



Caves and karst of SW Sarawak, Malaysia – biology: cave fauna collected in the Bau area, 1980

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Abstract: Prior to the major “British–Malaysian Speleological Expedition to Sarawak” in 1980 (the Mulu 80 Expedition), a shorter expedition to caves in the Bau area of southwestern Sarawak included some collecting of biological specimens. The provisionally identified specimens were distributed internationally for expert identification, as reported here for the first time.

Keywords: Borneo, tropical, limestone, speleobiology.

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Introduction

In November 1980, a brief field visit was made by the author to several caves near to the former gold-mining settlement of Bau, about 40km from Kuching, Sarawak. During the visit, specimens of some of the more conspicuous cave fauna were collected and preserved for study (Eavis, 1981; Crabtree and Friedrich, 1982).

For the most part, the author — an amateur naturalist — was unable to identify the collected fauna beyond the level of biological Class, Order or, at best, Family. Also, at that time, he had no contacts in the universities or museums in Kuching or Kuala Lumpur, where experts might have been interested in studying this collection of (mainly) obscure, cave-dwelling, invertebrates.

On returning to the UK, he therefore sought out suitably qualified professional taxonomists in various parts of the world, who might be willing to identify the specimens from each major group. Following receipt of positive responses, specimens from the collection were distributed among appropriate specialists, who subsequently provided identifications as far as they were able. Subsequently, after provision of the initial identifications, the specimens were retained within the collections of the specialists’ institutions, for additional study.

The fauna list that follows was compiled during 1981, based upon correspondence at that time with the various specialists holding the material. Names and affiliations of the relevant specialists are included at the start of each taxonomic section, along with their lifetime dates, which were added early in 2024.

The author no longer retains the original correspondence, and the list below remains both highly preliminary and locally incomplete. Nevertheless, hopefully, it provides some idea of the range of the cave fauna encountered. Note that some groups (especially those within the Class Arachnida), which are numerous and diverse in tropical cave habitats, were at that time so poorly studied that no detailed identification was possible, even to Family level.

Unless otherwise noted, the cave names and taxonomic names included in the account are those that were in use at the time of the initial identifications, and might since have been changed (Magniez, 1982). The list presented below has not previously been published.

Fauna list and locations

Mollusca: Gastropoda

Sent for study by G A Solem (1931–1990) at the Field Museum of Natural History, Chicago, USA.

Cerithioidea: Thiaridae: *Thiara scabra* (Muller) –
Niang Cave, Gunung Jambusan
(flood-pools on mud).

Cerithioidea: Thiaridae: *Melanoides* sp. –
Niang Cave, Gunung Jambusan
(flood-pools on mud).

Buccinoidea: Nassariidae: *Clea* sp. –
Jahara Cave 1, Gunung Jebong
(streamway).

Stylommatophora: Achatinidae: *Lamellaxis gracilis* Hutton –
Fairy Cave, Gunung Kapor
(on swiftlet and bat guano);
Jahara Cave 1, Gunung Jebong
(on bat guano).

Stylommatophora: Achatinidae: *Lamellaxis clavulinus*
(Potiez & Michaud) –
Posih Cave, Gunung Jambusan
(on swiftlet guano).

Cycloneritida: Hydrocenidae: *Georissa gomantonensis* (Smith) –
Tupak Cave, Gunung Jambusan
(in shallow gour pool).

Arthropoda: Crustacea: Isopoda (aquatic)

Sent for study by G Magniez (1935–2014) at the University of Dijon, France.

Isopoda: Asellidae: *Stenasellus chapmani* Magniez 1981 –
Tupak Cave, Gunung Jambusan.

Arthropoda: Crustacea: Isopoda (terrestrial)

Sent for study by G A Schultz (1932–2021), Hampton, New Jersey, USA.

Isopoda: Armadillidae: ?*Armadillo* sp. (possibly undescribed) –
Niang Cave, Gunung Jambusan;
Fairy Cave, Gunung Kapor.

Isopoda: Philosciidae: ?*Setaphora* sp. (possibly undescribed) –
Posih and Tupak Cave, Gunung Jambusan;
Fairy Cave, Gunung Kapor;
Jahara Cave 1, Gunung Jebong.

Arthropoda: Crustacea: Decapoda

Sent for study by L B Holthuis (1921–2008) at the Rijksmuseum van Natuurlijke Historie, Leiden, Netherlands.

Decapoda: Brachyura: Gecarcinucidae: *Stygothelphusa bidiensis* (Lanchester, 1900)

(originally described from the 'Bidi Caves') –

Posih, Niang and Tupak caves, Gunung Jambusan;
Fairy Cave, Gunung Kapo.

Decapoda: Brachyura: Gecarcinucidae: *Perithelphusa borneensis* (von Martens) –

Niang Cave, Gunung Jambusan
(main streamway)

Decapoda: Natantia: Palaemonidae: *Macrobranchium* sp. (juv.) –
Niang Cave, Gunung Jambusan

Arthropoda: Diplopoda

Sent for study by Richard L Hoffman (1927–2012) at the Virginia Museum of Natural History, Martinsville, VA, USA.

Spirostreptida: Cambalopsidae: *Plusioglyphiulus cavernicolus* (Silvestri, 1923) (originally described from the 'Bidi Caves') –

Niang and Tupak caves, Gunung Jambusan;
Fairy Cave, Gunung Kapor.

Polydesmoidea: family indet., genus indet., several species indet. (probably undescribed) –

Tupak Cave, Gunung Jambusan;
Fairy Cave, Gunung Kapor Jahara;
Cave 2, Gunung Jebong.

Arthropoda: Chilopoda

Sent for study by R E Crabill, Jr. (1925–1992) Smithsonian Institution, US National Museum, Washington DC, USA.

Scutigermorpha: Scutigeridae: ?*Scutigera* sp. Indet. –
Tupak Cave, Gunung Jambusan.

Geophilomorpha: ?Geophilidae: Gen et sp. Indet. –
Niang Cave, Gunung Jambusan
(on bat guano);

Posih Cave, Gunung Jambusan
(on swiftlet guano).

Arachnida: Pseudoscorpionida

Sent for study by V Mahnert, (1943–2018) Geneva Natural History Museum, Switzerland.

Chthoniidae: *Tyrannochthonius* (*Lagynochthonius*) sp. nov? –
Fairy Cave, Gunung Kapor

Note: The above specimen was subsequently described as a new species: *Tyrannochthonius* (*Lagynochthonius*) *guasirih* by M L I Judson at the Muséum National d'Histoire Naturelle in 2007 (*Zootaxa*, Vol.1627, 53–68).

Arthropoda: Arachnida: Uropygi

Sent for study by P Beron, National Museum of Natural History – Bulgarian Academy of Sciences, Sofia, Bulgaria.

Unidentified Uropygid –
Niang and Posih caves, Gunung Jambusan.

Arthropoda: Arachnida: Amblypygi

Sent for study by P Beron, National Museum of Natural History – Bulgarian Academy of Sciences, Sofia, Bulgaria.

Unidentified Amblypygids –
Niang Cave, Gunung Jambusan;
Jahara Cave 2, Gunung Jebo.

Arthropoda: Arachnida: Schizomida

Sent for study by P Beron, National Museum of Natural History – Bulgarian Academy of Sciences, Sofia, Bulgaria.

Unidentified Schizomid –
Fairy Cave, Gunung Kapor.



A small cave-crab, *Stygothelphusa bidiensis*, in Fairy Cave, Gunung Kapor, Sarawak. Estimated size: carapace length 15–17mm; carapace width 13–15mm; greatest leg-span approximately 70mm.

Arthropoda: Arachnida: Araneae

Sent for study by P M Brignoli (1942–1986) in Rome and by F Wanless (1940–2017), British Museum of Natural History, London, UK.

Unidentified species from several spider families were seen in most caves visited: Families identified were: Barychelidae, Theridiidae, Scytodidae, Pholcidae and Heteropodidae.

Arthropoda: Arachnida: Opiliones

sent for study by V Silhavy (1913–1984), Czechoslovakia.

Unidentified species were recorded in Niang, Tupak, Posih caves, Gunung Jambusan, and in Marble Cave, Gunung Kirian.

Arthropoda: Insecta: Collembola

Sent for study by P N Lawrence (1933–2010), British Museum of Natural History, London, UK.

Collembola: Paronellidae: Troglopedetinae: gen. et sp. Indet, "with a v. troglomorphic claw structure" –

Niang Cave, Gunung Jambusan
(on swiftlet guano).

Arthropoda: Insecta: Diplura

Sent for study by B Conde (1920–2004), Musée de Zoologie, Nancy, France.

Diplura: Campodeidae: *Lepidocampa weberi* ssp. nov.?
Niang Cave, Gunung Jambusan
(on bat guano).

Arthropoda: Insecta: Psocoptera

Sent for study by D Hollis, British Museum of Natural History, London, UK.

Psocoptera: Psocidae: *Psyllipsocus ramburii* Selys-Longchamps 1872 –
Tupak Cave, Gunung Jambusan
(on surface of shallow gour pool).

Arthropoda: Insecta: Blattodea

Sent for study by L M Roth (1918–2003), Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA.

Blattodea: Blattidae: *Blattella cavernicola* (Shelford) –
Jahara Cave 2, Gunung Jebong
(on bat guano and boulders).

Blattodea: Blattidae: *Neostylopyga gunungensis* Roth –
Niang Cave and Tupak Cave, Gunung Jambusan;
(attracted to rotten-liver bait).

Note: in 1988 one of the above specimens was described as a new species: *Neostylopyga jambusanensis* by L M Roth.

Blattodea: Blattidae: *Nocticola* sp. nov. –
Fairy Cave, Gunung Kapor
(on damp mud under rotten stal).

Arthropoda: Insecta: Hymenoptera

Sent for study by B Bolton, British Museum of Natural History, London, UK.

Hymenoptera: Formicidae: *Pheidole* sp. indet. –
Niang Cave, Gunung Jambusan
(on bat guano).

Hymenoptera: Formicidae: *Pachycondyla tridentata* (Smith) –
Jahara Cave 2, Gunung Jebong
(on bat guano).

Arthropoda: Insecta: Orthoptera

Sent for study by T H Hubbell (1897–1989), University of Michigan, Ann Arbor, Michigan, USA.

Orthoptera: Rhaphidophoridae: *Diestrammena sarawakana*
Chopard –
Jahara Cave 2, Gunung Jebong
(on bat guano).

Orthoptera: Rhaphidophoridae: *Diestrammena mjobergi*
Chopard –
Posih Cave, Gunung Jambusan
(on swiftlet guano).

Arthropoda: Insecta: Hemiptera

Sent for study by P S Broomfield, British Museum of Natural History, London, UK.

Hemiptera: Homoptera: Cercopidae: *Trichoscarta deianira*
Breddin –
Posih Cave, Gunung Jambusan
(on tree root near entrance, but in the dark zone).

Hemiptera: Heteroptera: Lygaeidae: Rhyparochrominae:
Gen. et sp. indet. –
Fairy Cave, Gunung Kapor
(on nutty bat guano);
Jahara Cave 1, Gunung Jebong
(on bat guano).

Hemiptera: Heteroptera: Reduviidae: Gen. et sp. indet. –
Fairy Cave, Gunung Kapor
(on damp mud).

Hemiptera: Heteroptera: Veliidae: *Velia* sp. –
Tupak Cave, Gunung Jambusan
(surface of drip-fed pool).

Arthropoda: Insecta: Lepidoptera

Sent for study by G S Robinson (1949–2009), British Museum of Natural History, London, UK.

Lepidoptera: Tineidae: *Tinea porphyropa* Meyrick –
Jahara Cave 1, Gunung Jebong
(on bat guano).

Arthropoda: Insecta: Coleoptera

Sent for study by P M Hammond (1941–2021), British Museum of Natural History, London, UK.

Coleoptera: Elateridae: *Anchastus* sp. –
Posih Cave, Gunung Jambusan
(on swiftlet guano).

Coleoptera: Staphylinidae: *Atheta* sp. –
Niang Cave, Gunung Jambusan
(attracted to rotten-liver bait).

Coleoptera: Staphylinidae: *Thamiaraea* sp. –
Niang Cave, Gunung Jambusan
(attracted to rotten-liver bait). Coleoptera:
Staphylinidae: *Sepedophilus* sp. –
Niang Cave, Gunung Jambusan
(on bat guano).

Coleoptera: Leiodidae: *Ptomaphagus* ?sp. nov. –
Tupak Cave, Gunung Jambusan
(attracted to rotten-liver bait);
Niang Cave, Gunung Jambusan
(on bat guano).

Coleoptera: Anthicidae: Gen. et sp. indet. –
Jahara Cave 1, Gunung Jebong
(on bat guano).

Coleoptera: Ptilodactylidae: Gen. et sp. indet (larva) –
Posih Cave, Gunung Jambusan
(on swiftlet guano).

Chordata: Osteichthyes

Sent for study to K E Banister (1941–1999), British Museum of Natural History, London, UK.

Siluriformes: Siluridae: *Silurichthys hasseltii* Bleeker –
Posih Cave, Gunung Jambusan.

Cypriniformes: Cyprinidae: *Barbus cf. lateristriga*
(Valenciennes) –
Niang Cave, Gunung Jambusan.

Cypriniformes: Cyprinidae: *Rasbora trilineata*
(Steindachner) –
Niang Cave, Gunung Jambusan.

Chordata: Reptilia: Squamata

Provisionally identified by the author (not collected).

Colubridae: *Orthriophis taeniura grabowskyi* (Fischer) –
Jahara Cave 2, Gunung Jebong;
Niang Cave, Gunung Jambusan.

Chordata: Aves: Apodiformes

Provisionally identified by the author (not collected).

Apodidae: *Collocalia esculenta* (Linn.) –
Seen in flight at the entrance to several of the caves.

Apodidae: *Aerodramus* sp. prob. *maximus* (Hume) –
Seen in flight around the entrances, and within, several
of the caves.

Note: other species of *Aerodramus* might also be present
in these caves.

Chordata: Mammalia: Chiroptera

Sent for study to J E Hill (1928–1997), British Museum of Natural History, London, UK.

Hipposideridae: *Hipposideros cervinus labuanensis* (Gould) –
Fairy Cave, Gunung Kapor.

Hipposideridae: *Hipposideros galeritus insolens* (Lyon) –
Fairy Cave, Gunung Kapor.

Hipposideridae: *Hipposideros diadema masoni* Dobson –
Jahara Cave 2, Gunung Jebong
(this cave hosts a large bat population).

Note: during the expedition, examples of several other
unidentified bat species were observed in the Bau caves,
but specimens for study were not collected.

References

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