TWO NEW SPECIES OF THE GENUS *METAPOCYRTUS* HELLER 1912, SUBGENUS *DOLICHOCEPHALOCYRTUS* SCHULTZE 1925 (COLEOPTERA, CURCULIONIDAE, ENTIMINAE, PACHYRHYNCHINI) FROM NORTHERN MINDANAO, PHILIPPINES

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Abstract
Two new species of the genus *Metapocyrtus* Heller 1912, subgenus *Dolichocephalocyrtus* Schultze 1925 (Coleoptera, Curculionidae, Entiminae, Pachyrhynchini) from Northern Mindanao, Philippines are described and illustrated. The novel species are *Metapocyrtus (Dolichocephalocyrtus) malindangensis* sp. nov. and *Metapocyrtus (Dolichocephalocyrtus) baulorum* sp. nov. from Mt. Malindang, Misamis Occidental and Gingoog, Misamis Oriental, Northern Mindanao. Photographs of habitus and male genitalia are presented with a brief ecologic note of their habitats.

Keywords: archipelago, beetles, endemic, novel species, taxonomy, weevils

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INTRODUCTION

The genus *Metapocyrtus* is one of the most taxonomically complex and diverse taxa comprising of many species with considerable variations in general form and shape, including between the sexes (Schultze 1923). This genus, which has its distribution centered on various islands of the Philippines, includes more than 227 species under seven subgenera, with a predominantly narrow geographic range often confined to a mountain range, island, or specific biotope (Cabras & Medina 2018).

Among the subgenera of *Metapocyrtus* is *Dolichocephalocyrtus* Schultze, 1925, with *M.*

(D.) dolosus Heller, 1912 as its type species, originally described by W. Schultze (1925) as medium-sized weevils, with a head and rostrum rather long and slender. Additionally, the elytra of the species belonging to this subgenus are described as only slightly broader than the prothorax, slender, subovate, and moderately constricted at the base with the lateral margins being slightly rounded (Yap & Gapud 2007, Cabras et al. 2020). Currently, the subgenus *Dolichocephalocyrtus* is represented by 25 taxa with twenty-four (24) species, and one subspecies. Six (6) species were described from Luzon, five (5) species from Visayas, twelve (12) species including one subspecies from Mindanao, and one species has no exact locality labeled only as "Philippines." The most recent species to be added to this subgenus is *Metapocyrtus (D.) zamboanganus* Cabras, Madjos, and Medina, 2020 from Zamboanga City, Zamboanga del Sur.

The discovery of the numerous novel species throughout the least explored habitats on the different islands of the Philippines, especially in Mindanao Island, just shows that there are still more species of weevils unknown to science that are yet to be discovered. In this paper, two new species of weevils belonging to the genus *Metapocyrtus* subgenus *Dolichocephalocyrtus* from Mt. Malindang, Misamis Occidental, and Gingoog, Misamis Oriental are presented. The two new species herein are described and illustrated. A brief note on their habitats is presented.

MATERIALS AND METHODS

The specimens deposited in the University of Mindanao Coleoptera Research Center were collected through sheet beating and handpicking and killed in vials with ethyl acetate. Morphological characters were observed under Luxeo 4D and Nikon SMZ745T stereomicroscopes. The illustrations, as well as the treatment of the genitals, were identical to those described by H. Yoshitake (2011). Due to the little or almost no use of the female genitalia in identifying and characterizing the different species of Pachyrhynchini (Bollino et al. 2020), the said anatomical parts are not illustrated. Images of the habitus and genitalia were taken using a Nikon D5300 digital camera with a Sigma 18–250 macro lens. All images were stacked and processed using a licensed version of Helicon Focus 6.7.0 and Photoshop CS6 Portable software. Label data are indicated verbatim. Measurements mentioned in this paper are abbreviated as follows:

/ = different lines
// = different labels
ā = arithmetic mean
LB = length of the body in dorsal view, from the apical margin of the pronotum to the apices of the elytra
LE = length of the elytra in dorsal view, from the level of the basal margins to the apices of the elytra
LP = length of the pronotum, from the base to apex along the midline
LR = length of the rostrum
WE = maximum width across the elytra
WP = maximum width across the pronotum
WR = maximum width across the rostrum
All measurements are in millimeters.

Comparative materials and specimens used in the study are deposited in the following institutional collections:

AAC Personal Collection of Analyn Cabras, Davao City, Philippines;
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.

RESULTS

Taxonomy

***Metapocyrtus (Dolichocephalocyrtus) malindangensis* sp. nov. Cabras, Pajota & Medina** (Fig. 1, A–F)

Holotype (Fig. 1, A–C), male; Philippines-Mindanao Island / Mt. Malindang / Misamis

Occidental / March, 2022 / coll. Rivera leg (typed on white card) // HOLOTYPE male / *Metapocyrtus Dolichocephalocyrtus malindangensis* / CABRAS, PAJOTA, & MEDINA, 2021 (typed on red card). Presently in UMCRC, it will be deposited in the National Museum of Natural History (PNMNH) under the National Museum of the Philippines. **Paratypes** (12 ♂, 4 ♀) same data as the holotype. Presently in UMCRC and AAC.

Diagnosis. *Metapocyrtus* (*Dolichocephalocyrtus*) *malindangensis* sp. nov. is unique among the species of *Dolichocephalocyrtus* in Mindanao for its unique elytral ornamentation of longitudinal stripes in each stria.

Description. Male. Dimensions: LB: 6.2–8.0 (Holotype 8.0mm, â: 7.45). LP: 2.0–2.8 (Holotype 2.8mm, â: 2.43). WP: 2.3–3.3 (Holotype 3.5mm, â: 2.96). LE: 4.2–5.2 (Holotype 6mm, â:5.01). WE: 3.0–4.2 (Holotype 4.3mm, â: 3.77mm). LR: 1.4–2.2 (Holotype 1.5mm, â: 1.9). WR: 1.0–1.3 (Holotype 1.2mm, â: 1.07). N=12 for all measurements.

Integuments of elytra, pronotum, head, rostrum, antennae, and tarsus black except for legs with reddish-brown color. Body surface, rostrum, head, and underside are moderately lustrous.

Head coarsely punctured and weakly rugose with minute green pubescence, dorsal surface sparsely covered with metallic golden yellow round to elliptical scales on basal half, and turquoise round and elliptical scales on apical half; lateroventral sides below the eye with adpressed lanceolate light green scales interspersed with colored piliform scales; forehead between eyes flat; eyes small-sized, feebly convex, and barely protruding from the outline of head; margin of eyes rugose; midline groove of head distinct. Rostrum coarsely punctured and rugose on basal 2/3rd and moderately punctured on apical third, longer than broad (LR/WR:1.5/1.2mm), dorsum covered with adpressed light green setae, with faint V-shape ridge on basal half, midline longitudinal groove distinct, shallower from base and gets deeper towards middle forming a moderately deep lanceolate concavity; transverse groove distinct; dorsum with sparse metallic golden yellow and greenish elliptical scales at base; lateral sides with adpressed piliform colored scales, and white setae towards apex.

Antennal scape slightly longer than funicle, scape reaching beyond the hind margin of eye covered with adpressed moderately long greenish setae on each side, and funicle covered with suberect whitish setae. Funicular segments I and II nearly the same length, nearly three times longer than wide; segments III-VI nearly as long as wide, segment VII slightly longer than segment III-VI; club sub-ellipsoidal, nearly 3 times longer than wide.

Prothorax subglobular, weakly tapered towards anterior margin, slightly wider than long (LP/WP:2.8/3.3mm), dorsal surface with distinct midline groove, moderately rugose and coarsely punctured, lateral surface granulated; densely covered with fine greenish pubescence, and golden yellow, turquoise, and yellow-green round to elliptical scales; widest at middle, weakly convex on dorsal surface, dorsal contour highest at middle. Elytra subovate slightly longer than wide (LE/WE:5.2/4.1mm), moderately wider and nearly twice longer than prothorax (WE/WP: 4.2/3.3mm, LE/LP: 5.2/2.8mm), coarsely striate punctate with minute green pubescence, dorsum very weakly convex nearly flattish with abrupt apical declivity, dorsal contour highest before the apical declivity, lateral contour evenly arcuate, widest at middle, apical declivity with sparse and slightly longer greenish fine setae. Each elytron with longitudinal stripes of golden yellow, and turquoise round scales in each stria from base to apex confluent at each ends; stripes at stria VI- IX are quite dispersed and inconspicuous at base and apex.

Legs with moderately clavate femora. Femora mostly reddish brown except the apical parts which is black, beset with adpressed piliform green scales. Tibiae reddish brown except basal and apical parts, covered with adpressed piliform green scales, and with suberect longer white setae along inner edge, weakly serrate

along inner edge. Fore tibiae bear a mucro at apex. Tarsomeres densely covered with pubescence. Forecoxae moderately covered with green suberect setae and adpressed white piliform scales towards rear end; meso and metacoxae covered with greenish setae. Meso and metathorax with mint green lanceolate scales. Mesoventrite and metaventrie covered with white suberect setae. Ventrite I moderately depressed on disc, densely covered with suberect yellowish setae and with suberect piliform mint green scales towards lateral margin. Ventrite II to IV sparsely covered with moderately long suberect white setae. Ventrite V coarsely punctured with subadpressed piliform scales.

Male aedeagus as shown in Fig. 3 A–B.

Female. LB: 8.0–9.1 (â: 8.8mm). LP: 2.2–3.0 (â: 2.6mm). WP: 3.0–3.5 (â: 3.22mm). LE: 5.8–6.5 (â: 6.2mm). WE: 4.1–4.8 (â: 4.5mm). LR: 1.5–1.8 (â: 1.67mm). WR: 1.1–1.2 (â: 1.17mm). N=4 for all measurements.

Habitus is shown in Fig. 1 B–D.

Females differ from males in the following: a) head has a more rugose dorsal surface, b) rostrum has shallower midline groove and less distinct V-shape ridge, c) pronotum slightly longer and wider than in male, d) pronotum has bulging sides, e) pronotum with a narrowly ovate smooth surface in the middle, and coarsely granulated on side, f) elytra moderately longer and slightly wider with a more abrupt apical declivity, and triangular projection at apex, and h) Ventrite I flat on disc. Otherwise, the female is similar to the male.

Etymology. The new species is named after its type locality- Mt. Malindang.

Distribution. *Metapocyrtus* (*Dolichocephalocyrtus*) *malindangensis* sp. nov. is known so far only from Mt. Malindang, Misamis Occidental.

***Metapocyrtus* (*Dolichocephalocyrtus*) *baulorum* sp. nov. Cabras, Pajota & Medina** (Fig. 2, A–F)

Holotype (Fig. 2, A–C), male; Philippines-Mindanao Island / Gingoog / Misamis Oriental / III.2022 / coll. local collector (typed on white card) // HOLOTYPE male / *Metapocyrtus* (*Dolichocephalocyrtus*) *baulorum* sp. nov. / CABRAS, PAJOTA, & MEDINA, 2021 (typed on red card). Presently in UMCRC, it will be deposited in the National Museum of Natural History (PNMNH) under the National Museum of the Philippines. **Paratypes** (5 ♂, 3 ♀) same data as the holotype. Presently in UMCRC and AAC.

Diagnosis. *Metapocyrtus* (*Dolichocephalocyrtus*) *baulorum* sp. nov. bears a close resemblance to *Metapocyrtus* (*Dolichocephalocyrtus) ruficollis* (Waterhouse 1842) but can easily be distinguished by the absence of conical projection on the ventral side of female's rostrum, darker reddish-brown pronotum that has coarser punctures for males and coarse granulations for females, presence of the oblique patch at each side of the disc of pronotum and the three transverse interrupted stripes at basal, medial, and apical third of the elytra. *M.* (*D.*) *baulorum* sp. nov. has elytra that is weakly to moderately wider than pronotum, with coarsely striate punctures, and aedeagus with a distinctive shape.

Description. Male. Dimensions: LB: 7.2–8.8 (Holotype 8.0mm, â: 8.32mm). LP: 2.8–3.2 (Holotype 3.0mm, â: 3.04mm). WP: 3.0–3.6 (Holotype 3.2mm, â: 3.4mm). LE: 4.4–5.6 (Holotype 5.0mm, â: 5.28mm). WE: 4.0–4.2 (Holotype 4.0mm, â: 4.12mm). LR: 1.4–1.8 (Holotype 1.8mm, â: 1.68mm). WR: 1.1–1.3 (Holotype 1.3mm, â: 1.22mm). N= 6 for all measurements.

Integuments of elytra, head, rostrum, antennae, and tarsus black except for pronotum and legs with reddish-brown color. Body surface, rostrum, head, and underside are moderately lustrous.

Head finely punctured and weakly rugose, dorsal surface sparsely covered with adpressed mint green piliform scales and with sparse blue round and elliptical scales on apical half; lateroventral

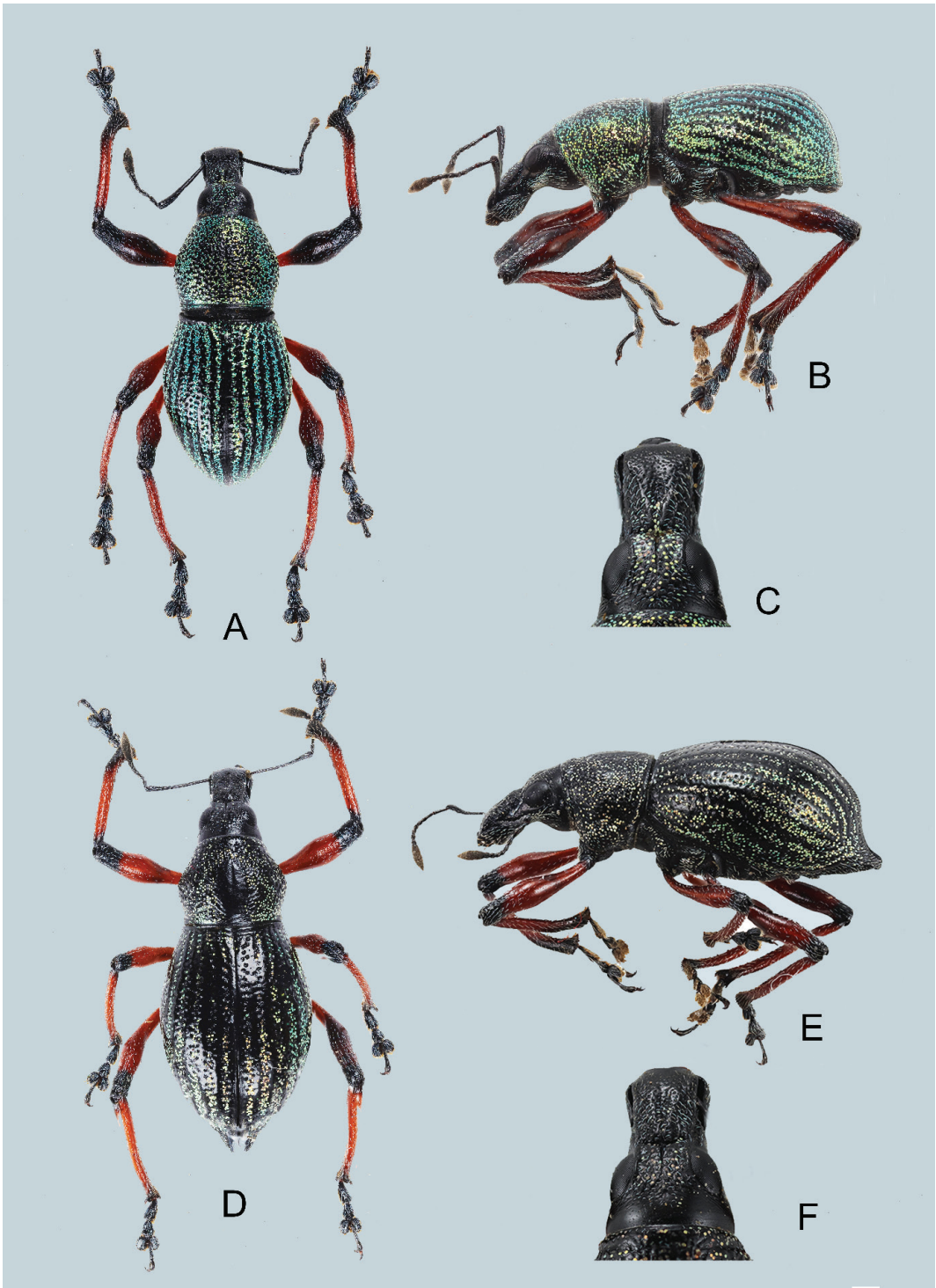

Figure 1. *Metapocyrtus* (*Dolichocephalocyrtus*) *malindangensis* sp. nov. – A–C, Holotype male; A. dorsal view, B. lateral view, C rostrum (dorsal view). D–F, Paratype female; D. dorsal view, E. lateral view, and F. rostrum (dorsal view).

sides below the eye with adpressed mint green and bluish piliform scales; forehead between eyes flat; small-sized, feebly convex, and barely protruding from the outline of head; margin of eyes rugose; midline groove distinct. Rostrum coarsely punctured and rugose on basal 2/3rd and finely punctured on apical third, longer than broad (LR/WR:1.8/1.3mm), dorsum covered with subadpressed mint green piliform scales, longitudinal groove along midline distinct and forms a shallow lanceolate depression at middle beset with blue ovate scales, transverse groove fairly distinct; lateral sides with weakly widened apicad; lateral sides with adpressed colored piliform scales, and white setae towards apex.

Antennal scape slightly longer than funicle, scape reaching beyond the hind margin of eye covered with adpressed moderately long white setae, and funicle covered with suberect yellowish setae. Funicular segments I slightly longer than and II, nearly three times longer than wide; segments III-VI nearly as long as wide, segment VII slightly longer than segment III-VI; club sub-ellipsoidal, nearly 3 times longer than wide.

Prothorax subglobular, slightly wider than long (LP/WP:3.0/3.2mm), dorsal surface with distinct midline groove, rugose and coarsely punctured; sparsely covered with fine white pubescence; widest at middle, weakly convex on dorsal surface, dorsal contour highest at the middle. Pronotum with the following scaly markings of blue round scales: a) thin stripe at apical margin, b) faint small oblique patch at each side of disc, and c) thick stripes at each side of lateral margin, confluent with apical stripe. Elytra subovate slightly longer than wide (LE/WE:5.0/4.0mm), moderately wider and longer than prothorax (WE/WP: 4.0/3.2mm, LE/LP: 5.0/3.0mm), coarsely striate punctate with minute white pubescence, dorsum weakly convex with abrupt apical declivity, dorsal contour highest at middle, lateral contour evenly arcuate, widest at middle, apical declivity with white suberect setae. Each elytron with the following scaly markings of turquoise, blue and purple round scales: a) two small subcircular basal spots from stria II to IV and VI- VIII, b) interrupted median transverse stripe widened laterally, and c) thin transverse stripe at apical third. Legs with moderately clavate femora. Femora mostly reddish-brown except the apical parts which is black, covered with suberect white setae. Tibiae reddish brown except basal and apical parts, covered with suberect yellowish setae, weakly serrate along inner edge. Fore tibiae bear a mucro at apex. Tarsomeres densely covered with pubescence. Forecoxae moderately covered with suberect colored setae and adpressed mint green piliform scales towards rear end; meso and metacoxae with suberect bluish piliform scales and hairs. Meso and metathorax with turquoise and bluish round to elliptical scales. Mesoventrite and metaventrie densely covered with brownish hairs. Ventrite I with weak depression on disc, densely covered with suberect white setae. Ventrite II to IV sparsely covered with suberect white setae. Ventrite V rugose densely covered with adpressed white setae.

Male aedeagus as shown in Fig. 3 D–F.

Female. LB: 9.1–9.8 (â: 9.56mm). LP: 2.9–4.6 (â: 4.03mm). WP: 3.2–3.8 (â: 3.6mm). LE: 6.2–7.0 (â: 6.73mm). WE: 4.2–4.5 (â: 4.4mm). LR: 1.7–2.0 (â: 1.9mm). WR: 1.2–1.3 (â: 1.26mm). N=3 for all measurements.

Habitus is shown in Fig. 1 D–F.

Females differ from males in the following: a) base of rostrum with weak bifid tubercles, which forms a deep median depression in the middle, b) pronotum moderately longer and wider than in male, c) pronotum with an ovate smooth surface in the middle, d) elytra slightly longer and wider with pronounced triangular projection at apex, e) basal and median transverse stripes reduced to subcircular patches with the lateral patch moderately elongate and bigger, f) color of fore femora nearly black on basal half and g) Ventrite I slightly bulging on disc. Otherwise, the female is similar to the male.

Etymology. The specific epithet is named after the family of Mr. Melbert Baul for being an

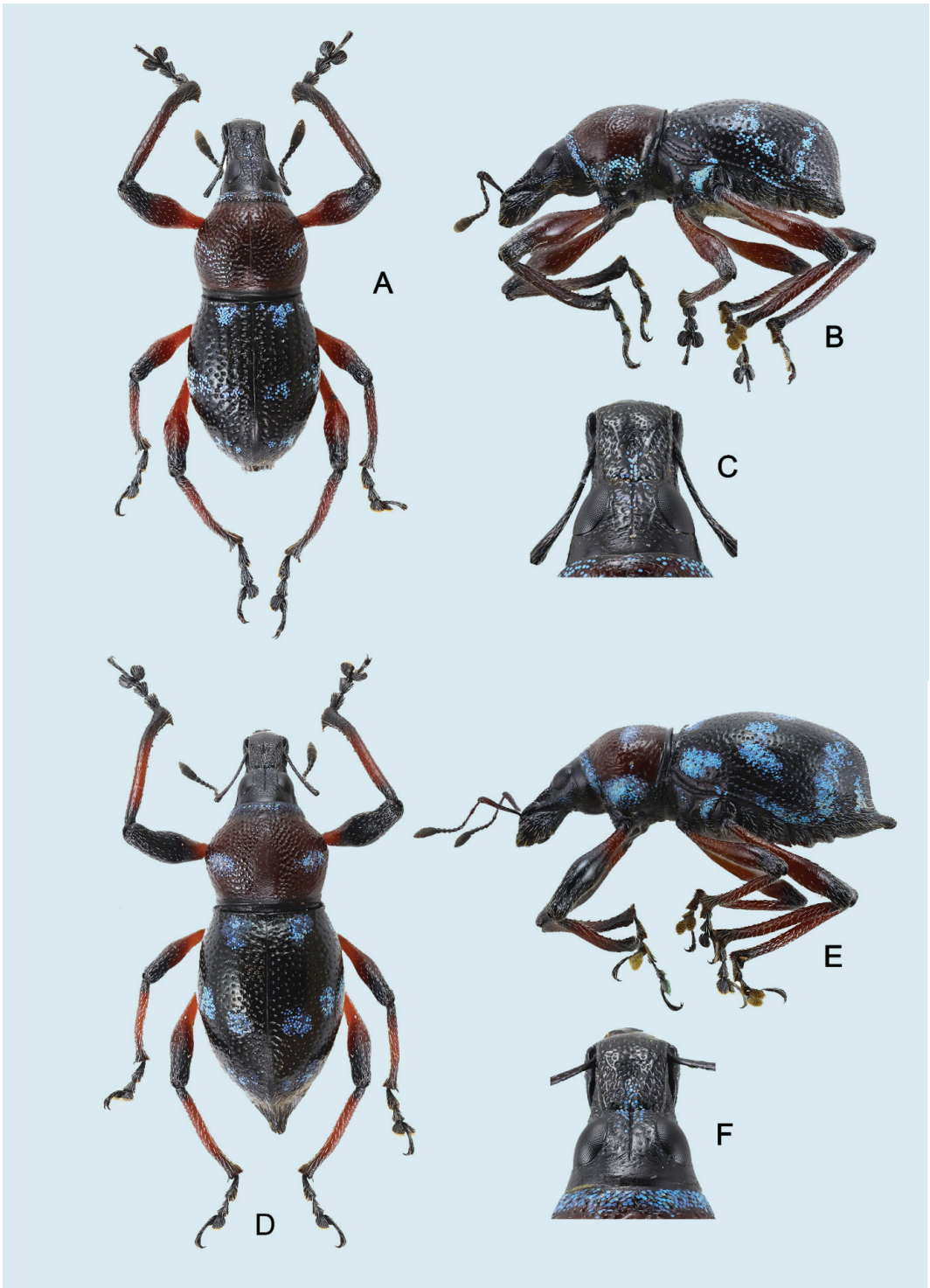

Figure 2. *Metapocyrtus* (*Dolichocephalocyrtus*) *baulorum* sp. nov. – A–C, Holotype male; A. dorsal view, B. lateral view, C rostrum (dorsal view). D–F, Paratype female; D. dorsal view, E. lateral view, and F. rostrum (dorsal view).

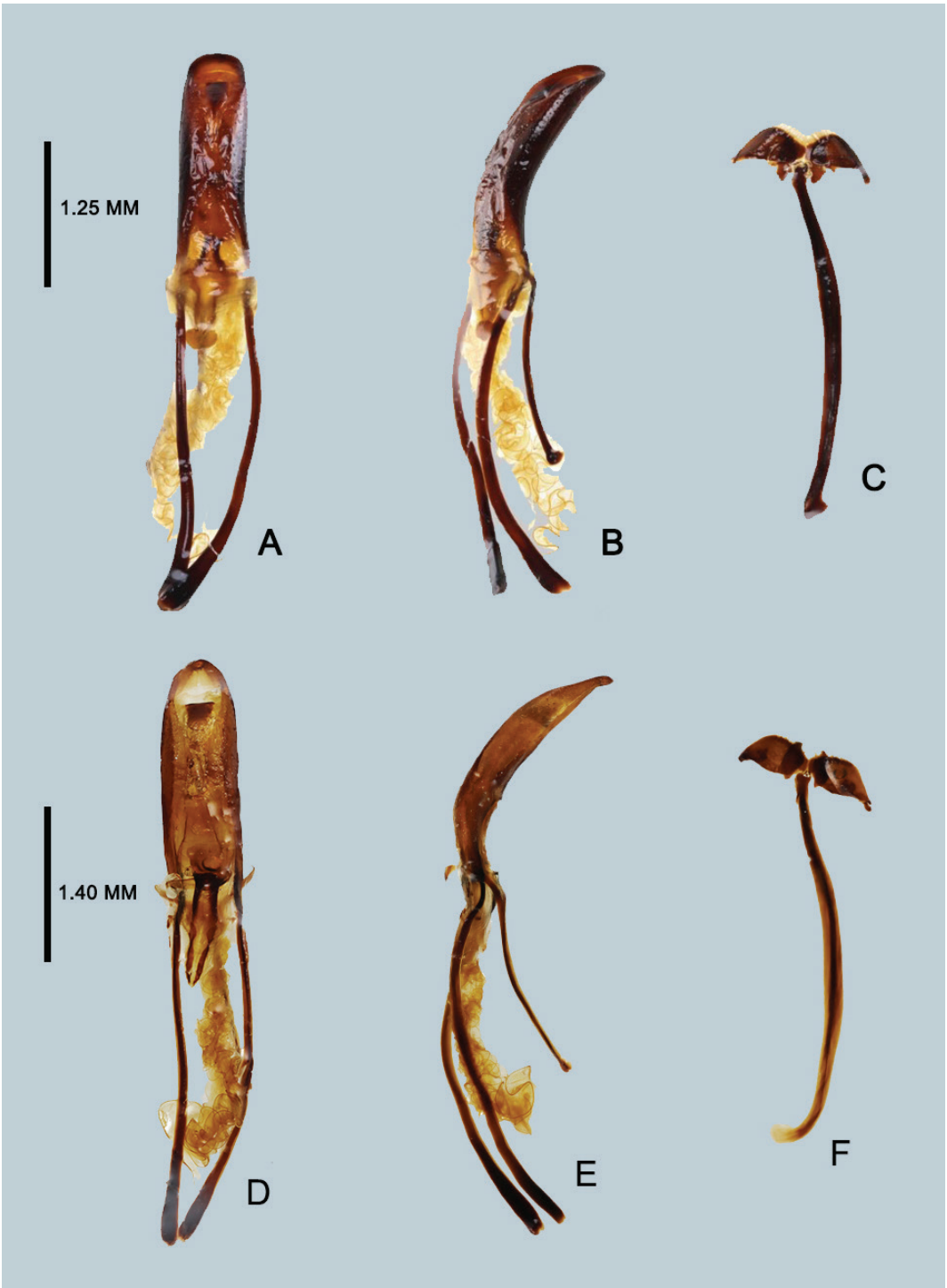

Figure 3. Male genitalia of *Metapocyrtus* (*Dolichocephalocyrtus*) *malindangensis* sp. nov.: A. penis in dorsal view, B. idem. in lateral view, C. sternite IX in dorsal view. Male genitalia of *Metapocyrtus* (*Dolichocephalocyrtus*) *baulorum* sp. nov.: D. penis in dorsal view, E. idem. in lateral view, F. sternite IX in dorsal view.

excellent host to the research team during our expedition in Northern Mindanao.

Distribution. *Metapocyrtus* (*Dolichocephalocyrtus*) *baulorum* sp. nov. is known so far only from Gingoog, Misamis Oriental.

Brief Ecological Notes

Metapocyrtus (Dolichocephalocyrtus) malindangensis sp. nov. was collected in a locality near Mansawan falls located in Barangay Nueva Vista, Municipality of Don Victoriano Chiongbian, Province of Misamis Occidental. Barangay Nueva Vista is situated at approximately 8.3056, 123.5811, in the northwestern portion of Mt. Malindang. Elevation at these coordinates is estimated at 1,303.5 meters or 4,276.5 feet above mean sea level. The area where the specimens were collected is still a primary forest with the rich vegetation of both native trees and ferns. The collected specimens were observed to be perching on the fronds of an elephant fern, *Angiopteris evecta* (Hoffm 1796), locally known

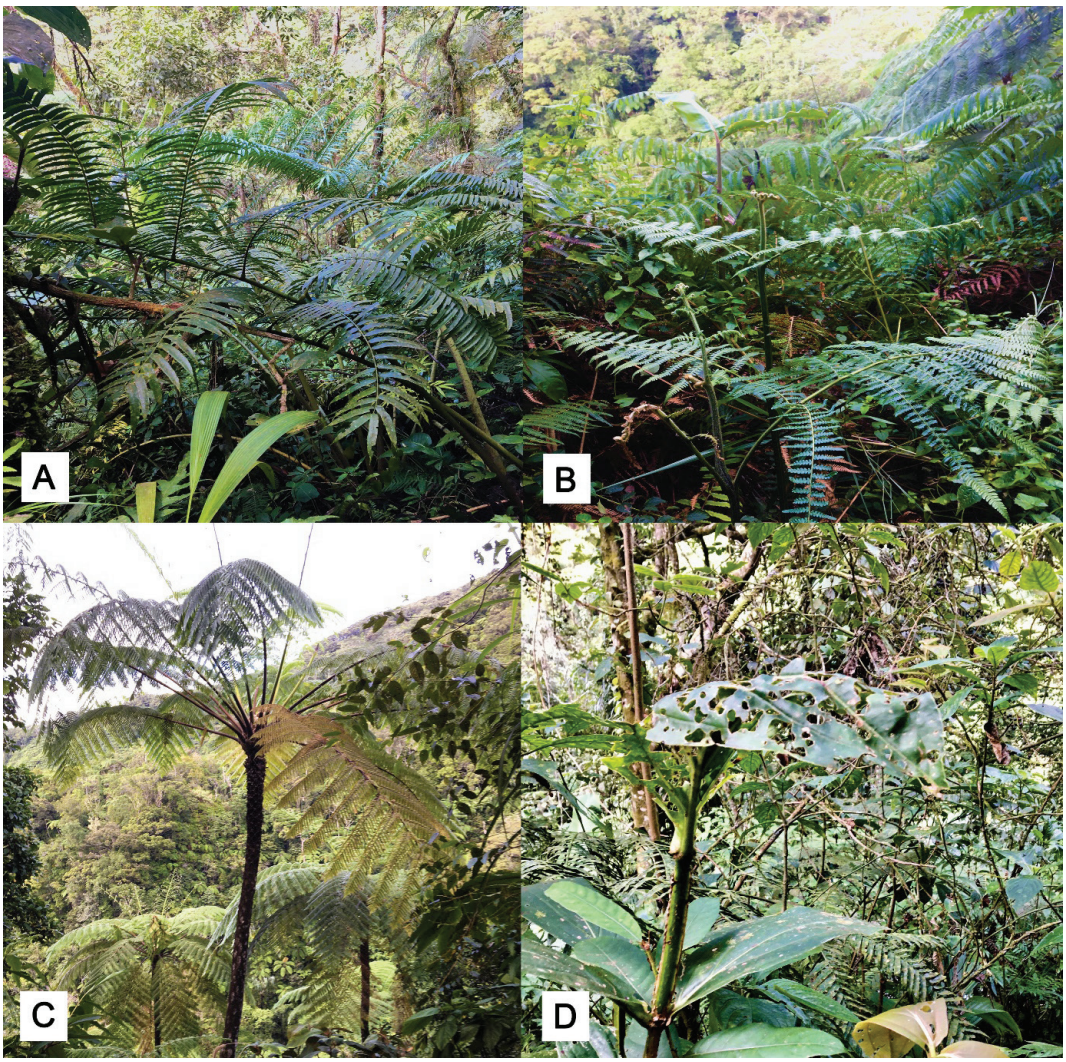

Figure 4. Species of plants associated with *Metapocyrtus (Dolichocephalocyrtus) malindangensis* sp. nov.: A– Elephant fern, *Angiopteris evecta* (Hoffm 1796), locally known as "*Lukdo-lukdo*"; B– *Pteridium aquilinum* (Kuhn 1879); C– *Cyathea* sp.; D– *Medinilla* sp.

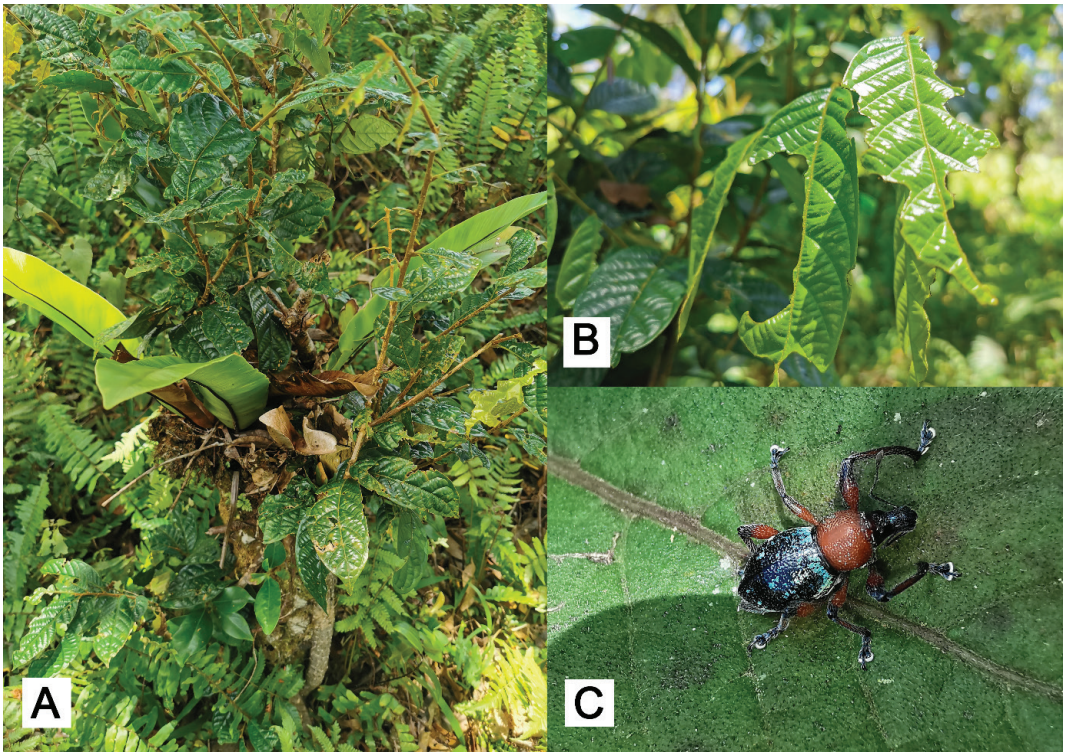

Figure 5. Species of plants associated with *Metapocyrtus (Dolichocephalocyrtus) baulorum* sp. nov.: A– Philippine oak tree, *Lithocarpus sulithi* (Soepadmo 1970); B– leaves of a Philippine oak tree with visible chew marks; C– *M. (D.) baulorum sp. nov.* perching on its natural habitat.

as lukdo-lukdo (Fig. 4–A). In addition, the new species were also found perching on other species of ferns including *Pteridium aquilinum* (L.) Kuhn (Fig. 4-B), *Cyathea* sp. (Fig. 4C), *Nephrolepis* sp., and a species of tropical shrub *Medinilla* sp. (Fig. 4-D). The fronds and the leaves of the associated plant species were observed to have chew marks.

Metapocyrtus (Dolichocephalocyrtus) baulorum sp. nov. is a novel species of weevil collected on a stump of a Philippine oak tree, *Lithocarpus sulithi* (Soepadmo 1970), locally known as Ulayan, between a forested area and a resort at Gingoog City, Misamis Oriental. The area where the specimens were collected is inferred to be a remnant of a secondary forest and is projected to be 1100 meters above sea level. Unlike *Metapocyrtus (D.) malindangensis* sp. nov., *M. (D.) baulorum* sp. nov. was collected in a semi-open area with poor tree vegetation as the trees in this area are being cut for a land expansion that will make way for the adjacent resorts. Being said, like most habitats, the habitat of *M. (D.) baulorum* sp. nov. is highly threatened by several anthropogenic activities like deforestation and land conversion- a case like *Metapocyrtus (Orthocyrtus) ginalopezae* (Cabras & Medina 2019) in Davao de Oro, and *Metapocyrtus willietorresi* (Cabras & Medina 2018) in Mt. Apo Natural Park, Davao del Sur.

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