

# NEW SPECIES OF *PACHYRHYNCHUS* GERMAR, 1824 AND *MACROCYRTUS* HELLER, 1912 (COLEOPTERA: CURCULIONIDAE) FROM THE MARINDUQUE ISLAND (PHILIPPINES) AS A NEW EXAMPLE OF MIMETIC SPECIES PAIR

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New species of the genus *Pachyrhynchus* Germar, 1824 and *Macrocyrtus* Heller, 1912 (Coleoptera: Curculionidae) from the Marinduque Island (Philippines) are described and illustrated: *P. rukmaneeae* sp. n. and *M. rukmaneeae* sp. n. Both species occur together forming the mimetic species pair. Mimicry between genera *Pachyrhynchus* and *Macrocyrtus* described for the first time.

Key words: Coleoptera, Curculionidae, *Pachyrhynchus*, fauna, new species, taxonomy, Philippines.

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## INTRODUCTION

The genera *Pachyrhynchus* Germar, 1824 and *Macrocyrtus* Heller, 1912 (Coleoptera: Curculionidae) belongs to the subfamily Entiminae, tribe Pachyrhynchini (Alonso-Zarazaga & Lyal 1999, Yap & Gapud 2007, Yoshitake 2012, 2013).

Rukmane & Barševskis (2016) described nine species of the genus *Pachyrhynchus* from the Philippines, besides that, *P. reticulatus cruciatus* Schultzze, 1923 raised to the species level, as *P. cruciatus* Schultzze, 1923.

Some species of the genus *Pachyrhynchus*

have a similar coloration pattern with some members of the genus *Doliops* Waterhouse, 1841 (Cerambycidae: Lamiinae); data about mimicry between *Pachyrhynchus*, *Metapocyrtus* and *Doliops* were provided by Starr & Wang (1992), Barševskis (2013, 2014) and Barševskis & Jaeger (2014).

During the study of large material from the Philippines on *Pachyrhynchus* and *Macrocyrtus* which is deposited in Daugavpils University beetle collection (DUBC), two new species from the Marinduque Island were found. The goal of this paper is to give descriptions of these two species. Both described new species occur together in those habitats and forming the

mimetic species pair. This is the first example of mimicry between genera *Pachyrhynchus* and *Macrocyrtus*.

## MATERIAL AND METHODS

The studied material is deposited in the Beetles collection of Daugavpils University, Institute of Life Sciences and Technology, Coleopterological Research Centre (DUBC, Ilgas, Daugavpils Distr., Latvia).

The laboratory research and measurements have been performed using *Nikon AZ100*, *Nikon SMZ745T* and *Zeiss Stereo Lumar V12* digital stereomicroscopes, NIS-Elements 6D software. The habitus photograph was obtained with a digital camera Canon EOS 6D with Canon MP-E 65 mm macro lens, using Helicon Focus auto montage and subsequently was edited with Photoshop. The maps of the Philippine archipelago have been drawn using the software *ArcGis 10*. All measurements are given in millimeters.

## RESULTS

### *Pachyrhynchus rukmanee* sp. n. (Fig. 1, 3)

**Type material. Holotype, male:** Philippines: Marinduque Isl., Boac, 06.2014, local collector leg. (Fig. 1A,B). **Paratypes:** 1 male, 1 female: Philippines: Marinduque Isl., Boac, 08.2014, local collector leg.; 1 male: Marinduque Isl., Buenavista, 06.2012, local collector leg.; 1 male, 1 female: same data, 03.2014, local collector leg.; 4 males, 5 females: 05.2014, local collector leg.; 2 females: same data, 07.2015, local collector leg.; 2 males, 3 females: same data, 11.2015, local collector leg.; 1 female: Marinduque Isl., Mt. Malindig, 06.2012, local collector leg.; 1 female: same data, 03.2015, local collector leg.; 1 male: same data, 05.2015, local collector leg.; 1 male: same data, 06.2015, local collector leg.

**Distribution:** Philippines: Marinduque Isl. (Fig. 3).

**Description.** Measurements (mm): Length of body: 12.2–14.8; width of body: 5.1–6.7, length of rostrum: 1.9–2.5, width of rostrum: 1.7–2.0, length of pronotum: 3.3–3.8, width of pronotum: 3.2–3.6, length of elytra: 7.0–8.5, width of elytra: 5.1–6.7.

Body, antennae and legs black, slightly glossy; puncturation of body fine; body with spots and elongated lines of greenish, greenish - pink or pink scales. Underside of body with spots of metallic greenish scales.

Head black. Eyes black, relatively small, slightly flattened. Head smooth, with small punctuation, without scales. Lateral sides of rostrum of some specimens covered with rudimental spot of small oval or elongate pale and greenish scales. Rostrum with shallow basal impression, weakly bulging in apical part. Apical bulge of rostrum flattened dorsally, slightly impressed in middle. Dorsal part of rostrum interrupted by indistinct transverse groove. Rostrum without dorsal pubescence, covered by brown sparse apical setae. Antennal scape relatively short, large and strongly clavate; remaining antennomeres small, with sparse very short pubescence and some long setae; apical antennomeres club-shaped, subellipsoidal.

Pronotum subspherical, with maximal width behind middle, 1.03 times wider than long, with very fine and sparse punctuation. Lateral sides of pronotum with band of greenish scales, with transverse interrupted band of greenish scales near frontal margin. Basal portion of pronotum with elongated subtriangular spot of greenish scales. Holotype with pronotum without transverse interrupted band near frontal margin, with very small, rudimental basal subtriangular spot.

Scutellum very small, rounded apically, from above practically not visible.

Elytra 1.4 times longer as wide. Elytral intervals

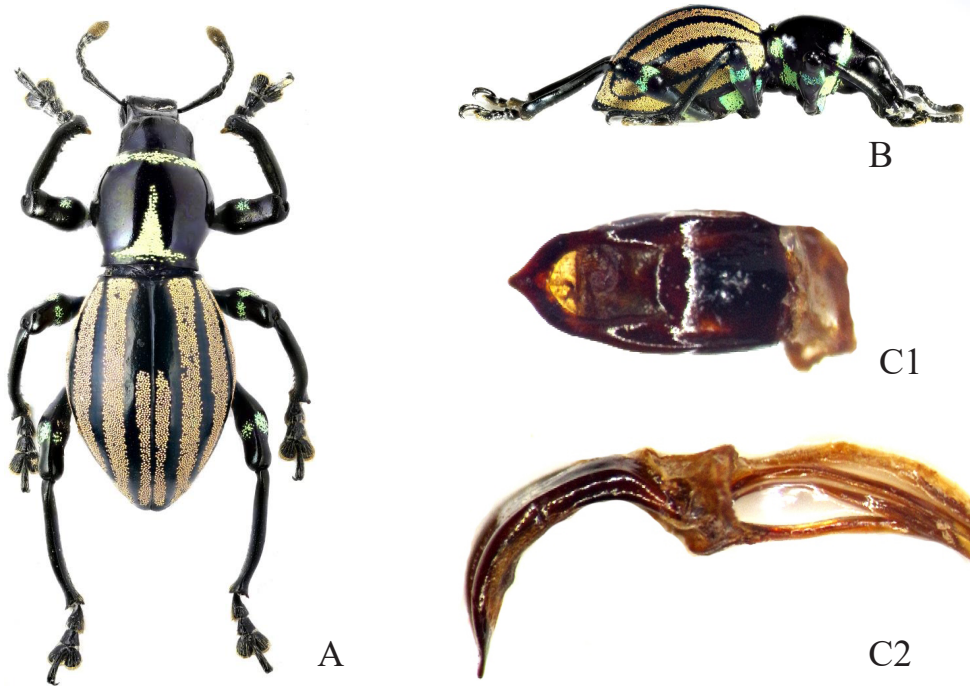


Fig. 1. *Pachyrhynchus rukmanee* sp. n. (A – habitus, dorsal view, B – habitus, lateral view, C – aedeagus (1 – lateral view, 2 – lamella, dorsal view))



Fig. 2. *Pachyrhynchus loheri* Schultze, 1917 (Schultze 1917)



Fig. 3. Distribution of *Pachyrhynchus rukmanee* sp. n. in Marinduque Isl.

smooth, with very fine punctures in slightly impressed rows. Elytral portion under scales of markings with fine punctures, microsculpture and very fine pubescence. Each elytron with five elongated pink or greenish-pink bands: four bands extending from basic to apical part of elytra and fifth presutural band shortened; first and fourth bands connected or very close together with small interruption.

Legs thick, with strongly clavate femori; tibiae serrate along internal margins, strongly incurved apically. Apical part of femori with irregular greenish scaly spot. Tibiae sparsely minutely pubescent, with long hairs along internal margin, sparsely mingled with stout hairs. Tarsomeres with sparse and pale pubescence.

Aedeagus as in Fig. 1C.

**Differential diagnosis.** *Pachyrhynchus rukmanee* sp. n. is similar in general appearance to *P. loheri* Schultze, 1917 (Fig. 2), which was described from the Luzon Island. However, *P. rukmanee* sp. n. is easily distinguishable from *P. loheri* by the unique scaly markings on the prothorax. Lateral sides of pronotum of new species with band of greenish scales, with transverse interrupted band of greenish scales near frontal margin, with basal elongated subtriangular spot of greenish scales. Lateral sides of pronotum of *P. loheri* also with band of greenish scales and isolated round spot, with transverse relatively wide not interrupted band of greenish scales near frontal margin, and with two basal symmetrically arranged transversely spots of greenish scales.

**Etymology.** This species is named after my colleague, researcher of the genus *Pachyrhynchus* Anita Rukmane (Daugavpils University, Daugavpils, Latvia), who discovered and described many new species of this genus.

***Macrocyrtus rukmanee* sp. n.**  
(Fig. 4, 5)

**Type material. Holotype, female:** Philippines: Marinduque Isl., Boac, 06.2014, local collector

leg. (DUBC) (Fig. 3A,B). **Paratypes: 4 females.** Philippines: Marinduque Isl., Buenavista, 06.2016, local collector leg.

**Distribution:** Philippines: Marinduque Island (Fig. 5).

**Description.** Measurements (mm): Length of body: 13.7–13.9; width of body: 5.8–6.0.

Body, antennae and legs black, slightly glossy, with very fine punctations, with spots, transverse and elongated lines of greenish, greenish - pink or pink scales. Underside of body with spots of metallic greenish scales.

Head black. Eyes black, relatively small, slightly flattened. Head smooth, with small punctuation, with small spot of greenish scales between eyes. Lateral sides of rostrum without spot of pale and greenish scales. Rostrum with deep elongated groove-shaped impression, weakly bulging in apical part. Apical bulge of rostrum flattened dorsally, impressed in middle. Rostrum with fine dorsal pubescence, covered by yellow sparse apical setae. Antennal scape relatively long, large and strongly clavate; remaining antennomeres relatively long, with sparse, short pubescence and some long setae; apical antennomeres club-shaped, subellipsoidal.

Pronotum subspherical, slightly flattened, with maximal width behind middle part, with very fine and sparse punctation and very fine reticulate microsculpture. Lateral sides of pronotum with band of greenish scales, frontal margin with transverse interrupted band of mixed greenish and pink scales. Basal portion of pronotum without spots or bands.

Scutellum very small, from above practically no visible.

Elytra black, lustrous, without metallic luster. Elytral intervals smooth, with fine microsculpture and coarse punctures in slightly impressed rows. Apical parts of each elytron with six elongated pink bands, interrupted behind middle part of elytra; after short interruption pink bands transversely extending basally and forming

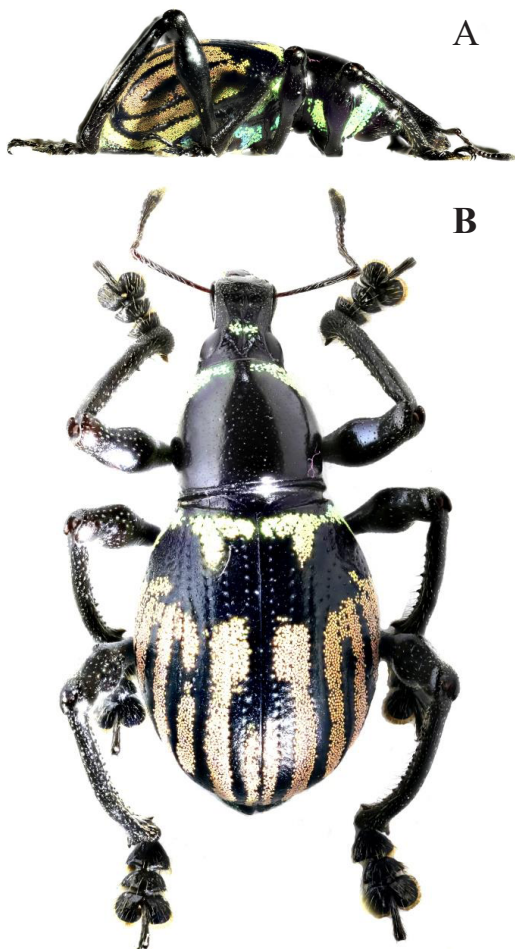


Fig. 4. Habitus of *Macrocyrtus rukmanee* sp. n. (A – lateral view, B– dorsal view)

oblique wide band ; first and fifth bands connected together; third band V-shaped in apical part and not intersect.

Legs black, with fine punctation and microsculpture, thick, with strongly clavate femori in middle. Tibiae serrate along internal margins, strongly incurved apically. Apical part of femori without spots. Tibiae sparsely minutely pubescent, with long hairs along internal margin, sparsely mingled with stout hairs. Tarsomeres with sparse and pale pubescence.

Male unknown.

**Differential diagnosis.** *Macrocyrtus rukmanee*



Fig. 5. Distribution of *Macrocyrtus rukmanee* sp. n. in Marinduque Isl.

sp. n. in general appearance differs from other species of this genus with the shape and coloration of elytra. Each elytron of this species on apical part with six elongated pink bands, interrupted behind middle of elytra. After a short interruption pink bands will continue, but not reaches elytral base, end is extended transversely forming an oblique wide band. First and fifth bands are connected together. Third band in apical part V-shaped disjoint. Shape and color of elytra of other species are different.

**Etymology.** This species is named after my colleague Anita Rukmane (Daugavpils University, Daugavpils, Latvia).

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