

To the knowledge of the genus *Polyphida* Pascoe, 1861 (Coleoptera: Cerambycidae) of the Philippines

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The review of the genus *Polyphida* Pascoe, 1861 (Coleoptera: Cerambycidae) of the Philippines is provided. In the world fauna, 17 species of the genus *Polyphida* are currently known, of which 5 occur in the Philippine archipelago. In this paper three new species are described and illustrated: *P. palawana* sp. nov. (Palawan), *P. shavrini* sp. nov. (Mindanao) and *P. mindanaoana* sp. nov. (Mindanao). A key to the Philippine species of the genus is given. Faunistic records for *P. lumawigi* are provided.

Key words: fauna, new species, Philippines, long-horned beetles, taxonomy.

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INTRODUCTION

The genus *Polyphida* Pascoe, 1861 (Coleoptera: Cerambycidae) belong to the subfamily Cerambycinae and tribe Glaucyini. Prior to the present study, the world fauna of *Polyphida* presented by 14 species. Four species, *P. argenteofasciata* Aurivillius, 1910, *P. clytoides* Pascoe, 1869, *P. fulvitaris* Holzschuh, 2005 and *P. tenebrosa* Holzschuh, 2005 are endemics of Borneo. Two species, *P. lumawigi* Hüdepohl, 1992 and *P. monticola* Heller, 1915 are endemics of the Phi-

lippine archipelago. Two other species, *P. buruensis* Breuning, 1970 and *P. lombokiana* Vives, 2013 are endemics of the Moluku Islands. Three otherspecies are also endemics: *P. aurata* Viktora, 2015 for Sumatra, *P. jakli* Viktora, 2019 for Sulawesi, and *P. hayashii* Viktora, 2015 for Perak, Malaysia. Only two species have more wide distribution in the Oriental Region: *P. modesta* Gahan, 1906 known from Borneo, Sumatra, Java, W Malaysia, and *P. metallica* (Nonfried, 1894) from India, Burma, Laos and Thailand (Viktora, 2015; Tavakilian, Chevillotte 2021).

It is important to note, that half of species of the genus have been described in the last thirty years (Huedepohl 1992; Holzschuh 2005; Vives 2013; Viktora 2015, 2019).

The review of the genus *Polyphida* of the fauna of the Philippines has been published by Huedepohl (1992), where, analyzing the species of Callichromatini, Clytini and Glaucytni of the Philippines, he recorded two species for the archipelago, including one new species. In this paper he has also provided a key for two species found of the Philippines.

In this article, authors provided descriptions of three new species, a key for all four Philippine species of this genus, and new faunistic records for *P. monticola* and *P. lumawigi*. The provided information for *P. lumawigi* is the first published faunistic data after the original description of this species.

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 photographs were obtained with a digital camera Canon EOS 6D with Canon MP-E65 mm macro lens, using Helicon Focus auto-montage and subsequently was edited with Photoshop. All measurements are given in millimeters.

In the present paper, we followed the taxonomic nomenclature provided by Tavakilian, Chavil-lotte (2021).

RESULTS

Taxonomy

Polyphida palawana sp. nov.

(Fig. 1)



Fig. 1. *Polyphida palawana* sp. nov.

Type specimens: **Holotype**, female: Philippines: Palawan, / Roxas, 04.2022. / local collector leg. / [handwritten]; // HOLOTYPE: / *Polyphida* / *palawana* sp. nov. / A. Barševskis, A.A. Cabras, / M.N.D. Medina descr. 2022 [red label, handwritten] (DUBC).

Paratype, female: Philippines: Palawan, / Roxas, 03.2022. / local collector leg. / [handwritten]; // PARATYPUS: / *Polyphida* / *palawana* sp. nov. / A. Barševskis, A.A. Cabras, / M.N.D. Medina descr. 2022 [red label, handwritten]; Female. / Philippines: Palawan, / Roxas, 06.2022. / local collector leg. / [handwritten]; // PARATYPUS: / *Polyphida* / *palawana* sp. nov. / A. Barševskis, A.A. Cabras, / M.N.D. Medina descr. 2022 [red labels, handwritten] (DUBC).

General distribution: Philippines: Palawan island.

Description. Black, scape black, elytra bronze, pubescence silvery grey. Body length: 10.8–11.2 mm.

Head with sparse, short, adjacent pubescence and some long, erect hairs. Frons with sparse fine punctures between eyes; furrow between antennal tubercles visible. Cheeks not extended, covered with fine pubescence. Antennae longer than apex of elytra, bicolor: antennomeres 1–6 dark, with fine, silvery grey pubescence, ventral surface sparsely setose, antennomere 7–8 yellow, antennomeres 9–11 darkened. Labrum transverse, narrow, frontal margin with row of yellow brown setae.

Pronotum slightly elongate, subcylindric, with fine basal margin. Apical margin very fine, rudimental. Lateral sides very slightly constricted after second third and behind apical margin: opaque, densely and coarsely punctate, with silver-grey pubescence. Pronotal disc without longitudinal middle line and with some punctures only and fine microsculpture.

Scutellum small, semicircular, with pubescence like that on pronotum. Smooth portion of *pars stridens* with very fine transverse microsculpture.

Elytra subparallel, narrowed in apical quarter, truncate apically, with two small and acute sutural and marginal denticles. Each elytron finely and irregularly punctate along suture and in apical quarter, coarser in basal half, and finer and irregularly in preapical portion; each puncture

with a fine seta, with semierect hairs in apical quarter. Elytra with five bands of silvery tomentum. Basal band long, this band behind shoulders stretching to middle of elytra; band behind middle of elytra oblique and transverse; apical band oblique.

Ventral surface of body with dense pubescence and with sparse, short, erect pilosity. Legs black with very fine, silvery white pubescence and some erect hairs. Hind legs with yellow tarsomeres.

Male unknown.

Differential diagnosis. For determination of this species, see the key below.

Etymology. The name of this species is derived from the name of the island where this species was collected.

***Polyphida shavrini* sp. nov.**
(Fig. 2)

Type specimens: **Holotype**, female: Philippines: Mindanao, / Lanao del Sur, Wao, / 09.2014, local collector leg. / [handwritten]; // HOLOTYPUS: / *Polyphida* / *shavrini* sp. nov. / A. Barševskis, A.A. Cabras, / M.N.D. Medina descr. 2022 [red label, handwritten] (DUBC).

Paratype, female: Philippines: Mindanao, / Lanao del Sur, Wao, / 09.2014, local collector leg. / [handwritten]; // HOLOTYPUS: / *Polyphida* / *shavrini* sp. nov. / A. Barševskis, A.A. Cabras, / M.N.D. Medina descr. 2022 [red label, handwritten] (DUBC).

General distribution: Philippines: Mindanao island.

Description. Black, scape dark-brown or black, elytra bronze, pubescence silvery grey. Body length: 10.3–10.5 mm.

Head with sparse, short pubescence and with some long, erect hairs. Frons coarsely punctate between eyes; furrow between antennal tubercles visible. Cheeks slightly extended, covered with

fine pubescence. Antennae longer than apex of elytra, bicolor: antennomeres 1–6 dark, with fine, silvery grey pubescence, ventral surface sparsely setose, antennomere 7–8 yellow, antennomeres 9–11 darkened. Labrum transverse, narrow, frontal margin with row of yellow brown setae.

Pronotum slightly elongate, subcylindric, with fine basal and apical marginal lines; sides slightly constricted after second third and behind apical margin: opaque, densely and coarsely punctate, with silver-grey pubescence. Pronotal disc without a longitudinal middle line.

Scutellum small, semicircular, with pubescence like that on pronotum. Smooth portion of *pars stridens* with very fine transverse microsculpture.



Fig. 2. *Polyphida shavrini* sp. nov.

Elytra subparallel, narrowed in apical quarter, truncate apically, with acute small sutural and largeapical denticles; finely and irregularly punctate along suture and in apical quarter, with coarse punctation in basal portion, less coarsely, irregularly in preapical portion; each puncture with fine silver-grey seta, with semierect hairs in apical quarter. Elytra with five bands of silvery tomentum. Basal band transverse band behind shoulders; middle part of elytra with triangularly transverse band; apex with transverse band. Dorsal surface between transverse bands rather smooth, shiny, with very fine, relatively sparse pubescence.

Ventral surface of body with dense pubescence, with sparse, short, erect pilosity. Legs dark-brown, with very fine, silvery white pubescence and some erect hairs. Basal part of hind femura yellow. Tarsomeres dark.

Male unknown.

Differential diagnosis. For determination of this species, see the key below.

Etymology. This species is named after my friend and colleague, staphylinidologist Dr. Alexey Shavrin (Daugavpils University, Latvia) in appreciation of friendship, excellent cooperation, and in gratitude for his contribution to the studies of Staphylinidae of the Philippines.

***Polyphida mindanaoana* sp. nov.**
(Fig. 3)

Type specimens: **Holotype**, male: Philippines: Mindanao, / Lanao del Sur, Wao, / 08.2014, local collector leg. / [handwritten]; // HOLOTYPE: / *Polyphida* / *mindanaoana* sp. nov. / A. Barševskis, A.A. Cabras, / M.N.D. Medina descr. 2022 [red label, handwritten] (DUBC).

Paratypes:

1 female: Philippines: Mindanao, / Surigao del Sur, / San Miguel, 10.2014, / local collector leg. / [handwritten].

1 female: Philippines: Mindanao, / Davao del Sur, Mt. Talomo, / 27.04.2019. D. Krasnopolska leg.

2 females: Philippines: Mindanao, / Davao del Sur, Mt. Talomo, / 26.–27.04.2019. A. Barševskis leg.

1 female: Philippines: Mindanao, / Bukidnon, Intavas, / 27.04.2019. local collector leg.

1 male, 1 female: Philippines: Mindanao, / Bukidnon, Dominorog, / Mt. Kalatungan, 27.04.2019. / local collector leg.

1 male: Philippines: Mindanao, / Agusan del Sur, Borbon, / 08.2018. local collector leg. descr. 2022 [red label, handwritten].

2 females: Philippines: Mindanao, / Agusan del Sur, Borbon, / 11.2018. local collector leg.

1 female: Philippines: Mindanao, / Lanao del Sur, Wao, / 01.2020. local collector leg.

1 male, 1 female: Philippines: Mindanao, / Lanao del Sur, Wao, / 07.2018. local collector leg.

3 males: Philippines: Mindanao, / Lanao del Sur, Wao, / 10.2016. local collector leg.

1 female: Philippines: Mindanao, / Lanao del Sur, Wao, / 06.2018. local collector leg.

1 male: Philippines: Mindanao, / North Cotabato, Alamada, Dado, 04.2020. local collector leg.

1 female: Philippines: Mindanao, / Surigao del Sur, San Miguel, / 10.2014. local collector leg.

1 female: Philippines: Mindanao, / Zamboanga del Norte, Gutallac, / 11.2014. local collector leg. All paratypes with additional red handwritten label: PARATYPUS:/ *Polyphida* / *mindanaoana* sp. nov. / A. Barševskis, A.A. Cabras, M.N.D. Medina descr. 2022. All paratypes deposited in DUBC.

Additional material examined: Philippines: Mindanao, Agusan del Sur, Borbon, 10.2016 (1, local collector leg.); Mindanao, Agusan del Sur, Esperanza, 09.2018 (1, local collector leg.); Mindanao, Agusan del Sur, San Luis, 03.2018 (1, local collector leg.); Mindanao, Bukidnon, Dominorog, Mt. Kalatungan, 12.2018 (1, local collector leg.); 01.2019 (1, local collector leg.), 04. 2020 (1, local collector leg.); Mindanao, Bukidnon, Intavas, 07.2016 (1, local collector

leg.); Mindanao, Bukidnon, Panamokan, 09.2014 (1, local collector leg.); Mindanao, Davao del Sur, Mt. Talomo, 24.04.2021 (1, local collector leg.); Mindanao, Lanao del Sur, Wao, 11.2014 (5, local collector leg.), 12.2016 (1, local collector leg.), 06.2018 (1, local collector leg.).

General distribution: Philippines: Mindanao island.



Fig. 3. *Polyphida mindanaoana* sp. nov.

Description. Black, scape dark-brown or reddish-brown, elytra bronze, pubescence silvery grey. Body length: 10.0–16.0 mm.

Head with sparse, short pubescence and several long, erect hairs. Frons with coarse punctation between eyes; furrow between antennal tubercles visible, wide. Cheeks slightly extended, covered with fine pubescence. Antennae longer than apex of elytra, unicolor dark, with fine, silvery grey pubescence, ventral surface sparsely setose till antennomere 6. Labrum transverse, narrow, frontal margin with row of yellow brown setae.

Pronotum slightly elongate, subcylindric, with fine basal and apical margins; lateral sides very

slightly constricted after second third and before apical margin: opaque, densely and finely punctate, with silver-grey pubescence. Middle portion of pronotal disc with sparse punctation or without punctures, with long or short and smooth midline. In some specimens this midline may be rudimentary or very indistinct.

Scutellum small, semicircular, with pubescence like that on pronotum. Smooth portion of *pars stridens* with very fine transverse microsculpture.

Elytra subparallel, narrowed in apical quarter, apically truncate, with acute small sutural and large marginal denticles; finely and irregularly punctate along suture and in apical quarter, coarsely punctate in basal portion, finer and irregularly in preapical; each puncture with fine silver-grey seta, in apical quarter with semierect hairs. Elytra with five bands of silvery tomentum. Basal band enlarged at shoulders and along suture connected with anteriomedial transverse band, the latter joined with another transverse band in posterior third and further rounded toward apex. Ventral surface of body with dense pubescence, with sparse, short, erect pilosity. Legs with very fine, silvery white pubescence and several erect hairs. Some specimens have silver grey pubescence with somewhat golden lustre.

The aedeagus is damaged.

Differential diagnosis. For determination of this species, see the key below.

Etymology. The name of this species is derived from the name of the island where this species was collected.

Habitat. The new species was collected on the junction between a primary forest and secondary forest at an elevation of 1100 m asl (Fig. 7). Some portions of the land were cleared to be planted by tiger grass as part of the livelihood of the Bagobo-Klata living in the area. The plant where the new species was collected has not been identified.

Faunistic data

***Polyphida monticola* Heller, 1915**
(Fig. 4)

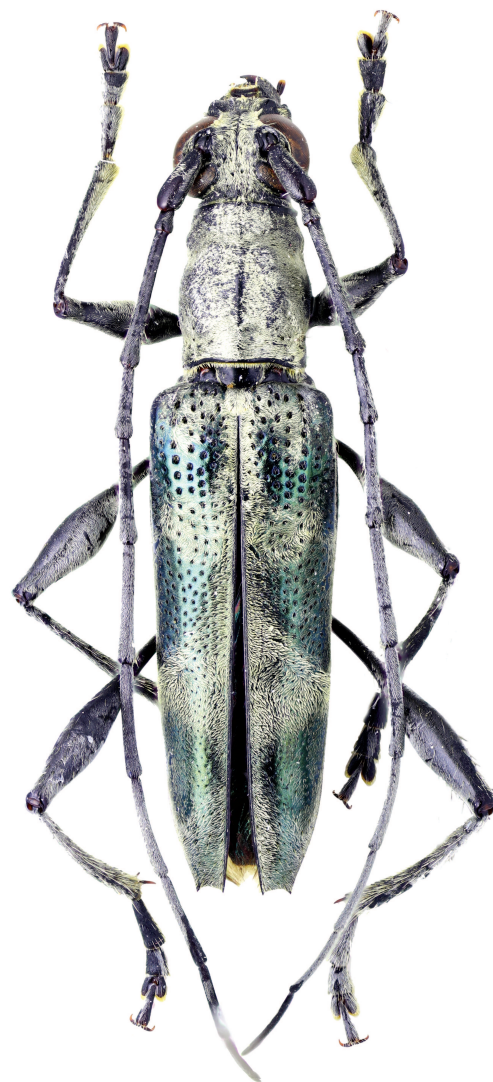


Fig. 4. *Polyphida monticola* Heller, 1915.

References: Heller 1915; Breuning 1970; Hüdepohl 1992; Vives 2013; Viktora 2015.

Type material: Senckenberg Natural History Collections [Senckenberg Naturhistorische Sammlungen], Dresden.

General distribution: Philippines: Luzon, Negros.

Material examined: Philippines: Luzon, Banaue, Ifugao, 06.2016 (1, local collector leg.), 07.2016 (6, local collector leg.), 08.2016 (1, local collector leg.); Luzon, Barlig, 06.2014 (1, local collector leg.), 11.2015 (1, local collector leg.); Luzon, Bicol, Camarines Sur, Lagonoy, 11. 2018 (1, local collector leg.); Luzon, Cagayan, 08.2013 (1, local collector leg.); Luzon, Cagayan, Sta Ana, 09.2016 (1, local collector leg.); Luzon, Mountain Prov., Mt. Polis, 06.2014 (1, local collector leg.); Luzon, Nueva Vizcaya, 07.2012 (1, local collector leg.); 09.2020 (1, local collector leg.); Luzon, Nueva Vizcaya, Belance, 03.2014 (1, local collector leg.), 04.2014 (1, local collector leg.), 05.2014 (1, local collector leg.); Luzon, Sierra Madre, Aurora, Dingalan, 09.2017 (1, local collector leg.); Luzon, Sierra Madre, Isabela, 07.2013 (1, local collector leg.), 04.2014 (1, local collector leg.); Luzon, Sierra Madre, Quirino, 03.2014 (1, local collector leg.), 04.2014 (1, local collector leg.), 11.2014 (1, local collector leg.); Luzon, Sierra Madre, Quirino, Madela, 06.2016 (1, local collector leg.); Luzon, Sierra Madre, Quirino, Madela, Dasimungal, 07.2016 (1, local collector leg.); Luzon, Sierra Madre, Quirino, Nagtipunan, 09.2014 (2, local collector leg.); Negros, MT. Canlaon, 600–900 m, 10.2014 (1, local collector leg.), 08.2015 (1, local collector leg.); Negros, Don Salvador Benedicto, 05.2020 (1, local collector leg.).

***Polyphida lumawigi* Hüdepohl, 1992**
(Fig. 5)

References: Hüdepohl, 1992; Viktora, 2015.

Type material: The Bavarian State Collection of Zoology [Zoologische Staatssammlung des Bayerischen Staates], München.

General distribution: Philippines: Luzon.

Material examined: Philippines: Luzon, Sierra Madre, Isabela, 03.2014 (1, local collector leg.), 05.2014 (1, local collector leg.); Luzon, Sierra Madre, Isabela, Cabangan, 03.2017 (1, local collector leg.); Luzon, Sierra Madre, Quirino, 04.2014 (1, local collector leg.); Luzon, Quirino, Madela, 04.2017 (2, local collector leg.), 06.2017 (1, local collector leg.); Luzon, Sierra Madre, Quirino, Madela, Dasimungal, 11.2017 (1, local collector leg.); Luzon, Mountain Prov., 12.2013 (1, local collector leg.); Luzon, Mountain Prov., Bontoc, 09.2014 (1, local collector leg.). Total: 10 ex.

Remark. This is the first published faunistic data after the original description of the species.

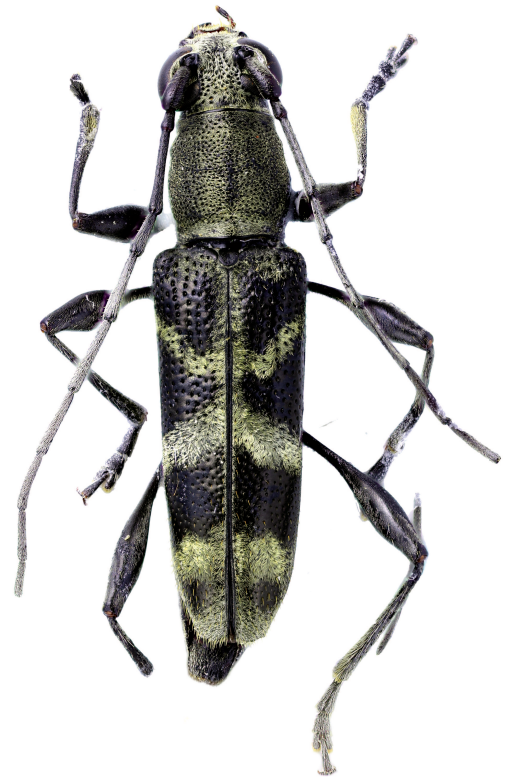


Fig. 5. *Polyphida lumawigi* Hüdepohl, 1992.

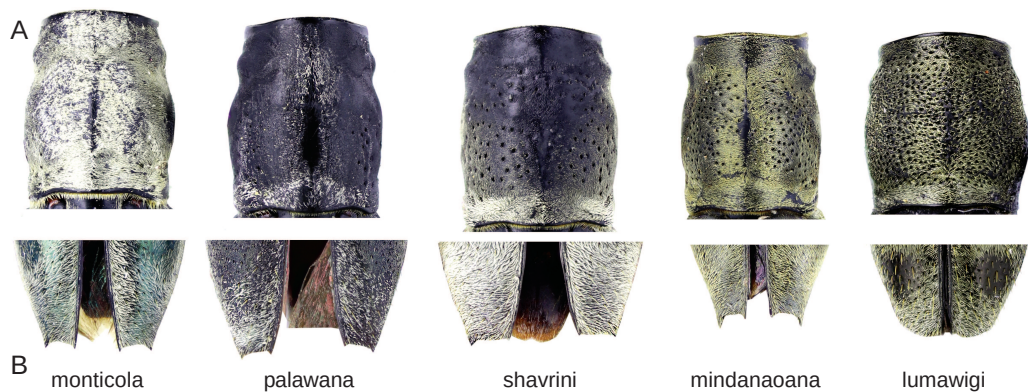


Fig. 6. Pronotum and apex of elytra of *Polyphida* species of Philippines fauna. A – pronotum; B – apex of elytra.



Fig. 7. Habitats of *Polyphida mindanaoana* sp. nov. in environment of Mt. Talomo (Davao del Sur, Mindanao, Philippines) Photo: A. Barševskis.

Key to the *Polyphida* species of Philippines

1(8) Hind legs with black or dark brown tarsomeres. Antennae unicolor or bicolor.

2(3) Antennae bicolor: antennomeres 1–6 dark, with fine, silvery grey pubescence, anten-

nomeres 7–8 yellow, antennomeres 9–11 darkened. Apex of elytra with two acute, small, extended denticles *P. shavrini* sp. nov.

3(2) Antennae unicolor, dark, with fine, silvery grey pubescence.

4(7) Dorsal portion of pronotum with coarse and dense punctures, with or without long middle line. Elytra with silver-grey pubescence.

5(6) Lateral and dorsal disc of pronotum with coarse and dense regular punctures. Apex of elytra with rudimental rounded sutural and lateral denticles *P. lumawigi* Hüdepohl

6(5) Lateral disc of pronotum with dense and coarse punctures, with sparse punctation or without punctures in middle portion, with short or long midline. Apex of elytra with acute, small sutural and large marginal denticles
..... *P. mindanaoana* sp. nov.

7(4) Dorsal portion of pronotum without coarse and dense puncturation, with very sparse lateral punctation. Apex of elytra with small and acute sutural and very large marginal denticles
..... *P. monticola* Heller

8(1) Hind legs with yellow tarsomeres. Antennae bicolor *P. palawana* sp. nov.

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