

## New genera of Alleculinae (Coleoptera: Tenebrionidae: Alleculinae: Alleculini) from the Oriental Region XXIII - *Lemurcula* gen. nov.

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**Abstract.** A new genus of Alleculini Laporte, 1840 - *Lemurcula* gen. nov. with the type species *Lemurcula xiengica* gen. and sp. nov. from Laos (Xieng Khouang Province) is described and illustrated. New genus *Lemurcula* gen. nov. is compared with habitually similar genera *Bolbostetha* Fairmaire, 1896 and *Flavostetha* Novák, 2024.

### INTRODUCTION

New Alleculine genus *Lemurcula* gen. nov. is described with a type species *Lemurcula xiengica* sp. nov. from Laos (Xieng Khouang Province). Species of the new genus distinctly differ from similar species of the genera *Bolbostetha* Fairmaire, 1896 and *Flavostetha* Novák, 2024 mainly by these characters: pronotum is the widest near middle of the lateral margins, male profemora are widened in middle (as in Fig. 5) with small tubercles on inner side of widened place and those are distinctly wider than meso- and metafemora, protibiae of males are slightly widened apically, with distinct margin on outer side and small tubercles on apical part of inner side, male mesotibiae slightly arcuate and metatibiae of males with minute spinules on inner side. Pro- and mesotarsomeres 3 and 4 and penultimate metatarsomeres are widened and lobed (as in table 1).

Species *Lemurcula xiengica* gen. and sp. nov. is described, illustrated (including male genitalia) and compared with similar genera.

### MATERIAL AND METHODS

Two important morphometric characteristics used for the descriptions of species of the subfamily Alleculinae, the 'ocular index' dorsally (Campbell & Marshall 1964) and 'pronotal index' (Campbell 1965), are used in this paper as well. The ocular index equals  $(100 \times \text{minimum dorsal distance between eyes}) / (\text{maximum width of head across eyes})$ . The pronotal index is calculated as  $(100 \times \text{length of pronotum along midline}) / (\text{width across basal angles of pronotum})$ .

'Type material' information is taken from recent locality labels.

In the list of type material, a slash (/) separates data in separate rows, a double slash separates data (//) on different labels.

The following collection codes are used:

DHBC private collection of David Hauck, Brno, Czech Republic;

NHMB Naturhistorisches Museum, Basel, Switzerland;

NMPC National Museum, Praha, Czech Republic;

VNPC private collection of Vladimír Novák, Praha, Czech Republic.

Measurements of body parts and corresponding abbreviations used in text are as follows: AL - total antennae length, BL - maximum body length, EL - maximum elytral length, EW - maximum elytral width, HL - maximum length of head (visible part), HW - maximum width of head, OI - ocular index dorsally, PI - pronotal index dorsally, PL - maximum pronotal length, PW - pronotal width at base, RLA - ratios of relative lengths of antennomeres 1-11 from base to apex ( $3=1.00$ ),

RL/WA - ratios of length / maximum width of antennomeres 1-11 from base to apex, RLT - ratios of relative lengths of tarsomeres 1-5 respectively 1-4 from base to apex (1=1.00).

Measurements were made with an Olympus SZ 40 stereoscopic microscope with continuous magnification and with the Soft Imaging System AnalySIS. Snapshots were taken by using camera Canon EOS 550 D and Canon Macro Photo Lens MP-E and software Helicon Focus 7.7.5.

## TAXONOMY

### Genus *Lemurcula* gen. nov.

(Figs. 1-7)

**Type species.** *Lemurcula xiangica* sp. nov. (by monotypy).

**Description (male).** Habitus as in Fig. 1a-c, body outline (Fig. 2), body medium-sized, narrow, elongate, shiny, dorsal surface with setae, punctures and sparse microgranulation, widest near elytral humeri. Head (Fig. 4) approximately as wide as long, through the eyes slightly wider than anterior margin, narrower than base of pronotum. Clypeus transverse, half heart-shaped, apex distinctly excised in middle. Mandibles large, glabrous, shiny with sides and apex darker. Eyes large, transverse, excised, space between eyes distinctly narrower than diameter of one eye, a little wider than length of antennomere 1. Antenna long, distinctly exceeding three quarters body length. Dorsal surface with pale setae, microgranulation and shallow punctures. Antennomeres 3-11 long and very narrow. Antennomere 2 shortest, antennomeres 4-11 longer than antennomere 3. Maxillary palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere widely triangular. Pronotum (Fig. 4) convex, widest near middle, distinctly narrower than elytra at humeri. Border lines narrow, margins conspicuous from dorsal view, only in the middle of anterior margin not clearly distinct. Base bisinuate, anterior margin slightly arcuate, anterior and posterior angles distinct, obtuse. Elytra narrow, elongate, slightly convex, widest near humeri, narrowing apically. Elytral striae with rows of course punctures, elytral intervals finely convex, with sparse, very fine microgranulation and very small, sparse punctures. Scutellum pentagonally-shaped. Elytral epipleura well-developed, narrowing to ventrite 1, then narrow leads parallel on apical part. Legs long and narrow. Protibiae slightly widened apically, with distinct margin on outer side and small tubercles on apical part of inner side. Mesotibiae slightly arcuate and metatibiae with minute spinules on inner side. Profemora wider than meso- and metafemora, widened in middle (as in Fig. 5) with small tubercles on inner side of widened place. Pro- and mesotarsomeres 3 and 4 and penultimate metatarsomere widened and lobed. Protarsal claws hollow, with teeth on upper side. Aedeagus (Figs. 6, 7) large.

**Female** (Fig. 3) has elytra slightly wider than male, widest near middle. Protibiae have no margin on outer side and no tubercles on inner side. Profemora are in the middle approximately as wide as meso- and metafemora. Both protarsal claws have less teeth than male.

**Differential diagnosis.** The most similar genera from this area are *Bolbostetha* Fairmaire, 1896 and *Flavostetha* Novák, 2024. For differentiating characters see Table 1.

**Etymology.** The compound name consisting of the Czech name (Lemur) of a species of low monkey family Lemuridae and ending -cula indicating affinity to the genus *Allecula* Fabricius, 1801. Gender: feminine.

**Distribution.** Laos.

Table 1. Differentiating characters between genera *Lemurcula* gen. nov., *Bolbostetha* Fairmaire, 1896 and *Flavostetha* Novák, 2024.

Genus	Pronotum	Profemora	Protibiae	Tarsi	Colour of dorsal surface of elytra
<i>Lemurcula</i> gen. nov.	Widest near middle	Widened near middle of inner side (Fig. 5)	Widened apically with margin on outer side and tubercles near apex of inner side	Protarsomeres 3 and 4 widened and lobed	Dark
<i>Bolbostetha</i> Fairmaire, 1896	Mostly widest in base; bell-shaped	Slightly widened in outer side	With thorns, excissions or angles on inner side	Mostly widened protarsomeres 1-4	Mostly dark
<i>Flavostetha</i> Novák, 2024	Bell-shaped	With sharp thorn before apex of inner side	Slightly excised in apical half of inner part	Widened protarsomeres 1-4	Pale

***Lemurcula xiengica* sp. nov.**  
(Figs. 1a-c, 2-7)

**Type locality.** Northeastern Laos, Xieng Khouang Province, 30 km northeastern of Phonsavan, Phou Sane Mountain, 19°39.20'N, 103°20.20'E, 1400-1600 m.

**Type material.** Holotype (♂): LAOS-NE, Xieng Khouang / prov., Phonsavan (30km NE); / Phou Sane Mt., ~19°39.20'N / 103°20.20'E~1400-1600 m, / D. Hauck leg., 10.-30.5.2009 // NHMB Basel, NMPC Prague / Laos 2009 Expedition: / M. Brancuccii, M. Geiser, / D. Hauck, Z. Kraus, V. Kubáň, (NMPC). Paratypes: (7 ♂♂, 16 ♀♀): same data as holotype, (DHBC, NHMB, NMPC, VNPC); (3 ♂♂, 6 ♀♀): LAOS-NE, Xieng Khouang / prov., Ban Na Lam, Phou / Sane Mt., ~19°37.8'N / 103°20-1'E, 1300-1700 m, / M. Geiser leg., 10.-30.5.2009 // NHMB Basel, NMPC Prague / Laos 2009 Expedition: / M. Brancuccii, M. Geiser, / D. Hauck, Z. Kraus, V. Kubáň, (DHBC, NHMB, NMPC, VNPC). The types are provided with a printed red label: '*Lemurcula* / *xiengica* sp. nov. / HOLOTYPUS or PARATYPUS / V. Novák det. 2024'.

**Description of holotype.** Habitus as in Figs. 1a-c, body outline as in Fig. 2, medium-sized, narrow, elongate, shiny, from ochre yellow to black, dorsal surface with pale setae, punctures and sparse microgranulation, BL 10.14 mm. Widest near elytral humeri; BL/EW 3.73.

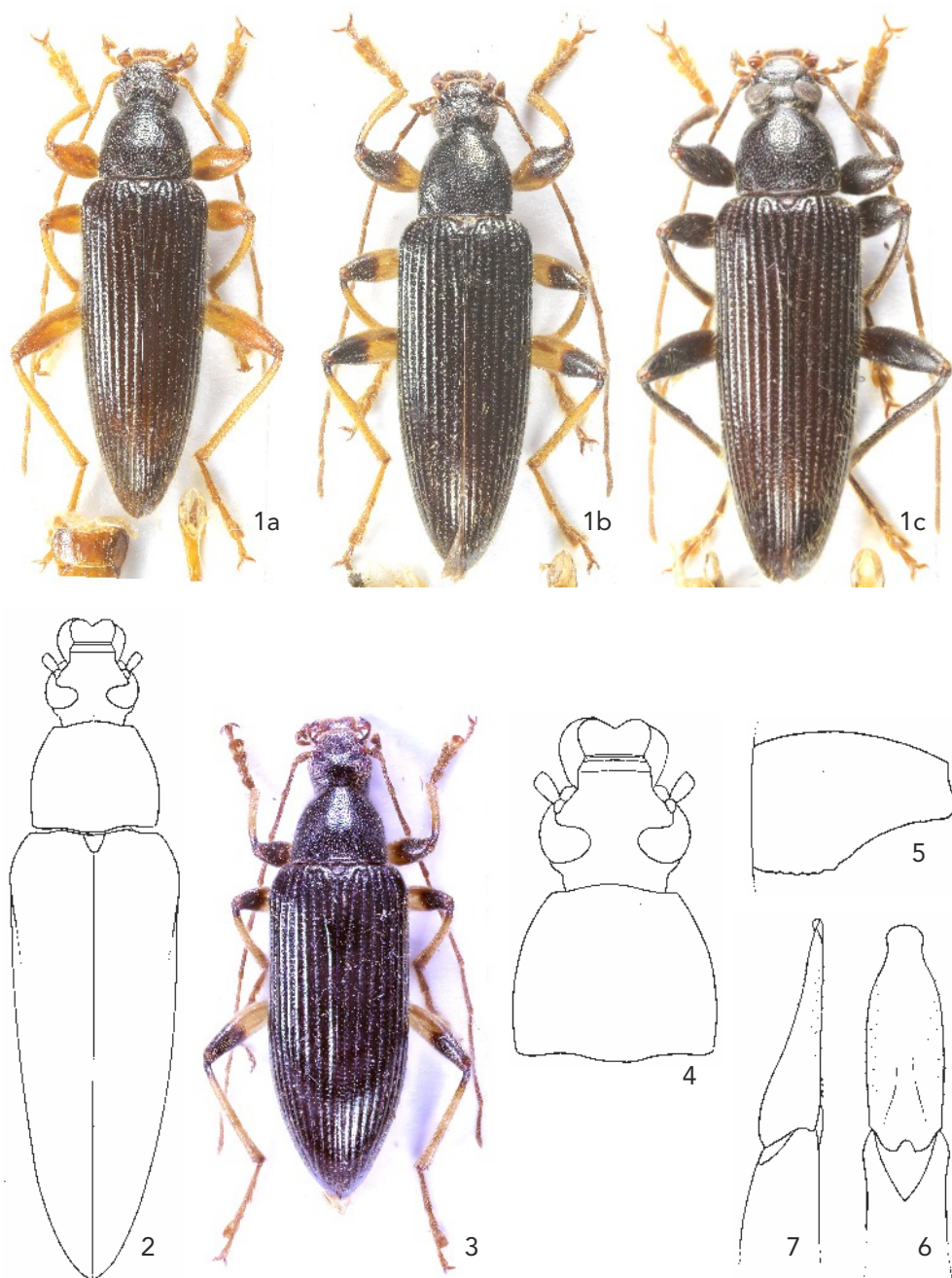
Head (Fig. 4) approximately as wide as long, through the eyes slightly wider than anterior margin, narrower than base of pronotum. Dorsal surface shiny with dense, coarse punctures and long, pale setae. Posterior part black, with dark setae behind eyes, anterior part dark reddish brown with apex distinctly paler. Clypeus pale reddish brown, transverse, half heart-shaped, surface with long, pale setae, very small punctures and fine microgranulation, apex distinctly excised in middle. Mandibles large, reddish brown, glabrous, shiny with sides and apex darker and pale setae in sides. HW 1.44 mm; HW/PW 0.78; HL (visible part) 1.51 mm. Eyes large, transverse, excised, space between eyes distinctly narrower than diameter of one eye, a little wider than length of antennomere 1; OI equal to 25.86.

Antenna long, ochre yellow (AL 8.86 mm, distinctly exceeding three quarters body length - AL/BL 0.87). Dorsal surface with pale setae, microgranulation and shallow punctures. Antennomeres 1-3 shiny, reddish brown, antennomeres 4, 5 semi-matte, antennomeres 6-11 matte, antennomeres 3-11 long and very narrow. Antennomere 2 shortest, antennomeres 4-11 longer than antennomere 3.

RLA(1-11): 0.47 : 0.26 : 1.00 : 1.43 : 1.33 : 1.32 : 1.39 : 1.46 : 1.47 : 1.33 : 1.30.

RL/WA(1-11): 1.91 : 1.46 : 5.40 : 7.42 : 6.92 : 8.90 : 8.17 : 8.96 : 8.25 : 6.89 : 7.65.

Maxillary palpus ochre yellow, matte, with long pale setae and microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere widely triangular.



Figs. 1-7. *Lemurcula xiengica* sp. nov.; male holotype: Figs. 1a, 2, 4-7; male paratypes: 1b, c; female paratype: 3: 1a-c, 3- habitus; 2- body outline; 4- head and pronotum; 5- widened profemora; 6- apical piece of aedeagus, dorsal view; 7- apical piece of aedeagus, lateral view.

Pronotum (Fig. 4) blackish brown, shiny, convex, widest near middle, distinctly narrower than elytra at humeri. Dorsal surface with long, sparse pale setae, dense and coarse punctures and very sparse microgranulation. Interspaces between punctures distinctly wider than diameter of punctures. PL 1.71 mm; PW 1.94 mm; PI equal to 88.14. Border lines narrow, margins conspicuous from dorsal view, only in the middle of anterior margin not clearly distinct. Base bisinuate, anterior margin slightly arcuate, anterior and posterior angles distinct, obtuse.

Elytra. Dark brown, narrow, elongate, slightly convex, shiny, widest near humeri, narrowing apically. Dorsal surface with pale setae. EL 6.92 mm; EW 2.72 mm; EL/EW 2.54. Elytral striae with rows of course punctures, elytral intervals finely convex, with sparse, very fine microgranulation and very small, sparse punctures.

Scutellum. Brown, pentagon, distinctly paler than elytra, with sides darker, shiny, with long, pale setae, fine microgranulation and a few small, shallow punctures.

Elytral epipleura well-developed, dark brown, with sparse, pale setae and punctures, narrowing to ventrite 1, then narrow leads parallel on apical part.

Legs (Fig. 5). Long and narrow, ochre yellow. Dorsal surface with pale setae, dense punctures and fine microgranulation. Protibiae slightly widened apically, with distinct margin on outer side and small tubercles on apical part of inner side. Profemora wider than meso- and metafemora, widened in middle (Fig. 5) with small tubercles on inner side of widened place. Pro- and mesotarsomeres 3 and 4 and penultimate metatarsomeres widened and lobed. RLT: 1.00 : 0.63 : 0.67 : 0.95 : 1.51 (protarsus); 1.00 : 0.40 : 0.52 : 0.50 : 0.85 (mesotarsus); 1.00 : 0.38 : 0.47 : 0.78 (metatarsus).

Protarsal claws hollow, with teeth on upper side, pale, both with more than 20 teeth.

Ventral side of body blackish brown with pale setae. Abdomen blackish brown (ventrites 1-3). Penultimate and ultimate ventrites pale reddish brown, shiny with pale setae, dense, small punctures and fine microgranulation.

Aedeagus (Figs. 6, 7) large. Basal piece ochre yellow, shiny, slightly rounded laterally and narrowing in dorsal view. Apical piece partly darker than basal piece, triangular dorsally, beak-shaped from dorsal and lateral views. Ratio of length of apical piece to length of basal piece in dorsal view 1 : 3.98.

**Female** (Fig. 3) has space between eyes distinctly wider and elytra slightly wider than male, widest near middle. Protibiae have no margin on outer side and no tubercles on inner side. Mesotibiae not arcuate and metatibiae without minute spinules on inner side. Profemora are in the middle approximately as wide as meso- and metafemora. Both protarsal claws have only 11 teeth.

Measurements of female body. BL 10.48 mm; HL 1.78 mm; HW 1.70 mm; OI 35.69; PL 1.54 mm; PW 2.03 mm; PI 75.86; EL 6.92 mm; EW 3.01 mm; AL 9.11 mm; AL/BL 0.87; HW/PW 0.84; BL/EW 3.73; EL/EW 2.54.

RLA(1-11): 0.64 : 0.32 : 1.00 : 1.88 : 1.95 : 2.03 : 2.07 : 2.16 : 1.99 : 2.02 : 1.91.

RL/WA(1-11): 2.03 : 1.39 : 3.74 : 7.31 : 9.38 : 9.32 : 8.71 : 9.08 : 10.05 : 9.27 : 10.26.

RLT: 1.00 : 0.60 : 0.55 : 0.92 : 1.82 (protarsus); 1.00 : 0.50 : 0.50 : 0.73 : 1.25 (mesotarsus); 1.00 : 0.36 : 0.43 : 0.81 (metatarsus).

**Variability.** Some specimens have legs dark brown or apex of femora and base of tibiae are dark brown. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n=11). BL 10.71 mm (8.97-12.51 mm); HL 1.56 mm (1.38-1.82 mm); HW 1.47 mm (1.30-1.72 mm); OI 27.48 (25.00-29.36); PL 1.80 mm (1.53-2.15 mm); PW 1.98 mm (1.68-2.31 mm); PI 91.75 (87.01-93.48); EL 7.35 mm (6.06-8.54 mm);

EW 2.80 mm (2.45-3.29 mm). Females (n=22). BL 11.25 mm (9.73-12.83 mm); HL 1.65 (1.35-1.88 mm); HW 1.58 mm (1.30-1.81 mm); OI 37.88 (33.33-43.85); PL 1.70 mm (1.36-2.04 mm); PW 2.16 mm (1.83-2.68 mm); PI 78.10 (71.58-85.71); EL 7.90 mm (6.95-8.91 mm); EW 3.20 mm (2.71-3.49 mm).

**Differential diagnosis.** See the differential diagnosis of the genus *Lemurcula* gen. nov.

**Etymology.** Toponymic, named after the first word of the name of Province of its origin - *Xieng Khouang* (Laos).

**Distribution.** Laos (Xieng Khouang Province).

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