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Metapocyrtus (Dolichocephalocyrtus) kutongbusaw sp. nov., a new flightless weevil from Lake Holon, South Cotabato, Mindanao, Philippines (Coleoptera, Curculionidae, Entiminae, Pachyrhynchini)

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Abstract

A new species of flightless weevil, *Metapocyrtus (Dolichocephalocyrtus) kutongbusaw* sp. nov. from Lake Holon, South Cotabato, Mindanao, Philippines, is described and illustrated. The novel species is named after the locality of the holotype. Photographs of the habitus and male genitalia are provided with brief ecologic notes.

***Keywords*:** Archipelago, conservation, new species, weevils, Philippines.

Introduction

The discovery of new species in the subgenus *Dolichocephalocyrtus* was inactive for 86 years. The quiescence began after the description of *Metapocyrtus (Dolichocephalocyrtus) duyagi* Schultze, 1934 and was ended through the discovery of *Metapocyrtus (Dolichocephalocyrtus) zamboanganus* Cabras, Madjos, & Medina, 2020 (Schultze,1934; Cabras et al., 2020). Two years after, another two species were discovered: *Metapocyrtus (Dolichocephalocyrtus) malindangensis* Cabras, Pajota, & Medina, 2021 and *Metapocyrtus (Dolichocephalocyrtus) baulorum* Cabras, Pajota, & Medina, 2021 (Cabras et al., 2022b). With the discovery of *M. (D.) malindangensis*, *M. (D.) baulorum,* and the new species described in this paper, the overall number of taxa representing subgenus *Dolichocephalocyrtus* has now been updated to thirty (27 species, two variations, and one subspecies).

All three recently described species: *Metapocyrtus* (*Dolichocephalocyrtus*) *zamboanganus* Cabras, Madjos, & Medina, 2020; *M.* (*D.*) *baulorum* Cabras, Pajota, & Medina, 2022; and *M*. (*D.*) *malindangensis* Cabras, Pajota, & Medina, 2022 were recorded from western and northern Mindanao regions which are poorly explored. Therefore, more new species are expected to be discovered, especially in unexplored mountain areas.

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One of the least entomologically explored areas in Mindanao is the South Cotabato region, particularly Lake Holon, the Tboli district, and the Allah Valley Mountain Range. Despite being one of the most ecologically diverse areas in the archipelago, there are only a handful of published studies on the beetle fauna (Yoshitake, 2017; Pepito et al., 2020; Medina et al., 2021; Patalita et al., 2022; and Cabras et al., 2022a). The new species described and illustrated in this paper is the third species for Mt. Parker following the discovery of *Metapocyrtus (Orthocyrtus) caeruleovittatus* Yoshitake, 2017, and *Metapocyrtus (Orthocyrtus) melibengoy* Cabras & Medina, 2022, and the ninth species discovered from Cotabato, together with *M. (D.) mindanaoensis* Schultze, 1925, *M. (D.) pikitensis* Schultze, 1925, *M. (Orthocyrtus) mansaka* Cabras, Bollino, & Medina, 2018, *M. (Trachycyrtus) nautilus* Genka & Yoshitake, 2014, *Metapocyrtus (Orthocyrtus) flomlok* Cabras & Medina, 2022, and *M. latifasciatus* Bollino, Medina, & Cabras, 2020. A brief note on its habitat is presented as well.

Materials and methods

The specimens deposited in the University of Mindanao Coleoptera Research Center were collected through sheet beating and hand picking 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, followed Yoshitake (2011). Due to the little or almost no use of the female genitalia in identifying and characterizing the different species of Pachyrhynchini (Cabras et al., 2022), the said anatomical parts are no longer illustrated. Images of the habitus and genitalia were taken using Canon EOS 6D digital camera equipped with an MP-E 65-mm 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 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 institutions:
PNM–Philippine National Museum of Natural History, Manila, Philippines;
UMCRC– University of Mindanao Coleoptera Research Center, Davao City, Philippines;
SKSUABC– Sultan Kudarat State University ACCESS Biological Collection, Tacurong, Philippines.

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TAXONOMY

***Metapocyrtus (Dolichocephalocyrtus) kutongbusaw* Pajota, Medina & Cabras sp. nov.,** (Figure 1, A–D)

Type material. **Holotype**, male: Philippines – Mindanao / South Cotabato / Lake Holon / Kutong Busaw / November 2020 / coll. Cudera, Mamon (typed on white card) // HOLOTYPE male / *Metapocyrtus (Dolichocephalocyrtus) kutongbusaw* / PAJOTA, MEDINA, & CABRAS, 2022 (typed on red card). Presently in UMCRC, will be deposited in PNM.

Paratypes (10♂♂, 20♀♀): 2♂♂, 8♀♀, same data as holotype; 1♂♂, 4♀♀, Philippines - Mindanao / South Cotabato / Lake Holon / Salacafe Trail / November 2020 / coll. Mamon; 1♂♂, 1♀♀, Philippines - Mindanao / South Cotabato / Lake Holon / Kule Trail / November 2020 / coll. Mamon, Cudera, and Ali; 1♂♂, 1♀♀, Philippines - Mindanao / South Cotabato / Lake Holon / Sablayan View deck / September 2019 / coll. Canuto; 3♂♂, 3♀♀, Philippines - Mindanao / South Cotabato / Lake Holon / Base Camp / March 2020 / coll. Cudera; 3♂♂, 3♀♀, Philippines - Mindanao / South Cotabato / Lake Holon / S3 Trail / October 2019 / coll. Cudera, all in UMCRC. All paratypes with additional red label: PARATYPE / *Metapocyrtus (Dolichocephalocyrtus) kutongbusaw* / PAJOTA, MEDINA, & CABRAS, 2022.

Diagnosis.
The new species described in this paper is placed under the subgenus *Dolichocephalocyrtus* following the characteristics provided by Schultze (1923): a) long and slender rostrum, b) presence of V-shape ridge on the basal half in male individuals, c) male elytra with a rounded apex and steep apical declivity, and d) female elytra with a sharp and triangular apical projection. *Metapocyrtus (D.) kutongbusaw* sp. nov. bears a superficial resemblance to *Metapocyrtus (Dolichocephalocyrtus) pikitensis* (Schultze, 1925), but it is easily distinguishable by having coarse granulations on the pronotum, coarse punctures on the elytra, presence of sparsely scattered whitish round and piliform scales on the pronotum and elytra, and the distinct humplike sutural triangular protuberance in females at the beginning of apical declivity, which produces the inward curve going towards the triangular projection at the apex of the elytra. This unique protuberance among females are shared with *Metapocyrtus prolongatus* Schultze 1934, and *Metapocyrtus brevicollis* Chevrolat 1881, both from Luzon Island but differs for having longer triangular projection at apex.
Description. Male. Dimensions: LB: 7.2–8.0mm (Holotype 8.0mm, â: 7.78mm). LE: 5.0mm (Holotype 5.00mm, â: 5.0mm). LP:.2–3.02mm (Holotype 3.0mm, â: 2.78mm). LR: 1.5–2.0mm (Holotype 1.9mm, â: 1.8mm). WE: 3.2–4.2mm (Holotype 3.8mm, â: 3.76mm). WP: 2.9–3.4mm (Holotype 3.1mm, â: 3.02mm). WR: 1.2–1.5mm (Holotype 1.3mm, â: 1.38mm). N=11 for all measurements.

Integuments of the elytra, pronotum, head, rostrum, antennae, and trochanter black except for the femur which is reddish-brown and the tibia, which is dark brown. Body surface, rostrum, head, and underside moderately lustrous.
Head, dorsal surface coarsely rugose on basal third and finely punctured from basal third to apex. Frons sparsely pubescent with adpressed short white piliform setae. Area around the eyes and lateral sides weakly rugose. Median furrow distinct extending from vertex to the apex

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intersecting with transverse groove. Forehead weakly raised in the middle. Eyes medium-sized and moderately convex. Lateroventral surface with adpressed long white piliform scales.
Rostrum coarsely punctured and moderately rugose. Dorsum sparsely covered with adpressed short white setae with a golden sheen. Transverse basal groove distinct; median furrow present on the basal third with faint V-shaped ridge visible extending towards apical third right before the abrupt declivity towards the apex. Base of the lateral side sparsely pubescent with adpressed short white setae. Lateroventral area minutely pubescent with sub-adpressed long white setae. Lateroventral area of the mandibles beset with sub-adpressed long golden piliform setae.
Antennal scape slightly longer than the antennal funicle (scape/funicle:3.1 mm/2.6 mm). Scape minutely pubescent with sub-adpressed long white setae. Funicular antennomeres I and II nearly the same length, but antennomere I is slightly longer, approximately thrice as long as wide. Funicular antennomeres III-V globular, nearly as long as wide. Funicular antennomere VII is slightly wider and longer than VI. Funicular antennomeres densely pubescent with sub-erected long yellowish setae. Club sub-ellipsoidal, nearly three times longer than wide, densely pubescent with sub-erected short golden setae.
Prothorax sub-globular, nearly as long as wide (LP/WP: LP: 3.0mm / WP: 3.1mm). Anterior margin with adpressed fringed minute white piliform scales. Dorsal surface with faint median longitudinal groove. Dorsum coarsely granulated, areas in between granulations with minute and adpressed short white piliform scales, and sparsely covered with round and lachrymiform white scales with weak yellowish, light blue, and pink sheen. Lateral surface densely beset with yellow-ochre round and elliptical scales. Dorsal surface weakly convex, highest point at the base, widest at the middle, while lateral margins are convexly rounded. Ventral area with minute pubescence of sub-erected medium-sized white piliform scales.
Elytra narrowly subovate, longer than wide (LE/WE: 5.00mm / 3.8mm), nearly twice longer as the prothorax (LE/LP: 5.00mm / 3.0mm), slightly wider than the prothorax (WE/WP: 3.8mm / 3.1mm), irregularly coarsely punctured, dorsum sparsely covered with sub-adpressed white piliform scales that becomes moderately longer and sub-erected towards the apex and irregularly covered with sparse round and elliptical white scales with tinges of yellow, blue, and pink sheen and becomes denser towards lateral margin. Dorsum weakly convex with abrupt apical declivity, dorsal contour highest near the middle, widest at the middle, apical declivity beset with sub-erected moderately long white setae.
Legs with moderately clavate femora. Femora minutely pubescent of sub-erected short white setae, reddish-brown at the base but becomes black towards the trochanter. Tibia dark brown, fairly pubescent with erected moderately long white piliform scales with green and golden sheen. Fore and mid-tibiae mucronate at apex with the area around it densely pubescent with erected long golden piliform scales, inner edge coarsely serrate starting from the apical 2/3. Tarsomeres densely pubescent with sub-erected long white and golden setae throughout their surface. Forecoxa**,** mesocoxa, and metacoxa pubescent with sub-erected moderately long white setae. Area below the forecoxa including the ventral base of the pronotum beset with moderately long white piliform scales. Metaventrite minutely pubescent with erected long white setae.
Ventrite I-V pubescent with sub-adpressed moderately long white setae. Distinct depression exists from the mesoventrite through the disc of Ventrite I. This depression is deepest at transverse groove between the mesoventrite and metaventrite. Ventrite V covered with erected long golden setae and coarsely punctured towards the apex.
Male aedeagus, see Figure 3 A–B.

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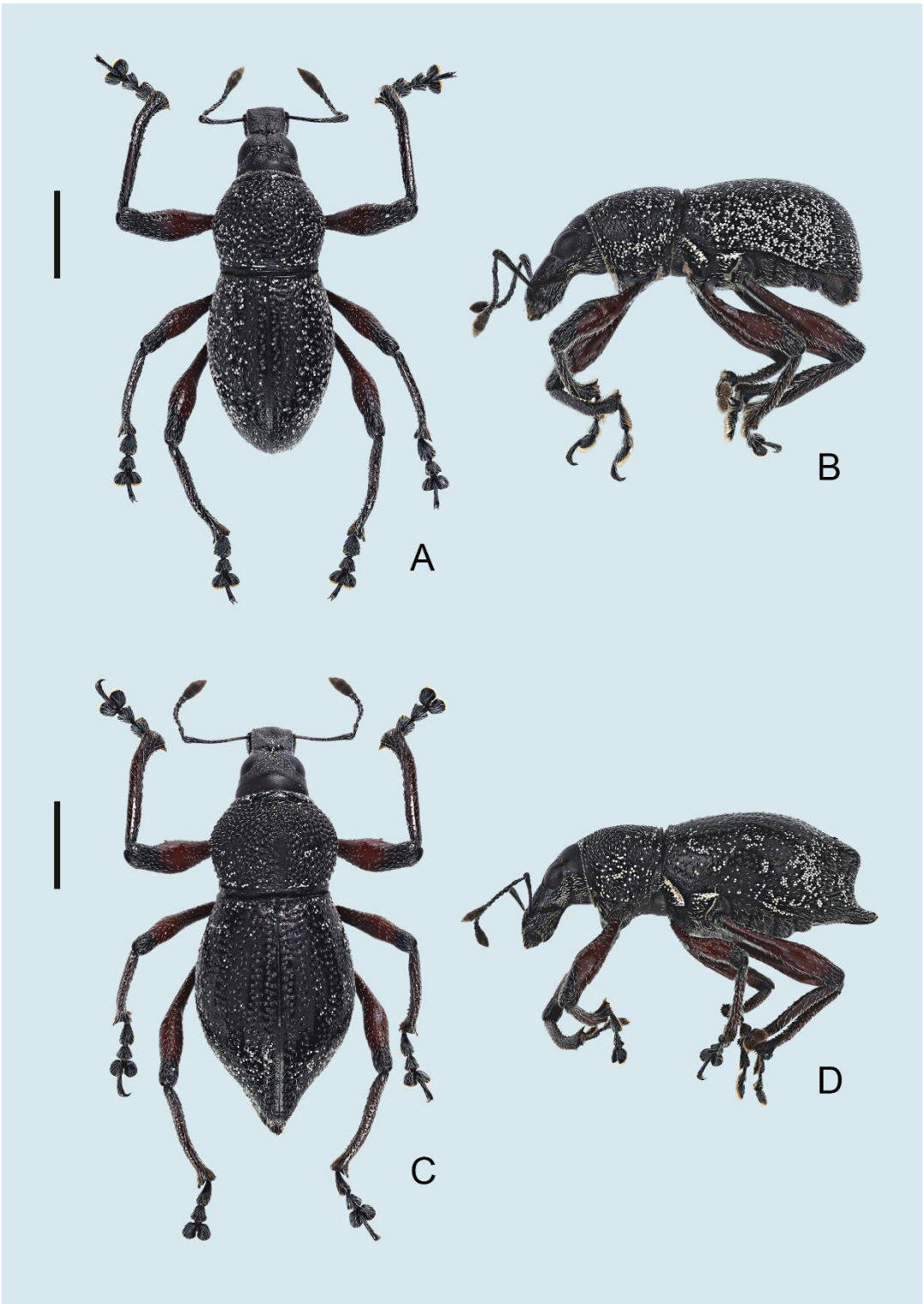

Figure 1. *Metapocyrtus (Dolichocephalocyrtus) kutongbusaw* sp. nov. – A-B, Holotype male; A. dorsal view, B. lateral view. C-D, Paratype female; C. dorsal view, D. lateral view.

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

Female. LB: 8.2-10.0mm (â: 9.29mm). LE: 6.5-7.0mm (â: 6.75mm). LP: 2.2-3.0mm (â: 2.54mm). LR: 1.5-1.9mm (â: 1.74mm). WE: 4.0-5.0mm (â: 4.39mm). WP: 3.0-3.9 (â: 3.36mm). WR: 1.2mm (â: 1.2mm). N= 20 for all measurements.
Habitus, see Figure 1. C–D.

Females differ from males in the following: a) head has a fainter median furrow, b) rostrum with a more distinct V-shaped ridge, having a slightly deeper depression, c) prothorax wider and longer than males, with a glabrous narrowly ovate-shaped area in the basal half that is free of any granulation, setae, and scales, d) elytra subovate, wider than in males, dorsal surface of the basal 2/3 nearly flat, middle of each elytron with a minor ridge at sides near the lateral margin, and e) the beginning of the apical decline with a distinct humplike sutural triangular protuberance,

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which produces the inward curve going towards the triangular projection at the apex of the elytra. Compared to other species in *Dolichocephalocyrtus*, the smooth ovate area of the female is very narrow.

Etymology. *Metapocyrtus (Dolichocephalocyrtus) kutongbusaw* sp. nov. is named after the locality of the holotype. According to the folklore of the Tboli, the prominent ethnic tribe that inhabits the majestic Lake Holon, *Kutong Busaw* is one of the 15 guardians of Lake Holon that represents the 15 peaks surrounding the crater lake. Each of the fifteen guardians is responsible for various responsibilities in safeguarding Lake Holon's pristineness.

Distribution. *Metapocyrtus (Dolichocephalocyrtus) kutongbusaw* sp. nov. is known so far from its type locality, Lake Holon, South Cotabato, Mindanao Island, Philippines.

Brief Ecological Notes

Metapocyrtus (Dolichocephalocyrtus) kutongbusaw sp. nov. was collected in Kutong Busaw in Barangay Salacafe, which is part of the trail to Lake Holon at an elevation of 1300m. Kutong Busaw is one of the campsites where tourists take a rest in a small hut and at the same time enjoy the scenic view of Lake Holon before descending to the base camp (Fig. 3). The specimens were collected along the trail, particularly on the leaves of the giant fern Pakong Kalabaw (*Angiopteris* sp.) (Marattiaceae), Pakong-buaya (*Cyathea contaminans* Wall and Hook) (Cyatheaceae), Copel, and Sticherous fern (*Sticherus loheri* C Christ.) (Gleicheniaceae). The natural forest was conspicuously vegetated with the towering timber-producing species dominated by Nabol (*Elaeocarpus gigantifolius* Elmer) of the family Elaeocarpaceae and other non-dipterocarp taxa, shrubs, and herbs.

Competing interest

The author declared that there are no competing interests exist in the preparation of the manuscript.

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ZOOBANK: https://zoobank.org/References/b3a9a09f-f490-4300-b6fe-e05978ddb184?fbclid=IwAR09V_g_KIwOw_SCx6kQTYrFWAMSU6AV6eef0tuFBRU3BcNFqLgswNNW3Jg
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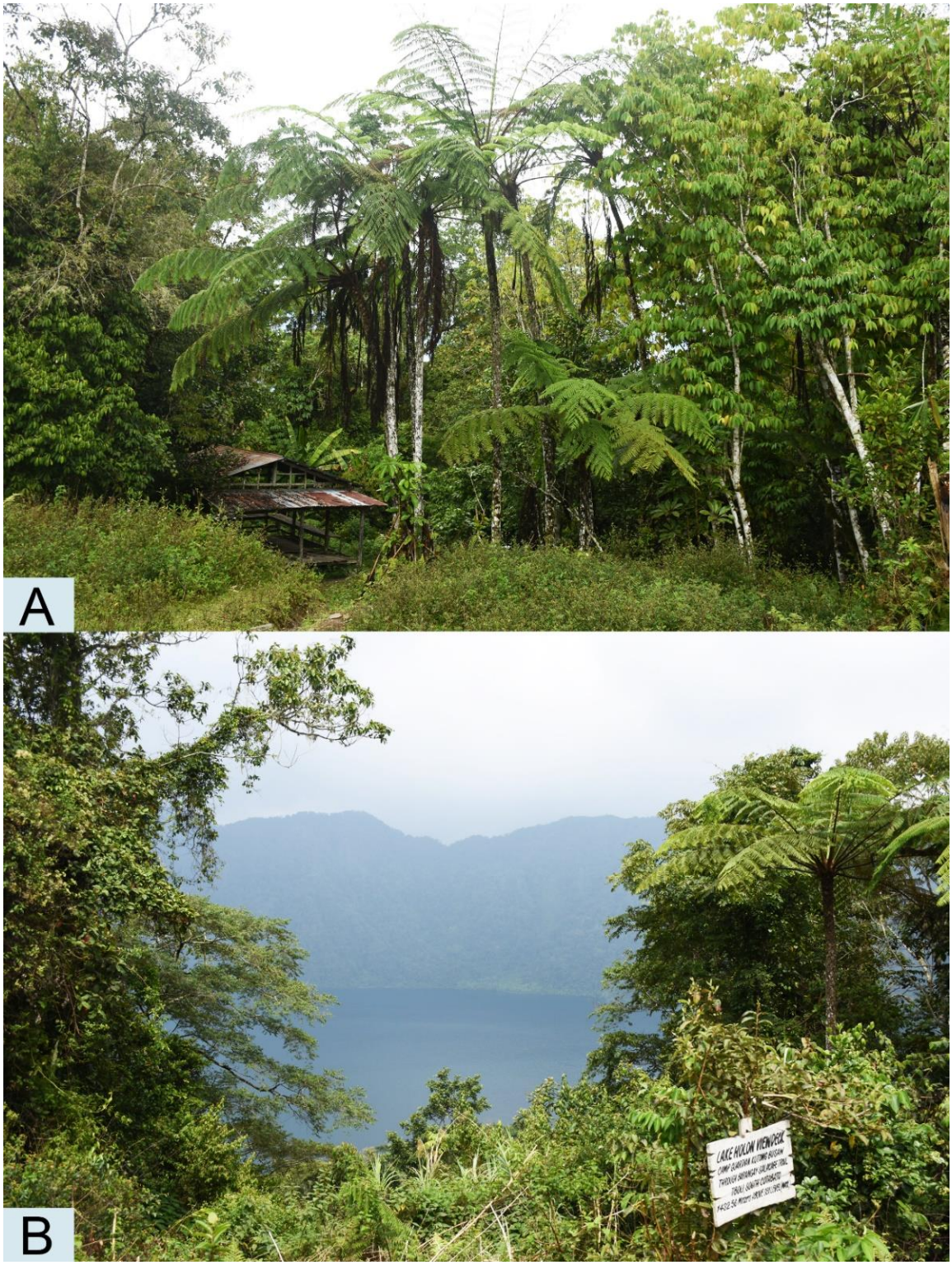

Figure 3. (A) Kutong Busaw campsite; and (B) Kutong Busaw view deck.

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Published: 31 December 2022
www.jtcoleop.com

REFERENCES

Bollino M, Medina MN, Cabras A.2020.Three new *Metapocyrtus* Heller, 1912 (Curculionidae, Entiminae, Pachyrhynchini) from Mindanao Island, Philippine. *Journal of Tropical Coleopterology*, 1(1): 26–38.

Cabras AA, Cudera R, Mamon J, Medina MN. (2022a). Two new species of *Metapocyrtus* (*Orthocyrtus*) Heller, 1912 (Coleoptera, Curculionidae, Entiminae) from southern Mindanao, Philippines, with ecological notes. *Zookeys.* 1116: 133–147. DOI: https://zookeys.pensoft.net/article/83236.

Cabras AA, Madjos G, Medina MN.2020. A new *Metapocyrtus* Heller 1912 (Curculionidae: Entiminae: Pachyrhynchini) from Zamboanga Peninsula, Mindanao Island, Philippines. *Journal of Tropical Coleopterology*. 1(2): 12–20.

Cabras AA, Medina MN, Bollino M.2021. Two new species of the genus *Metapocyrtus* Heller,1912 (Coleoptera, Curculionidae, Entiminae, Pachyrhynchini), subgenus *Orthocyrtus* Heller, 1912, from Mindanao Island, Philippines. ZooKeys. 1029: 139–154. https://doi.org/10.3897/zookeys.1029.63023.

Cabras AA, Pajota EL, Rivera R, Medina MN.2022b. Two new species of the genus *Metapocyrtus* Heller 1912, subgenus *Dolichocephalocyrtus* Schultze 1925 (Coleoptera, Curculionidae, Entiminae, Pachyrhynchini) from Northern Mindanao Philippines. *Acta Biologica Universitatis Daugavpiliensis.* 22 (1): 113–123.

Medina MN, Anichtchenko A, Wiesner J.2021. Review of the tiger beetle genus *Calomera* Motschulsky, 1862 (Coleoptera: Cicindelidae) of the Philippines. *Journal of Threatened Taxa.* 13(1): 17537–17542. DOI: https://doi.org/10.11609/jott.6752.13.1.17537-17542.

Patalita JM, Patalita D, Cabras AA, Cudera R, Medina MN.2022. First record of the genus *Pseudophanias* Raffray, 1890 (Staphylinidae: Pselaphinae) in the Philippines with list of species in the world. *Journal of Tropical Coleopterology.* 3(1)l: 74–82.

Pepito MJ, Torrejos C, Cabras AA, Medina MN, Cudera R.2020. Preliminary List of Carabidae and Cicindelidae (Coleoptera) Fauna in Lake Holon, T'boli, South Cotabato, Philippines. *Journal of Tropical Coleopterology.* 1(2): 35–46.

Schultze W.1934. Thirteenth contribution to the Coleoptera fauna of the Philippines. *Philippine Journal of Science*, 53: 311–337.

Schultze W.1925. A monograph of the pachyrrhynchid group of the Brachyderinae, Curculionidae: Part III. The genera Apocyrtidius Heller and Metapocyrtus Heller. *Philippine Journal of Science.* 26: 131–310.

Yoshitake H.2017. Notes on Pachyrhynchini jewel weevils (Coleoptera: Curculionidae: Entiminae) and other insects showing remarkable resemblance in color and body pattern characteristics. *Gekkan-Mushi*, 553: 22–40.

ZOOBANK: https://zoobank.org/References/b3a9a09f-f490-4300-b6fe-e05978ddb184?fbclid=IwAR09V_g_KIwOw_SCx6kQTYrFWAMSU6AV6eef0tuFBRU3BcNFqLgswNNW3Jg
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