



## NEW SPECIES OF *AMORPHOSOMA* (BUPRESTIDAE: AGRILINAE: CORAEBINI) FROM MALAYSIA

Ľubomír VIDLIČKA

Institute of Zoology SAS, Dúbravská cesta 9, 845 06 Bratislava, Slovakia;  
e-mail: lubomir.vidlicka@savba.sk

VIDLIČKA, Ľ. 2025. New species of *Amorphosoma* (Buprestidae: Agrilinae: Coraebini) from Malaysia. *Entomofauna carpathica*, 37(2): 79-86.

**Abstract:** A new species, *Amorphosoma danulkae* sp. nov., is described as the first record of this genus from mainland Malaysia (Malaysian Peninsula). This small genus is currently known from both the New World (Central and South America) and the Old World (Asia), with the sole Australian representative of uncertain taxonomic status. The new species is easily distinguished by long white setae covering the posterior third of the elytra and by two prominent tubercles located on the distal half of the elytra.

**Key words:** taxonomy, Coleoptera, Jewel Beetles, Buprestoidea, Amorphosomina

### INTRODUCTION

The genus *Amorphosoma* Laporte, 1835, was established based on species characterized by 11-segmented antennae, with the last eight segments serrate; broad tarsal segments; and short claws. The body is tuberculate, with setose tubercles (LAPORTE 1835). The type species of the genus is *Buprestis penicillata* Klug, 1825, described from an unspecified locality in Brazil. This species is currently known from Argentina to Paraguay and from Brazil through Panama to Mexico (AIELLO 2019). KLUG (1825) reported a body length of approximately 12.4 mm, metallic coloration, two setose horns on the frons, and posteriorly narrowed elytra.

Over time, species were gradually added to *Amorphosoma* not only from Central and South America but also from Asia, Australia, and Africa. From the New World, four additional species described by KERREMANS (1897) from various regions of Brazil are recognized. One species, *A. tasmanicum* Germar, 1848, is the primary and, until now, the only Australian representative of the genus (vicinity of Adelaide, southern Australia) (GERMAR 1848). This species is currently considered *incertae sedis*.

In 1923, Obenberger established the genus *Vanroonia* for jewel beetles, considering it closely related to *Amorphosoma* and *Cisseicoroebus* Kerremans, 1903. He included a single species, *Vanroonia coraeboides* Obenberger, 1923, from Cameroon (OBENBERGER 1923). BELLAMY (1988, 1995, 2007) subsequently

restricted *Amorphosoma* to the Neotropical species (five species), transferring all other species to *Vanroonia* (except for the uncertain *A. tasmanicum*) or to other genera. This classification was also adopted in the World Catalogue (BELLAMY 2008).

KUBÁŇ et al. (2000) examined 29 species of *Amorphosoma* (including “*Vanroonia*”) and established the subtribe *Amorphosomina* Majer, 2001, with *Amorphosoma* as the type genus, for 13 related genera. They referred to “Oriental *Amorphosoma*,” indicating that they did not agree with the transfer of these species to *Vanroonia*, apparently accepting only African species within that genus. This was later confirmed by transferring four species from *Vanroonia* to *Amorphosoma* (KUBÁŇ 2006) and by their inclusion in the Catalogue of Palaearctic Coleoptera (KUBÁŇ 2016). The taxonomic status of these two genera remains uncertain, and their reliable distinction is not entirely possible.

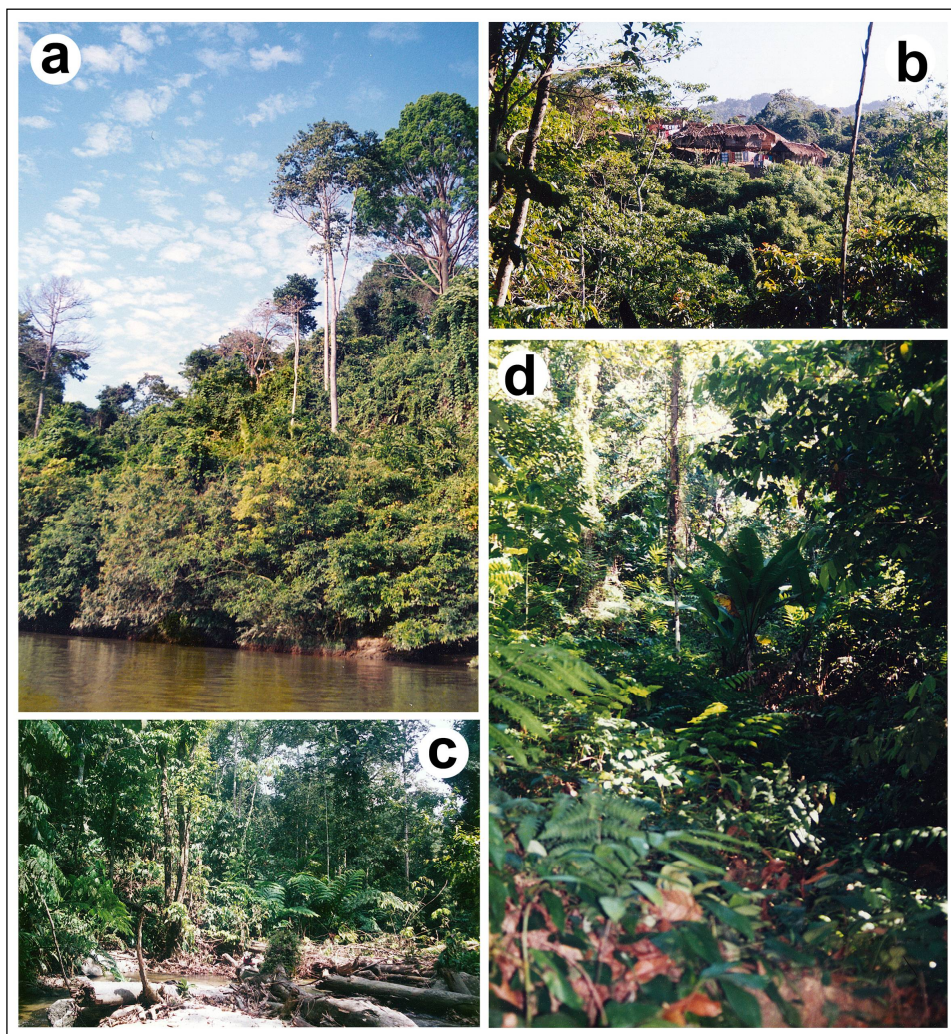
In the present study, we describe a new species of jewel beetle from Malaysia, assigned to the genus *Amorphosoma*. This placement is supported by the fact that the species most similar to the new taxon, *Amorphosoma moultoni* Kerremans, 1912, was originally described in this genus, although BELLAMY (1995) later transferred it to *Vanroonia*. Several characters of this species, however (as well as of the newly described species), do not conform to the diagnosis of *Vanroonia* (e.g., posterior margin of elytra without spines; first antennal segment shorter than the combined length of the second and third; tibiae straight, with yellow spines on the lower half; claws smooth). A photograph of the holotype of *Amorphosoma moultoni* was available for examination.

## MATERIAL AND METHODS

The type material was collected on the Malay Peninsula (West Malaysia), in the Malaysian state of Perak, in the vicinity of the town of Tapah, near the village of Kampung Orang Asli, approximately 4 km northwest of the Iskander Waterfalls, by the Sungai Semai stream [ 4°19'59.60"N, 101°18'45.54"E]. It was found in the jungle on vegetation (fig. 1).

Images of the type were acquired using a Leica M205 C stereomicroscope equipped with a motorised Z-drive and a Flexacam C3 camera. To overcome the limited depth of field at high magnifications, a series of images at different focal planes (Z-stack) was captured. These images were subsequently processed using the Extended Depth of Field (EDOF) module within the Leica Application Suite X (LAS X) software to produce a single fully focused composite image.

The type of the newly described species is labelled in red with its status (holotype), species name, author and year, and is deposited in Slovak National Museum – Natural History Museum, Bratislava [SNM-PM = Slovenské národné múzeum – Prírodovedné múzeum v Bratislave].



**Fig. 1.** Tapah environs: **a)** riparian vegetation along the Sungai Batang Padang River; **b)** surroundings of the village Kampung Orang Asli; **c)** surroundings of the Sungai Semai stream, type locality; **d)** interior of the jungle. Photo: Rudolf Gabzdil

## **TAXONOMY**

**Tribe:** Coraebini Bedel, 1921

**Type genus:** *Coraebus* Laporte & Gory, 1836

**Subtribe:** Amorphosomina Majer, 2000

**Type genus:** *Amorphosoma* Laporte, 1835

**Type species:** *Amorphosoma penicillatum* (Klug, 1825)

*Amorphosoma danulkae* **sp. nov.** (Figs 2a-g, 3b)

**Type species.** Holotype (deposited in SNM-PM): Malaysia, Perak, Tapah env., NW of the Iskander Waterfalls, 730 m a.s.l., 17.I.-18.II.1998, R. Gabzdil lgt.

### Description of holotype

**Measurements.** Body length 11.56 mm; maximum width 4.85 mm (across humeri). Elytra narrowing in the posterior third at an angle of 13° to a width of 2.83 mm. Pronotum length 2.40 mm, width 4.83 mm. Head width 2.89 mm; interocular distance 1.42 mm; antennal length 1.79 mm; scutellum width 1.06 mm.

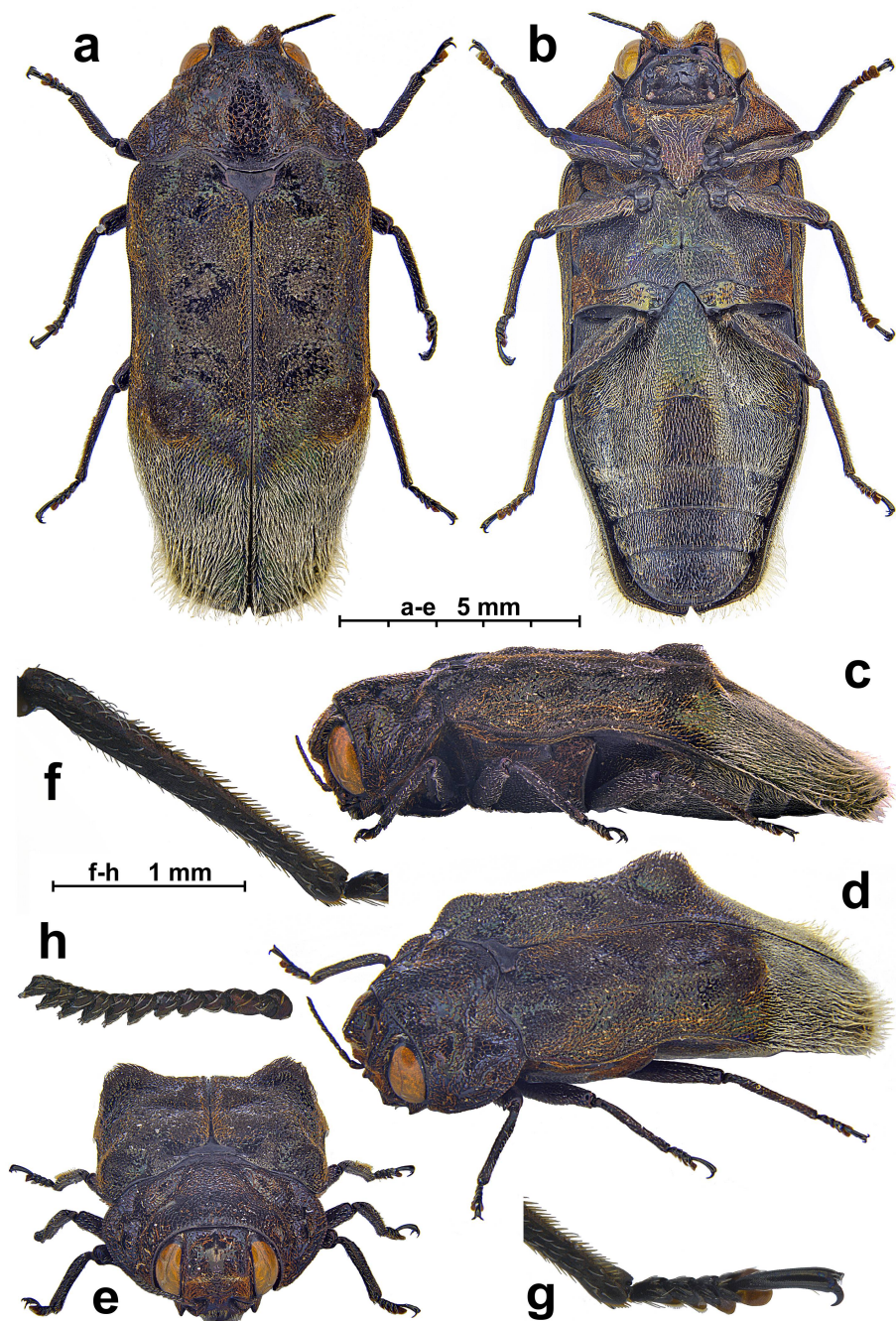
**Body and coloration.** Dorsal and ventral surfaces metallic purple, glossy, with areas showing yellowish-green to green reflections (figs 2a-d). **Head** concolorous with body; frons between eyes, above antennal insertions, bearing two distinct horns densely covered with orange setae; median part of frons smooth and glabrous. Eyes orange, narrowly margined with dark purple (figs 2a-e). Antennae inserted in deep antennal cavities; greyish brown, sparsely clothed with white setae; antennae 11-segmented; scape and pedicel subequal in length; first flagellomere distinctly shorter, without projections; flagellomeres II–IX strongly serrate, with short setae along the distal margins (figs 2c-e,h).

**Pronotum** about twice as wide as long, widest in the posterior quarter; lateral margins distinctly serrate at posterior angles. Anterior margin evenly arcuate, smooth, with minute setae; posterior margin distinctly bisinuate. Pronotal surface only slightly uneven, bearing sparse orange setae; two small glabrous areas present on disc, laterally adjacent to midline. Scutellum pentagonal, smooth, glabrous (fig. 2a).

**Elytra** with lateral margins nearly parallel in anterior two thirds, margins distinctly and densely serrate; lateral and sutural areas bearing sparse orange, arcuately curved setae. Posterior third of elytra narrowing at an angle of 13°, entirely covered with dense, white, straight setae, which are longer along the elytral margins and extend beyond them. Elytral surface tuberculate; at beginning of the narrowing, each elytron bears one prominent tubercle densely covered with dark setae (figs 2a,c-e).

**Ventral surface.** Ventral side of head sparsely setose; antennal grooves beneath eyes deep, extending onto prosternum. Prosternum evenly covered with short orange setae, with longer white setae medially. Meso- and metasternum with orange setae along margins and white, straight setae medially. Abdominal sternites densely covered with white setae, becoming sparser along midline (fig. 2b).

**Legs.** Legs metallic purple with sparse white setae; hind tibiae with short yellow-orange spines on the outer distal half. Tarsomeres I–IV short and wide; tarsomere V narrow and elongate, equal in length to tarsomeres I–IV combined. Claws simple, smooth (figs 2a-b,d,f-g).

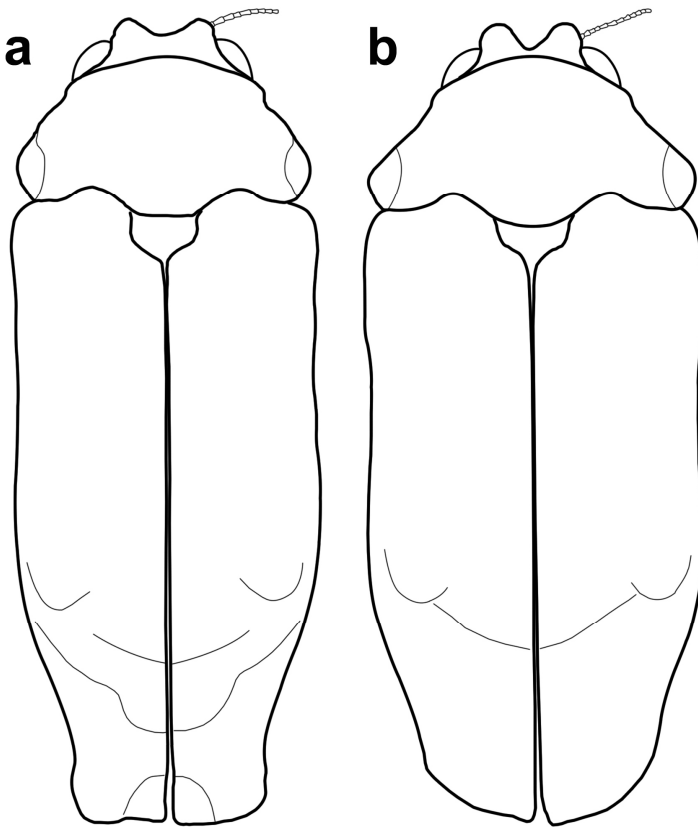


**Fig. 2.** *Amorphosoma danulkae* sp. nov.: **a-e)** habitus: **a)** dorsal view, **b)** ventral view, **c)** lateral view, **d)** anterolateral view, **e)** frontodorsal view; **f-g)** right hind leg: **f)** tibia, **g)** tarsus; **h)** right antenna, frontal view. Photo: Ľubomír Vidlička

**Differential diagnosis.** *Amorphosoma danulkae* sp. nov. is most similar to *Amorphosoma moultoni* Kerremans, 1912, which was reported by KERREMANS (1912) only from the island of Borneo, in the Malaysian state of Sarawak. *Amorphosoma moultoni* differs from the new species by its more slender habitus, greater body length (14 mm), and smaller maximum width (4.5 mm). The incision between the cephalic horns is distinctly shallower in *A. moultoni* (Fig. 3).

In *A. moultoni*, the elytra narrow in the posterior third at an angle of  $19^\circ$  and slightly widen again towards the apex. The elytral apex is nearly truncate, whereas it is rounded in *A. danulkae* sp. nov. (Fig. 3). Although the posterior third of the elytra in *A. moultoni* is clothed with dense white setae, this setation does not cover the entire surface; two conspicuous areas along the sutural margins remain glabrous, allowing the black integument to be visible.

**Etymology.** This species is named after Danka Gabzdilová, the granddaughter of the Slovak entomologist and discoverer of the species, Rudolf Gabzdil.



**Fig. 3.** Habitus outline of *Amorphosoma moultoni* (a) and *Amorphosoma danulkae* sp. nov. (b).

## ACKNOWLEDGEMENT

I wish to express my sincere gratitude to Rudolf Gabzdil (Michalovce, Slovakia), the discoverer of the species, for providing the specimen for study, for supplying detailed information and photographs of the type locality, for his invaluable assistance throughout the preparation of this work, and for donating the holotype to the Slovak National Museum – Natural History Museum in Bratislava.

This study was supported by VEGA grant 2/0087/25.

## REFERENCES

- AIELLO, A. 2019. *Amorphosoma penicillatum* (Klug, 1827) (Coleoptera: Buprestidae: Agrilinae): A fearless jewel beetle in Panama. *The Coleopterists Bulletin* 73(4): 1102-1104.
- BELLAMY, C. L. 1988. New genera, species and synonymy in African Coroebini (Coleoptera, Buprestidae, Agrilinae). *The Coleopterists Bulletin* 42(2): 173-192.
- BELLAMY, C. L. 1995. The Malesian Coroebini, Part I. Introduction, nomenclatural changes and the description of a new genus and species from Sabah (Coleoptera: Buprestidae). *The Coleopterists Bulletin* 49(1): 1–7.
- BELLAMY, C. L. 2007. Taxonomic comments and corrections in Buprestidae (Coleoptera). *The Pan-Pacific Entomologist* 83(1): 80–84.
- BELLAMY, C. L. 2008. *A World Catalogue and Bibliography of the Jewel Beetles (Coleoptera: Buprestoidea) Vol. 3: Buprestinae: Pterobothrini through Agrilinae: Rhaeboscelina*. Pensoft Series Faunistica No. 78: 1260-1931.
- GERMAR, E.F. 1848. Beiträge zur Insektenfauna von Adelaide. *Linnaea Entomologica* 3: 153-247.
- KERREMANS, Ch. 1897. Contribution a l'étude de la faune intertropicale Américaine. Voyages de M. E. Gounelle au Brésil. Buprestides (Buprestides du Brésil). *Mémoires de la Société Entomologique de Belgique* 6: 1-146.
- KERREMANS, Ch. 1912. VIII.—A Contribution to the Study of the Insect Fauna of Borneo. A List of the Bornean Buprestidae. (Part II.). Descriptions of New Buprestidae from Sarawak (Borneo). *The Sarawak Museum Journal* 1(2): 68-82.
- KLUG, F. 1825. Entomologiae Brasilianae specimen alterum, sistens insectorum coleopterorum nondum descriptorum centuriam. *Nova Acta Physico-Medica Academiae Caesareae Leopoldino-Carolinae Naturae Curiosorum* 12(2): 419-476.
- KUBÁŇ, V. 2006. New nomenclatorial and taxonomic acts, and comments. Buprestidae: Various groups, pp. 40-52. In: LÖBL, I. & SMETANA, A. (eds) *Catalogue of Palaearctic Coleoptera. Volume 3. Scarabaeoidea-Scirtoidea-Dascilloidea-Buprestoidea-Byrrhoidea*. Apollo Books, Stenstrup, 690 pp.

- KUBÁŇ, V. 2016. Family Buprestidae Leach, 1815, Subfamily Agrilinae, except Agrilus and Aphanisticini, pp. 549-550, 554-574. In: LÖBL, I. & LÖBL, D. (eds) *Catalogue of Palaearctic Coleoptera. Volume 3. Scarabaeoidea-Scirtoidea-Dascilloidea-Buprestoidea-Byrrhoidea*. Revised and updated edition. Brill, Leiden, Netherlands.
- KUBÁŇ, V., MAJER, K. & KOLIBÁČ, J. 2000. Classification of the tribe Coraebini Bedel, 1921 (Coleoptera, Buprestidae, Agrilinae). *Acta Musei Moraviae, Scientiae biologicae* 85: 185-287.
- LAPORTE, F.L. 1835. Article XI. Études entomologiques, ou descriptions d'insectes nouveaux et observations sur la synonymie. *Revue Entomologique* 3: 157-181.
- OBENBERGER, J. 1923. Řada nových rodů čeledi Buprestidae (Coleoptera). Une série de nouveaux genres de Buprestides. *Acta Entomologica Musei Nationalis Pragae* 1: 13-44.