

Some Notes on Land and Freshwater Mollusca of Malaya

by

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During an excursion organized by the University of Malaya, Singapore, after the Bicentenary and Centenary Congress in honour of CARL VON LINNE, CHARLES DARWIN, and ALFRED RUSSELL WALLACE in December 1958 I had the opportunity to collect land and freshwater molluscs in the Malay Peninsula.

This excursion took place from the 10th to the 23rd of December 1958 under the excellent leadership of Dr D. S. JOHNSON, lecturer in the University of Malaya. We chiefly visited the plains and hills west of the Central Mountain Range in the states of Perlis, Kedah, the Island of Penang, Perak, Selangor, Negri Sembilan and Singapore.

The mountains proper and the jungle on their flanks and tops were not yet considered safe enough to be explored, in consequence of troops of bandits hiding there. In spite of this Dr JOHNSON succeeded in guiding us to several interesting localities.

In addition to the material collected by myself and the other members of our party I will include a collection made by Mr J. DRIJVER in the state of Perak in 1946. Finally a short list is appended containing new records from the state of Pahang, east of the Central Mountain Range, where in recent years members of the Staff and students of the University of Malaya did some ecological field work in the King George V National Park.

Although my report is not by any means a complete account of the non-marine molluscs of the region, yet these faunistical notes may form a small contribution to a future catalogue of the land and freshwater fauna of Malaya.

Most of the material mentioned here is preserved in the Zoological Museum, Amsterdam. Duplicates have been deposited in the Zoological Department of the University of Singapore.

My best thanks are due to Dr F. E. LOOSJES for the correct identification of the species of *Phaedusa*.

SYSTEMATIC PART

Note: The shells of the localities to which no collector's name is added, were collected by the author of the paper. Those where "Dr., 1946" is added were taken by Mr J. DRIJVER.

PROSOBRANCHIA

Hydrocena monterosariana (Godwin Aus:en & Nevill)

Limestone hill near kampong Tebing Tinggi, North of Kangar, Perlis; Batu Caves, near Kuala Lumpur, Great Cave, Selangor.

Leptopoma aspirans Benson

Limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis.

Lagochilus townsendi Crosse

Limestone hill near kampong Tebing Tinggi, N. of Kangar, Perlis; limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis; foot of a hill near the hot springs, near Tandjong Rambutan, N.E. of Ipoh, Perak (Dr., 1946); Batu Caves, near Kuala Lumpur, Selangor.

Cyclophorus aurantiacus (Schumacher)

Limestone hill near kampong Tebing Tinggi, N. of Kangar, Perlis; limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis.

Cyclophorus perdix aquila (Sowerby)

Limestone hill near kampong Tebing Tinggi, N. of Kangar, Perlis; limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis; Batu Caves, near Kuala Lumpur, Selangor.

Rhiostoma asiphon Moellendorff

Limestone hill near kampong Tebing Tinggi, N. of Kangar, Perlis; limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis.

Rhiostoma macalpine-woodsii Laidlaw

Hill near the hot springs, about 400 m from the main road from Tandjong Rambutan to Ipoh, near Tambun, Perak (Dr., 1946); limestone hill S. of Ipoh, near Chinese temple, Perak.

Platyrhapha lowi (De Morgan)

Limestone hill near kampong Tebing Tinggi, N. of Kangar, Perlis; limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis; hill near the hot springs, about 400 m from the main road from Tandjong Rambutan to Ipoh, near Tambun, Perak (Dr., 1946).

Cyclotus penangensis (Stoliczka)

Foot of a hill near the hot springs, near Tandjong Rambutan, N.E. of Ipoh, Perak (Dr., 1946).

Cyclotus setosus (Moellendorff)

Limestone hill near kampong Tebing Tinggi, N. of Kangar, Perlis; limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis.

Tortulosa tortuosa (Beck)

Limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis.

This species was originally described by CHEMNITZ as *Turbo tortuosus* (1795, Conch. Cab. Vol. 11, p. 158, pl. 195, fig. 1882-1883) from the "Nicobarische Eylande".

As, however, CHEMNITZ is not available for nomenclature purposes, the specific name must be drawn from the first later valid reference, this being given by BECK (1837, Index Moll. p. 83) who classified the species as *Urocopiis tortuosa* from I. Antill.

Subsequent authors dealing with *Tortulosa tortuosa* are SOWERBY (1843, Thes. Conch. Vol. 1, p. 152, pl. 28, fig. 185-186 as *Cyclostoma tortuosum* from Nicobar Isles and 1864, Thes. Conch. Vol. 3, pl. 264, fig. 1 as *Cataulus tortuosus* from Nicobar Islands), NEVILL (1881, Journ. As. Soc. Bengal, Vol. 50, Part 2, p. 149 as *Cataulus tortuosus* from Nicobar Islands) and KOBELT (1902, Tierreich, Vol. 16, p. 288, fig. 64 as *Tortulosa tortuosa* from Nicobaren?). The defective shell from Trevandrum, S. India, which NEVILL (l.c.) also classified as *Cataulus tortuosus* will, presumably, be a different species.

The shells figured by CHENU (1859, Man. de Conch. Vol. 1, p. 489, fig. 3614 and 3616) are unmistakably *Tortulosa tortuosa*, but the operculum (fig. 3615) belongs to a different species.

Mr S. P. DANCE, of the British Museum (Natural History), London, when seeing my shells in Amsterdam in July 1959 drew my attention to the fact that they seemed identical with *Perlisia tweediei* described by TOMLIN (1948, Proc. Malac. Soc. London, Vol. 27, p. 225, pl. 11, fig. 6) from Kaki Bukit, Perlis, i.e. the very same region where I took my specimens in December 1958. Mr DANCE could confirm his view when, later on, he compared one of my shells with TOMLIN's holotype in the British Museum.

From the discussion following the diagnosis of *Perlisia tweediei* it appears that TOMLIN compared his new species with *Tortulosa tortuosa*. In spite of the very close resemblance he separated the two on account of the "rather more considerable extent" of the disconnected portion of the body-whorl. The figure published by TOMLIN is not very accurate.

I am very much obliged to Mr DANCE for his help and advice in this matter.

Pollicaria elephas (De Morgan)

Cave in a hill near the bridge over the river in the road from Tandjong Rambutan to Ipoh, Perak; Tambun, Perak (Dr., 1946).

Pupina artata Benson

Foot of a hill near the hot springs, near Tandjong Rambutan, N.E. of Ipoh, Perak (Dr., 1946).

Pupina arula perakensis Moellendorff

Hill near the hot springs, about 400 m from the main road from Tandjong Rambutan to Ipoh, near Tambun, Perak (Dr., 1946).

Pupina aureola Stoliczka

Limestone hill near kampong Tebing Tinggi, N. of Kangar, Perlis.

Pupina lowi De Morgan

Limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis.

Chamalycaeus jousseau mei (De Morgan)

Hill near the hot springs near Tandjong Rambutan, N.E. of Ipoh, Perak (Dr., 1946); hill near the hot springs, about 400 m from the main road from Tandjong Rambutan to Ipoh, near Tambun, Perak (Dr., 1946); limestone hill S. of Ipoh, near Chinese temple, Perak.

Alycaeus gibbosulus Stoliczka

Limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis.

Alycaeus kapayanensis De Morgan

Foot of a hill near the hot springs, near Tandjong Rambutan, N.E. of Ipoh, Perak (Dr., 1946); hill near the hot springs, about 400 m from the main road from Tandjong Rambutan to Ipoh, near Tambun, Perak (Dr., 1946); limestone hill S. of Ipoh, near Chinese temple, Perak.

Alycaeus perakensis Crosse

Limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis.

Alycaeus thieroti De Morgan

Hill near the hot springs, about 400 m from the main road between Tandjong Rambutan and Ipoh, near Tambun, Perak (Dr., 1946).

Bellamyia ingallsiana (Lea)

Small ditch near Tambun, E. of Ipoh, Perak (Dr., 1946); Sidney Lake, near Kuala Lumpur, Selangor; rice fields about 6 miles W. from Kuala Pilah, Negri Sembilan.

Bellamyia sumatrensis (Dunker)

Lake Chenderoh, near Taiping, Perak.

Pila ampullacea (Linné)

Dry ditch near Tandjong Rambutan, N.E. of Ipoh, Perak (Dr., 1946).

Pila scutata (Mousson)

Ditch about 100 m from the main road between Tandjong Rambutan and Ipoh, Perak (Dr., 1946); near the hot springs, near Tambun, E. of Ipoh, Perak (Dr., 1946); Sidney Lake, near Kuala Lumpur, Selangor; rice fields about 6 miles W. of Kuala Pilah, Negri Sembilan.

- Stenothyra polita* (A. Adams)
Mangrove near kampong Kuala Jalan Bahru, W. coast of the Id. of Penang.
- Digoniostoma pulchellum* (Benson)
Swamp near the Batu Caves, near Kuala Lumpur, Selangor.
- Brotia costula* (Rafinesque)
Caves near the Chinese temple, near the hot springs of Tandjong Rambutan, N.E. of Ipoh, Perak (Dr., 1946); Swamp near Tong temple in limestone hill near Ipoh, Perak; river near Jempol (tributary of the River Muar), near Batu Kikir, Negri Sembilan.
- Tbiara scabra* (Müller)
Lake Chenderoh, near Taiping, Perak; swamp near Chinese temple, near the hot springs at Tambun, E. of Ipoh, Perak (Dr., 1946).
- Melanoides tuberculata* (Müller)
Lake Chenderoh, near Taiping, Perak; swamp near Chinese temple, near the hot springs of Tambun, E. of Ipoh, Perak (Dr., 1946); Sidney Lake, near Kuala Lumpur, Selangor; river near Jempol (tributary of the River Muar), near Batu Kikir, Negri Sembilan; rice fields about 6 miles W. of Kuala Pilah, Negri Sembilan; river near Rembia, Negri Sembilan.

PULMONATA

- Lymnaea rubiginosa* (Michelin)
Swamp near Tong temple, N. of Ipoh, Perak; rice fields about 6 miles W. of Kuala Pilah, Negri Sembilan.
- Indoplanorbis exustus* (Deshayes)
Loamy swamp near Gunong Layang Layang, near Tandjong Rambutan, N.E. of Ipoh, Perak (Dr., 1946); swamp near the Batu Caves, near Kuala Lumpur, Selangor; rice fields about 6 miles W. of Kuala Pilah, Negri Sembilan.
- Paraboydsidia frequens* van Benthem Jutting
Limestone hill near Kuala Perlis, Perlis.
- Gyliotrachela hungerfordiana* (Moellendorff)
Limestone hill near kampong Tebing Tinggi, N. of Kangar, Perlis.
- Gyliotrachela saxicola* n.sp. (Fig. 1)
Limestone hill near kampong Tebing Tinggi, N. of Kangar, Perlis.
- Shell small, with little elevated spire and wide last whorl. On its upper side this last whorl is somewhat swollen along the suture and along the periphery. Between these two swellings there is a distinct depression. Below the periphery the last whorl is at first

slightly constricted, after that inflated, and finally abruptly turning towards the umbilicus.

First two whorls minutely pitted, the following ones finely striated according to the growth lines. At irregular intervals the growth lines appear as axial ribs. This sculpture is crossed by equally fine spiral striae. The whole shell is covered by a dark-brown fibrous epidermis which is minutely hirsute along the spiral striae.

Whorls 4-4½ (in the holotype 4½), the last one broad and inflated. Top mamillar, a little obliquely placed on the following whorls. Base rounded. Umbilicus open and very wide.

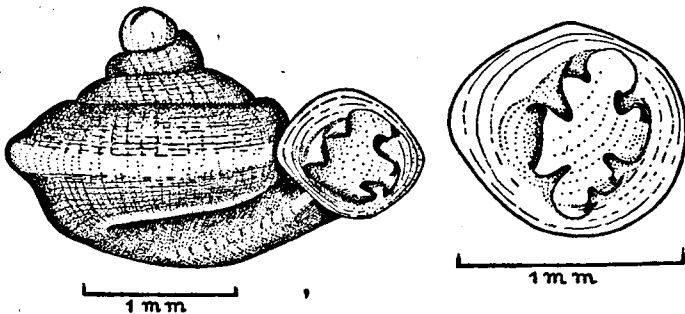


Fig. 1. *Gyltiotrachela saxicola* n.sp. Limestone hill near kampong Tebing Tinggi, N. of Kangar, Perlis, Malaya, December 1958. Holotype.

Aperture quadrangular, with rounded angles, widened, trumpet-shaped. Position of aperture a little oblique, the upper margin receding, the lower one protruding. Peristome continuous, thin, broadened and expanded. The parieto-angular edge is mostly adnate to the previous whorl, but in some shells just free from it. The mouth contains 6-8 teeth. Parietal and angular teeth are separate. Columellar, upper and lower palatal teeth strong, interpalatal, infrapalatal and infraparietal ones small. All teeth are microscopically spiniferous.

Dimensions (in mm):

	Holotype	Paratypes							
Height	1.9	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0
Width	2.7	3.0	2.9	2.9	2.8	2.6	3.0	3.0	2.9
Height of aperture	1.1	1.1	1.2	1.1	1.2	1.1	1.2	1.1	1.1

Paratypes (contd.)

2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8
2.9	2.8	2.7	2.7	2.7	2.6	2.6	2.8	2.6	2.9	2.8	2.8	2.8	2.6
1.0	1.1	1.2	1.2	1.2	1.3	1.2	1.1	1.2	1.3	1.2	1.2	1.1	1.2

The holotype has been figured. Three specimens were too much damaged to be measured. Locality: Limestone hill near kampong Tebing Tinggi, N. of Kangar, Perlis, on the face of the rock (type locality), collected by W. S. S. VAN BENTHEM JUTTING (holotype and paratypes).

The new species resembles most closely *Gyliotrachela salpinx* Van Benthem Jutting (in the press) from Pahang. There are, however, the following differences, (1) the new species is somewhat larger, (2) the spire is lower in comparison with the last whorl, (3) it has a wider umbilicus, (4) the peristome is usually adnate, (5) the colour is dark-brown (not yellowish-brown as in *G. salpinx*), (6) the profile of the last whorl is different from that of *G. salpinx*, (7) the teeth in the aperture are more strongly developed, and (8) there are fewer teeth than in *G. salpinx*.

Compared with other more or less related species *Gyliotrachela saxicola* differs in the following respects:

G. troglodytes is smaller, with higher spire and narrower umbilicus.

G. depressispira has a lower spire and more teeth in the aperture. The keel surrounding the umbilicus has a different position and the aperture faces upwards. This part of the last whorl is always free from the shell.

G. doberryi has a detached aperture and a higher spire.

G. everetti is less wide, with a differently shaped profile of the last whorl. Its aperture is detached.

G. concreta and *G. frubstorferi* have a higher spire and a narrower umbilicus.

Pupisoma orcula (Benson)

Limestone hill near Kuala Perlis, Perlis; limestone hill near Chinese temple, S. of Ipoh, Perak.

Phaedusa filicostata tenuicosta (Nevill)

Kaki Bukit, Perlis (Raffles Mus. Singapore, 1938).

Subulina octona (Bruguère)

Hill near the hot springs, about 400 m from the main road between Tandjong Rambutan and Ipoh, near Tambun, Perak (Dr., 1946); limestone hill near Tong temple, N. of Ipoh, Perak; Batu Caves, near Kuala Lumpur, Selangor.

Lamellaxis clavulinus (Potiez & Michaud)

Hill near the hot springs, about 400 m from the main road between Tandjong Rambutan and Ipoh, near Tambun, Perak (Dr., 1946); limestone hill near Tong temple, N. of Ipoh, Perak.

Lamellaxis gracilis (Hutton)

Limestone hill near Kuala Perlis, Perlis; hill near the hot springs,

about 400 m from the main road between Tandjong Rambutan and Ipoh, near Tambun, Perak (Dr., 1946); Limestone hill near Tong temple, N. of Ipoh, Perak; Batu Caves, near Kuala Lumpur, Selangor; between the bark of a fallen tree, near Seremban Rest-house, Negri Sembilan.

Prosopaeas tchebelense (De Morgan)

Hill near the hot springs, about 400 m from the main road between Tandjong Rambutan and Ipoh, near Tambun, Perak (Dr., 1946); Batu Caves, near Kuala Lumpur, Selangor.

Prosopaeas turriculum (Martens)

Batu Caves, near Kuala Lumpur, Selangor.

Achatina fulica Bowdich

Limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis; garden of the Resthouse at Alor Star, Kedah; limestone hill near Tong temple, N. of Ipoh, Perak; hot springs near Tandjong Rambutan, N.E. of Ipoh, Perak (Dr., 1946); under shrubs near hot springs, near Tambun, E. of Ipoh (Dr., 1946); Batu Caves, near Kuala Lumpur, Selangor.

Plectopylis revoluta (Pfeiffer)

Limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis.

Philalanka marangensis (Aldrich)

Batu Caves, near Kuala Lumpur, Selangor.

Liardetia perakensis (Godwin Austen)

Limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis; foot of a hill near the hot springs, near Tandjong Rambutan, N.E. of Ipoh, Perak (Dr., 1946).

Trochomorpha castra (Benson)

Limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis.

Pseudoplecta bijuga (Stoliczka)

Foot of a hill near the hot springs, near Tandjong Rambutan, N.E. of Ipoh, Perak (Dr., 1946).

Macrochlamys hatchongi De Morgan

Limestone hill Kaki Bukit, Perlis (Raffles Mus. Singapore, 1938).

Sarika resplendens (Philippi)

Limestone hill near kampong Tebing Tinggi, N. of Kangar, Perlis; limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis; Penang Hill, Id. of Penang.

Quantula striata (Gray)

Environs of Lake Chenderoh, near Taiping, Perak; verge of the road near Tambun, E. of Ipoh, Perak (Dr., 1946); Gunung Kubai, near Kampar, Perak; Botanical Gardens, Singapore.

Dyakia salangana (Martens)

Limestone hill near kampong Tebing Tinggi, N. of Kangar, Per-

lis; limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis.

Chloritis breviseta (Pfeiffer)

Hill near the hot springs, near Tandjong Rambutan, N.E. of Ipoh, Perak (Dr., 1946).

Chloritis penangensis (Stoliczka)

Limestone hill near Tong temple, N. of Ipoh, Perak; hill near the hot springs, near Tandjong Rambutan, N.E. of Ipoh, Perak (Dr., 1946).

Chloritis sp.

Limestone hill near kampong Tebing Tinggi, N. of Kangar, Perlis; limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis.

Three shells of a third species of *Chloritis* cannot be classified with one of the two preceding, or any other described species. Presumably it is an undescribed form, but as they are in a not too good condition I have abstained from describing them as a new species. Their top side is absolutely flat, and their sculpture rather coarse. The ground colour is light-brown. Along the suture there is an almost white spiral zone, and below this a dark-brown band above the periphery. This colour pattern reminds one of *C. fruhstorferi* Moellendorff from Java.

Chloritis platytropis Moellendorff

Limestone hill near kampong Tebing Tinggi, N. of Kangar, Perlis; limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis.

Amphidromus fultonianus Laidlaw

Limestone hill near kampong Tebing Tinggi, N. of Kangar, Perlis.

Bradybaena similaris (Férussac)

Penang Hill, Id. of Penang.

Discartemon leptoglyphus van Benthem Jutting

Hill near the hot springs, about 400 m from the main road between Tandjong Rambutan and Ipoh, near Tambun, Perak (Dr., 1946).

Discartemon stenostomus van Benthem Jutting

Limestone hill near kampong Tebing Tinggi, N. of Kangar, Perlis; limestone hill Kaki Bukit, near kampong Wang Tangga, Perlis.

LAMELLIBRANCHIA

Rectidens perakensis (De Morgan)

Lake Chenderoh, near Taiping, Perak.

Contradens ascia ascia (Hanley)

Lake Chenderoh, near Taiping, Perak.

Corbicula javanica (Mousson)

Lake Chenderoh, near Taiping, Perak; small ditch, about 100 m from the main road between Tandjong Rambutan and Ipoh, near Tambun, Perak (Dr., 1946).

Corbicula malaccensis Deshayes

Small ditch, about 400 m from the main road between Tandjong Rambutan and Ipoh, near Tambun, Perak; river near Jempol (tributary of the River Muar), near Batu Kikir, Negri Sembilan.

Landmollusca from the KING GEORGE V National Park, State of Pahang

Note: All shells were collected by scientists of the University of Malaya, mostly in the year 1954. These shells are not specially dated in the following list. Only a few samples, taken some years later, bear the date 1958.

Hydrocena monterosaiiana (Godwin Austen & Nevill)

Batu Landak, Ulu Kenyam Kechil, Pahang; Tomoh Begng, Ulu Kenyam Kechil, Pahang; Gua Chiak, Ulu Kenyam Kechil, Pahang; Batu Kambing, Ulu Kenyam Kechil, Pahang.

Cyclophorus perdix tuba (Sowerby)

Kuala Tahan, Pahang. (1958)

Alycaeus gibbosulus Stoliczka

Kuala Tahan, on trail to Sungei Tekka, under bark of fallen tree (1958).

Opisthostoma crassipupa van Benthem Jutting

Batu Landak, Ulu Kenyam Kechil, Pahang; Gua Chiak; Ulu Kenyam Kechil, Pahang; Batu Kambing, Ulu Kenyam Kechil, Pahang.

Opisthostoma praeco van Benthem Jutting

Tomoh Begng, Ulu Kenyam Kechil, Pahang; Batu Landak, Ulu Kenyam Kechil, Pahang; Gua Chiak, Ulu Kenyam Kechil, Pahang; Batu Kambing, Ulu Kenyam Kechil, Pahang.

Brotia costula (Rafinesque)

Upper Kuala Tahan drainage, Pahang; Chegar Sireh, Kuala Tahan, Pahang. (1958)

Brotia spinosa (Benson)

Kuala Tahan, Pahang. (1958)

Paraboydsidia neglecta van Benthem Jutting

Batu Landak, Ulu Kenyam Kechil, Pahang.

Phaedusa kelantanensis (Sykes)

Tomoh Begng, Ulu Kenyam Kechil, Pahang; Kuala Tahan, on trail to Sungei Tekka, Pahang. (1958)

- Trochomorpha grubaueri* Moellendorff
Kuala Tahan, Pahang (1958).
Pseudoplecta bijuga (Stoliczka)
Forest floor in the National Park, Pahang.
Microcystina townsendiana (Godwin Austen & Nevill)
Tomoh Begng, Ulu Kenyam Kechil, Pahang.
Hemiplecta cymatium (Pfeiffer)
Chamber in termite hill, near Kuala Tahan in the National Park,
Pahang; Kuala Tahan, under bark of fallen tree, Pahang (1958).
Dyakia salangana (Martens)
Kuala Tahan, Pahang (1958).
Microparmarion malayanus (Collinge)
Kuala Tahan, Pahang (1958); Kuala Tahan, on trail to Sungei
Teka, Pahang (1958).

SAMENVATTING

In 1958 verzamelde schrijfster land- en zoetwatermollusken in het westelijke deel van het Maleise Schiereiland. Deze vondsten zijn, samen met die van den heer J. DRIJVER uit de staat Perak, verwerkt in bovenstaande lijst. Als aanhangsel voegde zij toe enige nieuwe vondsten uit het Koning George V Natuurreservaat aan de oostzijde van het centrale bergland in de staat Pahang. Deze werden verzameld door leden van de staf en studenten van de Universiteit van Malaya.

Er is één nieuwe soort beschreven, *Gyliotrachela saxicola*, van een kalkheuvel bij Tebing Tinggi in de staat Perlis. Van *Tortulosa tortuosa* (Beck) werd aangetoond, dat zij synonym is met de later door TOMLIN beschreven *Perlisia tweediei*.