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Bibliography and index of the Geology of West Malaysia and Singapore — Supplement 1968

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The following is a supplement to my *Bibliography and index of the geology of West Malaysia and Singapore* published by the Geological Society of Malaysia as their Bulletin No. 2. The supplement includes items overlooked when compiling the earlier work and also all items, so far traced, that were published or issued during 1968. The format and style are the same as in Bulletin 2, save that the supplement is not indexed. It is intended to bring the index up to date in a later publication.

This supplement has been greatly improved by the attentions of P. H. Stauffer. Much correspondence has passed between him and myself in an attempt to make the supplement as complete as possible. I am indebted to him for this work and for many suggestions and improvements resulting from it. A few annotations by Stauffer are identified by his initials.

Published Works

ALEXANDER, J.B.

1968 The geology and mineral resources of the neighbourhood of Bentong, Pahang and adjoining portions of Selangor and Negri Sembilan, incorporating an account of the prospecting and mining activities of the Bentong district. *Mem. geol. Surv. Dep. W. Malaysia* **8,** 250p., 14 pl., 35 figs., 36 tabs., 2 geol. maps 1:63,360 and 5 horizontal geol. sections.

A belated publication of a MS completed in 1952 with some footnotes concerning later fossil discoveries in the area. The strata dip generally WNW and the less competent beds are tightly folded. The oldest rocks (Schist Series) are mica-and quartz-schists and phyllites lying immediately E of the Main Range granite. They are overlain by the Older Arenaceous Series (Bentong Group) consisting of quartzite, conglomerate and grit (rudaceous facies); quartzite to subgreywacke (arenaceous facies) with rare "*Orthoceras*"; carbonaceous and siliceous shales (lutaceous facies); and bedded radiolarian chert (cherty facies). The succeeding Calcareous Series (Raub Group)

consists of mudstone interbedded with intermediate tuffsin theeastern part of the area, and subordinate lenses of crystalline limes tone. The Younger Arenaceous Series (Lipis Group) consists of quartzose grit and conglomerate, greywacke, subgreywacke, and mudstone interbedded with pyroclastics and rare lavas. It can be distinguished from the Older Arenaceous Series by its heavy mineral content: zircon is commoner than tourmaline, the latter being dominantly yellow-brown and angular. In the Older Arenaceous Series tourmaline includes blue-green varieties and is commoner than zircon. The pyroclastics and lavas are referred to the Pahang Volcanic Series. Small altered basic intrusives are associated with the Schist Series: serpentinite and younger dolerite with the Older Arenaceous Series. The Main Range granite is mainly a biotite alkali granite to adamellite. It frequently carries tourmaline and shows great variation in grain size. Among the superficial deposits a rhyolite ash is recorded from between Triang and Mengkarak at 150 ft. above M.S.L.

Half the volume is concerned with economic geology. Lode, eluvial, and alluvial tin mining are described in detail. Primary cassiterite is found in quartz-tourmaline-cassiterite stringers, stockworks and dykes cutting granite; in pegmatites with a greisenized cassiterite-bearing contact zone; and in quartz-topaz-cassiterite sills and dykes. Other economic deposits are noted and the hydrological resources are surveyed. Bibliography and index.

COULTER, J.K.

1950 Peat formations in Malaya. *Malay. agric. J.* **33,** 63–81, 3 pls., 1 fig., 6 tabs.

Acidic forest peat covers approximately one million acres mainly in Perak, Selangor, and W Johore in permanently waterlogged depressions behind a coastal belt of alluvial clay. It varies in thickness due to migrating river channels, *permatang*, but may exceed 18 ft. It contains numerous woody fragments decomposed to varying degrees. A profile seen in a 6 ft. pit in the Telok Forest Reserve, Selangor, is detailed. Chemical analyses of organic and inorganic constituents are given.

DOUGLAS, I.

1967a Natural and man-made erosion in the humid tropics of Australia, Malaysia and Singapore. *Symposium on river morphology. Pub. Int. Ass. Sci. Hydrol.*, **75,** 17–30.

Not seen.

1967b Erosion of granite terrains under tropical rain forest in Australia, Malaysia and Singapore. *Symposium on river morphology. Pub. Int. Ass. Sci. Hydrol.*, **75,** 31–40.

Not seen.

1968 Erosion in the Sungei Gombak catchment, Selangor, Malaysia. *J. trop. Geogr.*, **26,** 1–16, 4 figs., 6 tabs.

Measurements of dissolved and suspended sediment load were made at four stream stations in the catchment. Dissolved load is important at all times, reflecting the intense chemical weathering; it is high in silica in granite areas, but includes much calcium carbonate in the lowland portion underlain by limestone. Clastic sediment moves mainly during high flow stages following heavy storms, suspended sediment concentrations varying from 2.1 to 5788.8 mg/l at one station.

(PHS)

DOWDEN, C.B.

1882 *The Malay Peninsula: its mineral wealth, with a citation of authorities for identifying it with the Ophir of Jewish history and the Golden Chersonese of classical writers.* 20p. London: Effingham Wilson.

Reviews some of the older literature on the occurrence of gold and tin in Malaya and speculates on their exploitation, particularly of gold.

ELLIOT, C.F.

1968 Three new Tethyan Dasycladaceae (calcareous algae). *Palaeontology* **11,** 491–7, 3 pls.

A unique complete specimen of *Epimastopora malaysiana* is described from the Permian of the Kinta Valley.

EYLES, R.J.

1968 Stream net ratios in West Malaysia. *Bull. geol. Soc. Amer.* **79,** 701–711. 4 figs., 7 tabs.

Stream net ratios for a sample of third-and fourth-order West Malaysian drainage basins are determined by stereoscopic methods. Bifurcation ratio is shown to take values similar to those published for a wide range of natural environments. Departures from the laws of drainage composition as defined by Horton and Schumm are studied by means of the within-basin ratio values. The standard deviation of the within-basin ratio values is taken as an index of the magnitude of departure, while the relationship of the within-basin ratios to order gives an indication of the type of departure.

Two physical causes, stream rejuvenation and approach to cyclic old age, are advanced to explain some of the observed ratio variability. Stream rejuvenation causes systematic changes in bifurcation ratios as related to order. Within-basin standard deviations for cumulative length, area, and cumulative slope ratios increase significantly when basin relief is reduced below about 200 feet. The increasing influence of base level as basin relief approaches zero thus

causes departures from the laws of stream length, slope, and basin area.

(Author's abstract)

GARNETT, R.H.T.

1966 Distribution of cassiterite in vein tin deposits. *Trans. Inst. Min. Metall., Lond.* **75B,** B245–73, 22 figs.

Sungei Lembing and Palepahkanan mines are used to partly illustrate different methods by which the characteristics and controls of ore distribution are recognised.

1968a Discussion of Garnett (1966). *Trans. Inst. Min. Metall., Lond.* **77B,** B46–8.

1968b The underground pursuit and development of tin lodes. *Papers tech. conference on tin, London 1967,* **1,** 139–202. London: Int. Tin Council.

Not seen.

GOBBETT, D.J.

1968a The Permian System in Malaya. *Bull. geol. Soc. Malaysia,* **1,** 17–22, 2 figs.

Shallow marine limestone, shale and pyroclastic rocks represent a probably complete Permian sequence in Malaya, although individual outcrops show only fragments of it. This sequence is divided into Lower and Upper Series, the successive faunas of which are of Tethyan character. Correlation is effected mainly by the fusulinacean foraminifera.

1968b Bibliography and index of the geology of West Malaysia and Singapore. *Bull. geol. Soc. Malaysia,* **2,** 152p.

A comprehensive bibliography covering through 1967. The main part (114 p.) is a listing of Published Works 1822–1967 (565 items with careful annotations; over 100 of the items are from the 1960's, while 60 are pre-1900). A Subject Index (23 p.) includes primary and secondary entries. Two appendices list Unpublished Works (manuscripts and reports, mostly of the Geological Survey, and Student theses), and Geological Maps (88 maps at various scales and of various types).

(PHS)

GRUBB, P.L.C.

1968 Geology and bauxite deposits of the Pengerang area, southeast Johore. *Mem. geol. Surv. Dep. W. Malaysia.* **14,** 125p., 17 pls., 24 figs., 53 tabs., geol. map 1:63,360,

A NW-striking belt of sheared vertically dipping graphitic muscovite-quartz schist with thin intercalations of quartz-muscovite-cordierite hornfels forms two small outcrops in the NE of the area, most of which is underlain by a thick succession of mainly acid volcanics. Five coarsely porphyritic granite bosses have thermally metamorphosed the acid tuffs to pyrophyllite-diaspore hornfels.

The history of mining is outlined and bauxite ores classified into 11 lithological types. Bauxite is concretionary and composed of finely granular gibbsite with globules of limonite and haematite and varying amounts of isotropic kaolinite. Bauxitised parent rock retains its original texture but consists mainly of fine grained quartz and gibbsite. Reddish clay associated with bauxite is mainly of quartz, gibbsite and kaolinite with minor anatase: mottled clay underlying bauxite has a similar composition but without anatase: yellow clay overlying bauxite is of kaolinite plus quartz with up to 5% haematite.

Bauxites are also classified into residual and alluvial types. Residual bauxite occurs mainly in the SE of the area between elevations of 50 to 200 ft. It is the more important economically and is mined by open cast methods. The structure and composition of the ore depends on the lithology of the parent rock. The best quality ore is found on dark non-banded rhyolite where it may exceed 26 ft. in thickness. Biochemical processes are important in bauxite formation. Rocks with a high abrasion pH give the best quality ore. Environmental pH; position of the water table; type and amount of vegetation; temperature; rainfall and its seasonal distribution; and texture, jointing and composition of the parent rock are the main factors affecting the formation of residual bauxite. *Lalang*-covered hills are capped by higher grade ore than jungle-covered hills which have a lower soil pH (pH5) and a humus layer forming a less oxidizing environment.

Alluvial bauxite occurs mainly on the south coastal plain. It is conglomeratic, each pebble with a soft yellow rind due to subsequent kaolinisation under reduced pH. Being soft and friable it cannot be far transported and is found in sheltered places on valley floors and as part of a 20 ft. raised beach.

The estimation of reserves, sampling methods, and the beneficiation of the crude ore are discussed. In 1959 West Malaysia was the largest producer of bauxite in Asia but reserves appear limited and deposits outside the Pengerang area are all small and uneconomic. Numerous analyses and profiles are included in the text.

HAILE, N.S. and AYOB, M.

1968 Note on radiometric age determination of samples of peat and wood from tin-bearing Quaternary deposits at Sungei Besi Tin Mines, Kuala Lumpur, Selangor, Malaysia. *Geol. Mag.*, **105,** p. 519–20.

One wood sample was aged at about 36,000 years B.P. This is consistent with the view that the deposits were formed during a period of rejuvenation of river systems during the late Pleistocene. Two peat samples gave a minimum age of about 41,000 years B.P. Meagre palynological evidence indicates the deposit as late Pliocene or younger.

(Modified from author's abstract)

HAMADA, T.

1967 Devonian of east Asia. *Proc. Int. Symp. Dev. Syst., Calgary 1967*, Vol. **1,** 583–96, 6 figs.

Mentions Devonian localities in Malaya and plots these on a map.

1968 Ambocoeliids from red beds in the Malayan Peninsula. In Kobayashi, T. and Toriyama, R. (ed.) *Geology and Palaeontology of southeast Asia*, vol. 5, 13–25, 1 pl., 7 figs. University of Tokyo Press.

A new species of "*Emanuella*" and two new species of a new genus *Echinocoeliopsis* are described from the base of the Kubang Pasu Formation on P. Langgun, Langkawi; Gunong Hutan Haji, Perlis; and near Kg. Jeluton, north Kedah.

HEWITT, B.R.

1967a Highlands peat of the Malayan Peninsula. *Proc. Linn. Soc. N.S.W.* **91,** 231–2.

Highmoor peat is formed at altitudes greater than 1500 m., usually on quartzite or granite ridges vegetated with montane ericeous forest with sphagnum and lichens on the ground. Peat forms to a maximum depth of 5 cm but will accumulate to greater depths in crevices. Its accumulation is due to humid conditions, low temperatures preventing oxidation of plant material, and the presence of acid rock underlying it.

1967b The occurrence, origin and vegetation of lowland peat in Malaya. *Proc. Linn. Soc. N.S.W.* **92,** 58–66, 1 fig., 5 tabs.

Peat swamps occur in association with riverine soils, estuaries, and beaches where barriers impede drainage. Includes data on the distribution of peat formation and stages in the development of peat bogs.

1968 The composition of tropical lowland peat sampled at Klang, Selangor, Malaysia. *Proc. Linn. Soc. N.S.W.* **92,** 266–72, 7 tabs.

Klang peat has a low pH of 2–3 and a low level of plant nutrients with often toxic concentrations of sulphur. Analyses are given, for both virgin and cleared peat, of the ash content, pH, N and organic

C content, cation and anion exchange capacity, inorganic material and humic substances.

HUTCHISON, C.S.

1968a Physical and chemical differentiation of West Malaysian limestone formations. *Bull. geol. Soc. Malaysia*, **1,** 45–56 6 figs.

A large and representative collection from Ordovician to Triassic limestone formations was analysed chemically, mineralogically, and petrologically in an attempt to find a criterion for differentiation independent of fossils. Except in Perlis and Kedah, where the limestones are relatively far removed from granitic intrusions, and where there are significant lithological differences between two limestones of different ages, it was not possible to differentiate limestones by these methods. Thermoluminescence of all the specimens indicates their recrystallization during the Mesozoic Thai–Malayan orogeny and thus the obliteration of the thermoluminescence characteristics of the older limestones.

1968b Invalidity of the Billiton granite, Indonesia, for defining the Jurassic/Upper Triassic boundary in the Thai–Malayan Orogen. *Geol. en Mijnb.* **47,** 56–60, 2 figs.

Includes a discussion of the stratigraphy of the southern part of Malaya and the relations of sedimentary formations to granite intrusions.

1968c Dating tectonism in the Indosinian-Thai-Malayan Orogen by Thermoluminescence. *Bull. geol. Soc. Amer.* **79,** 375–86, 7 figs.

The thermoluminescence "ages" of a large and representative selection of limestone specimens from the Thai–Malayan geosyncline, ranging in stratigraphic age from Ordovician to Triassic, are related, not to stratigraphic age, but to tectonic and magmatic events in the Mesozoic Indosinian-Thai-Malayan orogeny. It is deduced that the revolutionary phase of the orogeny extended from early Triassic to early Cretaceous; folding of the geosynclinal sediments and accompanying recrystallization of the limestone terminated in late Jurassic, but granitic activity extended to early Cretaceous. A post-orogenic phase of granite intrusion, accompanied by secondary calcite veining of the limestones, occurred in early Tertiary and appears to be confined to a narrow zone along the western margins of the Main Range batholith. The thermoluminescence "ages" indicate that the revolutionary phase of the orogeny extended over a period of approximately 150 million years, which is in agreement with the radiometric ages of Malayan orogenic granites.

(Author's abstract)

1968d The dating by thermoluminescence of tectonic and magmatic events in orogenesis. In: McDougall, D.J. (ed). *Thermoluminescence of geological materials*, p. 341–58, 11 figs. 1 tab. London: Academic Press.

Thermoluminescence ages of Malayan limestones are not related to their geological age but to orogenic folding and intrusion causing recrystallization. These events range in age from Upper Permian to Lower Tertiary. The methods involved in studying the thermoluminescence are discussed in detail.

IGO, H. and KOIKE, T.

1968a Ordovician and Silurian conodonts from the Langkawi Islands, Malaya, Part II. In: Kobayashi, T. and Toriyama, R. (ed.) *Geology and Palaeontology of southeast Asia*. vol. 4, p. 1–21, 3 pls. University of Tokyo Press.

Additional records from the measured section of the Setul Formation on Pulau Langgun (Igo and Koike 1966). Forty-one species are described. The age of the Upper Setul Limestone is Upper Llandovery to Lower Ludlow.

1968b Carboniferous conodonts from Kuantan, Malaya. In: Kobayashi, T. and Toriyama, R. (ed.) *Geology and Palaeontology of Southeast Asia*, vol. 5, p. 26–30, 1 pl. University of Tokyo Press.

Five species are recorded and three described from Bt. Charas. They indicate a Lower Namurian age for the limestone and the brachiopods it contains (cf. Muir-Wood *et. al.* 1948).

JONES, C.R.

1968 Lower Paleozoic rocks of Malay Peninsula. *Bull. Amer. Ass. Pet. Geol.* **52,** 1259–78, 5 figs.

Upper Cambrian to Lower Devonian geosynclinal deposits are analysed into a shelf-limestone facies and a euxenic basin facies deposited in a miogeosyncline; a mixed facies deposited over a geanticlinal upwarp; and a eugeosynclinal sequence of flysch facies. Acid pyroclastics and an ophiolitic suite are associated with the latter. Geosynclinal conditions were arrested in the middle Palaeozoic by a mild orogenic uplift in the northwest with subsequent eastward migration of the geosynclinal belt.

(Modified from the author's abstract)

KELLER, G.H. and RICHARDS, A.F.

1967 Sediments of the Malacca Strait, Southeast Asia. *J. sedim. Petrol.* **37,** 102–127.

The Strait was formed in post-glacial times by a rise in sea level. It has a current flow from the NW throughout the year, and a sur-

face temperature and salinity lower than in surrounding seas. A wedge of cold, high-salinity bottom water extends into the strait from the Andaman Sea. Bottom sediments are mainly muddy sands. Organic carbonate and carbon occur only in minor amounts. Large areas of mud and a higher concentration of organic carbon occur near river mouths. The non-calcareous detrital fraction is dominated by quartz, with minor orthoclase and plagioclase. The heavy mineral suite is complex and is primarily leucoxene, ilmenite, magnetite, biotite, and amphiboles. Kaolinite and mixed-layer minerals are the dominant clays. Peat from the clay gives a radiocarbon age of 10,000 B.P.

KOBAYASHI, T. and TAMURA, M.

1968a *Myophoria* (s.l.) in Malaya with a note on the Triassic Trigoniacea. In: Kobayashi, T. and Toriyama, R. (ed.) *Geology and Palaeontology of southeast Asia*, vol. 5, 88–137, 3 pls., 5 figs., 7 tabs. University of Tokyo Press.

Malayan Trigoniacea are reviewed and previously described species (Newton 1900, 1923, Cox 1936, Tokuyama 1961) are revised. *Neoschizodus* (2 spp.) *Myophoria* (1 sp.) *Costatoria* (7 spp.) *Elegantinia* 1 sp.), *Minetrigonia?* (1 sp.), and *Maoritrigonia?* (1 sp.) are described. The Triassic of Chegar Perah ranges from Anisian to Ladinian and ?Carnian: that of Temerloh is Upper Trias: of Jurong-Singapore, Carnian and ?Norian; and that of Kuala Lipis, Ladinian,

1968b Upper Triassic pelecypods from Singapore. In: Kobayashi, T. and Toriyama, R. (ed.) *Geology and Palaeontology of southeast Asia*, vol. 5, 138–150, 1 pl., 2 figs., 3 tabs. University of Tokyo Press.

Seventeen spp. are recorded from the Jurong Industrial Estate. All except the Myophoriids are described. *Cardium scrivenori* is new. The age of the fauna is most probably Lower Norian.

KON'NO, E.

1968 Addition to some younger Mesozoic plants from Malaya. In: Kobayashi, T. and Toriyama, R. (ed.) *Geology and Palaeontology of southeast Asia*, vol. 4, 139–155, 4 pls., 4 figs. University of Tokyo Press.

A new collection from the Sg. Pertang, Kelantan, adds six spp. to the Gagau flora (Kon'no 1966). Some specimens of *Frenelopsis* have female cones.

KOOPMANS, B.N.

1966 Should now read 1966a.

1966b Palaeozoic orogeny in north-west Malaya—a reply. *Geol. Mag.* **103,** 565–7.

A letter replying to Burton (1966b). Points out the palaeontological evidence for a late Silurian-early Devonian orogeny. The pebbly red mudstone of Middle to Upper Devonian age which overlies the Setul Formation on P. Langgun, Langkawi, has a post-orogenic character.
[Top of Setul Formation now known to be Lower Devonian (Jones 1968)].

1968 The Tembeling Formation—a litho-stratigraphic description (West Malaysia). *Bull. geol. Soc. Malaysia*, **1,** 23–43, 13 figs.

The name "Tembeling Formation" is introduced for fluviatile-deltaic-lacustrine sediments of post-orogenic origin in West Malaysia (Malaya). A type section is described in the Tekai River (Pahang), where the total thickness of the formation is over 3,000 meters. The age of the formation is probably late Triassic to Jurassic. A basal member, the "Murau Conglomerate", is described from the Mersing area (Johore); it consists of coarse red purple polymict conglomerates of fluviatile origin These conglomerates decrease in thickness from east to west and vary in composition. The Murau Conglomerate is overlain in the Tahan Range by a sequence of red to grey shales and mud-stones alternating with thick bands of arenaceous-rudaceous rocks. The top of the formation is formed by typical argillaceous red-beds,deposited under warm continental conditions. The Tembeling Formation overlies rocks of varied composition and age. An angular unconformity well developed in the east of the Peninsula decreases in importance westward. Along the east coast in the State of Johore, the formation unconformably overlies metasediments of probable Carboniferous age, whereas to the northwest in the type area in central Pahang Triassic rocks are underlying. The folded Tembeling Formation is unconformably overlain by flat-lying beds of the late Jurassic to early Cretaceous Gagau Group.
(Author's abstract)

LOGAN, J.R.

1851 Should now read 1851a.

1851b Notes at Pinang, Kidah, &c. *J. Indian Archipel.* **5,** 53–65.

Describes the appearance of Gunong Jerai as a mountain formed of stratified rock. Pulo Kra (P. Aman?), between Penang and the mainland are formed of indurated bluish clays, dipping SW in S. Kra. These contain quartz veins, weather to a soft red clay and are compared with the shales of Singapore.

MACDONALD, S.

1968 The geology and mineral resources of north Kelantan and north Trengganu. *Mem. geol. Surv. Dep. W. Malaysia*, **10,** 202p., 22 pls., 29 figs., 4 tabs., geol. map 1:250,000.

This memoir covers an area on which there has been little previous geological information. The MS was completed in 1962. The stratigraphy is largely obscure. The oldest rocks (Taku Schists) are mica schists with garnet and kyanite interfoliated with amphibole schists and folded to form a plunging anticline. These are overlain by clastics and subordinate limestone, of low regional metamorphic grade, tightly folded about N–S axes and probably including strata of Carboniferous, Permian, and Triassic age. Volcanics, mainly tuffs, are widespread and increase in basicity eastwards. They are rhyolitic to andesitic in Kelantan, rhyodacitic and andesitic in north Trengganu, and andesitic in central Trengganu.

Granitic rocks occupy about one third of the area and are divided into nine named masses. They are mainly concordant with the structure of the country rock. Migmatization is described in the Gunong Stong region. Granites of ?Triassic and ?Cretaceous age are interpreted. Intermediate dyke rocks in central Trengganu include lamprophyres, sub-lamprophyres, and dolerites.

Valuable minerals occur widely and include those of Au, Sn, Fe, Mn, W, Pb, Ag, Zn, and Ti. The history of mining activities and details of individual mines are given. Economic prospects for some of the mineral deposits are favourable.

MALAYSIA, GEOLOGICAL SURVEY DEPARTMENT

1968 Work and problems on tin in western Malaysia. *Papers tech. conference on tin, London 1967*, **2,** 611–15. London: Int. Tin Council.

Not seen.

MÜLLER, K.J.

1967 Devonian of Malaya and Burma. *Proc. Int. Symp. Dev. Syst., Calgary 1967*, **1,** 565–8. 2 figs.

Coverage of Malaya includes the following: Presence of Devonian strata in Malaya was proved only recently by discovery of late Devonian index conodonts in limestone near Chemor, Kinta. Middle Devonian has been proved by brachiopods (*Stringocephalus*) west of Kampar, south Kinta. Red mudstones at the base of mostly Carboniferous units in Langkawi and northwest Malaya yield trilobites and other fossils indicating Middle to Late Devonian age. A further doubtful Kinta locality is mentioned. Locations are shown on a map.

[Strata in the uppermost Setul Fm. in Langkawi and the upper Foothills formation in western Pahang are now considered Early Devonian as well]

(PHS)

NOGAMI, Y.

1968 Trias-Conodonten von Timor, Malaysien und Japan

(Palaeontological study of Portuguese Timor, 5). *Mem. Fac. Sci. Kyoto Univ. geol. min. ser.*, **34,** 115–36, 4 pls., 2 tabs.

Lists conodonts from limestone hills near Kodiang, Kedah. These belong to the *Gladigondolella tethydis*, *G. malayensis*, and *G. abneptis* associations and are probably Upper Triassic in age. Four Malayan spp. are described, one new.

NOSSIN, J.J. and LEVELT, Th. W.M.

1967 Igneous rock weathering on Singapore Island. *Z. Geomorph.* **11,** 14–35, 12 figs.

Regoliths, often 10 to 20 m thick, develop over gabbro and granodiorite. Their sandiness is controlled by the size and abundance of quartz crystals in the parent rock. Labile minerals disappear quickly as the distance from the weathering front increases and granulometrically the regolith over gabbroic rocks shows a near-logarithmic distribution close to the weathering front. In the granodiorite regolith the clay fraction is dominantly kaolinite with gibbsite only in small amounts; the 5–300μ fraction has appreciable gibbsite, and kaolinite is less important; the abundance of gibbsite is inversely proportional to the distance from the weathering front; and the iron mineral is haematite. In the gabbro regolith kaolinite is dominant both in the clay and coarser fractions and the iron mineral is goethite.

PIMM, A.C.

1967 Triassic volcanic rocks in East and West Malaysia. *Bull. geol. Surv. Dep. Borneo Region, Malaysia*, **8,** 36–40, 4 figs. 1 tab.

Predominantly basic to acid lavas in East Malaysia and intermediate to acid pyroclastics in West Malaysia are associated with neritic sediments of Triassic age. Analyses when plotted on variation diagrams indicate that volcanic rocks in these two areas do not belong to the same petrographic province but are related to separate tectonic belts occurring in the Sunda Region.

(Author's abstract)

SERRA, C.

1968 Sur quelques empreintes Mésozoïque de Malaisie. *Archs géol. Viêt-Nam*, **11,** 43–51, 3 pls.

Poorly preserved plant fossils, *Ptilophyllum* sp., *Zamites* sp., and *Klukia?* sp. collected from the middle part of the Tembeling Formation north of Maran, Pahang are described. They show affinities to Rhaetic and Liassic species. Also *Paracalamites*, probably of Triassic age is described from N of Mentakab, Pahang.

SINGH, D.S.

1968 Tables for the microscopic identification of tin minerals in Malaysia. *Papers tech. conference on tin, London 1967*, **2,** 479–99. London: Int. Tin Council.

Not seen.

SINGH, D.S. and BEAN, J.H.

1968 Some general aspects of tin minerals in Malaysia. *Papers tech. conference on tin, London 1967*. **2,** 457–78, 499. London: Int. Tin Council.

Not seen.

SNELLING, N.J., BIGNELL, J.D. and HARDING, R.R.

1968 Ages of Malayan granites. *Geol. en Mijnb.* **47,** 358–9.

Most K: Ar ages on micas from the various granites show evidence of having been disturbed by both younger instructions and other tectonic events. However, Rb: Sr whole rock age determinations, generally accepted as being more reliable, indicate Upper Carboniferous (300-280 m.y.) granites mainly in the east of the peninsula; Permo-Triassic (c. 230 m.y.) and late Triassic granites (c. 200 m.y.) mostly from the Main Range; and some late Cretaceous (c. 70 m.y.) post-orogenic granites.

SUNTHARALINGAM, T.

1968 Upper Palaeozoic stratigraphy of the area west of Kampar, Perak. *Bull. geol. Soc. Malaysia*, **1,** 1–15, 1 pl., 4 figs. incl. geol. map 1:50,000.

Six lithological units are recognised ranging in age from Pre-Middle Devonian to Middle Permian. Recrystallized shelly and oolitic limestones form the main part of the sequence, thick dolomites forming the lowest unit. Fossils are listed and a selection figured. Correlation with other areas of Malaya is attempted on a chart.

TAMURA, M.

1968 *Claraia* from north Malaya, with a note on the distribution of *Claraia* in southeast Asia. In: Kobayashi, T. and Toriyama, R. (ed.) *Geology and Palaeontology of southeast Asia*, vol. 5, 78–87, 1 pl. 3 figs., 2 tabs. University of Tokyo Press.

Two spp. of *Claraia* are described from localities arranged along NNW-striking belts in south Kelantan. They are middle Scythian in age.

YOCHELSON, E.L. and JONES, C.R.

1968 *Teiichispira*, a new early Ordovician gastropod genus. *Prof. Pap. U.S. geol. Surv.* **613-B,** 15p., 1 pls., 3 figs.

A new species of macluritacean gastropod, *Teiichispira kobayashi*, is described from the Setul Limestone of P. Langgun, Langkawi and the associated molluscan fauna is discussed. It is made the type species of the genus which is also recognised from lower Ordovician strata in North America. The genus is characterised in part by an elongate horn-shaped operculum, having a fibrous texture when weathered.

APPENDIX I: Unpublished Works

[The following have now been published (see main part of this supplement) and should be deleted from Appendix I in Bulletin 2: Alexander, J. B. 1952MS; Grubb, P. L. C. 1963MS; MacDonald, S. 1956MS.]

AYOB, M.

1968MS *Stratigraphy and sedimentology of the Tembeling Formation in the Gunong Berantai area, Pahang.* M.Sc. Thesis, University of Malaya.

DHILLON, D.S.

1968MS *Recent brackish-water Foraminifera of three estuaries in Malaysia.* M.Sc. thesis, University of Malaya.

HAILE, N.S.

1968MS Preliminary note on occurrence of copper minerals in rhyolitic rocks, Genting Sempah area, Pahang. *Geol. Soc. Malaysia Newsletter*, **15**, 2 only.

JONES, C.R.

1967MS Fauna from the Foothills Formation at Tuan Estate, Karak, Pahang and its significance. *Geol. Soc. Malaysia Newsletter*, **7**, 1–3.

KHOO, T.H.

1968MS *Geology of the Pedu Dam area, north Kedah, West Malaysia.* Honours thesis, Department of Geology, University of Malaya.

ONG, S.S.

1968MS *Geology of the Muda Dam area, Kedah, West Malaysia.* Honours thesis, Department of Geology, University of Malaya.

SIVAM, S.P.

1968MS Radiocarbon dates in the Kinta Valley. *Geol. Soc. Malaysia Newsletter*, **15,** 1 only.

STAUFFER, P.H.

1968MS The Kuala Lumpur fault zone: a proposed major strike-slip fault across Malaya. *Geol. Soc. Malaysia Newsletter*, **15,** 2–4.

SUNTHARALINGAM, T.

1967MS Fossils from the Fort Iskander area, south Pahang. *Geol. Soc. Malaysia Newsletter*, **8,** 1–2.

1968MS Triassic fossil find in Negri Sembilan. *Geol. Soc. Malaysia Newsletter*, **14,** 1 only.

APPENDIX II: Geological Maps

UNPUBLISHED DRAFT GEOLOGICAL MAPS

Delete the following, which are now published:
On a scale of 1:253,440:
North Kelantan and North Trengganu (one sheet)

On a scale of 1:63,360:
New series sheets: 135 (Pengerang)