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One new species of genus *Pachyrhynchus* Germar, 1824 (Coleoptera: Curculionidae: Pachyrhynchini) from Philippines

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Onenewspecies of genus *Pachyrhynchus* Germar from Philippines has been described herein: *Pachyrhynchus helenperrinae* sp. n. Rukmane, 2018. Species has been found during carefull examination of MNHN (Paris, France) coleoptera collection. Pictures and description of habbitus are added, together with illustrated male genitalia.

Keywords: Coleoptera, Curculionidae, *Pachyrhynchus*, fauna, taxanomy, new species, Philippines

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INTRODUCTION

Among the genera in the tribe Pachyrynchini with a good number of representative species and wider distribution is *Pachyrhynchus* with 145 described species (Rukmane 2018). Since the main study of genus *Pachyrhynchus* took place almost century ago, an updates on fauna, distribution, biogeography and ecology are published every year (Bollino & Sandel 2015; Rukmane 2016; Rukmane 2017; Cabras & Rukmane 2016; Barševskis 2016). Recent updates on Philippine archipelago Coleoptera systematic indicate the vogue of the topic, with dozens of new species described annually (Anitchenko 2016, 2017; Barševskis 2017a, 2017b, 2018; Hava 2018; Ling & Zettel 2012). While local collectors and beetle dealers provide researchers and entomology enthusiasts with novel beetle material from all over the archipelago, material from various museum collections such as MNHN remain poorly studied, and in perspective can provide new distribution and taxonomical records. Such is the case, during careful study of *Pachyrhynchus* material available in MNHN, new species of genus *Pachyrhynchus* were found.

The present paper provides a new data on previously unknown taxon of genus *Pachyrhynchus* from Philippines where only know specimens are known alone from MNHN.

MATERIALS AND METHODS

The studied material is deposited in the collection MNHN - National Museum of Natural History (Paris, France).

Material has been loaned and currently is deposited in DUBC (Daugavpils University Beetle Collection, Daugavpils, Latvia), but will be transported back to MNHN after article is published.

The laboratory research and measurements have been performed using Nikon AZ100, Nikon SMZ745T and Zeiss Stereo Lumar V12 digital stereomicroscopes, NIS-Elements 6D software, and Canon 60D and Canon 1 Ds Mark II cameras.

RESULTS

***Pachyrhynchus helenperrinae* sp. n.**
(Fig. 1A, B)

Type material. Holotype, male: "Philippines Ch. Semper" (white rectangular card, printed); "Museum Paris ex. Coll. R. Oberthur" (white rectangular card, printed); "HOLOTYPE, Male, *Pachyrhynchus helenperrinae* Rukmane 2018, det. Anita Rukmane, 2018" (red rectangular card, printed) (MNHN).

Paratypes: 1 male, 2 females; "Philippines Ch. Semper" (white rectangular card, printed); "Museum Paris ex. Coll. R. Oberthur" (white rectangular card, printed); "PARATYPE, Male, *Pachyrhynchus helenperrinae* Rukmane 2018, det. Anita Rukmane, 2018"(red rectangular card, printed);

"Philippines" (white rectangular card, printed); "Museum Paris ex. Coll. R. Oberthur" (white rectangular card, printed); "PARATYPE, Female, *Pachyrhynchus helenperrinae*Rukmane 2018, det. Anita Rukmane, 2018" (red rectangular card, printed);

"Ex. Musaeo Thorey" (white rectangular card, printed); "Philippines" (white rectangular card, printed); "Museum Paris ex. Coll. R. Oberthur"(white rectangular card, printed); "PARATYPE, Female, *Pachyrhynchus helenperrinae* Rukmane 2018, det. Anita Rukmane, 2018" (red rectangular card, printed); all in MNHN.

Distribution: Philippines.

Description. Male. Measurements (n = 2): LB: 11.3 - 12.2 (holotype 12.2); LR: 1.8 - 1.9 (holotype 1.9); WR: 1.6 - 1.7 (holotype 1.7); LP: 3.1 - 3.3 (holotype 3.3); WP: 2.9 - 3.7 (holotype 3.7); LE: 6.7 - 7.1 (holotype 7.1); WE: 4.7 - 5.1 (holotype 5.1). Dorsal habitus as in Fig. 1B.

Integument coppery, body surface very shiny with metallic lustre. Body subovate, with pale yellow or orange markings of recumbent scales. Head subglabrous. Rostrum in dorsal contour nearly straight, with weak impression in median part, narrowing on base, longer than wide, LR/WR: 1.06, finely punctured; triangular shape impression on apical part dorsally; two bulges on basal part dorsally; weak longitudinal groove medially from apical 2/3 to base dorsally; lateral contour of rostrum bulging from apex to apical 2/3, narrowing down in medial part and straight from middle to base; lateroventral parts finely covered with general scales; short scale □ like hairs from genae to apex, where they are replaced by long golden hairs. Head minutely punctured; forehead with impression on medial part, with longitudinal patch of pale yellow or orange scales between eyes; eyes relatively small, pretty much convex from outline of the head (if see dorsally). Antennae slender, flattened, antennal scape expanding apically, finely furnished with long golden hairs from middle to apex along anterior margin; pedicel more than twice as long as wide, longer than segment I; segment I nearly twice as long as wide, 2 times longer than segment II; segments II □ V subequal in length, same length as width; segment VI slightly wider than long, covered with short golden hairs and long hairs, all of the rest segments evenly covered with long light brown hairs; club elongated, 2.5 times longer than wide. Prothorax wider than long, WP/LP: 1.12; widest just in the middle; with the following markings of pale yellow or orange recumbent scales: 1) transverse line of scales along midline of prothorax dorsally, medially on the disc line slightly interrupts; 2) somewhat round shape patch of scales on each of lateroventral margins of pronotum; disc with

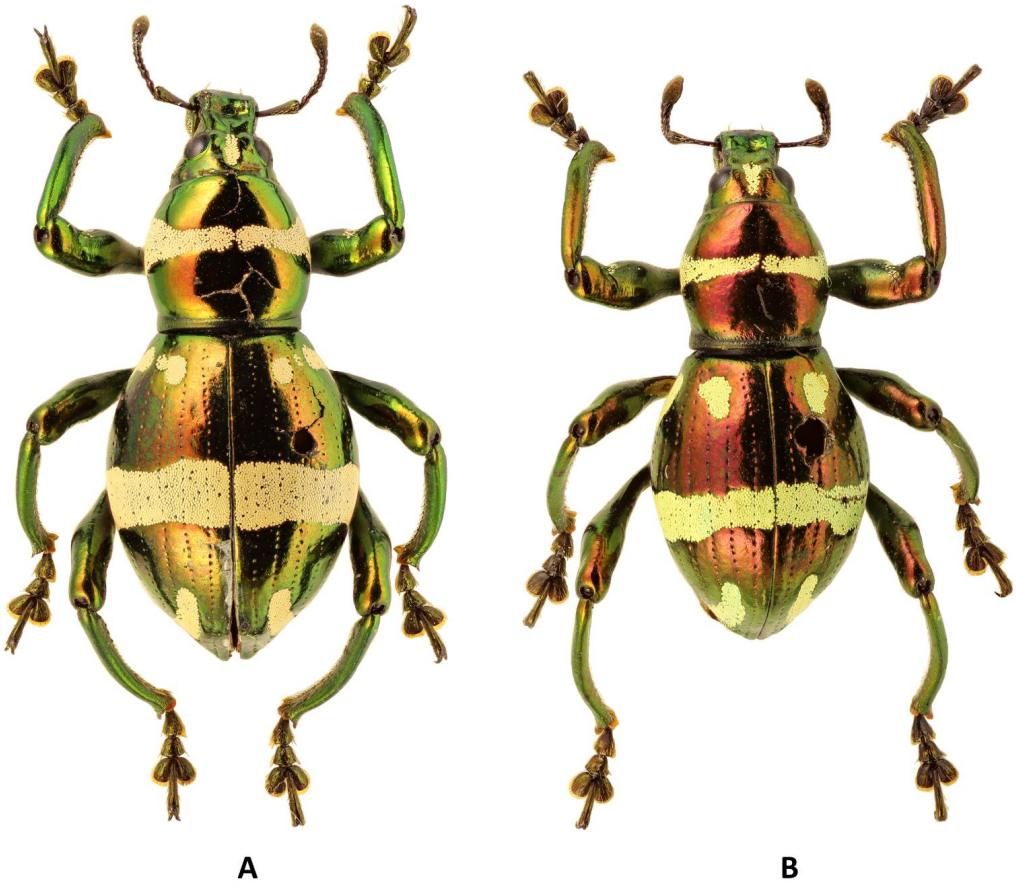

Fig. 1. Dorsal habitus of *Pachyrhynchus helenperrinae* **sp. n.**: A - female; B - male

weak impression on medial part; thorax covered with general scales; coxa with irregular yellow or orange scales along inner margin, mingled with shot light hairs; trochanter without scale patches; femur with few general scales near base, scales mingled with short light hairs; apical part of femur with patch of yellow or orange scales near base along inner margin; mucrones small; tarsus densely covered with long hairs, tarsite I with two long extended dark brown hairs on each of lateral margins. Elytra subovate, LE/WE: 1.39, eider than prothorax, WE/WP: 1.38; widest slightly before middle; each elytron with the following markings: 1) oval patch of scales on basal 1/3 of interval III to IV; 2) transverse line of scales along midline of elytra, from one lateroventral margin to other, line slightly interrupts on suture; 3) oval shape patch of scales on basal 1/3 from interval VII to lateroventral margin, patch can vary in size and be slightly connected with patch on interval IV; 4) longitudinal line along lateroventral margin from midline of elytron to apex of interval III where line incurves and goes up straight to apical ½; few short light hairs on apex; ventrites 1 and 2 covered with pale yellow scales laterally, mingled with very short, light scale-like hairs; ventrite 5 covered with long light golden hairs near apex and short light hairs near base; Genitalia as in Fig. 2A-D.

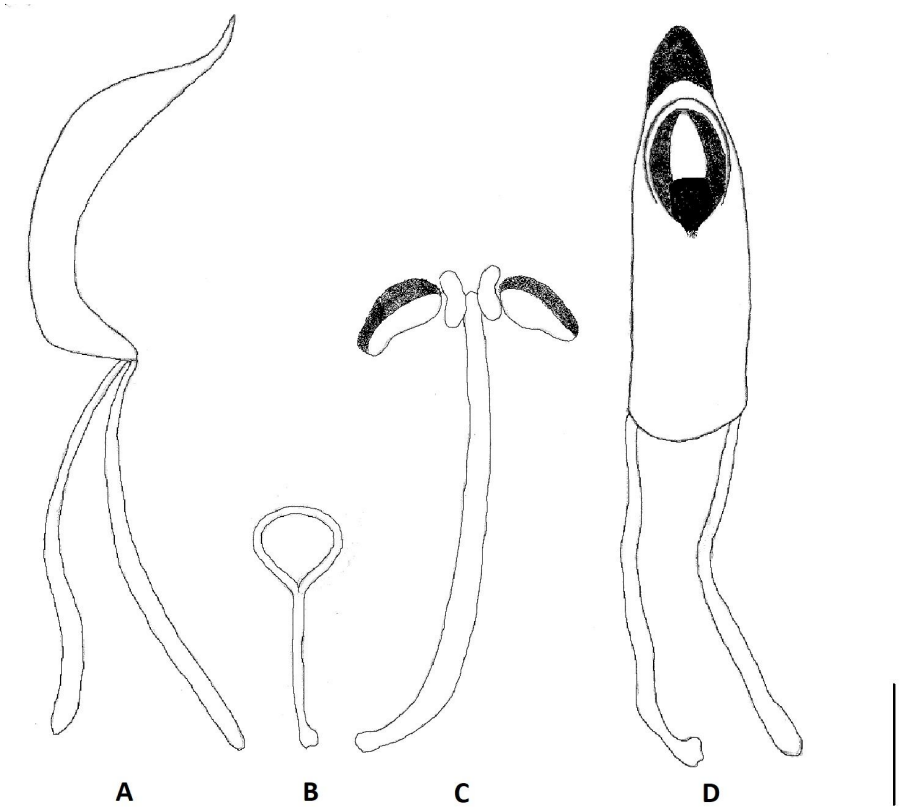

Fig. 2. Male genitalia of *Pachyrhynchus helenperrinae* **sp. n.**: A - penis in dorsal view; B - tegmen in dorsal view; C - sternite IX in dorsal view; D - penis in lateral view.

Female: Measurements (n=2): LB: 13.3 - 13.9 (mean 13.6); LR: 1.8 - 2.0 (mean 1.9); WR: 1.7 - 1.8 (mean 1.75); LP: 3.4 - 3.9 (mean 3.65); WP: 3.8 - 4.0 (mean 3.9); LE: 7.8 - 8.6 (mean 8.2); WE: 5.9 - 6.2 (mean 6.05). Lateral parts of ventrite 1 and 2 with few or without pale scales; apex of elytra without light hairs. Habitus as in Fig. 1A.

Differential diagnosis. *P. helenperrinae* sp. n. is similar to *P. antonkozlovi* Rukmane & Barðevskis 2016 from Mindanao Island, but clearly differs by following features: 1) shape of male aedegal body (Fig. 2; aedegal body of *P. antonkozlovi* as shown in Rukmane & Barðevskis, 2016); 2) longitudinal line of scales on forehead of *P. Helenperrinae* sp. n. which lacks in *P. antonkozlovi*; 3) elytra of *P. antonkozlovi* is narrowed on base, subspherical, on the other hand, elytra of *P. Helenperrinae* sp. n. on base is wider, subovate shape; 4) transverse groove on rostrum of *P. antonkozlovi* is deeper, better pronounced, while the one on rostrum of *P. Helenperrinae* sp. n. is shallow, weakly pronounced; 5) two bulges on basal part of rostrum of *P. Helenperrinae* sp. n. which lacks *P. antonkozlovi*.

Etymology. This species is named after Helen Perrin (Paris, France), curator of curculionidae collection of MNHN in appreciation of cooperation, responsiveness and help during visit of museum.

DISCUSSION

A common problem while you work with old material from various museum collections as MNHN is that specimens have too few information on distribution. This is the case. For the moment, specimens described in this article are the only known *P. Helenperrinae* sp. n. species representatives.

After careful analysis of various species from different islands of Philippine archipelago it is possible to safely assert that species abundant on one particular island share common features which, at the same time, are clearly different than features that have species from another island. Such are, for example, *P. congestus* Pascoe, 1871 and *P. orbifer* Waterhouse, 1841 species groups distributed on Luzon Island (Schultze 1923) and, on the contrary, *P. atrocyaneus* Schultze, 1922 and *P. amabilis* Schultze, 1922 species groups distributed on Mindanao Island (Bollino, Sandel & Rukmane 2017). According on general appearance of *P. Helenperrinae* sp. n. this species is distributed on Mindanao or Mindanao PAIC.

The high endemism of the species of Philippine *Pachyrhynchus*, limited geographic distribution and habitat preference which is highly associated with forested mountain ecosystems and mountain ridges makes this group one of the best candidate for extinction with current rate of habitat degradation (Cabras et a., 2016).On account of rapid deforestation rates in Philippine archipelago, it is impossible to state that new species still inhabits the archipelago and is not extinct due the habitat loss as only known species finding is registered from now almost century ago. According to Diesmos et al. (2002), clearance and habitat fragmentation especially of the montane forest and lowland dipterocarps affect 85% of the fauna. *Pachyrhynchus* which seem to prefer higher elevation of the forests are clearly highly at risk of extinction.

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