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***METAPOCYRTUS MADAYAW* SP. N. (COLEOPTERA: CURCULIONIDAE, ENTIMINAE), A NEW FLIGHTLESS WEEVIL FROM EASTERN MINDANAO, PHILIPPINES**

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Summary. The flightless weevil *Metapocyrtus* (*Artapocyrtus*) *madayaw* Cabras et Medina, **sp. n.** is described and illustrated from Davao Region in Mindanao Island, Philippines. Holotype and paratypes are deposited at the Philippine National Museum of Natural History (Manila, Philippines). Ecological notes on the new species are also provided.

Keywords: beetles, Entiminae, Pachyrhynchini, taxonomy, Oriental Region.

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Резюме. Из региона Давао на острове Минданао, Филиппины описан и проиллюстрирован долгоносик *Metapocyrtus (Artapocyrtus) madayaw* Cabras et Medina, **sp. n.** Голотип и паратипы нового вида хранятся в Национальном музее естественной истории (Манила). Также приведены экологические заметки о новом виде.

INTRODUCTION

The Philippines is one of the 17 megadiverse countries with many endemic flora and fauna species (USAID, 2017). Among the taxa that recently gained momentum in discovering new species is the genus *Metapocyrtus* Heller, 1912 (Coleoptera: Curculionidae, Entiminae, Pachyrhynchini). Due to their flightless ability, this genus has a narrow and restricted biogeographic distribution (Cabras *et al.*, 2021; Van Dam *et al.*, 2022).

Known for their association with forested habitats, the denudation and fragmentation of Philippine forests may have inadvertently led to the increasing decline of weevil diversity, especially endemic ones. Only around 7,226,394 hectares or 25% of forest remain in the country (DENR-FMB, 2021), which may have caused many species to be lost to science even before taxonomists could describe them. Weevil research in the country is still in the taxonomic stage, with many species remaining undescribed and very scarce information about their ecology and conservation, making species management and protection difficult.

In this paper, a new species of the genus *Metapocyrtus* subgenus *Artapocyrtus* Heller is described from Davao Region, making it the 28th species of the subgenus.

MATERIAL AND METHODS

Morphological characters were observed under Luxeo 4D and Nikon SMZ745T stereomicroscopes. The treatment of the genitals follows Yoshitake (2011). Female genitalia are not illustrated as very little of the chitinous structures are used to identify and characterize different species of Pachyrhynchini (Cabras *et al.*, 2012). Images of the habitus were taken using a Nikon D5300 digital camera with a Sigma 18–250 macro lens. Images were stacked using Helicon Remote ver 4.3.0 W Registered Version and processed using Helicon Focus 8.1.1 Registered Pro Lifetime. Photos were cleaned and brightness adjusted using Photoshop CS6 Portable. Label data are indicated verbatim.

Abbreviations and symbols mentioned in this paper are abbreviated as follows:

LB – body length, from the apical margin of pronotum to the apex of elytra; **LR** – length of rostrum; **LP** – pronotal length, from the base to apex along the midline; **LE** – elytral length, from the level of the basal margins to the apex of elytra; **WR** – maximum width across the rostrum; **WP** – maximum width across the pronotum; **WE** – maximum width across the elytra.

Comparative materials and specimens used in the study are deposited in the following institutional collections: **PNM** – Philippine National Museum of Natural History, Manila, Philippines; **SMTD** – Senckenberg Natural History Collections, Dresden, Germany; **TIRL** – Terrestrial Invertebrate Research Laboratory, City of Mati, Philippines.

TAXONOMY

Genus *Metapocyrtus* Heller, 1912

Subgenus *Artapocyrtus* Heller, 1912

NOTES. This subgenus *Artapocyrtus* is taxonomically distinguished from other subgenera of *Metapocyrtus* by the following characteristics: “rostrum relatively short, as long as broad, squarish or trapezoidal, the sides set off at right angles from the dorsal surface, arched lengthwise and separated from the curved front by a prominent transverse groove” (Schultze, 1925: 137; Yap & Gapud, 2007).

Metapocyrtus (Artapocyrtus) madayaw Cabras et Medina, sp. n.

<https://zoobank.org/NomenclaturalActs/45998040-F0F1-449C-9236-95E0F6F17050>

Figs 1–4

MATERIAL. Holotype: ♂, **the Philippines**: labeled “Philippines–Davao de Oro, Maragusan, New Albay / July 2019 / leg. A.A. Cabras (typed on white card) // HOLOTYPE male / *Metapocyrtus (Artapocyrtus) madayaw* sp. nov. / CABRAS & MEDINA, 2023 (typed on red card)”, (PNM). Paratypes: 4 ♂♂, 4 ♀♀, the same data as holotype (PNM); 6 ♂♂, 7 ♀♀, “Philippines–Davao Oriental, Municipality of Caraga, Barangay Lamiawan/ April 2023/ leg. M. N. Medina” (TIRL, PNM).

DESCRIPTION. **Male**. *Dimensions*. LB: 9.2–10.3 mm (holotype 9.2 mm), LR: 1.8–1.9 mm (1.8 mm), WR: 1.8–1.9 mm (1.8 mm), LP: 3.3–3.8 mm (3.3 mm), WP: 3.8–4.3 mm (3.8 mm), LE: 6.0–6.4 mm (6.0 mm), WE: 4.8–5.1 mm (4.8 mm) = 5

Coloration. Integuments of head, rostrum, prothorax, elytra, apical portion of femora, base and apex of tibiae, and tarsus black; femora except apex and tibiae except base and apex mostly brick red. Body surface, rostrum, head, and underside moderately lustrous.

Head dorsal surface between eyes with minute adpressed pubescence; coarsely punctured apically, basal portion with only sparse punctures; lateral side below eyes with metallic thinly elliptical and piliform adpressed scales; forehead between eyes weakly raised with distinct median furrow; eyes medium-sized and moderately convex, slightly protruding on the outline of the head.

Rostrum punctate with minute adpressed whitish setae, as long as wide (LR/WR:1.8 mm/1.8 mm); base of rostrum deeply and widely concave beset with turquoise and yellow-green round scales; dorsum with two huge humps, divided by median furrow reaching beyond the middle and lateral sides with weak arc; lateral sides with white suberect setae; dorsal contour deeply concave at the base then abruptly raised and gradually declines towards apex. Antennal scape as long as funicle, scape reaching hind margin of eyes, sparsely covered with adpressed whitish setae, funicle with suberect brownish setae. Funicular segments I as long as II, two times longer than wide, segments III- IV slightly longer than wide, V-VII as long as wide; club sub-ellipsoidal.

Prothorax subglobular, slightly wider than long (LP/WP: 3.1 mm/3.8 mm), punctate, widest before middle, weakly convex on dorsal surface, dorsal contour highest point on apical third. Prothorax with the following scaly markings: a) thin stripe of

metallic, pale yellow, and light blue with pink sheen, imbricate and adpressed ovate and elliptical scales at anterior margin, b) two subcircular spots of metallic pale yellow and light turquoise imbricate and adpressed round scales on each side of the disc at the middle, and c) elongate patch of metallic pale yellow, and turquoise with pink sheen imbricate and adpressed round scales on lateral sides before coxa.

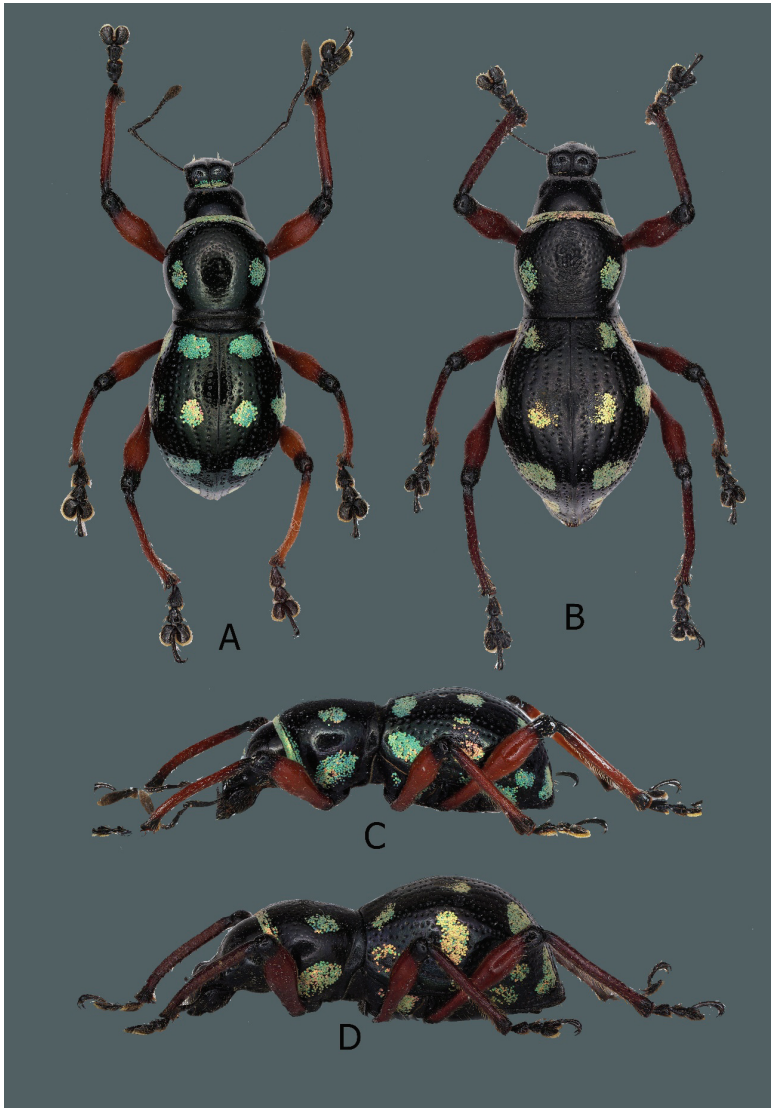


Fig. 1 *Metapocyrtus (Artapocyrtus) madayaw* sp. n. A – male holotype, dorsal view; B – female paratype, dorsal view; C – male holotype, lateral view; D – female paratype, lateral view.

Elytra ovate (LE/WE: 6.0 mm/4.8 mm), slightly longer than wide and nearly twice longer and moderately wider than prothorax (WE/WP: 4.8 mm/3.8 mm, LE/LP: 6.0 mm/3.3 mm), with coarse striate punctation, dorsum weakly convex, dorsal contour highest at middle, lateral contour evenly arcuate, widest at middle; apex with white setae. Each elytron with the following scaly markings of mostly metallic turquoise and pale yellow and pink imbricate and adpressed round scales: a) two subcircular basal spots, one between stria I and V, and another on lateral side near

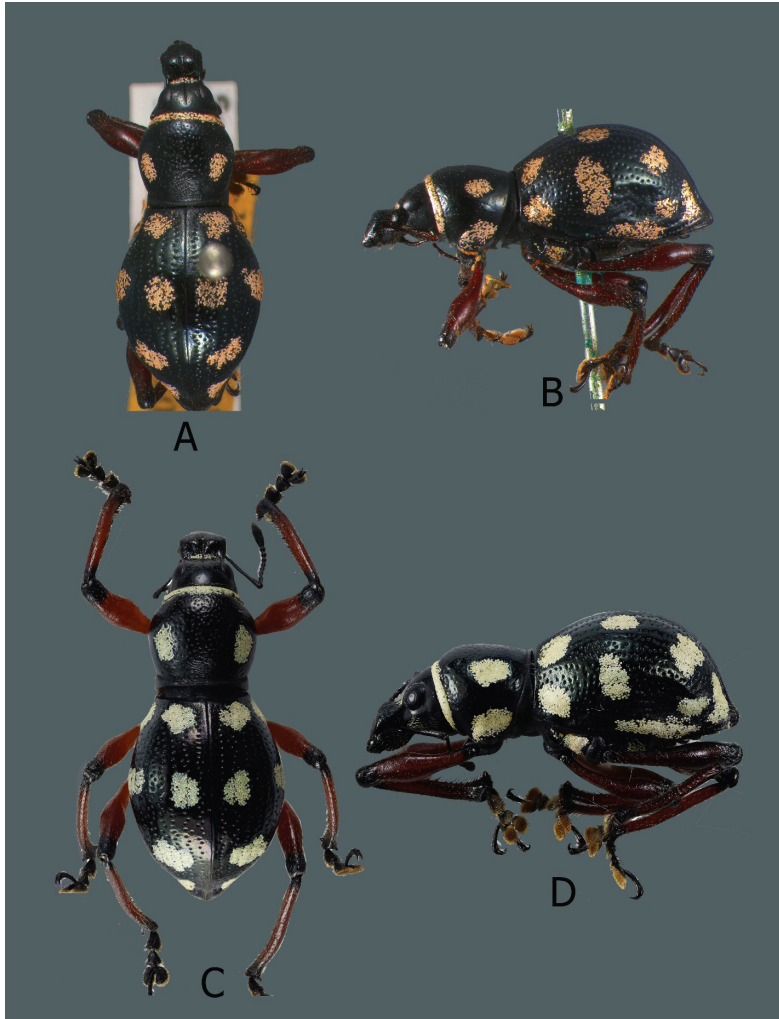


Fig. 2. *Metapocyrtus* (*Artapocyrtus*) spp. A, B – *M. (A.) pardalis* Heller, 1912: A – female type, dorsal view, B – same, lateral view; C, D – *M. (A.) madayaw* sp. n.: C – female paratype, dorsal view; D – same, lateral view.

margin, b) two subcircular spots in middle, one between stria I and III, and another between stria VI-X, c) one post-median subcircular patch between stria II-VI, d) one small subapical spot on lateral side, e) one irregularly shaped patch towards apex, and f) one short post-median elliptical patch along lateral margin not reaching apex.

Legs with moderately clavate femora. Femora brick red except apex black, covered with white pubescence. Fore tibiae brick red except base and apex black covered with subadpressed brownish setae, weakly serrate along inner edge with very few denticules. Mid and hind tibiae brick red except base and apex black covered with suberect brownish setae. Fore tibiae and mid tibiae bear a mucro at apex. Tarsomeres pubescent. Coxa pubescent. Mesoventrite pubescent. Metaventrite with small ovate

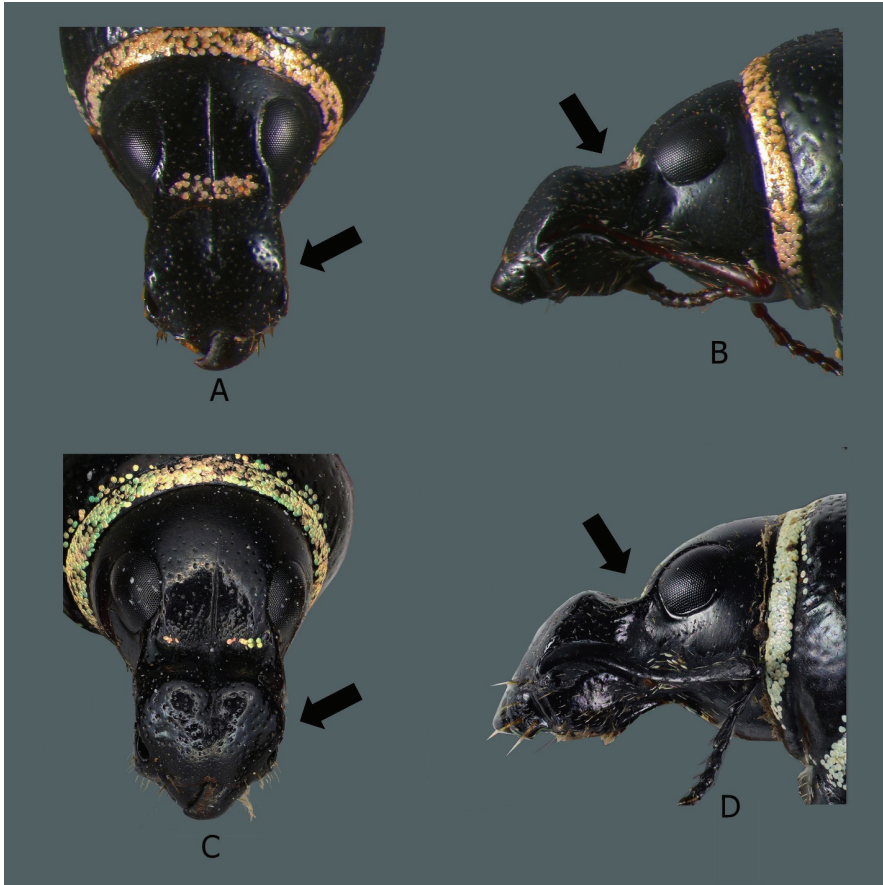


Fig. 3. *Metapocyrtus (Artapocyrtus)* spp. A, B – *M. (A.) pardalis* Heller, 1912 (female paratype): A – rostrum, dorsal view, B – same, lateral view; C, D – *M. (A.) madayaw* sp. n.: C – rostrum, dorsal view; D – idem, lateral view.

and elliptical pale-yellow scales with a pink sheen on the distal end. Ventrite I pubescent on distal ends covered with turquoise and sparse pale yellow round scales mostly towards the distal ends. Ventrite II to V sparsely pubescent. Ventrite V punctured with sparse pubescence.

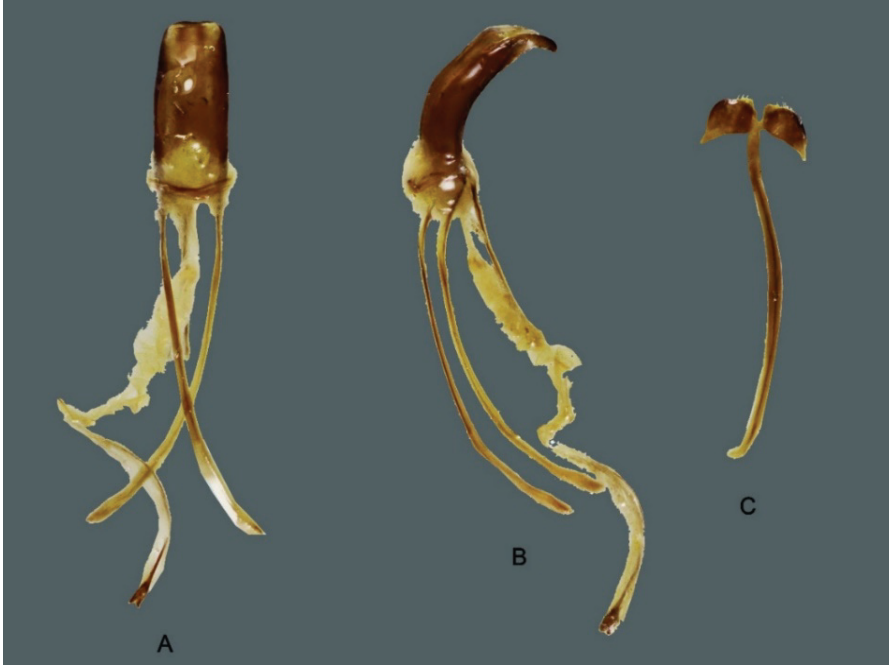


Fig. 4. *Metapocyrtus (Artapocyrtus) madayaw* sp. n., aedeagus. A – dorsal view; B – lateral view; C – sternite IX in dorsal view.

Female. *Dimensions:* LB: 10.5–11.8 mm, LR: 1.8–2.0 mm, WR: 1.8–2.0 mm, LP: 3.2–3.9 mm, WP: 3.8–4.5 mm, LE: 6.8–7.4 mm, WE: 5.4–6.3 mm, N = 13.

Habitus as shown in Fig. 1 B, D. Females differ from males in the following: a) pronotum with coarser punctures, b) middle of pronotum with weak rugae near the base, c) elytra slightly longer and moderately wider, d) Ventrite I slightly convex on disc, and e) Ventrite V weakly depressed with triangular projection. Otherwise, female is similar to the male.

VARIATION. The pronotal and elytral markings vary from turquoise to yellow-green and cream-colored (Figs 1A–D, 2C, D). The legs' color can also vary from brick red to black for both males and females.

DIAGNOSIS. The new species is similar to *Metapocyrtus (Artapocyrtus) pardalis* Heller, 1912 (Figs 2A, B, 3A, B) by pronotal and elytral patterns but differs from the latter by the following characteristics: a) wider rostrum with deep

median furrow creating two distinct and huge humps on dorsum, b) base of rostrum deeply concave dorsally then abruptly raised then gradually declined towards the apex, c) wider pronotum, and d) wider elytra.



Fig. 5. Habitats of *Metapocyrtus (Artapocyrtus) madayaw* sp. n. A – Lamiawan, Davao Oriental; B – Maragusan, Davao de Oro.

HABITAT. Specimens of the new species were collected in two populations, first at a forest patch near a banana plantation in Maragusan, Davao de Oro at around 800 m (Fig. 5B) and second within the riparian ecosystem of Kapuka Falls at around 800–900 m in Barangay Lamiawan, Municipality of Caraga, Davao Oriental Philippines. The ecosystems are dominated by several species of Dipterocarpaceae such as *Shorea* sp. (Fig. 5A). The soil type of both habitats is predominantly karst covered with a thin layer of loam soil from organic decomposition. The species inhabits a tourism destination in Caraga, Davao Oriental, frequently visited by domestic and foreign tourists. A proper environmental management plan must be in place to protect and conserve the species. This indicates that the species may be able to tolerate certain levels of anthropogenic disturbance as long as their habitat vegetation is not eliminated.

DISTRIBUTION. Philippines: Mindanao Island – the mountainous eastern side of Davao de Oro to the highlands of the northeastern side of Davao Oriental.

ETYMOLOGY. The name is derived from the Mandaya term ‘*madayaw*’ which means good, pleasant, or beautiful. It is dedicated to the Mandaya indigenous people of Davao Oriental, Philippines, for their pleasant welcome to efforts that contribute to environmental sustainability and regeneration in Davao region.

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