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## ***Metapocyrtus poncei* sp. nov., a new weevil (Coleoptera, Curculionidae, Entiminae, Pachyrhynchini) from Davao Oriental, Mindanao Island, Philippines**

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### **Abstract**

A new species of the genus *Metapocyrtus* Heller, 1912 named *Metapocyrtus poncei* sp. nov. is described and illustrated. The new species was collected in the low elevation secondary forest from San Isidro, Davao Oriental. The new species can be differentiated from its congeners by the pronotum being fully covered in scales, the elytra with thick longitudinal scaly stripes from striae I-VI, and the short, acute spine at the apex of each elytron in the female.

**Keywords:** Biodiversity, Davao region, Mindanao Island, weevils.

### **Introduction**

The Philippine endemic weevils in the genus *Metapocyrtus* Heller, 1912 belonging to the tribe Pachyrhynchini are recognized for their beautiful iridescent markings and amongst the most well-studied beetle taxon in the Philippines (Cabras et al. 2021). It has 7 subgenera (i.e. *Artapocyrtus* Heller, *Dolichocephalocyrtus* Schultze, *Metapocyrtus* Heller, s. str., *Orthocyrtus* Heller, *Sclerocyrtus* Heller, *Sphenomorphaidea* Heller and *Trachycyrtus* Heller), and more than 200 described species (Schultze, 1925; Yap & Gapud, 2007). Recently, several new species were added especially from southern Mindanao (Cabras and Medina, 2019, Cabras et al. 2019, Bollino et al. 2020, Cabras et al. 2021a, Cabras et al., 2021b, Cabras & Medina, 2021).

One of the least explored areas in terms of entomofauna in southern Mindanao is the province of Davao Oriental. It consists of various habitat types including coastal, agro-ecosystem and diverse mountain ecosystems that includes a mixed dipterocarp forest at roughly 400-1000m, montane forest, and at higher elevation is the mossy forest characterized by thick mosses. One of the well-known biodiversity hotspots is the municipality of San Isidro, a relatively low to middle-income municipality in the province of Davao Oriental. San Isidro is the home of the world-renowned Mount Hamiguitan Range Wildlife Sanctuary (MHRWS), a UNESCO World Heritage site. The MHRWS serves as habitat to numerous species of endangered and endemic flora and fauna in the region (Amoroso et al., 2009; Medina et al., 2018). This paper presents a new species of *Metapocyrtus* collected in the low elevation secondary forest of San Isidro, Davao Oriental.

### **Materials and Methods**

The specimens 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

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stereomicroscopes. The treatment of the genitals was identical to those described by 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 no longer illustrated. Images of the habitus were taken using a Nikon D5300 digital camera with a Sigma 18–250 macro lens. Images were stacked and processed using a licensed version of Helicon Focus 6.7.0, then contrast adjusted in Photoshop CS6 Portable software. Label data are indicated verbatim.

Measurements mentioned in this paper are abbreviated as follows:

/ different lines,

// different labels,

â: arithmetic mean rounded to one decimal place,

**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:

**SMTD** Senckenberg Natural History Collections, Dresden, Germany;

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

## Taxonomy

### *Metapocyrtus poncei* sp. nov. (Figure 1, A–D)

**Holotype** (Figs. 1A–B), male: Philippines- Mindanao Island / San Isidro / Davao Oriental / October 2021 /6.732863, 126.141541/ coll. local collector (typed on white card) // HOLOTYPE male / *Metapocyrtus poncei* / CABRAS & MEDINA, 2021 (typed on red card). Presently in UMCRC, will be deposited in National Museum of Natural History (PNMNH) under the National Museum of the Philippines. **Paratypes** (5♂♂, 1♀): 2♂♂, Philippines –Mindanao Island / San Isidro / Davao Oriental/ August 2021/ coll. local collector, presently in UMCRC; 3 ♂♂, 1♀, same data as the holotype.

**Diagnosis.** *Metapocyrtus poncei* sp. nov. superficially shares similar elytral markings with *Metapocyrtus* (*Orthocyrtus*) *hirakui* Cabras, Medina & Bollino, 2021 and *Metapocyrtus* s.s. *pseudahirakui* Cabras & Medina, 2021 both from Bukidnon, Mindanao, having longitudinal scaly stripes but can be easily distinguished through the pronotum fully covered in scales, elytra with thicker longitudinal scaly stripes from striae I–VI, lateral sides fully covered in scales, and with rounded apex. The female also has short acute black spine at the apex of each elytron.

**Description. Male.** Dimensions: LB:8.0–9.8 (holotype 8.0mm, â:8.6). LR:1.5–1.6 (holotype 1.5mm, â:1.53). WR: 1.1–1.2 (holotype 1.2mm, â :1.13). LP: 2.8–3.2(holotype 2.8mm, â :2.93). WP: 3.4–3.9 (holotype 3.4mm, â:3.57). LE: 5.4–6.0 (holotype 5.4mm, â :5.6). WE: 4.4–4.8(holotype 4.4mm, â:4.53). N=6 for all measurements.

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Integument black. Body surface, rostrum, head, and underside with a weak luster.

**Body** subglabrous. **Head** sparsely pubescent with minute setae, forehead between eyes flat, with a longitudinal groove along midline; dorsal surface sparsely covered with metallic golden yellow and turquoise round and elliptical scales, lateral to ventral side mostly covered with round and long elliptical scales interspersed with piliform scales of the same color. **Rostrum** weakly rugose on basal 2/3<sup>rd</sup>, and finely punctured towards the apex, slightly longer than wide (LR/WR:1.36mm), bearing bluish prostrate piliform scales on dorsum, lateral sides with similar bluish but suberect and longer piliform scales interspersed with whitish subadpressed piliform scales, ventral surface with white setae and apex of rostrum with light brown setae; transverse basal groove distinct not reaching lateral margin; longitudinal groove along midline distinct; dorsal surface weakly convex creating nearly two weak parallel ridge, dorso-lateral edges of rostrum rounded, dorso-lateral contour on each side weakly arched, widest at middle. Eyes medium-sized and feebly convex. Antennal scape and funicle of almost the same length, covered with suberect and prostrate fine light-colored hairs. Funicular segments I and II almost of the same length, three times longer than wide; segments III–VII nearly as long as wide; club sub-ellipsoidal, nearly 3 times longer than wide. **Prothorax** sub-globular, slightly wider than long (LP/WP:0.82mm), surface black, weakly rugose, punctured, with minute pubescence, widest at middle, weakly convex dorsally, fully covered with metallic golden-yellow and turquoise round scales. **Elytra** short ovate (LE/WE:1.23mm), slightly wider and moderately longer than prothorax (WE/WP: 1.29mm, LE/LP: 1.93mm), body surface black; minutely pubescent, strongly convex dorsally, apical declivity gradual, and apex rounded with long white hairs. Elytra has longitudinal stripes of metallic golden-yellow and turquoise round scales along suture and striae I–VI which tends to dissipate towards lateral margin wherein the stripes merge and densely cover the entire lateral surface. **Legs** with moderately clavate femora. Femora black, sparsely covered with prostrate short bluish piliform scales. Tibiae covered with subadpressed short white setae, weakly serrate along inner edge. Fore and mid tibiae bear a mucro at apex. Tarsomeres pubescent. Coxae covered with colored piliform scales. Mesoventrite covered with light colored hairs. Metaventrite with light colored hairs and dense metallic golden-yellow and turquoise round scales at lateral side. Ventrite I weakly depressed on disc, rugose, covered with dense white hairs, and has scaly markings of metallic golden-yellow elliptical scales at lateral sides. Ventrite II with white hairs and has similar scaly marking to Ventrite I. Ventrite III–V sparsely covered with prostrate white hairs. Ventrite V flattened, and rugose with white hairs.

Male genitalia and sternite XI as shown in Figure 2 A, B, C. Aedeagal body short and stout and apicad bluntly produced, narrowly rounded at apex; aedeagal apodemes twice longer than aedeagal body.

**Female.** Dimensions: LB: 10.5mm. LR: 1.8mm. WR: 1.5mm. LP: 2.9mm. WP: 3.2mm. LE: 7.0mm. WE: 4.8mm. N=1.

Habitus as shown in Figure 1 B, D.

Females differ from males by the following: a) head and rostrum more rugose with coarse punctures, b) rostrum with shallow pit like depression, c) pronotum slightly longer than wide in male (LP/WP 0.91), d) pronotum more rugose and coarsely punctured with only the basal half covered with yellow-green and turquoise round scales, e) elytra longer and wider (LE/WE 1.46, WE/WP 1.5, LE/LP 2.41) than male, f) basal half of elytra not covered with scales, g) Ventrite I flattened or slightly convex on disc. Otherwise, female similar to the male.

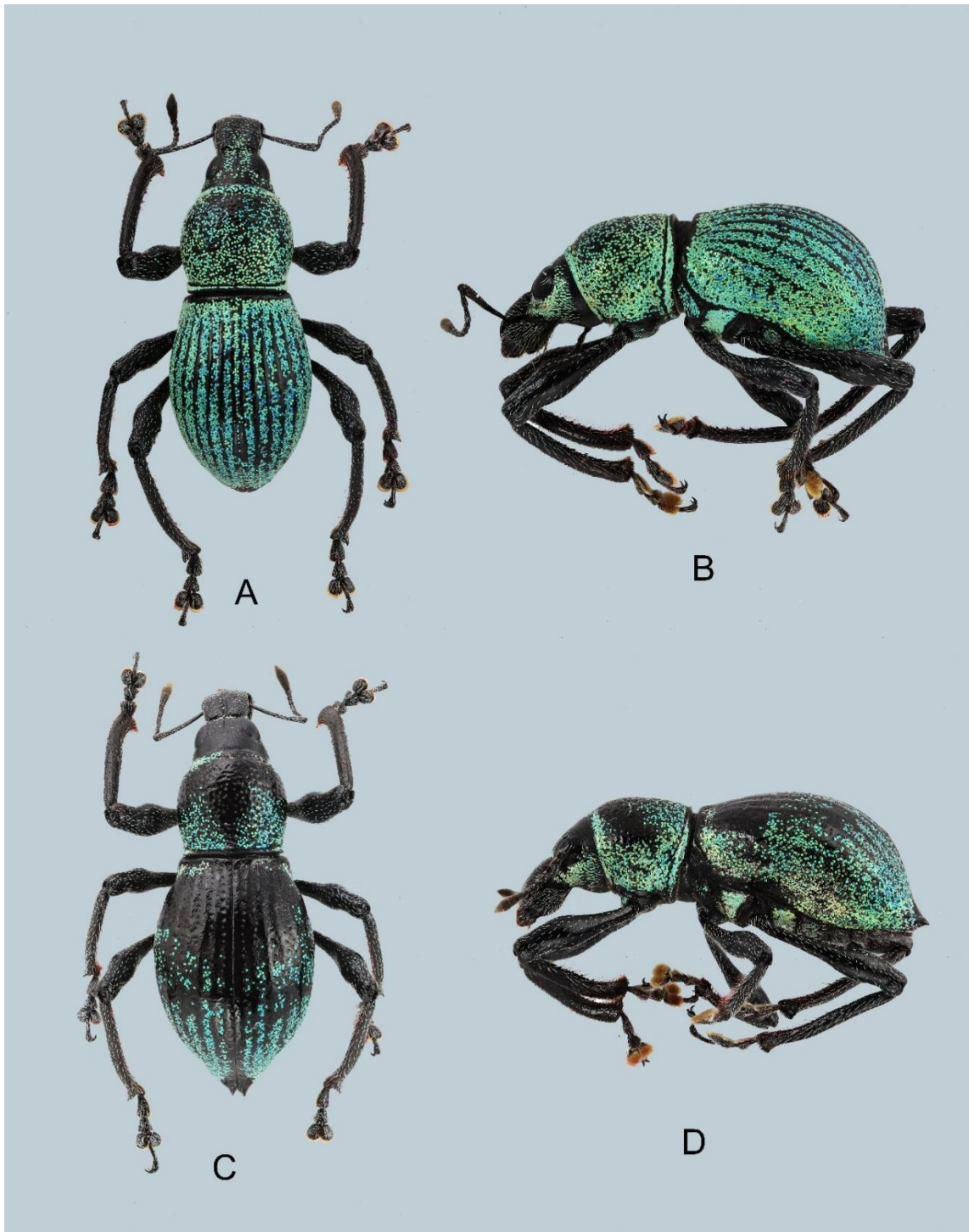
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**Figure 1.** *Metapocyrtus poncei* sp. nov. A–B male holotype: A dorsal habitus, B lateral habitus. C–D female paratype, C dorsal habitus, D idem, lateral view.

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**Figure 2.** *Metapocyrtus poncei* sp. nov. aedeagus A lateral view, B dorsal view, C sternite IX in dorsal view.

**Etymology.** The specific epithet is named after Dr. Roy Ponce, the president of Davao Oriental State University (Philippines) for his contribution in advancing biodiversity research in Davao Oriental.

**Distribution.** *Metapocyrtus poncei* sp. nov. is known from Davao Oriental.

**Brief habitat description of *Metapocyrtus poncei* sp. nov.**

The new species was collected in an open secondary forest in San Isidro, Davao Oriental at an elevation ~400m. The collection site was about 500 meters away from a riparian ecosystem. Its biotope is covered by semi dense vegetation, the majority are shrubs and grasses (Fig. 3 A–C). The specimens were collected perching on the flowers and leaves of *Macaranga hispida* (Blume) Müll. Arg. (Euphorbiaceae) (Fig. 3 D–E). No mating pair was collected, and the male and female were collected separately but from the same plant. So far, *Metapocyrtus poncei* sp. nov., seems to be a rare species and only recorded in Davao Oriental. To properly assess the actual distribution of this species, more fieldwork needs to be conducted covering the unexplored areas in Davao Oriental.

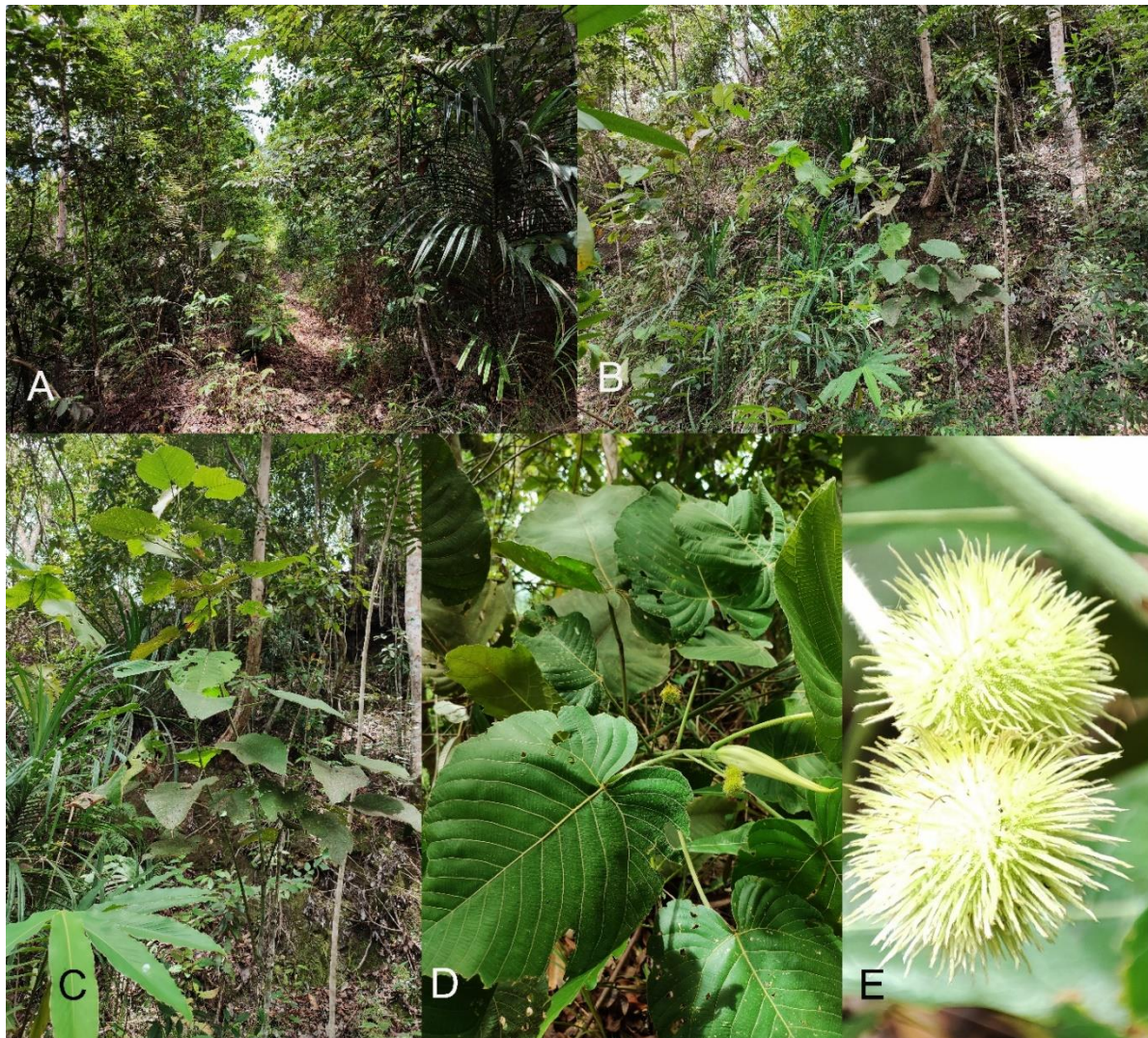
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**Figure 3.** Habitat of *Metapocyrtus poncei* sp. nov. (A–B), Possible food plant of *Metapocyrtus poncei* sp. nov. - *Macaranga hispida* (Blume) Müll. Arg. (C–E).

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