
***Metapocyrtus (Trachycyrtus) rubiginosus* sp. nov. (Coleoptera: Curculionidae:
Entiminae: Pachyrhynchini), a new flightless weevil from Davao de Oro, Mindanao
Island, Philippines**

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Abstract

A new species of *Metapocyrtus* Heller, 1912, subgenus *Trachycyrtus* Heller, 1912 from Davao de Oro, Mindanao Island is described and illustrated.

Keywords: Broad-nosed weevil, Entiminae, new species, Philippines, true weevils.

Introduction

The subgenus *Trachycyrtus* Heller, 1912 belongs to the flightless weevils *Metapocyrtus* Heller, 1912 and is characterized by their small size with granulate prothorax, subrugosely punctured and subtuberculate or subgranulate elytra (Schultze, 1925). The type species of this subgenus is *Metapocyrtus profanus* Erichson, 1912. In the Philippines, *Trachycyrtus* is represented by fifty-nine (59) species with thirty species (30) from Luzon, fourteen (14) from Visayas, eight (8) from Mindanao, and seven (7) species without exact known locality. The most recent species described from this group, *Metapocyrtus (Trachycyrtus) pinya* Genka & Yoshitake, 2018, and *Metapocyrtus (Trachycyrtus) siargaonon* Bollino & Cabras, 2023 are known from Mindanao.

During the coleopterological expedition conducted in Davao de Oro, a new species was collected. Davao de Oro formerly Compostela Valley Province, is part of the Eastern Mindanao Biodiversity Corridor (EMBC), a portion of the last remaining intact forests in the Philippines that is a home to the country's important flora and fauna (PEF-DENR 2008). This paper describes the first species of *Trachycyrtus* from Davao de Oro, Mindanao, with short notes on its ecology.

Materials and Methods

The specimens deposited in the University of Mindanao Coleoptera Research Center were collected by sheeting beating and handpicking and killed in vials with 95% ethanol. Morphological characters were observed under Luxeo 4D and Nikon SMZ745T stereomicroscopes. The treatment of the genitals follows Yoshitake (2011). Anatomical parts

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of the 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 2021). Images of the habitus were stacked and processed using Helicon Focus 6.7.0, then contrast adjusted in Photoshop CS6 Portable software. Label data are indicated verbatim.

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

/ different lines;

// different labels;

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:

DUBC – Beetles Collection of Coleopterological Research Center, Institute of Life Sciences and Technology, Daugavpils University, Ilgas, Daugavpils Distr., Latvia.

PNM – Philippine National Museum of Natural History, Manila, Philippines.

SMTD – Senckenberg Natural History Collections, Dresden, Germany.

UMCRC – University of Mindanao Coleoptera Research Center, Davao City, Philippines.

TAXONOMY

***Metapocyrtus (Trachycyrtus) rubiginosus* sp. nov.**

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Holotype (Figs. 1 A,C), male: Philippines, Mindanao/ Davao de Oro/ October 2019/ coll. Local collector (typed on white card) // HOLOTYPE male/ *Metapocyrtus (Trachycyrtus) rubiginosus*/ TORREJOS and CABRAS, 2023 (types on red card). Presently in UMCRC, will be deposited in PNM. Paratypes (7♂♂ 11♀♀): same data as holotype; all in UMCRC, will be deposited in PNM and SMTD. All paratypes with additional red label: PARATYPE / *Metapocyrtus (Trachycyrtus) rubiginosus*/ TORREJOS and CABRAS, 2023.

Diagnosis. This species can be distinguished from other members of the subgenus from Mindanao based on its rusty red coloration, unique pronotal and elytral markings, and the distinct shape of its aedeagus. Its pronotum has a thin stripe of metallic yellow-green and turquoise round scales on its anterior margin, while the lateral sides have thick bands and each side of the disc has longitudinal parallel stripes which are thick at base and curtailed towards apex. The elytra has the same scaly slightly recurved short longitudinal basal stripe at stria I to IV which are thick at base and curtailed towards middle, interrupted median band, small dorsolateral spot, and longitudinal stripes near suture on the apical third, almost confluent and a thick longitudinal band on lateral margin from base to apex confluent with the median band and subapical stripe.

Description. Male. Dimensions: LB: 4.9–6.4 (holotype 6.0 mm). LR: 1.0–1.2 (1.1 mm). WR: 0.6–1.1 (0.9 mm). LP: 2.0–2.4 (2.3 mm). WP: 1.2–2.4 (2.1 mm). LE: 3.1–4.1 (3.0 mm). WE: 2.1–2.7 (2.7 mm). N=11

Integuments dark brown except femora which is nearly black; moderately shiny.

Head. Glabrous except frons and lateral sides below eyes with adpressed metallic yellow-green piliform scales, and yellow-green and turquoise round scales, denser in the later sides, frons with fine punctures, forehead between eyes weakly rugose, flattish with distinct midline groove; eyes medium-sized and feebly convex.

Rostrum. Moderately rugose on basal half, coarsely punctured on apical half, longer than wide (LR/WR:1.1mm/0.9mm), dorsum with appressed metallic yellow-green piliform scales on basal half, lateral surface below antennal scrobe with long suberect white setae; transverse basal groove deep and distinct; longitudinal groove along midline faint; dorsum weakly convex dorsally; lateral sides with straight apicad. Antennal scape slightly longer than funicle, scape reaching beyond the hind margin of eye, sparsely covered with subappressed white hairs, and funicle with suberect white hairs. Funicular segments I and II same lengths, nearly three times longer than wide, segments III-VI as long as wide, segment VI slightly wider than III-VI; club sub-ellipsoidal.

Prothorax subglobular, weakly tapered towards anterior margin, slightly longer than wide (LP/WP:2.3/2.1mm), granulated with very minute appressed pubescence, adorned with metallic yellow-green round scales forming a thin stripe at anterior margin, thick stripe at lateral margin before coxa, and two parallel longitudinal stripes at each side of disc which are thicker at base and gets curtailed towards apex; widest at middle, moderately convex on dorsal surface.

Elytra. Ovate (LE/WE:4.3/2.7mm), longer than wide, moderately longer and wider than prothorax (WE/WP: 2.7/2.1mm, LE/LP: 3.0/2.3mm), striate punctate, mostly covered with minute pubescence except apical declivity with moderately long erect yellow green piliform scales; dorsum moderately convex, dorsal contour highest before the middle, lateral contour evenly arcuate, widest at middle, apical declivity gradual. Each elytron with the following scaly marking of metallic yellow-green and turquoise round scales: a) slightly recurved short

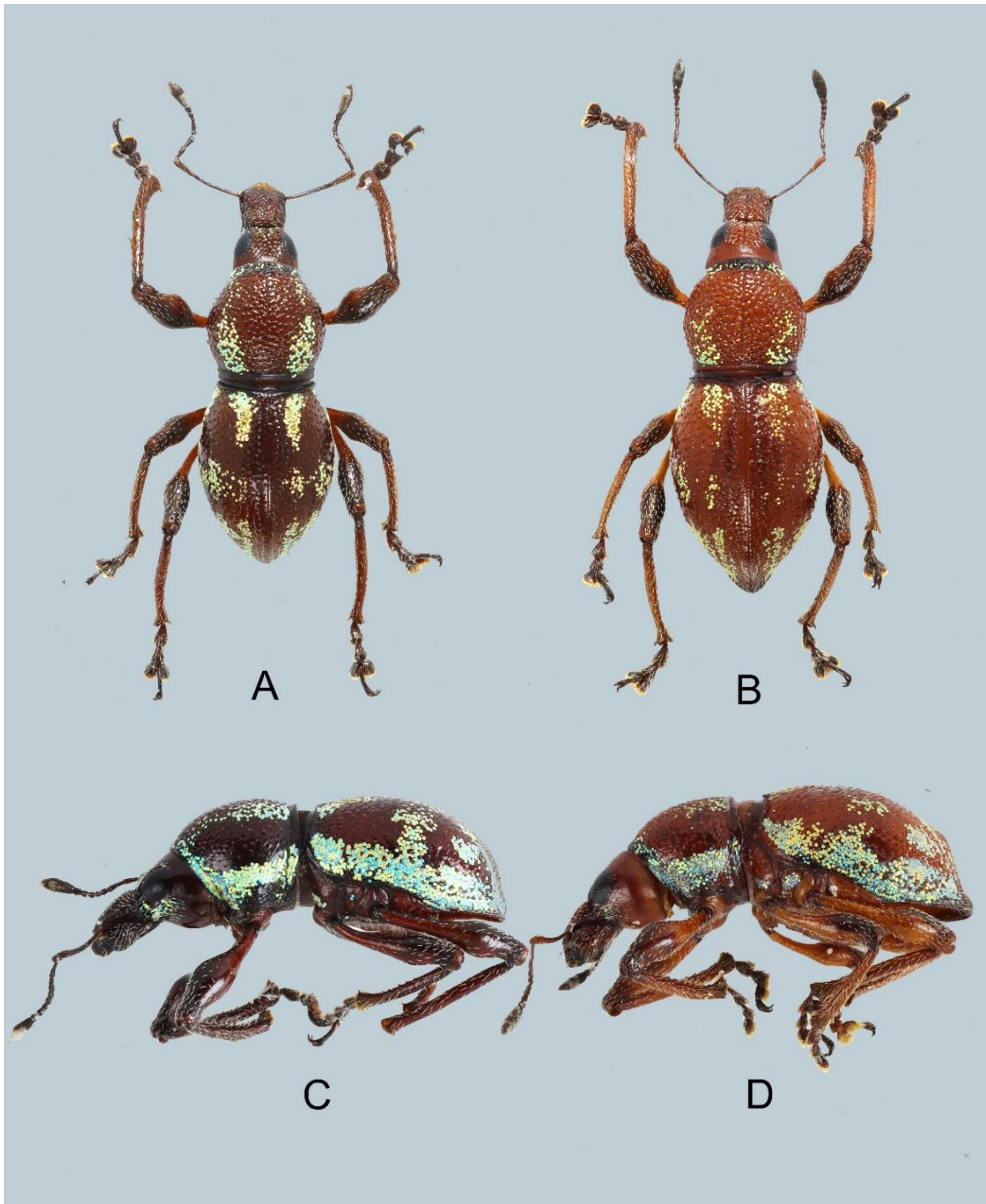


Figure 1. *Metapocyrtus (Trachycyrtus) rubiginosus* sp.nov. Holotype, male (A, C): A. dorsal view, B. lateral view; Paratype, female (B, D): B: dorsal view, D: lateral view

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Figure 2. Male genitalia of *Metapocyrtus (Trachycyrtus) rubiginosus* sp. nov. A. aedeagus in dorsal, B. idem, lateral view, C. sternite IX in dorsal view.

longitudinal basal stripe between stria I to IV which is thick at base and curtailed towards middle, b) interrupted median band, c) small dorsolateral spot on apical third, d) longitudinal stripes near suture on apical third, almost confluent with latter, and e) a thick longitudinal band on lateral margin from base to apex confluent with the median band and subapical stripe.

Legs. With strongly clavate femora, covered with subappressed yellow green piliform scales. Tibiae densely pubescent, covered with yellowish subappressed setae, inner edge with long and suberect hairs, weakly serrate along inner edge with few protruding teeth. Fore and midtibiae bear a mucro at apex. Tarsomeres pubescent. Coxae with sparsely pubescent. Mesoventrite and metaventrite sparsely covered with long white hairs. Metaventrite weakly rugose. Mesothorax

and metathorax with metallic yellow-green and turquoise round scales. Ventrite I with weak depression, sparsely covered with long white hairs on disc; hair denser on margins. Ventrite II-IV sparsely pubescent. Ventrite V flattened, finely punctured, with minute pubescence.

Male aedeagus as shown in Figure 2.

Female (Fig. 1 B,D). Dimensions: LB: 4.9–6.3 (average 5.8 mm). LR: 0.9–1.1 (1.0 mm). WR: 0.6–0.9 (0.8 mm). LP: 1.6–2.0 (1.9 mm). WP: 1.3–2.4 (2.0 mm). LE: 3.1–4.3 (3.9 mm). WE: 2.3–2.7 (2.6 mm). N=11

Females differ from males in the following: a) pronotum shorter, and wider; b) pronotum with bigger granulations, and midline groove distinct, c) elytra longer, d) apical declivity with a slight hump at the beginning, and steeper, and g) Ventrite I slightly convex on disc. Otherwise, the female is similar to the male.

Etymology. The specific epithet is after the Latin term “*rubiginosus*” which means rust-colored pertaining to its reddish-brown or rusty-red color.

Distribution. The species is currently known from Davao de Oro, formerly Compostela Valley Province in Mindanao Island, Philippines.

Short Notes on its Ecology

Metapocyrtus (Trachycyrtus) rubiginosus was collected in an open area along a creek in Barangay Langgawisan, Maragusan, Davao de Oro. The creek was in between an old-growth forest and a nearby land that was recently burnt from slash-and-burn farming. The new species was collected on the leaves of *Solanum* sp. (Solanaceae) and *Sambucus* sp. (Adoxaceae). Both the leaves of *Solanum* sp. and *Sambucus* sp. have shown significant bite marks. The new species is the 5th new species discovered from this 1km stretch of creek. The other species collected from this creek include *Metapocyrtus (Orthocyrtus) ginalopezae* Cabras & Medina, 2019, *Metapocyrtus jumawani* Cabras and Medina, 2021, *Metapocyrtus salesi* Cabras, Villanueva and Medina, 2021, and *Metapocyrtus dagtum* Cabras, Torrejos and Medina, 2021. This number of discoveries from this very short stretch of creek is astonishing but not surprising since it is next to a remnant of an old-growth forest, and this part of the country has been least explored for its weevil fauna. However, similar to most forested habitats, habitat degradation and conversion of the forests to farmlands through slash-and-burn farming is a common threat. The local government of Maragusan, Davao de Oro should take more proactive measures in conserving its remaining forests which are teeming with rich and highly underexplored biodiversity. More field expeditions should also be conducted in this part of Mindanao to assess the remaining population of this species and craft appropriate conservation efforts.

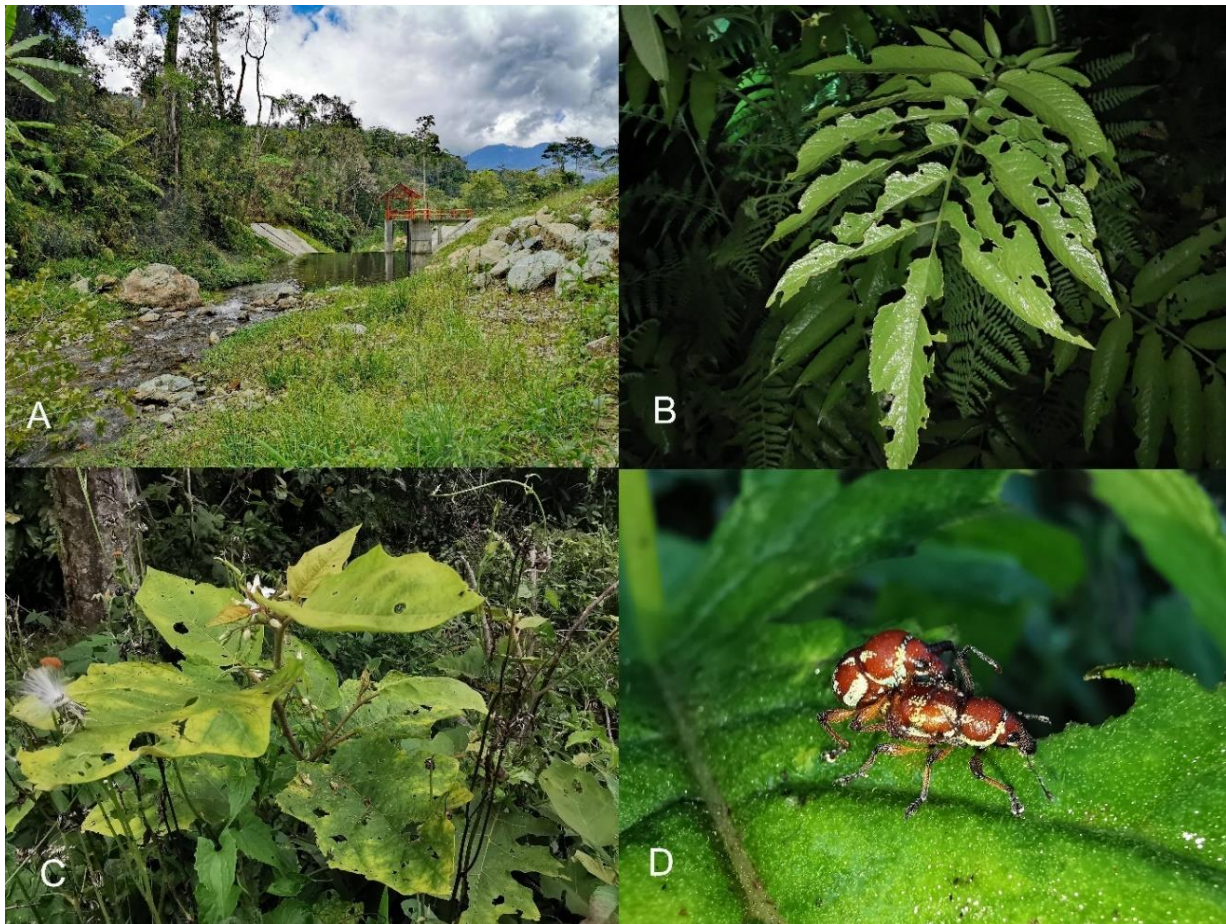


Figure 3. A. Habitat of *Metapocyrtus (Trachycyrtus) rubiginosus* sp. nov. in Langgawisan, Maragusan, Davao de Oro, Mindanao, B. *Sambucus* sp., and C. *Solanum* sp., possible food plants of *M. (T.) rubiginosus*, D. *M. (T.) rubiginosus* in its natural habitat

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