

# TWO NEW SPECIES OF THE GENUS *METABACETUS* BATES, 1892 FROM THE PHILIPPINES, AND TAXONOMIC NOTES ON THE GENUS *ARISTOPUS* LAFERTÉ-SÉNECTÈRE, 1853 (COLEOPTERA, CARABIDAE, PTEROSTICHINAE, ABACETINI)

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Two new species of the genus *Metabacetus* Bates, 1892 from Mindanao Island (Philippines) are described and illustrated: *M. novus* sp. nov. and *M. straneoï* sp. nov.. Two new synonyms for *Aristopus latus* (Andrewes, 1947) are established: *Drimostoma kaszabi* Jedlička, 1954 syn. nov., and *Aristopus humeratus* Fedorenko, 2021 syn. nov. Images of habitus and genitalia of *A. latus* are provided. *Aristopus latus* is recorded from the Philippines for the first time.

Key words: Coleoptera, Abacetini, taxonomy, new species, synonymy, Philippines

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## INTRODUCTION

Some groups of ground beetles from the Philippines still remain poorly studied and have not been revised. The purpose of this article is to describe two new species of the tribe Abacetini, and provide taxonomic notes for *Aristopus latus* (Andrewes, 1947).

## MATERIAL AND METHODS

All measurements were made using a stereomicroscope Nikon SMZ 745T. Measurements of total body length (TL) were made

from the front of the clypeus to apex of elytra. The other measurements were taken at respective maxima, i.e., greatest width of head (HW), labrum (LL, LW), pronotum (PL, PW), elytron (EL, EW). The label data of type specimens are reported from pinhead to pinpoint in quotations marks. White label color and rectangular shape, however, were not explicitly noted.

Specimens mentioned here are deposited in the following collections:

DUBC Daugavpils University Beetle Collection, Ilgas, Latvia.

PNM Philippine National Museum, Ermita, Manila, Philippines.

Male and female genitalia preparation stored in DMHF (Dimethyl hydantoin formaldehyde resin dissolved in water).

The illustrations were made using a Canon EOS 6D digital camera with a Canon MP-E 65mm macro lens, using StackShot macro rail system and Helicon Focus software, and subsequently edited in Photoshop CC 2019. High-resolution images of species and of additional material are available at the “Carabidae of the World” web project (<http://www.carabidae.org/taxa/abacetini>).

## RESULTS

### The genus *Metabacetus* Bates, 1892

Over the past twenty years, attention has been paid to this small oriental genus several times (Will & Park 2008; Gueorguiev 2013). The genus *Metabacetus* was recently redescribed by Fedorenko (2021). Until now, eight species of the genus have been known, two species from the Indonesian region, five from the mainland of Southeast Asia, and one of them *M. arrowi* Straneo, 1938, widely distributed in Southeast Asia, was known from the Philippines.

### *Metabacetus novus* sp. nov.

**Type material:** Holotype, male: “Philippines, Mindanao, Davao del Sur, Apo Mt. rng, Mabanlas, 1500m. 7°7.2810N, 125 18.7580E, 21-24.3.2022, Anichtchenko A. leg.” (DUBC). Paratype, 1 male, *idem* (PNM).

**Diagnosis.** The new species is most similar to *M. laotinus* Straneo, 1938 by have relatively narrow pronotum with explanate margins, from which it differs by having a longer pronotum and long antennae with terminal three apical antennomeres exceeding base of pronotum.

**Description.** Habitus (Fig. 1). Moderately-sized, with suboval body. Measurements: TL = 5.5 – 5.6 mm; HW/PW = mean 0.67; PL/PW = mean 0.86; EL/EW = mean 1.56. Color of body dark brown to black, sides of pronotum and elytra paler; mandibles, labrum and legs brown; palpi, antennae and tarsi slightly paler. Microsculpture very fine, shallow and consist of slightly transverse polygonal meshes on head, strongly transverse on pronotum and elytra and most of ventral surface; body very shiny throughout, pronotum and elytra with strong iridescence.

Head subsquare, narrow in relation to pronotum; eyes moderately prominent; temples short; two pairs of supraorbital setae; frontal impressions deep and wide, almost straight and divergent; reaching level of anterior supraorbital seta; clypeus trapezoid, clypeo-frontal suture distinct; mentum clearly broader than long, anterior margin emarginate; epilobes prominent; mentum tooth wide and triangular; paramedial pits deep, sharply defined; suture between mentum and submentum deep; submentum with two pairs of lateral setae; maxillary stipes with seta near base, palpifer with setae near apex, palpomeres glabrous, fusiform, nearly equal in length; labial palpi fusiform; palpomere 2 longer than 3, with 3 large medial setae; labrum with six setae on apical margin and slightly concave medio-apically; mandibles with well-defined glabrous scrobe, form elongate, apex slightly hooked and sharply pointed; antennae long, filiform, with apical three articles surpassing base of pronotum; antennomeres 1–3 glabrous except for large seta on dorsum of 1 and 2, and ring of four to five at apex of 3; antennomere 4 densely pubescent from near base; antennomeres 5–11 with dense short pubescence throughout.

Pronotum subsquare; widest in anterior third; disc slightly convex medially; midline shallow, not reaching anterior and posterior margins; anterior margin of pronotum with bead medially widely interrupted; lateral

margins with narrow bead; base of pronotum without bead; anterior margin straight, with fore angles rounded and very slightly protruding forward; posterior margin straight, hind angles almost rights; lateral margins evenly rounded anteriorly, slightly sinuated before hind angles, lateral margin narrow and explanate; lateral seta at widest point, posterior seta at hind angle; posterolateral impressions smooth, flat and wide; basal longitudinal impressions deep, smooth and convergent towards the disc; base of pronotum very shallowly, indistinctly punctate near longitudinal impressions in male, smooth in female.



Fig. 1. Habitus of *Metabacetus novus* sp. nov. (holotype). Scale bar 1 mm.

Elytra subparallel, moderately convex dorsally, with shoulders rounded, widest in medial third, obliquely truncated before apex, sutural angle right; striae complete, deeply impressed, slightly and irregularly crenulate in basal half. Intervals almost flat. Scutellar

striae absent; scutellar setigerous pores present, on base of stria II, slightly removed back from basal margin with distance of diameter of pore. Discal pore missing. Stria VII with two apical setae. Umbilicate series consist of 14 setigerous pores (6 humeral, 1 lateral and 7 apical). Hind wings well developed.

Protrochanter with one seta; profemur anterior face with one sub-basal, one medial and one subapical long seta; ventral face glabrous; posterior face with three short setae; protibial antennal cleaning organ well developed, with two clip setae. Pro-, meso-, and metatarsomeres symmetrical shaped; protarsomeres I–III in male stout, broadly and symmetrically expanded, IV small; tarsomere V ventrally glabrous, dorsally with two setae; claws smooth; metatarsomeres elongate, first with external sulcus and equal to length of II + III.

Ventral surface (thorax and abdomen). Sterna shiny, glabrous except one pair paramedial setae on IV–VI; males with one pair at apex of VII. Prosternum and proepisterna smooth and glabrous, prosternal process unbordered; mesosternum smooth, metaepisterna elongate, with 2–5 shallow punctures; metasternum smooth. Abdomen smooth except weak irregular rugosity laterally.

Male genitalia (Fig. 2). Median lobe of aedeagus with relatively long and bent basal part and long apical part, ventral side evenly curved towards apex; apex short and wide, slightly downturned in lateral view; right paramere elongate and narrow, left paramere large and rounded. Genital ring with long and apically widened process (Fig. 2a).

**Etymology.** The Latin word *novus* means new and refers to the fact that the species is new to the science.

**Distribution.** The species is known only from the type locality.

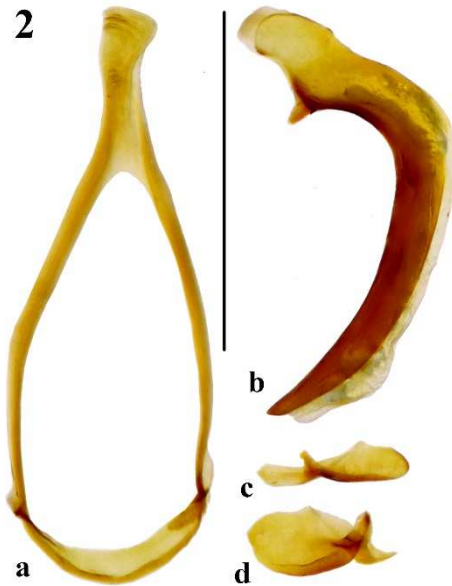


Fig. 2. Male genitalia of *Metabacetes novus* sp. nov. a – genital ring; b – median lobe of aedeagus, left view; c – right paramere; d – left paramere. Scale bar 1mm.

Female unknown.

***Metabacetes straneoi* sp. nov.**

**Type material:** Holotype, male: “Philippines, Mindanao, / Araibo, Pantukan, / Campostela Valley, 900m, / Candalaga Mts./ 7°16'35.3N 128°10'12.8E, / 15-20.10.2019 / Anichtchenko A. leg.” (DUBC).

**Diagnosis.** Single species in the genus with the bisinuate apex of the elytra and with terminal spines, *M. vandoesburgi* Straneo, 1948 from Java (Straneo, 1948) was known till the present time. The new species can be distinguished from it by the smaller body (5.5 mm vs. 7.3 mm) and having a smooth surface of all ventral segments.

**Description.** Habitus (Fig. 3). Medium-sized, with suboval body. Measurements: TL = 5.5 mm; HW/PW = mean 0.65; PL/PW = mean 0.78; EL/EW = mean 1.54. Color of body dark brown to black; mandibles,

labrum and legs paler, reddish; palpi, antennae and tarsi yellowish. Microsculpture very fine, shallow and isodiametric on head, strongly transverse on sides of pronotum and elytra and most of ventral surface; body very shiny throughout, pronotum and elytra with strong iridescence.

Head subsquare, narrow in relation to pronotum; eyes prominent; temples short; two pairs of supraorbital setae; frontal impressions shallow, curved forming an angle inwardly directed, ending before anterior supraorbital seta; clypeus trapezoid, clypeo-frontal suture distinct; mentum clearly broader than long, anterior margin emarginate; epilobes prominent, short triangular; mentum tooth wide and triangular; paramedial pits deep, sharply defined; suture between mentum and submentum deep; submentum with two pairs of lateral setae; maxillary stipes with seta near base, palpifer with setae near apex, palpomeres glabrous, fusiform, nearly equal in length; labial palpi fusiform; palpomere 2 longer than 3, with 3 large medial setae; labrum with six setae on apical margin, margin slightly concave medially; mandibles with well-defined and glabrous scrobe, form elongate, apex slightly hooked and sharply pointed; antennae long, filiform, with apical three antennomeres exceeding base of pronotum; antennomeres 1–3 glabrous except for large seta on dorsum of 1 and 2, and ring of four to five at apex of 3; antennomere 4 densely pubescent from near base; antennomeres 5–11 with dense short pubescence throughout.

Pronotum moderately transverse; widest in the anterior third; disc slightly convex medially; midline shallow, not reaching anterior and posterior margins; anterior margin of pronotum with bead medially interrupted; lateral margins with bead obsolete in apical and basal third; base of pronotum without bead; anterior margin straight, with fore angles rounded and very slightly protruding forward; posterior margin straight, hind

angles obtuse; lateral margins evenly rounded anteriorly, indistinctly sinuated before hind angles, lateral margin narrow; lateral seta at anterior third, posterior seta at hind angle; posterolateral impressions flat and wide; basal longitudinal impressions slightly convergent, deep; base of pronotum impunctate.

Elytra subparallel, moderately convex dorsally, with shoulders rounded, widest along medial third, bisinuate before apex, apices of each elytron with evident sutural spine and with wide obtuse angle in front of apex of stria VII; striae complete, deeply impressed, smooth. Intervals slightly convex. Scutellar striae absent; scutellar setigerous pores present, on base of stria II, slightly removed back from basal margin with distance of diameter of pore. Discal pore missing. Stria VII with two apical setae. Umbilicate series consist of 14 setigerous pores (6 humeral, 1 lateral and 7 apical). Hind wings well developed.

Protrochanter with one seta; profemur anterior face with one sub-basal, one medial and one subapical long seta; ventral face glabrous; posterior face with three short setae; protibial antennal cleaning organ well developed, with two clip setae. Pro-, meso-, and metatarsomeres symmetrical shaped; protarsomeres I–III in male stout, broadly and symmetrically expanded, IV small; tarsomere V ventrally glabrous, dorsally with two setae; claws smooth; metatarsomeres elongate, first with external sulcus and equal to length of II + III.

Ventral surface (thorax and abdomen). Sterna shiny, glabrous except one pair paramedial setae on IV–VI; males with one pair at apex of VII. Prosternum and proepisterna smooth and glabrous, prosternal process unbordered; mesosternum smooth, metaepisterna elongate, smooth; metasternum smooth. Abdomen smooth except weak irregular rugosity laterally.



Fig. 3. Habitus of *Metabacetus straneoi* sp. nov. (holotype). Scale bar 5 mm.

Male genitalia (Fig. 4). Median lobe of aedeagus with relatively long and bent basal part and long apical part, ventrally almost straight, apex elongated and narrow, straight in lateral view; right paramere elongate and narrow, left paramere large and rounded. Genital ring with long and curved laterally process (Fig. 4a).

Female unknown.

**Etymology.** This species epithet memorializes the contribution of Italian entomologist Dr. Stefano Straneo (1902 – 1997) to worldwide studies of the carabid tribe Pterostichini.

**Distribution.** The species is known only from the type locality.





Fig. 4. Male genitalia of *Metabacetes stragneoi* **sp. nov.** a – genital ring; b – median lobe of aedeagus, left view. Scale bar 1 mm.

The genus *Aristopus* LaFerté-Sénéctère, 1853

Recently, the genus was redescribed by Fedorenko (2021).

*Aristopus latus* (Andrewes, 1947)

*Cosmodiscus latus* Andrewes, 1947: 23  
(Type locality: S. Shan States: Taunggyi, 5000 feet); Landin, 1955: 407.

*Drimostoma kaszabi* Jedlička, 1954 **syn. nov.**

*Caelostomus* (*Caelostomus*) *kaszabi* (Jedlička, 1954)

*Aristopus kaszabi* (Jedlička, 1954): Fedorenko, 2021: 428

*Aristopus humeratus* Fedorenko, 2021: 421 **syn. nov.**

**Material:** 1 m, 1 f: Philippines, Mindanao, Kiamba, Sarangani, July 2016 (DUBC); 2 m: Philippines, Western Luzon, Zambales, Subic, July 2016 (DUBC).

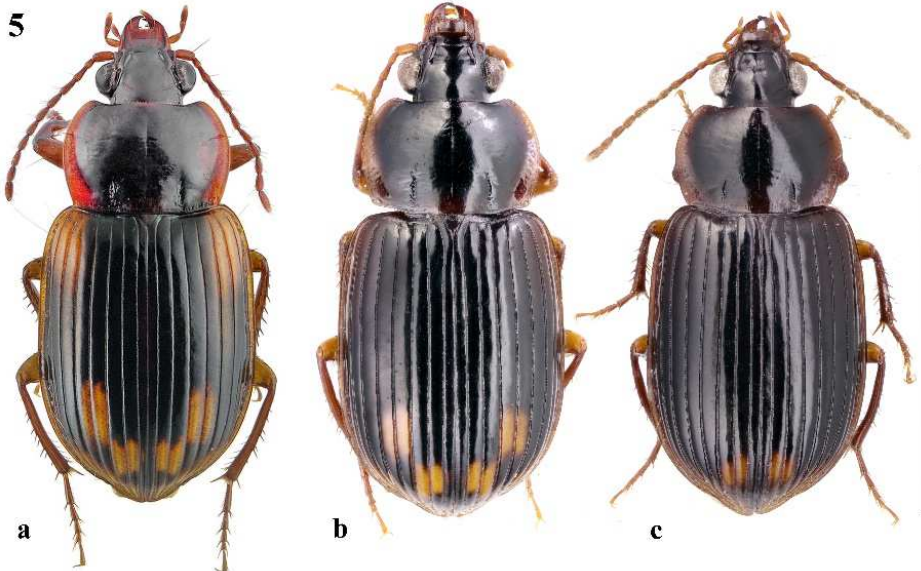


Fig. 5. Variability of elytral pattern of *Aristopus latus* (Andrewes, 1947). a – paratype of *A. humeratus* Fedorenko, 2021 **syn. nov.** (Image from Fedorenko, 2021); b – specimen from Luzon; c – specimen from Mindanao. Scale bar 5 mm.

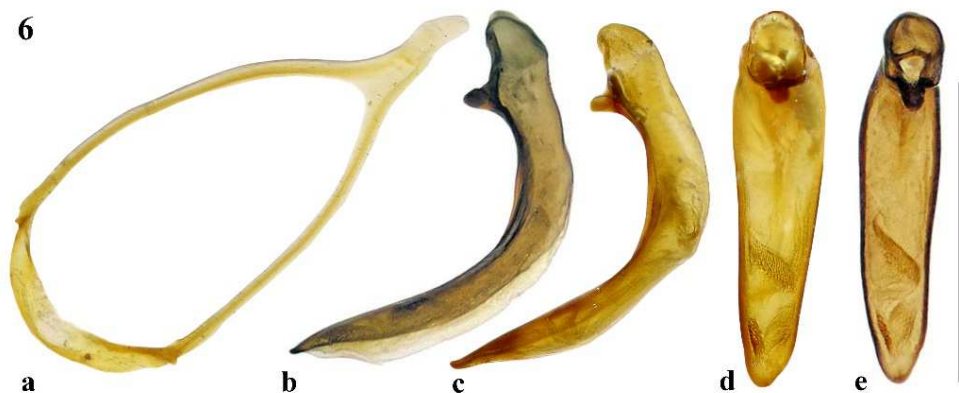


Fig. 6. Male genitalia of *Aristopus latus* (Andrewes, 1947). a – genital ring; b – median lobe of aedeagus, left view of paratype *A. humeratus* Fedorenko, 2021 **syn. nov.**; c – left view, specimen from Luzon; d – ventral view, specimen from Luzon; e – ventral view, paratype *A. humeratus* Fedorenko, 2021 **syn. nov.** Images b and e from Fedorenko (2021). Scale bar 1 mm.

**Comments.** The similarity and possible synonymy of *Aristopus humeratus* Fedorenko, 2021 with *A. kaszabi* (Jedlička, 1954) **syn. nov.** and *A. latus* (Andrewes, 1947) has already been discussed by Fedorenko (2021: 423). To determine the species, can be used

**Distribution.** The species was originally described from Myanmar (Andrewes, 1947: 23). *Aristopus latus* is also known from Nepal, Philippines (Luzon, Mindanao), Taiwan, Thailand and Vietnam. It is probably widely distributed in SE Asian region, but through rare. It is here recorded from the Philippines for the first time.

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the detailed description of *Aristopus humeratus* Fedorenko, 2021 **syn. nov.**, with the only correction for the variability of the elytral pattern (Fig. 5). The study of additional material confirms these synonymies. Aedeagus and genital ring structure as in Fig 6. features of *Aristopus* species, and to Alexey Shavrin (Latvia) for improving manuscript.

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