

## ***Metapocyrtus ginalopezae* sp.n., a new *Orthocyrtus* from Davao de Oro, Mindanao Island**

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*Metapocyrtus ginalopezae* sp.n., belonging to the subgenus *Orthocyrtus* is described and illustrated with notes on its habitat in Davao de Oro, Mindanao, Philippines. The species is named after Ms. Gina Lopez who was an environmental champion in the Philippines.

Key words: *Metapocyrtus*, *Orthocyrtus*, |Curculionidae, new species, Mindanao, Davao, Philippines

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### **INTRODUCTION**

Genus *Metapocyrtus* is one of the many genera under the tribe Pachyrhynchini. Members of this genus are endemic to the Philippines with many species recently described (Yap, 2008; Bollino & Sandel, 2017; Cabras et al., 2018; Cabras & Medina, 2018; Bollino & Sandel, 2019; Cabras et al., 2019). They can be easily distinguished from *Pachyrhynchus* Germar 1824 for having antennae reaching behind the hind eye and for having a transverse groove between the head and rostrum (Schultze 1923, 1925). Due to their flightless ability and high dependence to the forest, this taxon faces a high risk of extinction and considering the current rate of deforestation in the country, most species are listed as Vulnerable (DAO-2017). In Mindanao, several new species of *Metapocyrtus* Heller 1912 were recently discovered and some awaits description (Cabras et al., 2018; Cabras & Medina, 2018; Bollino & Sandel, 2019; Cabras et al., 2019). This is a testament of the richness of Mindanao in terms of coleoptera

fauna and how it remains as one of the least entomologically explored islands in the Philippines. In the recent coleopterological surveys in Davao Region, Mindanao Island, the research team of the University of Mindanao Coleoptera Research Center (UMCRC) discovered a species of *Metapocyrtus* which is new to science.

Davao de Oro (formerly Compostela Valley Province) is one of the five provinces of Davao Region or Region IX. Its new name was created through Republic Act No 11297, which was enacted on April 17, 2019. The province is known for its rich gold deposits thus getting its name de Oro or 'gold'. It covers a total area of 4,479.77 square kilometers (1,729.65 square mile) occupying the northeastern section of the Davao Region. It is bordered by Davao del Norte to the west, Agusan del Sur to the north, and Davao Oriental to the east. The eastern side of the province is traversed by the Eastern Mindanao Biodiversity Corridor (EMBC) (PEF, 2008). But the rich natural resource of the province is also

the reason for its demise. Mining and illegal logging are two of the greatest threats of biodiversity in the province. With the recent passing of Ms. Gina Lopez who was a great advocate of the environment particularly on irresponsible mining, we are privilege to name a new species of *Metapocyrtus* after her. In this paper, the new species is described and illustrated.

## MATERIALS AND METHODS

The specimens deposited in the Coleoptera Research Center (CRC) of the University of Mindanao 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. Stacked digital habitus images were taken with Canon EOS 800D digital camera and Canon MP-E 65mm macro lens, whereas digital images of genitalia were taken with Ricoh WG-50. All images were stacked and processed using a licensed version of Helicon Focus version 5.3 and Photoshop CS6 Portable. Measurements mentioned in this paper are abbreviated as follows: LB - body length, from the apical margin of pronotum to the apex of elytra; LE - elytral length, from the level of the basal margins to the apex of elytra; WE - maximum width across the elytra; LP pronotal length, from the base to apex along the midline; WP - maximum width across the pronotum; LR - length of rostrum; WR maximum width across the rostrum. All measurements are given in millimeters and follow the measurement methodology of Yoshitake (2013).

The specimens are deposited in the following collections:

CRC- University of Mindanao Coleoptera Research Center

## RESULTS

### *Metapocyrtus (Orthocyrtus) ginalopezae* sp.n. (Fig. 1A-D)

**Holotype** (Fig. 1 A, C), male: Philippines-Mindanao/Davao de Oro/Maragusan /September 2019 /coll. K. Jumawan (typed on red card). Presently in CRC, it will be deposited in National Museum of Natural History (NMNH) under National Museum of the Philippine (NMP).

**Paratypes** (1 males, 5 females): 5 females, Philippines - Mindanao/Davao de Oro/Maragusan / September 2019 /coll. K. Jumawan; 1 male - Mindanao/Davao de Oro/Maragusan /October 2019 /coll. N.Morales

**Diagnosis.** *Metapocyrtus (Orthocyrtus) ginalopezae* sp.n. belongs to the subgenus *Orthocyrtus* and superficially resembles the general shape of *Metapocyrtus Orthocyrtus mansaka* but differs for its unique elytral ornamentation, less pronounced medial groove and absence of scales on basal half of rostrum and shape of the aedeagus.

**Description.** Male. Dimensions: LB: 10.5-11.7 (holotype 10.5 mm). LR: 1.5-1.7 (1.5 mm). WR: 1.7-1.8 (1.7 mm). LP: 3.3-3.6 (3.3 mm). WP: 4.0-4.2 (4.0 mm). LE: 6.4-6.6 (6.4). WE: 5.5-5.7 (5.5). N=4. Body shiny black; pronotum, head and legs black with weak lustrous of sparse peach and turquoise scales; body surface with weak lustrous with peach and turquoise. Eyes, antennae and tarsomeres black.

Head with the following markings: a) dense elongated light peach and turquoise stripes under eye on each lateral side of rostrum, and b) sparse scales of light peach and turquoise on front, extended to basal half of rostrum. Rostrum rugose, longer than wide with minute light hairs in the dorsal surface and long white to yellowish hair in the lateroventral part, and towards the apex; dorso-apically slightly convex; prominent trans-

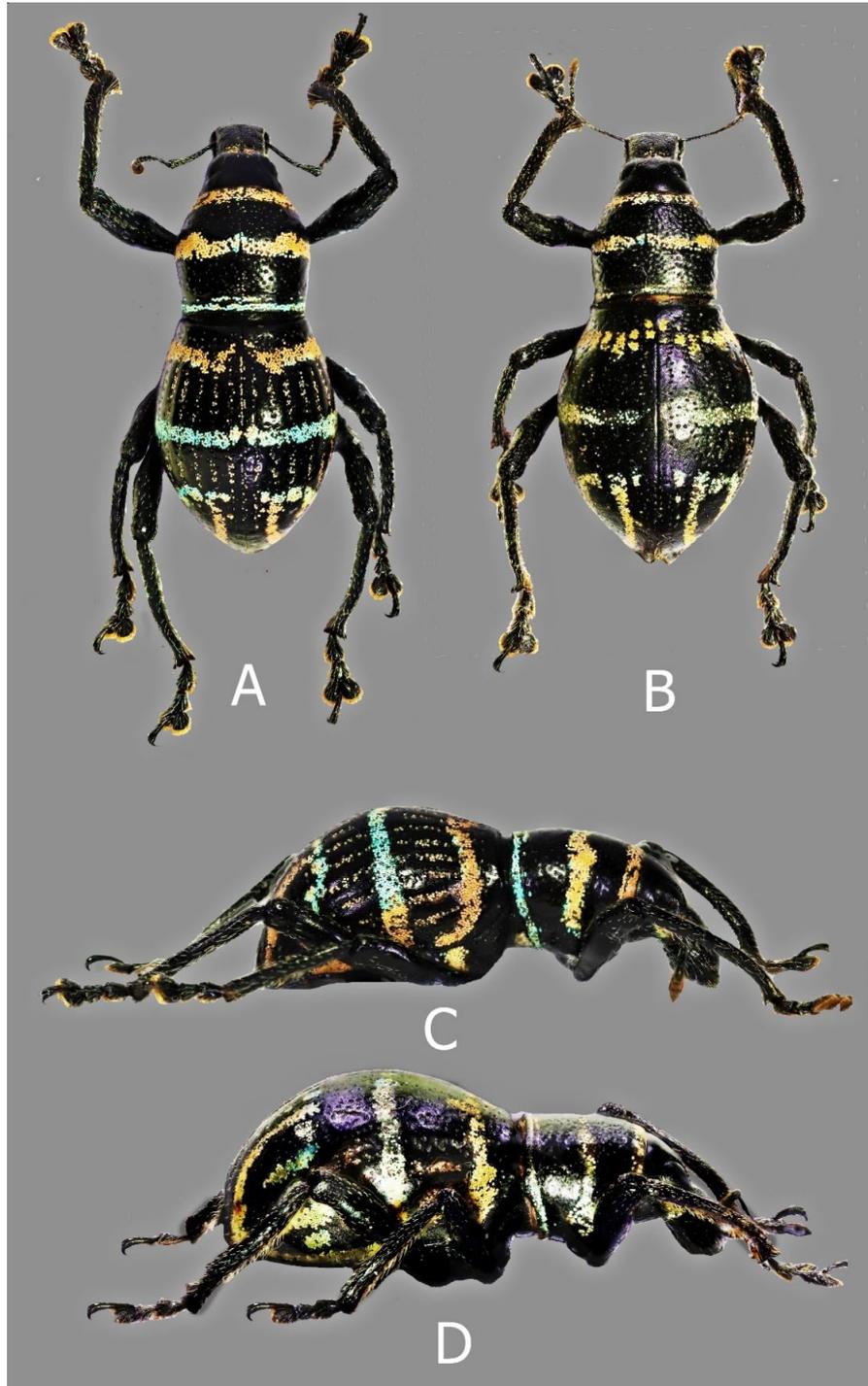


Fig. 1. A: *Metapocyrtus (Orthocyrtus) ginalopezae* Holotype; B: idem, lateral view; C: *Metapocyrtus (Orthocyrtus) ginalopezae* female; D: idem, lateral view

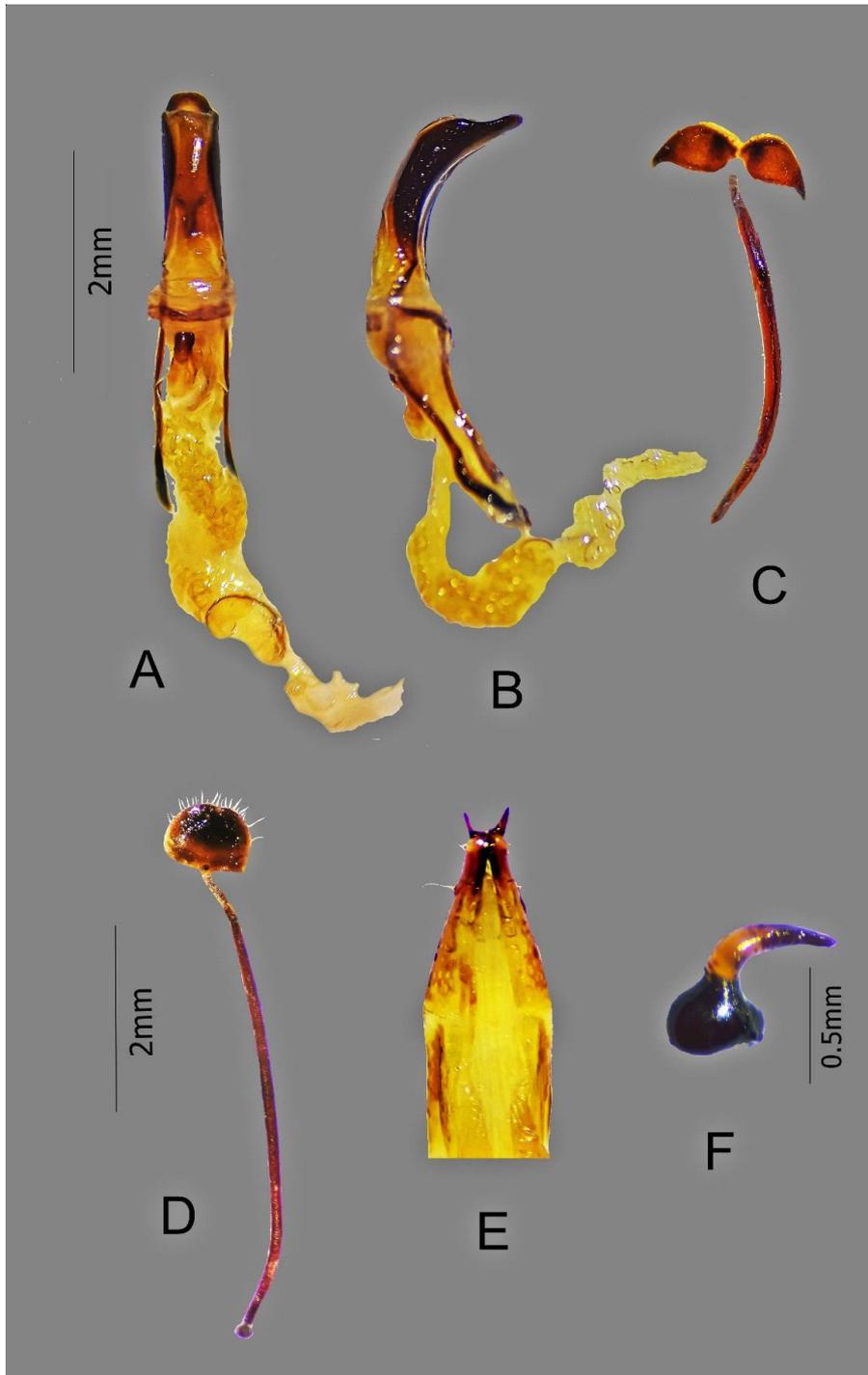


Fig. 2: Male genitalia and female terminalia of *Metapocyrtus (Orthocyrtus) ginalopezae* sp. nov. A: penis in dorsal view; B: idem in lateral view; C: sternite IX in dorsal view; D: sternite VIII in ventral view; E: ovipositor in dorsal view G: spermatheca

verse basal groove, and less pronounced longitudinal median groove forming a cross shape. Front semi-rugose covered with sparse peach scales. Eyes and weakly convex. Antennal scape as long as the funicle plus club, with flattened hair. Funicular segments I and II almost of the same length, 3 times longer than wide; segments III - VII as long as wide; club subellipsoidal, nearly 3 times longer than wide.

Pronotum subglobular, widest at middle, weakly convex, glabrous, with very minute and sparse punctures and hairs and with short medial groove; with thin bands of peach to turquoise scales at the anterior and posterior margin; thin transverse band in the middle of pronotum reaching towards lateral margin.

Elytra with regular weakly striate-punctate intervals with sparse scales, moderately convex, with few short apical hairs. Each elytron with the following markings: 1) thin band of peach and turquoise stripe behind the base 2) median stripe extending from interval I to lateral margin; 3) triangular marking on apical third to apex of elytra confluent with the median thin band through a stripe on lateral margin. Underside weakly lustrous with pale peach and turquoise scales on the basal margin of the pronotum and latero-ventral side of ventrites 1 and 2.

Legs wide with strongly clavate femora. Tibiae serrate along internal edge. Middle and hind femora covered with hairs along posterior margins. Each tibia fringed with pubescence along internal margin, sparsely mixed with short hairs. Apical part of femora with dense metallic yellow and red scales and short setae. Tibiae with sparse scales and short setae, with minute teeth and long hair in the inner edge.

Tarsomeres covered by sparse pubescence.

Male genitalia as shown in Figure 2 A-C.

**Female.** Dimensions: LB: 12.1-12.5mm (12.1): LR: 1.5-1.7mm (1.5): WR: 1.9-2.0(1.9). LP: 3.5-3.6(3.5).

WP: 4.0-4.1 (4.0). LE: 9.1-9.3 (9.1). WE: 6.2-6.5 (6.2). N=5.

Habitus as shown in Figure 1 B-D

Elytra wider and longer than the male. Shape of the elytra imperfectly obovate if compared to the male, largest before middle as compared to male. Pronotum slightly shorter than in the male, not perfectly subglobular. Otherwise mentioned, similar to male.

Female genitalia as shown in Figure 2 D-F

**Etymology.** The new species is named after the former DENR secretary Ms. Gina Lopez who was an environmental champion in the Philippines. She dedicated her life fighting for conservation in the Philippines and working with indigenous tribes and local communities to promote environmental sustainability.

**Distribution.** *Metapocyrtus (Orthocyrtus) ginalopezae* sp.n. is known so far from Maragusan, Davao de Oro.

**Brief Ecological Note.** The new species was collected on the shrubs *Solanum* sp. 200 m away from the stream in Barangay Langgawisan, Maragusan, Davao de Oro. The area is relatively open and next to a small rural road. Additional materials were also collected in *Solanum* sp. along the roads 50 m away from the stream of Barangay New Albay, Maragusan. The leaves of the *Solanum* sp. where it was collected was filled with holes which could be obtained from the insects feeding on it including the new species. However, like most habitats, it is also threatened with several anthropogenic activities which include illegal logging, and slash and burn farming. On the other side of the stream, several hectares of land was recently burned to give way to a corn farm. Conversion of habitats is still one of the main reasons for insect loss especially for weevils with narrow geographic range, food plant, and habitat preference. A similar case was observed for the recently described *Metapocyrtus willietorresi* sp.n. (Cabras & Medina, 2018) in



Fig. 4. Habitat of *Orthocyrthus ginalopezae* sp.n. in Davao de Oro (A); Host plant *Solanum* sp. of *Orthocyrthus ginalopezae* sp.n. (B); *Orthocyrthus ginalopezae* sp.n. in its natural habitat; Slash and burn farming in the habitat of *Orthocyrthus ginalopezae* sp.n. (D)

Mt. Apo Natural Park in Davao del Sur. The continuous conversion of forest to farmland may cause this species to totally disappear in the wild.

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