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A revision of the genus *Lipromorpha* Chujo & Kimoto, 1960 from Malaysia and Indonesia and a description of a new species from India (Insecta: Coleoptera: Chrysomelidae: Alticinae)

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Abstract

Nine new species are described and illustrated for science: Lipromoprha pahanga, L. costipennis (Malacca), L. bisulcata (Sumbava & Lombok), L. apicalis (Malacca Peninsula), L. sabahensis, L. trusmadiensis, L. ventralis, L. keningauensis (Borneo), L. indica (India). Pseudoliprus longicornis (Jacoby, 1898) is replaced in the genus Lipromorpha. A key for species from Malaysia and Indonesia is given.

Key words: Chrysomelidae, Alticinae, *Lipromorpha*, Malaysia, Indonesia, India, key of species, Oriental fauna, new species

Introduction

To the moment a genus *Lipromorpha* of Malaysia and Borneo is studied very poorly: 4 species were indicated in the catalogue of Kimoto (2001) and 3 species for Malaysia (Mohamedsaid 2004). Real keys are also absent for this region. Strictly speaking, a key for all this genus (named earlier *Liprus* Motschulsky, 1860) was published by G. Bryant (1942), but it is very strange one and impossible for using.

Besides, we included in this article additionally a description of one unusual species from India.

The following abbreviations are used for depository places:

NME - Naturkundemuseum Erfurt (Erfurt, Germany)

NHMB - Naturhistorisches Museum Basel (Basel, Switzerland)

LM - L. Medvedev's collection (Moscow, Russia);

PR - P. Romantsov's collection (Saint Petersburg, Russia);

Taxonomy

Lipromorpha borneensis (Bryant, 1942)

Liprus borneensis Bryant (1942: 38, Sarawak).

Lipromorpha borneensis: Kimoto (2001: 196), Mohamedsaid (2004: 139).

Type material not examined. We have no additional material.

Distribution: Sarawak.

Lipromorpha nitida (Bryant, 1942)

Liprus nitidus Bryant (1942: 36, Sarawak).

Lipromorpha nitida: Кімото (2001: 197), Монамедsaid (2004: 139).

Type material not examined. We have no additional material.

Distribution: Sarawak.

Lipromorpha pahanga sp. nov. (Figs. 6, 23, 24, 33)

Holotype (male): Malaysia, Pahang, Friser's Hills (Bukit Fraser), N 03° 43'2", E 101° 45'8", 1320 m, 21.II.2014, at the daytime, leg. P. Romantsov (PR).

Paratypes: same locality and date, 1 female (LM); same locality, 22.II.2014, 1 male (LM), 1 female (PR). **Description**. Fulvous, antennal segments 4–11 darkened, apices of hind femora blackish (Fig. 6).

Head with elongate triangular frontal tubercles, delimited posteriorly with impressed oblique line, going to inner margin of eye, clypeus triangular, interantennal space very narrow, vertex impunctate. Antennae longer than body, 3.2 mm, proportions of segments are as 11-4-5-5-5-5-5-5-5-5-6, apical segments not thickened. Prothorax as long as wide, deeply constricted in basal third, width of fore and hind margin and constricted area are as 28-26-20, surface shining, finely and sparsely punctuate, sparsely pubescent, without transverse impression behind anterior margin. Scutellum triangular with rounded apex. Elytra 1.5 times as long as wide, parallel-sided, horizontal part with basal convexity, postbasal impression, short and sparse erect hairs and

8 rows of punctures, except short scutellar row, all interspaces costate; vertical part with 3 rows. Pygidium with longitudinal impressed line in middle and subtruncate, feebly bilobed apex. 5th abdominal sternite with impressed longitudinal line in basal half and grooved on central truncate lobe. Aedeagus straight in lateral view, with acute elongate-triangular apex (Figs. 23, 24). Length of body 2.7 mm.

Paratypes: Female. Apical antennal segments scarcely darkened, hind femora entirely fulvous, apex of abdomen darkened, pygidium with broadly rounded apical margin. Length of body 2.7–2.9 mm. Prothorax feebly transverse. Spermatheca as in Fig. 33.

Diagnosis. Near *L. malayana* (Jacoby, 1885), differs in colour of antennae and hind legs, punctuate prothorax, not having impression behind anterior margin, much more long antennae and entirely costate elytra.

Derivatio nominis: The name refers to the locality from which this species is described.

Lipromorpha costata sp. nov. (Figs. 2, 17, 18)

Holotype (male) Malaysia, Pahang, Cameron Highlands, Tanah Rata dist, N 04° 28′50" – 04° 28′35", E 101° 23′14" – 101° 23′20", 1480–1570 m, 25.III.2012, leg. P. Romantsov (PR).

Description. Entirely fulvous, only antennal segments 5–11 piceous to blackish (Fig. 2).

Morphologically very alike at preceding species. Head with poorly delimited frontal tubercles and poorly distinct frontal sutures behind them. Antennae as long as body, proportions of segments are as 11-4-6-5-5-6-5-5-5-6. Prothorax as long as wide, constricted in basal third, proportions of width at fore and hind margin and constricted area are as 30-29-23, surface microsculptured, finely and sparsely punctuate, with longitudinal impression on anterior part of disc, hairs very sparse, suberect. Scutellum, elytra and pygidium are practically same, as in preceding species, only elytral interspaces of rows are sharply costate. Aedeagus (Figs. 17, 18) with apex not acute. Length of body 3.3 mm.

Diagnosis. Differs from *L. pahanga* sp. nov. with other sculpture of head and prothorax, shorter antennae and other shape of the aedeagus.

Derivatio nominis: The name refers to the special impression of the elytra.

Holotype (male): Indonesia, W Sumbawa, Batudulang, 30 km S Sumb. Besar, 1000 m, 10.II.1994, leg. Bolm (NHMB).

Paratypes: same locality and date, 1 male (LM); Indonesia, Lombok Is., Sapit-Sembalun Bumbung, 900–1500 m, 14–16.II.1994, leg. Bolm, 3 females (NHMB, 1 ex. – LM); Indonesia, Lombok Is., Senaro, N slope of Rinjani, 1100 m, 2–5.II.1994, leg. Bolm, 1 female (NHMB). **Description**. Fulvous, abdomen and apices of hind

Description. Fulvous, abdomen and apices of hind femora black, antennal segments 3–11 darkened, mostly piceous, breast sometimes darkened (Fig. 1).

Frontal tubercles elongate, delimited posteriorly with frontal groove, frontal sutures indistinct, clypeus triangular, flat, vertex moderately convex, impunctate. Antennae of male as long as body, proportions of segments are as 11-6-10-10-10-8-8-7-7-10, of female a little shorter, but with same proportions of segments. Prothorax feebly transverse, 1.25 times as wide as long, moderately constricted before base, width of fore and hind margin and constriction are as 25-20-16, surface impunctate, with sparse hairs and distinct transverse impression behind anterior margin; because of this side margin looks as undulate. Scutellum triangular. Elytra 1.4-1.5 times as long as wide, parallel-sided, male without basal convexity and postbasal impression on horizontal part, in female these are developed, but very feeble; all rows well developed, hairs sparse, short and erect, interspaces of rows flat or moderately convex. 5th abdominal sternite of male with groove on median lobe. Aedeagus with finger-like obtuse apex curved downward (Figs. 13, 14). Length of male 2.4-2.6 mm, of female 2.6-2.9 mm.

Diagnosis. Near *L. malayana* (Jacoby, 1885) and *L. pahanga* sp. nov., differing by a very distinct transverse impression on the prothorax behind fore margin and reduced impression on elytra.

Derivatio nominis: The name refers to the impression of the elytra.

Lipromorpha sabahensis sp. nov. (Figs. 7, 25, 26)

Holotype (male): Malaysia, N Borneo, Sabah, Keningau distr., Trus Madi Mt. N 05° 26'35", E 116° 25'5", 1250 m, 24–26.III.2012, leg. P. Romantsov (PR).

Description. Entirely fulvous (Fig. 1).

Frontal tubercles elongate, obliquely placed, convex, sharply delimited posteriorly with frontal sutures very distinct from antennal interspaces to eye margin, forming an angle about 100 grades, clypeus triangular with straight anterior margin, vertex impunctate and shining, a groove between frontal sutures and vertex absent. Antennae reaching apical slope of elvtra, proportions of segments are as 10-6-7-8-8-8-7-6-8. Prothorax feebly transverse, 1.2 times as wide as long, strongly constricted before base, width of fore and hind margin and constriction are as 24-21-15, surface with feeble transverse impression behind anterior margin, finely and sparsely punctuate, with short erect hairs. Scutellum triangular. Elytra parallel-sided, 1.55 times as long as wide, with distinct basal convexity and postbasal impression on horizontal part, all rows regular, hairs erect and short, interspaces convex to costate, vertical part with 3 rows. Pygidium strongly convex, with almost truncate apical margin. Aedeagus with truncate apex (Fig. 25, 26). Length of body 2.5 mm.

Diagnosis. Near *L. bisulcata* sp. nov., but differs with sharp frontal suture, much more feeble anterior transverse impression of prothorax, more short antennae and different shape of the aedeagus, as well as entirely fulvous body.

Derivatio nominis: The name refers to the state from which this species is described.

Lipromorpha trusmadiensis sp. nov. (Figs. 9, 29, 30)

Holotype (male): Malaysia, N Borneo, Sabah, Keningau distr., Trus Madi Mt. N 05° 26'35", E 116° 25'5", 1250 m, 24–26.III.2012, leg. P. Romantsov (PR).

Description. Entirely fulvous (Fig. 9.

Head same as in preceding species, only anterior margin of clypeus feebly concave. Antennae reaching apical slope of elytra, proportions of segments are as 12-6-6-6-7-7-6-6-6-8. Prothorax 1.05 times as long as wide, strongly constricted before base, width of fore and hind margin and constriction are as 22-20-17, surface with feeble transverse impression behind anterior margin, finely and rather densely punctuate, with short semi-erect hairs. Scutellum triangular with rounded apex. Elytra practically same as in preceding species. Pygidium strongly convex with broadly rounded apex. Aedeagus with rounded triangular apex (Figs. 29, 30). Length of body 2.3 mm.

Diagnosis. Very similar to *L. sabahensis* sp. nov., has a little different form of prothorax, but differs very well in form of aedeagus.

Derivatio nominis: The name refers to the locality from which this species is described.

Lipromorpha ventralis sp. nov. (Figs. 10, 31, 32)

Holotype (male): Malaysia, N Borneo, Sabah, Keningau distr., Trus Madi Mt. N 05° 26'35", E 116° 25'5", 1250 m, 17–27.III.2012, leg. P. Romantsov (PR).

Description. Fulvous with 6 apical antennal segments more or less darkened (Fig. 10).

Frontal tubercles elongate, convex, delimited posteriorly rather deep transverse impression, not attaining inner margins of eye, clypeus triangular with slightly concave anterior margin, vertex convex, shining, impunctate, very finely transversely strigose. Antennae as long as body, proportions of segments are as 18-7-7-10-10-10-10-9-9-9-12. Prothorax 1.08 times as long as wide, strongly constricted before base, width of fore and hind margin and constriction are as 26-25-17, surface shining, with very sparse punctures and hairs, without transverse depression behind anterior margin. Scutellum triangular with rounded apex, microsculptured. Elytra parallel-sided, 1.2 times as long as wide, with basal convexity and not very deep postbasal impression, horizontal part with 8 regular rows of punctures in the middle part, interspaces convex, but not costate, hairs short and erect; vertical part with 4 rows. Pygidium with broadly rounded apex. Apical abdominal sternite with deep longitudinal impression from base to apex. Aedeagus as in figs. 31, 32. Length of body 3.0 mm.

Diagnosis. Seems to be near fulvous form of *L. longi-collis* (Jacoby, 1898), but differing with the prothorax seems practically as long as wide.

Derivatio nominis: The name refers to the impressions on the abdomen.

Lipromorpha keningauensis sp. nov. (Figs. 12, 15, 16)

Holotype (male): Malaysia, N Borneo, Sabah, Keningau distr., Trus Madi Mt. h–1160 m N 05° 25'58", E 116° 26'2", the daytime, 28. II. 2014, leg. P. Romantsov (PR). Paratype: same locality, 17–27.III.2012, 1 male (LM). Description. Entirely fulvous (Fig. 12).

Frontal tubercles elongate triangular, delimited posteri-

orly with rather deep arcuate impression, not attaining inner margins of eyes, clypeus triangular with concave anterior margin, vertex feebly convex, impunctate, very finely transversely strigose. Antennae almost reaching apex of elytra, proportions of segments are as 11-4-6-7-7-7-7-7-11. Prothorax as long as wide, strongly constricted before base, width of fore and hind margins and constriction are as 23-21-14, surface without transverse impression behind anterior margin, shining, with very fine and sparse punctures and very sparse erect hairs. Scutellum triangular, without microsculpture. Elytra parallel-sided, 1.5 times as long as wide, with moderately high basal convexity and impression behind it, horizontal part with 8 regular rows of punctures in the middle part, interspaces flat and shining. hairs moderately dense, rather long and erect. Pygidium flatten, with rounded apical margin. Apical abdominal sternite with narrow impressed line in middle. Aedeagus (Figs. 15, 16) with elongate triangular apex, almost straight in lateral view. Length of body 2.1-2.2 mm.

Diagnosis. Seems to be similar poorly described *L. ni-tida* (Bryant, 1942), but the prothorax seems as long as wide.

Derivatio nominis: The name refers to the district from which this species is described.

Lipromorpha malayana (Jacoby, 1885) (Figs. 21, 22)

Liprus malayanus Jacoby, 1885: 71 (Sumatra).

Type material not examined.

Material examined. Sumatra, leg. Drescher, 1911, 1 male (LM).

Remark. A single male specimen quite corresponds to the original description. Aedeagus as in figs. 21, 22. Prothorax 1.1 times as long as wide. Anterior cavities closed, as in all species of *Lipromorpha* s. str.; Jacoby's indication "anterior cavities open" is incorrect.

Lipromorpha flavilabris (Jacoby, 1893) (Fig. 3)

Liprus flavilabris Jacoby, 1893: 154 (Java).

Type material not examined.

Material examined. Indonesia, Lombok Isl., Sapit-Sembalun Bumbung, 900–1500 m, 14–16.II.1994, leg. Bolm, 4 females (NHMB), 1 female. – (LM). Dorsal view as in Fig. 3.

Remark. Species was described from Java, found for the first time on Lombok. Lipromorpha assamensis (Maulik, 1926)

Liprus assamensis Maulik, 1926: 131 (Assam);

Lipromorpha assamensis: Chujo & Kimoto (1960: 9), Mohamedsaid (2000: 357, 2004: 139).

Type material not examined.

Remark. This species was erroneously indicated for "Peninsula Malaysia" (Mohamedsaid 2000). At present this species is known only from Northern India and definitely absent not only in Malaysia, but in more northern region of Indochina (Medvedev 2009).

${\it Lipromorpha\ longicollis\ } (Jacoby, 1898)\ (comb.\ nov.)$

(Fig. 5)

Liprus longicollis Jacoby, 1898: 376 (Borneo).

Pseudoliprus longicollis: Chujo (1964: 311, Brunei), Mohamedsaid (2004: 139).

Type material not examined.

Material examined: Malaysia, N Borneo, Sabah, Keningau distr., Trus Madi Mt. N 05° 26'35", E 116° 25'5", 1250 m, 17–27.III.2012, leg. P. Romantsov, 1 female (PR). Remark. *Liprus longicollis* Jacoby, 1898, was erroneously removed by M. Chujo (1964) in the genus *Pseudoliprus* Chujo & Kimoto, 1960, while its real place is in the genus *Lipromorpha* Chujo & Kimoto, 1960, because this species has elongate and strongly constricted prothorax. In the original description of this species. Jacoby mentioned about two coloured forms: entirely fulvous and with piceous elytra. Very possibly these forms might belong to different species.

Distribution: Brunei, Borneo.

Lipromorpha indica sp. nov. (Figs. 4, 19, 20)

Holotype (male): "Trichinopolis, India" without more exact data, the label is written with pensil (LM).

Description. Body entirely fulvous (Fig. 4).

Head with triangular frontal tubercles, poorly divided from each other and flat, delimited posteriorly with sharp and straight impressed line, clypeus triangular and forms with frontovertex an angle of about 80 grades; interantennal space very narrow, all surface impunctate. Antennae thin, distinctly longer than body, proportions of segments are as 12-4-12-10-10-10-9-7-7-6-7. Prothorax 1.4 times as wide as long [width of anterior and posterior margins and the narrowest place are as 19-17-14] distinctly, but not deeply constricted in basal quarter, surface impunctate, without transverse impression behind anterior margin. Scutellum triangular with rounded apex. Elytra parallel-sided, 1.65 times

as long as wide, horizontal part with regular rows of punctures, strongly confused in anterior half near suture, interspaces flat and impunctate; vertical part confusedly punctuate except innermost row. Abdomen with preapical sternite very narrow, apical sternite grooved in middle. Aedeagus straight, with finger-like apical process (Figs. 19, 20). Length of body 3.6 mm.

Diagnosis. Differs immediately from al known species with long antennal segment 3, confused punctures at sutural area and on vertical part of elytra.

Derivatio nominis: The name refers to the country from which this species is described.

Lipromorpha sulawesiana L. Medvedev, 2014

(Figs. 8, 27, 28)

Lipromorpha sulawesiana L. Medvedev (2014: 229, Sulawesi).

Type material examined. Holotype, labelled: "Indonesia, Central Sulawesi, W. Lore

Lindu NP, 120 km. S Palu, 800–1000m, 21.IV.2005, Teabroma cacao, under forest remnants, leg. M. M. Bos.", 1 ♂ (LM).

We give figures of dorsal view (Fig. 8) and the aedeagus (Figs. 27, 28).

Lipromorpha apicalis sp. nov. (Fig. 11, 34)

Holotype (male), labelled: "Malaysia, W Kelantan, 90 km N GuaMusang, Mt. Basor, 1700m., Kampongm-

KuburDatu, 1. III-21. III. 2015, leg. Peter Cechovsky" (NME).

Paratype (female), labelled: the same locality and date, 1 ex. (LM).

Description. Fulvous, 6 apical antennal segments, scutellum, elvtra except apical slope (fig. 11), pygidium and underside except apical abdominal segment black. Head impunctate, frontal tubercles triangular, produced in the interantennal space, sharply delimited, clypeus triangular and forms with frons almost straight angle, interantennal space narrow. Antennae thin, as long as body, proportions of segments are as 9-4-5-5-5-5-5-5-5-7, preapical segments about 5 times as long as wide. Prothorax 1.2 times as wide as long, narrowed to behind and strongly constricted in basal quarter, surface impunctate, without transverse impression behind anterior margin. Scutellum triangular with rounded apex. Elytra parallel-sided, 1.3 times as long as wide, all surface with regular rows of punctures and costate interspaces on both horizontal and vertical parts, pubescences suberect. Aedeagus-(fig. 34). Length of body 2.6-3.0 mm.

Diagnosis. Differing well from all known species with the bicolour elytra.

Derivatio nominis: The name refers to the bicolour elytra on the apex.

A key to Lipromorpha of Malaysia and Indonesia

- 1 (4) Upperside black. Prothorax with transverse impression behind anterior margin.
- 3 (2) Legs fulvous with piceous hind femora. Body dark piceous to black, labrum fulvous, antennae fulvous with blackish apical segments. Length 2.3–3.1 mm. Male unknown. Java, Lombok. ... L. flavilabris (Jacoby, 1893)
- 4 (1) Upperside not entirely black.
- 6 (9) Elytra unicolour.

- 9 (6) Elytra black with fulvous apex. . Length 2.6-3.0 mm. Malacca Peninsula Lipromorpha apicalis sp.nov.
- 10 (5) Body fulvous.
- 11 (16) Prothorax with transverse impression behind anterior margin.
- 13 (12) Body entirely fulvous. Species from Borneo.

- 16 (11) Prothorax without transverse impression behind anterior margin.
- 17 (22) Species from Malacca and Sumatra.
- 18 (19) Body entirely fulvous. Prothorax impunctate, 1.1 times as long as wide. Elytra absolutely not depressed behind base. Apical sternite of abdomen with deep round groove. Aedeagus with broad finger-like apical process not curved downward. Length 3.2 mm. Sumatra. L. malayana (Jacoby, 1885)
- 19 (18) At least 6-7 apical antennal segments piceous to black. Elytra deeply depressed behind base. Prothorax at least finely and sparsely punctuate, as long as wide.
- 20 (21) Apices of hind femora black. Antennae longer than body. Prothorax without longitudinal impression in middle. Apical sternite of abdomen with longitudinal impressed line. Aedeagus straight in lateral view, with elongate-triangular apex (figs 23, 24). Length of body 2.7–2.8 mm. Malacca. L. pahanga sp. nov.
- 22 (17) Species from Borneo.

- 23 (26) Prothorax about 1.4 times as long as wide. Aedeagus unknown.

- 26 (23) Prothorax practically as long as wide (1:1 or 1.08:1).
- 28 (27) Antennae entirely fulvous. Apical abdominal sternite with narrow impressed line in middle. Aedeagus with elongate-triangular acute apex (Figs. 15, 16). Length 2.1-2.2 mm. Borneo: Sabah. ... *L. keningauensis* sp. nov.

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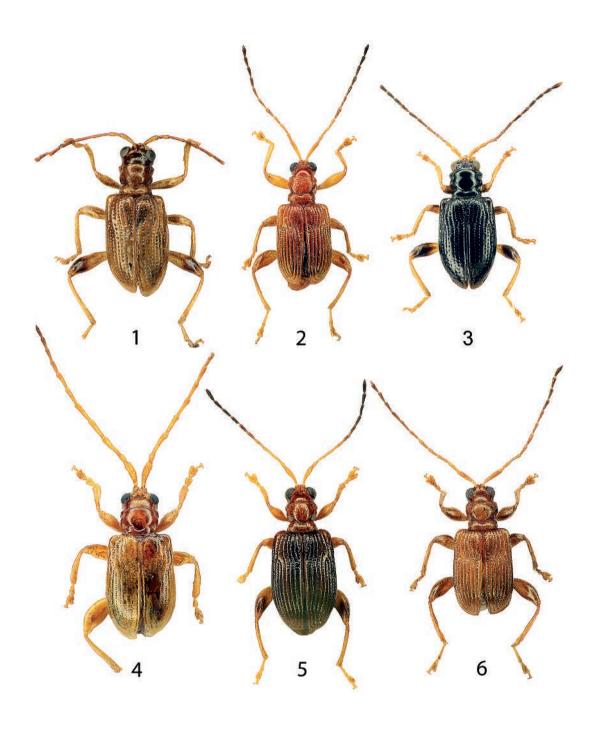
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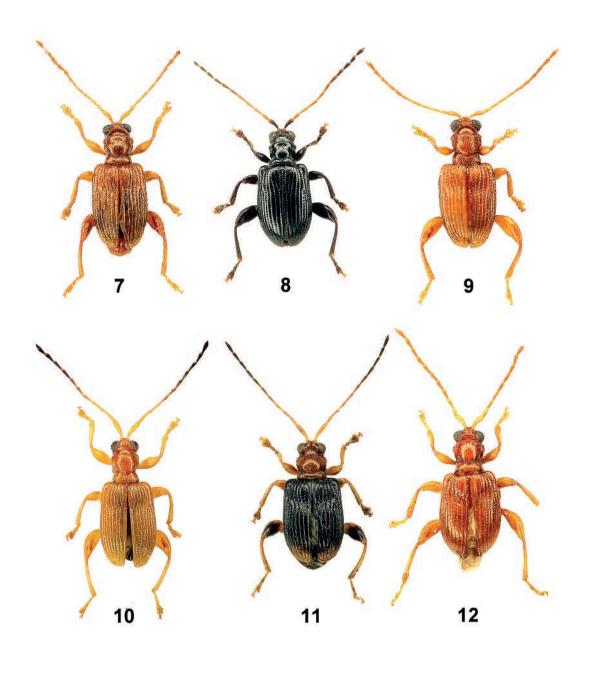
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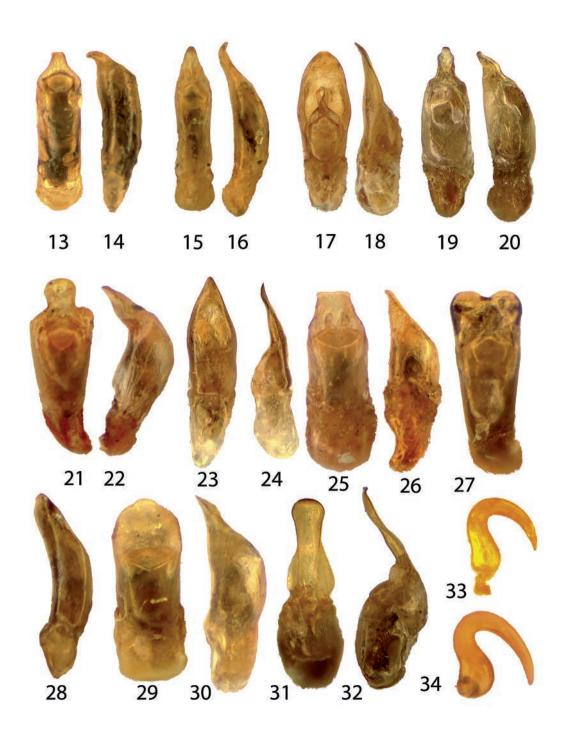
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1–6. *Lipromorpha* spp., dorsal views. – **1.** *L. bisulcata* n. sp. (holotype). **2.** *L. costata* (holotype). **3.** *L. flavilabris* . **4.** *L. indica* n. sp. (holotype). **5.** *L. longicollis* n. sp. **6.** *L. pahangi* n. sp. (holotype).



7-12. Lipromorpha spp. dorsal views. - **7.** L. sabahensis n. sp. (holotype). **8.** L. sulawesiana n. sp. (holotype). **9.** L. trusmadiensis n. sp. (holotype). **10.** L. ventralis n. sp. (holotype). **11.** L. apicalis n. sp. (holotype). **12.** L. keningauensis n. sp. (holotype).



13-30. Lipromorpha spp., aedeagi, dorsal (13, 15, 17, 19, 21, 23, 25, 27, 29, 31), lateral (14, 16, 18, 20, 22, 24, 26, 28, 30, 32), spermathecae (33, 34). – 13, 14. L. bisulcata n. sp. (holotype). 15, 16. L. keningauensis n. sp. (holotype). 17, 18. L. costata n. sp. (holotype). 19, 20. L. indica n. sp. (holotype). 21, 22. L. malayana. 23, 24. L. pahangi n. sp. (holotype). 25, 26. L. sabahensis n. sp. (holotype). 27, 28. L. sulawesiana n. sp. (holotype). 29, 30. L. trusmadiensis n. sp. (holotype). 31, 32. L. ventralis n. sp. (holotype). 33. L. pahangi n. sp. (paratype). 34. L. apicalis n. sp. (holotype).

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