

A new species of the genus *Pachyrhynchus* Germar, 1824 together with description of *Pachyrhynchus domino* Rukmane, 2016 male from the Philippines, Mindoro Island (Coleoptera: Curculionidae: Pachyrhynchini)

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Abstract. *Pachyrhynchus mindoroensis* sp. nov., a new species of the genus *Pachyrhynchus* Germar, 1824 (Entiminae, Pachyrhynchini) from the Philippines, Mindoro Island is described. Diagnosis, photographs of the habitus and illustrations of male and female genitalia are given. First description of the *Pachyrhynchus domino* Rukmane, 2016 male, which was originally described based on a single female, is additionally included.

INTRODUCTION

Mindoro Island is the seventh largest island in the Philippine archipelago. It is located on the southwestern coast of Luzon and northeast of Palawan. Island is divided into two provinces: Occidental Mindoro, with its peak Mount Baco (2488) and Oriental Mindoro with Mount Halcon (2586). Currently there are five species recorded from the Mindoro Island: *P. apicatus* Schultze, 1922; *P. domino* Rukmane, 2016; *P. halconensis* Schultze, 1922; *P. pseudhalconensis* Rukmane, 2016; *P. valainisi* Rukmane & Barševskis, 2016 (Rukmane 2016; Rukmane & Barševskis 2016; Hava & Rukmane 2018). During the observation of material available from the Mindoro Island, a new species was found. The new species is similar to *P. chlorites* Chevrolat, 1881 yet is easily distinguishable by various morphological features (see differential analyses). According to available data, species is present on both highest peaks of the Mindoro Island.

During taxonomical research of the genus *Pachyrhynchus* Germar, 1824, if a species exerts strong morphological differences from other ones, it may be described as new to science, even if only a single specimen is available, which was the case of the following species: *P. domino* Rukmane, 2016; *P. circummaculatus* Yoshitake, 2019; *P. subamabilis* Yoshitake, 2012 (Yoshitake 2012; Yoshitake 2019). *P. domino* Rukmane, 2016 was described based on single female. When the first author of this paper received new material from the Mindoro Island, it was clear, that one of the specimens belonged to this species, and therefore, we included the first description of *P. domino* male.

MATERIALS AND METHODS

Specimens used in the current study are deposited in the following collections:

DUBC Daugavpils University Beetle Collection, Institute of Life Sciences and Technology, Daugavpils University, Daugavpils, Latvia;

JHAC Private Entomological Laboratory & Collection, Jiří Háva, Únětice u Prahy, Prague-west, Czech Republic.

The laboratory research and measurements have been carried out using Nikon SMZ745T, Zeiss Stereo Lumar V12 digital stereomicroscopes, and NIS - Elements 6D software.

Label data are cited verbatim.

Symbols and abbreviations used in text same as in Rukmane (2018).

RESULTS

Pachyrhynchus mindoroensis sp. nov.

(Figs. 1A-B, 2A-I)

Type material. Holotype (♂): "PHILIPPINES, Mindoro / Puerta Galera, VI. 2014 / local collector leg." (typed on white card); "HOLOTYPE / *Pachyrhynchus mindoroensis* / Rukmane & Hava, 2020 / MALE / det. Rukmane A. 2019" (typed on red card), (DUBC). Paratypes: (1 ♂, 2 ♀♀): "PHILIPPINES, Mindoro / Puerta Galera, VI. 2014 / local collector leg." (typed on white card), (DUBC); (1 ♂): "PHILIPPINES, Mindoro / Puerta Galera, VII. 2014 / local collector leg." (typed on white card), (DUBC); (1 ♂, 1 ♀): PHILIPPINES / S Luzon, Mindoro Oriental, Puerta / Galera / V. 2016 / local collector leg." (typed on white card), (DUBC); (1 ♂): "PHILIPPINES / Baco, Mindoro Oriental, S Luzon / November 2015 / local collector leg." (typed on white card), (DUBC); (1 ♀): "PHILIPPINES, Mindoro / Mt. Halcon, III. 2014 / local collector leg." (typed on white card), (DUBC); (1 ♂): "PHILIPPINES, Mindoro / Mt. Halcon, VI. 2014 / local collector leg." (typed on white card), (DUBC); (1 ♂): "PHILIPPINES, South Luzon / Mindoro, Bacon, VI. 2018 / local collector leg.", (JHAC). All with additional red rectangular card: "PARATYPE / *Pachyrhynchus mindoroensis* / Rukmane & Hava, 2020 / det. Rukmane A. 2019".

Description of male. Dimensions: LB: 12.8-14.1 (holotype 13.1; mean 13.1); LR: 2.0-2.2 (holotype 2.2; mean 2.08); WR: 1.9-2.0 (holotype 2.0; mean 1.95); LP: 3.9-4.4 (holotype 4.2; mean 4.17); WP: 3.8-4.4 (holotype 4.1; mean 4.03); LE: 7.9-9.3 (holotype 8.9; mean 8.67); WE: 5.2-5.8 (holotype 5.7; mean 5.45). N=6 for all measurements. Habitus as shown in Fig. 1A.

Integument black. Body surface mostly shiny, underside with weak lustre. Body minutely pubescent, with markings of green shimmering recumbent round scales.

Head minutely punctured; forehead flattish, nearly three times as wide as eye width; eyes rather small, slightly convex from lateral contour of head. Antennal scape flattened basally, slightly convex and then expanded apically, apical part densely covered with long light hairs; funicular segment I nearly two times as long as wide, 1.5 times as long as segment II; segment II slightly longer than wide, longer than segment III; segments III-VI subequal in size; segment VII 1.3 times as long as segment VI, wider than long; club sub ellipsoidal, more than two times as long as wide. Rostrum slightly longer than wide, LR/WR 1.1. Lateroventral parts of rostrum with patch of round scales, mingled with hair-like scales just behind antennal scrobe; long golden setae at apex; dorsum minutely punctured, with round concavity on middle of basal half weakly bulging on apical half; basal concavity with weak

transverse groove medially; dorsal contour gradually declined from base to middle, then weakly raised just after the middle and gently raised to apex.

Prothorax with the following scaly markings: 1) big triangular patch on the middle of subbasal part just before subbasal groove; 2) a pair of oval patches along apical margin; 3) big round patch extending from subbasal groove to apical margin on each lateral side. Prothorax slightly longer than wide LP/WP 1.02; dorsum minutely punctured; dorsal contour highest just before the middle, rather strongly raising from base, highest just before middle, then gradually declining to subapical part and straight to apical margin; subbasal groove interrupted at the disc medially; subapical groove continuous.

Each elytron with the following markings: 1) two sub-equal oval patches on basal part; 2) three sub-equal oval patches just before middle, second closer to midline compared to first and third; 3) lateral elongate patch from just before middle to apical 1/3, patch can be interrupted in the middle in some cases; 4) oval sutural patch on post median part; 5) two oval patches on apical part, one on apical 2/3, redirected laterally, second on apical 1/3, redirected medially; 6) elliptic sutural and larger triangular lateral patches near apex. Elytra subellipsoidal, LE/WE 1.56, more than twice as long as prothorax LE/LP 2.12, wider than prothorax WE/WP 1.39, weakly punctured, intervals not expressed; dorsal contour gradually raised from base to the middle, highest in the middle, then gradually declined to apex.

Mesosternum with scaly patch on each side. Metasternum densely covered with green shimmery scales.

Abdominal ventrite II with round patch of scales on each side. Sternites III and IV with golden hairs on each side. Ventrite V densely pubescent and furnished with long golden hairs along apical margin.



Fig. 1. Dorsal habitus of *P. mindoroensis* sp. nov.: A- male; B- female; *P. chlorites*: C- male.



Fig. 2. Genitalia of *P. mindoroensis* sp. nov.: A- aedeagus in dorsal view; B- aedeagus in lateral view; C- sternite IX in ventral view; D- tegmen in ventral view; G- sternite VIII in ventral view; H- apex of ovipositor in dorsal view; I- spermatheca; genitalia of *P. chlorites*: E- aedeagus in dorsal view; F- aedeagus in lateral view; J- sternite IX in ventral view; K- tegmen in ventral view.

Fore coxae densely covered with round to elliptic scales. Profemur each with scally markings on subbasal part along internal margin, mid and hind femora with dense pubescence and hair-like scales; big scally patch on each femur, on subapical part. Tibiae with long light hairs along internal margins, hairs on apical part denser.

Genitalia as shown in Fig. 2A-D.

Female. Measurements: LB: 13.3-15.4 (mean 14.66); LR: 1.9-2.0 (mean 1.95); WR: 1.8-1.9 (mean 1.85); LP: 3.8-4.3 (mean 4.1); WP: 3.6-4.3 (mean 4.03); LE: 8.9-11.0 (mean 10.35); WE: 6.4-7.4 (mean 7.0). Dorsal habitus as shown in Fig. 1B. Genitalia as shown in Figs. 2G-H.

Differential diagnosis. In general appearance, *Pachyrhynchus mindoroensis* sp. nov. is similar to *P. chlorites* Chevrolat, 1881 (Fig. 1C) which, on our best knowledge, is distributed on the Luzon Island. The new species shows considerable morphological differences, such as: 1) base of rostrum in *P. mindoroensis* sp. nov. narrower, slightly visible from the dorsal contour of the head; 2) Black body and unique scaly markings on the body of *P. mindoroensis* sp. nov. that clearly differs from coppery body of *P. chlorites*; 3) differences in male eadeagal body (Figs. 2E-F, J-K).

Etymology. This species is named after original distribution area where species, according to currently available data, is abundant - Mindoro Island. Species is believed to be endemic to the Island.

Distribution. The Philippines: Mindoro Island.

Pachyrhynchus domino Rukmane, 2016

Material examined: "PHILIPPINES / Mindoro Oriental, Baco / V. 2019 / local collector leg." (typed on white card, printed), 1 ♂, (DUBC).

Description. Measurements: LB: 11.9; LR: 2.0; WR: 1.8; LP: 3.5; WP: 3.9; LE: 8.1; WE: 5.1. N=1 for all measurements. Habitus as shown in Fig. 3A.

Male. Body black, shiny, except underside with weaker lustre; markings of pale orange and yellow scales.

Head minutely punctured. Forehead flat, nearly 1.5 times as wide as eye width. Eyes big, strongly protruding beyond outline of the head. Rostrum moderately pubescent, more strongly in apical part; apical bulge flattened, finely punctured; oblong depression in basal part, patch of pale orange scales along depression; strong medial groove from the middle of rostrum to subbasal part of forehead; lateral parts covered with elliptic shape scales and hair-like scales on genae, with intermixed short light hairs near antennal scape and longer hairs to apex. Antenna black, antennal scape flattish, with long light hairs on apical part; antennomere I nearly 2.2 times as long as wide, longer than antennomer II; antennomer II nearly 1.5 as long as wide, longer than antennomere III; antennomeres III-VI sub equal in size, nearly same length and width; antennomere VII bigger, slightly wider than long; club

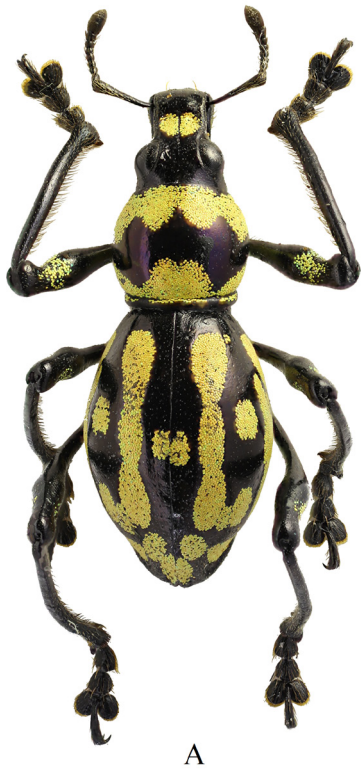


Fig. 3. Dorsal habitus of *P. domino*
Rukmane, 2016.



Fig. 4. Genitalia of male *P. domino*: A- aedeagus in dorsal view; B- sternite IX in ventral view; C- aedeagus in lateral view; D- tegmen in ventral view.

relatively short, nearly 1.5 times as long as wide, nearly same length as antennomeres IV-VII together.

Prothorax subspherical, slightly flattened, widest in the middle, sparsely punctured; with the following markings: 1) four triangular spots along apical margin, spots connected and form an uninterrupted line; 2) four triangular spots along basal margin, spots connected and form an uninterrupted line; 3) spot on each latero-ventral part.

Elytra smooth, finely punctured, with very weakly expressed intervals; elytra with weak pubescence, that is stronger on apical part near apex; widest just in the middle; in dorsal contour base relatively narrow, then gradually widened to the middle, firmly rounded, then gradually narrowed in direction of apex, more strongly from apical 1/3 to apex; markings on the elytra same as in female. Legs thin. Coxa marked with round pale orange scales; profemur with long light-brown hairs on basal part along internal margin; apical part of each femur with patch of round scales, with sparse pubescence; tibia with long, dense light-brown hairs along internal margin.

Genitalia as shown in Figs. 4A-D.

Note. Markings on Holotype female of *P. domino* were damaged, and thus, in the first description, the species was described incompletely. On the male described here, we see complete markings without any damage, that is the reason, why description of the markings slightly differs.

Distribution. The Philippines: Mindoro Island.

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