Tf2) assemblages A (with Lepidocyclina (N) besaiensis n.sp., Miogypsina borneensis) and B (with Miogypsina indonesiensis, M borneensis, Lepidocyclina (T.) martini). Lower Palembang Fm localities C and D M Miocene zone Tj3(?) with Miogypsina indonesiensis and Lepidocyclina pilifera. Little or no stratigraphic info)

(online at: http://www.odp.tamu.edu/publications/121_SR/VOLUME/CHAPTERS/sr121_03.pdf)
(Upper Cretaceous- Oligocene planktonic foram biostratigraphy of Indian Ocean ODP sites along Ninety-East Ridge, W and SW of Sumatra. Most intervals reflect temperate- subtropical climate)
*(Oligocene- basal Miocene (Zones P19-P22/N4) O and C isotope stratigraphy of benthic and planktonic forams from E Indian Ocean ODP Hole 758A. Lack of covariance in planktic and benthic δ18O ratios indicates that many Oligocene sea level fluctuations, including major fall at 30 Ma, not of glacio-eustatic origin)*


*(Carbonate seamount with 320-350m of relief in 2050m deep water of S Makassar Straits is Late Oligocene-age pinnacle reef, which drowned in latest Oligocene time, based on presence of Miogypsinooides cf. bantamensis near crest and Spiroclupeus and Neorotalia mecatepecensis deeper in section. Carbonate buildup with ferromanganese cement, representing >20 Million years of exposure and non-deposition in deep water)*

Van Gorsel, J.T. & S.R. Troelstra (1981) - Late Neogene planktonic foraminiferal biostratigraphy and climatostratigraphy of the Solo River section (Java, Indonesia). Marine Micropal. 6, 2, p. 183-209. *(Late Miocene-Pleistocene planktonic foram biostratigraphy of deep water deposits of Kendeng zone in Ngawi section. Paleoclimate signal inferred from fluctuations in cooler-climate planktonic forams used to correlate with Mediterranean Miocene-Pliocene boundary stratotype)*


('The Nummulites of the Borneo limestone. First descriptions of Eocene Nummulites from SE Borneo (and Indonesia), incl. Nummulites pengaronensis n.sp.)

('The Nummulites from the Eocene limestone of Borneo'. Dutch version of 1871 paper on Eocene Nummulites from SE Borneo. New Nummulites species from Pengaron area, Barito basin margin, SE Kalimantan)

(http://books.google.com/books/about/Natuurkundig_tijdschrift_voor_Nederlands.html?id=uFoYAAAAYAAJ)
('Preliminary note on Nummulites, orbitoids and alveolinids in Java and on the age of the rocks in which they occur'. Only 6 areas of Java with Early Tertiary in outcrop, 5 of which have Eocene sediments unconformably overlying Pretertiary metamorphics. Includes first descriptions of Eocene Nummulites (Nummulites javanus, N. bagelensis, Assilina, Discocyclina, Alveolina javana) and mention of Cretaceous larger foram Orbitolina from Luk Ulo, C Java (smaller species than those known from W Kalimantan)

(online at: http://dpc.uba.uva.nl/cgi/t/text/get-pdf?idno=m7803a03;c=ctz)
(On characteristics of large Melongena-type gastropods from Miocene-Recent of Sarawak- Brunei)

(Paleocene- Lower(?) Eocene (Ta) index algal genus Distichoplax biserialis recognized in Philippines for first time. Abundant in organic limestones)


(online at: http://archive.org/details/palaeontographica22cass)
('Fossil fish from Sumatra'. First paper on fresh water fish fossils from bituminous shale in Ombilin Basin, W Sumatra, collected by Verbeek. Four new species, incl. Sardinioides amblyostoma, Brachyspondylus indicus, Protosynghathus sumatrensis, etc. (Fauna described in more detail by Sanders (1934). vdM assigned fish U Cretaceous age, but Eocene age currently accepted; HvG)

('Fossil fish from Sumatra'. Reprint of paper above)

(Reprint of paper above)

('The echinoids from the Nummulites beds of Borneo'. Description of rel. poor echinoid assemblage of 6 species, all new, collected by Verbeek)
('Fossil corals from the Nummulites beds of Borneo’ Description of well-preserved coral assemblage from Eocene limestone collected by Verbeek in Pengaron area, SE Kalimantan. Mainly new species)

Von Fritsch, K. (1877) - Einige Crustaceenreste der Eocanbildungen von Borneo. Palaeontographica, Suppl. 3, 1, p. 136-138. (also in Jaarboek Mijnwezen Nederl. Oost-Indie 8 (1879), 1, p. 231-236)
('Some crustacean remnants from the Eocene formations of Borneo’. Crab fossils from concretions in blue-gray Eocene shale from SE Kalimantan)

Von Fritsch, K. (1877) - Einige Eocane Foraminiferen von Borneo. Palaeontographica, Suppl. 3, 1, 3, p. 139-143.
('Some Eocene foraminifera from Borneo’. Descriptions of Nummulites and Discocyclina ('Orbitoides papyracea, O. dispensa, O. decipiens and O. omphalus) from Pengaron area, SE Kalimantan. Also descriptions of mid-Cretaceous orbitolinids 'Patellina scutum' and 'Patellina trochus' from Seberuang River, left tributary of Kapuas River, W Borneo (both assigned to Orbitolina concava by Martin 1889)) (Same material already described by Verbeek (1871); HvG)

('Some Eocene foraminifera from Borneo’. Reprint of paper above)

(Description of Eocene Hippopotamus-like skull fragment and upper molar from W of Laharus, W Timor, named Anthracothema verhoeveni n. sp.. Genus also known from Eocene of Birma, S China and W Borneo and is first indication of Eocene mammalian fauna in E Indonesia. Asian affinity, not Australian, and may be used to support proximity of much of Timor island to SE Asia/Sundaland in Eocene; Ducrocq 1996)

('Young Tertiary corals and molluscs from E Sulawesi molasse deposits’. Chapter in Von Loczy 1934 paper)

('Some Neogene sea urchins from Java'. Sea urchins in Pliocene? marls in Trinil area, C Java, collected by Selenka 1907 expedition)

('Tertiary fish otoliths from Java'. Descriptions of otoliths from Late Eocene of Nanggulan, E Miocene Nyalindung beds and Late Miocene Tjilanang beds in Bandung survey collections)

('On a new dipterocarp from the Tertiary of Sumatra: Shoreoxylon rangatense n. sp.’. Description of new fossil wood species, collected S of Peranap, W of Rengat, C Sumatra)

(Modern review of calibration of planktonic foraminiferal datum levels to the geomagnetic polarity and astronomical time scale)


Wanner, J. & E. Hahn (1935)- Miocene Mollusken aus der Landschaft Rembang (Java). Zeitschr. Deutsch. Geol. Ges. 87, 4, p. 222-273. ('Miocene molluscs from the Rembang area (Java')'. Molluscs from area N and NNW of Bojonegoro (Sedan, Butak, Ngampel, Ngandong and Lodan). Mainly from M Miocene orbitoid-Cycloclypeus Lst (later called OK Limestone and Ngrayong Beds) and some from overlying Globigerina Marls series (later subdivided into Wonocolo, Ledok and Globigerina Marls Fms.). Wanner notes N to S facies changes. Richest mollusk localities on Dermawu-Mahindu and Gegunung anticlines. Molluscs mainly gastropods, 68 species, half of them new)


(125 species of foraminifera described from Late Miocene Togopi River section. Species names Ammonia logopiensis n.sp. introduced for Billman et al (1980) marker species Ammonia ikebei; Asterorotalia pulchra for more commonly used name Asterorotalia trispinosa)


Wiedicke, M.C. (1987)- Biostratigraphie, Mikrofazies und Diagenese Tertiärer Karbonate aus dem Sudchinesischen Meer (Dangerous Grounds-Palawan, Philippinen). Facies 16, 1, p. 195-302. ('Biostratigraphy, microfacies and diagenesis of Tertiary carbonates from the South China Sea'. Dangerous Grounds dredge samples compared to St Paul Limestone on Palawan Island 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 2400 m)


Woodward, H. (1879)- Notes on a collection of fossil shells, etc., from Sumatra (obtained by M. Verbeek, Director of the Geological Survey of the West Coast, Sumatra). Geol. Mag. 6, 9, p. 385-393. (First of four short papers describing fossils collected by Verbeek in C Sumatra. Including descriptions of four Permian brachiopods from Sibelu, Padang Highlands (Spiriferia glabra, Productus undatus, P. semireticulatus, P. costatus) and molluscs from Mio-Pliocene of Nias Island, W Sumatra)

Woodward, H. (1879)- Further notes on a collection of fossil shells, etc., from Sumatra (obtained by M. Verbeek, Director of the Geological Survey of the West Coast, Sumatra), Part II. Geol. Mag. 6, 10, p. 441-444. (Descriptions of Mio-Pliocene molluscs (Cyrena, Pecten) and solitary corals from Nias island, W Sumatra)

Woodward, H. (1879)- Further notes on a collection of fossil shells, etc., from Sumatra (obtained by M. Verbeek, Director of the Geological Survey of the West Coast, Sumatra), Part III. Geol. Mag. 6, 11, p. 492-500. (Additional descriptions of Mio-Pliocene molluscs from Nias island, including Oliva pseudoaustralis n.sp.)

Woodward, H. (1879)- Further notes on a collection of fossil shells, etc., from Sumatra (obtained by M. Verbeek, Director of the Geological Survey of the West Coast, Sumatra), Part IV. Geol. Mag. 6, 12, p. 539-549. (Additional descriptions of Mio-Pliocene molluscs from Nias island, including Strombus sumatranus n.sp.)

Wright, C.A. (1977)- Distribution of Cainozoic foraminifera in the Scott Reef No. 1 well, Western Australia. J. Geol. Soc. Australia 24, 5, p. 269-277. (Maastrichtian-Recent larger and planktonic foraminifera zonation in well in Browse Basin, Australia NW Shelf. Rich planktonic faunas of Lower Paleocene-Lower Eocene (P1c-P6) and Oligocene-Lower Miocene to (P19-N6). In-between barren or shallow water larger benthic forams like Nephrolepidina, Discocyclina, etc.)

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 Micropal. 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 glacial)

Yabe, H. (1918)- Notes on a Carpenteria Limestone from B.N. Borneo. Science Repts. Tohoku Imp. Univ., Sendai, Japan, Ser. 2 (Geol.), 5, p. 15-30. (Three limestone samples from Kinatabang River, British Borneo, with Cycloclypeus annulatus and common Carpenteria (interpreted by Yabe to be Oligocene, but more likely M Miocene?; HvG))

(online at: http://ir.library.tohoku.ac.jp/re/bitstream/10097/30174/1/KJ00004176256.pdf)  
(Eocene Nummulites subbrongniart, N. pengaronensis, Discocyclina javana, Assilina orientalis, etc. in limestone from Marah, Bulungan, NE Kalimantan)

(General discussion of Eocene larger foram Pellatispira, partly based on material from Borneo and Japan)

(Shallow marine benthic foraminifera from samples collected by Chitani in 1935 in M Miocene- Pliocene, in Banten and Bogor areas. With stratigraphic columns of NW Java Mio-Pliocene. No locality details)

(Pliocene rotalid forams from W Java, including new species derived from Rotalia schroeteriana, Rotaliatina globosa n. sp. (= Asanoina globosa Finlay 1961))

(Description of small Miocene and Pliocene corals (Heterocyathus, Fungia), collected by Chitani in Banten and Bogor areas, W Java)

(M Miocene limestone with Miogypsina polymorpha, Cycloclypeus annulatus, Lepidocyclina angulosa, etc. from Maloewi Anticline, Sangkulirang, E Kalimantan)

(online at: http://ir.library.tohoku.ac.jp/re/bitstream/10097/30184/1/KJ00004177562.pdf)  
(Miocene lepidocyclinids in rocks collected by Dickerson)

(Early Miocene limestone with Miogypsina polymorpha, Cycloclypeus annulatus, Lepidocyclina angulosa, etc. from Klias Peninsula)

(online at http://ir.library.tohoku.ac.jp/re/bitstream/10097/30195/1/KJ00004178169.pdf)  
(Discussion of Rutten (1925)- and description of another example of limestone with mixed Eocene (Pellatispira, Discocyclina, Nummulites) and Late Oligocene-E Miocene (Spiroclypeus, Lepidocyclina) larger forams)


(Fossil corals from beds considered to be of Plio-Pleistocene age in Nabire district, W Papua. Descriptions of 20 species from 10 localities near Cenderawasih Bay, one new (Cyathoseris? tayamai). 90% Recent species.)
(Reviews of related coral genera Anisocoenia and Favoidea. Description of specimen of Anisocoenia junghuhni from Plio-Pleistocene of Nabire district, W Papua, which is very similar to typical Favoidea)

(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)

(Thorough review of Miocene- Pliocene calcareous nannofossils and biozonations)

(online at: www.odp.tamu.edu/publications/122_SR/VOLUME/CHAPTERS/sr122_39.pdf)
(Diverse, warm-water Late Oligocene-Recent planktonic foraminfaunas on Wombat and Exmouth plateaus, despite N-ward drift of Australia across 10°-15° latitude since E Miocene. Invasions of cool-water species during periods of global cooling in late M Miocene (replacement of warm water Paragloborotalia mayeri by Globorotalia partimlabiata), Late Miocene (common cool-water Globorotalia conoidea just after coiling change in Neogloboquadrina humerosa) and Pleistocene (common cool-water Globorotalia inflata))

(SEM images of specimens of 'Globigerina siakensis' from near its type locality in C Sumatra show spinose test and straight intercameral sutures on spiral side of test. Globorotalia mayeri has curved spiral-side intercameral sutures and lacks spinosity)


(M Eocene Nanggulan Fm ~300m thick and subdivided into ten levels. Lowest level NG1 with lignite, without marine fauna, overlain by deeping-upward facies clastic succession. With listings of molluscs species and comparison to the 21-level stratigraphy of Oppenoorth & Gerth (1929))

(online at: www.iagi.or.id/fosi/files/2011/01/BS20-Sumatra1.pdf)
(Ombilin Basin E Miocene intertidal beach sediments of Sawahlunto Fm with tracks of two different types of shorebirds. Represent first discovery of bird footprint fossils in Indonesia)


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 Micropal. 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 (<1500 m) in Early Oligocene, lower bathyal (1500-2500 m) in Late Oligocene-early M Miocene (26-14 Ma) to depth similar to the present (>2500 m) since the late M Miocene-Present)

(Two types of bird footprints in intertidal sand flat fine sandstone of Oligocene Sawahlunto Fm in outcrop near Kandi Ombilin Mine. Referable to ichnogenus Aquatilavipes and similar to small modern shorebirds)

('On some Tertiary foraminifers from the island of Borneo'. Includes descriptions of 'new' Early Miocene larger foram species from Bintut-Amuntai area (= Berai Limestone, Barito Basin?) that were never used like Miogypsina verrucosa, M. cupulaeformis, Lepidocyclina amoentai, L. foveata, etc.)
4. Cretaceous


(Madai-Baturong limestone of Chert-Spilite Fm of Semporna Peninsula, SE coast of N Borneo, forms important marker horizon. With Upper Cretaceous algae, Dictyoconus and in marginal parts planktonic foraminifera (Campanian Globotruncanida, Heterohelix, Praeglobotruncanida). Chert-Spilite Fm uplifted against Upper Tertiary sediments along thrust fault (interpreted as seamount on oceanic crust by Lee (2003))


(Read ribbon-bedded chert blocks in Miocene mudstone matrix melange in E Sabah with E Cretaceous (pre-Albian?) radiolarian fauna, older than age of oceanic basement rocks in Sulu and Celebes Seas. Chert-Spilite Fm of E Sabah, from which blocks were probably derived, may represent fragments of early Pacific Ocean seafloor. These blocks were incorporated into mud-matrix melange developed during E Miocene NW-directed collision and overthrusting of Sulu volcanic arc onto thinned continental crust rifted from S China)


(online at: http://borneoscience.ums.edu.my )

('Cretaceous radiolaria in the Darvel Bay Ophiolite Complex at the Sipit Lahunday River, Kunak, Sabah'. Darvel Bay Ophiolite Complex consists of mafic-ultramafic association, overlain by bedded chert. Bedded chert has abundant radiolarians and is exposed at Sipit Lahundai River, 22 km from Kunak. Three age assemblages (I-III; Aptian- Turonian))


(E Miocene Kuamut melange with broken Paleogene rock formations and dismembered ophiolite blocks embedded in shale matrix. Chert interbedded with folded siliceous shale and contains Aptian- Turonian radiolaria; slightly longer version below)


(Miocene Kuamut Melange in Kunak district, SE Sabah, probably unconformably overlies Darvel Bay Ophiolite Complex. Consists of broken Paleogene formations and dismembered ophiolite blocks embedded in shale with chert matrix. Fourteen samples from 1-2.5m thick chert-siliceous shale section on pillow basalt, with 45 species of radiolarians. Three assemblages: I (Aptian-Albian), II (Albian-Cenomanian) and III (Turonian). Cherts deposited on floor of marginal ocean basin in Cretaceous and tectonically deformed in melange in M Miocene)


(online at: http://jfr.geoscienceworld.org/content/39/2/120.full.pdf)

(Boueina pacifica Ishijima 1978, from Aptian shallow-water carbonates at Seberuang, W. Kalimantan, originally ascribed to Halimeda-group algae, but is an orbitolinid foraminifer. Type specimens no diagnostic features to ally it to any genus or species of orbitolinids)

On the Valanginian fauna from Pobungo on Sumatra (Jambi Basin). Brief report on Lower Cretaceous (Valanginian) fossils from thick shales in Barisan Mts, collected by Tobler. Mainly ammonites, like Neocomites neocomiensis and N. pseudo-pexiptycus/platycostatus, Kilianella, etc. Typical 'Mediterranean' fauna


(Lower Cretaceous fossils collected by Tobler in 1907 from 3 Jambi localities. Dark folded shales with ammonites (Neocomites, Thurmannites) and bivalves (Nerinea, Amussium, Arca) of Valanginian age in Dusun Pobungo and Batu Kapur show rel. deep marine facies with European 'alpine' and Himalayan (Spiti) affinities. Breccious calcareous sandstones with Nerinea in Sungi Pobungo also similar to European Valanginian species (Himalayan Province of Uglih 1911)


(Valanginian-Hauterivian radiolarians from Sites 765 (Argo Abyssal Plain) and 766 (lower Exmouth Plateau). Assemblages dominated by non-Tethyan, circum-antarctic forms, with weak Tethyan influence (Holocryptocanium, Cryptamphorella, Archaeodictyomitra broueri, Parvingula, etc.). Reflect restricted oceanic conditions during latest Jurassic-Barremian. Argo Basin was paleoceanographically separated from Tethys in Late Jurassic and part of Early Cretaceous by position at high paleolatitudes or by enclosing landmass)


(Cretaceous rel. common on Sumatra, especially S Sumatra. Lower Cretaceous limestones hard to distinguish from Upper Jurassic. Upper Cretaceous may be absent. Several localities with E Cretaceous Orbitolina)


(online at: http://www.ga.gov.au/ )

(Descriptions/ illustrations of diverse Campanian planktonic foraminifera from Scott Plateau core, NW Shelf)


(online at: http://www.ga.gov.au/ )

(On Santonian-Campanian planktonic forams Whiteinella, Hedbergella from W Australia)


(online at: http://www.ga.gov.au/ )

(Good description/ illustrations of Coniacian planktonic foram assemblage from Korojon calcarenite, Giralia Anticline, NW Australia. With Globotruncana concavata, Gt. coronata, Gt. pseudolinneana, etc.)


(M Miocene- Aptian nannofossils from ODP Leg 192 sites 1183-1187, Ontong Java Plateau, SW Pacific)


(On possible occurrence of Posidonomya in dark grey sandy shales in W Sumba, collected by Witkamp in 1910. This identification implies Carboniferous age, but re-identified by Roggeveen (1929) as Jurassic or Cretaceous
Inoceramus)

(‘On a Senonian fauna from Misool’. Upper Cretaceous of Misool mainly marly rocks with Inoceramus and also some rudists (Durania))

online at: https://www.ga.gov.au/)
(Dampier Land between Derby and Broome. Late Jurassic Langey Beds with Buchia malayomaorica, Belemnopsis gerardi group, two species of Calpionella in Tithonian, etc., all similar to East Indonesia Late Jurassic assemblages. Early Neocomian Jowlaenga Fm with Hibilites and bivalves. Neocomian Broome sst with plants only. Neocomian Leveque sst with Inoceramus spp., Aptian Melligo quartzite with bivalves)

(First known occurrence of Mesozoic fossil bird from NE Thailand and SE Asia: left humerus from non-marine E Cretaceous Sao Khua Fm)

(On diverse pre-Aptian, Early Cretaceous dinosaur remains from Sao Khua Fm, Khorat Gp, NE Thailand)

(online at: www.ga.gov.au/)
(Five Cretaceous (Aptian-Albian) palynological zones recognized in four Gulf of Carpenteria oil wells)

(Palynology of 34 dredge samples collected by BMR on NW Shelf in 1990 (offshore Canning: Late Triassic- M Jurassic), Carnarvon Terrace: Late Jurassic- E Cretaceous, Scott and Exmouth Plateaux: E Jurassic)

(Palynology of U Triassic- Lower Cretaceous dredge samples from Rowley Terrace, Scott and Exmouth Plateaux, and N Carnarvon Terrace)

(Palynological study of 33 latest Triassic- E Cretaceous dredge samples exposed on NW shelf sea floor off W Australia)

(First detailed stratigraphic distributions and descriptions of M-U Cretaceous foraminifera and calcareous nannofossils from Bathurst Island Gp of N Bonaparte Basin and Darwin Shelf. During M-L Cretaceous this area occupied palaeolatitudes between 35°S- 45°S. Planktonic assemblages combine elements of low-latitude Tethyan Province to N and high-latitude Austral Province to S. Tethyan zonations most applicable for uppermost Albian-M Campanian because global climate was warm and equable. Most UC nannofossil zones and European-
Mediterranean planktonic foraminiferal zones recognised. Albian and late M Campanian-Maastrichtian greater bioprovinciality and paleotemperature gradient, with application of Tethyan zonations more difficult

Campbell, R., J.R.W. Howe & J.P. Rexilius (2002)- Documentation and refinement of the Middle to Late Cretaceous calcareous nannofossil and foraminiferal KCCM zonation. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia 3, Proc. Petrol. Expl. Soc. Australia Symp. 3, p. 155-165. (NW Shelf composite calcareous microfossil (KCCM) zonation commonly used to correlate middle to Upper Cretaceous strata. This combines calcareous nannofossil and foraminiferal biostratigraphic events to provide high-resolution biostratigraphic subdivisions and correlation)

Campbell, R., J.R.W. Howe & J.P. Rexilius (2004)- Middle Campanian- lowermost Maastrichtian nannofossil and foraminiferal biostratigraphy of the northwestern Australian margin. Cretaceous Res. 25, 6, p. 827-864. (Campanian-Maastrichtian marked by increase in bioprovinciality of calcareous microfossils into distinct Tethyan, Transitional and Austral Provinces. NW Australian margin in Transitional Province. Absence of key Tethyan marker species like Radotruncana calcarata and Gansserina gansseri led to use of local KCCM integrated calcareous microfossil zonation scheme)


Crame, J.A. (1986)- Late Mesozoic bipolar bivalve faunas. Geol. Mag. 123, 6, p. 611-618. (Bipolar bivalve genera probably existed through greater part of late Jurassic- Cretaceous, probably controlled by global climatic zonation. Examples of 'anti-tropical genera: Buchia s.l. and inoceramids (Retroceramus) in latest Jurassic, Aucellina in Early Cretaceous, etc.)


(Mainly descriptions of small arenaceous benthic foraminifera from Great Artesian Basin, roughly of Aptian-Albian age)

(Report on 7 more samples from Timor Leste (Timor Oil Ltd outcrop samples). Mainly Cretaceous (Albian-Turonian) deep water shale and radiolarite from E of Betano Landing)

(Mesozoic vertebrate fauna from sandstones on Kut Island, E Gulf of Thailand, includes hybodont sharks, actinoptygians, turtles, goniopholidid crocodiles and theropod dinosaurs. Fauna same age as Sao Khua Fm and not Jurassic, but Berriasian or younger. Tectonic affinities of Kut island unclear, may represent Sibumasu or Indochina Block)


(Decalcified Elasmobranchii shark teeth and reptile teeth from Cretaceous oceanic red clays with manganese nodules from Niki Niki area, SW Timor, originally described by Molengraaff, 1920. Overlie thin-bedded Late Triassic limestone with Halobia. Locality is at NW margin of Kolbano foldbelt)


(Cretaceous inoceramid bivalves did not thrive in shallow or warm seas, and therefore rare in Tethyan shallow deposits. Occurr mainly in temperate seas, and distribution often bipolar. Not much on SE Asia)

(Belemnites display Boreal and Tethyan marine faunal realms from Early Jurassic-earliest Cretaceous. Austral marine realm was lacking. In late Barremian-early Aptian Austral Realm was initiated with first Gondwanan family, Dimitobelidae. Tethyan belemnite realm cannot be recognised after Cenomanian)

(online at: http://palaeontology.palass-pubs.org/pdf/Vol%2015/Pages%20619-622.pdf)  
(New algal fossil from Upper Cretaceous Chert-Spilite Fm, Sabah. Signifies warm, shallow marine water)

(online at: http://retro.seals.ch/ctnmg?type=pdf&rid=egh-001:1944:37::595&subp= hires)  
(‘A Cenomanian ammonite Cunningtoniceras hoeltkeri n.sp. from New Guinea, with remarks on some other fossils from the island’. Ammonite collected in Wagi valley, PNG, during 1936/1939 anthropological New Guinea expedition. Ammonite pebbles viewed as ‘magic stones’ by natives)

(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 Globotruncanca, etc.; and (3) Late Maastrichtian Lepidorbitoides (Asterorbis) sp. in shallow marine packstones with rudists)


(Isolated limestone occurrence with Upper (Lower?) Cretaceous caprinid rudists at Gunung at Madai and Baturong hills SE of Lahad Datu, SE Sabah. (May be deposited on seamount; Lee 2003))


(On Cretaceous fossils from W Kalimantan'. First record of Mesozoic rocks in Kalimantan: limestones with mid-Cretaceous orbitolinid larger foraminifera, collected by Van Schelle)


(U Jurassic and M Cretaceous molluscs from Central PNG. Incl. Late Jurassic Buchia malayomaorica, Belemnopis gerardi and Grammatodon virgatus from Kuabgen Range at Upper Fly River area, S Central Highlands. Also Albian Feing Group with belemnite Parahibolites blanfordi. Cretaceous from hills N of Purari River with Exogyra probably Aptian-Albian)


(Mollusk faunas from Mesozoic beds of Snake river region, PNG, include Cucullaea (Ashcroftia) distorta, Glycymeris sp., Trigonia (Aganthotrigonia) phyllitica, Cardium sp., Voisella sp. and Tibia? morobica. Age of fauna is Cretaceous)


(Cenomanian- Albian mollusks and ammonites from Central Highlands. Includes new Cenomanian ammonite species from Chim Fm near Chimu airstrip, Chimbuites sinuosocostatus)


(Abundant larger forams Pseudorbitoides israelskii and Orbitoides tissoi described from Campanian of Port Moresby area, PNG. First report of this distinctive assemblage outside Caribbean-Gulf of Mexico area)


(Review of radiolarian cherts worldwide, incl. descriptions of ?Jurassic Danau Fm and Cretaceous Lupar Fm of Borneo, and similar rocks from Sumatra, Triassic and Cretaceous of Seram, Cretaceous of Timor, Jurassic- Cretaceous of E Sulawesi and Triassic of Malay Peninsula. Radiolarian cherts typical deep water 'geosynclinal' deposits (mainly Tethys eugeosyncline), typically intensely folded and associated with turbidites and ophiolites. As already concluded by Molengraaf (1909) these are remnants of former ocean basins)


(Albian-Cenomanian open marine forams from Kondaku Tuff and Chim Fm at N flank Kabor Anticline. Cretaceous overlies Jurassic Maril shale with minor unconformity. Planktonic forams include Favisella washitensis, Hedbergella delrioensis, Hedbergella implicissima, Planomalina buxtorfi, Praeglobotruncanca, Rotalipora appenninica, R. greenhornensis, etc. Diverse benthic assemblage, dominated by agglutinants)


(Distribution of foraminiferids in Aptian-Albian marine deposits of Laura, Carpentaria, Eromanga and Surat Basins. Two main associations: Ammobaculites (hyposaline, cool, shallow water) and Marssonella (normal marine, open shelf). Cool, hyposaline, shallow water conditions prevailed over much of Queensland. Open marine shelf conditions in Albian in Laura and NE Carpentaria Basins. Albian northern seaway to open ocean)


(Shallow marine fauna of probable Aptian age)


(Major transgressive pulse in late Early Albian in W Papuan Basin, changing character of foraminiferal faunas from impoverished agglutinated-dominated Ammobaculites assemblages to diverse calcareous Marssonella/ Hedbergella assemblages. Similar change in coeval deposits of other basins on NE margin of Australian continent (incl. black shales of Toolebuc Fm). Rapid marine regression in W Papuan Basin immediately after latest Albian)


(Non-metamorphosed Jurassic or Early Cretaceous pelagic radiolarian chert deposited unconformably on brecciated gneiss (Bantimala Complex; HvG) in Pangkajene valley, SW Sulawesi. Cherts associated with deep water lithic sandstone. Very similar rocks on Timor suggest Sulawesi and Timor probably part of continuous terrain during deposition of radiolarian cherts)


(Fontaine et al. 1983: Upper Jurassic or Lower Cretaceous Pseudocyclammina from Gumai Mountains and in deep well in Kikim oilfield near Gumai Mts Including P. lamellifera, P. cyclamminoides, P. bemmeleni)


(‘On radiolarian-bearing rocks in the Pre-Tertiary of Lok Ulo, Central Java’. Chert with radiolarians in deep water limestone)


(Listings and illustrations of Carboniferous- Cretaceous foraminifera described from Indonesia)


(Extensive review of Japanese work on Cretaceous stratigraphy and paleontology of Taiwan, Philippines, Borneo, Java, Sulawesi, etc.)


(Description of Cretaceous (Aptian-Senonian)- Lower Tertiary stratigraphy of area of Riam Kanan dam at Aranio, 40 km E of Banjarmasin, SW Meratus Mts. Area now mainly flooded by reservoir. Review of works of Verbeek (1875), Hooze (1893), Martin (1889), Krol (1920) and Koolhoven (1935), with additional
observations. Oldest rocks crystalline schist, bounded by Bobaris Peridotite. Basal Cretaceous (Cenomanian?) conglomerate mainly composed of schist, also peridotite. Overlying marine sediments with volcanics. Orbitolina from limestone farther North not O. concavata, but older form of O. scutum type, in Japan associated with Upper Aptian ammonites. Latest Cretaceous non-marine shales with estheriids

(1972 survey of Meratus Mts Upper Cretaceous sediments at upper Riam Kanan River, E and Riam Kiwa W of Bobaris Mts. Basal conglomerates, sandstones and siltstones, unconformable over schist, with Turonian ammonoids and Inoceramus. Overlying Benuariam/Atiin Fm porphyritic lavas, agglomerates and tuffs, and conglomerates, Tabatan Fm sandstones and conglomerates with Apto-Albian Orbitolina in limestone pebbles and reworked Benuariam Fm. Overlying Rantaulajon Fm fissile shale rich in estheriids, indicating non-marine facies, probably Senonian. Includes record of mid-Cretaceous Orbitolina in Meratus Mts at Hantakan, E of Barabai. Study of Eocene-Miocene suggests Early Oligocene Td stage is absent in area)

(Multiple localities of Selangkai Fm clastics at Seberuang River, Upper Kapuas, W Central Kalimantan with lenses of coral-bearing limestones rich in Orbitolina lenticularis. Fossils first described by Von Fritsch (1883), Martin (1899), Molengraaff (1900) and Zeijlmans (1939). Seberuang Orbitolina is Orbitolina lenticularis of Hofker (1966) groups II (within E Aptian) and I-II (Late Aptian). Also good map of all Orbitolina localities in W Indonesia)

Hashimoto, W. & K. Matsumaru (1977)- Orbitolina from West Sarawak, East Malaysia. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 18, p. 49-57.
(Lower Cretaceous Orbitolina from Pedawan Fm, W Sarawak (??))

(Description of small collection of M Campanian inoceramid bivalves from Fafanlap Fm, Misool. Similar to Campanian assemblage from U Kembelangan Fm from W Papua 'Birds Head')

('Geology and paleontology of the Cretaceous Balangbaru and Marada formations, S Sulawesi'. Balangbaru Fm Albian- Maastrichtian turbiditic series with macrofossils including echinoids, bivalve Inoceramus sp. and ammonite Grossouvreites sp.. Marada Fm is partly distal equivalent of Balangbaru Fm, with trace fossil Spirorhaphe sp. and Turonian- Late Maastrichtian nannofossil assemblages)

(Overview of stratigraphy and macrofaunas of Cretaceous at S side Misool and adjacent islands. Section dominated by deep marine calcilutites, probably shallowing, with silts and sands in Campanian- Maastrichtian)

(Early paper on Cretaceous non-marine bivalves from Khorat Group)

(Unique E Jurassic (Pliensbachian?) heavy bivalve assemblage from Timor with Lithiotis, Pachymegalodon, Gervilleiopecten, etc. described from Fatu Lst of Timor by Krumbeck (1923). Upper Jurassic bivalves in W Borneo part of East Asian Province with Philippines and Japan. Timor-Roti, Seram, Misool, etc., are part of Maorian Province with Malayomaorica and Retroceramus haasti)


('On the Upper Cretaceous Inoceramus mollusks from the islands Fafanlap, Jabatano and Jillo II in the Misol Archipelago and their relations to those of Europe and other areas'. Revision of Boehm (1924) inoceramids from Fafanlap Fm and considered to be of Senonian age, not Maastrichtian as assumed by Boehm)


(Overview of Cretaceous macrofauna, microfauna, flora in Australia. Maximum paleobiogeographic gradients in Albian, Late Campanian and Maastrichtian)


(Several localities of radiolarian chert in C Borneo, sampled by Molengraaff. Two kinds: folded red radiolarian cherts in Upper Kapuas River area, and radiolarian tuffs and marls S of Semitau Hills, both below Cretaceous clastics with Orbitolina. Radiolarians of probable Jurassic age (called Early Cretaceous by Sanfilippo & Riedel 1985; HvG))


(Two species of Toarcian (upper Lower Jurassic) ammonites (Harpoceras sp. and Dactylioceras sp.). From uppermost part of >3000m thick Upper Triassic-Jurassic Bengkayang Gp (Sungailbetung Fm) at Mt Bawang, Bengkayang area, W Kalimantan, in beds previously mapped as Upper Triassic. Formation intruded by E Cretaceous (~104 Ma) Mt. Raya granodiorite and Tertiary tonalite of 29-19 Ma age)


(Study of mid-Cretaceous (Barremian-Cenomanian) 'Tethyan' larger foram genus Orbitolina. Includes material from W Kalimantan Seberuang area collected by Van Schelle and Wing Easton collections, and classified as relatively primitive 'Group I- Lower Aptian' species)


('The freshwater bivalves of the Senonian of Muong Phalane (Laos)'. Upper Cretaceous freshwater mollusks, mainly Trigonoides spp. and Union spp. and Plicatounio. Locally associated with large reptiles Titanosaurus and Mandchousaurus)


(On Late Cretaceous planktonic foraminifera; mainly near Antarctica)


(Aptian Orbitolina (Mesorbitolina) parva from limestone olistoliths in lower Yezo Group, Hokkaido represent first report of this species from Circum-North Pacific)

(Four orbitolinid species ('Palorbitolina lenticularis', Praeorbitolina cf. wienandsi, Mesorbitolina parva, M. texana) recognized in Late Hauterivian- Early Albian of Japan- S Sakhalin)


(The Silat Group brackish and freshwater deposits of the Upper Cretaceous of Kalimantan’. Description of fresh and brackish water molluscs (mainly gastropods) from Melawi Basin E of Sintang, collected by Wing Easton)


(Lubok Antu melange with blocks of mudstone, sandstone, chert, limestone, hornfels, basalt, gabbro and serpentinite in sheared, chloritised mudstone matrix (with Early Eocene nannofossils; Hutchison 2005). Chert blocks widespread in melange. Radiolarians in 14 samples, grouped into three ages: late Tithonian, M Valanginian- Barremian and Late Albian- Cenomanian (suggesting subducted proto-South China Sea oceanic crust older than this?; HvG)


(Mesozoic cherts exposed in W Sarawak and Sabah dated by radiolarian faunas. Oldest chert in Early Jurassic (Pliensbachian-Toarcian) Serian Volcanics. Chert sequence at base of Pedawan Fm Late Tithonian-Berriasian radiolarians. Three ages from chert blocks in Lubok Antu melange: late Tithonian, Valanginian-Barremian and Albian-Cenomanian. Chert from Sabah ophiolitic and melange associations Valanginian-Cenomanian. Cherts deep-marine and related to high plankton productivity in E Jurassic and Early to early Late Cretaceous)


(Two radiolarian assemblages from deep marine cherts on Ungar Island: Upper Tithonian- Berriasian and Valanginian-Barremian. Oldest assemblage mixture of Tethyan and non-Tethyan fauna)


(Deepwater Tithonian- Berriasian radiolarian chert in basal part of 4500m thick Late Jurassic-Cretaceous Pedawan Fm in Bau and Tubeh areas, Sarawak)


(Lower Cretaceous radiolaria in chert-spilite (ocean floor sediments))

(Baliojong ophiolite sequence Baliojong River in N Sabah consists of basalts, overlain by well-bedded cherts, mudstones and sandstones. Ophiolite sequence occurs as steeply-dipping, N-S oriented, overturned thrust slices. Two radiolarian assemblage zones in cherts (1) Dictyomitra communis Zone (Barremian-Aptian); (2) Pseudodictyomitra pseudomacrocephala Zone (Albian-Cenomanian). Probably first sediment deposited on newly formed Cretaceous oceanic crust, intensely folded before deposition of Paleogene Crocker Fm)

(Tertiary asphalt-bearing marls of Buton generally pure Globigerina-Globorotalia-marls, probably Neogene. One sample with angular white and grey pieces of limestone (resembling Cretaceous Globotruncanita-limestones), grey and black pieces of chert, and common reworked Upper Cretaceous planktonic foraminifera, incl. Globotruncana arca, Gt. calcarata, Pseudotextularia varians, Planoglobulina acervulinoides, etc.)

(Upper Cretaceous planktonic foraminifera zonation of the Tanamu Fm, Parigi Village, East Taliabu, Sula Islands'. Planktonic foraminifera zones in Tanamu Fm (unconformably on Upper Jurassic?) indicative of Lower Coniacian-Campanian: Dicarinella primitiva, Dicarinella concavata, Dicarinella asymetrica, Globotruncanita elevata and Globotruncanita ventricosa zones. Good correlation with nannoplankton)

(Cretaceous fresh-water molluscs from Khorat Group)


(Upper Cretaceous small fresh-water crustacean shells from shales near Rantaulajung, Riam Kanan River, Meratus Mts front, E of Martapura, SE Kalimantan. Mainly of species Pseudocyclograptata hashimotoi n.sp.)

(Distribution of E-M Cretaceous non-marine bivalve mollusc Trigonioides in SE Asia, including in continental facies of Rantaulajung Fm near Martapura, SE Kalimantan, with U Cretaceous conchostracans)

(Brief, early description of W Borneo Mesozoic (incl. Orbitolina limestones) and Tertiary rocks and fossils from Molengraaff collection. No locality maps)

(‘Cretaceous fauna from Temojoh, W Borneo’. Cretaceous ammonites from slightly bituminous dark grey limestone at Temojoh village on the Landak River, collected by Koperberg in 1895. Associated with rel. small and thin-shelled gastropods, bivalves, plant remains and crustacean remnants. Ammonites mainly Knemoceras pinax n.sp., also Schloenbachia (Knemoceras pinax assigned to genus Engoceras, a Late Albian- E Cenomanian genus that lived in rel. shallow shelfal marine facies in Tethys region (Bujitor 2010); HvG)


(Crocodilian skull from Berriasian-Barremian non-marine sediments of the Khorat Plateau in NE Thailand)

Leong, K.M. (1972)- The occurrences of *Orbitolina*-bearing limestone in Sabah, Malaysia. Geol. Soc. Malaysia, Newsletter 34, p. 38. (Hutchison (2005), p. 226-229: Brecciated, probably Aptian-Albian age limestone with *Orbitolina lenticularis* and *Hedbergella* in Segama Highlands. Possibly related to Madai-Baturong Lst and part of Eastern Rajang Group, which has been interpreted as seamount deposit in oceanic environment)


On the occurrence of a rudist-bearing Cretaceous formation in SE Borneo. Rel. poorly preserved molds of Cretaceous rudists, collected by Van Schelle in 'Patellina (=Orbitolina) marl' at Sebaruang River, a left tributary of Kapuas River (Danau Kloenten, Sungei Pangaringa, Sg. Limau Gulung, Sg. Djarikan). Identified as Sphaerulites and Radiolites (age interpreted to be Senonian, but Umbgrove (1938) considered this to be Cenomanian; HvG).


Matsumoto, T. & S.K. Skwarko (1991)- Ammonites of the Cretaceous Ieru Formation, western Papua New Guinea. BMR J. Australian Geol. Geoph. 12, 3, p. 245-262. (Eleven ammonite species from five localities in Ieru Fm (above Toro Sst) in W PNG Ok Tedi sheet. Four are typical Cenomanian species, others more likely Turonian- Santonian)


(Collection of 7 extended abstracts)


(On Early Cretaceous Tethyan larger foram Orbitolina in Philippines)


(Unpublished) (Hashimoto et al. 1975, p. 286: incl. occ. Maastrichtian larger foram Lepidorbitoides cf blanfordi in Engkilili Fm)


(First report of small benthic foram Trocholina in SE Asia, from Lower Cretaceous of Seberuang River, Kapuas drainage basin, W Kalimantan. Associated ammonites described by Von Koenigswald 1939. Material collected by Zeijlmans 1939, who noted similarities of this material with Dusun Pobungo Cretaceous of Jambi, Sumatra)


(Danau Fm radiolarian cherts stretching E-W over distance of 650 km across N Central Borneo. Interpreted as deep oceanic deposits, similar to those forming at depths below 5000m at equatorial latitudes today. Age of Danau Fm oceanic assemblage is Jurassic-E Cretaceous according to Hinde (1900) and Heryanto et al. 1993)


(Early palynological study of Upper Cretaceous- Eocene section of Sarawak. Pedawan Fm is Cenomanian-Turonian, Plateau sandstone is of Senonian- Eocene age. Age interpretations revised by Morley (1998))


(online at: http://www.geotek.lipi.go.id/riset/index.php/jurnal/article/view/92/52)

(E Cretaceous (Valanginian-Barremian) radiolarians from manganese carbonate nodule in dark reddish shale of Barru melange complex, 15 km SE of Barru. Assemblage includes Pantanellium squinaboli, Cecrops septemporatus, Eucyrtidium parvitorum, E. brouweri, Theocapsa laevis, Stichocapsa pseudodecora, Pseudodictyomitra lilyae, P. carpatica, Gongylothorax verbeeki, etc.. Rocks accreted at subduction trench in mid-Cretaceous (Aptian) time. Mid-Cretaceous (Albian- E Cenomanian) radiolarian assemblage found in chert-siliceous shale of Bantimala Complex by Wakita et al. (1994). Barru and Bantimala Complexes may not be from single accretionary complex as previously regarded)


('Fossil radiolaria as a new biostratigraphic tool in Indonesia')

('New fossils and the age of the limestones in the Pre-Tertiary of the Gumai Mountains'. Limestones from folded Saling series interbedded with basic andesitic volcanics in Saling River, S Sumatra, contain Orbitolina, Loftusia and nerineids, suggesting E-M Cretaceous age (Yabe 1943 suggests Late Jurassic age; HvG). Also new species of gastropod Nerinea palembangensis)

(ODP Holes 761B-766A (Legs 122-123) off NW Australia Exmouth Plateau yielded Lower Cretaceous (Berriasian-Hauterivian) belemnites, including Belemnopsis cf. jonkeri, Belemnopsis ex gr. moluccana s.l., Hibolitases and Duvalia. Assemblages close affinities to Belemnopsis moluccana group from Indonesia and are included in Neoocomian Indo-Pacific Subprovince of Tethyan Realm)


(Brown shale clast in Paleogene breccia in Karangsambung with Campanian tropical radiolarians not seen in coeval Campanian assemblages from blocks in Luk-Ulo melange, suggesting juxtaposition of material from different paleolatitudes in Late Cretaceous, but juxtaposed before deposition of Paleogene)

(online at: www.ga.gov.au/)
(Diverse Turonian- Maastrichtian planktonic foraminifera assemblage from Lagaip Beds, Wabag area, W Highlands. Descriptions of 38 species (incl. Globotruncanal wabagensis n. sp.) from 19 samples)

('Coniacian- Maastrichtian (Upper Cretaceous) nannoplankton zonation, Bintuni Basin'. Nannofossil zones CC12 (U Turonian) CC26 (U Maastrichtian) recognized, based on samples from Bintuni Bay wells RBB-1, WD-4 and Birds Head Ainin River outcrop samples. Upper Cretaceous section presumably unconformable on M-L Jurassic)

(Planktonic foraminifera from ODP Holes 762C and 763B Some low latitude (Globotruncanal ventricosa, Hedbergella flandrini, Marginotruncanal marianosi) and high latitude (Globigerinelloides impensus, Hedbergella sliteri) markers different vertical distribution at mid-high latitudes from low latitudes)

(Distribution of Jurassic- Early Cretaceous fossil wood across Gondwana suggests 5 climate zones: summer wet, desert, winter wet, warm temperate, cool temperate. Araucarian-like conifer wood dominant, cosmopolitan element, whereas other taxa more provincialism)

(New type of (Late?) Jurassic-E Cretaceous fossil wood with radial pitting of 'japonicum type', named Shimakuroxylon. Geographic distribution limited to terranes which lined S-most E Asia during Jurassic (Lhasa, Indochina, Semitau, etc.). W Kalimantan specimen in British Museum collected from Buduk/Boedak 100km N of Pontianak, associated with bivalves identified as M Jurassic by Newton (1903) (could be younger?). Also present in Outer Zone of SW Japan. Probably indicator for warm and wet climates)


(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 Group)


(Cherts and limestone interbeds overlying Casiguran Ophiolite, Luzon, with Lower Cretaceous radiolarian assemblages (U Barremian- Aptian/Albian), 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)


(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 (= Classopolis) spp. and Dicheiropollis, indicating warm, seasonally dry subtropical climate)


(online at: http://geology.um.edu.my/gspm/public/v33/Pdf%20individual%20papers/5%20Paper0.pdf)
(Road-cuts in central Pahang with distinct palynomorph assemblage with Cicatricosisporites australiensis, C. ludbrookiae, Biretisporites eneaboensis and Baculatisporites coamensis. Assigned to lowest speciosus Assemblage zone (Valanginian-Hauterivian))
(Ammontites Berriasiella, Micracanthoceras and Turmanniceras from basal Pedawan Fm shales (overlying Bau Lst) of Upper Tithonian- Lower Valanginian age and of Tethyan affinity. No illustrations. Locality clarified in Hashimoto et al. (1975) as 19 mile marker on Serrian Road)


(online at: www.deepseadrilling.org/62/volume/dsdp62_12.pdf)

(Review of mainly Mesozoic radiolarian-bearing rocks on the Malay Peninsula, Borneo, etc.)

(Seven zones distinguished in distribution of Cretaceous Trigonioideas-group fresh water molluscs. Mainly on mainland Asia (China, Korea, some Thailand) and Japan; nothing on Indonesia)

(online at: www.ga.gov.au/)
(Turonian- Maastrichtian nannofossils from onshore Carnarvon and Perth basins and comparison with 10 other localities in Indo-Pacific region, incl. PNG. Three temperature-controlled biogeographic realms in Maastrichtian: Austral (Perth Basin), Extratropical (Carnarvon) and Tropical (PNG))

(Nannofossils from dredge samples of Rowley Terrace. Relatively rare in Jurassic paralic pre-breakup sequence, more common in Cretaceous. Valanginian nannofloras with Austral/Boreal and Tethyan elements, suggesting surface-water connection between E Cretaceous juvenile ocean NW of Australia and S Tethys. Late Cretaceous nannofloras suggest positions in Extratropical Nannoprovince in Campanian (coeval nannofloras from Carnarvon Basin near S limit of Extratropical Nannoprovince, Papuan Basin in Tropical Nannoprovince)

('On some foraminifera and pseudoforaminifera from Sumatra'. Foraminifera from Late Jurassic or Early Cretaceous limestones from Sungi Tuo (Korinci, Jambi) with Choffatella cyclamminoides n. sp. (= Pseudocyclammina; Yabe and Hanzawa 1926)- and Gumai Mts Saling series with Lacazina (=Loftusia))

(‘Revision of Pre-Tertiary foraminifera from SW Sumatra’. Early Cretaceous foraminifera from SW Sumatra described by Silvestri (1925) as Choffatella should be assigned to Pseudocyclammina Yabe and Hanzawa and Lacazina lamellifera is a Loftusia)


(Eleven mollusk species from Lower Cretaceous Sampa beds of Lake Trist area, PNG)


(Small Middle Campanian mollusc fauna and one ammonite (Pachydiscus) from Mios River, Ransiki Sheet, Birds Head. Five species of Inoceramus, some similar to species decribed from Misool by Boehm)


(Barremian ammonites and bivalves from basal Jass (= Kembelangan Fm) in SW Birds Head Taminabuan sheet area. Beds are transgressive unconformably over Tipuma Fm)


(Plant fossils from Tembeling Fm 4 mi N of Maran, C Malay Peninsula. Include tree fern Gleichenoides spp., conifer Frenelopsis and others. Closely resemble Neocomian species from other areas. Probably represents open forest flora under climate with distinct dry season)


(Early Cretaceous nannoplankton biogeographyWatznaueria spp. dominant in all settings. Assemblage composition relatively uniform between ~50° N and S. High-palaeolatitude assemblages less rich, lower diversity and with more Crucibiscutum salebrosum, Stradnerlithus silveradius, Broinsonia matalosa, etc.. Argo Abyssal Plain, NW of Australia, southern high-latitude assemblage)
(Lower Cretaceous Pectinid bivalve from Sarawak S of Kuching. Also report perisphinctid ammonite from Bau series black shale probably Berriasella or Microanthoceras indicating Tithonian-Berriasian age)

(Radiolaria assemblages identified by Pessagno from 5 chert blocks in Lubok Atu melange mainly Early and mid-Cretaceous (Valanginian-Cenomanian))

('Localities with Upper Cretaceous planktonic foraminifer Globotruncanag in W Kalimantan'. Upper Cretaceous Globotruncanag from 3 areas in W Kalimantan, Sungei Silat, Sg. Landak and Sg. Kajan, collected by Ehrat and Zeylmans)

('On Mesozoic stromatoporids'. Includes description of Neostroma sumatrensis n.gen., n.sp. from float in Sekoendoer Besar River, tributary of the Besirtan in Langkat, E Sumatra (=Actinacis sumatrensis; Late Cretaceous?)

(New freshwater bivalve species, P.( Matsumotoina) somanai n. sp. from E Cretaceous Sao Khua Fm of NE Thailand. Interpreted as a fluvial species, probably of Late Barremian age)

(General review of Campanian-Masstrichtian orbitoidal larger foraminifera. In SE Asia members of 'Caribbean-Tropical Pacific' assemblage with Pseudorbitoides, Asterorbis, etc. present in PNG, W Papua and E Philippines. Occurrence of Omphalocyclus in Kalimantan, not described elsewhere)

(On the age of the Mesozoic limestones collected by Tobler in Barisan Mts, Jambi and Gumai Mts, Palembang. Part of Gumai Mts limestones determined as Triassic based on Lovcenipora (but Musper (1934) found good Orbitolina indicating E-M Cretaceous age; HvG))

('Contributions to the knowledge of the Mesozoic formatons of Borneo, 1. The Nerinea sandstone of Bana'. Cretaceous molluscs from the Bana, Landak River, W Kalimantan (Itieria scalaris n.sp., Nerinea sp., Exogyra sp., Mytilus arrialoorensis, Arca, Astarte, Lucina, Tellina, Corbula)

('Patellinids from the West side of Borneo'. Descriptions of Patellina scutum and P. trochus from Seberuang River, left tributary of Kapuas River, W Kalimantan (re-assigned to mid-Cretaceous Orbitolina concava by Martin 1890; HvG))

('Mosasaurus teeth from Timor'. Upper Cretaceous Mosasaurus teeth Globidens? timorensis n.sp. from red clays above Triassic Halobia Limestone in Noil Tobe near Nikiniki (collected by Wanner) and Oe Batok II near Baoen (Baung, SW Timor (from Jonker 1916 Expedition collection Delft; not sure if correct; Oe Batok II is ~2m large block of Triassic cephalopod/ heterastrid limestone). Both from 'Niki Niki- Baung zone' of Wanner (1913). The only known Mosasaurus teeth from Indonesia)

('On some ammonites and aptychs from the Lower Cretaceous of Borneo'. Lower Cretaceous ammonites and collected by Zeijlmans in Seberuang area, W Kalimantan, in beds previously ascribed to Upper Cretaceous. Similarities with Jambi, Sumatra, Valanginian noted. Lower Bedungan Fm (unconformable on Permo-Carboniferous Bojan Fm meta-sediments and volcanics with Valanginian Pecten, Hoplites neocomiensis, etc.)

Wakita, K., Munasri, J. Sopaheluwakan, I. Zulkarnain & K. Miyazaki (1994)- Early Cretaceous tectonic events implied in the time-lag between the age of radiolarian chert and its metamorphic basement in Bantimala area, South Sulawesi, Indonesia. The Island Arc 3, p. 90-102. (Bantimala Complex of S Sulawesi mainly melange, chert, basalt, ultramafic rocks and high-P metamorphics. Radiolarian assemblage from unconformably overlying chert Mid-Cretaceous (late Albian-early Cenomanian), while K-Ar ages from schist range from 132-114 Ma. This suggests brief tectonic event followed by quick waning tectonism during Albian-Cenomanian transgression)

Wakita, K., Munasri & B. Widoyoko (1994)- Cretaceous radiolarians from the Luk-Ulo Melange complex in the Karangsambung area, Central Java, Indonesia. J. Southeast Asian Earth Sci. 9, 1-2, p. 29-43. (Five assemblages of Cretaceous radiolarians in shale and chert of Luk-Ulo Melange in Karangsambung area: I- Early Cretaceous ('up to Barremian'), II- Middle Cretaceous (Barremian-Albian?), III- early Late Cretaceous, IV- Late Cretaceous (Coniacian- M Campanian) and V- Late Cretaceous (Late Campanian-Maastrichtian). Siliceous- argillaceous rocks were deposited throughout Cretaceous time, and accreted at subduction trench in M- Late Cretaceous or earliest Paleocene. Fragmentation and mixing with schist and quartz porphyry must have occurred in Paleocene)


(Aptian- Cenomanian belemnites from NW Australia. Oxygen-isotope values from Carnarvon Basin continental margin system indicate S Hemisphere mid-latitude Late Aptian sea surface temperatures, similar to today's. Warming trend in Albian-Cenomanian, representing greenhouse climatic conditions)


(One of best defined Cretaceous phytogeographic realms is Albian-Cenomanian elaterate microfloral province, bracketing Cretaceous paleo-equator, in tropical-subtropical Africa- S America and outliers in China, Middle East and PNG. Typified by elater bearing pollen Elaterocolpites, Elateroplicites, Elateropollenites, , etc. Parent plants inhabited paleotropical humid coastal plains of Proto-South Atlantic and Tethys oceans)
Wright, C.A. & M. Apthorpe (1976)- Planktonic foraminiferids from the Maastrichtian of the Northwest Shelf, Western Australia. J. Foram. Res. 6, p. 228-240.   
Online at: http://jfr.geoscienceworld.org/content/6/3/228.full.pdf  
(Twenty-five planktonic foram species recorded in wells on NW Shelf and used to erect three biostratigraphic zones. Overall tropical and subtropical character of fauna appears inconsistent with palaeomagnetic studies which place NW Australia at cool temperate latitude of perhaps as much as 40° S. during. Late Cretaceous)

(online at: http://palaeontology.palass-pubs.org/pdf/Vol%206/Pages%20597-614.pdf)  
(16 species of Albian- Turonian ammonites off N Australia. Mainly new species, mostly endemics?)
5. Jurassic
(Rel. non-diagnostic rhynchonellids from NW Thailand)


(Study of diversity, distribution patterns, and endemism of Late Tithonian ammonites. Himalayan Kutch ammonites part of Indo-Madagascarn Province)

'(Foraminifera from the Newmarracarra Limestone (Lower Bajocian, W Australia'. 39 species, 15 new)

(Late Jurassic foraminifera and algae from samples collected by Fontaine from Ili Island and Cayatong. Incl. Late Jurassic- basal Cretaceous Pseudocyclammina lituus, also known from Bau Limestone of W Sarawak and from Sumatra)


(Latest Jurassic- basal Cretaceous limestones with Pseudocyclammina lituus from N Sumatra (Tapaktuan, Raba Lamno) and S Sumatra (Tembesi Basin). Also Early Cretaceous limestone with primitive orbitolinids from Gumai Mts, S Sumatra. All representative of 'Woyla Terranes'?; HvG)

('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)

(Key publication on M Jurassic- E Cretaceous radiolaria from Tethys region, mainly western Tethys and Japan)

Baumgartner, P.O. A. Bartolini, E.S. Carter, M. Conti, G. Cortese, T. Danelian, P. De Wever et al. (1995)-Middle Jurassic to Early Cretaceous radiolarian biochronology of Tethys based on Unitary Associations. In: P.O. Baumgartner et al. (eds.) Middle Jurassic to Lower Cretaceous Radiolaria of Tethys; occurrences, systematics, biochronology, Mem. Geologie, Lausanne, p.

(Bau limestone rel. low diversity Late Jurassic foraminifera assemblages in W Sarawak; Hutchison 2005)

Ophiolite, Nagaland, northeast India. Gondwana Res. 20, p. 638-644.
(Kimmeridgian- lower Tithonian radiolarians from cherts in ophiolitic melange in Nagaland, NE India)

(M and U Jurassic corals from reefal limestones Philippines and Upper Jurassic from Indarung, Sumatra. Coral- stromatoporoid (Cladocoropsis) faunas related to those described from Japan and Tethys)

(‘New data on the ‘reefal’ limestones of the Upper Jurassic of Sumatra’)

(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)


(Upper Jurassic corals- calcisponges from N Sumatra, C Sumatra (Tembesi River) and Gumai Mts (S Sumatra))

(Upper Jurassic limestones of Sumatra with common corals but are not true reefs. Most species thin, in sediments with high mud content)

(Tembesi River area interbedded black limestone with Upper Jurassic corals and black shales-sandstones)

(Well-preserved Late Jurassic (Kimmeridgean- Tithonian, possibly extending into earliest Cretaceous) coral fauna from Bau Limestone, S of Kuching, W Sarawak. Corals belong to species of North Tethys, no species as known from S Tethys. Limestone similar to some limestones from Sumatra)

( N.B. Montlivaltia also known from Timor, Seram. Bangka, etc. and usually assigned Late Triassic age?)

(The South coast of the Sula islands Taliabu and Mangoli: I- Transitional beds between Jurassic and Cretaceous'. Description of ammonites, incl. Hoplites, Himalayites, Phylocers). First of a series of papers on rich Sula islands ammonite-dominated Jurassic- Cretaceous macrofaunas. Already noticed great similarities with 'Spiti-Fauna' Himalayan assemblages.)
('The South coasts of the Sula islands Taliabu and Mangoli: 2- The fossil locality at the upper Lagoi on Taliabu'. Rich Late Jurassic belemnite assemblage of Belemnites gerardi group (B. alfuricus n.sp.))

('The South coasts of the Sula islands Taliabu and Mangoli: 3- Oxfordian of the Galo River, Taliabu. Common ammonites (Phylloceras spp., Macrocephalites spp., Perisphinctes spp., Peltoceras), abundant belemnites (B. alfuricus, B. galoi, B. moluccanus, etc.), Inoceramus (I. galoi, etc.) and brachiopods (Rhynchonella))

('The Jurassic of Rotti, Timor, Babar and Buru'. Descriptions of Jurassic brachiopods (Rhynchonella) and ammonites (Phylloceras, Perisphinctes from Buru; Aegoceras, Harpoceras, Stephanoceras, Macrocephalites from Batu Berketak, Rotti; Stephanoceras from Babar and Perispinctes from Timor), all collected by Verbeek)

('The South coasts of the Sula islands Taliabu and Mangoli: 4- Lower Callovian. Belemnites mainly Dicoelites, ammonites mainly Macrocephalites (= Gondwanan-Tethyan or Himalayan bioprovince of later workers; HvG))

('Lower Callovian and Coronatus beds between MacCluer Gulf (Bintuni Bay) and Geelvink (=Cenderawasih) Bay’ M Jurassic (Bajocian- Lower Callovian) ammonites collected from Upper Aramasia River, S of Bintuni Bay, and by Wichmann from Mamapiri and Papararo rivers in Wendesi area on W side Cenderawasih Bay. Most common species Macrocephalites keeuwensis and Phylloceras mamacipicum)

('General review of Jurassic larger foraminifera (not common in SE Asia-Indonesia))

('Late Jurassic- Early Cretaceous nanofossils from Argo Abyssal Plain, NW Australia, transitional between Tethyan and Austral nanofloral realms. Cooler water suggested by absence of thermophile Tethys forms (Nannoconus) and presence of taxa that display bipolar distribution like Crucibiscutum salebrosum)
(Popular review of vertebrate faunas from Late Triassic- middle Cretaceous lacustrine and fluvial deposits of NE Thailand (mainly Khorat Plateau))

(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)

(M Jurassic ammonites from outcrops on Babar, Fauna dominated by Satoceras satoi (= part of Macrocephalites group), a bioprovincially Austral sphaeroceratid genus, unknown in W Tethys, but characterizes Late Bajocian- Early Callovian, and known also from Sula and W Irian Jaya)

(Belemnopsis from Misool and Sula all part of B. moluccana lineage. Misool Late Jurassic stratigraphy condensed rel. to Sula. Misool: 85m of Oxfordian Demu Fm carbonate/ shale overlain by ~100m of Kimmeridgian-Tithonian Lelinta shale with minor sandstone)

(Callovian- Hauterivian belemnites from S Misool and islands off S coast. Good correlation with thicker and more complete (down to Toarcian) Jurassic section of the Sula Islands. No clear Kimmeridgian fossils found. Similarities between Misool and Madagascar assemblages, but, unlike earlier studies, no close relationships between Indonesian and New Zealand assemblages)

(Central PNG highlands belemnites show Bathonian-Tithonian age for Maril shale, Berriasian Toro sst, etc. Belemnite succession resembles that of E Indonesia Sula islands)

(online at: https://www.ga.gov.au/...)
(M Jurassic- E Cretaceous belemnites from SW Pacific, New Guinea, Misool, Sula, tied to dinoflagellate zonations. Two belemnite provinces in SW Pacific region from M Jurassic- E Cretaceous: (1) Tethyan: E Indonesia, W Papua, PNG, parts of N and W Australia; (2) S Pacific:New Zealand, most of Australia)

(Mid-Bajocian- Haurtiverian belemnites from Sula Islands, Misool and W Papua six genera and 40 species: Dicoelites (M Bajocian- E Oxfordian), Conodicoelites (M Bathonian- E Oxfordian), Belemnopsis (late Bathonian-Valanginian), Hibolites (important only in Callovian-Oxfordian and Haurtiverian)and Cretaceous Duvalia and Chalalabelus. Postulated relationships between Indonesian and New Zealand Belemnitida non-existent. Gondwana Belemnopsis strongly endemic. Tethyan province extended from W Europe to PNG and possibly New Caledonia in M Jurassic and E Cretaceous. Indo-Tethyan province extending E from N India to PNG existed in Late Jurassic)
(Brief summary of Jurassic belemnites in E Indonesia, PNG, New Zealand. Three main assemblages Dicoelites-Conodicoelites (Late Bajocian- E Oxfordian), Hibolites (late Callovian- Oxfordian) and Belemnopsis (basal Oxfordian- latest Tithonian))

(Jurassic belemnites from New Caledonia. With Belemnopsis, Hibolites, etc., similar to New Zealand, but no common species)

(17 belemnite species from M-L Jurassic of Sula Islands. Assemblages dominated by species of Belemnopsis, Dicoelites and Hibolites, which, with absence of Tethyan genus Duvalia, suggest it is not low-latitude Tethyan, but higher latitude 'Austral'/peri-Gondwana' assemblage)


('Dogger (= M Jurassic) ammonites from the Moluccas'. On Hammoceratids from Misool and Mangoli, Stephanoceratids from Mangoli and Taliabu. Text volume only; part 2 never published due to WWI)

(online at: http://takata.slv.vic.gov.au/...)
(Early paper of Late Jurassic- Early Cretaceous dinoflagellates. Mainly taxonomic descriptions of 75 species from Australian NW shelf, some from PNG (Omati River, Era River))

(Upper Jurassic- basal Cretaceous dinoflagellates and hystrichospheres from Canning basin, W Australia and other localities in Australia and New Guinea)

('Microplankton from Australian Mesozoic and Tertiary sediments')

(New M Jurassic shark fauna from Klong Min Fm, S Thailand)

(Latest Triassic-earliest Cretaceous distribution of bivalves in S Hemisphere. Tethyan Realm with Australian unit restricted to Late Triassic. Late Jurassic Maorian Province extends to Antarctic and W Pacific localities incl. Timor, Sula, Buru, Seram, but overall endemism diminishes from Oxfordian to Tithonian–Berriasian. Oxfordian-Kimmeridgian Malayomaorica has austral distribution, reaching Australia-New Guinea. Austral Province of Indo-Pacific Region (South Temperate) strongly developed at beginning of Cretaceous, incl. Australia, New Zealand, New Guinea)


Dickins, J.M. (1958)- Jurassic pelecypods from the Kubor Ranges, New Guinea. Unpublished Report. (First identification of Late Jurassic Buchia malayomaorica from Kubor Ranges)


(Ammonites rel. rare in PNG Late Jurassic; belemnites and bivalves more common. Diagnostic Kimmeridgean ammonites almost unknown in Indo-SW Pacific from Himalaya-PNG-New Zealand, making biozone-stage calibrations difficult in this region. Also provincialism of PNG belemnites makes direct correlations to Tethyan of Europe impossible. In Sula Islands more complete Jurassic ammonite sequenc, with 3 Oxfordian zones. (from base: Wanaea spectabilis, upper W. spectabilis and Wanaea clathrata dinozones). Ammonite-rich zone overlain by ammonite-poor zone, then latest Tithonian-earliest Berriasian assemblage with P. iehiense dinos)

('A new occurrence of the bathyal cephalopod facies of the Middle Jurassic in Netherlands New Guinea'. Small collection of M Jurassic ammonites supposedly from the Birds Head (but unlikely from there; Visser and Hermes 1962, p. 54)-, donated to Leiden Museum by government official from Fakfak. Reportedly from Wairor River and its Weriangki tributary, presumably near Fak Fak. Ammonites in geodes from hard black limestone, similar to those from Cenderawasih Bay and Sula islands. From Werianki River: Macrocephalites keeuwensis, Sphaeroceras cf. bullatum and Peltoceras, probably Callovian age. From Wairori River two Stephanoceras species, probably Bajocian age)

('Thecocyathus misolensis sp. nov.. A coral from the Oxfordian of Misool')

('Middle and Upper Jurassic and lowermost Cretaceous ammonites from the North flank of the Snow Mountains in New Guinea'. Callovian- Berriasian ammonites collected by Faber from two ‘Kembelangan Fm’ localities, Lambek in W and Amarai 100 km to E. Callovian Macrocephalites keeuwensis, Oxfordian Mayites, Perispichites and Inoceramus galo, etc. similar to Sula Islands ammonites. Berriasian with Blanfordiceras, incl. B. novaguiniense n.sp., Berriasella)

('The Lithiotis limestones' in the Early Jurassic Tethys Realm'. Tethyan Early Jurassic reefal limestones commonly dominated by large thick-walled Lithiotis-type bivalves. Also present in Fatu Limestones of Timor (Krumbeck 1923, Hayami 1984))

(Review of Australian Jurassic fossils distribution)


(Study of Jurassic- E Cretaceous marine ostracod faunas of W Australia. In E Jurassic, ostracod faunas of W end of Tethys and NW Australia (E end of S Tethys) indicates little variation in depositional conditions along N Gondwana marine shelf. By Late Jurassic distinctive Indian Ocean ostracod fauna developed. By Barremian-Aptian Austral Province had been initiated)

(Sinemurian-Pliensbachian shelfal foraminifera from gently folded Balimbu greywacke in upper Jimi River area near Mongum, S foothills of Bismarck Range in western (should be eastern?) PNG Highlands. Assemblage dominated by nodosarians and includes Lingulina, Frondicularia, Involutina liassica. No agglutinants)

(Thin-bedded siliceous argillite block in Bobanaro melange at Viqueque, S Timor Leste, with M Jurassic (late Bathonian- E Callovian) radiolarian assemblage of 55 species. Fauna little similarity to other assemblages from Jurassic of Timor, and also few species in common with faunas known Roti, Sumatra, S Kalimantan, and Sula. Interpreted as part of Noni Group originally described as lower part of Palelo Series in W Timor. Age is close to that of continental breakup in region, suggesting deposition in newly rifted Indian Ocean (part of new 'Indian Ocean Megasequence'))

Hall, R.L. (1989)- Lower Bajocian ammonites (Middle Jurassic; Sonniniidae) from the Newmarracarra Limestone, Western Australia. Alcheringa 13, p. 1-20.

(New stromatoporoid species from Late Jurassic Bau Limestone, W Sarawak)


('Late Jurassic- Early Cretaceous Buchiidae from Misool'. Demu Fm (Late Callovian- Late Oxfordian), Lelinta Fm (Late Oxfordian- E Berriasian) and Gama Fm (Late Callovian-Cenomanian) contain Buchia. Stratigraphic ranges of Buchia from Misool correlated with overseas Buchia, showing good marker for regional correlation)

('Mesozoic biostratigraphy of Rote Island'. Distribution of Triassic, Jurassic and Cretaceous rocks on Roti broader than previously mapped. Presence of Monotis salinaria in Norian Aitutu Fm. Nakfunu Fm rich in radiolaria of Albian age)

(Rote Island Permian not exposed, but ammonite Timorites in float indicates Permian, brought to surface by mud volcanoes. Well exposed fossiliferous Mesozoic. Carnian-Norian Aitutu Fm thin-bedded marl with Halobia and Monotis. Bathonian-Berriasian Wailuli Fm fine sandstones and sandy limestone with Perisphinctes timorense, Belemnopsis moluccana, B. galoi, B. stolleyi, etc.. Cretaceous Nakfunu Fm calcilutite with chert interbeds and radiolarians such as Dictyomitra sp., indicating Albian age. Aitutu Fm probably overturned)

(Gastropod fauna of Triassic and Jurassic ages from SE Misool Archipelago reviewed, based on collections made in 1981. Five described species and five in open nomenclature. Most taxa unique to this area, but Eucyclus orbignyanus known also from Europe)


Hasibuan, F. & A. Kusworo (2008) - Umur Formasi Nambo di Sulawesi Tengah dengan acuan khusus fosil Moluska. J. Sumber Daya Geol. (GRDC) 18, 1, p. 43-54. ('Age of the Nambo Fm in C Sulawesi based on fossil molluscs'. Nambo Fm along Kali Nambo near Luwuk 50m thick calcareous shale of latest Jurassic/ Tithonian age with macrofossils including Retroceramus (R.) haasti, Malayomaorica malayomaorica, Belemnopsis mangolensis, B. stolleyi, B. aucklandica simitis, B. moluccana and B. galoi. Similar to upper part of Buya Fm of Sula islands)


Hayami, I. (1972) - Lower Jurassic bivalvia from the environs of Saigon. In: Geology and Paleontology of Southeast Asia 10, Tokyo University Press, p. 179-230. (Shallow marine E Jurassic bivalve assemblage, incl. Parvamussium donaiense, similar to first Jurassic transgressive beds over Indosinian unconformity across Thailand (Kozai et al., 2006))


Hummel, K. (1923) - Geologische Ergebnisse der Reisen K. Deninger's in den Molukken. II. Die Oxford-Tuffite der Insel Buru und ihre Fauna. Palaeontographica Suppl. IV, 4, p. 113-184. ('Geological results of K. Deniger's travels in the Moluccas, 2: The Oxfordian tuffites of Buru islands and its fauna'. Descriptions of Late Jurassic fossils from 9 localities at SW coast and NW Buru, collected by Boehm and Deninger in 1907, 1912. These are from reddish 'Mefa Beds tuffites', 200-300m thick?, most fossiliferous near top. Almost everywhere overlain by thick, latest Jurassic- Cretaceous deep water Buru Limestone, and probably directly overlying Upper Triassic Lovcenipora limestone or bituminous shale. Fossils mainly ammonites (Phylloceras spp., Harpoceras, Oppelia, Perispinctes), rare belemnites (to be described by
Stolley), thick-walled bivalves (Opis, Pecten, Alectyonia; no Inoceramus), ribbed brachiopods (Rhynchonella spp.), etc.. Age believed to be Early Oxfordian. Facies rel. shallow marine compared to generally bathyal facies of age-equivalent rocks in Moluccas (Sula, Seram). Faunal affinities with Mediterranean-Caucasian Realm


Jaworski, E (1921)- Ein Beitrag zur Kenntnis des Untersten Doggers von Taliabu (Sula-Inseln). Jaarboek Mijnwezen Nederl. Indie 49 (1920), Verh. 2, p. 191-206. ('A contribution to the knowledge of the basal Dogger (= Middle Jurassic) of Taliabu, Sula islands'. Relatively poorly preserved molluscs and ammonites indicative of Dogger/ Aalenian age)


Jeletzky, J.A. (1963)- Malayomaorica gen. nov. (Family Aviculopectinidae) from the Indo-Pacific Upper Jurassic, with comments on related forms. Palaeontology 6, p. 148-160. (S Hemisphere Late Jurassic bivalves described as Buchia and Aucella differ from N Hemisphere-Boreal Buchia, therefore assigned to new genus Malayomaorica. (typical of Kimmeridgean of Gondwana margin, including NW Australia, New Zealand New Guinea, Misool, Sula, E Sulawesi, Timor, Ceram, Buru; HvG)

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 (Malm= 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. B, 21, 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.))

*(Plant remains from 'post-orogenic' Tebak Fm clastics indicate Late Jurassic- Early Cretaceous age)*


*(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)*

*(Jurassic of Mae Sot and Umphang districts, W Thailand, provide age constraints for marine Jurassic inundation of Sundaland after Palaeotethys closure. Basal conglomerate of Jurassic derived from pelagic Triassic substratum. Ammonites (Tethyan Catulloceras perispinchoitoides, Riccardiceratites longalvum, Malladatites spp., Abbasites, Spinammatoceras schindewolfi, etc.), bivalves, large benthic forams (Timidonella sarda) and algae (Cladocoropsis mirabilis Felix) suggest Toarcian-Bajocian ages. Faunas partly endemic, with N Tethyan (Eurasian) affinity. Bivalves mainly endemic fauna with pectinoid bivalve Parvamussium donaiense and Bositra ornate in Toarcian- Early Bajocian)*

*(also in Jaarboek Mijnwezen Nederl. Oost-Indie 25, Wetensch. Ged., p. 28-42).*
*(‘On the Liassic of Borneo’. Upper Liassic macrofossils from slightly bituminous dark shales interbedded with lighter sandstones in Sambas region, NW Kalimantan, collected by Wing Easton. With ammonites of Harpoceras radians group and possible Inoceramus)*

*(‘On Lower Liassic from Borneo’. Description of Early Jurassic ammonite Aegoceras borneense n.sp. from W Kalimantan, collected by Van Dijk)*

*(online at: http://www2.ubk.ac.at/downloads/c715/gpm_15/15_071-083.pdf)*
*(‘Coccoliths from the Alpine Liassic, Sinemurian, from Timor’. First description of Early Jurassic (Sinemurian) nannofossils, from Aitutu Fm at SW edge of Soe town and Meto River, SW of Soe, W Timor. Rel. low diversity assemblage, dominated by Timorhabdus timorensis. Associated with common ostracode Psychobairdia neokristanae)*

*(online at: http://www2.ubk.ac.at/downloads/c715/gpm_15/15_109-133.pdf)*
*(‘Coccoliths from the Alpine Liassic, Pliensbachian, from Timor’. Early Jurassic (Pliensbachian) nannofossils from Aitutu Fm at Meto River, SW of Soe, W Timor. Single sample with 20 species, dominated by Biscutum novum, Lotharingius haufforum and Discorhabdus ignotus)*

Buildups of large bivalves of Lithiotis group are first reefal features after end-Triassic extinction. Present across S Tethys margin, including Timor (Krumbeck 1923)

(Palynology of 1200m thick section of Jurassic marine Buya Fm of Mahigo River near Modafumi, Mangole Island, Sula Islands. Three microflora zones identified, from old to young: Contignisporites cooksoniae, Murospora florida and Retitriletes watheroensis zones. Also four dinoflagellate zones, from old to young: Caddasphaera halosa, Wanaea clathrata- Wanaea indotata, Dingodinium swanense and Criboperidinium perforans zones. Both zonations suggest age of Buya Fm is Bathonian- E Tithonian, Middle- Late Jurassic. Palynomorph succession very similar to Australian NW Shelf)


Mantle, D.J. (2009)- Palynology, sequence stratigraphy, and palaeoenvironments of Middle to Upper Jurassic strata, Bayu-Undan Field, Timor Sea region, Part Two. Palaeontographica B280, 4-6, p. 1-126.


Martin, K. (1899)- Notiz uber den Lias von Borneo. Sammlung. Geol. Reichs-Museums Leiden, ser. 1, 5, p. 253-256. (‘Note on the Lias of Borneo’. Follow-up on Krause (1897) discovery of Liassic rocks of W Kalimantan. New material collected by Wing Easton from shales-sands at Sungai Kerassiek near Sepang in Sambas not only contained poorly preserved ammonite Harpoceras radians, but also bivalve Gervillia borneensis (already described by Martin (1889) possibly from same area))


McCarthy, A.J., B. Jasim, B. & N.S. Haile ( 2001)- Middle Jurassic radiolarian chert, Indarung, Padang District, and its implications for the tectonic evolution of western Sumatra, Indonesia. J. Asian Earth Sci. 19, p. 31-44. (Radiolaria chert in Indarung Area, E of Padang of Aalenian (lower M Jurassic) age. Carbonate in area dated as U Jurassic- E Cretaceous based on occurrence of Lovcenipora (more likely Late Triassic?; HvG), and overlying tuff K/Ar age of ~105 Ma/ Albian (suspect). Chert probably faulted into younger limestone during ENE-directed compression. This is one of best dated occurrences of allochthonous material in Sumatra and confirms accretion of oceanic material along Sunda margin in M- Late Cretaceous)

Jurassic plant remains in W. Australia sparse. Assemblages show links to E Australian, Indian and Antarctic floras of E Jurassic- E Cretaceous age. Bennettitaleans leaves intermediate in size between low and high latitude mid-Mesozoic assemblages, supporting previous paleogeographic placements of W Australia in mesothermal middle-latitude province in Jurassic.


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.


(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 Dauctylioceras, Aalenian Onychoceras, Leioceras, Graphoceras, etc.), bivalves (Parvamusium donaiense, Bositra) and foraminifera (Aalenian Timidonella sarda) and is largely Toarcian-Aalenian plus some Bajocian. Presence of Late Jurassic not confirmed)


(E-M Jurassic (Toarcian-Aalenian) marine Jurassic clastics and oolitic limestones with mainly bivalves (Parvamusium, Trigonia, etc.), also ammonites, brachiopods and some coral (Montlivaltia numismalis), but no belemnites)

Meister, C. (2007)- Les Phricodoceratidae Spath, 1938 (Mollusca, Cephalopoda): ontogenese, evolution et paleobiogeographie. Geodiversitas 29, 1, p. 87-117. (p. 112-113: Lower Jurassic ammonites described from Roti by Krumbeck (1922; Pliensbachian Ibex zone) have North Tethys affinities, suggesting these are from exotic blocks now on S Tethys/ Australian margin?)


('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)


('Lower Jurassic ammonites of the Dak Lak province and Ho Chi Minh city. South Vietnam'. Lower Sinemurian rel. unique ammonite fauna)


(Australia biogeographic realm comprises W Australia, New Zealand, New Guinea and Sula Islands. Not much specific data/interpretation)

('Global distribution of ammonite faunas in the Middle Jurassic (Upper Aalenian to Middle Bathonian): relations between biodiversity and paleogeography'. Tethyan, Pacific, Boreal domains and associated epicratonic platforms divided into 16 paleobiogeographical provinces. Provinces that show strong endemism are isolated (Boreal and SE Tethyan margin))

Newton, R. Bullen (1897)- On a Jurassic Lamellibranch and some other associated fossils from the Sarawak River Limestones of Borneo; with a sketch of the Mesozoic fauna of that island. Geol. Mag. IV, 4, p. 407-415.
(Review of Jurassic- Cretaceous macrofossils known from Borneo, and description of a M Jurassic bivalve Alectryonia amor in British Museum collection, probably from Sarawak River, with distinct European affinity.)

(Jurassic rocks with molluscs known only from West of Borneo island: Sultanate of Sambas and W Sarawak. Initially described as Cretaceous by Martin (1890), subsequently determined to be Liassic. Description of new Jurassic fossils from Boedak (Buduk), W Kalimantan, collected by McCarthy, incl. Trigonia molengraaffi n.sp., Protocardia, Corbula, Pseudomonotis, Exelissa, etc.. Most likely age 'Lower Oolitic'= ~Bajocian, M Jurassic (Trigonia molengraaffi considered to be species of Myophorella (Haidaia) by Kobayashi 1957)

(New genus Sulaietaes comprises Oxfordian group of 'Perisphinctes' sularus and moluccanus, described from Sula Islands, and Late Oxfordian-?E Kimmeridgian 'Pseudoparaboliceras aramaraii' group described from W Papua. Genus Sulaietas also known from W Papua, PNG and probably New Zealand and Nepal)

(Jurassic ammonites 7 suborders, in ~20 distinguishable biogeographical provinces and subprovinces. S Pan-Tethyan Realm includes Mediterran-Caucasian, E Pacific, Indo-Pacific and Austral realms/ subrealms. Indo-Malagach Province recognizable first in Callovian, with endemic Sphaeroceratidae (Macrocephalites, Subkossmatia) and Perisphinctidae (Indosphinctes, Choffiatia, Kinkelinceras, etc.). Persisted into Oxfordian times, with place of Macrocephalitinae taken by endemic Mayatinae. By Tithonian, several restricted Indo-Pacific/Austral genera and endemic species: Pachysphinctes, Virgatosphinctes, Aulacosphinctoides, Himalayitidae, Neocomitidae (incl. endemic Blanfordiceras), Ulhigites, etc.)

(Nanoplankton from three M Jurassic- Cretaceous outcrop sections of Sula islands (no locality details), each through different formations. Babong Fm contains zone NJ9 (Bajocian, M Jurassic; with Watznaueria brittanica, Diductius constans). Buya Fm zone NJ17 (Tithonian, Late Jurassic, with Zeugrhabdatus embergeri at bottom, Stepanolithion bigotii at top). Tanamu Fm zones CC13-CC17 (Cenian- Campanian, Late Cretaceous, with Marthasterites furcatus at bottom, Quadrum gartneri at top))


(Buya Fm L-M Oxfordian radiolarians and association with Austral ammonites suggest N Austral Province (>30°S) paleolatitude in Oxfordian, in keeping with Gondwana origin of Sula)

(Samples dredged from Exmouth Plateau by RV Sonne yielded Late Sinemurian forams Ichthyolaria and Geinitzina. First record of marine rocks of this age from Australia)


(Foraminifera from RV Sonne sample dredged from 4438–4049 m water depth on Wallaby Plateau SW margin. Oxfordian/Kimmeridgean foraminifera fauna, older than previously known ages in region and predates initiation of seafloor spreading along W Australian margin. Low diversity fauna, dominated by Conicospirillina, Conorboides and Lenticulina. Shallow marine deposition. Area subsided ~4000 m since deposition)

(Review of Late Tithonian- E Valanginian planktonic protozoans of unknown affinities. Includes reported, but not illustrated, presence of calpionellids in PNG by Rickwood (1955))


(Reassessment of ages of 20 M Triassic- Jurassic dinoflagellate cyst zones of NW Shelf (relatively minor modifications of Helby, Morgan and Partridge 1987, 2004 zonations))
Riding, J.B., G.E.G. Westermann & D.P.F. Darbyshire (2010)- New evidence for the age of the Athol Formation (Middle Jurassic; Bajocian) in the Tusk-1 and Tusk-2 wells, offshore Carnarvon Basin, Western Australia. Alcheringa 34, 1, p. 21-35.

(Co-occurrence of ammonites (Pseudotoites roiginosus) with palynomorphs in Athol Fm of Tusk-1 and 2 wells, off Carnarvon Basin, confirms E Bajocian age of Dissiliodinium caddaense dinoflagellate zone. Ammonite Pseudotoites prominent in E Bajocian of Indo-Pacific Realm (onshore W Australia, S Andes, W New Guinea (where identified previously as Stephanoceras cf. humphriesianum forma indica). Athol Fm indicates E Bajocian marine transgression onto Australian block)


(English version of paper above. Inoceramus molluscs and fragment of an aegoceratid ammonite from S coast of W Sumba in rocks collected by Witkamp. In opinion of Kruizinga this could be Hammatoceras molukkanum, as known from Jurassic of Sula islands. Tentatively placed in U Liassic by Wanner (1931). Other specialists deem the ammonite fragment indeterminate and the Inoceramus more likely a Cretaceous species (HyG). More likely age of beds is Cretaceous according to Von der Borch et al. (1983). Folded Mesozoic intruded by igneous rocks and unconformably overlain by Eocene (Caudri, 1934))


(Primitive rudists Epidiceras speciosum and E. guirandi from Tithonian-Berriasian Torinosu limestones in SW Japan. Epidiceras speciosumalso present in Kimmeridgean-Tithonian Bau Limestone of SW Sarawak. Tethyan rudists extend into W Pacific province)


(Folded ‘Wai Luli Fm’ calcareous shale near Baa at NW coast of Roti with Bajocian- Bathonian low-latitude ‘Tethyan’ radiolarian assemblage; believed to be deposited in deep ocean, far from land. In same areas also Late Triassic and Early Cretaceous thin-bedded limestones with radiolarians)


(The Oxfordian ammonites of Mindoro Island)


(Toarcian ammonites N of Saigon)


(Compilation of Jurassic fossils/ stratigraphy in SE Asia. Jurassic rel. rare. May be classified as (1) thick geosynclinal sequences in Sumatra, Java, Timor and New Guinea; (2) marine calcareous facies with rich macrofaunas in E Sulawesi, Sula, Buru, Ceram and Misool; (3) marine clastic sediments with poor molluscs in W Thailand/ Burma, W Sarawak/NW Kalimantan, Laos, Cambodia, Vietnam, etc. and (4) Khorat Group continental red beds in NE Thailand- S Laos)

(Useful compilation of distribution and ranges of Jurassic macrofossils in Indonesia)

(Sula Islands Jurassic rich in fossils, probably <1500m thick. Mainly calcareous shales, some conglomerate and sandstone. Typical 'Indo-Pacific' series with Lower Callovian Macrocephalites fauna, Oxfordian Mayaites, U Tithonian Blanfordiceras, etc. Age range Late Toarcian- Tithonian, but Aalenian and M-U Callovian missing)

(New ammonite fauna of probable Callovian age from Brandung Fm dark limestones and shales in W Kalimantan, 40 km NW of Sanggau, with Hectioceras spp., Reineckia and Indosphinctes. Affinities with Europe, Iran (looks different from the Macrocephalites-dominated Callovian assemblages of E Indonesia?; HvG))

(‘Jurassic fossils from the Upper Sepik, New Guinea’. M-U Jurassic macrofossils from geodes in float of Upper Sepik River near 4d 15’S- 141d E, collected in 1910 by German 'border commission'. Includes ammonites Macrocephalites keeuwensis, Perispinctes spp., Idoceras, Phylloceras, Hoplites. Also canaliculate belemnites and Incoceramus galoi, Similarities with fauna from Sula islands, Cenderawasih Bay and Himalaya Spiti Beds)

(Includes mention of early rudists Epidiceras speciosum (Goldfuss) and Valletia sp. from Bau Limestone, SW Sarawak, in collections of British Museum of Natural History, London)

(online at: www.ga.gov.au/  )
(S Sepik region Yuat River occurrence of marine Pliensbachian in 'Balimbu Greywacke/ Kana Fm', with Arieticeras ammonite and some bivalves)

(‘Liassic and Dogger of Jefbie and Filialpopo, Misool Archipelago’. Descriptions of Middle Jurassic macrofossils collected by Boehm in 1901, Van Nouhuys and Wanner in 1909. Mainly bivalves (Astarte spp., Nucula, Cucullaea, etc.), also gastropods, brachiopods, ammonites (Harpoceras spp.) and belemnites)

(New crinoid species Pentacrinus rotiensis from Jurassic of Roti, collected by Brouwer in 1911 from grey shale-marl-limestone succession at Toempa Sili, NW of Bebalain)

(Three faunal realms recognized for Jurassic and Cretaceous belemnites. Boreal and Tethyan realms for Jurassic ammonites, but no equivalent for Pacific. They apparently are divided, partly in the Boreal and partly in the Indo-Pacific. Boundary between Boreal and Tethyan realms was distinct and stable, boundary between Tethyan and Indo-Pacific realms varied considerably in Upper Jurassic and Lower Cretaceous)

Stevens, G.R. (1964) - The belemnite genera Dicoelites Boehm and Prodicoelites Stolley. Paleontology 7, 4, 9, 606-620. (online at: http://palaeontology.palass-pubs.org/pdf/Vol%207/Pages%20606-620.pdf)
Belemnite genus name Dicoelites first used by Boehm (1906) for D. dicoelus Rothpletz from Callovian-Lower Oxfordian of Roti Island, then in 1912 for material from Callovian-Kimmeridgean? of Wai Miha, Taliabu, Sula islands (D. keeuwensis). Both have two grooves, but latter re-assigned to new genus Conodicoelites

Stevens, G.R. (1964)- A new belemnite from the Upper Jurassic of Indonesia. Palaeontology 7, 4, p. 621-629. (online at: http://www.palass-pubs.org/palaeontology/pdf/Vol7/Pages%20621-629.pdf)

(Belemnopsis stolleyi n.sp. for Belemnopsis aucklandica specimens collected by Weber in variegated Upper Oxfordian marls of the 'Belemnitenbach' (belemnite creek), 6 km from W coast of North Yamdena, Tanimbar. First described by Stolley (1929))


(Progressive movement of Gondwana away from Carboniferous-Permian South Pole-centred position led to disappearance of temperature barriers and climate equalization across E Gondwana. Cold-temperate Triassic-E Jurassic 'Maorian' faunas of New Zealand gave way to subtropical/warm-temperate 'Tethyan' faunas in M-L Jurassic)


(Ammolite assemblages of Late Jurassic of New Zealand contain Tethyan elements (PNG, Indonesia, Himalayas, Middle East, etc.). Leiostraca (Phylloceras, Lytoceras, etc.) are essentially circum-Gondwanan. Trachyostraca more restricted affinities. Most palaeogeographical reconstructions of Late Jurassic show New Zealand close to South Pole, but more likely in mid-latitudes (~ 40°-50°S))


(First record in Australia of Latest Tithonian (146.5-145.5 Ma) ammonite Blanfordiceras wallichi in core from Upper Swan Fm in well in Browse Basin, NW shelf. Associated microplankton initially identified as 'basal Cretaceous' Pseudoceratium iehiense or overlying Kalyptea wisemaniae Zone)


('On East Indies Jurassic belemnites'. Belemnites from Molengraaff, Jonker and Weber collections. Includes reports of Belemnopsis aucklandica from Timor (Ofu) and Roti, re-assigned to Belemnopsis uhligi-jonkeri group by Stevens 1964. B. aucklandica from Yamdena, re-described as Belemnopsis stolleyi by Stevens 1964)


('On the knowledge of the Jurassic and Lower Cretaceous of Misool- Part 2- paleontology'. Mainly on belemnites collected by Weber)


('On Mesozoic belemnite-bearing beds from C Sulawesi'. Appendix in Brouwer (1934), describing material collected in 1929. Upper Jurassic (Oxfordian?) belemnites, mainly Belemnopsis gerardi group (= Tithonian B. galoi- B. stolleyi of Challinor 1990), from limestone with chert at Bahoeempombini on Gulf of Tolo)
Tamura, M. & C. Hon (1977)- Upper Jurassic bivalves from the Kedadom formation of Sarawak, Malaysia. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 18, p. 33-47.

(Kedadum Limestone Fm of W Sarawak rich in bivalves (Nuculana, Grammatodon, Somapexten, Lucina, Neoburmesia, etc.) show Callovian or Kimmeridgean to Berriasian in age and related to Torinosu fauna on Pacific side of Japan (Kobayashi 1978, Hayami 1984))


(‘On age determinations based on radiolarians of E Sulawesi’. Questions validity of various Jurassic-Cretaceous age determinations by Hojnos in Von Loczy (1934), but offers no suggestions for alternative ages)

Teichert, C. (1940)- Marine Jurassic of East Indian affinities at Broome, north-western Australia. J. Royal Soc. Western Australia 26, p. 103-119.

(Oxfordian-Kimmeridgean faunal assemblages from artesian wells at Broome, W Australia, characterized by pelecypod Buchia (= Malayomaorica; HvG) and belemnites of Belemnopsis gerardi group, demonstrating presence of marine Late Jurassic between 950’-1,550’. Notable similarities to Jurassic faunas of E Indonesia)


(Paleogeography of Middle-Late Jurassic ammonites, showing ‘Tethyan’ Macrocephalites- Mayaites group distribution)

Tobler, A. (1908)- Mededeeling over de eerste ontdekking van jurassische gesteenten (leigesteenten met belemnitiden en pentacrinitiden) in Boven-Djambi (Sumatra). Verslag Mijnwezen, 1e kwartaal 1908, p. 18-.

(‘Note on the first discovery of Jurassic rocks (shales with belemnitids and pentacrinids) in Upper Jambi (Sumatra)’)

Tong, H., E. Buffetaut & V. Suteethorn (2002)- Middle Jurassic turtles from southern Thailand. Geol. Mag. 139, 6, p.687-697.

(New cryptodiran turtle, from M Jurassic Mab Ching locality, in S peninsula of Thailand. Closely resembles species M- L Jurassic of China and C Asia)


(online at: http://www2.uibk.ac.at/downloads/oegg/GG_004_329_448.pdf)

(‘The marine realms of the Jurassic and the Lower Cretaceous’. Subdivision of Jurassic-Cretaceous into 5 main faunal provinces. Includes review of Indonesian Mesozoic macrofossils known at that time, all classified in ‘Himalayan Province’, whch stretches from Tibet to Indonesia- New Guinea, possibly into New Zealand. Common deep-water faunas with Liassic dominated by Phylloceras, Dogger with Stephanoceras and Macrocephalites)


(online at: http://www.iagi.or.id/fosi/.)

(Occurrences of Middle Jurassic (Bathonian-Callovian) bathyal shales with ‘Macrocephalites’ ammonite faunas as reported from ‘Birds Neck’ by Boehm (1913) and Gerth (1927- represent deep marine Middle Jurassic facies. This suggests an eastern limit for gas-productive Middle Jurassic sandstone reservoirs of Bintuni Bay and thus have significant negative implications for the potential of Mesozoic hydrocarbon plays in Cenderawasih Bay)

Identification of an ammonite fragment from SW Sumba as M Jurassic Hammatoceras by Roggeveen (1929) is highly questionable, and Cretaceous age is more likely. Oldest proven rock age on Sumba is thus Cretaceous.

('Molluscs from the Jurassic of Borneo'. Molluscs collected by Wing Easton and Bosscha. Mollusc breccia of Sungei Perdajun in Kendai area, etc. Occ. Corbula borneensis n.sp., Protocardia crassicostata n.sp., P. tenuicostata n.sp., Exelissa septemcostata n. sp.)

('Molluscs from the Jurassic of Borneo'. Reprint of Vogel (1896) paper above)

('New molluscs from the Jurassic of Borneo'. Additional Upper Jurassic molluscs material from NW Kalimantan (Sungai Pasi, Sungai Riong, etc.). Common bivalve molluscs (Astarte spp., Protocardia, Corbula, etc.) and gastropods)

('Upper Jurassic and Cretaceous of Misool'. Reports of acid tuffs in Jurassic and Upper Cretaceous limestones. Late Jurassic Facet Limestone with calcspheres Stomosphaera and Cadosina spp.. Illustrations of vertical sections of Upper Cretaceous keeled Globotruncana planktonic forams)

('Upper Jurassic in West Sumatra'. Stromotoparoid Myriopora verbeeki from limestones in Padang Highlands SE of Merapi volcano look identical to forms from U Jurassic in Japan)

(Review of Jurassic ammonite stratigraphic and geographic distributions in Pacific region. Sula- New Guinea sub-provience of Indo-Pacific Province in Bajocian- Bathonian, characterized by endemic Irianites, Satoceras and Praetulites. In Oxfordian more extended Indo-SE Pacific realm, with mayaitids also in New Zealand)


(online at: http://jurassic.earth.ox.ac.uk/__data/assets/pdf_file/0011/10244/ISJS32.pdf)

('Contributions to the knowledge of Jurassic molluscs from Misool, East Sulawesi, Buton, Seram and Yamdena'. Description of Mollusca, mainly collected by F. Weber. Misool faunas include upper Liassic
Harpoceraten beds, lower Dogger Hammoceraten beds, Oxfordian Aucella malayomaorica marls (also in E Sulawesi), etc.


('Rock-building foraminifera from the Malm and Lower Cretaceous in the eastern East Indies Archipelago'. First description of Upper Jurassic calcispheres Stomiosphaera moluccana and Cadosina fusca from Timor, Misool, Seram, Roti, Buton and E Sulawesi. Marker species for latest Jurassic (+earliest Cretaceous? (NB: these are not foraminifera; HvG))


('Liassic ammonites from Yamdena and Sulawesi'. Sulawesi ammonites from poorly known central part of East arm, collected by BPM geologist Weber, are first records of Early Jurassic ammonites from E Sulawesi (Arnioceras cf. seilaeve from dark grey sandy limestone as float in upper Balingara River, 20km SE of river mouth). Yamdena ammonites from Tasik Selwasa and Botenjahu mud volcano deposits include Echioceras, Lytoceras, Dactylioceras, etc.), bivalves and gastropods (Pleurotomaria, etc.), overlying (Triassic?) massive oolitic limestone. Most species related to European Tethys faunas)


('The Liassic of the Nief Gorge in East Seram'. In Nief Gorge very thin (60 cm) glauconitic limestone with Middle Liassic diverse brachiopods (Rhyynchonella spp., Spiriferina spp., Terebratula), cephalopods (Oxynoticeras, Phylloceras, Lytoceras, Dactylioceras, etc.), bivalves and gastropods (Pleurotomaria, etc.), overlying (Triassic?) massive oolitic limestone. Most species related to European Tethys faunas)


(BP Jurassic-Cretaceous palynology zonation of PNG LateJurassic- mid-Cretaceous section. A modified version of Helby et al. 1987 and Davey 1987 zonations. With PNG chronostratigraphic diagram)


(Five Bathonian- Early Callovian ammonite assemblages on S Taliabu. Also from Bathonian at Strickland River, PNG. East Indian faunas dominated by Macrocephalitinae, many of which are species unknown outside Indonesia- New Guinea (one other SW Pacific occurrence in New Zealand). Because of high endemicity at species level in Macrocephalitinae and at genus level in Satoceras and Irianites, E Indonesia and PNG may be considered as separate ammonite faunal province or subprovince, perhaps part of Maorian/SW Pacific Province during Late Bajocian- E Callovian. Diversity and compositions of ammonite faunas suggest Sula was in warmer waters than Birds Head Peninsula)


(Bajocian- Callovian ammonites from loose stream bed material in Kemabu valley, NE of Paniai Lakes, Central Range, presumably from Kembelangan Fm ‘A-member’ phyllites and re-examination of Bajocian- Callovian ammonites from other parts Indonesian archipelago. Most ammonite species endemic to E Indonesia)


Yabe, H. & S. Hanzawa (1926)- Choffatella Schlumberger and Pseudocyclammina- a new genus of arenaceous foraminifera. Science Reports Tohoku Imperial University. 2nd series, Geology, 9, p. 9-13. (online at: http://ir.library.tohoku.ac.jp/re/bitstream/10097/30196/1/KJ00004178170.pdf) (New genus name Pseudocyclammina for Late Jurassic foram 'Cyclammina' lituus from Torinosu Limestone of Japan, which species is very similar to Choffatella cyclamminoides n. sp. described by Silvestri (1925) from Sungi Tuni, Korinci, Jambi Province, Sumatra)

Yancey, T.E. & S.A. Alif (1977)- Upper Mesozoic strata near Padang, West Sumatra. Bull. Geol. Soc. Malaysia 8, p. 61-74. (U Jurassic- Lw Cretaceous Indarung Fm limestones and clastics exposed near Indarung, few km E of Padang. Carbonates with coral-like Lovcenipora near base and bedded cherts (Ngalan Mb) near top. Indarung Fm used to determine ~200km of offset along Sumatra fault zone. (N.B.: cherts subsequently dated as Aalenian, basal M Jurassic, by McCarthy et al. 2001; (part of Woyla Terranes; HvG) (NB: Lovcenipora believed to signify Late Triassic age by several authors, but here possibly Late Jurassic Cladocoroprisis, also in Gumai Mts; HvG)


Yanagida, J. & J. Lau (1978)- The Upper Jurassic and Middle Cretaceous Terebratulidae from the Bau Limestone formation in West Sarawak, Malaysia. In: Géologie et Palaeontologie of Southeast Asia, University of Tokyo Press, 19, p. 35-47. (Bau Limestone of SW Sarawak contains Oxfordian- lower Kimmeridgian brachiopods)

(Mid 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 multicystid 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)


(Mid-Oxfordian ammonite fauna in Lanangla area, Tibetan Himalaya, characterized by endemic epimayaitids. Distribution of mayaitids around E Gondwana can be regarded as first signal establishment of Indo-Austral Subrealm in Late Jurassic-Early Cretaceous)

(Rich ammonoid faunas in Tithonian- Lw Berriasian in E Himalayas, of Tibet, with Tithonian Belemnopsis galoi, Virgatosphinctes - Aulacosphincetoides and Ulhgitex-Aulacosphinctes; U Tithonian Blanfordiceras walliichi, etc. Strong affinities with E Indonesia- New Guinea and SW Pacific ammonoid faunas)

(At least 60 species of radiolarians in siliceous mudstone of Tulbuan Plain, Busuanga Island. Assemblages dominated by smaller nassellarians. Abundance of Styllocapsa(?) spiralis indicates zone JR6 of Matsuoka (1995). Associated occurrence of Styllocapsa 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; HvG))

6. Triassic
(Late Triassic brachiopod Halorella common in Europe. Halorella nimassica described from Timor by Krumbeck (1921-1924) not true Halorella, but assigned to Timorhynchia n. gen.. Halorella reported from Seram by Wanner (1907) should be assigned to Halorelloidea)

(Late Triassic brachiopod Misolia widely distributed in S Tethys; recorded from Middle East to E Indonesia)

('Triasina hantkeni..(foraminifer), in the Upper Triassic of the Tethys (Europe and Asia'). Norian- Rhaetian small benthic foramin Triasina in Tethys from Europe to E Indonesia)

(Foraminifera from U Triassic Asinepe Fm tropical-reefal carbonates of Seram show Norian- Rhaetian age. Two distinct foram facies associations: (1) muddy lagoonal facies dominated by Involutinidae, with Triasina hantkeni, Aulatortus spp., etc. and (2) near-reefal facies dominated by porcellaneous forams. No location maps, stratigraphy, etc.)

(Upper Triassic microfaunas from Asinepe Fm reefal and lagoonal platform limestone, Seram with Rhaetian index foram Triasina hantkeni. Many similarities with U Triassic Tethyan faunas in Europe and Asia)

Ando, H. (1987)- Paleobiological study of the Late Triassic bivalve Monotis from Japan. The University of Tokyo Museum Bull. 30, p. (online at: http://www.um.u-tokyo.ac.jp/publish_db/Bulletin/no30/no30000.html)

(Marine smaller foraminifera from 350 m shale section from upper Lower Triassic to lowermost M Triassic (Spathian-Lower Anisian), off W Australia. Differs from coeval fauna from same area (Heath & Apthorpe, 1986). New fauna contains some 'Tethyan' genera, previously recorded from S China and Alps, including Duostomina, Krikoumbilica, Gsollbergella, Trocholina, Endothyra and Endothyranella)


(incl. Miocidaris timorensis n.sp.)
(Massive Triassic reefal limestones at Sibaganding, N of Prapat, Lake Toba area, N Sumatra with branching corals, calcisponges (Cladocoropsis?) and stromatolites in carbonate mud matrix; see also Vachard 1989)

(Conodonts from red ammonoid-bearing limestone 6 km W of Manatuto, previously assigned to Permian Maubisse Fm, contains Upper Smithian (E Triassic), Tethyan conodonts. Area previously interpreted as thrusted, with inverted ages (Permian on Triassic), but probably simple Triassic stratigraphic succession. Conodonts well-preserved with CAI of 1, suggesting rel. low paleotemperatures <100°C)

(Classic work on Triassic brachiopods (Rhynchonella, Spirigeria, Spiriferina) and bivalves (Pseudomonotis, Daonella, Halobia, Megalodon), with many descriptions of new species subsequently reported from Timor, etc.)

(‘On brachiopods from an older limestone of Ambon Island’. Brachiopods from dark, mica-bearing, impure limestone in sandstone series in Batu Gantung River are all new species, probably of Early Paleozoic age, possibly Triassic. Probably same faunas determined as Late Triassic by Jaworski 1925)

(‘Pre-Jurassic brachiopods from Ambon’. New species of Spiriferina, Athyris, Rhynchoporta, Dielasma from Batu Gantung valley near town of Ambon. Age uncertain, probably Late Paleozoic-Triassic. (Deninger 1918, p. 30: similar to Late Triassic of Seram))

(‘On the new Upper Triassic fauna from the Moluccas’. Highly folded Upper Triassic asphalt beds near Fogi, (W Buru) and Bara Bay (NW coast Buru), containing Daonella indica and ammonites. Buru U Triassic limestones in bivalve-cephalopod facies, different from those from Misool (mainly brachiopod-coral facies))

(General review of Triassic foraminifera)

(Upper Triassic (Carnian-Rhaetian) calcareous nannofossils from Sites 759, 760, 761, 764 on Wombat Plateau during ODP Leg 122. Assemblages dominated by Prinsiosphaera triassica Jafar. Similar to those from Alps)

(Upper Triassic calcareous nannofossils from Wombat Plateau, Australia NW Shelf, similar to those from Alps)

(Cluster analysis of E Triassic ammonoid faunas. Timor grouped with Afghanistan, etc., as S Tethyan cluster)


(Late Triassic palynostratigraphic framework of Leg 122 sites, Wombat Plateau. Australian spore-pollen zones recognized: Carnian Samaropollenites speciosus, Norian Minutosaccus crenulatus and Rhaetian Ashmoripollis reducta zones)


(online at: http://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 Krading 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)


(Late Triassic vertebrate fragments of phytosaurs (related to Belodon, Rutiodon) at Chulabhorn Dam suggest NE Thailand already biogeographically part of Laurasia in Late Triassic)


(Two U Triassic palynoflora provinces: Onslow and Ipswich. Palynological assemblages from Carnian of W Tethyan margin (Mediterranean) compared with W Timor floras from U Triassic pelagic deposits, referred to Onslow microflora of S Hemisphere. In W Timor several taxa, mainly conifer miospores, widely recorded in Carnian of Europe and less frequently recovered in Carnian of W and E Australia. Suggests Onslow microflora assemblages, with minor variations, present from W Tethys to N Australian margin (W Timor))


(Late Triassic brachiopods from mudstone dredged below Rowley Terrace, NW Australia: Misolia sp. (similar to M. misolica or M. pinajae), cf. Trigonirchynchella sp., cf. Zugmayerella sp.))


(Review of stratigraphy/ fauna of marine Triassic outcrops of E Indonesia, New Caledonia, Australia and New Zealand. Including brief summaries of PNG (Yuat River gorge argillites with Anisian ammonites), Misool, Seram, Bura (Norian- Rhaetian Fogi Beds with Misolia), Timor-Roti and SE Sulawesi-Buton (late Norian Monotis subcircularis in Winto beds). No maps, strat columns)


(60 species of foraminifera in U Triassic atoll-type carbonates of Sambosan Accretionary Complex, SW Japan. With paleobiogeographic distribution analysis between Neo-Tethys and Panthalassa: six faunal provinces defined on foram assemblages)


(Late Jurassic- E Cretaceous Sambosan accretionary complex in SW Japan with U Triassic reefal limestones typical of seamount-capping atoll in Panthalassan Ocean. Four foram associations: (1) lagoonal: abundant Aulotortidae, Nodosariidae and Endotubulidae; (2) Back- and fore-reef: dominated by Duostomina and Variostoma; (3) reefal: Galeanella, Hoyenella, Ophthalmidium and Cucurbita; (4) Shoal facies rich in ooids and near-monospecific Pilauminia sulawesiana association, as described only from Sulawesi. Carnian-Norian age matches Tethyan carbonate platform/ reefs in Alps and Asinepe Limestone in Seram. Foraminifera Tethyan tropical affinity, suggesting paleoposition at low-middle latitudine in S Hemisphere, in agreement with presence of endemic foraminifers and corals of Timor and Sulawesi. Sambosan AC seamounts moved >15,000 km to be accreted against Asian blocks. Distance in accordance with velocity and direction of tectonic plates related to Neo-Tethyan ridge opening)


( Relatively complete marine Triassic section in Thailand >3000m thick. Twelve faunal zones, mainly based on bivalve molluscs; ammonoids relatively rare)


(Late Triassic- E Jurassic palynostratigraphy and latitudinal control on distribution of 'Onslow' (rel. warm, southern Tethys margin) vs. 'Ipswich' (rel. cool, Gondwanan) microfloral provinces in S Hemisphere)


'A carbonate platform of Rhaetian age in Central-East Sulawesi (Kolonodale region)'. Widespread outcrops of ~150m of white latest Triassic reefal carbonates S and SW of Kolonodale (below E Sulawesi ophiolite terrane?). Limestones range from boundstone to grainstone. Non-skeletalgrains mainly peloids, with some ooids and intraclasts.Skeletal grains include molluscs;green algae (including dasycladaceans),echinoderms and benthic foraminifera (Aulotortus spp., Auloconus, Triasina hantkeni) and locally also brachiopods, coral clusters. Limestones can be correlated with U Triassic limestones of Tokala Mts of Sulawesi East Arm)


(Maximum paleobiogeographic differentiation of Triassic brachiopods in Late Triassic, with at least five biochores: Boreal, N Tethyan, peri-Gondwanian, Notal or Maorian and E Pacific. E part of peri-Gondwana Tethys with Misolia, Timorhynchia)


(The flora of the Upper Triassic of Vietnam; paleogeographical implications'. Vietnamese U Triassic flora belongs to coastal floristic assemblage of SW Pacific. See also Vozenin-Serra & De Franceschi (1999))
(Upper Triassic low metamorphic limestones below Loemoet mine tin deposits, SE of Klabat Bay, folded with phyllites and fine-crystalline quartzites. First documentation of poorly preserved Norian corals (Montlivaltia molukkana), calcareous sponges (Peronidella moluccana) and crinoids (Entrochus spec., Encrinus). No illustrations (Montlivaltia molukkana also known from U Triassic of Seram, Timor; HvG))

(‘The marine realms of the Triassic period’. Review of global Triassic macrofaunas as known in 1916. Four main faunal provinces (Boreal, Mediterranean, Himalayan and Andean), based on cephalopods, bivalves, etc. Indonesian area groups in Himalayan Domain. Brief reviews of Triassic on Timor, Roti, Savu, Sumatra, Seram, Buru. Only Timor has complete Triassic section, with cephalopods and corals very similar to Alps. Other areas Triassic starts with Carnian transgression. Triassic of Sumatra mainly shallow marine clastics)

(Descriptions of >300 species of M-U Triassic ammonoids from W Timor collected by Jonker 1916 expedition. Assemblages from blocks very rich in well preserved ammonites, resembling ‘Halstatt Limestones’ in Alps, with species of both Alpine-Mediterranean and Himalayan affinities. Dominated by Haloritids. Different blocks different ages, mainly Carnian- Norian or mix of these, but also Anisian and Ladinian faunas. Upper Norian- Rhaetian faunas not demonstrated. Total thickness of M-U Triassic may be only 2 meters)


(Review of Triassic floras, incl. from Thailand (Norian- Rhaetian near base of Khorat Group), Vietnam (Tonkin flora) and Sarawak (Krusin flora, near basal conglomerates of Halobia clastics series))

(Five Triassic palynological assemblage zones in wells from Carnarvon Basin. M-L Triassic floras mixed Gondwanan- European (Onslow microflora). European elements not present in less diverse Falcisporites-dominated assemblages from Triassic in E and S Australia (Ipswich microflora))

(At Sungei Bila and Aek Pamengka W and NW of Rantauprapat, N-C Sumatra, four localities with casts of Triassic bivalve Halobia in red-brown, W-dipping series of sandstones, silts and shales. To W Triassic overlain by non-marine Paleogene quartz sandstones and conglomerates, with material derived from underlying sediments. Occurrences of Halobia probably in same formation as locality noted by Volz (1899)on Soengei Koeala to NW and other places)

(Includes summaries of known Triassic reefal carbonates in Timor (various localities with Norian reef sponges and corals), Sulawesi, C-E Seram (up to 150m thick sponge-coral-hydrozoan limestone; Wilckens 1937), Papua
New Guinea. (Triassic limestone development in Indonesia appears to follow trends across Tethys: first reef optimum in earliest Carnian (sponge-dominated), decrease in Late Carnian, second reef optimum in Late Norian-Rhaetian (sponge-caral and coral dominated); HvG)

(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.)

(Anisian smaller benthic foraminifera from Bukit Tunjiang (should be Bt Tunjung) limestone quarry, Kedah. Tubiphytes locally abundant. Forams rel. rare, common Tolypammina, also Meandrospira dinarica)

(Some poorly fossiliferous limestones of Peninsular Malaysia, previously considered to be Permian, yielded Triassic algae (Thaumatoporella parvovesiculifera) and foraminifera (Piliammina gemenica, Aulatortus sinuosus, Paleolitoxona meridionalis) indicating Ladinian-Carnian age. New foram Malayspirina fontainei described. Strong affinity with Alpine-European faunas)

(Sotong B1 well in SW part of Malay Basin (4.9° N, 104.8° E) with Late Triassic limestone at TD. 'Tethyan', probably Norian-age unbedded dark reefal limestone with Alpinophragmium perforatum, Tubiphytes (Shamovella), etc.)

(same paper as above on limestone at base of Sotong B1 well with Triassic limestone penetrated from 9,030-10,017'. With pseudoalgae, foraminifera (Alpinophragmium ) and abundant calcisponges)

(Triassic forams from Thailand, NW Malaysia peninsula, Indonesia (Sibaganding limestone of Sumatra, Seram), Philippines (Malajon Island), Myanmar, Vietnam)

(Older foraminifera from Upper Triassic Kodiang limestone Fm, NW Malay Peninsula. With Aulatortus, etc.)

(Oldest known coccoliths appear in Late Triassic, with oldest species, Crucirhabdus minutas and Prinsiosphaera triassica appearing in latest Norian. Across Norian-Rhaetian boundary increase in abundance of Prinsiosphaera triassica, and appearance of Euconusphaera zlambachensis (two most important Rhaetian pelagic carbonate producers). Both present on Timor, Wombat Plateau (NW Australia) (also on Seram?; HvG))

(Sporangial fragments of Mesozoic ferns in Late Triassic (Norian) black chert interbedded with trachytic volcanic rocks of Serian Volcanic Fm, Penrissen Region, W Sarawak. Referred to Dictyophyllum exile)


Gerth, H. (1915)- Die Heterastridien von Timor. Palaontologie von Timor, Schweizerbart, Stuttgart, 2, p. 63-69. ('The Heterastrids from Timor'. Late Triassic small, globular, possibly pelagic colonial hydrozoans, named Heterastridium conglobatum, similar to those originally described from Halstatter Limestone in Austrian Alps. Over 1000 specimens collected by Wanner and Molengraaff expeditions, mainly from Bihati (near Baung, Amarassi), some from Nifoekoko near Niki Niki. Appear to be restricted to blocks of pelagic, deep water 'Halstatt' cephalopod facies with Norian ammonites. Some layers composed exclusively of heterastrids, covered with black iron-manganese coating)


Grant-Mackie, G.A. (1978) - Subgenera of the Upper Triassic bivalve Monotis. New Zealand J. Geol. Geoph. 21, 1, p. 97-111. (online at: http://www.tandfonline.com/doi/abs/10.1080/00288306.1978.10420726) (Proposal of five subgenera of Monotis. Monotis s.s. resembles salinaria group; M. (Entomonotis) includes the ochotica, subcircularis, and zabaikalica groups; M. (Eomonotis) typha group and M. (Maorimonotis))


Hada, S. (1966) - Discovery of Early Triassic ammonoids from Gua Musang, Kelantan, Malaya. J. Geosciences, Osaka City Univ. 9, 4, p. 111-122.


Haig, D.W., E. McCartain, L. Barbar & J. Backhouse (2007) - Triassic- Lower Jurassic foraminiferal indices for Bahaman-type carbonate-bank limestones, Cablac Mountain, East Timor. J. Foram. Res. 37, 3, p. 248-264. (Peloidal-oolitic limestones at Cablac Mountain, E Timor, with Triassic or Lower Jurassic small foraminifera. E Jurassic (Sinemurian-Pliensbachian) age indicated for some of limestone by Meandrovolvula asiagoensis, Everticyclammina praevirguliana and palynomorph assemblage. Other limestones Late Triassic- E Jurassic, based on Duotaxis metula. Basinal facies of nearby Wai Luli Valley indicate Late Triassic (Carnian) age for transported foraminiferal assemblage characteristic of carbonate-bank deposits. This suggests carbonate banks developed locally on submerged topographic highs in seas that flooded interior-rift basins in this part of Gondwana and complex facies array of deep-water muds, deltaic sands, and carbonate shoals)


Paleozoic in Indonesia scattered amongst archipelago and generally thin. Biostratigraphy scarce and most publications not in English. Sumatra and Timor only localities with exposed ?Carboniferous-Permian. Siluro-Devonian faunas only on Irian Jaya. Mesozoic biostratigraphy based mainly on Misool Archipelago, with most complete Mesozoic section ranging from Triassic (Anisian?) Upper Cretaceous).

Hasibuan, F. (2007)- Annelid Terebellina mackayi (Bather) from Middle Triassic Keskain Formation, Misool Archipelago. J. Sumber Daya Geol. (GRDC) 17, 2, p. 116-123.


(Marine macrofossil biostratigraphy of Triassic in Indonesia. Mainly on ammonoids from Timor and Misool, and correlations with regions outside Indonesia)


(On end-Triassic extinction of reefal organisms and end of carbonate deposition at Triassic- Jurassic boundary in many parts of world, caused by ocean acidification, tied to volcanic degassing)


(On mass extinction at end of Triassic, at ~200 Ma. This event eliminated conodonts and nearly annihilated corals, sphinctozoan sponges and ammonoids. Probably caused by volcanic activity of Central Atlantic Magmatic Province. Lead to virtual absence of reef systems for nearly 10 Myrs in E Jurassic).

Heath, R.S. & M.C. Apthorpe (1986)- Middle and Early(?) Triassic foraminifera from the Northwest Shelf, Western Australia. J. Foram. Res. 16, p. 313-333.

(Anisian foraminifera from Lawley No. 1 well, Dampier sub-basin, NW Shelf. Well-preserved, non-Tethyan assemblage of 34 species, 10 new. Anisian age of material based on palynological evidence (T. playfordi zone))


(Radiolaria from Timor, Savu, Ceram, Sulawesi, Buru and Mangoli in Verbeek's Moluccas report. Probably mainly of Late Triassic-Jurassic age. 83 species identified, 74 new. Richest assemblages from Triassic Halobia-Daonella-bearing cherty limestones from Rote and Savu and Timor (Cenosphaera, Dictyomitra, etc.). Fewer, but similar species in loose chert pebbles collected at Seram and E Sulawesi)


(Trachyphyllites costatum Arthaber (1927) described from single specimen from limestone boulder in Tertiary melange in Bihati River, Timor and presumed to be of Late Triassic (Norian) age. However, 'Hallstatt facies' limestones ranges in age from Triassic- E Jurassic (Hettangian). New collections from other erratic boulders in type locality confirmed observations (Tozer 1971, Krystyn 1978) that age of original boulder is E Jurassic (Hettangian). 'Trachyphyllites costatum Arthaber' is junior synonym of Analytoceras hermanni (Gumbel, 1861))


(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.)


Ishii, K. & Y. Nogami (1966)- Discovery of Triassic conodonts from the so-called Palaeozoic limestones in Kedah, Malaya. J. Geosc. Osaka City Univ. 9, p. 93-95. (see also Koike 1973, 1982)

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)


Jaworski, E. (1927)- Obertriadische Brachiopoden von Ambon (Molukken). Jaarboek Mijnwezen Nederl.-Indie 55 (1926), Verhand. III, p. 201-229. ('Upper Triassic brachiopods from Ambon (Moluccas)’. Brachiopods from dark limestones intercalated in several 100m thick sandy shales package including Rhynchochella, Spiriferina spp., Spirigerina, etc.)


Kamata, Y., A. Shirouzu, K. Ueno, A. Sardsud, T. Charoentitirat, P. Charusiri, T. Koike & K. Hisada (2013)-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 Micropal., p. (in press)

(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)


(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)


(Corals from U Triassic Pacific seamount limestones in Japan. Includes mention of species previously known only from Timor)


(Well-illustrated report on 2008 fossil collecting trip to Baun area, SW Timor. Large erratic, generally reddish color Permian- Lower Jurassic limestone blocks in olistostrome in Late Tertiary marl-radiolarite-tuff succession. Triassic- Early Jurassic limestones open ocean facies, locally rich in ammonites and aulocerate belemnites, commonly coated by manganese layer. Also found 1-5 cm big globular hydrozoans Heterastridium conglobatum, of Norian age and possibly a pelagic hydrozoan colony)


('The nautiloids from the Middle and Upper Triassic of Timor'. Mainly taxonomic descriptions of nautiloid ammonites collected by 1916 Jonker expedition. Mainly from isolated blocks of 'Halstatter facies' condensed Triassic section (other classic works on Triassic ammonites are by Welter 1914, 1915 and Diener 1922))


(Permian- Carboniferous limestones in El Nido area. Paglugaban Fm with M Carboniferous fusulinids. Permian Minilog Fm Guadalupian fusulinid and dasyycladacean wacke-packstones with Permocalculus, Shamovella and Mizza velebitana and colonial coral Waagenophyllum. Busuanga Island Late Triassic (Rhaetian) limestones in reef and platform facies with Tria sina hantkeni, etc., similar to E Sulawesi, Banda Basin, Malay Peninsula, Malay Basin, etc. Carbonates formed on seamounts surrounded by deep water radiolarian cherts. With Golonka Permian- Triassic plate reconstructions. Permian- Triassic carbonates contradict close paleogeographic connection between N Palawan Block and S China. N Palawan probably part of Indochina in Carboniferous-Permian, separated from Indochina Block in M Permian and collided with S China Block in Late Cretaceous (then separated again with S China Sea opening))

(Review of Triassic-Cretaceous floras in SE Asia and China. NW Borneo Late Triassic- E Jurassic Krusin flora is part of Indochina/South China Dictyophyllum-Chlathropteris floristic province)


(Five species of Daonella (one new) from M Triassic shales NW of Temerloh)


(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)


(Four Triassic foraminiferal limestone localities in Lampang Group 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) Autotortus sinuosus (Carnian). Important taxa of these associations common to S China and SE Asia, also Europe (unlike M- Late Permian foraminiferal assemblages which have many provincial and endemic characters)

(Lake Toba area 'Kualu Fm' open marine mudstone with Carnian deeper marine bivalves Halobia tobaensis n.sp., H. kwaluana, H. Halobia simaimaiensis. Carnian-Norian subdivided into four zones based on Halobia species)


(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 H. cf. comata from E of Lampang. All species related to Carnian of Alpine-Himalayan region)

(Triassic (probably Anisian-Ladinian) conodonts from limestones previously interpreted as Permian at Bukit Kečhil and Bukit Kodiang, Kedah province NW corner of Malay Peninsula. Assemblages dominated by Epigondolella, Neogondolella, Paragondolella)


(Brief review of Triassic conodont faunas in Malay Peninsula, Thailand and Indonesia (Carnian of Lake Toba, Sumatra; Anisian-Ladinian and Carnian and W Timor; Norian of Timor Leste))

(On thin-walled molluscs Claraia spp., Eumorphotis, Towapteria, etc. in basal Triassic calcareous mudstones of Yangtze Block of S China and N Vietnam)

(Description of Cuxthropteris meniscoides from near SW border of Sarawak, southernmost occurrence of Dipteridaceae flora of SE Asia in Borneo in Upper Triassic)

(Plants from beds near basal conglomerates of Halobia-bearing coaly series near Krusin, SW Sarawak. Probably of Late Carnian age. 15 plant species from Sadong Fm, now called’Krusin flora’. Belongs to Dictyophyllum-Clathropteris floral province of E Asia/ SW Pacific, without any European or North Asian floral elements, similar to Norian Tonkin Flora of N Vietnam. No stratigraphy (Krusin flora classified as Carnian age, and ’East Asian floristic zone’, similar to ’Yamaguti Flora’ of Japan, by Dobruskina 1994)

(‘Remarks on the ammonites from the asphalt shales of Bara Bay, Buru’. Float collected by Boehm in Wai Sifu River at Bara Bay, NW coast of Buru, contains Jurassic ’Buru Limestone’ with inoceramids and belemnites. Also common flat pieces of dark bituminous shales with numerous ammonites, incl. generally crushed Tissotia weternigi. This ammonite was interpreted by Kossmat to signify Upper Cretaceous age, but was subsequently re-identified as Neotibetites of Late Triassic (Norian) age by Krumbeck 1909, 1913)

Faunal provinces in the Triassic and their significance for paleogeography. Paleobiogeography based on conodonts: Triassic of SE Asia, incl. Timor, is in Tethyan faunal province. No maps

('Observations on the Triassic of the SE margin of the Tethys- Papua New Guinea, Australia and New Zealand. Upper Triassic Tethyan faunas remarkably similar all the way East to New Zealand, NW Australia. Includes discussion of Kubor terrane Rhaetian Gurumugl reefal limestones ESE of Mount Hagen, PNG, which contains latest Triassic corals (Montlivaltia norica, Thecosmilia chlathrata) and diverse forams, incl. Tetrataxis, Involutina liassica, Galeanella tollmanni, etc.), suggesting Rhaetian age)

(First description of Rhaetian foraminifers from Kuta limestone, Mt. Hagen area, PNG Highlands. Fauna of Tethyan affinity, similar to same age faunas from Mediterranean/Alps area. Three biofacies types: near-reef (with Trocholina, Coronipora, Semiinvoluta, etc.), fore-reef (crinoid detrital limestones with Variostoma cochlea, etc.) and lagoonal (low diversity with Angulodiscus, Glomospira/ Glomospirella)

(Remarkable uniformity in Triassic faunas throughout Tethyan region. Both planktonic and benthic organisms. Very little on SE Asia)

(Online at: http://www.landesmuseum.at/pdf_frei_remote/AbhGeolBA_41_0245-0253.pdf)
(Examples of common species of Triassic arenaceous and calcareous agglutinated foraminifera across Tethys realm (mainly from Austrian Calcareous Alps, PNG Kuta Limestone and Timor). Timor fauna includes Verneulinoides mauritii and Variostoma helictum)

(Tethyan Late Triassic ostracodes in Sahul Shoals 1 well, 1880-1890m, Australia NW Shelf. Most common species Cytherella acuta, with other Tethyan species Nodobairdia mammilata and Tethyscythere austriaca. Similar Triassic ostracode faunas on N and S sides of Tethys (Timor, NW Australia))

('Rhaetian foraminifera from the Kuta Limestone of the Gurumugl Reef in central PNG'. More detailed account of Latest Triassic foraminifera assemblage of 85 species from W part of Gurumugl Reef, W Kundiawa. Incl. Involutina liassica. All species also known from West Tethys, showing uniformity of Late Triassic Tethyan reef faunas. No stratigraphic info)

('Microcrinoids from the Late Triassic of the Tethys'. With descriptions of new species and genera Leocrinus & Bihaticrinus from Alpine Triassic of Eastern Alps (Austria), Taurus Mts (Turkey) and Timor)
(First description of U Triassic foraminifera from Panthalassan seamount reefal limestone in Sambosan accretionary complex in Japan; see also Chablais et al. 2008)

(online at: http://www2.uibk.ac.at/downloads/c715/gpm_20/20_001-011.pdf)
('Additional observations on Rhaetian nannofossils of the Tethys'. Eoconusphaera zlambachensis and Prinsiosphaera triassica are most common species in uppermost Triassic of calcareous Alps, also present off Wombat Plateau, NW Australia, confirming Tethys-wide distribution)

(Upper Triassic (Norian- Rhaetian) E Jurassic thin-bedded marls-limestones and faunas from deep marine 'Aitutu Fm', mainly along Meto River, SW part of W Timor, SW of Soe. Close faunal and lithological similarities with members of age-equivalent 'Hallstatt facies' rocks in Eastern Alps (W Tethys), with no Pacific faunal elements. With descriptions of U Triassic and Liassic ostracod assemblages and Liassic calcareous nannofossils by Kristan-Tollmann, and revision of U Triassic mollusc genera Halobia (H. rugosa, H. fascigera, H. radiata, etc.) and Monotis (M. salinaria) by Gruber)

(online at: http://www2.uibk.ac.at/downloads/oggg/Band_84_301_308.pdf)
('Alpine Enzesfelder Limestone (Lower Liassic) from the Exmouth plateau, NW of Australia'. Lower Liassic yellow echinoid-mollusc limestone samples dredged from submarine Exmouth Plateau from >2000 m water depth. Similar to Enzesfeld Fm in Northern Limestone Alps in Austria and also from Timor. Sample 96 DR 30 with distinct foram fauna with Involutina liassica, I. turgida, Trocholina spp., etc.(although these may be found in latest Triassic, abundant I. liassica usually signifies lowermost Liassic). Part of Alpine Late Triassic- Jurassic facies belt that stretches for >15,000km from Alp to Australia-PNG)

('Limestone samples from ODP site 764 and Sonne cruise 1979 dredge samples from N side Wombat Plateau have Norian- Rhaetian fauna, similar to other Tethyan/ 'Alpine' foramin faunas, including Timor and PNG, suggesting close similarity of faunal communities throughout Tethys realm)

('Remarks on the microfauna of the Rhaetian Kio-to-Marls from Kumaun, Himalaya')

('Ostracods from the Upper Triassic of Misool'. Small ostracod fauna from marine Early Carnian?. Nearly all genera known from W Tethys, but found here for first time in E-most Tethys. One new form (Hasibuana asiatica))

('Brief preliminary communication on a new Upper Triassic fauna from the Moluccas'. Ammonites from Buru interpreted as Cretaceous by Kossmat (1909)- are Upper Triassic in age)


('On the fauna of the Norian athyrid limestone of Misool'. Brief description of macrofauna of ~50m thick limestone rich in Misolia brachiopods from S coast and islands Jillu, etc., off S Misool. Includes some corals (Thecosmilia), stromatoporoids, hydrozoans (Heterastridium), pectenids, etc. No illustrations)


('Upper Triassic of Buru and Misool. A. The Fogi Beds of West Buru'. Macrofaunas collected by Boehm and Wanner from the lower Norian? Fogi-Beds of W Buru. Distal, but not very deep marine dark marls and limestones with bituminous limestone interbeds (up to 19% bitumen). Rich in fossils: mainly bivalves (Pseudomonotis, Pinna, Lima, Pecten, Placunopsis, Alectryonia, Nucula, Myophoria, Cardita, ?Megalodon, Protocardia, Burmesia, etc.), also ammonites (Sibirtites, Sagenties, Tethites, Neotibetites weteringi) and brachiopods (Misolia). Faunas similar to Juvavites Beds of Spiti, N India Himalayas)


('Upper Triassic of Buru and Misool. B. The asphalt beds at Sifu (NW Buru)'. Macrofaunas collected by Boehm and Wanner from Triassic (Lower Norian?) asphalt beds of NW Buru: bivalves (Pecten), ammonites (Neotibetites weteringi), fish scales. Age similar to Fogi Beds)


('Upper Triassic of Buru and Misool. C. The Athyrid limestone of the Misool Archipelago'. Macrofaunas collected by Boehm and Wanner from the ~50m thick Athyrid Limestone of the Misool islands. Rel. shallow marine dark grey limestone with grey and yellowish marls with corals (Thecosmilia cf. clathrata), hydrozoa (Heterastridium), crinoids (Pentacrinus), brachiopods (Spirigeria, Aulacothyris), bivalves (Pecten, Anadontophora, Cardita,)


('Upper Triassic of Sumatra (The Padang Beds of West Sumatra...'). With review of geologic setting by Verbeek of Triassic beds E of Lake Singkarak in Padang highlands (Triassic overlies Permocarboniferous granites, clastics and fusulinid limestones, described by Volz 1904, and overlain by Eocene sandstones of Ombilin Basin). Stratigraphy- paleontology of >210m thick Upper Triassic Padang beds from two main localities Lurah Tambang and Bukit Kandung. Poorly fossiliferous sandstones, shales and marls, but four layers of dark, marly fossiliferous, bituminous platy limestones with mainly thick-walled bivalves that look related to Carnian North-Alpine Cardita facies (38 species of Pecten, Myophoria, Cardita, Cassianella, Gervillea, Pinna, Halobia sumatrana n.sp., etc.; some already described by Boettger). (Absence of Misolia, despite same age as Fogi Beds of Buru?)


('The Triassic brachiopods, bivalves and gastropods from Timor- part 1. Stratigraphic part'. Extensive overview of Triassic occurrences on Timor, Savu, Roti, etc., with distribution of ages and facies and comparisons to Triassic in other regions. Based on collections from 1911 Wanner and Molengraaff Timor expeditions. Five main facies: 1. Klippen/ Fatu coral reefal limestone, often oolitic; 2. Bituminous platy limestone and marls; 3. Brachiopod Limestone (rel. rare); 4. Cephalopod Limestone, condensed 'Halstitter facies'; 5. Halobia limestone and shales)
('Geological results of Deniger's 1912 trip in the Moluccas. III. Brachiopods, bivalves and gastropods from the Upper Triassic of Serum island (Central Seram'). On Carnian Halobia shales near Manusela, Norian Kanikeh Beds and Monotis bed at Wai Ehana (typical Monotis limestone rich in Monotis salinaria). Also Misolia Limestone)

('Triassic brachiopods, bivalves and gastropods from Timor- part 2, Palaeontological part')

('Summary of Upper Carnian- Lower Norian ammonoid, conodont and halobiid biochronology, based on data from Alps, Sicily, Balkans, Turkey, Himalayas and Timor')

('New rhynchonellid brachiopod species from Carnian (U Triassic) of Baun, Timor. From ‘Halstatt facies’ ammonite-rich limestone blocks in Tertiary olistostrome in SW Timor')

('A Choristoceras ancestor (Ceratitina, Ammonoidea) from the Norian of Timor')

(Online at: http://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?: HvG). Contains Tethyan species Paraceratites trinodosus, Sturia sansovinii, Acrochordicerus and Ptychites)

('First Triassic ammonoids from Thailand (Mae Moh River in N Thailand) show presence of Anisian, Carnian')

(online at: http://www.biodiversitylibrary.org/page/4294222page/308/mode/1up)
('Description of Lower Triassic ammonites from Wanner, Jonker, etc. collections, all from isolated blocks from extremely condensed sections. Many specimens manganese-coated. Mainly addendum to Welter (1922) monograph. Incl. Owenites, Prosphingites)

('Treatise on Early Triassic/ Scythian ammonoids, including material from Timor (p. 349-351), mainly from 'Block E near Nifoekoko', described previously by Welter (1922). Contains Hungarites spp. Pronorites spp, etc.)

('Triassic fossils from Loczy 1922 expedition in S part of Portuguese Timor near Suai. Mostly from folded deep-water marly limestones with ammonites and pelagic molluscs Daonella, Halobia')

Mariotti, N. & J.S. Pignatti (1995)- Claviatractites, a new xiphoteuthid cephalopod from the Upper Triassic of Timor. Palaeopelagos 5, p. 45-52. (New genus name Claviatractites proposed for belemnite originally described as Atractites claviger by Von Bulow (1915) from Late Triassic of Timor, because Atractites has ventral furrows, waist is narrower, etc.)

Martini, R., D. Vachard & L. Zaninetti (1995)- Pilammina sulawesiana n.sp. (Ammodiscidae, Pilammininae, n. subfam.), a new foraminifer from Upper Triassic reefal facies in E. Sulawesi (Kolonodale area, Indonesia). Revue Paleobiologie 14, 2, p. 455-460. (New small, complex agglutinated foram from E Sulawesi, typical of Late Triassic reefal carbonates. (subsequently also found in Asinepe Lst of Seram, Sambosan accretionary complex in Japan, N Italy, Karakorum, Turkey, Cyprus))

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 Acad. Sci., 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)


(Conodonts representative for all Triassic stages, except Rhaetian, found in Malay Peninsula)

(Jerus Limestone, Cheroh, Pahang, previously considered part of Permo-Carboniferous Raub Group yielded rich Lower Triassic (late Dienerian) and M Triassic conodont faunas)

(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 beded 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)

(Conodonts from Kodiang Lst at Kedah, Peninsular Malaysia document presence of Lower-Middle Norian and U Carnian. Faunas correlate with similar faunas from Chuping Lst of Perlis, Malaysia, and limestones from Lake Toba area and Sungei Kalue, N Sumatra)

(Late Carnian conodonts from limestones 3 km N of Prapat, Lake Toba, overlying Halobia- Daonella shale. Also probably Late Triassic conodonts from limestones from C Sumatra Padang Highlands Sawahlunto area)

(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 Permain-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)

(Classic work on Triassic cephalopods (Halorites, Juvavitites, Tibetites, Arcestes, Joannites, Cladiscites, Orthoceras, etc.), with descriptions of several species subsequently reported from Timor, Seram, etc.)

(Sixteen species of E-M Triassic (U Scythian- Lw Anisian) ammonites from cephalopod limestones in N and S part of E Timor. These may be in limestones previously identified as Permian; Berry et al 1984))

(Late Triassic Miophora bivalve shells in blocks of fossiliferous sandstone from Kuala Lipis, Pahang)

Newton, R.Bullen (1925)- On marine Triassic fossils from the Malayan Provinces of Kedah and Perak. Geol. Mag. 62, p. 76-85. (Kummel 1960: Two Upper Triassic ammonites described by Newton from Kedah probably are a Juvavites or Anatomites and Hammerscera)


(U Triassic massive reefal limestone in latest Jurassic-earliest Cretaceous Sambosan Sambosan accretionary complex in Japan accumulated on mid-oceanic seamount in Panthalassa Ocean. Smaller foraminifera include Alpinophagmium perforatum, Agathammina austroalpina, Aulatortus sinuosus, etc. Corals dominated by Retiophyllia)

(Includes discussion of Triassic conodonts from Hallstatt limestone block, from which Tozer described ammonites. Common Chiosella timorensis and fewer Gladiogondolella tethydis, suggest E Anisian age)

(online at: http://geology.um.edu.my/gsmpublic/warta/Warta38_2_draft.pdf)
('Late Triassic molluscan fossils from Binjui area, Kedah'. Fossils ammonoids Frankites apertus, Zestoceras birwicksi, 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))


('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 Block, belonging to Cathaysian domain)

('Daonella bivalve fossils from Sg. Jentar, Mentakab, Pahang'. M Triassic Daonella bivalve fossils from o 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)

(online at: http://geology.um.edu.my/gsmpublic/warta/Warta_38_1_draft.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., Chlonites, 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)

(Addendum to Diener (1922) work on thousands of M-Late Triassic ammonites collected from loose blocks in W Timor by 1916 Jonker expedition. Anisian-Carnian and probable Rhaetian assemblages, most of them similar to 'Halstatt Facies' of Mediterranean Province)

(Gradual increase in diversity of foraminifera through E-M Triassic. Model of E-M Triassic carbonate platform of 'Great Bank of Guizhou', S China: E Triassic with widespread thrombolite limestone, M Triassic (Anisian) platform margin Tubiphytes reef, etc.)

(Review of faunal trends through Triassic. E Triassic global reef gap after end-Permian extinctions, commonly associated with black shale. Increase in coral and algal diversity through M Triassic, but reefs dominated by Tubiphytes. E-M Carnian reefs dominated by Porifera, Norian-Rhaetian reefs dominated by corals. E Jurassic is another reef gap, again with common black shale)

(First record from Indonesia of Upper Triassic (probably Norian) dasyclad algae from (1) NE Seram: Bula river, limestone breccia interbed in Monotis-bearing flysch-like Upper Triassic series; (2) SW Buru: S of Tifu, massive Upper Triassic limestone with Lovcenipora and Macroporella irregularis n.sp.; (3) NW Buru: Wai Tina 'Fatu limestone', possibly Jurassic. Few species, all new)


(‘On Halobia and Daonella from Greece, with comparison of Asian specimens’. Includes descriptions of Triassic bivalves Pseudomonotis and Daonella from Roti (collected by Wichmann), and Daonella from Sumatra (collected by Volz))

Retallack, G.J. (1977)- Reconstructing Triassic vegetation of eastern Australasia; a new approach for the biostratigraphy of Gondwanaland. Alcheringa 1, 3-4, p. 247-278.


(Online at: http://www.app.pan.pl/archive/published/app58/app20110072.pdf)
(New genus name Aulosina for Late Triassic (Norian- Rhaetian) involutinid foraminifera Triasina oberhauseri, morphologically transitional between Aulatortus and (Rhaetian) Triasina hantkenii)

(Noriphyllia new genus of solitary coral, with two new E Norian and one Carnian species. Widely distributed in E Norian reef facies of Tethys region and occurs in Carnian of Timor. Noriphyllia monatutoensis n.sp. type locality is Saututun, Manatuto, Timor Leste, in Carnian limestone in Babulu Fm)

(Four coral taxa from Late Triassic limestone in Babulu Fm sst-shale sequence at Manatuto, E Timor N coast (incl. Paravolzei, Craspedophyllia, Margarosmilia confluens). Affinities to Carnian faunas from Italy. Previously, only Norian corals known from Timor Triassic. Carnian faunas help confirm paleogeographic affinities with W Tethys (NB: stratigraphically above Norian dinoflagellate Wanneria listeri (Da Costa Monteiro 2003 in Charlton et al. (2009), suggesting possible Norian age for these corals; HvG))

(Rich Upper Carnian- Rhaetian radiolarian faunas from Aitutu and Wai Luli Fms in River Meto sections, central W Timor. Additional material collected from presumed Triassic on Buton, Leti, Moa, Babar, but no radiolarians recovered. Timor Triassic radiolarian assemblages differ from European Tethys, Philippines and Japanese assemblages. E Jurassic assemblages closer to Japan than other areas. Apparent Late Rhaetian- E Sinemurian time gap at Triassic-Jurassic boundary)

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 Res. 12, 4, p. 397-409.
(M Triassic radiolaria of Anisian Triassocampe deveyeri fauna 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)

(Allochtonous blocks of Aitutu Fm fine-grained radiolarian limestone in Bobanaro melange. Four different localities and radiolarian faunas: A- Late Anisian, B-Carnian, C-Norian and D-Rhaetian. All are Tethyan-Panthalassa faunas and suggest rel. warm water conditions in Triassic)

(Siliceous bedded limestone block embedded in Bobanaro melange in NW part of W Timor with radiolarians and conodonts interpreted as Carnian age)

(online at: http://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)

(Block of probably allochthonous Aitutu Fm radiolarian calcilutite from Bobanaro melange 3 km W of Kefamenau contains abundant Early Ladinian ‘typical low-latitude Tethyan forms’, similar to European Tethys. Aitutu Fm deposited in warm-water, oceanic environment, far from land area, in low latitude Tethyan realm)


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)


(‘Ammonites from the Triassic of Malaysia’)


(Revision of U Triassic colonial organisms from New Zealand, New Caledonia, Timor, etc. Heterastridium conglobatum, a hydrozoan of uncertain affinity and possible pelagic lifestyle, is known from Norian of Tethys (Hallstatt Lst in Alps, Middle East, etc.), Timor, New Caledonia, New Zealand and W North America. ‘Monotrypella timorica’ is calcareous demosponge)


(Five biogeographic areas in Circum-Pacific region, based on Late Triassic thin-shelled bivalve Monotis. In SE Asia: Fauna C (Monotis subcircularis + Eomonotis + Entomonotis ochotica) in E Asia, Japan, W Borneo; Fauna E (Monotis salinaria) in Tethyan rocks of Alpine- Himalayan belt and Banda Sea region)


(Macrofossils collected by Dow & Dekker from 5 units in U Triassic- U Jurassic S of Ramu River: (1) Jimi greywacke (M-U Triassic molluscs Costatoria, Gervillia, Spiriferina, Myophoria and ammonite Sirenetis malayicus Welter, originally described from Timor); (2) Kana Fm detritus from acid volcanics (with Triassic Costatoria, Spiriferina); (3) Balimbu greywacke (Lower Jurassic Tropidoceras?); (4) Jurassic Mangum volcanics; (5) Maril Shale (U Jurassic Buchia malayomaorica, Inoceramus cf. haasti))


(online at: http://www.ga.gov.au/.)

(Mesozoic of Jimi River, Bismarck Mts and Central Highlands five sedimentary units, 21 genera and species, half of them new. Highly provincial Late Triassic mollusks in thick Jimi Greywacke series. Overlain by Upper Triassic Kana Fm acid volcanoclastics, probably Lower Jurassic Balimbu greywacke, ?M Jurassic Mongum volcanics and Upper Jurassic Maril shale with Malayomaorica and Inoceramus haasti)


(online at: http://www.ga.gov.au/)

(M and U Triassic molluscs from Yuat River gorge in E PNG Highlands (= part of ‘Jimi Terrane’, outboard of Kubor Block?: HvG). Yuat Fm black shale with Late Anisian ammonites, incl. Paraceratites cf. trinodosus, Ptychites, Beyrichites, Parapopanoceras, etc. Nearby Jimi River Ladinian- Carnian sandstones-shales with halobiid bivalves, Myophoria, etc.. Associated with volcanics. U Anisian fauna is Tethyan in character and Circum-Pacific in distribution)


(online at: http://www.ga.gov.au/)

(First report of M-U Triassic Halobiidae molluscs from mainland New Guinea: Carnian-Norian (U Triassic) of Yuat River gorge, PNG Highlands, and from Ladino-Carnian in Jimi River area NE of Tabibuga, 80 km to ESE.)
New species, Daonella novoguineana described Jimi River area is closely related to Daonella indica Bittner 1899, known from Himalayas and Timor. Associated with Costatoria, Spiriferina, etc.)


Stanley, G.D. (1994)- Upper Triassic spongiomorph and coral association dredged off the northwestern Australian shelf. AGSO J. Australian Geol. Geophysics 15, p. 127-133. (U Triassic corals and spongiomorphs dredged during BMR Cruise 95 from Rowley Terrace, off Canning Basin, NW Australia. Branching spongiomorph (Spongiomorpha sp.) and two corals (Pamiroseris rectilamellosa, Retiophyllia tellae) indicate Late Triassic (Norian-Rhaetian) age. Although different in composition, Rowley Terrace occurrences may be E-ward extension of Wombat reefs, along rifted margin of Gondwana)


Tamura, M. & C. Hon (1977)- Monotis subcircularis Gabb from Sarawak, East Malaysia. In: T. Kobayashi et al. (eds.) Geology and Palaeontology of Southeast Asia, University of Tokyo Press, 18, p. 29-31. (Late Triassic thin-shelled bivalve Monotis subcircularis found at Kuap, Sarawak. Identified as M. subcircularis, but more likely Monotis (Eomonotis) according to Silberling (1985))


(online at: http://hw.oeaw.ac.at/?arp=0x002f5eaf)

('Ammonite fauna and stratigraphy of the upper Norian (Alaun, Triassic) of the Tethys, based on new investigations in Timor'. Revision of abundant Norian ammonoids from blocks of condensed, pelagic U Triassic limestone in olistostrome at Bihati River, Baus, SW Timor. Most common genera Arcestes, Rhacophyllites, Cladiscites, etc.. Columbianus zone is 1 m thick. M Norian fauna consist of 90 species in 29 genera. Two subzones proposed: Himavites hogarti (Alaun2) and Halorites mace (Alaun 3). Looks like typical 'Hallstatt facies' of European Alps; probably seamount deposit)


('M Triassic (Anisian) radiolarians from bedded chert in Chiang Dao, N Thailand, indicate deep marine environment in N Thailand, with seaway between E and W Paleotethys. Probably from tectonic slice in Carboniferous- M Triassic sequence. Can be correlated with E zone of Changning-Menglian Belt in SW Yunnan, China')


('Gastropods from Triassic Halstatt limestone blocks of W Timor’. SW Timor Bihati River limestones with abundant ammonites and rare gastropods. Gastropods interpreted as deep water, of M-U Norian and Carnian ages. Species identical to Hallstatt Limestone in Austria)


('Marine Triassic paleobiogeography. Norian ‘Tethyan/ low paleolatitude’ Monotis salinaria in Hallstatt facies of Timor, ’Pacific/ mid-high paleolatitude’ Monotis ochotica in New Caledonia, New Zealand, etc.)


('Carnian-Norian Aulotortus assemblage of Thailand characteristic of Tethyan province, and resembles Kodiang Lst of NW Malaysia and various outcrops of Sumatra)


('Illustrations of U Ladinian- Lower Carnian algae (Thaumotoporella parvovesiculifera, Globochaete) and rich foraminifera fauna (lituolids, Endothyra, Duotaxis, Aulotortus) from reefal limestones with corals, oncoliths, etc. off Lake Toba. Resembles microfauna from Kodiang Lst of NW Malay Peninsula and Namyua Gp in E Burma, but different from U Triassic of Seram')


('Late Triassic algae (Solenopora), sponges (Molengraaffia, Steinmannia), corals (incl. species of Thecosmilia, Isastraea, Montlivaltia), pachyporidiae (Lovenepora), stromatoporoidae and bryozoa, mainly from reefal ‘Fatu
Limestones’ from westernmost Timor and Pualaca area, East Timor (Nine coral species in common with alpine Zlambachsichten; Diener 1916))

(‘Contributions to the knowledge of the Mesozoic formations of Borneo, 2. Triassic in Borneo’. Upper Triassic shale rich in Monotis salinaria, probably from SE of Kendai)

(Contributions to the geological knowledge of North Sumatra’. First description of 600-800m thick Upper Triassic with Daonella and Halobia mollusks in N Sumatra)

(‘Leiostraca ammonites from the Upper Triassic of Timor’. 110 species of Carnian- Norian ammonites described from Timor (66% endemic, 57 species in common with Mediterranean/ Tethys bioprovince). Mainly collected by Jonker 1916 expedition)

(‘Orthocerids and belemnites from the Triassic of Timor’. Mainly on taxonomy of straight nautiloids (Orthoceras spp.) and belemnites (Aulacocerites, Dictyoconites spp, Atractites spp.) from Molengraaff, Wanner 1909-111 expeditions. Triassic belemnites known from Timor, Savu and Roti. Carnian-Norian belemnites in bright limestones, commonly with manganese coating)

(‘Ichthyosaur remains from Timor’. Description of ichthyosaur remains from E-M Triassic of Noil Bunu, W Timor)

(Triassic or Jurassic Ichthyosaurus vertebrae from Bula, E Seram, and Basleo, W Timor)

(New genus Misolia for Upper Triassic (Norian) shallow marine costate athyrid brachiopod from Athyrides limestone in Misool and Fogi Beds of Buru. Genus characteristic of ‘Gondwanan Tethys’; also known from NW Australian margin)

(online at: http://dpc.uba.uva.nl/08/nr136/a04)
(Flora from SW Bintan Island, Riau Archipelago, partly described by Jongmans in 1951. Additional taxa determined. Absence of fern and sphenophytes and dominance of diminutive Pterophyllum and Ptilophyllum leaves. Stronger similarities between Bintan and SW Asian than with SE Asian floras. Differences may point to slightly younger age (E-M Jurassic), but unlikely to be Early Cretaceous as suggested by Kon’no 1972)


Triassic fossils from the Moluccas and Timor Archipelago. Late Triassic molluscs, corals, ammonites faunas from Misool (Carnian dark shales with Daonella), Seram (typical Tethys-Mediterranean Norian molluscs Monotis salinaria, Amonitis and brachiopod Halorea). From Seram limestone come corals Thecosmilia aff. clathrata and Montlivaltia molukkana and Pachypora intabulata (= Lovcenipora). Also Triassic fossils from Timor-Roti-Savu (generally deeper water facies, but potentially similar 'alpine' character with mainly Halobia, Daonella, but also 'Pacific' mollusc Pseudomonotis ochotica). Timor/Roti/Savu Triassic reminiscent of N Sumatra Upper Triassic described by Volz, 1899. First author to recognize Alpine/ Tethyan affinities of the Late Triassic bivalves and ammonites of Seram and Timor


(The Upper Triassic ammonites and nautiloids from Timor'. Monograph of ammonites collected by Molengraaff 1910-1912, Wanner 1911 and Weber 1911 W Timor expeditions. Rich assemblages with 205 Carnian-Norian species, mainly from blocks of 'Halsstatter Facies' red limestone, ~2 m thick fossil accumulation without terrigenous sediment, from S half of W Timor. Some ammonites with black manganese staining. Remarkable similarities to Mediterranean and Himalayan ammonites. In N of Timor age- equivalent Norian 'Fatu' coral limestones (Both these U Triassic carbonate facies considered part of 'allochtonous' nappe complex by Wanner 1956 and others; HvG))

('The ammonites and nautiloids from the Ladinian and Anisian Triassic of Timor'. Rich assemblage of Middle Triassic ammonites (>27 genera) from blocks of thin, reddish, bathyal Triassic cephalopod limestones called 'Halstatt Facies' from various Timor localities, collected by Wanner and Molengraaf 1909-1911 expeditions. Associated with white tuffs and ammonites commonly with black iron-manganese coating. Ammonite assemblages more 'Alpine' than 'Asian' in character)


('The ammonites from the Lower Triassic of Timor'. Monograph on high-diversity (26 genera) Lower Triassic ammonites from various Timor localities, collected by Wanner and Molengraaf 1909-1911 expeditions. Oldest horizon is yellow limestone at Kapan with Meekoceras spp., etc. (overlying dark red Permian limestone), from blocks of 'Hallstatt facies' with tuffs, black manganese coating, etc. at Nifoekoko and other localities, from 'fatu limestone' near Lidak, etc. Many similarities with Himalayan-Mediterranean Triassic faunas. No locality maps)


('Supplement to the Upper Triassic ammonites from Timor'. Genus Amarassites first described from Timor now also found in Alps. Timor 'Bihati C' fauna has more Mediterranean than Asian elements)


('Remarks on the ammonite and nautilid fossils collected by Deninger from Seram'. Appendix in Krumbeck (1923) Seram brachiopod/mollusc paper. Fragments of Upper Triassic ammonites (Choristoceras, Anatomites, Juuvites) and nautilids (Phoioceras) from C Seram resemble species known from Timor and of 'alpine' affinity)


('Corals and calcareous sponges from the Upper Triassic Pharetronen-limestone of Seram'. Triassic corals and sponges of Seran and Timor have 'alpine' character. Includes new coral species Thecosmilia alfurica, Isastrea seranica, etc., and new calcareous sponge genera Deningeria, Seranella, Cryptocoelia. Flugel (2002, p. 420) suggested W Seram Late Triassic corals and sponges mostly endemic taxa or taxa known from Timor, but Martini et al. (2004) found no endemic fauna, only species of Tethyan affinity. Flugel also suggests close similarities with Timor Fatu Limestone)


(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 Palaeasaturnalis triassicus, Vinassasp renown subphasicus, Capnuchosphaera crass, etc., indicating U Ladinian- Carnian age. Top of section of E-M Norian age (Capnuchosphaera crass, 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)


(Short paper on U Triassic corals collected in 1961 from Fatu Laculeqi near Pualaca in C Timor Leste)


Zammit, M. (2010)- A review of Australasian ichthyosaurs. Alcheringa 34, 3, p. 281-292. (Ichthyosaur fossils recorded from M Triassic of Timor (Mixosaurus sp.), from U Triassic of New Caledonia (Shonisaurus) and Lower Cretaceous of Australia and New Zealand (Platypterygius))


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.
7. Permian-Carboniferous-


(M Carboniferous- Permian brachiopods from Aifam- Aifat Formations of Birds Head)


(New E Permian (E Artinskian) brachiopoda fauna from Aiduna Fm, from float boulder in upper Mapia River, S flank of Charles Louis Mountains, SW West Papua. New species of Neochonetes, Chonetinella, Aulostege, etc. Significant links with E Permian faunas of W Australia and peninsular Thailand)


(Permian brachiopods from Rathburi Lst of NE Peninsular Thailand, which overlies Phuket Gp 'pebbly mudstones'. Referred to Ufümin (=Roadian) stage)


(Permian Productid brachiopods few genera in common between Westralian (rel. warm, S Tethys margin) and Austrazean (colder water, mainly endemics, strong links with New Zealand) provinces)


(Permian brachiopoda from outcrops of calcarenites-shales attributed to Maubisse Fm near Bisnain, W Timor. Assemblage correlative to late Sakmarian (E Permian), temperate climate, Callytharra Fm of W Australia)

Archbold, N.W. & P.R. Bird (1989)- Permian brachiopoda from near Kasliu Village, West Timor. Alcheringa 13, p. 103-123.

(Permian brachiopoda from outcrops of Maubisse Fm volcanoclastics near Kasliu, W Timor. Assemblage probably Chidruan age and correlative of classic Late Permian 'Tethyan' Basleo and Amarassi faunas)


(First description of late E Permian articulate brachiopods in Birds Head. Assemblage similar to Thailand Rat Buri Limestone, suggesting geographical proximity of Thailand and Irian Jaya in E Permian)


(W Australian Permian brachiopod faunas mixture of Gondwanan, endemic Westralian and Asian (Tethyan) genera. Presence of Tethyan genera largely temperature dependent; no apparent geographical barriers to migration of such genera into intracratonic basins of W Australia. Paleotemperature curve indicates peak warm conditions in Sterlitamakian and Late Baigendzhinian and subtropical conditions in Dzhulfian)


(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.)

*(Sumatra Permian Jambi flora typical Asian, not Gondwanan)*


*(Mainly on classification and evolution of Permian Gigantopteris flora. C Sumatra Permian Jambi flora typical Asian Gigantopteris flora, not Gondwanan Glossopteris flora)*


*(Oldest plants in SE Asia are from Lower Carboniferous, known from Malaysia only (Kuantan flora, with Lepidodendron, on E Malaya Block). Five known Permian floras. Permian Jambi flora of Sumatra greatest similarities with Artinskian-Kungarian Shansi Fm of N China. Four other U Permian Cathaysian floras with Gigantopteris: Linggiu and Jengka floras from E Malay Peninsula; Phetchabun and Loei floras of N Thailand. Permian plants from W New Guinea are Gondwana-type flora, but some apparent Cathaysian elements)*


*(Gigantopteris flora in continental facies U Permian of Loei area, NE Thailand)*


*(online at: http://geology.um.edu.my/gsmpublic/NGC2013/ ...)*

*(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 that M Permian Paleo-Tethys is only narrow seaway that probably closed by collision in Late Permian)*


*(online at: http://ci.nii.ac.jp/)*

*(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)*


*(Principal (and only?) work on Permian bryozoan of Timor. Ross (1978): Artinskian Bitauni Beds sparse bryozoan fauna, early Late Permian Basleo beds more abundant, overlying Amarassi beds sparse bryozoan. Some species, like Fistulipora timorensis Bassler rel. widespread in M-U Permian of Tethys region)*


Belasky, P. (1994) - Biogeography of Permian corals and the determination of longitude in tectonic reconstructions of the Paleopacific region. Canadian Soc. Petrol. Geol. Spec. Publ., p. 621-646. (Mainly focused on American terranes. South China was center of diversity of Permian Tethyan coral province and was located near Permian equator and W margin of Paleopacific Ocean)

Beyrich, E. (1865) - Uber eine Kohlenkalk-Fauna von Timor. Abhandl. Konigl. Akad. Wissensch. Berlin, 1864, p. 59-98. (‘On a Carboniferous fauna from Timor’. First description of ‘Carboniferous’ (now accepted as Late Permian) limestone fauna from Timor, collected in Kupang area by Dr. Schneider. Includes mollusc genus Atomodesma, solitary rugose coral Zaphrentis, new brachiopod species Spirifer kupangensis (= Arcullina; Waterhouse 2004), Rhynchonella timorensis (assigned to Uncinunellina timorensis by later authors; HvG), etc.)


(Early Permian flora from Mengkarang Fm of Jambi with Comia, Rhachiphyllum, Supaia-like material and an Autunia fructification, corroborating peltasperm affinity. Material shows strong relationships with N China and even Angaran region, but no Gondwanan elements, suggesting migration zone running from N China Block to W Sumatra- W Myanmar terrane)

(Two gigantopterid species/genera from E Permian Mengkarang Fm of Jambi, originally described by Jongmans & Gothan 1935 as Gigantopteris bosschana (reclassified to new genus Gothanopteris by Koidzumi 1936) and G. mengkarangensis (reclassified to Palaeogoniopteris by Koidzumi 1936). Similar to other gigantopterids, but not related directly. Possible scenario for evolution of gigantopterid leaf morphology)

(General review of Paleozoic larger foraminifera, mainly Carboniferous-Permian fusulinids. End of Permian is major extinction event)

(New wood species supposedly Jurasssic age, but more likely Permian according to Bamford & Philippe 2001)


(online at: http://www.dwc.knaw.nl/DL/publications/PU00011028.pdf)
(Monograph on Paleozoic fissiculate blastoids (echinoderms). Mainly taxonomy, anatomy and phylogeny, also discussions of geographic distribution (worldwide), stratigraphic distribution (Silurian- Permian) and paleoecology (open marine, attached to limy-muddy seafloors). Most extensive development of Permian fissiculates is on Timor, associated with tuffs (12 genera; all in allochtonous blocks). Main collecting area is Basleo; many endemic species, some also in other areas, e.g. Pterotoblastus gracilis in Thailand)


(‘Permian brachiopods from Leti Island’ (E of Timor). Small brachiopod fauna collected by Molengraaff. With Productus spp., Chonetes strophomenoides, Spirifer spp., Martinia nucula, Retzia, Dielasma and Notothyris)

(‘The Permian brachiopods of Timor’. Descriptions of 46 species in material from numerous localities in W and some from E Timor, collected by Wanner and Molengraaff. Many are long-ranging and widely distributed Tethys forms)

(Brief description of Permian brachiopods from Roti, sampled by Brouwer in 1912. Species rel. long-ranging)
(Vertebrae collected from clays with manganese nodules and ammonites by Jonker in 1873 in NE part of W Timor near E Timor border (‘Wai Loelik/ Ramea, Beloe district’). Looks like primitive Ichtyosaurus group and described as Mixosaurus timorensis n.sp.. Age probably Triassic (Manganese nodules known in Timor-Roti from Upper Triassic, Jurassic and Upper Cretaceous; HvG; see also Zammit, 2010))

(late M- Late Permian miliolid that appears to be characteristic of West Paleotethys and Sibumasu terrane)

(Complete sequence of Permian fossils now known from region. 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)

(Delocrinus expansus Wanner from M Permian of Basleo, W Timor, re-assigned to Oklahomacrinus)

(‘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))

(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.)

(online at: http://www.mnhn.fr/mnhn/geo/PDW/Caridroit%20et%20al%201993.pdf)
(Folded sequence of red conglomerates/ sandstones/shales W of Amphoe Mae Sariang not of M Triassic age but Late Triassic or younger. Pebbles include metamorphic quartz and reworked chert clasts with two distinct radiolarian assemblages, M-L Permian and M Triassic)

(Microfaunas from 40 new localities of Visean- Late Permian limestones in NW Thailand)

(‘Radiolarian age datings (Carboniferous, Permian and, Triassic) in NW Thailand, evidence of nappes and olistostromes’. Paleozoic stratigraphic column 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 detritic 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)

(Described presence of fusulinid genera Verbeekina and Neoschwagerina in NW Australia (but were shown to be fish remains by Crespin (1958), Quilty (1975). No fusulinid forams recorded yet from Australia, but present on Timor and probably also in Birds Head of New Guinea; HvG)


(First Permian ostracod fauna described from Thailand, from M Permian Tak Fa Lst 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)

(online at: https://www.ga.gov.au/products/servlet/controller?event=FILE_SELECTION&catno=206)
(On smaller benthic forams from Queensland, New South Wales, Tasmania, W Australia, etc. The only record of two genera of Fusulinid forams is Neoschwagerina and Verbeekina from W Kimberley area in W Australia by Chapman and Parr (1937) (but identifications now believed to be erroneous; HvG))

(106 species/46 genera of Permian foraminifera, all small benthics, mainly arenaceous. Beds in W Australia from which Chapman and Parr (1937) described fusulinids are not Permian but Triassic, and fusulinids are probably fish remains (Brunnschweiler, 1954))

(Brachiopods, fusulines and palynomorphs from Lower Permian Mengkarang Fm, Jambi, part of the W Sumatra Block Volcanic Arc deposits. Brachiopods 6 genera (mainly Stereochia aff. S. irianensis, and Neochonetes carboniferus, also Marginifera, Reticulatia, etc.), mainly anti-tropical taxa (but herer grouped with warm water taxa rather than with cold water taxa from Gondwanan-Perigondwanan region). Fusulinids at one level at Teluk Gedang (rel. poor assemblage of 6 species, mainly Pseudofusulina rutschi, also Eostaffella, Schubertella, Pseudoischwagerina cf. afghanensis, P. meranginensis, Eoparafusulina ?haydeni), rel. poor assemblage of widespread genera but-tropical Tethyan affinity due to common occurrence large schwagerinids. Most likely age Sakmarian, but E Artinskian age cannot be excluded. Palynomorphs dominated by Laevigatosporites spp., Florinites florini and Convolutispora sp., different from coeval assemblages of Gondwanan region, but affinity with Cathaysian phytogeographic province as represented in N China, etc.)

(Tabir Fm of Jambi long considered to be Upper Jurassic, based on small molluscs collected by Tobler and assigned to Ostrea. These are not oysters and other fauna/flora show Tabir Fm is Late Permian)


Davydov, V.I., D.W. Haig & E. McCartain (2013) - A latest Carboniferous warming spike recorded by a fusulinid-rich bioherm in Timor Leste: implications for East Gondwana deglaciation. Palaeogeogr., Palaeoclim., Palaeoecol. 376, p. 22-38. (Lensoidal limestone body of Maubisse Fm near Kulau village in central highlands of Timor Leste is bioherm with massive lower unit, including reef framework at base, and bedded grainstone upper unit. Bioherm developed on basalt substrate in warm shallow water. Fusulinid foraminifera including Schwagerina spp. and Eostaffella suggest latest Carboniferous (-earliest Permian) age. Kulau bioherm is oldest unit recognized in Maubisse Fm of Timor. Also suggest subtropical environment at paleolatitude of ~40° S, at N margin of Gondwana (where E Permian is glacial-dominated) (Authors do not discuss the alternative interpretation proposed since 1920's that Maubisse Fm may be ‘allochthonous' and not part of Australian margin; HvG))


Dawson, O., A. Racey & J.E. Whittaker (1993) - The paleoecological and palaeobiogeographic significance of Shanita (foraminifera) and associated foraminiferal algae from the Permian of Peninsular Thailand. Int. Symp. Biostratigraphy of mainland Southeast Asia: facies and paleontology, Chiang Mai 1993, p. 283-298. (online at: http://library.dmr.go.th/library/6791.pdf) (late Middle- Late Permian (Midian) pillared miliolid foram Shanita known from platform carbonates in Tunisia, Turkey, Iran, E Burma, peninsular Thailand, associated with poor fusulinid assemblage (unlike high-diversity fusulinids in E Thailand. Appears to be restricted to W Tethys and Shan-Tai Block)


(Listing of Permian ammonites from new locality Tae Wei, 5 km NE of Basleo. Thought to be stratigraphically transitional between known Basleo and Bitauni faunas)

(‘New Permian crinoids from Timor, with remarks on their occurrence in the Basleo area’. NW of Basleo Permian limestones generally thin lenses, associated with marls and common diabase with tuffs, coarse conglomerates with brachiopods. Marls locally rich in crinoids. In some areas this Permian adjacent to deep marine Cretaceous with manganese nodules and fish teeth)

(Suggests Permian crinoid Platycrinus wrighti to replace P. tuberculatus, from Basleo, Timor)


(M Permian dasyclad calcareous algae Mizzia velebitana Pia in grey-black limestone at Bukit Pendopo, S Sumatra, collected by Keil in 1931. Also known from Guguk Bulat, Padang Highlands (Pia 1935, Fontaine 1983). Associated with fusulinids Fusulina and Neoschwagerina)

De Neve, G.A. (1961) - Correlation of fusulinid rocks from southern Sumatra, Bangka, and Borneo, with similar rocks from Malaya, Thailand and Burma. Proc. 9th Pacific Science Congress, Bangkok 1957, Geology and Geophysics 12, p. 249. (Abstract only)
(Four occurrences of U. Paleozoic rocks with fusulinids in Indonesia: (1) U Paleozoic pebbles with Fusulina spp. in Lower Tertiary conglomerate in Kutai, E Kalimantan (Tan Sin Hok 1930); (2) Permo-Carboniferous Fusulinidae in limestones, marbles, jasperoids and combustible clay shales from W Borneo found by Krekeler (1932, 1933); (3) Two localities of limestone with Neoschwagerina and Fusulina spp. in Palembang area, S Sumatra, (3a) E of Bukit Pendopo, discovered by Keil and (3b) 18 km W of Palembang, in Sekaju area pebbles with fusulinids in Old Neogene conglomerate by Van Tuyt (1931) and (4) silicified limestones and fine crystalline quartzites with fusulinids of Sungailiat area near Aerduren, Bangka island collected by de Roever)

(New species of cycolobid ammonite Waagenoceras lidacense from Lower Permian of NE West Timor)

(New fossil finds on Bangka Island include: Upper Triassic in limestone bed in dynamo-metamorphic clastics and volcanics in Lumut tin mine (coral Montlivaltia molukkana Wanner, sponges Peronidella moluccana Wilckens and crinoids). Also white silicified limestone interbedded in phyllite-sandstone series with Permian fusulinid foraminifera in old tin mine 17 at at Airduren, NE Bangka)
(Permian climate stages in Australia: A (Sakmarian) cold water from present latitude 20° S-wards. Faunas associated with glacial deposits low diversity with Deltoplecten, Eurydesma, Keeneia and Trigonotreta. Ends with eustatic rise in sea level; B (Sakmarian- E Artinskian) cool, with entry of Tethyan forms (Spriferella, etc.). Eurydesma and Keeneia persist in E Australia.; C- D (Artinskian-Kungurian) slow warming in W Australia; Stage F (latest Permian) Tethyan faunas, incl. Leptodus in N, indicating tropical temperatures)

(Two main periods of glaciation: (1) Namurian (E Carboniferous) possibly extending into beginning of Late Carboniferous; (2) Asselian (earliest Permian). End of glaciation associated with worldwide eustatic rise in sea-level in Early Sakmarian. In some places in Australia subtropical or tropical conditions in U Sakmarian. U Artinskian, Kungurian, Kazanian and Dzhulfian, all separated probably by colder periods. Marine Levipustula fauna may represent less cold sea water than Eurydesma fauna)

(Permiw Permian (Artinskian or Kungurian) Aimau Fm pelecypods from Birds Head)

Dixon, M. & D.W. Haig (2004)- Foraminifera and their habitats within a cool-water carbonate succession following glaciation, Early Permian (Sakmarian), Western Australia. J. Foram. Res. 34, 4, p. 308-324.

(The fusulinid limestones of Indochina'. Early paper on Permian fusulinid foraminifera from Vietnam and Laos)

(Permian in Australia: Permian cephalopod Gastrioceras very similar to Paralegoceras sundaicum Haniel of Leti island, E of Timor)

(Biogeographic analysis of Permian - Triassic ammonoids in E Asia suggests Kikatami Terrane in NE Japan, was in equatorial realm near S China/ Khanka Terranes. Four ammonoid provinces in Permian: (1) Boreal, (2) Equatorial American, (3) Equatorial Tethyan (incl. S China, SE Asia, Iran, Timor; with E Permian perrinitids, M Permian Timorites, Waagenoceras?) and (4) Peri-Gondwanan (incl. Australia, Himalayas, Salt Range))

(Permian ammonites of 'allochthonous Timor' group with Tethyan instead of peri-Gondwanan assemblages)

(Late Carboniferous- E Permian up to 2-3 km thick glacially-influenced siliciclastic successions in NW Australia basins (Bonaparte, Canning, Carnarvon, Collie, N and S Perth). Tripartite successions of glacial-deglaciation cycles (diamictite/ shale/ sandstone) of different ages and marked variations in thickness. Tectonostratigraphic model and palynological zonation chart)
('Research on the Permian tabulate corals of Timor and on the affinities of the spongiomorphs of the Triassic of Austria; importance of microstructural, geochemical and biochemical data')

(Blastoid genus Pterotoblastus from Permian of Timor, with type species, P. gracilis from Basleo beds)

(New genus Deltoblastus, with type species D. elongatus, for blastoids from Permian of Timor)


(Late Permian, late Ladinian and M Carnian radiolarians (51 species) from Mae Hong Son- Mae Sariang area, NW Thailand, represent Paleoetethyan pelagic basin in Late Paleozoic-Triassic. Main oceanic basin was in 'Shan-Thai Block', which was not single block, but composed of Paleoetethyan Ocean and two continental terranes affiliated with Gondwana and Cathaysian domains, respectively)

(online at: http://archive.org/details/palaeontographic48cass)
(‘On Upper Carboniferous faunas from East and South Asia, I. Upper Carboniferous of Padang’. Redescription of 59 Permian fossil species from dark limestones in Padang Highlands, collected by Verbeek and donated to Breslau University, and initially described by Roemer (1880). Incl. fusulinids (Fusulina granum-avenae, Mollerina/ Schwagerina verbeeki), corals, brachiopods (Dalmanella, Orthothetes, Productus, Spirifer, Spirigera, etc.), bivalves, gastropods (Bellerophon spp.), cephalopods (Orthoceras, etc.), trilobites (Phillipsia). (Now regarded as mainly Middle Permian age; HvG))

(M Permian reefal limestone from Guguk Bulat and Silungkang areas E of Singkarak lake, C Sumatra. Coral faunas include Sinophyllum, Pavasteephyllum, Thomasiphyllum, Ipciphyllum fliegeli (Lange), I. subelegans Minato & Kato, I. laosense, Wentzelophyllum, Wentzelloides frechi, etc.. Similar to those from mainland SE Asia. Associated with rich fusulinid fauna, small foram Hemigordius sp. and algae Mizzia velebitana, Permocalculus)

(First record of E Permian corals from Sumatra, in Jambi Province (Pulau Apat, Muara Liso, Batu Gajah, Batu Impi): Protonichelinia, Kepingophyllum, Chusenophyllum? and Polythevalis. Associated with M-L Asselian Pseudoschwagerina zone fusulinids. Lower Permian sediments well developed in upper Mesumai River area and represent forested volcanic arc surrounded by shallow sea)

(Extensive review of geology and paleontology of Permian of Thailand, Vietnam, Laos, Malaysia, Sumatra, etc. Followed by 7 appendices on Permian fauna-flora by Fontaine, Nguyen Tien, Vachard and Vozenin-Serra)
(Corals present but not prolific in Lower Carboniferous limestones of N and C Sumatra. Mainly solitary Rugosa (Zaphrentites) and compound Rugosa (Siphodendron). No massive Rugosa found)

(Two species of colonial rugose coral (Kepingophyllum sp.) and large colonies of tabulate coral (Protomichelinia) from Lower Permian Batu Gajah and Batu Impi localities, Mesumai River, Jambi Province)

(M Permian corals from three localities: some Tabulata (Sinopora asiatica) and abundant Tetracoralliia. Guguk Bulat rich and massive tetracorallia colonies (mainly Ipceiphyllum spp., and Wentzelloides (called Lonsdaleia by Volz 1904 and Lange 1925)), and is reefal facies)

(Reprint of 1982 paper in CCOP Newsletter. Classic locality 3.5 km NE of Singkarak Lake in Padang Highlands of ~150m thick grey, bedded M Permian limestone rich in corals (including massive tetracorallia of Waagenophyllidae family), tubular sponges, algae and occasional fusulinids (type locality of Sumatrina, also Verbeekina). Faunas many similarities with M Permian rocks on SE Asia mainland. Limestone not metamorphosed, but some local recrystallization near ?Triassic granite intrusions)

(W Sarawak Terbat Fm dark grey limestone with fusulid foraminifera and little or no corals, described earlier by Krekeler (1932), Cummings (1961) and Sanderson (1966). Locally up to 600m thick. Unlike earlier papers here believed to be mainly of M-U Carboniferous age, ranging up into earliest Permian (Moscovian-E Asselian). Warm water limestones with some similarities to limestones of E Malay Peninsula, E Thailand and Vietnam, but very different from age-equivalent rocks of W Malay Peninsula- Peninsular Thailand ('Sibumasu'). Pebbles of possibly related fusulinid limestone found in conglomerates of Triassic (Sadong Fm), Jurassic (Kedadom Fm) and Cretaceous (Pedawan Fm) ages (also reworked in Paleogene of NW Kutai Basin; HvG))


(Permian rocks widespread in SE Asia. Many limestones with fusulinaceans recognized as Permian, but ones without fusulinaceans and previously assigned to Permian, found to be Triassic. Widespread massive limestones represent extensive carbonate platforms. Local occurrences of thick-bedded cherts indicate deep marine environments. Pebby mudstones in Myanmar, Thailand, NW Malaysia and Sumatra formed in glacial environment. Volcanic rocks absent in NW Peninsular Malaysia and Thailand, but widespread in N Vietnam, Sumatra, E Malay Peninsula and Timor. Faunal and floral assemblages used to establish climatic conditions, environments of deposition and to define crustal blocks and Permian paleogeography)

(Four wells: Singa Besar-1 basal carbonate (Tampur Fm?) contain Middle Permian age fossils, including foram genus Shanita at depth 2630’- 2740’ (generally associated with 'Sibumasu'/ Cimmerian terranes: HvG))

(M-U Permian-Triassic Ratburi Lst of Peninsular Thailand and Chuping Lst of NW Peninsular Malaysia with rel. low diversity corals and fusulinids (Pseudofusulina, Staffella, Monodiexodina), and with forams incl. Hemigordiopsis and Shanita. These characterize well-defined biogeographic unit (= Shan-Tai/ Sibumasu terrane; HvG). Noted similarities of several fossil groups with Timor Permian faunas)

(Lower Permian of Merangin River area W of Bangko, Jambi Province, well known since 1930's for its Cathaysian 'Jambi Flora' in Mengkarang Fm. This E Permian flora and fauna similarities with C Europe; nothing similar in Australia. Limestones with fusulinids, incl Monodiexodina wanneri in Padang Highlands (Hahn & Weber 1981))

(Review of M Permian fossil localities of Sumatra. Mainly limestones, many with fusulinids, some associated with volcanics: Padang Highlands (Guguk Bulat, Silungkang, Tanjung Alai), Jambi Province (Sungei Luati, Batang Tabir, Sg. Kibul, Sg. Palepat), Bukit Pendopo (Palembang), near Lubuksikaping (Muara Sipongi) and N Sumatra near Takengon (Situtup Lst))

(Limestone is widespread in Surat Thani Province and forms spectacular karst topography. Fossils rel. rare due to dolomitization or recrystallization. Ages probably mainly M Permian. Some localities rich in Hemigordiopsis renzi, with smaller foraminifers Sphairionia sikuoides, Geinitzina, Endothyra, Pachyphloia, Globivalvulina and Agathammina, rare Fusulinidae and solitary corals. Other samples rich in low-diversity Fusulinidae (Parafusulina spp., Yangchienia, Chusenella) with few, low diversity corals (Tabulata, solitary, fasciculate and massive Rugosa) (= Ratburi Lst of Shan-Tai/ Sibumasu terrane; HvG))

(online at: http://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)

(Karsted limestones of Kinta valley probably of Permian age)


(Small exposures of grey-black, late E Permian massive shallow marine limestone, 500 m from granite, in Seri Bandi area in E part of Malay Peninsula. Estimated thickness 90-300m. With stromatolites, algae (Mizzia, Pemocaculus), common Tubiphytes, calcispherids, smaller foraminifers (Tetrataxis, Endothyra, etc.), abundant fusulinds (incl. primitive Verbeekinoids (Pamirina leveni, Misellina), Levenella, Brevaxina, Toriyamaya, Chalaroschwagerina, Leeina, etc.), etc., indicate three Late Cisuralian (=Artinskian-Kungurian) biozones. Rocks of area considered Early Carboniferous age)


(Description of 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 Ipociphyllum, fusulinid forams Neoschwagerina, Sumatrina, Verbeekina, etc.), also Mizzia, Hemigordiopsis, etc.; (2) Jengka Pass black shale with limestone lenses with Michaelinia 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 and more diverse than NW of Malay Peninsula)


(M Permian limestone around Nan, N Thailand, with rugose corals, smaller foraminifera and fusulinids (Pseudodoliolina cf. pseudolepida, Nankinella, Paraavedekindellina(?), 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)


(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)


(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, Protriticitics, etc.. Carboniferous volcanic section overlain by E-M Permian limestones (= W margin Indochina Block?; HvG))


(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', HvG), but unknown in Australia. Peninsular Thailand (= Shan-Thai/ Sibumasu terrane; HvG) only rare corals belonging to Tabulata and solitary Rugosa and with low diversity fusulinids)
(W Thailand part of Shan-Thai/ Sibumasu Block. Descriptions of Devonian-Jurassic faunas)

(SE Asia Permian corals, even the somewhat restricted Timor and Thailand faunas, much more diverse and more prolific than known from Australia. In Indonesia two areas with Permian corals: Timor (rel. low diversity, mainly solitary Rugosa) and Padang and W Jambi regions of Sumatra (high diversity reefal limestone). Terbat Lst of W Borneo common fusulinids, but few or no corals)

(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)

(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; HvG). Most diverse coral faunas in 'mid-Carboniferous' (Upper Visean- Lower Serpukhovian))

(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)

(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 found in Carboniferous of Peninsular Thailand or NW Peninsular Malaysia (Sibumasu))

(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)- A note on the discovery of Lower Carboniferous (Middle Visean) in Central Sumatra. CCOP Newslett. 8, 1, p. 14-18. (Lower Carboniferous limestones with M Visean foraminifera in Agam River, E of Bukit Tinggi along road to Payakumbuh. Lower Carboniferous limestones rel. poor in fossils and darker than associated Permian fusulinid limestone. No regional metamorphism, just local contact metamorphism around igneous intrusions)

(E Permian (Kungurian) small ammonoid fauna with Neocrimites, Agathiceras suessi, etc., from uppermost Kaeng Krachan Gp. jst below Ratburi Lst on S Peninsular Thailand (= Sibumasu block) suggests these beds are of Kungurian/Bolarian 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)


(On M Permian ammonite Cyclolobus, incl. occurrences from Basleo, Ruasnain, W Timor)


(Somohole Horizon of the Kekneno series, NW slope of Mount Somohole ~3 km SW of village at Fatu Bena, Mutis region, N West Timor is one of oldest Permian horizons, probably of Sakmarian age. With Neopronorites timorensis, Somoholites beluensis, Metalegoceras involutum, Juresanites somoholensis, Agathiceras, Waagenina dieneri, Propopanoceras boesei, Properrinites, etc. New species Somoholites deroeveri n.sp.)


(Latest Permian limestones at Laren (Guangxi, S China) with rich small foram fauna. Paleogeographic distribution interpreted to be Neo-Tethyan regions, ranging from S Turkey to S China and up to Japan)


(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)


('On the geology of Sumatra'. Brief description of rocks collected by Verbeek from Ombilin area, W Sumatra. Descriptions of grey limestone with globular fusulinids (incl. Fusulina verbeeki n.sp.), crinoids, brachiopods, etc.. Also 50m thick Eocene coral limestone Companion paper by Von der Marck (1876) on Tertiary fossil fish from region, p. 405-414)


('On the geology of Sumatra's West Coast'. Reprint of Geinitz, 1876)


('Timorella permica, new genus, new species, a new lithistid from the Permian of Timor'. New sponge species from Permian limestone, collected by Verbeek)


('The corals from the Permian of Timor'. First and still principal monograph on Permian corals from Timor. 15 species of solitary rugose corals (Timorphyllum, Carcinophyllum, Verbeekiella, etc.) and 3 species of 'waagenophyllid' colonial rugose corals (Lonsdaleia, Michelinia))
(The paleontological character of the Permian coral fauna of Timor'. Dominated by solitary corals (Timorrhphyllum wanneri, Verbeekiella, Carcinophyllum from Artinskian- Roadian of Bitauni, Basleo). New colonial corals Lonsdaleia timorica n.sp. (= Ipciphylum timoricum) from Fatu Oinino on road to Nenas and Fávoses permica from Basleo)

(The coral fauna of the Permian of Timor and the Permian glaciation'. Timor Permian marine fauna rich in corals, crinoids and fusulinids and is typical warm water fauna. It is contemporaneous with glaciations in nearby Australia, suggesting these areas were farther apart in Permian time. With world map showing distribution of Permian floras and faunas)

(The sponges from the Permian of Timor'. At least 25 species of siliceous sponges in Permian, collected by 1916 Jonker Timor expedition. 25 species, most of them new. Rather endemic assemblage of lithistids)

('A new species of the sponge genus Mortieria from the Belgian Carboniferous from the Permian of Timor'. Mortieria permica from Tai Wei near Basleo)

(Comprehensive study of rare trilobites from Permian of Timor. About 100 specimens, 7 species, mainly from Basleo. Most common species is Neoproetus indicus Tesch. No locality maps or stratigraphic info)

(Single specimen of Cyclolobus persulcatus Rothpletz (1892) from Hardman Fm, Canning Basin. Youngest Permian ammonoid known from Australia. Originally described from W Timor Late Permian 'Amarassi fauna')

(Svetlanoceras irwinense (Teichert and Glenister, 1952), etc., from basal Callytharra Fm oldest ammonoids from Permian of Carnarvon Basin)

(19 species of ammonoids known from Early-Late Permian of Australia, mainly from sedimentary basins of W Australia. Agathiceras, Metalegoceras, Propinacoceras, etc. Pseudoschistoceras gigas (Smith) from Bitauni beds of Timor figured and compared with P. simile Teichert)

(New species Eohyattoceras gerthi and Cardiella martodjojoi from late Early Permian (Roadian) of Basleo and Bitauni, Timor. Demareitzes oyensi (Gerth, 1950 from Tae Wei, Basleo) and D. lidacensis (de Roever, 1940, from Lidak district), formerly assigned to Waagenoceras, ancestral to Waagenoceras-Cyclolobus lineage, redescribed from Roadian of Timor)

(With descriptions of Propopanoceras boesei (Smith) from Somohole and Epitauroceras soewarnoi n.sp. from Amarassi beds at Kuafeu, Baun area, Timor)

(New Permian ammonoid from Amarassi Beds, Kuafeu (Koeafeoe), Baun area, Amarassi Province, W Timor. Associated with cyclolobid genera Timorites and Cyclolobus. No strat info)

(Late Early Permian (Artinskian) cephalopods from Aifam B (Aifat) Fm mudstones in Aifam River, Tamiabuan sheet, Birds Head, associated with rich brachiopod fauna described by Archbold (1982). Incl. Pseudoschistoceras irianense n.sp. from Aifat Fm)

(Taxonomy of Lower Permian Juresanites-Metalegoceras-Pseudoschistoceras ammonoid lineage, based on collections from W Australia, Timor and Oman. Names Paralegoceras sundaicum form. evoluta and form. involuta replaced by genera Metalegoceras and Pseudoschistoceras. Descriptions of Sakmarian Juresanites somoholense (Haniel) and J. hanieli (Smith) (both formerly Gastrioceras). Australian species M. clarkei Miller conspecific with senior Indonesian synonym, M. australis (Smith). Metalegoceratidae are distinctive element of Lower Permian 'Boreal' ammonoid realm)

(Review of Devonian- Cretaceous floras of Australia)


(Permian ostracodes in samples from Mutis area, W Timor, collected by De Roever in 1937, interpreted as deepwater Early Permian)

(Geologic map of W Central Sumatra, compiled during 1976-1978 Indonesian- German Uranium Exploration Project. Mainly Barisan Mountains NE of Padang, including Ombilin Basin. Permian Limestones with fusulinids (at Batang Siputar with 'antitropical' Monodioxedona wanneri). Triassic clastics with Halobia and also Triassic limestones. Unconformably overlain by Oligocene lacustrine deposits rich in fish fossils and Oligo-Miocene quartz sandstones. Permian-Recent volcanics and Permian-Tertiary granitic massifs)

Permian brachiopods and molluscs from W Timor, collected by 1911 Molengraaff and 1915-1917 Jonker expeditions. Little or no stratigraphy or locality information.


(’Ammonites from the Permian of Letti Island’ (E of Timor). Brief descriptions of presumably Early Permian ammonites Paralegocereas sundaicum, Agathiceras sundaicum n.sp. and Propinacoceras sp. from greywacke shale at S slope of ’small Woerlawan’ Mountain, Leti. Similar to Bitauni fauna from W Timor)


(’The cephalopods from the Dyas (=Permian) of Timor’. First systematic monograph on Permian ammonites from 35 localities on W and E Timor, after brief early papers by Beyrich (1865), Rothpletz (1892) and Boehm (1907-. Incl. new species like Sundaites levis)


(’Gondwana fauna from the Maubisse Formation, E Timor’. Occurrence of ’Gondwanan’ cool-climate brachiopods (Globiella foordi) and bivalves (Atomodesma and Eurydesma) in Permian of Timor Leste, 75 km S of Dili)


(Revisit of Mengkarang Fm along Merangin River, W of Bangko, W Jambi, by multi-disciplinary team in 2003. Mengkarang Fm 400m thick, basal basalt overlain by fluvialite system, with marine limestone beds ands shale interbeds containing fusulinids, crinoids, ammonites, and brachiopods. Two plant associations of Jambi Early Permian paleoflora, suggesting one new local and one probable S Cathaysian affinity paleofloral domain)


(Permian brachiopods from Jambi series along Mengkarang River, SW of Bangko, C Sumatra. All belong to Stereochia semireticulatus (Martin), called Productus semireticulatus by Woodward (1879) (reclassified as Stereochia aff. S. irianensis by Crippa et al. 2014) (Stereochia believed to range from Sakmarian- Kungurian; Grant 1976 in Van Waveren et al. 2007, p. 25; HvG))


(Permian brachiopod Camarophoria ‘purdoni’ of Broili (1916; presumably from Basleo area) includes several species. New species proposed Camarophoria timorensis (now usually called Stenoscisma timorense and viewed as per-Gondwanan, anti-tropical species; HvG))


(Incl. new Permian brachiopod species Spirifer basleoensis)


(’Observations on Timor Permian tabulate coral faunas’)
Helby, R. (2006)- A palynological reconnaissance of new cuttings samples from the Arafura-1, Kulka-1 and Tasman-1 wells. In: H.I.M. Struckmeyer (comp.) New datasets for the Arafura Basin. Geoscience Australia Record 2006/06, Canberra, p. 1-17. (Results of palynological analyses from Australian part of Arafura shelf. E Permian Pseudoreticulatispora confluens and Corisaccites alutas in all 3 wells, Carboniferous D. birkheadensis and Spalaeotriletes yberti zones in Kulka 1)-


Hess, H. (1999)- Permian. In: H. Hess et al. (eds.) Fossil crinoids, Cambridge Univ. Press, p. 160-165. (Timor Permian crinoid faunas most diverse and abundant in world, with 320 species described by Wanner, most new and unique to Timor. Permian crinoids from Australia cooler water faunas, with much lower diversity than Timor faunas)

Hill, D. (1939)- The Permian corals of Western Australia. J. Royal Soc. Western Australia 23, p. 43-64. (13 species, most new, including one Verbeekiia, genus first described from Timor)

Hill, D. (1942)- Further Permian corals from Western Australia. J. Royal Soc. Western Australia 27, p. 57-72. (Description of 16 species from Perth, Canning and Carnarvon basins, including one Verbeekiellia, genus first described from W Timor by Penecke 1908)


(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). Fusulinids 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.: 'Cimmerian' Baoshan Block includes 'Sumatran' species Verbeekina, Sumatrina annae Volz 1904, Schwagerina padangensis Lange 1925, Pseudodoliolina, etc.; HvG))


(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)


(Upper Carboniferous Panching Lst with five local assemblages of fusulinid larger forams)


(Description of Permian corals from N Pahang, associated with late M Permian fusulinid genera Yabeina, Verbeekina and Sumatrina annae, Kahlerina)


(Low diversity late Early Permian fusulinid assemblage with Misellina, Cuniculinaella, Eoparafusulina, Parafusulina and Monodiexodina (Ueno (2003), p. 14 questions Monodiexodina identification here))


(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 many similarities with faunas of central N Thailand (Indochina Block). M Permian smaller benthic foram Shanita widespread in S Peninsular Thailand)


(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; HvG))
(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)


Ishii, K.I. (1966)- On some fusulinids and other foraminifera from the Permian of Pahang, Malaya. J. Geosci. Osaka City Univ. 9, p. 131-142.
(Grey upper Middle Permian (Wordian) limestones within andesitic series from two localities: Jengka Pass and Kampung Awah quarry. both with Yabeina asiatica n.sp., Sumatrina annae, Verbeekina verbeeki, Neoschwagerina, etc.)

Ishii, K. (1966)- Preliminary notes of the Permian fusulinids of the H. S. Lee Mine No. 8 Limestone near Kampar, Perak, Malaya. J. Geosci. Osaka City Univ. 9, p. 145.
(Gray upper Middle Permian (Wordian) limestones with basaltic series from two localities: Jengka Pass and Kampung Awah quarry. both with Yabeina asiatica n.sp., Sumatrina annae, Verbeekina verbeeki, Neoschwagerina, etc.)

(Small latest Permian benthic foram genus Colaniella, generally associated with fusulinids (Palaeofusulina). Common in Japan, China, Himalayas, Mediterranean, also in Thailand, Malay Peninsula)

(Variation statistics of Permian blastoid Schizoblastus from Basleo and Niipol, W Timor)

(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) where they are associated with many other species of fusulinids)

(32 species of radiolaria from 20 chert samples of 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)

(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), Pseudoalbaillella longtanensis Zone and Pseudoalbaillella globosa Zone (Kungurian-Roadian, M Permian))

(online at: http://geology.um.edu.my/gsmpublic/NGC2013/...)
(Planktonic bivalve Posidonia common in Kubang Pasu and Singa Fms in NW Peninsular Malaysia. Probably Lower Carboniferous age. Most of Posidonia in area very closely related to Posidonia becheri)

(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)

(Albaillella deflandrei radiolarian assemblage from NW Malay Peninsula indicates Tournaisian, E Carboniferous age. Tournaisian radiolarian cherts widespread in Paleo-Tethys ocean)

(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)

(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)

(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 also can be used as marker bed for Tournaisian age and defines base of Kubang Pasu Fm)

(37 taxa of Permian radiolaria from interbedded siliceous shale-chert-tuff in outcrop 4.5 km E of Kuala Ketil, S Kedah. Five radiolarian zones recognized (Pseudoalbailllella scalprata- Folliculus spp- Neoalbailllella spp), ranging in age from late E Permian- Late Permian)


(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; HvG))


(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 Pseudobailllella indicative of late M Permian Follicucullus japonicus Zone. Assemblage similar to those described from China and Japan)


(Brief first description of two arms of small Permian starfish from Noil Tonino I, SE of Basleo, from Macurda collection)


(online at: http://www.episodes.co.in/www/backissues/274/273-278%20Jin.pdf)

(Permian foraminifer Shanita of special paleobiogeographic importance. Occurs in Gondwana-derived blocks, in strip from Peninsular Thailand to Burma, S China, S Afghanistan, Oman, etc. to Turkey. Often associated with Hemigordius. Shanita-Hemigordius fauna considered as marker of marginal Gondwana environment (more specifically 'Cimmerian' strips that rifted off Gondwana in M-L Permian?; HvG)


(‘Contributions to the knowledge of the Carboniferous flora of Netherlands New Guinea’. Description of mixed ‘Cathaysian’ flora (Taeniopteris, Pecopteris) and Gondwanan ‘Glossopteris’ flora from outcrop in Otakawa River, Central Range foothills. (originally believed to be Late Carboniferous, but regarded as Permian by Hopping and Wagner (in Visser & Hermes, 1962). Believed to be Late Permian by McLoughlin (1993), based on correlation with Bowen Basin. Glossopteris, etc.) Identifications re-evaluated by Rigby (1997); see also Playford & Rigby 2007; HvG)


(‘Elements of the Glossopteris flora in the Carboniferous of New Guinea’. Occurrence in S Papua of Carboniferous flora with mixed Gondwanan (Glossopteris) and Asian (Cathaysian) species (now deemed to be of Permian age; HvG))


(‘Contributions to the knowledge of the flora of the Upper Carboniferous of Sumatra’. First report on classic Early Permian ‘Jambi flora’ of W Sumatra: 80 species, including 14 Pecopteris spp. Interpreted here as Upper Carboniferous age (but Posthumus (1927) and subsequent workers all assigned it to Early Permian) and of ‘European’ affinity, with no relations to Gondwana flora)
The results of the 1925 paleobotanic Jambi expedition. 2. The paleobotanic results. Additional Permian plant fossils of 'Jambi Flora', collected by 1925 Djambi Expedition, led by Zwierzycki and Posthumus. Two plant-bearing horizons in thick tuff-sandstone-shale series, ~100 and 250m above the lowest fossil-rich limestone bed (= 'Productus Limestone' of Tobler?). Age of plant fossils here still regarded as 'Upper Carboniferous' instead of more likely Early Permian age. Presence of typical low-latitude 'Cathaysian' species including Sphenopteris, Pecopteris, Taeniopteris, Gigantopteris, etc.; no Gondwana elements (NB: Asama et al. (1975) argued only limited % of Cathaysian species in Jambi flora. Two species described here as Gigantopteris not true Cathaysian Gigantopteris; HvG) (see also Zwierzycki 1935, Van Waveren et al. 2007)


Permian fusuline foraminifera faunas three provinces: (A) Western Tethys, with Yabeina, Afghanella and Sumatrina and without Lepidolina; extends from Mediterranean to N Arabia; (B) Eastern Tethys, with diverse neoschwagerinids and verbeekinids, incl. Afghanella and Sumatrina, covering SE Asia, S China, Indochina, and limestone units in SW Japan Permian accretionary complex; (C) Panthalassa, without sumatrinids, dominant Yabeina and less Lepidolina, in exotic limestone blocks around Circum-Pacific (N America, Siberia, Japan)


(M Eocene conglomerate at Aghahag Point contains limestone pebbles with Permian fusulinids)

(Permian corals from Timor, collected by 1916 Jonker expedition, from Wesleo, Nefotassi, Bituani, etc. Mostly from reddish tuffaceous marls of Wesleo region and associated with rich crinoid, blastoid and brachiopod faunas. Descriptions of probably deeper water solitary rugose assemblages of Zaphrentis spp., Amplexus, Polycelosia, Pterophyllum, Cystiphylum, Prosmilia. Mixture of cosmopolitan and endemic species)

(Late Permian fusulinid forams, etc.)

(Includes record of Permian 'Gondwanan' Glossopteris)

(same paper as above)

(U Permian 'Cathaysian' flora with 24 species, incl. Bicoemplectopteris hallei (also common in Cathaysian Gigantopteris flora of South China)

(Re fl. rich Late Permian flora from Johore, S part Malay Peninsula. Forty species; only seven species in common with the Jambi flora of Sumatra (probably due to age difference; Van Waveren et al. 2007)

(Same paper as above. Linggiu flora from C Johore with 41 early Late Permian species characteristic of N Cathaysian Gigantopteris- Lobatannularia assemblage. Very different from nearby Jambi Flora)

(Antitropical rugose corals distributed in temperate zones of Boreal and Perigondwan realms. E-M Permian antitropical associations represented by 'Cyathaxonia fauna': Roadian-Wordian in S Hemisphere Perigondwanan temperate zone (Australia, Timor, SE Pamirs) predominance of Verbeekiella- Wannerophyllum assemblage. Timor Basleo Fm fauna with 'typical deep-water Peri-Gondwanan' Wannerophyllum, Verbeekiella, Timorphyllum, etc. Through time gradually replaced by Cathaysian faunas)

(’A new occurrence of fossiliferous Paleozoic in the central part of West Borneo (provisional report’). See also English translation in Haile (1955). First description of fusulinids and brachiopods in W Kalimantan- W Sarawak border area, S of Kuching. Limestones associated with volcanic rocks and suggestive of Late Carboniferous age. Strike of folded, steeply dipping Late Paleozoic- Triassic rocks predominantly N-S. Overlain by Triassic volcanoclastics with Monotis salinaria (Fusulinid limestone subsequently named Terbat Lst by Haile (1954), and its fusulinids identified as Early Permian by Cummings (1955))

('Supplementary report on the occurrence of fossiliferous Paleozoic in West Borneo'. See also English translation in Haile (1955). Brachiopod-bearing beds previously interpreted as Palaeozoic contain Halobia and are now believed to be Triassic in age. Fusulinid beds from Sadong valley examined by Tan Sin Hok and believed to be same species (and same volcanoclastic facies) as Upper Carboniferous-Permian of Jambi, Sumatra (=Permian; HvG))


(English translation of Krekeler (1932) original Dutch paper above)


(English translation of Krekeler (1933) original Dutch paper above)


(online at: http://www.dwc.knaw.nl/DL/publications/PU00018850.pdf)

(First Paleozoic fossil found on Billiton island is small ammonite in lump of cassiterite from Lenggang district. Identified as Agathiceras sundaicum, also common in Lower Permian of Timor (Bitauni) (but 'more likely Lower Middle Permian; Fontaine 1989, p. 105). New find indicates presence of E-M Permian sediments, subsequently intruded/ metamorphosed by post-Triassic 'tin granites')


('A Middle Permian fauna from Guguk-Bulat, Padang Highlands, Sumatra'. Famous M Permian reefal limestone locality in Padang Highlands near Lake Singkarak, first decribed by Volz 1904, then interpreted as Carboniferous. Re-sampled by Tobler in 1909. Bivalves, cephalopods and trilobites are absent. Mainly description of 79 species of foraminifera (incl. 18 fusulinid species of Fusulinella, Verbeekina, Doliolina, Neoschwagerina), colonial corals (incl. massive Waagenophyllidae, Lonsdaleia) and 8 brachiopod species (= part of 'Cathaysian' West Sumatra block of Barber et al. (2005); HvG))


(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)
(M Permian Plateau Lst of E Myanmar Shan Plateau is part of Sibumus/ Shan-Thai terrane. Thickness 700m, lower part with shaly interbeds, middle part bioclastic limestones, upper part mainly oolitic limestone. In middle part E Midian fusulind assemblages with Yangchienia, Pseudofusulina, Neoschwagerina, Sumatrina, Verbeekina, etc. Presence of neoschwagerinids and verbeekinids previously believed to be typical of paleoequatorial Cathaysian domain, but here present in late M Permian of Sibumus Block (but still lower diversity))

(Permian Plateau Limestone in Linwe section, E Myanmar, on Sibumus Block. ~570 m 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 is of lower diversity compared with Indochina and S China faunas)

(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)

(Carboniferous flora of E Peninsular Malaysia (Kuantan flora’ of Asama) and NE Thailand typical Euramerican aspect, suggesting Indo-China Block was in terrestrial connection with N Palaeotethyan landmass, probably S China Block since at least E Carboniferous. E Malaya Block also part of North Palaeotethyan domain)

(Carboniferous plant fossils from near Na Duang coal mine, Loei area, NE Thailand, with Stigmaria, Lepidodendron, etc.)


(New Carboniferous plant material from E Carboniferous (Visean)of Na Duang-Na Klang basin in NE Thailand includes Lepidodendron timswanii n.sp.. Flora essentially of Euramerican aspect)


(Floras suggest that Indochina, E Malaysia, and S and N China were closely connected during Carboniferous)


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, with rich brachiopod fauna of E Capitanian age. Resembles slightly younger Capitanian species of N Laos, suggesting additional faunal link between Indochina and Peninsular Malaysia (E Malaya terrane) in Capitanian time)

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)


Metcalf, I. (1981) - Permian and Early Triassic conodonts from Northwest Peninsular Malaysia. Geol. Soc. Malaysia, Bull. 14, p. 119-126. (Limestones exposed at Gunung Keriang, Kedah, have E Permian (Wolfcampian) and E Triassic (Smithian) conodonts. Kodiang Lst at Bukit Hantu near Kodiang, Kedah, yielded Late Permian and E Triassic conodonts)

(online at: http://www.tandfonline.com/doi/pdf/10.1080/00288306.1998.9514799)
(Two fusuline foraminifera localities in Torlesse Gp of Canterbury, S Island, New Zealand. Limestones associated with volcanics and hemipelagic sediments which appear 'allochthonous' (fortuitous accumulations associated with oceanic seamounts). Low diversity fauna dominated by Parafusulina (Skinnerella) japonica, also Parafusulina (S.) cuniculata. Fauna correlates best with late M Permian (E Murgabian) sequences of Tethyan affinity in Eurasia)

(online at: http://www.tandfonline.com/doi/pdf/10.1080/00288306.1997.9514777)
(Abundant, diverse E-M Midian fusulinids (24 species) from Waipapa Terrane, N Island. Probably East Paleotethys-Panthalassa seamount fauna. Key species Neoschwagerina margaritae, Yabeina spp, Reichelina sp, Lepidolina shiraiwensis, etc. Much more diverse than Murgabian faunas from Torlesse, S Island)

(Overview of Permian macrofloras of SE Asia, with map of Permian phytogeographical provinces. Djambi flora of C Sumatra is southernmost Cathaysian flora. New Guinea Permian flora mixed Gondwanan and Cathaysian)

(Permian floras suggest boundary between E Gondwana and Laurasia runs along Bangongeo-Dengqen suture of Qinghai-Xizang plateau, turns S near Qamdo in E Xizang, then possibly extends through Baoshan District of W. Yunnan to link up with Pham Sore and Bentong-Raub sutures of Thailand-Peninsular Malaysia, from where it continues further S across E Sumatra to Indian Ocean, then changes to E-W direction, along deep-sea trench S of Java and, subsequently, turns NE running through Banda Sea to link up with W New Guinea)

(Review of Devonian-Permian floral provinces of China. Cathaysian Floral province two major blocks: Sino-Korean-Tarim (N China) and S China Block, both vegetated by Euramerican floras until Late Carboniferous when Cathaysian elements first began to differentiate Two Cathaysian provinces established by Permian. Cathaysian flora developed in tropical, ever-wet climatic zone. Tropical conditions persisted in S China throughout Permian, but in N China, by early Late Permian alternating wet and dry climates, and by late Late Permian most of N Hemisphere in extreme arid conditions. Large leaved forms like Taeniopteris more common in N China and Gigantopteris almost completely restricted to S China. South China also with abundant Psaronius tree ferns and Gleicheniaceous ferns)

(Review of Permian blastoids, much of which based on Timor material)

(‘A foraminifera zonation of the Lower Carboniferous of the Western Tethys’)

258

('Carboniferous foraminferal faunas from Bonaparte Gulf Basin, NW Australia, show strong Tethyan influence and resemble those from SE Asia, suggesting free migration between Gondwana and Laurasia')


('On the Carboniferous foraminiferal microfauna of Southeast Asia'. Eight Carboniferous foraminifer assemblages, similar to Europe/Asia, described from Laos, Vietnam, Malaysia)


(N Palawan Block regarded as S-most continuation of Late Mesozoic Busuanga accretionary complex, part of ocean plate stratigraphy now in Jurassic? 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)


(Review of Permian Glossopteris floras, characteristic of Gondwana. NE Australian Strong provincialism: Bowen Basin no Glossopteris species in common with Indian or South African successions)


(On the discovery of second specimen of large blastoid Calycoblastus tricavatus Wanner from Lower Permian of Baun- Amarasi near Kupang, W Timor)


('The fossil-bearing sediments of Timor, from collections of Reinwardt, Macklot and Schneider'. Early description of Timor fossils at Leiden Natural History Museum collections, collected in 1821 (Reinwardt), 1823-1829 (Macklot and Muller, Kupang area) and 1863 (Schneider). Mainly solitary corals (Amplexus, Lophophyllum, Lithostroton) and brachiopods (Spirifer, Spirigera) from Permian. With 3 plates)


(Late Permian palynomorphs from Cribs Fm turbidites from Waiulili Valley, E Timor, are of Gondwanan affinity. Diverse Dulhuntyisporas assemblage with 6 species, incl. D. dulhuntyi, D. parvithola, etc. and also Didicretiletes eriacanus, etc. Assemblage similar to Cape Hay Fm in Bonaparte Basin of NW Australia)


(Review of Permian Glossopteris floras, characteristic of Gondwana. NE Australian Strong provincialism: Bowen Basin no Glossopteris species in common with Indian or South African successions)


('Early Permian Gondwana Cool Water Province with Vjalovognathus in Canning, Carnarvon and W Timor. Permian conodont provincialism not distinct until Kungurian')

(Conodont faunas from SE Asia classified in new faunal provinces: Equatorial Warm Water (EWWP), peri-Gondwana Cool Water (GCWP) and N Cool Water (NCWP; N China). GCWP marked by Vjalovognathus, etc., EWWP by absence of Gondolelloides and Vjalovognathus in E-M Cisuralian, abundance of Sweetognathus and Pseudosweetognathus in Kungurian, etc. Mixed faunas between EWWP and GCWP include W Timor Artinskian, SE Pamirs Kungurian and Salt Range Guadalupian-Lopingian)


(Short note reporting that large collections of macrofossils from Permian, etc., of Timor, originally kept in Amsterdam, Delft and Leiden, are now combined in Leiden Naturalis Museum)

Metcalfe, I. (1983)- Conodont faunas, age and correlation of the Alas Formation (Carboniferous), Sumatra. Geol. Mag. 120, 6, p. 737-746.

(Conodonts Spathognathodus campbelli, S. scitulus, Synprioniodina microdenta and Gnathodus girtyi rhodesi from NW Sumatra Alas Fm shelfal limestones suggest Late Visean (E Carboniferous) age, making it oldest dated formation on Sumatra. Previously single solitary coral identified as Allotrophiophyllum sinense Grabau thought to indicate E Permian age. Brachiopods from same locality identified as Cleiothyridina and Marginalia or Inflataia, suggesting probable Visean age)


(Sparse uppermost Carboniferous- early Lower Permian conodont assemblage from Terbat Lst at Gunung Selabor. First record of conodonts from N Borneo, incl. Streptognathodus. Color Alteration Index of 4 suggests heating to 190-300°C)


(Samples from Sumatra Late Paleozoic- Triassic limestones analyzed for conodonts. Lower Carboniferous (Late Visean) with Gnathodus girtyi rhodesi, etc. in Alas Fm of Alas Valley and near near Bukittinggi. M and U Triassic conodonts from dark limestones of six other localities, some of which (e.g. Sungei Kalue Lst) were previously considered to be Permo-Carboniferous)


(Two limestone localities with E Carboniferous conodonts: Alas Fm in Alas Valley (N Sumatra; Late Visean, Metcalfe 1983) and Agam River (C Sumatra near Bukittinggi; M-L Visean)


(First record of Late Permian conodonts from Vietnam: Changhsingian Hindeodus julfensis in 40 cm thick limestone in middle 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)


(First record of Tournaisian strata on Shan Plateau (Sibumasu Terrane) of Myanmar. Biogeographic links support NW Australian Gondwana margin position for Sibumasu in Late Paleozoic)

(E Permian (Kungurian) conodonts from Saraburi Lst in C Thailand, located on 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 South China and Indochina terranes)


('Brachiopods form the Permian and Late Carboniferous from the Jambi Residency'. 15 species of brachiopods, collected by Tobler from 6 localities in Jambi area. At Sungei Selajau with Dalmanella, Chonetes, Productus, Spiriferina, Spirigerata, etc.. Most species described also known from Timor. Productus sumatrensis believed to signify Late Permian age? (Little or no locality or stratigraphic information. Tobler 1922 also mentions fusulinids Verbeekina, Sumatrina from here. Fontaine & Gafoer 1989 assign to late Early- M Permian Silungkang/ Palepat Fm))


(online at: http://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)


(Monograph on Permian colonial corals. Lonsdaleia frechi Volz 1904 from Bukit Bessi, Padang Highlands, W Sumatra, recombined as Polythecalis frechi. Also material from Timor; Sorauf in Charlton et al. 2002)


(online at: www.cagsbulletin.com/)

(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 age-diagnostic Late Permian fusulinid foram assemblages recognized, which can be compared with Shifodong Fm of Paleo-Tethyan mid-oceanic carbonates in Changning-Menglian Belt of W Yunnan, SW China)


(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 Paleo-Tethys mid-oceanic domain where Doi Chiang Dao Lst formed was paleobiogeographically in tropical Tethyan region. Faunal diversity generally lower than in Cathaysian region)


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; HvG)

Nakazawa, K. (2002)- Permian bivalves from the H.S. Lee Formation, Malaysia. Paleontological Res. 6, 1, p. 67-72.
(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)

(On distribution of M-L Permian foraminifer genus Hemigordiopsis, which appears to be characteristic of 'Cimmerian' (includes Sibumasu) terranes that rifted off N Gondwana margin in Permian, now in belt from Mediterranean to peninsular Thailand and W Malay Peninsula)

Newton, R. Bullen (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.


Nicoll, R.S. (2004)- New Permian cold water conodont faunas from the Tethyan Gondwanan margin of Australia. GSA Rocky Mountain and Cordilleran Joint Meeting, 20-11 (Abstract only)

(Small, low diversity conodont faunas from E-M Permian of S Carnarvon- Canning basins of W Australia (paleolatitude up to 60°S). Species of Hindeodus and Vjalovognathus cool-temperature tolerant forms were first conodonts to invade after Late Carboniferous-E Permian glaciation. Faunas of similar age from Timor (paleolatitude ~45°S) significantly greater faunal diversity)

(Conodont faunas of allochthonous East Asian terranes show biogeographic affinities with Australasia during Cambrian- Permian, suggesting close proximity or Australian Gondwanaland from ~500- 250 Ma)

(Summary of Permian conodont studies. High paleolatitude Permian conodont faunas of W Australia dominated by Vjalovognathus with occasional Hindeodus, Mesogondella and Sweetognathodus. Lower latitude faunas from Timor, Pakistan, Nepal/Tibet higher diversity, attributed to warmer temperatures)

(Taxonomic revision of Polycoeliidae family of solitary rugose corals from the lower Upper Permian of Basleo, Timor, based on 490 specimens collected by Ehrat in 1927, and mainly building on work of Gerth (1921) and Koker (1924). 25 species, 13 new species, 10 new subspecies. No stratigraphy or locality information)

(Three species of orthoconic cephalopods described from Lower Permian Atahoc Fm in Cribas area, E Timor, signifying non-ammonoid cephalopod fauna at N margin of Gondwana near Sakmarian/Artinskian boundary)


(online at: http://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 Tungrku Lembu in Perlis, NW Malaysia. Associated with Monodlexodia fusulinids, and part of Sibumus Terrane. Most Permian Mooreoceras species confined to Australian Gondwana- Sibumus; also M. sp in Atahoc Fm of Timor)


(Two new species of orthocerid cephalopods Kionoceras and Dolorthoceras from Bashkirian (Late Carboniferous) Panching Lst in Pahang, W Malaysia)


(Four Early Permian fusulinid species (incl. Schwagerina nakazawae n.sp) described from limestone lens in basic tuffs in Fattu Auveon near Pualaca in C East Timor and N of Hato-Builico in W part of E Timor. Samples collected by Nakazawa in 1961)


(Permian plant Psaronius johorensis from Linggiu flora, S part Malay Peninsula. See also Kon’no et al. 1971)


(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)


(First record of early fusulinid foram genus Eostaffella from Late Visean Kuantan Limestone, Malay Peninsula)


(online at: http://retro.seals.ch/cntmg?type=pdf&rid=egh-001:1929:22::8&subp= hires)

(Shortpaper on fusulinids in Productus limestone of Teluk Gedang on Merangin River, below plant beds with Pecopteris ('Jambi Flora'; HvG) of Garing River. Some already described by Lange (1925). Schwagerina princeps, Neoschwagerina craticulifera Fusulina japonica not reported from Sumatra before. (Schwagerina princeps from this locality re-described as Pseudoschwagerina meranginensis n.sp. by Thompson (1936))


(‘On a new coral genus from the Permian of Timor’. Description of new genus of solitary coral collected by Verbeek: Verbeekia permica n.gen., n.sp. from Ayer Mati, Basleo area. Later renamed Verbeekiella)


(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)


(‘The most important calcareous algae from the Late Paleozoic and their stratigraphic significance’. Incl. description of M Permian algae assemblages from Sumatra (Fontaine 1989))


(Bibliography and index of published fossil coral research from Antarctica, Australia, New Guinea and New Zealand, covering 1343 species names, 607 genus names and 639 references)


(Widespread Permian Rat Buri Limestone with 25 species of 11 genera of fusulinid larger foraminifera. Range in age from Sakmarian Pseudoschwagerina assemblage through Artinskian Schwagerina and Neofusulinella, Kungurian Parafusulina to Kazanian Neoschwagerina assemblages. In many places Rat Buri Limestone unconformably overlies intensely folded clastic series)


(Same paper as above)


(Permian fusulinid Lepidolina from limestone blocks of border region between Thailand- Cambodia (= part of E Malaya/ Indochina province))


(online at: http://revistas.igme.es/index.php/revista_micro/article/view/359/357)

(Palynology of Permian samples from Birds Head (Aininm Fm) and W part of Central Range (Aiduna Fm) of W Papua. Similar palynoflora in both places, with 26 species of spores, 18 species of pollen, incl. Laevigatosporites vulgaris, Protohaploxypinus limpidus and other spp. and 5 species of microphytoplankton. Dated as late Early- early M Permian (Kungurian-Roadian). Mainly Gondwanan affinity spore-pollen suite (but key Gondwanan genus Dulhuntyispora spp notably absent) and megafauna, but also minor Cathaysian elements)

(Carboniferous or Permian fossil plants from Jambi show most resemblance to Gigantoperis flora of E Asia, not Gondwana Glossopteris fauna. Also first author to suggest 'Jambi Flora' is of E Permian age, not Carboniferous as initially suggested by Jongmans (1925, 1935))


Racey, A., A.B. Smith & O. Dawson (1994)- Permian echinoderms from Peninsular Thailand. In: Proc. Int. Symposium on stratigraphic correlation of Southeast Asia, Bangkok 1994, p. 106-114. (online at: http://www.nhm.ac.uk/resources-rx/files/racey-84719.pdf) (Four species of crinoid (Trimerocrinus, Parabursacrinus, Timorocidaris, etc.) and one blastoid (Deltoblastus permicus) described for first time from Raiburi 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, Parafulisina sp., etc.)

Reed, F.R.Cowper (1920)- Carboniferous fossils from Siam. Geol. Mag. 57, p. 113-120. (Includes record of Posidonia becheri)

Reed, F.R.Cowper (1920)- Carboniferous fossils from Siam. Geol. Mag. 57, p. 172-178. (Continuation of paper above. Permo-Carboniferous fossil, incl. brachiopods Athyris, Spirifer., Productus, Chonetes and trilobite Phillipsia)

Riding, R. & S. Barkham (1999)- Temperate water Shamovella from the Lower Permian of West Timor, Indonesia. Alcheringa 23, p. 21-29. (Problematic sponge-like calcareous fossil generally called Tubiphytes is common in Permian-Triassic reefs. Here called Shamovella obscura and locally abundant in Late Sakmarian Hoenit Mb of Maubisse Fm near Bisnain, eastern W Timor, associated with brachiopods of temperate water affinity)


Rigby, J.F. (1998)- Upper Palaeozoic floras of SE Asia. In: R. Hall & J.D. Holloway (eds.) Biogeography and geological evolution of SE Asia, Backhuys Publ., Leiden, p. 73-82. (Minor Carboniferous flora in Thailand and W Malaysia (including 'Kuantan flora'), probably similar to S China floras. More extensive Permian floras known from Thailand, Laos, W. Malaysia, Sumatra and Irian Jaya. All are 'Cathaysian' floras, but some floras from Thailand and Irian Jaya also contain Gondwanan Glossopteris)

Gondwanaland Glossopteris flora and tropical Cathaysia flora. These are seed plants, suggesting land connection between two regions)


(Permian Aiduna Fm. S of main suture in W New Guinea, with 20 plant fossil species. Flora dominated by Gondwanaland Glossopteris, but also includes Cathaysian-related species Fascipteris aidunae and Gigantonuclea iriani, perhaps reflecting narrower Paleo-Tethys seaway than commonly suggested)

Roemer, F. (1880)- Kurzer Bericht über Kohlenkalkversteinerungen von Sumatra und Timor. Lethaea geognostica, I, 1880, 5, p. 75-.

('Brief note on Carboniferous fossils from the West coast of Sumatra and Timor'. Incl. description of Permian fusulinid Schwagerina verbeeki)


(online at: http://archive.org/details/palaeontographic27cass)

('On a 'coal-limestone' (=Carboniferous) fauna from the West coast of Sumatra'. Same as Roemer 1981, below)


('On a 'coal-limestone' (=Carboniferous) fauna from the West coast of Sumatra'. First description of dark grey, limestone from near Padang, W Sumatra, with striking resemblance to Upper Carboniferous 'Kohlenkalk' of NW Europe. Contains fusulinids, brachiopods (incl. Productus sumatrensis n.sp.), crinoids, nautiloids, gastropods and a trilobite (incl. Phillipsia sumatrensis n.sp.))


(online at http://palaeontology.palass-pubs.org/pdf/Vol%2021/Pages%20341-356.pdf)

(Overview of Permian bryozoan distribution, incl. comments on Timor assemblages)


('The Permian, Triassic and Jurassic formation on Timor and Roti in the Indies Archipelago'. Reprint of Palaeontographica 1892 paper. Descriptions of many new Permian-Jurassic macrofossils from Indonesia)


(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))


(Lower Permian (Asselian-Sakmarian) radiolarians and conodonts from bedded chert blocks in Thung Kabin melange of Chanthaburi area, E Thailand. Probably deposited in pelagic environment at low latitudes of S Hemisphere in Paleotethys or Paleotethyan back-arc basin)


(M Permian bryoza from limestone blocks in andesite volcaniclastic matrix in Kampong Awah quarry. Pahang (just E of Raub Bentong suture?). Associated with fusulinids Yabeina asiatica, Neoschwagerina cheni, N. douvillei, Sumatrina annae, Verbeekina verbeeki, Chusenella tingi, suggesting Wordian age.)

Sakagami, S. (1973) - Permian Bryozoa from Khao Raen, near Rat Buri, Thailand. In: Geology and Palaeontology of Southeast Asia 12, University of Tokyo Press, p. 75-89.


(online at: http://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))

(Twenty-four species/ 18 genera of Permian bryozoans from Aiduna Fm at 4 localities in Waghete map sheet. Fauna closely similar to that of Timor described by Bassler (1929- and part of typical Southern Tethys realm. Age most likely early Guadalupian, M Permian)

(Latest Permian (late Changhsingian) foram-rich limestone of Palaeofusulina sinensis- Colaniella parva Zone. With Colaniella lepida, Colaniella xikouensis, Pachyphloia langei, Paraglobivalvulina piyasini, Reichelina changhsingensis, etc.)


(U Carboniferous- basal Permian Terbat Fm limestone, chert and shale, S of Kuching, W Sarawak, with diverse fusulinid foram assemblage of M Moscovian (lower U Carboniferous) Asselian (basal Permian) age. (29 species, 18 genera: Millerella, Ozawainella, Pseudostaffella, Fusiella, Schubertella, Boultonia, Profusulinella, Fusulinella, Beedeina, Fusulina, Quasifusulina, Darvasesites, Chusenella, Rugosofusulina, Paraschwagerina Triticites, Sphaeroschwagerina) Correlates with faunas from E Tethys, including Thailand, S China, Japan)

(Carboniferous planktonic bivalve fossils from Langkawi. New species: Posidonia elongata, P. dilatata, P. intermedia, P. conspicua)

(online at: http://ci.nii.ac.jp/)
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.


(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 is expression of Paleotethys Ocean formation.)


(Late Permian- M Triassic radiolarians from Shan-Thai Block in almost continuous chert-shale sequences exposed N of Chiang Mai, N 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.)


(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.)


(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.)


(Lower Carboniferous radiolaria from black chert in thick-bedded sandstone at Saba Yoi-Kabang, S Peninsular Thailand. Fauna 23 species of U Tournaisian (Lower Carboniferous) Albaillella indensis assemblage, also known from Pyrenees, SW China, peninsular Malaysia and E Australia. Deposited in pelagic- hemipelagic environment in Paleotethys Ocean.)
(Latest Permian radiolarian fauna from chert-clastic sequence at Khao Wang Chik, Klaeng, E Thailand (Shan-Tai Block). composed of Neoalbaillella, Albailllella, 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)

('The foraminfera of the younger Paleozoic of Timor'. First paper on Timor Permian fusulinids and smaller foraminifer from many localities, collected by Wanner, Molengraaff and Weber expeditions (no maps). (Thought to be Late Carboniferous age, but placed in Early Permian by later workers. Four species described. Parafusulina wanneri is type species of Monodiexodina wanneri; HvG)

('On the foraminifera-bearing rocks of the island of Letti'. Abundant, rel. large elongate Permian fusulinids in loose limestone blocks, described as Doliolina lepida var. lettensis (Thompson 1948: small fauna of verbeekinids described here from Leti is different from Timor faunas). Also Upper Cretaceous Globotruncana linneana and E Miocene Lepidocyclina and Heterostegina (= Spiroclypeus; HvG))

(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 in area contain Paleofusulina and Colaniella parva and locally rich sponge faunas)

(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)


(Late Permian brachiopods five marine biotic province: Cathaysian (tropical ), W Tethyan (tropical), Himalayan (warm temperate), Austrazean (cold temperate) and Greenland-Svalbard (cold temperate). Also Cimmerian biogeographical region from Middle East through Afghanistan and Himalayas SE to Shan-Thai terrane and Timor, typified by mix of genera of both Cathaysian and Gondwana affinities)

(End-Permian extinction eliminated ~90% of genera and 95% of species of Brachiopoda. End-Guadalupian extinction less profound)

(Late Permian (Wuchiapingian) brachiopod fauna from exotic limestone block in Indus-Tsangpo suture zone in S Tibet. Comparable with faunas in Salt Range of Pakistan, Chitichun Lst in S Tibet and Basleo area of W Timor (incl. 'antitropical' peri-Gondwanan species Stenosisma purdoni and S timorense, etc.). Fauna mixed peri-Gondwanan and Cathaysian character, possibly seamount biota originally from S margin of Neotethys in Late Permian, displaced and sandwiched into younger marine deposits in Cenozoic India- Eurasia collision)


Shen, S.Z., H. Zhang, W.Z. Li, L. Mu & J.F. Xie (2006)- Brachiopod diversity patterns from Carboniferous to Triassic in South China. Geol. J. 41, p. 345-361. (Carboniferous to Triassic includes (1) 100 My-long stable biodiversity stage from Late Carboniferous- late Middle Permian, with highly diverse brachiopod faunas; (2) end-Permian most severe mass extinction in Phanerozoic; (3) bleak stage in E Triassic and (4) rapid recovery stage in M Triassic)


Shi, G.R. & N.W. Archbold (1995)- A quantitative analysis on the distribution of Baigendzhian- Early Kungurian (Early Permian) brachiopod faunas in the western Pacific region. J. Southeast Asian Earth Sci. 11, 3, p. 189-205. (Early Permian brachiopods suggest two provinces Himalayan/ Lhasa/ Timor (S-temperate) and Shan-Tai/ Sumatra/ W Irian Jaya (S-subtropical), suggesting Timor (Maubisse) may have been southern extension of Lhasa terrane)

Shi, G.R., N.W. Archbold & L.P. Zhan (1995)- Distribution and characteristics of mixed (transitional) mid-Permian (Late Artinskian-Ufimian) marine faunas in Asia and their palaeogeographical implications. Palaeogeogr., Palaeoclimat., Palaeoecol. 114, p. 241-271. (Asia Permian marine biogeography 3 realms: Boreal, Tethyan and Gondwanan. In early E Permian sharp biogeographical boundaries, due to Gondwanan glaciation. In M Permian two transition zones with mixed faunas: (1) North (N China, Japan, etc.), with warm Cathaysian and temperate Boreal genera, (2) South (Arabia, Iran, Shan-Tai, Timor, W Irian Jaya, etc.) with both Gondwanan and Cathaysian elements. Both transition zones have antitropically distributed genera like Monodiexodina, Lytvolasma and Spiriferella and are succeeded by Late Permian tropical Tethyan faunas)

Shi, G.R., Z.J. Fang, N.W. Archbold (1996)- An Early Permian brachiopod fauna of Gondwana affinity from the Baoshan block, western Yunnan, China. Alcheringa 20, 81-101. (E Permian brachiopod fauna from U Dingjiazhai Fm, 30 km S of Baoshan, W Yunnan, dominated by Stenosisma sp. and Elivina yunnanensis sp. nov. Strong links with faunas from Bsnain assemblage of Timor and Callytharra Fm of W Australia. Late Sakmarian age suggested)

Shi, G.R. & T.A. Grunt (2000)- Permian Gondwana-Boreal antitropicality with special reference to brachiopod faunas. Palaeogeogr., Palaeoclim., Palaeoecol. 155, p. 239-263. (Permian marine antitropicality (genera from Boreal and Gondwanan Realms but absent in Paleoequatorial Realm) reported from most marine pelagic or benthic invertebrate groups, suggesting biotic interchanges
between Gondwanan and Boreal Realms. Possible migration pathways and mechanisms reviewed: ‘stepping-stone’ migration via islands in E Paleotethys, migration along W coast of Paleotethys, etc.)


(Baoshan Block (= part of Sibumasu complex; HvG) M Permian brachiopod assemblage with Cryptospirifer in from lower Shazipo Fm. Associated with fusulinids Nankinella, Polydiexodina spp. and Schwagerina. Overlying U Shazipo Fm 500-700m carbonate contains Shanita-Hemigordius foram assemblage. Paleogeographical distribution of Cryptospirifer overlaps with that of slightly younger (Capitanian-Wuchiapingian) Shanita-Hemigordius (Hemigordiopsis) foram fauna, also endemic or largely confined to M Permian transitional faunas of Cimmerian region (Baoshan Block))


(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 (Pseudofo sulina krafftii and Misellina claudiae fusulinid zones; Ishii 1966). Nam Loong beds ~150m thick, with crinoid limestone of at base, overlain by brachiopod limestone)


(E Permian (Artinskian) fusulinids described recently from W Yunnan Sibumasu/ Cimmerian terranes: Eoparafusulina-Pseudofusulina faunas from Baoshan Block, Eoparafusulina-Monodiexodina fauna from Tengchong Block)


(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)


(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))

(17 brachiopods from E Timor localities suggest Early Permian age. At some localities in part of autochthonous complex of reddish or purplish brown tuffaceous shale; in others associated with purplish tuffaceous, occasionally argillaceous limestones and shales)

(Material from 1916 Timor expedition. Richest Permian ammonoid fauna in world. Successive Permian age faunas: Somohole, Bitauni, Basleo (all E Permian), Amarassi/ Ajer Mati (Late Permian?). Latest Permian faunas not seen in Timor)

(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)


(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)

(Coiled nautiloid suggesting Late Permian- earliest Triassic (Lopingian- Anisian) age for Gua Bama sponge-algal reefal limestone, just E of Bentong-Raub suture, NW Pahang, Peninsular Malaysia. Overlies Permian tuffaceous Leptodus brachiopod shales)

(Moderately diverse Permian brachiopod fauna from Bera District, C Pahang, Central Belt of Peninsular Malaysia (on E Malaya- Indochina Plate). 19 species, typically warm-water Tethyan. Strong linkage to Yabeina beds of Sisophon Lst, W Cambodia. Possible E Capitanian (M Permian) age)

(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 East 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)

(Study of Permian solitary coral structure based on exceptionally well-preserved material in Wanner collection from Guadalupian of Basleo 23 locality, SW Timor (Polycoelia angusta, Timorophyllum wanneri, Lophophyllidium spinosum))


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. & I. Metcalfe (1995)- Late Paleozoic 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. (Radiolarians from deep marine siliceous sediments from melange 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. Radiolarians from siliceous Semanggol Fm of NW Peninsular Malaysia Early and Late Permian ages, extending age of Semanggol Fm down to E Permian and confirms presence of deep-marine basin in NW Peninsular Malaysia during Permian)


Sprinkle, J. & J.A. Waters (2013)- New ridged, conical, fissiculate blastoid from the Permian of Timor. J. Paleontology 87, 6, p. 1071-1076. (Recent collections in Permian of N slope of Sonmahole (Somohole) Mountain, 3.5 km NE of Manufui, NE part of W Timor, produced first new genus of blastoid described from Timor in 70 years Corrugatoblastus savilli, n. gen. n. sp., is ridged and furrowed, conical, fissiculate blastoid with unusual thecal morphology mimicking a small, solitary, rugose coral. Placed in Family Codasteridae)


*(E Permian W Australian, Arabian and S African sequences can be correlated using taxa like Converrrucosisporites confluentus and Pseudoreticulatispora pseudoreticulata. C. confluentus and P. pseudoreticulata zones considered to be Sakmarian, and Striatopodocarpites fusus zone is Artinskian. Difficult to correlate Gondwana palynological assemblages precisely to Russian type areas because of scarcity of marine fauna in Gondwana and different paleolatitudes, so Carboniferous-Permian boundary cannot be precisely correlated in Gondwana by palynology)*


*(online at: http://journal.msu.ac.th/2012_/index.php/SCI/article/view/286/294)*

*(New Upper Palaeozoic (Carboniferous-Permian) localities from C and W Laos. Includes latest Permian limestone with Palaeofusulina-Colaniella fauna N of Vientiane)*


*(Rare, probably Early Permian age crinoid from folded, E-W trending sandstones-shales in Selumar open pit mine on E side of Billiton Island, near margin of magnetite-cassiterite vein. Moscovicrinus hoskingi n.sp.. See also Hosking et al. 1977)*


*(Permian fusulinids from Padang Highlands, thought by Verbeek 1876, to lack 'parachomata', distinguishing it from Doliolina, so new genus Verbeekina was created. New material from Guguk Bulat type locality near Lake Singkarak shows this feature in later stages, so species belong in Doliolina)*


*(Permian brachiopod Leptodus collected by Musper from Padang Highlands, C Sumatra, confirms presence of rocks of younger Permian in Sumatra. Other Leptodus in Indonesia only known from Timor)*


*(Marine Permian faunas (~350 species) compared with Tethyan, E Australian and Gondwana faunas. W Australian faunal province affinities with E Tethys (Salt Range, Timor) but dissimilar to E Australian province, although some W Australian elements migrated into N (Queensland) and S (Tasmania) parts of E province)*


*('Permian trilobites from Aceh'. Two species of trilobite casts in dark red, tuffaceous marly rock, associated with corals, crinoids, brachiopods and gastropods, previously reported by Klein 1916 as presumably Devonian. Species very similar those described form Permian in Timor)*


*(Trilobites from the Permian of Timor and Letti’. Phillipsia sp. and Neoproetus indicus n.sp., collected by Wanner, Molengraaff, Jonker et al. Trilobites relatively rare and poorly preserved in Timor Permian)*
Includes descriptions of Timor Permian perrinitid ammonoids. Species described by De Roever from Timor as Perrinites waageni was renamed Properrinites deroeveri by Gerth (1950) is here called Properrinites cumminsi. (U Sakmarians). Also description of Artinskian Paraperrinites subcumminsi (Haniel) (originally Cyclolobus subcumminsi) from Bitauni

(Genus Verbeekina includes 5 species and two varieties. Description of Verbeekina verbeeki (Geinitz) from Padang Highlands, W. Sumatra)

(Two new species of Early Permian fusulinids Schwagerina rutschi and Pseudoschwagerina meranginensis from dark grey, ~100’ thick "Productus limestone" of Telok Gedang, C Sumatra (Merangin, Jambi). Interpreted age Lower Permian. Overlain by Soengi Garing plant beds with famous 'Jambi Flora', studied by Jongmans & Gothan, etc. P. meranginensis looks like fusulinds of the Schwagerina princeps group. See also Ueno et al (2006) and Ueno in Crippa et al 2014))

(Fusulinid limestones collected by Brouwer expedition in 1937 in W Timor contain five species of fusulinids,incl. Schwagerina brouweri n. sp. All appear to indicate Early Permian, Leonardian or older age. Fusulinids of Timor not similar to widespread complex fusulinid faunas in other parts of E Hemisphere)

(Rel. high diversity 'Tethyan' M Permian fusulinid assemblage with Neoschwagerina from Nui Com, S Vietnam)

(Well-illustrated summary of foraminifera from Permian limestones from W and S Cambodia, using thin sections originally studied by Gubler (1935) on fusulinids of Indochina)

(Illustrations of foraminifera from two Permian limestone localities from Padang Highlands, C Sumatra. Guguk Bulat reefal limestone with corals and diverse fusulinids (Colania, Pseudodoliolina, Sumatrina, Schwagerina, Verbeekina), small benthic foram assemblages (incl. Hemigordius) and algae (incl. Mizia, Permocalculus). Fauna from this locality first described by Lange (1925). Silungkang locality with common Tubiphytes)


(Rel. rich Lower Permian foram assemblages of fusulinid, smaller benthic forams (incl. Hemigordius)and algae (incl. Permocalculus) from W Jambi province. Mesumai River localities with fusulinids Boultonia willsi, B. chei, Schubertella kingi, Fusulinella cf. utahensis, Schwagerina sp., Pseudoschwagerina cf. meranginensis, Rugosofusulina rutschi and Parafusulina n. spp., suggesting Late Asselian age (near locality of famous 'Jambi flora; see also Ueno et al. 2006 who restudied Batu Impi locality and prefers Artinskian- Kungurian age; HvG))

(Review of M Permian foraminifera from four areas on Sumatra, incl. rich basal Murghabian fusulinid assemblage with Neoschwagerina cf. simplex Cancellina, Neofusulinella, etc., at Bukit Pendopo outcrop, S
Sumatra. At Guguk Bulat fusulinids Verbeekina verbeeki, Colania douvillei, Pseudodoliolina, Pseudofusilina padangensis, Sumatrina annae, etc. and algae Mizia velebitana, Permocalculus spp.)


(Permian 'Rathuri Lst' (s.l.) of Thailand with 238 species of fusulinids. Subdivided in 3 zones, W, C and E. Western zone with 41 species/ 28 genera, appears to extend into Malay Peninsula and N Kalimantan. W and E zones similar paleobiogeographic characteristics. U Permian fusulinds (Paleofusulina, Colaniella) only found in W zone. Fusuline faunas of Thailand and Malaysia close relationship to W Tethys in M-U Carboniferous. In Permian stronger affinity to E Tethys. No maps)


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 Island suggest four Permian interval zones: Follicucullus monacanthus (late Early Permian), Follicucullus scholasticus (early Late Permian) Latentifistula similicautis (middle Late Permian), and Neoalbaillella ornithoformis (late Late Permian))


(Thick-shelled, tropical bivalves in M Permian Khao Khwang platform Permian limestones, exposed extensively along Phetchabun fold-thrust belt along W edge of Khorat Plateau, C Thailand (W side of Indochina Block). Midian-age limestone with fusulinids and smaller forams, incl. Hemigordius sp., Agathammina, Tetrataxis) and algae incl. Mizzia velebitana)


Ueno, K. (2003)- The Permian fusulinoidean faunas of the Sibumasu and Baoshan blocks: their implications for the paleogeographic and paleoclimatologic reconstruction of the Cimmerian Continent. Palaeogeogr., Palaeoclim., Palaeoecol. 193, p. 1-24. (Permian fusulinids in four levels in Baoshan and Sibumasu Blocks. East Cimmerian continent poor Tethyan neoschwagerinid and verbeekinid genera in M Permian. Increase in diversity from E to late M Permian (N-ward drift of Cimmerian continent) and from E to W (W Cimmerian closer to tropical Tethyan domain than E). M Permian Cimmerian two subregions: W= Tethyan Cimmerian and E= Gondwanan Cimmerian. Rare Tethyan fusulinids in Baoshan and Sibumasu blocks suggests E Cimmerian continent still far from Cathaysian domain and in warm temperate- subtropical zone until end-Permian. E Cimmerian migrated into tropical zone by Late Triassic with Carnian sponge-coral buildups in Sibumasu Block)

(Review of 'subtropical', late E Permian fusulinid genus Monodixodina from 33 areas, incl. several Timor occurrences, all in middle part of Maubisse Fm. Type species of Monodixodina is Schwagerina wanneri Schubert 1915 first described from Timor. Monodixodina-bearing areas can be restored to either N or S middle latitudes, suggesting genus is paleobiogeographically anti-tropical taxon. Generally found in monotypic, crowded manner in sandy sediments with uni-directionally aligned shells. Long-ranging 'mid-Permian', Artinskian- E Midian (=Capitanian))


(Permian fusulinid fauna from N Thailand of Tethyan affinity, similar to Indochina Block)


(E Permian conodonts from Dingjiazhai Fm diamicomite-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)


(Small foraminiferal fauna with two species of Fusulinella)

Ueno, K., S. Nishikawa, I.M.van Waveren, M. Booi, F. Hasibuan, Suyoko, E.P.A. Iskandar et al. (2007)- Early Permian fusuline faunas from Jambi, Sumatra, Indonesia: faunal characteristics and palaeobiogeographic implications. 16th Int. Congr. Carboniferous and Permian, Nanjing, J. of Stratigraphy 31, Suppl. 1, p. 138-139. (Abstract only) (Fusulimids in Telok Gedang limestone bed at base of Mengkarang Fm (below E Permian 'Jambi flora'). Samples collected in 2004 contain Pseudoschwagerina meranginensis, Pseudofusulina rutschi, and others. Comparison with N Afghanistan study by Leven (1971) suggest Sakmarian age (Late Asselian age proposed by Vachard, 1989). A younger 21-m-thick, dark gray, fusulinid limestone in Palepat Fm at Batu Impi (18 km W of Bangko), contains Minojapanella, Toriyamaia, Praekinnerella, Chalaroschwagerina, Paraschwagerina, etc., indicating Yakhtashian or Bolorian (=~Artinskian- Kungurian) age, most probably Yakhtashian due to absence of Brevaxina and Misellina.)

Ueno, K., S. Nishikawa, I.M.van Waveren, F. Hasibuan, Suyoko, P.L. de Boer, D.S. Chaney et al. (2006)- Early Permian fusuline faunas of the Mengkarang and Palepat Formations in the West Sumatra Block, Indonesia: their faunal characteristics, age and geotectonic implications. In: Proc. 2nd Int. Symp. Geological anatomy of E and S Asia, paleogeography and paleoenvironment in Eastern Tethys (IGCP 516), Quezon City, p. 98-102. (Extended Abstract) (Rel. high diversity E Permian fusulinid assemblages in Bangko area of Jambi, W Sumatra, associated with famous 'Jambi flora'. Mengkarang Fm ~360m thick paralic clastics with intercalations of shallow marine limestone and thin coal seams. In lower part ~5m thick dark grey limestone at Telok Gedang on Merangin River, ~17 km SW of Bangko with Pseudoschwagerina and Pseudofusulina? suggesting Asselian age (N.B.: same genera as E coast of Peninsular Thailand= Sibumasu; Ingavat-Helmcke 1993?). Overlying Palepat Fm >200m thick volcanic arc suite with limestone interbeds with fusulinids (first described by Thompson 1938, Tien 1989). Restudy of Batu Impi locality (just above main plant horizon) shows
Minojapanella, Schubertella, Toriyamaia, Praeskinnerella, Chalaroschwagerina? and Paraschwagerina?, suggesting Artinskian- Kungurian age and Cathaysian/ Tethyan paleobiogeographic affinity (similar to E Malay Peninsula Terengganu limestone fauna described by Fontaine et al. 1998; also similar age as basal Ratburi Lst in Sibumasu Block of Thailand; HvG))


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)

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)


Vachard, D. (1989)- A rich algal microflora from the Lower Permian of Jambi Province. In: H. Fontaine & S. Gafoer (eds.) The Pre-Tertiary fossils of Sumatra and their environments, CCOP Techn. Papers 19, p. 59-69. (Microfauna of grainstone sample from Mengkareng Fm of Pulau Apat, W of Bangko, Jambi (same general area, but ~10km N of Jambi Flora’ localities). Limestone rich in algae (incl. Mizzia velebitana, Permocalculus, etc.), oncolites, foraminifera (incl. fusulinids Boultonia willsi, Darvasites, Rugofusulina, etc.) and small volcanic clasts. Warm climate assemblage and most likely Late Asselian age (Boultonia willsi= Late asselian-Sakmariian). Calcareous algae strong Tethyan affinities)

(Terbat Lst of W Sarawak- NW Kalimantan border area with 7 foraminifera assemblages, including diverse fusulinids, of M Carboniferous- earliest Permian (Moscovian- Asselian) age (Langgella (Kunggurian), Pseudofusulina, Pseudostaffella, etc.))


('A Yabeina association (fusulinid foraminifera) in the Midian (U Permian) of the Whangaroa region (Orua Bay, New Zealand')


(Review of biostratigraphy and facies models of Paleozoic forams)

(Lower Permian conodonts from samples collected by Jonker expedition near Bitauni in 1916 and SW Mutis region by De Roever in 1937. Important constituent of fauna is Vjalovognathus shindyensis)

('Microblastus new genus and other new Permian blastoids from Timor'. In German. New species of blastoids from the Brouwer/ University of Amsterdam Timor collection)

(Online at www.repository.naturalis.nl/document/144475)
(E Permian Jambi flora from Mengkareng Fm on W Sumatra Block first described by Posthumus (1927) and Jongmans & Gothan (1935). Revision of flora results in lower number of taxa (60; 18 of which 'endemic'). Brachiopods and fusulinids indicate E Permian age (Asselian-Sakmarian?). Five groups of Pecopteris-type ferns. Paleogoniopteris and Gothanopteris primitive equivalents of 'Cathaysian' gigantopterids. Posthumus (1927) reported presence of Walchia conifer, but this is Lepidodendrales. Comparisons with E Asian Permian floras of Cathaysian realm indicate greatest similarity with (M Permian) Lower Shihhotse beds in N China, a relatively xeric Cathaysian flora, possibly indicative of relatively high latitude in S Hemisphere)

('The fossils of the (Permian) 'kolenkalksteen' limestone of Sumatra's west coast'. Fossils believed to be of Carboniferous age (probably Permian age; HvG))

('On the geology of Sumatra, observations and studies, Appendix II, Some new foraminifera and corals as well as hydrocorals from the Upper Carboniferous of Sumatra'. Descriptions of probably Permian-age faunas from limestones of Padang Highlands, incl. smaller foraminifera Bigenerina spp. and new fusulinid foram genus/species Sumatrina annae from Bukit Bessi, NE of Lake Singkarak. Also new colonial corals Lonsdaleia frechi and L. fennemai and stromatoporid Myriopora)
Von Schouppe, A. & P. Stacul (1955)- Die Genera Verbeekiella Penecke, Timophyllium Gerth, Wannerophyllum n. gen., Lophophyllidium Grabau aus dem Perm von Timor. Palaeontographica Suppl. IV, Beitr. Geologie Niederlandisch-Indien 5, 3, p. 95-196. (Descriptions of Permian solitary corals, mainly from Basleo area, W Timor, from where 12,000 specimens were collected in 1927. Distinguished 17 species, 10 of which new. (Assemblages now regarded as Middle Permian, deeper water and cooler climate 'Cyathaxonia faunas' or 'Lytvolasma faunas'; HvG)


Von Staff, H. (1909)- Beiträge zur Kenntnis der Fusuliniden. Neues Jahrbuch Min. Geol. Pal., Beil. Band 27, p. 461-508. ('Contribution to the knowledge of the fusulinids'. Permian larger foram Schwagerina verbeeki Geinitz from Padang Highlands, W Sumatra should be classified in new genus Verbeekina (see also Thompson 1936; Genus name still used today, and is 'Tethyan' species, also common in S China, Thailand, Tibet, Crimea, etc.; HvG))


Wang, H.C. (1947)- Notes on some Permian rugose corals from Timor. Geol. Mag. 84, 6, p. 334-344. (Description of Permian solitary corals from 4 W Timor localities in collection of British Museum of Natural History (Lytvolasma, Amplicarina, Timophyllum, Lophophyllidium, Verbeekiella, etc. Excellent preservation. Mainly review of works of Gerth, Koker, Schindewolf)

and Sydney Basin of SE Australia, suggesting cool shallow marine conditions, while Cathaysian corals reflect location near Paleo-equator. M Permian corals in Sibumasu Terrane dominated by both solitary and compound Waagenophyllidae ('Cathaysian'), but, some endemic taxa in Sibumasu Terrane during this time suggesting it was still independent paleobiogeographical entity. Eleven coral species including 5 new taxa described.


(On coral faunal provincialism on Carboniferous- Permian of Tibet- W Yunnan and Cimmerian terranes. Sakmarian-Artinskian Cyathaxonia fauna. In late E Permian development of Himalayan (N margin of Gondwana) and Cimmerian provinces (Lhasa- Qiantang, Tengchong, Baoshan, W Yunnan), with Roadian solitary corals, Wordian-Capitanian Waagenophyllidae and endemic Cimmerian taxa such as Thomasiphyllum and Wentzellophyllum persicum. Thomasiphyllum has distinctive paleobiogeographical distribution in M Permian of Cimmerian continents, also in W Sumatra, etc. Late Permian Himalayan fauna with small solitary corals only (Lytvolasma fauna) and Cathaysian with Ipciphyllum, Liangshanophyllum, etc.)


(Early Permian corals of E Cimmerian continent (= Sibumasu) of Peri-Gondwanan affinity with small solitary forms; different from Cathaysian area, where abundant large solitary and compound corals occur. In M Permian endemic Cimmerian- Cathaysian fauna of large solitary and massive Waagenophyllidae, with Cathaysian aspect. Late Permian corals all Cathaysian. Changes related to rifting of Cimmerian continent from Gondwanaland in late Early Permian and subsequent N-ward drift)


(Carboniferous-Permian of Boashan Block of W Yunnan 3 main sequences: (1) Lower Carboniferous carbonate (diverse warm-water 'Eurasian-affinity' faunas, incl. Cyathaxonia coral fauna), (2) Lower Permian Asselian-Sakmarian 'peri-Gondwanan' cold water siliciclastics with diamicrites overlain by E Artinskian carbonate with low diversity fusulinids Pseudofusulina- Eoparafusulina, also Cyathaxonia coral fauna, and Artinskian rift basalts; (3) M Permian 'marginal Cathaysian/ Cimmerian' carbonates; warm water, but low diversity fusulinids incl. Eopolydixodina, also Shania and coral assemblage with Wentzellophyllum and of lower diversity than in Cathaysian regions. Upper Carboniferous absent)


(Late Guadalupian- Triassic limestone blocks along Yarlung-Zangbo Suture (between Lhasa Block to N and Himalaya Plate in S), probably remnants of Neotethyan seamounts. Gyanyima Lst with diverse latest Permian foraminiferal fauna dominated by Reichelina pulchra, Colaniella parva and Dilatofusulina. Can be correlated with Palaeofusulina sinensis Zone in E Tethys. With common corals, mainly Waagenophyllum, Ipciphyllum, etc. Composition of fauna suggests paleogeographic position at lower latitudes in Neotethys (NB: = Mesotethys of other authors?: HvG))


(Cyathaxonia faunas psf small solitary corals widely distributed in Carboniferous- Permian across China. Cyathaxonia faunas occur just below large disseminated solitary and compound coral assemblages in continuous sequence, implying occurrence not strictly related with Gondwanan or Peri-Gondwanan cold water environment, but possibly controlled by deeper, mud-rich, quieter sedimentary environments)

The gastropods and bivalves from the Permian of Timor. Description of Permian bivalve material collected by Wanner and Molengraaff in 1909-1911, mainly from Basleo area. High diversity faunas (61 gastropod, 25 bivalve species), but low abundance compared to other fossil groups. Timor richest in Capulids of all known Permian faunas. Includes presence of Atomodesma spp. from various localities (genus often regarded as cold-water 'Gondwanan'; HvG)

('New Permian bivalves from Timor'. Addendum to 1922 paper, based on new material collected by Ehrat in 1927 and Brouwer/ De Roever 1937 expedition, mainly from Basleo area, W Timor. Incl. Atomodesma in flysch W of Kasleo in Kekneno area)

(Permian gastropods from Timor 70 species, one of richest in world. Almost all new species, only 3 species known from elsewhere (Pakistan, Sicily, China))

('On a remarkable echinoderm from the Permian of Timor'. Detailed description of anatomy of Permian blastoids Timorechinus spp. from E of Nikiniki and comparison to Schizoblastus permicus)

('Timorocrinus new genus from the Permian of Timor'. New genus name for Timorechinus miriabilis from Molengraaff collection. No locality information, presumably Basleo)

('Paleontology of Timor'. Series of beautifully illustrated paleontological monographs on Timor fossils by German paleontologists, published over 15 year period. Some issues still available from original publisher)

('The cephalopods of the Dys (Permian) of Timor')

('The Permian echinoderms from Timor-1'. Major monograph on crinoids of Timor, collected in 1909 and 1911. Total 123 species (105 new) of 44 genera (28 new))

('The Permian brachiopods of Timor')

('On arm-less crinoids from the Late Paleozoic')

(online at: http://www.dwc.knaw.nl/DL/publications/PU00012020.pdf)
('On some Paleozoic sea urchin spines (Timorocidaris gen. nov. and Bolboporites Pander)'. In German. Timorocidaris material from Permian of Basleo, Timor)


Wanner, J. (1924) - Die permischen Blastoiden von Timor. Jaarboek Mijnwezen Nederl. Oost-Indie 51 (1922), Verh. 1, p. 163-233. ('The Permian blastoids of Timor'. Timor Permian blastoid faunas richest in world, both in species and numbers, with many species unknown elsewhere. Many localities, probably representing different stages of Permian. Character of faunas more European (Tethys) than American (NB: taxonomy of blastoids revised by Breimer & Macurda (1972); HvG)


Wanner, J. (1931) - Neue Beitrage zur Kenntnis der Permischen Echinodermen von Timor. VII. Die Anomalien der Schizoblasten. Dienst Mijnbouw Nederl. Indie, Wetensch. Meded. 20, 42 p. ('New contributions to the knowledge of the Permian echinoderms of Timor- VII. The anomalies of the Schizoblasts')


('New contributions to the knowledge of Permian echinoderms of Timor 14'. More systematic descriptions of new species of crinoids)

('New blastoids from the Permian of Timor, with a contribution to the systematics of the blastoids'. New Permian blastoid species, mainly from De Marez Oyens and Brouwer 1937 collections from Basleo, W Timor. Basleo area contains common microblastoids and microcrinoids. Of the 13 Permian blastoid genera known from Timor only two or three (Schizoblastus, Orbitremites) also occur outside Timor (But: Timoroblastus and Deltoblastus also in North Oman; Webster 2007; HvG))

(Permian bivalves collected by Ehrat in 1927 and Brouwer1937 expedition. Most from Basleo area, and are species of Atomodesma, already known from earlier Timor papers)

('New contributions to the knowledge of the Permian echinoderms of Timor 15- echinoids')

('New contributions to the knowledge of the Permian echinoderms of Timor 16- Poteriocrinidae part 4')

('Contributions to the paleontology of the East Indies Archipelago 19- The crinoid genus Paradoxocrinus from the Permian of Timor'. In German)

('On the crinoid genus Timorocidaris')

('On the knowledge of the Permian brachiopods of Timor: 1. Lyttoniidae and their biological and evolutionary significance')

(Common late E Permian (Baigendzhinian) bryozoan in outcrops of Aifat Fm (= M Aifam) of upper Aifar River, SW part of Birds Head. Assemblages affinities with Thailand and NW Australia)

(Cyclolobidae of M Permian age. Waagenoceras- Timorites lineage inhabited paleotropical latitudes, and Timorites is found around rim of Pacific Ocean (Both found on Timor; HvG)

(Correlations of Permian sections in Indonesia, Malaysia, Thailand, Vietnam, Burma, etc., using fusulinids, brachiopods and ammonoids)

(Brachiopods above earliest Permian glacial pebbly mudstone in S Thailand 40 species, probably of mid-Sakmarian age suggested by Brachythyrida rectangularus and Neospirifer sterilamakensis. Small fauna from pebbly mudstones at Ko Muk could be Asselian or Sakmarian age)


(E Permian (Asselian) small brachiopod fauna from 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 Eurypyllum. Most genera are found in temperate- high paleolatitudes, suggesting pebbly mudstones are cool water deposits, contemporaneous with Late Asselian Gondwana glacial deposits (=Sibumasu terrane'; HvG))


(Permian brachiopods of Australia two main associations: (1) E Australia, few families, affected by cool-glacial conditions, interspersed with few warmer-water faunas; (2) W Australia more like faunas of SE Asia and Himalayan region. Played major role in stocking Lopingian faunas of S Asia, especially Himalayas. No mention of any Indonesian faunas)

(Incl. Waagenites speciosus n.sp.)

(Permian blastoids widespread but most diverse in SE Asia and Australia. Timor faunas Sakmarian-Asselian and Kazanian, and most diverse and abundant. Paleoecology and stratigraphy poorly understood. Some common species between Timor and Australia, but others conspicuously absent: Angioblastus, Deltoblastus not in Australia; Australoblastus not in Timor.. Reasons for local endemism unclear. Kazanian Timor fauna is last successful blastoid community before going extinct)

(E Permian Callythara Fm in Carnarvon Basin, NW Australia, with limestone beds with crinoid assemblage of 40 species. Eleven species also known from Timor, but Australian faunas less diverse and many endemics)

(Rich Permian Timor fossils poorly constrained stratigraphically. Two-thirds of Timor crinoid and blastoid genera unknown outside Timor)


(No Permian crinoid fauna in world as diverse and abundant as Timor. Five horizons between Sakmarian-Wuchiapingian. Australian faunas generally considered as cooler water faunas, >35°S. Timor warm-water shelf. In Arthinskian greater similarity beween W Australia and Timor than between W and E Australia)


(Two cladid crinoid species of ?Ulocrinus described by Wanner (1924, 1937) reinterpreted as cladid crinoid and renamed as Katerocrinus indicus n. gen., n. comb. and Dochmocrinus conoideus n. gen., n. comb.)


(Coral, algae, larger forams facies models and development of Pleistocene carbonate platforms, Huon Gulf. Facies from shallow to deep: 1. coral reef lst (reef flat-upper reef slope <20m; with Calcarina), 2. coralline algal- foraminferal nodule limestone, 3. Halimeda limestone (deep fore-reef slope ~20-60m; with Amphistegina, Heterostegina, Operculina), 4. Coralline algal- foraminiferal crust limestone (deeper fore-reef slope ~60-90m; with Amphistegina, Cycloclypeus, Heterostegina operculinoides, Operculina) and 5. Planktonic foraminifera limestone (with Amphistegina, Cycloclypeus, Heterostegina)


(Study of Permian spiriferine brachiopods from Timor in Leiden collections resulted in revision of Spirifer timorensis Martin 1881 and Crassspirifer broili Waterhouse 2004 and new species Latispirifer archboldorum. New genus Archboldiella based on aberrant species Spirifer basleoensis Hayasaka & Hosono 1951)


(On evolution of floristic provinces since Silurian. Three main phytogeographic units in earliest fossil floras (Angara, Euramerica, Gondwana). Fourth unit (Cathaysia) differentiated from Euramerica in latest Carboniferous. Includes mention of New Guinea Gondwanan flora. Nothing on Sumatra or other SE Asia)


(Unpublished)

(Well-preserved Permian radiolarians in chert blocks in Mae Hong Son province, NW Thailand, recently mapped as Carboniferous. Twenty-four taxa, incl. Follicucullus. In N Thailand Devonian- Triassic was zone of deep marine sedimentation, one of longest records of continuous deposition in oceanic setting)


(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 (150-200My) PaleoTethys oceanic realm between Indochina and Shan-Thai continental terranes)


(M Carboniferous goniatite and brachiopod fauna described from Pa Samed Fm clastics in S Thailand, which unconformably overlie E. Devonian (Emsian) dacryonarid-rich black mudstones. Brachiopod fauna several new species and unlike any previously known from Asia)


(Listings of foraminifera species reported from Indonesia Carboniferous- Permian (Sumatra, Timor, Leti, Luang), Triassic- Jurassic (Sumatra) and Cretaceous (Sumatra, Java, Borneo, Timor, Roti, Ceram, etc.)


(online at: http://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 Burri 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)


(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, Prospodylus, Grammatodon obsoletiformis, Pernopecten, etc. One new genus genus, Permartella with three new species. )


(Review of M Permian large, thick-walled bivalves, including material from Malay Peninsula? Typical Tethyan fauna, adapted to warm-water environments)

Yang, W., Q. Feng & S. Shen (2009)- Permian radiolarians, chert and basalt from the Nan Suture Zone, Northern Thailand. Earth Science (J. China University of Geosciences) 2009, 5, p. 743-751.


(Description of abundant 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)

(Late Permian small miliolid foraminifer Shanita appears to be marker for Permian of N Gondwana margin; see also Jin & Yang, 2005)

Zhang, Y.C., L.R. Cheng & S.Z. Shen (2010)- Late Guadalupian (Middle Permian) fusuline fauna from the Xiala Formation in Xainza County, Central Tibet: implication of the rifting time of the Lhasa Block. J. Paleontology 84, 5 p. 955-973.

(Fusulind fauna from Xiala Fm of Tibet 9 species dominated by Nankinella and Chusenella, indicating Midian (Late Guadalupian) age. Earliest record of fusulinds in Midian in Lhasa Block suggests it rifted later than Qiangtang Block to N and Baoshan-Tengchong blocks to E, which have earlier (Artinskian) fusuline faunas and drifted away from Gondwana to relatively warm temperate zone in M Permian)


(E Permian evolution of Qiangtang Block, Tibetan Plateau: Qudi Fm thick turbidite deposits and with Artinskian fusulines Pseudofusulina and Chalaroschwagerina. Overlying Lugu Fm dominated by seamount-type carbonates with irregular basalt base. Fusulines Cancellina, Pseudodoliolina and Parafusulina in base of carbonates confirm age as M Kungurian. Transition from turbidite Qudi Fm to seamount Lugu Fm interpreted as Qiangtang Block separation from Indian Plate, signaling opening of Neotethys (Mesotethys?; HvG) Ocean (comparable with Baoshan Block separation in E and C Pamir's separation in W)

Zhang, Y.C., Y. Wang, Y.J. Zhang & D.X. Yuan (2012)- Kungurian (Late Cisuralian) fusuline fauna from the Cuoqheqiangma area, northern Tibet and its palaeobiogeographical implications. Palaeoworld 21, p. 139-152.

(Fusuline fauna of Qiangtang Block, Tibet (Cimmerian terrane) characterised by pronounced transition from peri-Gondwanan affinity to transitional affinity (Tethyan Cimmerian subregion) from Artinskian to M Kungurian. M Kungurian fauna from lower Lugu Fm shows influx of palaeoequatorial Tethyan taxa: 7 species, dominated by Cancellina primigena (Hayden), also Neofusulinella giraudi, Pseudofusulina, Chusenella schwagerinaeformis. Underlying Artinskian fauna has more peri-Gondwanan affinity. Overlying U Lugu Fm with Neoschwagerina and Verbeekina of Murgabian- Midian (Guadalupian) age. Elsewhere on Qiantang Block typical 'Cimmerian' Kungurian forams Monodixodina, Eopolydiexodina and Shanita-Hemigordiopsis. Transition reflects N-ward drift of Qiangtang Block and climatic amelioration during Permian)


(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)


(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)


('Middle' Permian perrinitid ammonoid areas from Xinjiang in W China very similar to faunas from adjacent Pamirs and Thailand. Associated with fusulinid limestones)

(E-M Permian Neofusulinella present in Baoshan area (Yunnan; Maokouan age = ?), and Rar Buri Limestone near Takli, Thailand, along W margin of S China-SE Asia block)
8. Ordovician-Devonian


(M-Upper Ordovician limestones of Langkawi Islands 20 species of conodonts in four biostratigraphic zones. M Ordovician fauna belongs to low-latitude Australian Province. M Arenigian deposited on shallow-water shelf, Late Arenigian- M Darriwilian limestones formed in hemipelagic deeper-water conditions)


(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))


(online at: http://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)


(Well-preserved Ordovician conodonts from micritic limestone in Satun area of S peninsular Thailand. 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)


(Early Ordovician conodont faunas from E Tremadocian - M Arenig Thung Song Fm on Tarutao Island 14 known and 8 undescribed species. Three zones: Rossodus manitouensis Zone, Utahconus tarutaoensis Zone and Filodontus tenuis Zone. Deposited on deeper-shelf; S2 member limestone and shale shallow-water)


(Silurian and E Devonian graptolites from Paleotethys suture zone melange between Shan-Tai (=Sibumasu) and Indochina terranes)


(online at: http://www.ga.gov.au/...)

291
(Brachiopods from E Devonian (Emsian) Pa Samed Fm mudstones of S Thailand, on Shan Tai/ Sibumasu Block. Represent deeper-water benthic assemblages. Can not be assigned to particular biogeographic region)

(Four Silurian brachiopod species of genera Capelliniella, 'Conchidium', Cymbidium, and Atrypella described from Kuala Lumpur dolomitic limestones)

('Fossiliferous Paleozoic beds on Sulawesi'. Permian ammonite Popanoceras timorense in collection of Colonel G.J. Verstege, reportedly from 'the Sadang and Mato Allo river basins and the mountains in-between, partly found by myself, partly presented by the chiefs of Enrekang, Doeri and Maiwa in 1907 and 1910' (Kalosi region). This suggests presence of Paleozoic marine sediments in S-C Sulawesi, but localities never independently verified, and questioned by Abendanon (1920) and Von Koenigswald (1933), who believed they probably came from Timor, via a Chinese pharmacy (But cannot be dismissed completely?: Permian brachiopods also reported from E Sulawesi by Von Loczy (1934) and Von Kutassy (1934); HvG)

Brouwer, H.A. (1921)- Een jong-Paleozoisch en een Devonisch fossiel van Celebes? De Ingenieur, 1921, p. 138-
('A Late Paleozoic and a Devonian fossil from Sulawesi?'. Additional report of Upper Devonian brachiopod Spirifer verneuilli from collection of Colonel G.J. Verstege)

(M Devonian (Eifelian-early Givetian) Moore Creek Limestone of Tamworth foldbelt in NSW, E Australia, thought to be deposited in intra-oceanic island arc setting. Contains tabulate corals, including Heliolites porosus. Assemblage and depositional setting may be comparable to NE Kalimantan described by Rutten 1940, 1943)

(General review of graptolites, with mention of Late Silurian species Monograptus turriculatus from Kemum Fm of North Central Birds Head, collected by NNGPM geologists)

(45 localities with fossil tentaculites in NW Malaya. 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; HvG)

(online at: http://www.paleo-soc-japan.jp/download/TPPSJ/TPPSI_NS65.pdf)
(Silurian- M Devonian black shales with graptolites and tentaculites present from NW Malay Peninsula (Langkawi, Kedah, Perak, etc.) into Burma- westernmost Thailand and Yunnan, SW China (=Sibumasu terrane))

(New occurrence of widespread latest Ashgill Hirnantiia shelly fauna from 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 closer to S China in Ordovician and Silurian than previously supposed)
(Ordovician and Silurian paleogeographic maps, some with W Papua data control points)

(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, Burma (Myanmar) and part of SW China (Yunnan))


(Ordovician nautiloid originally described as Irianoceras antiquum Kobayashi 1971 from Irian Jaya is synonym of Bactroceras latisiphonatum Glenister, described from New South Wales, Australia. New material extends geographic range and documents presence of U Caradoc-Lower Ashgill strata in Irian Jaya. (Fossils in nodules, purchased in Karubaga in N part of Central Range; locality unknown; appear to be commonly found near Jurassic-Cretaceous outcrops where no E Paleozoic rocks are known; HvG))

('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 N Thailand))


(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., Phillipsastra, Favosites, etc.))

(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)


(Record of Ordovician (Llanvirn) graptolites in Heluk River, E Irian Jaya (4°25'S, 139°17'E). Assigned to isograptid biofacies and taken as evidence of Ordovician ocean margin here. Oldest fossils in Indonesia?)

(Sibumasu (= Shan-Tai) paleocontinent comprises Sumatra, Malaysia, W Thailand and Burma. Ordovician rocks in China, Burma, S Thailand and interior Australia mainly carbonates. Lower Ordovician shelf faunas from Thailand- Langkawi are low-latitude faunas and show affinity with N China- Australia, but M-U Ordovician trilobites most similar to S China)

('A Favosites colony from the Paleozoic of New Guinea'. Brief report on discovery of Paleozoic tabulate coral from dark limestone float in Noord River, S of Central Range, W Papua. Age range of genus is Silurian-Permian (but in Australia most common in U Silurian- M Devonian; HvG))

(Stringocephalus perakensis n. sp. from alluvial tin-mining area, Kinta valley, Perak, indicating marine fauna of Givetian (M Devonian) age. Associated fauna: dasycladacean alga, stromatoporoids, tabulate corals, Murchisonia sp.)


(Ambocoeliid brachiopods Echinocoeliopsis , etc. in Devonian red beds of NW Malay Peninsula; see also Kobayashi & Hamada 1973)

(Brachiopod fauna from Langun Redbeds of NW Malay Peninsula. Age believed to be around Devonian-Carboniferous boundary. Associated with bivalve Posidonia. Mainly endemic assemblage with many new species (Jasin 2013)-. Incl. Langkawia n.gen.))

(Brief review of Ordovician- Devonian brachiopods of W Thailand- Malayan Peninsula)


(Simple cone-type conodonts from Ordovician- Silurian Setul Limestone of Langgon Island, of NE Langkawi. Most species similar to species known from Europe and North America)

(Other types of conodonts from Ordovician- Silurian Setul Limestone of Langgon Island, of NE Langkawi. Silurian conodonts not described from Asia before)


(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)


(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)

Keijzer, F.G. (1941)- Fossielen van het Palaeozoicum van Zuidelijk Centraal Nieuw-Guinea. Handelingen 28e Nederl. Natuur en Geneesk. Congres, Utrecht, 4, p. 271-272. ('Fossils from the Paleozoic of South Central New Guinea'. Summary of macrofossils reported from >1500m thick Paleozoic section. Includes Devonian-to Permin brachiopods and rugose and tabulate corals of Silurian (Halysites), Devonian (Heliolites barrandei, Favosites reticulatus, Cyathophyllum anisactis, C. douvillei, etc.) and Permian (Lonsdaleia) ages)

Kobayashi, T. (1957)- Upper Cambrian fossils from peninsular Thailand. J. Faculty of Science, University of Tokyo, Sect. 2, 10, 3, pp. 367-382. (Cambrian trilobites from Phuket series from Tarutao island, SW Thailand)


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. (Ordovician gastropods, nautiloids, graptolites, from thick Setul Fm of Langkawi islands and adjacent Perlis Malay Peninsula)

Kobayashi, T. & C.K. Burton (1971)- Discovery of ellesmeroceroid cephalopods in Irian, New Guinea. Proc. Japanese Academy 47, 7, p. 625-630. (Orthoconic cephalopods from dark shales that look like Jurassic Kembelangan Fm in Star Mountains near PNG border, collected by Kennecott. Look like E-M Ordovician nautiloids and may be from Kariem Fm. If correct, these are oldest fossils known from Indonesia. Propose new genus-species name Irianoceras antiquum (re-assigned to Bactroceras latisiphonatum Glenister by Crick and Quarles van Ufford (1995))


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


(K(Ordovician-Silurian graptolites in black shale below 'Fang Chert' in N Chiang Mai Province (Paleo-Tethys suture) (Monograptus spp assemblage re-assigned to E Devonian by Jaeger et al. 1968 and Baum et al. (1970))


(Highly folded phyllitic rock collected by Bemelmans in 1955 just N of mouth of Wesan River, NW Birds Head. Contains molds of Orthoceras-like fossils, suggesting Paleozoic age. East of this locality different, Late Jurassic (Oxfordian) folded shale with Inoceramus and Belemnopsis. Rocks look different from Silurian low-metamorphic graptolite shale from Kamundan in C Birds Head)


(Early Ordovician brachiopods Spanodonta floweri and Aportophyla tianjingshanensis? from peninsular Thailand and Langkawi Islands, NW Malaysia, confirm evidence for Ordovician juxtaposition of Shan-Thai terrane, N China terrane and W Australia)


(Microvertebrates from limestones near Burmese border town of Mae Sam Lap, N Thailand, dated as Late Famennian by conodonts. Fauna contains chondrichthyans, several types of chondrichthyan scales, actinopterygian scales and teeth, and rare acanthodian scales. Taxa suggest close affinity between Shan-Thai, East Gondwana, and S China Terranes at end of Devonian)

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, 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)


(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 are cosmopolitan, some restricted to E Gondwana- ShanThai- S China Terranes)

(First report of small tabulate corals in M-L Devonian Langgun/Jentik Fm redbeds of Malaysia. In marine red mudstone in Perlis district)

Metcalfe, I. (1980)- Ordovician conodonts from the Kaki Bukit area, Perlis, West Malaysia. Warta Geol. 6, p. 63-68.


Musper, K.A.F.R. (1938)- Over het voorkomen van Halysites wallichi Reed op Nieuw Guinea. De Ingen. in Nederl.-Indie (IV Mijnbouw en Geologie), 5, 10, p. 156-158. ('On the occurrence of Halysites wallichi Reed on Nieuw Guinea'. Second record of tabulate coral Halysites since Teichert (1928)-, from limestone, collected by Terpstra in pebbles of Penanggi River, a tributary of the Oesak R. in headwaters of Noord or Lorentz River of Central Range foothills. Probably of Silurian age, although E Devonian can not be excluded)

Nicoll, R.S. (2002)- Conodonts from Noordwest 1 and Cross Catalina 1, West Papua, Indonesia. Unpublished report. (Nicoll (2006):- Late Cambrian or Early Ordovician conodonts in these 2 wells; presumably in carbonates)


Oliver, W.A., A.E.H. Peddler, R.E. Weiland & A. Quarles van Ufford (1995)- Middle Palaeozoic corals from the southern slope of the Central Ranges of Irian Jaya, Indonesia. Alcheringa 19, p. 1-15. (First description of in-situ Late Devonian (Frasnian) rugose and tabulate colonial corals in uppermost part of ~1000m thick Silurian-Devonian Modio Fm, mainly along Timika- Ertsberg road. Genera include Scruttonia, Disphyllum and Haplothetaea. Associated with brachiopods and stromatoporoids. Pre-Frasnian corals (Favosites, Lithophyllum, etc.) from stream cobbles at two localities. They indicate presence or former presence of more complete Middle Paleozoic sequence than previously known in Irian Jaya)
(Lower Devonian 'tentaculites limestone' from Perlis, NW-most Malay Peninsula)

(E-M Devonian biothermal buildups in Tamworth Belt, possibly comparable to NE Kalimantan Devonian coral)

(U Devonian (Frasnian) -Lower Carboniferous conodonts from Paleotethys oceanic cherts in Chiang Dao chert (= 'Fang Chert'; Shan-Tai Block, N of Chiang Mai)

(Fluctuating affinities between aquatic faunas of China and Australia in Devonian. Within S China Block similar endemic freshwater fish faunas on Yangtze and Huanan terranes demonstrate juxtaposition in mid-Palaeozoic. Triassic tetrapod faunas of Australia quite distinct from China and Thailand


(E-M Devonian coral Heliolites porosus and possibly Silurian stromatoporoid Clathrodicyon cf spatiosum in dark recrystallized limestone, collected by Witkamp along Telen River (tributary of Mahakam R.), above confluence of Long Hoet, NE Kalimantan, in folded, low-metamorphic 'Old Slates', with nearby andesites. (NB: appear to be blocks in melange) (Both taxa also reported from M-L Devonian of Laos and NE Thailand (Fontaine 1954, 1993). and may also be similar to Australian Mid-Devonian limestones from Canning Basin, Tamworth Belt, etc.; HvG))

(‘On some Devonian fossils from Central E Borneo’. Brief note on Devonian coral and sponge fossils in Utrecht collection, collected by Witkamp (1927) in Telen River area, NE Kalimantan, in large area of 'Old Slates'. Rutten suggests Witkamp rocks are from 'Danau Fm', composed of isoclinally folded cherts, radiolarites, quartzites (in other parts of C Kalimantan with Triassic Halobia and Monotis; Zeijlmans 1938), and greywackes, spilitic diabase and diabase porphyrites associated with (Permian) fusulinids. Telen location is ~200km NNW of Samarinda. Rocks part of 'Borneo continental core- SW Borneo Terrane', as exposed in NW Kalimantan- W Sarawak, or part of accreted arc terrane?; HvG)

(Late Devonian- E Carboniferous radiolarian fauna in chert-elastic section along Khong River, Pak Chom area, NE Thailand. Deposited in pelagic- hemipelagic environment within Paleotethys Ocean in Late Famennian- Tournasian, probably on Nakhon Thai Block, subducted beneath Indochina Block. This suggests subduction and accretion of Naknon Thai Block continued through E Carboniferous)

(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))


(Fourteen M Devonian- M Triassic radiolarian zones identified in pelagic- hemipelagic rocks of Thailand)


(Common straight nautiloid Wutinoceras robustum in Ordovician Setul Limestone of Langkawi islands)


(Nautiloids from Ordovician shallow marine carbonates of C and S Thailand grouped into five assemblages. All genera also occur in Australia and China)


(E Ordovician faunas of SE Asia Sibumasu plate similar to those of Canning Basin, NW Australia)


(Oldest Ordovician (U Tremadoc) fauna recovered from Sibumasu, in upper 100m of Tarutao Fm clastics)


(Devonian fossils from Netherlands New Guinea'. Brachiopods Atrypa reticularis var. desquamata and Orthotethes (Schuchertella) cf. umbraculum in sandstone pebbles from upper Setakwa River, collected by Heldring around 1910. Species known from Devonian of China, Queensland, etc.)


(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))


(Summaries of Devonian fossil groups in Australia. No maps)


(Report of Paleozoic beds from SW New Guinea'. First record of dark Silurian limestone with tabulate coral Halysites from float in Upper Lorentz/ Noordwest Rivers, S of Wilhelmina Peak in Central Range, West Papua. Also Devonian sandstones with Spirifer, Chonetes and other brachiopods, dark Permo-Carboniferous
limestones with Martinia, Murchisonia, Orthoceras, etc. Material collected by Van Nouhuys during Lorentz 1909-1910 South New Guinea expedition)

(Radiolarians (Trilocne spp, Stigmosphaerostylus spp., etc) and tentaculitids (Homoctenus ultimus, Costulatostylonina vesca) from 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)

(Late Silurian (M Ludlow) thelodonts and acanthodians micro-remains from Lorenz River in eastern W Papua and Kemum Fm of N part of Birds Head are first Paleozoic fish fossils from W Papua. Most forms comparable to Late Silurian-earliest Devonian N Hemisphere forms (Burrow et al. 2010: Silurian thelodont scales originally referred by Turner et al. (1995) to Thelodus trilobatus might be better placed in Praetrilogania))

(Description of Silurian conodonts from calcareous quartz sandstone boulder from Lorentz (or Noord) River, S Irian Jaya, collected by Heldring in 1906 S of Camp Alkmaar. Dominated by two forms also known from SE Australia and Yunnan. Age probably Late Ludlowian. Rock initially described by Martin (1911), who noticed small trilobite fragments)

Von Koenigswald, R. (1933)- Over het zogenaamde voorkomen van Spirifer verneuili Murch. op Celebes. De Mijningenieur 1933, 1, p. 14-16. ('On the alleged occurrence of Paleozoic brachiopod Spirifer verneuili on Sulawesi'. Paleozoic brachiopod reported from Sulawesi by Brouwer is almost certainly from a Chinese pharmacy, not from Sulawesi (vK bought such fossils also in Bandung; presumably imported from China; Von Koenigswald 1931))

(On Silurian-Devonian fish remains from Shan-Thai, Indochina and S China blocks and their biogeographic affinities. Fossils suggest proximity between S China and Indochina terranes in M Paleozoic and close relationship between Shan-Thai and E Gondwana (Australia) in M Devonian)


Webby, B.D., D. Wyatt & C. Burrett (1984)- Ordovician stromatoporoids from the Langkawi Islands, Malaysia. Alcheringa 9, 2, p. 159-166. (Four species of labechiid stromatoporoids from M Ordovician Lower Setul Lst of Langkawi Island, including Labechia variabilis and Rosenella woyuensis, reported previously from N China and New South Wales)

(Descriptions of Ordovician faunas from Khanchanaburi, Tong Pha Phum and Bo Noi regions and their meaning for biostratigraphy and paleogeography)

(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. Radiolarians 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)


(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))


(Red mudstones below Singa Fm tilloid-bearing sediments yield uppermost Devonian marine fossils (Meor & Lee (2004) interpret red beds of nearby NW Peninsular Malaysia as Late Devonian- earliest Carboniferous))
9. Hominids, Quaternary Mammals


(Pleistocene pygmy stegodonts in Sulawesi, Flores and Timor, areas now separated by deep seas. Dwarf Stegodon populations coexisted in Flores and Timor, and apparently wandered back and forth in Pleistocene)


(Macaque fossil tooth from Pleistocene of Ngandong along Solo River, site of Homo soloensis. Supports earlier interpretations of open-country habitat)


303


(Geologic setting of terraces of Walanae River, which contain Pleistocene vertebrate fossils (Archidiskodon-Celebochoerus fauna of Hooijer, 1948), and stone artefacts (Tjabenge industry))


(Year's of fieldwork in C Java between 1977-1981 failed to find conclusive evidence for E-M Pleistocene tools used by Homo erectus. Many stone artifacts were found across E Java, but these could be from modern Homo)


(online at http://www.kitlv-journals.nl/index.php/btlv/article/view/2001/2762) 

(Review of stratigraphy and hominid fossils of C Java. Solo River deposits near Trinil two units: upper unit typical modern Solo river terrace deposits with Homo soloensis, lower unit Pleistocene clays, silts, sands and gravels, with Homo erectus)


(Homo soloensis found in 1930's in High Terrace of Solo River near Ngandong, with associated stone implements. Th/U ages for Ngandong vertebrate remains suggest Upper Pleistocene age (~30-100 ka?))


(Early discussion of environmental setting of Pleistocene Pithecanthropus erectus (Java man). Recognized that during Pleistocene glacial lowstands Sumatra and Java were connected with Borneo and Malay Peninsula, forming landmass. Java Pleistocene mammal faunas of Siamese and Indian affinity and believed to have migrated from SE Asia mainland in NW)


(Sangiran Lower Lahar Unit debris flow age 1.9 Ma, terminates Late Pliocene shallow marine sedimentation)

{Geomorphology, palynology, biogeography and vegetation/climate modelling suggests N-S 'savanna corridor' through Sundaland continent through Last Glacial Period at time of lowered sea-level. Minimal interpretation of 50-150 km wide zone of open savanna vegetation along divide between S China and Java Seas, forming land bridge between Malay Peninsula, Sumatra, Java and Borneo and served as barrier to dispersal of rainforest-dependent species between Sumatra and Borneo. Savanna corridor may have provided convenient route for rapid early dispersal of modern humans through region and on into Australasia)


(online at: http://hopsea.mnhn.fr/pc/thesis/PhD_Bouteaux2005.pdf)

('Paleontology, paleoecology and taphonomy of the E-M Pleistocene mammals from the Sangiran hominid site, Central Java)


('The faunal assemblages associated with Homo erectus sites at Sangiran (M Pleistocene, Java'). Homo erectus in fluvial deposits outcropping in several localities. Thirteen taxa of M Pleistocene mammals determined. Lithic tools rare at these sites. Mechanical action of water responsible for accumulations)


(Excavations in Sangiran Dome produced numerous mammal fossils, including Homo erectus. Bones most common in M Pleistocene fluvial Kabuh Fm volcanoclastics, dominated by teeth and extremities of large bovids and smaller cervids, mostly in fragments. Modification of assemblages by water action. Carnivores and traces of their actions rare. Anthropic influence at Ngembung 2 site, with occurrence of lithic artifacts)


(Tiny hominid Homo floresiensis from Liang Bua cave on Flores)


(C Flores Soa Basin sites contain stone artefacts associated with Stegodon florensis, Komodo dragon, rat, etc., dated as 840-700 ka. Apparent technological continuity with those excavated from Late Pleistocene at Liang Bua cave, 50 km to W, dated as 95-74 and 12 ka, and associated with small-bodied Homo floresiensis)


(Wolo Sege, a new site in the Soa Basin has in situ stone artefacts stratigraphically below previously discovered Mata Menge site.ignimbrite overlying artefact layers erupted 1.02 Ma, providing new minimum age for hominins on Flores and predates disappearance from Soa Basin of "pygmy" Stegodon and giant Geochelone)

Continental fossil vertebrates good indicators of former land connections between continental blocks. Vertebrate fauna from Norian Huai Hin Lat Fm of NE Thailand close affinities with faunas from Laurasia, and indicates continental link between Indochina microcontinent and Laurasia in Late Triassic)


(First report of Miocene microvertebrates from Mae Moh coal mine, Lamphang Province, N Thailand. From Q and K coal seams, previously dated between 13.1-13.3 Ma, but similar to Mae Long fauna from Li Basin, estimated to date between 16-18 Ma. Associated with fragments of the primitive deer Stephanocemas cf. rucha and pig Conohyus thailandicus)


(Brief review of mammal occurrences in Tertiary basins of Thailand: Krabi Basin (Late Eocene, tropical swamp), Nong Ya Plong (Late Oligocene, tropical), Mae Moh basin (M Miocene, tropical with temperate elements), Chiang Muan (M Miocene), Khorat (Late Miocene))


(1.6- 1.5 Ma old cut marks on Pleistocene bovid bones from Pucangan Fm in Sangiran, inflicted by thick clamshell flakes, document use of first tools in Sangiran and oldest evidence of shell tool use in world)


(Pleistocene Stegodon-Ailuropoda fauna of S China and peninsular SE Asia contains ape species previously attributed to early hominins, but likely incorrect. Early hominins may have inhabited parts of S China, in areas devoid of forest, but not with heavily forested, humid-climate adapted Stegodon-Ailuropoda mammalian fauna)


(Many fossil remains of H. erectus found In C Java, but not sure which tools belonged to H. erectus. Sangiran and Ngandong industries of small flakes provisionally connected with H. erectus soloensis. Handaxe-like tools from Pacitan, Java and Cabenge, Sulawesi are of uppermost Pleistocene age and work of modern humans)

('Preliminary communication on the occurrence of fossil bones in the hill country N of Jetis and Perning, C Java'. Localities N of Mojokerto. Bone-bearing layers similar to those from Trinil, and considered to be Pliocene in age (now viewed as Pleistocene; HvG)


('Second communication on the occurrence of fossil bones in the hill country N of Jetis and Perning, C Java')


(On fossil rabbits/ hares from Pleistocene of Sangiran, C. Java)


(Revision of two extinct Javanese crocodylian species Gavialis bengawanicus Dubois 1908 and Crocodylus ossifragus Dubois 1908 (= C. siamensis Schneider 1801). Both found with Stegodon-Homo erectus fauna, which is considered to be largely result of E Pleistocene dispersal from Siwaliks Hills via Siva-Malayan route)


('Remark on the fossil vertebra found on Billiton')


(Fossil faunas from Punung, Java, and Sumatran caves. Biostratigraphically intermediate between Ngandong and Wadjak faunas, and both indicative of humid forest climate)


(Online at http://www.repository.naturalis.nl/document/148593)
(Description of large Dubois collection in Leiden Naturalis museum and its role in studies of Java Pleistocene stratigraphy, mammal faunas, faunal migrations, hominid evolution, etc.)

(online at: http://www.journalarchive.jst.go.jp/...)

('The Quaternary faunas of Java')

(Brief review of Pleistocene mammal fossil occurrences in SE Asia. E-M Pleistocene migration via Siva-Malayan route from Sivaliks via Birma to Java brought in Homo erectus in M Pleistocene. During Late Pleistocene Sunda Shelf became connected with continent, causing migration from China, Vietnam, Cambodia via 'Sino-Malayan' corridor, bringing in Homo sapiens and leading to extinction of Homo erectus)


(Fauna at Trinil type locality is older than 'Jetis-fauna' of Von Koenigswald 1934 and also older than Kedung Brubus fauna. Many endemic species, suggesting island setting)


(Question correctness of Swisher et al. (1994)- relatively old radiometric ages of Java hominids (1.8-1.66 Ma instead of 'conventional' 0.97-0.73 Ma)


Downing, K.F., G.G. Musser & L.E. Park (1998) - The first fossil record of small mammals from Sulawesi, Indonesia; the large murid, Paruromys dominator, from the Late(?) Pliocene Walanae Formation. In: Y. Tomida et al. (eds.) Advances in vertebrate paleontology and geochronology. Nat. Science Mus. Tokyo, Mon. 14, p. 105-121. (Discovery of first small mammal fossils from Sulawesi: two teeth of large rat species, identified as Paruromys dominator, from Walanae Fm at Lakibong, SW Sulawesi)


Dubois, E. (1937) - On the fossil human skulls recently discovered in Java and Pithecanthropus erectus. Man 37, p. 1-7. (Recently discovered Homo soloensis is primitive Homo sapiens and proto-Australian, nothing in common with P. erectus)

'(On the age of the Kendeng beds with Pithecanthropus erectus Dubois. Overview of Kendeng-Solo River Late Pliocene-Pleistocene stratigraphy. Recognizes two similar-looking fluvial packages at Trinil, the lower one the true Trinil beds with Pithecanthropus and of Early Pleistocene age ('Unterdiluvial'))

'(Dubois' age determination of the Kendeng beds- a reply. Reply to Dubois 1908 paper)

'(Review of Selenka & Blankenhorn 1911 report on Trinil expedition and its results)

('The bone industry of the Holocene Keplek horizon of Song Terus cave, Punung, E Java'. Gunung Sewu site)


'(The fossil humans discovered in Java since the 1980’s')


'(Present day faunal endemism suggests Sulawesi was cluster of islands until quite late in geologic time)

'(Critique of Swisher et al. 1996 dating results of Ngandong hominids; consider the Solo high terrace to represent a mix of materials reworked from different levels, sites, and ages)

(Dating on animal teeth from Song Terus cave, Gunung Sewu, E Java shows that cave belongs to karstic system which has been in place since M Pleistocene (216, 392 ka))


Harrison, T., J. Krigbaum & J. Manser (2006) - Primate biogeography and ecology on the Sunda Shelf islands: a paleontological and zooarchaeological perspective. In: S.M. Lehman & J.G. Fleagle (eds.) Primate biogeography, Springer, New York, p. 331-372. (Non-human primates on Sundaland taxonomically diverse (27 species), and relatively high provinciality and endemism. By Late Pliocene main islands of Sunda Shelf had primates that included Pongo pygmaeus, Hyllobates spp., Macaca nemestrina etc. on Sumatra, Java, Borneo and Mentawai Islands. Most probably arrived during Pretiglian cold phase, starting at ∼2.8 Ma, when sea levels fell by >100 m)


Hennig, E. (1911) - Die Fischreste. In: E. Selenka & M. Blanckenhorn (eds.) Die Pithecanthropus Schichten auf Java, Engelmann, Leipzig, p. 54-60. (Description of Pliocene fish remains from Trinil, excavated by Selenka expedition)


(online at: http://www.repository.naturalis.nl/document/149035)-
(On Pleistocene pig from Tjabenge area, S Sulawesi)

(On Pleistocene shark teeth from Tjabenge area, S Sulawesi)

(On Pleistocene large tortoise fossils from S Sulawesi)


(online at: http://www.repository.naturalis.nl/document/149695)
(Dwarf elephantoid from area N of Djetis and Perning in E Java, collected by Cosijn)

(On Pleistocene elephant fossils from Java, Sumatra, Sulawesi, India, etc.)

Hooijer, D.A. (1956)- The lower boundary of the Pleistocene in Java and the age of *Pithecanthropus*. Quaternaria 3, p. 5-10.
(Mammal fossils suggest Tjidjoelang and Kali Glagah faunas of Java are of basal Pleistocene age)

(Reiteration of 1952 position that Tjidjulang and Kali Glagah mammal faunas of Java should be assigned to Villafranchian, Early Pleistocene)


(online at: www.repository.naturalis.nl/document/148928)

(Pleistocene mammal faunas discovered in fluvial deposits of Tjabenge area SW Sulawesi by Van Heekeren in 1948 different from any Pleistocene fauna in Indo-Australian region: island fauna with dwarf elephant and buffalo, giant tortoise, freshwater sharks and rays, etc.)


(Online at: http://www.repository.naturalis.nl/document/149780)
(On mammal fossils from Sangiran donated to Leiden museum by Van Heekeren and Houboldt. Not much new)

Hooijer, D.A. (1965)- Note on *Coryphomis buhleri* Schaub, a gigantic murine rodent from Timor. Israel J. Zoology 14, p. 128-133.
(Large Pleistocene rat fossils from Liang Leluat cave, SW Timor, collected by Verhoeven at Maubesi River)
(Pleistocene dwarfed elephants known from Celebes, Flores and Timor described and relationships considered. Pygmy forms arose independently on each island as result of isolation and genetic drift favouring small size. Wherever we find pygmy elephants we have also giant rodents)


(Additional description of Pleistocene dwarf elephant mandible and molars collected by Verhoeven E of Atambua, W Timor N coast, first described as Stegodon timorensis by Sartono 1969)


(Flores and Timor Middle-Late Pleistocene Stegodon elephants much smaller than Java Stegodon, from which they probably evolved)

(On Pleistocene 'komodo dragon'-like lizard fossils from gravel deposits, collected by Verhoeven in Atambua area, W Timor)

(Descriptions of new mammal material collected by 1970 Dutch-Indonesian expedition to Beru area, Sulawesi)

(online at: http://www.repository.naturalis.nl/document/150495)


(Comments on Sondaar et al. 1983 paper. Hooijer does not accept Kedungbrubus fauna is younger than Trinil fauna, but are roughly equivalent)
(online at: http://www.sekj.org/PDF/anzf21/anzf21-135-141.pdf)
(Dispute De Vos (1982) interpretation that Trinitil mammal fauna is older than the Kedungbrubus fauna)

(online at: http://www.utexas.edu/cola/files/77690)


(online at http://www.utexas.edu/cola/depts/anthropology/projects/huffman/6-SoloProc2001.pdf)
(Same paper as above. Homo erectus’ homeland was volcanic archipelago with variety of paleoenvironments like Java today)

(Perning/Mojokerto Homo erectus believed to be latest Pliocene)

(online at: http://www.paleoanthro.org/journal/content/PA20100001.pdf)
(Geologist of Geological Survey of Netherlands Indies unearthed 14 Homo erectus fossils in 1931-1933 from Excavation site I Ngandong. Hominin discoveries and other vertebrate remains from thin, gravelly volcaniclastic stratum near base of fluvial terrace remnant ~20m above Solo River)


(manuscript online at: http://www.utexas.edu/cola/files/793055)
(Homo modjokertensis remains found in 1936 found in situ in Plio-Pleistocene bedrock. Discovery site formed as fluvial channel on delta plain of ancient Mojokerto Delta)

(Mojokerto skull discovery site was probably in beds 20m higher than ash layer dated as 1.81 Ma by Swisher et al. 1994)

(Literature review of published radiometric dates of Upper Pucangan Beds (~0.85-1.2 Ma) and Lower Kabuh Beds (~0.5-0.7 Ma)

(Indonesian hominid fossil discoveries catalogue in 1975 listed 57 hominids, in 2003 list more than doubled, albeit lacking provenance for some discoveries)

(online at: http://www.plosone.org/article/info:doi%2F10.1371%2Fjournal.pone.0021562)
(Wide range and conflicting results of radiometric ages for hominid-bearing beds of East Java. New Ar/Ar ages from '20m terrace' at Ngandong and Jigar also inconsistent, but suggesting older age than currently accepted)


(Description of new subspecies of Javan lutung, based on tooth-bearing upper jaw fragment from volcanic breccia between U Kalibeng Fm and Lower Pucangan Fm, 500 m S of Sangiran. Geochronological age 1.9 Ma, making it oldest monkey in SE Asia. Morphological similarities to living leaf monkeys of Java, but larger)

(Reviews of paleoanthropological research in Indonesia since 1889. Three periods, with most finds in second one (1931-1941). Most finds are skull fragments of Pithecanthropus erectus, from M Pleistocene Kabuh Fm in Sangiran. K/Ar dating gives age of 1.9 ± 0.4 million years for Jetis beds at Perning (site of Mojokerto juvenile calvaria) and 0.83 Ma for Trinil beds at Sangiran)

(online at: http://www.persee.fr/web/revues/home/prescript/article/bmsap_0037-8984_1975_num_2_3_1816)
(Bodily remains of Pithecanthropus of Java consist of cranial and lower limb bones of ~50 individuals, from Lower and Middle Pleistocene beds (~1.9 to 0.2 Ma). Hiatus of at least 150,000 years existed between last Pithecanthropus and first Homo remains in Asia)


Keates, S.G. & G.J. Bartstra (1994)- Island migration of early modern Homo sapiens in Southeast Asia: the artifacts from the Walanae Depression, Sulawesi, Indonesia. Palaeohistoria 33/34, p. 19-


Koumans, F.P. (1949)- On some fossil fish remains from Java. Zool. Mededeel., Leiden, 30, 5, p. 77-82. (online at http://www.repository.naturalis.nl/document/150405) (Description of rel. large Pleistocene fresh water fish remains from C Java, mainly Trinil, collected by Dubois)


Kunimatsu, Y., B. Ratanasthien, H. Nakaya, H. Saegusa & S. Nagaoka (2005)- Hominoid fossils discovered from Chiang Muan, northern Thailand: the first step towards understanding hominoid evolution in Neogene Southeast Asia. Anthropological Science 113, 1 p.85-93. (Upper molar of large-bodied Miocene hominoid found in 2000 in lignite mine in Chiang Muan basin, N Thailand was first record of Miocene hominoid from SE Asia. Age estimated to be M-L Miocene boundary (~10-12 Ma). In 2003 more hominoids found at same site, and named. Lufengpithecus chiangmuanensis)


Langbroek, M. & W. Roebroeks (2000)- Extraterrestrial evidence on the age of the hominids from Java. J. Human Evol. 38, p. 595-600. (Review of uncertainties of numerical ages assigned to Java Homo erectus fossils. Presence of tektites in middle Bapang deposits can be tied to large Australasian strewnfield from asteroid impact near Laos or Cambodia around 700,000-800,000 years BP. This would make age of most Java hominids 1 Ma or younger)

Larick, R., R.L. Ciochon, Y. Zaim, Sudijono, Suminto, Y. Rizal et al. (2001)- Early Pleistocene 40Ar/39Ar dates for Bapang Formation hominins, Central Jawa, Indonesia. Proc. Nat. Acad. Sci. USA 98, 9, p. 4866-4871. (online at: http://www.pnas.org/content/98/9/4866.full.pdf+html) (At Sangiran Dome ages around 1.5 Ma for beds with earliest Pithecanthropus erectus material, 1.02 Ma at point above hominin sequence and 1.25 Ma at intermediate level that yielded four nearly complete crania)


(Ages of Java mammal assemblages: Satir ~1.5 Ma, Ci Saat ~1.2 Ma, Trinil HK ~1.0 Ma, Kedung Brubus ~0.8 Ma)


Louys, J. & E. Meijaard (2010) - Palaeoecology of Southeast Asian megafauna-bearing sites from the Pleistocene and a review of environmental changes in the region. J. Biogeography 37, 8, p. 1432-1449.

(Reconstructions of habitat of 25 Pleistocene sites in SE Asia with medium- and large-bodied mammals. Sites classified as closed (continuous tree cover), mixed (heterogeneous tree cover) and open (limited to no tree cover; incl. Trinil)


(SE Asia dominated by mix of savannah, open woodlands and evergreen forests in much of Pleistocene, conditions ideal for early hominin subsistence. These conditions would have been rare for much of rest of Asia during glacial periods. SE Asia was possible refugium for hominins during these periods)


('Remnants of prehistoric elephants from Java and Bangka'. Early paper on Pleistocene elephant molars)


(Reprint of Martin (1884) paper above)


('Fossil mammal remains from Java and Japan'. Mainly on Stegodon molars)


('Fossil mammal remains from Java and Japan'. Early description of Pleistocene mammal remains collected by Raden Saleh, mainly from C Java Solo area, mainly elephants and deer. Reprint of Martin (1886) paper above)


('New vertebrate remains from Pati-Ajam on Java'. Early paper on Pleistocene mammals: Mastodon, Stegodon, Eulephas, Bos from Pati-Ajam mountains)
(Mainland SE Asia is surrounded by Middle Pleistocene hominid remains in India, S China and Indonesia, but little evidence from mainland. Region fits into great arc of human dispersal from Africa to Australia)


(On modern-shaped hominid tibia recovered in 1977 from Sambungmacan, C Java)

(During last glacial several areas in Sunda region remained forest covered: W Sumatra, NW Borneo, Malacca Straits and around Palawan. Other areas may have had more open vegetation types like tree savanna, or open deciduous forest: Malay/Thai Peninsula, Java Sea area, including Sunda Strait, and E Borneo)

(New Miocene-Quaternary biogeographic models for SE Asia that help explain present-day distribution patterns and evolutionary relationships between mammal species)

(Comparison of archeological, paleontological and hominin records of India and Java)


(On stone tool types in Indonesia)


(Field study and redating of two pumice horizons at site of Homo erectus skull found by Duijffes (1936)- at Mojokerto, E Java, indicates age is less than 1.49 Ma, not the much-hyped 1.8 Ma by Swisher and others)


(Excavations at Liang Bua cave on Flores yielded tiny hominins, assigned to new species, Homo floresiensis. It existed from before 38 ka until at least 18 ka. Associated deposits contain stone artefacts and animal remains, including Komodo dragon and endemic, dwarfed species of Stegodon. H. floresiensis originated from an early dispersal of Homo erectus and overlapped in time with Homo sapiens in the region)

(Song Gupuh cave in Gunung Sewu Limestones, E Java, over 16 m of deposits with faunal sequence spanning 70 ka. Terminal Pleistocene- Early Holocene period of maximum biodiversity. Human activity, especially after onset of Neolithic around 2.6 ka, contributed to progressive loss of species from area)


(Review of Pleistocene stratigraphy and hominids and stone tools in Java, NW India, Burma and N China)

(Review of Pleistocene stratigraphy and hominids and stone tools in NW India, Burma, N China and Java)

(Analysis of planktonic marine diatoms from marine intercalations in lowermost hominid-bearing beds and from underlying U Kalibeng Fm marine sediments in E Java (~2.1-1.9 Ma age for U Kalibeng assemblage))


(‘The discovery of Paleolithic human skulls on Java’. On new hominin skull discoveries in lower part of 20m river terrace at Solo River at Ngandong, C. Java)

(‘Homo soloensis, a new Upper Pleistocene hominid from Solo River terrace at Ngandong, E Java’)

(‘A new Pleistocene hominid from Java. Similar to above papers on Ngandong 'Solo Man' discovery, in German)

(‘A prehistoric culture center along the Solo River’. On mammal and hominid remains in Pleistocene fluvial terraces near Ngandung, Solo River downstream of Ngawi, E Java. In addition to bones, also various man-made tools made from bones)


(All known Asian hominids <1 Million years old, and all early Asian hominids can be accommodated in Homo erectus. Entire record of Homo erectus in Asia may only span period of ~ 0.9-0.3 Ma. Maximal exposure of continental shelves such as Sunda occurred at ~ 3 Ma, 1.25 Ma and 0.65-0.45 Ma. Exposures at 1.25 Ma and 0.65-0.45 Ma most likely provided opportunities for migration of hominids and Pleistocene mammals to Java)


Rizal, Y., Y. Zaim & Y. Iriani (2005)- Late Tertiary fossil whale from Surade, South Sukabumi, West Java. Buletin Geologi ITB 37, 1, p. 29-34.


(First description of Pleistocene dwarf elephant from Timor, collected by Verhoeven in 1964, 5 km E of Atambua)

(Pithecanthropus C mandible is from surface of Lower Pleistocene Putjangan beds from Sangiran area, C Java. Encrusting matrix of mandible with smaller foraminifera, suggesting Late Lower Pleistocene age (NB: most forams in Sangiran fluvial Pleistocene deposits are reworked from underlying marine beds; HvG).
(New fossil Homo erectus skull discovered in 1969 at S flank Sangiran dome, at base of low bluff on S side of Putjung creek)

(Description of additional Stegodon tooth, collected by Verhoeven from sandy conglomerate overlying marine claystones near Umaklaren (Atambua), W Timor)


(First report of Pleistocene Stegodon mandible on Sumba, at Watumbaka, described as Stegodon sumbaensis)


(Primitive stone artefacts named 'Sangiran flakes' limited to Top Kabuh/ Base Notopuro Formations at Sangiran, none found in the lower levels with hominid remains. Appear to be associated with more advanced Homo erectus ngandongensis)


(Until 1980 the subdivision of Pleistocene human fossils as proposed by Von Koenigswald (1968) was used. New discoveries in last 5 years necessitate re-assessment. Earliest wave of human migration into SE Asia (Java) at ~1.8 Ma, coincided with onset of Gunz glacial. Before this period most of SE Asian region still inundated by sea, hampering movement of early humans from Asia)


Semah, F., C. Falgueres, Y. Yokoyama, G. Feraud, H. Saleki & T. Djubiantono (1997) - Arrivee et disparation des Homo erectus a Java, les donnees actuelles. Abstracts 3rd Mtg European Assoc. Archaeol., p. 11-12. ('Arrival and migration of Homo erectus on Java, the actual data'. Critique of Swisher et al. (1994), suggesting their 1.66 Ma age assigned to H. erectus skulls from Sangiran is based on radiometric age of volcanic tuff that underlies these skulls and therefore too old)

Sangiran dome show that emergence of the first dry land at Sangiran, took place at end and just after Olduvai subchron. Therefore ~1.7 Ma is max. age for arrival of first hominids at Sangiran.


Semah, A.M. & F. Semah (2012)- The rain forest in Java through the Quaternary and its relationships with humans (adaptation, exploitation and impact on the forest). Quaternary Int. 249, p. 120-128. (Landscape change in Java over last 2.5 million years highly complex, with repeated expansion and fragmentation of rain forest. Evidence of intensive human impact on rain forest observed late, ~1500 years ago)

Semah, A.M, F. Semah, T. Djubiantono & B. Brasseur (2010)- Landscapes and hominids' environments: changes between the Lower and the Early Middle Pleistocene in Java (Indonesia). Quaternary Int. 223, p. 451-455. (Change in paleoenvironments in Lower and early M Pleistocene, based on sediment and pollen records in C Java. 'Grenzbank' layer at ~0.9 Ma at Sangiran marks major tectonic (folding of Kendeng zone) and climatic change (fragmentation of rainforest cover))


(Recent field survey in Sumba relocated original locality of Stegodon sumbaensis mandible described by Sartono (1979). At Lewapaku dwarf Stegodon found, with tooth of Varanus komodoensis and giant murine rodent. Lewapaku fauna similar to 900 ka old Tangi Talo fauna from Flores)

Shipman, P. (2001)- The man who found the missing link. Simon & Schuster, New York, 495 p. (Story of Eugene Dubois who found ‘Java Man’ at Trinil in 1891)


(Brief review of Indonesian ‘older’ Paleolithic stone tool assemblages. Human presence on Java dates back to ~1.5 Ma, but no stone tools known older than ~1.0 Ma)


(Modern humans in Island SE Asia since at least 50,000 years, commonly thought to be from Neolithic dispersal from China. Genome sequencing of modern humans suggest migration of humans from Sundaland across region since start of Holocene, at time of Sundaland breaking up into archipelago by rising sea levels)


('Stegodont elephants from the Kendeng beds on Java'. On Pleistocene Stegodont elephant teeth collected by Elbert)


(Giant tortoises from Sangiran, etc.)


(Re-interpretation of Java fossil mammal successions. From old to young: Satir (early island fauna), Ci Saat, Trinil HK (with arrival of Homo erectus), Kedung Brubus, Ngandong, Punung and Wajak faunas)


(Discussion of possible routes followed by Pleistocene man from China to Australia)


(Quaternary vertebrate assemblages, from old to young: Satir (unbalanced island fauna), Cisaat, Trinil, Kedung Brubus, Ngandong, Punung and Wajak faunas. Homo erectus found in several different stratigraphic levels)


(Discussion of Bartstra (1983)- critique of De Vos, Sartono et al. (1982)- reinterpretation of relative ages of mammalian faunas of Trinil and Kedungbrubus of Java. See also Hooijer and Kurten 1984)


(Homo sapiens generally believed to be first to cross water barriers. Stone tools of 0.7 Ma age on Flores suggest Homo erectus probably also had this capability)

(Artifacts associated with fossil Stegodon tigonocephalus florensis Hooijer and fresh water molluscs in fluvial sands of Ola Bula Fm near Mata Menge, W Central Flores dated as slightly older than 0.73 Ma, were probably made by Homo erectus)

(Review of distribution and origin of stone age obsidian artifacts in Philippines, Sulawesi, Flores, W and E Java, S Sumatra, Borneo and E Timor. Many were probably sourced from islands on which they were found)


(Re-description of two original sites of 'Punung fauna', as first described by Von Koenigswald (1939) and Badoux (1959) from karst hills of S Mountains, E Java. Punung and new nearby mammal site Gunung Dawung reflect tropical rainforest environment with common Pongo (orangutan) fossils. Punung fauna younger than Ngandong, possibly around 100 ka)

(On re-location of Von Koenigswald's Punung sites where in the 1930s he collected hominin remains with mammals indicating presence of tropical rainforest, like orang-utans (Pongo) and gibbons (Hylobates))

(Description of mammals, not including elephants, from Pleistocene of Trinil area, from material collected by Selenka expedition, 1907-1908)

(New H. erectus skull from upper Bapang Fm, between Upper Tuff and Uppermost Lahar. This is youngest level of hominid fossil occurrence in Sangiran)

(online at: http://ro.uow.edu.au/theses/3058/)
(Mainly on morphology and phylogenetic history of Celebochoerus heekereni, an endemic pig species from Pliocene in Walanae Basin, SW Sulawesi)

(Eight radiometric ages obtained from 21 pumice tuff layers and 2 jaites of Pleistocene of Sangiran. Tuffs from Pucangan Fm 1.16 Ma and Kabuh Fm 0.71- 0.78 Ma. Jaites 0.71 Ma)
Swisher, C.C., G.H. Curtis, T. Jacob, A.G. Getty, A. Suprijo & Widiasmoro (1994)- Age of the earliest known hominids in Java, Indonesia. Science 263, p. 1118-1121. (40Ar/39Ar ages from pumice from Mojokerto hominid sites 1.81 and 1.66 Ma, 0.6 million years older than Homo erectus fossils from Olduvai Gorge, and comparable to age of H cf. erectus (H. ergaster) in Kenya. Ages would suggest Homo erectus may have evolved in Asia instead of Africa (NB: these Java age dating results widely disputed in subsequent literature due to erroneous locality information (Huffman et al. 2006, etc.))

Swisher, C.C., G.H. Curtis & R. Lewin (2000)- Java Man- how two geologists’ dramatic discoveries changed our understanding of the evolutionary path to modern humans. Scribner, New York, 244p. (Popular account of events leading to new, but controversial conclusions on human evolution. This ‘dramatic discovery’ of relatively old age of Mojokerto hominids may be based on erroneous location information)

Swisher, C.C., W.J. Rink, S.C. Anton, H.P. Schwartz, G.H. Curtis & A. Suprijo (1996)- Latest Homo erectus of Java; potential contemporaneity with Homo sapiens in Southeast Asia. Science 274, p. 1870-1874. (Hominid fossils from Ngandong and Sambungmacan considered the most morphologically advanced Homo erectus. Dating of fossil bovid teeth collected from hominid-bearing levels gave mean ages of 27 to 53 ka, much younger than previous age estimates for these hominids)


Ter Haar, C. (1934)- Homo soloensis. De Ingen. in Nederl.-Indie, 1, 4, p. 52-60. (Discussion of geological setting of Homo soloensis discovery in Solo River terrace deposits at Ngandong, Kendeng Hills, C Java)


Tougard, C. (2001)- Biogeography and migration routes of large mammal faunas in South-East Asia during the Late Middle Pleistocene: focus on fossil and extant faunas from Thailand. Palaeogeogr., Palaeoclim., Palaeoecol. 168, p. 337-358. (Thailand at boundary of Indochinese and Sundatic faunal provinces and in continental migration route of mammals migrating to SE Asia in M Pleistocene)


Tyler, D.E. & S. Sartono (2001)- A new *Homo erectus* cranium from Sangiran, Java. Human Evolution 16, 1, p. 13-25. (New *H. erectus* cranium found in 1993 at Sangiran M Pucangan Fm, ~1.6-1.8 Ma in age. Braincase and most of face. Skull is longer and consistently narrower than Trinil, possibly female counterpart to Sangiran 17)


Van den Bergh, G.D., J. de Vos, F. Aziz, M.J. Morwood (2001)- Elephantoidea in the Indonesian region: new *Stegodon* findings from Flores. In: Proc. Conf. The world of elephants, CNRS Rome, p. 623-627. (Recent discoveries of fossil Stegodon remains from Flores confirm earlier discoveries. *E. Pleistocene* island assemblage, dated at 0.9 Ma, with dwarf Stegodon sondaari, Varanus komodoensis and giant tortoise remains. *M. Pleistocene* assemblages from numerous localities dated as 0.85-0.7 Ma, contain intermediate-large *Stegodon florensis*, giant *Hooijeromys nusatenggara* and *V. komodoensis*, associated with human stone tools)


(Recent discoveries of Java mammal faunal changes in last 2.5 My to global sea level changes not clear. No proof for presence of mammals on Java during first marked glacio-eustatic sea level lowering at 2.4 Ma. Oldest recognizable fauna is Satir fauna, age between 2-1.5 Ma and indicates island conditions. Isolated conditions continue until ~0.8 Ma, suggested by unbalanced Ci Saat (1.2 Ma) and Trinil faunas (0.9 Ma), when *Homo erectus* arrived. Major faunal immigration at 0.8 Ma with Kedung Brubus fauna, corresponding with marked lowering of glacio-eustatic sea level)

Excavations at Liang Bua limestone cave on Flores faunal sequence spanning the last 95 ky., major climatic fluctuations, and two human species: H. floresiensis from 95 to 17 ka, and modern humans from 11 ka-present. Faunal assemblage comprises island gigantism in small mammals and dwarfing of large taxa. Confirms long-term isolation, impoverishment, and phylogenetic continuity of Flores faunal community.

(Flores E- M Pleistocene stone artifacts too old for Homo sapiens, probably made by Homo erectus)


(On relatively recent mammal and hominid fossils from Wajak cave, Java)

(With reviews of Pleistocene mammal localities and biozones of Java (Ch. 12, p. 172-189), Flores (Ch. 13, p. 190-205), Sulawesi (Ch. 14, p. 206-215), The Philippines (Ch. 15, p. 216-227))

(Listings of Pleistocene mammal species as known from Indonesia in 1931 and bibliography)

(Descriptions of vertebrate fossils collected by geological survey in 1925/26 in residencies of Pekalongan, Bojonegoro, Rembang, Madiun and Solo. First description of E Pleistocene island fauna from Bumiayu with Tetralophodon, deer and giant tortoise Geochelone)

(Field guide to Trinil hominid site, C Java)

(Review of age of Trinil Beds of C Java, distribution of fossil vertebrates in Java, geology of Kendeng zone)


(Stone implements found on Flores similar to those found in Sangiran, C Java and confirm crossing to Flores by Homo erectus)

(‘Contribution to the knowledge of the fossil vertebrate faunas of Java, part 1’. Studies of Pleistocene vertebrate faunas of Java, mainly collected during geological survey Java mapping)
(On new Pleistocene hominid Homo (Javanthropus) soloensis, discovered recently by Oppenoorth)

("On the stratigraphy of the Pleistocene of Java")

(online at: http://www.dwc.knaw.nl/DL/publications/PU00016677.pdf)

("Remarks on the fossil mammal faunas of Java, I'. On the occurrence of Nestoritherium and Hyena in Jetis fauna of Sangiran, C. Java)

("Remarks on the fossil mammal faunas of Java, II'. On a Jetis fauna from the Tambakan beds SE of Subang, C. Java, collected by Harloff)

("On some fossil mammals of Java'. Popular review of skeletons of mammals from Java in various museums)

("The Neolithic in the area of Bandung")

("A fossil hominid from the Early Pleistocene of East Java'. Small hominid skull from Upper Pucangan beds near Mojokerto area, named Homo modjokertensis)

(online at: http://www.dwc.knaw.nl/DL/publications/PU00016947.pdf)
("First communication on a fossil hominid from the Early Pleistocene of East Java'. Same paper as above on discovery of child skull in Upper Pucangan beds at N flank Kedung-Waru anticline near Mojokerto, named Homo modjokertensis)

(online at: http://www.dwc.knaw.nl/DL/publications/PU00017126.pdf)
("On a new lower jaw fragment of Pithecantropus from Trinil Beds at Sangiran Dome, C. Java)

(online at: http://www.dwc.knaw.nl/DL/publications/PU00017154.pdf)
("A new Pithecantropus skull'. New hominid skull from basal Trinil Beds at Sangiran Dome, C. Java)
('New Pithecanthropus finds from Central Java'. Review of known hominid fossils from Java)

('The Pleistocene of Java'. Overview of Java Pleistocene stratigraphy and vertebrate/ hominid finds, including 'Punung Fauna not described elsewhere')

('New Pithecanthropus finds 1936-1938; a contribution to the knowledge of the pre-hominids')


('An elephant of the planifrons group from the Pliocene of W Java'. Elephant teeth from 'Tji Djulang', collected in 1935, presumably in Bumiayu area)

(On fossil sea cows ('dugong') from Java, incl. molar of new species Indosiren javanense from U Miocene at Tji Paringan, Nyalindung, W Java. Also Eocene rib from U Eocene of Nanggulan?)

(Listing of known hominid discoveries on Java, reprinted from Catalog of hominid fossils published at 19th Int. Geol. Congr., Alger 1952. Localities include Kedung Brubus, Mojokerto, Ngandong, Sonde, Trinil and Wajak)


('Popular book on discovery of early hominids, particularly on Java')

('Solo Man from Java: a tropical Neanderthalier')

('The absolute age of Pithecanthropus erectus Dubois')


* (Incl. 710,000 yr radiometric age of tektites from hominid-bearing Trinil Beds in Sangiran, C Java ?)

* (Description of jaw and teeth of two genera of Pleistocene sabre tooth cat from Jetis Fauna, Sangiran, C. Java)


* (Crude stone tools from Trinil Beds at Sangiran)

* (Discovery of almost complete brain case of Pithecanthropus in 1937, in Trinil Fm of Sangiran, C Java)

* (Pleistocene Stegodon fauna from Lang Trang caves, 120 km SW of Hanoi, Vietnam, and comparison to similar faunas in S China, Indonesia and Malaysia. Similar to Late Pleistocene cave faunas from Padang (Sumatra), Punung (Java) and Niah (Sarawak))

* (Results of Indonesian- Japanese Research Project 1976-1979. Mainly on Pleistocene of Sangiran area, C Java. Project failed to find new hominid fossils, but good documentation of Sangiran stratigraphy, faunas, radiometric and paleomagnetic studies, etc.)


* (Description of 11 skulls of Homo soloensis, collected between 1931 and 1941 from Late Pleistocene Solo river terrace at Ngandong, C Java. With introduction by Von Koenigswald on geology and associated fauna)

(At Late Pleistocene Ngandong site different taphonomic alterations between human and non-human skeletal elements. Homo erectus remains may be older than many non-hominin fossils)


(Age range for occupation of Liang Bua cave by Homo floresiensis 95-11 ka, most intensive phases of occupation 74-61 and 17-11 ka, depositional age of the holotype skeleton 36-14 ka, and age of oldest human skeletal remains found on Flores 95-74 ka)


(O and C isotopic shifts in stalagmites from W Flores and E Java suggest rapid increase in rainfall around 13 ka or 17–16.5 ka, and may be related to abrupt disappearance of Stegodon and Homo floresiensis in W Flores)


(A recently discovered fossil human skull near Grogol Wetan village in Kabuh Fm of in Sangiran dome, Java)


(Ngawi 1 hominid skull originally described by Sartono 1991 from left bank Solo River near Selopuro, possibly derived from fluvial Pitu terraces, 5 km W of Ngawi. Probably related to Ngandong and Sambungmacan M-U Pleistocene Homo erectus group)


(Sangiran flake industry stone tools made from chalcedony and silicified tuff found in situ in Grenzbank between Kabuh and Pucangan Fms, age at least 800,000 years ago)
(Human skull of Ngawi 1, Solo River near Selopuro, closer to Ngandong-Sambungmacan (40,000 yrs) than to Trinil-Sangiran series. Question is whether skull belongs to subspecies of H. sapiens, or to H. soloensis. After local volcano-tectonic events at 71 ka and catastrophic events at 780 ka, first inhabitants of Java may have disappeared and Ngawi 1 may be new invader from Asia)


(Hominid fossils from Ngandong and Sambungmacan, C Java, Indonesia considered youngest representatives of Homo erectus. Dating of three skulls established minimum age of ~40 ka, with upper age limit of ~ 60 - 70 ka. Homo erectus of Java may have been contemporaneous with the earliest Homo sapiens in SE Asia)

(Until end Tertiary most Indonesian regions still in marine environment. Tectonics and glacioeustatic changes during Pleistocene formed Indonesian Archipelago. Sunda Land acted as land bridge and migration route for Homo erectus and vertebrate faunas from Asia mainland to Java. First arrival of vertebrate faunas from Asia to Indonesia through Sunda Land at end of Late Pliocene, followed by arrival of early hominin (Homo erectus paleojavanicus (Meganthropus paleojavanicus)) to Java in Early Pleistocene (1.6-1.0 Ma))


(New H. erectus left maxilla fragment from base Grenzbank Zone cemented gravelly sands at Bapang, Sangiran. Pumice hornblende 2m above locality with 40Ar/39Ar age of 1.51 Ma)

(Nearly complete left antler, attributed to Axis lydekkeri, found in 2001 in excavation E of relocated site that produced Homo modjokertensis in 1936. Not reported previously from hominid-bearing bed)

(Dwarf Stegodon elephant from Cariang village, Yomo, Sumedang regency, W Java)


(Homo (Javanthropus) soloensis Oppenooorth from Solo River bank terraces thought to belong to either archaic Homo sapiens, or (most paleoanthropologists) evolved Homo erectus)
('The significance of new fossil mammal discoveries near Bumiayu', Java)