

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

Vladimír NOVÁK

Nepasické náměstí 796, CZ-190 14 Prague 9 - Klánovice, Czech Republic,  
e-mail: alleculinae.vn@centrum.cz

**Taxonomy, new species, description, new distribution, Coleoptera, Tenebrionidae, Alleculinae, Alleculini, *Palpicula*, Oriental Region**

**Abstract.** A new genus of Alleculinae *Palpicula* gen. nov. is described to include the following two new species: *Palpicula filiola* (Borchmann, 1925) comb. nov. from Indonesia (Java and Sumatra isls.) and newly from Malaysia as a type species transferred from the genus *Allecula* Fabricius, 1801 and *Palpicula malayica* sp. nov. from Malaysia. The new genus is compared with a similar genus, *Allecula* Fabricius, 1801. The new species are illustrated and keyed together.

### INTRODUCTION

The genus *Allecula* Fabricius, 1801 with type species *Cistela morio* Fabricius, 1787 was established by Fabricius (1801). Borchmann (1910) knew only 151 species from the whole world and Mader (1928) listed only 29 species from the Palaearctic Region. The genus comprises today more than 500 often very different species, in all zoogeographical regions (Novák 2014a). Therefore were later described new genera as *Apalmia* Fairmaire, 1896, *Asticostena* Fairmaire, 1897, *Bearnicistela* Pic, 1909, *Bobina* Novák, 2015, *Bolbostetha* Fairmaire, 1896, *Borboresthes* Fairmaire, 1897, *Chitwania* Novák, 2015, *Cisteloida* Fairmaire, 1882, *Dioxycula* Fairmaire, 1896, *Evaostetha* Novák, 2008, *Gerdacula* Novák, 2015, *Indricula* Novák, 2016, *Kombacula* Novák, 2012, *Ksukolcula* Novák, 2017, *Loricula* Novák, 2016, *Makicula* Novák, 2012, *Mycetocula* Novák, 2015, *Netopha* Fairmaire, 1893, *Palpichara* Borchmann, 1932, *Petrostetha* Novák, 2008 and *Potocula* Novák, 2012 with species in the Oriental Region.

A new genus of Alleculinae *Palpicula* gen. nov. is described to include the following two species as follows: *Palpicula filiola* (Borchmann, 1925) comb. nov. from Indonesia (Java and Sumatra Isls.) and newly recorded from Malaysia, transferred from genus *Allecula* and *Palpicula malayica* sp. nov. from Malaysia.

The species of new genus *Palpicula* gen. nov. are similar to the species of *Allecula* Fabricius, 1801. *Palpicula* species differ from *Allecula* species mainly by ultimate palpomere conically shaped and longer than wide in apex, by very narrow pronotum with side margins indistinct and antennomere 3 longer than each of antennomeres 4-10.

## 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 the present 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  $(100 \times \text{length of pronotum along midline}) / (\text{width across basal angles of pronotum})$ .

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

The following collection codens are used:

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

ZMUH collection of Zoologisches Institut und Museums der Universität Hamburg, Germany.

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, MPL/W - ratio between length and width of ultimate palpomere, 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).

Other abbreviations used in text are as follows: hb - handwritten black, pb - printed black, rl - red label, wl - white label.

Measurements were made with Olympus SZ 40 stereoscopic microscope with continuous magnification and with 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 5.2.

## TAXONOMY

### *Palpicula* gen. nov.

**Type species:** *Palpicula filiola* (Borchmann, 1925).

**Description.** Habitus as in Figs. 1 and 7, body relatively small, narrow, elongate, dorsal surface setose, with punctuation and microgranulation, shiny. Widest near half elytra length. Head (Figs. 2 and 8) relatively narrow, only slightly narrower than pronotum (HW/PW 0.93-0.94), shiny, with longer, pale setation. Mandibles pale brown, shiny. Eyes large, transverse, distinctly excised, space between eyes narrow; narrower than diameter of one eye, approximately as wide as length of antennomere 1. Antenna long, narrow, filiform, with long, pale setation, punctuation and fine microgranulation, slightly shiny. Antennomere 2 shortest, antennomere 11 longest,

antennomere 3 longer than each of antennomeres 4-10. Maxillary palpus (Figs. 3 and 9) slightly shiny with pale setation and microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex. Ultimate palpomere conically shaped, longer than in apex wide. Pronotum (Figs. 2 and 8) very narrow, shiny, only very slightly wider than head through the eyes, with long, erect setation, very fine microgranulation and dense punctuation. Anterior and posterior margins complete, lateral margins indistinct, base finely bisinuate, distinctly narrower than base of elytra. Anterior margin slightly arcuate. Posterior angles slightly arcuate, rectangular, anterior angles indistinct, rounded. Elytron shiny, widest near half elytra length, dorsal surface with fine microgranulation and long, erect pale setation. Elytral striae with distinct rows of punctures, elytral intervals distinctly convex with sparse, very small punctures. Scutellum triangular, shiny, with fine microgranulation and sparse, shallow punctures. Elytral epipleura well developed, with punctures in basal part, regularly narrowing to metasternum then narrow leads parallel. Legs long and narrow, slightly shiny, with long, pale setation, microgranulation and sparse punctuation, punctures very small. Setation of tibiae and tarsomeres distinctly denser than those in femora. Protarsomeres and mesotarsomeres 3 and 4 and metatarsomeres 3 distinctly widened and lobed. Anterior tarsal claws long with visible teeth. Aedeagus (Figs. 4, 5 10, 11) pale brown, slightly shiny. Basal piece finely rounded laterally and narrowing dorsally. Apical piece elongate, narrowly beak shaped dorsally and laterally.

**Female.** Unknown.

**Differential diagnosis.** Species of new genus *Palpicula* gen. nov. are similar to those of the genus *Allecula* Fabricius, 1801. They differ mainly by ultimate palpomere conically shaped and longer than wide in apex, by very narrow pronotum, which is only very slightly wider than head through the eyes, by lateral margins of pronotum indistinct and by antennomere 3 longer than each of antennomeres 4-10; while species of *Allecula* have ultimate palpomere very broad - shoe shaped, distinctly wider than long, pronotum wide with distinct lateral margins and antennomere 3 distinctly shorter than each of antennomeres 4-10.

**Etymology.** Compound name formed by Palpi - meaning the difference in ultimate palpomere and the ending *-cula* marking similarity to the genus *Allecula* Fabricius, 1801. Gender feminine.

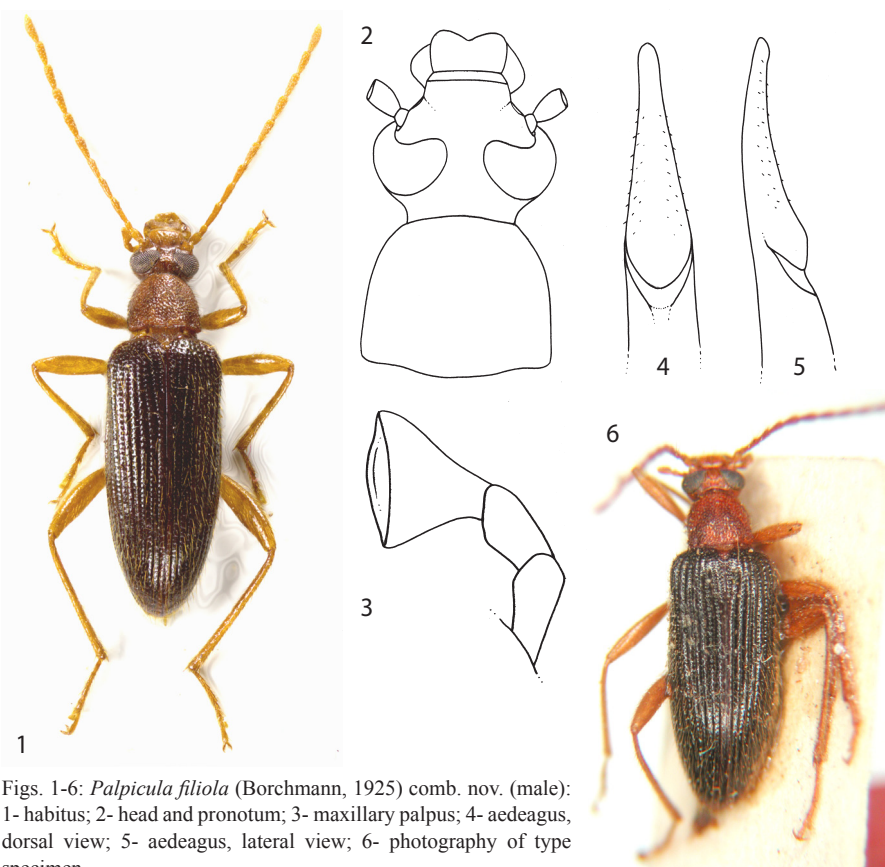
**Distribution.** Indonesia, Malaysia.

***Palpicula filiola* (Borchmann, 1925) comb. nov.**  
(Figs. 1-6)

*Allecula filiola* Borchmann, 1925: 334.

**Type locality.** Indonesia, Sumatra Isl., Bandar Baru.

**Type material.** Syntype 1: rl: 'Type' [hb] // wl: 'J. B. Corporaal / Bandar. Baroe / 14. I. 1920' [hb] // wl: 'Allecula / filiola Bm' [hb] // wl: 'Sammlung / F. Borchmann / Eing. Nr. 5, 1943' [pb], (ZMUH). Syntype 2: rl: 'Type' [hb] // wl: 'J. B. Corporaal / Bandar. Baroe / inf. I. 1920' [hb] // wl: 'filiola / n. sp.' [hb] // wl: 'Sammlung / F. Borchmann / Eing. Nr. 5, 1943' [pb], (ZMUH).



Figs. 1-6: *Palpicula filiola* (Borchmann, 1925) comb. nov. (male): 1- habitus; 2- head and pronotum; 3- maxillary palpus; 4- aedeagus, dorsal view; 5- aedeagus, lateral view; 6- photography of type specimen.

**Other material examined.** (11 ♂♂): MALAYSIA West, PAHANG / Cameron Highlands, / TANAH RATA, 3.-19.ii.2005 / P. Čechovský lgt. 1200-1500 m, (VNPC); (1 ♂): MALAYSIA W, KELANTAN / 30 km NW Gua Musang / Ulu Lalat Mt. 800-1000m / KAMPONG SUNGAI OM / 22.v.-14.vi.2012 / Petr Cechovsky lgt., (VNPC); (1 ♂): same data as penultimate, but 21.vi.-14.vii.2010, (VNPC); (1 ♂): same data as penultimate, but 27.v.-19.vi.2011, (VNPC).

**Remark.** Body small and narrow, habitus as in Fig. 1. Dorsal surface shiny with punctuation and yellowish setation. Head only slightly narrower than pronotum, head and pronotum (Fig. 2). Ultimate palpomere conical, distinctly longer than wide in apex (Fig. 3). Borchman's syntype in Fig. 6, some syntypes have dark brown or blackish brown pronotum. Anterior tarsal claws long with 10 visible teeth.

**Measurements of male body.** (Male from Cameron Highlands.): BL 6.02 mm; HL 0.83 mm; HW 1.08 mm; OI 17.36; PL 0.90 mm; PW 1.16 mm; PI 77.59; EL 4.29 mm; EW 1.83 mm; AL 4.45 mm; AL/BL 0.74; HW/PW 0.93; BL/EW 3.29; EL/EW 2.32; AED 1: 2.82. MPL/W 1.07.

RLA: 0.51 : 0.31 : 1.00 : 0.84 : 0.84 : 0.97 : 0.93 : 0.93 : 0.93 : 0.85 : 1.06.

RL/WA: 1.67 : 1.44 : 4.50 : 3.37 : 3.64 : 3.75 : 3.57 : 2.94 : 2.78 : 3.29 : 3.68.

RLT: 1.00 : 0.53 : 0.46 : 0.72 : 1.12 (protarsus); 1.00 : 0.39 : 0.24 : 0.39 : 0.75 (mesotarsus);  
1.00 : 0.52 : 0.41 : 0.72 (metatarsus).

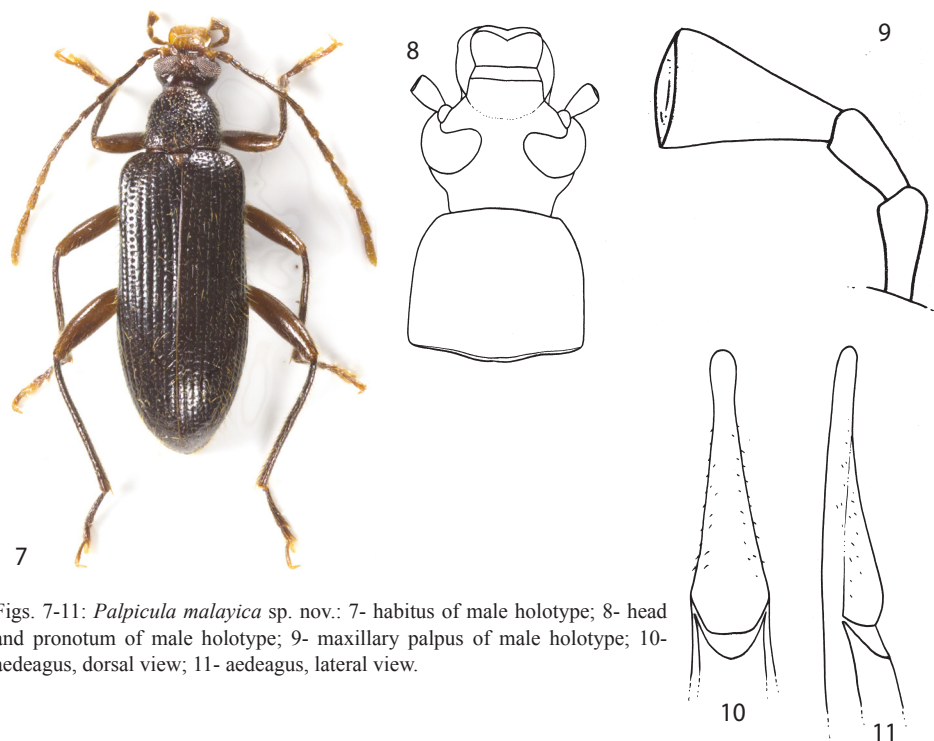
**Distribution.** Indonesia (Java, Sumatra), new for Malaysia.

***Palpicula malayica* sp. nov.**

(Figs. 7-11)

**Type locality.** NW Malaysia, Cameron Highlands, Tanah Rata, Mt. Gunung Jasar.

**Type material.** Holotype: (♂): Malaysia NW / Cameron Highlands / Tanah Rata, Mt. Gunung Jasar / 26.4. - 15.5. 2006 / P. Viktora lgt., (VNPC). Paratypes: (1 ♂): same data as holotype, (VNPC); (1 ♂): MALAYSIA, KELANTAN / road between Kampong Raja / and Gua Musang, 1400-1700 m, / (Ladang Pandrak), 1.-28. / iv.2006; 4°63-88'N; 101°45-95'E, / Čechovský Petr lgt., (VNPC); (1 ♂): MALAYSIA W KELANTAN / 30 km NW Gua Musang / Ulu Lalat Mt. 800-1000m / KAMPONG SUNGAI OM; 21. / vi.-14.vii.2010; P.Čechovský lgt., (VNPC). The types are provided with a printed red label: 'Palpicula malayica sp. nov. HOLOTYPUS [or PARATYPUS] V. Novák det. 2017'.



Figs. 7-11: *Palpicula malayica* sp. nov.: 7- habitus of male holotype; 8- head and pronotum of male holotype; 9- maxillary palpus of male holotype; 10- aedeagus, dorsal view; 11- aedeagus, lateral view.

**Description of holotype.** Habitus as in Fig. 7, body relatively small, narrow, elongate, from pale brown to black, dorsal surface setose, with punctuation and microgranulation, shiny. BL 5.72 mm. Widest near half elytra length; BL/EW 3.37.

Head (Fig. 8) relatively narrow, slightly narrower than pronotum, shiny. Posterior part dark brown with pale setae and sparse punctuation, punctures relatively small. Pale brown anterior part and clypeus with sparse, long pale setae and sparse, shallow, small punctures. Mandibles pale brown, shiny. HL (visible part) 0.78 mm; HW 0.88 mm; HW/PW 0.94. Eyes large, transverse, distinctly excised, space between eyes narrow; narrower than diameter of one eye, approximately as wide as length of antennomere 1; OI equal to 24.07.

Antenna. Long, narrow, filiform, with long, pale setation, punctuation and fine microgranulation, slightly shiny, AL 3.66 mm; AL/BL 0.64. Antennomeres from 1 to basal half of antennomere 5 dark blackish brown, from apical half of antennomere 5 to antennomere 11 antennomeres distinctly paler - brown. Antennomere 3 slightly longer than each of antennomeres 4-10. Antennomere 2 shortest, antennomere 11 longest.

RLA: 0.55 : 0.38 : 1.00 : 0.84 : 0.87 : 0.98 : 0.95 : 0.98 : 0.96 : 0.95 : 1.20.

RL/WA: 2.53 : 2.73 : 7.71 : 6.46 : 5.16 : 5.84 : 3.83 : 3.21 : 2.97 : 3.04 : 4.11.

Maxillary palpus (Fig. 9). Brown, with longer, pale setation, shiny. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex. Ultimate palpomere conically shaped, longer than in apex wide. MPL/W 1.12.

Pronotum (Fig. 8). Blackish brown, narrow, shiny, widest in base, only very slightly wider than head through the eyes, with relatively sparse and long, erect yellowish setation, very fine microgranulation and dense punctuation, punctures large and coarse. Interspaces between punctures wider than diameter of punctures. PL 0.83 mm; PW 0.94 mm; PI equal to 88.30. Anterior and posterior margins complete, lateral margins indistinct, base finely bisinuate, distinctly narrower than base of elytra. Anterior margin slightly arcuate. Posterior angles slightly arcuate, rectangular, anterior angles indistinct, rounded.

Ventral side of body brown, distinctly paler than elytra, with very sparse pale setation and punctuation. Abdomen brown with yellowish setation, punctuation and fine microgranulation. Punctures small-sized. Ultimate ventrite and sides of ventrites pale brown.

Elytron. Blackish brown, slightly darker than pronotum, shiny, widest near half elytra length, dorsal surface with sparse and long, erect yellowish setation, fine microgranulation and punctuation. Setation in apex and near sides denser. Elytral striae with distinct rows of medium-sized punctures, elytral intervals distinctly convex with sparse, very small punctures. EL 4.11 mm; EW 1.70 mm. EL/EW 2.42.

Scutellum. Reddish brown, distinctly paler than pronotum or elytra, sides narrowly darker, triangular, shiny, with fine microgranulation and sparse, shallow punctures.

Elytral epipleura. Well developed, blackish brown as elytron itself, with punctures in basal part, regularly narrowing to metasternum then narrow leads parallel.

Legs. Brown, long and narrow, slightly shiny, with long yellowish setation, microgranulation and sparse punctuation, punctures very small. Setation of tibiae and tarsomeres distinctly denser than those in femora. Tibiae and tarsomeres 1 of each tarsi distinctly darker than reddish brown femora or other tarsomeres. Protarsomeres and mesotarsomeres 3 and 4 and metatarsomeres 3 distinctly widened and lobed. RLT: 1.00 : 0.52 : 0.46 : 0.68 : 1.31 (protarsus); 1.00 : 0.44 : 0.39 : 0.35 : 0.70 (mesotarsus); 1.00 : 0.40 : 0.37 : 0.62 (metatarsus).

Anterior tarsal claws long with 11 visible teeth.

Aedeagus (Figs. 10, 11). Pale brown, slightly shiny. Basal piece finely rounded laterally and narrowing dorsally. Apical piece elongate, narrowly beak shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece 1: 2.55.

**Female.** Unknown.

**Variability.** The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n=4). BL 5.82 mm (5.33-6.22 mm); HL 0.73 mm (0.62-0.78 mm); HW 0.95 mm (0.88-1.04 mm); OI 26.79 (24.07-28.41); PL 0.85 mm (0.78-0.92 mm); PW 1.05 mm (0.94-1.17 mm); PI 85.00 (82.14-88.30); EL 4.24 mm (3.93-4.57 mm); EW 1.85 mm (1.70-2.03 mm).

**Differential diagnosis.** New species *Palpicula malayica* sp. nov. clearly differs from the species *Palpicula fliola* (Borchmann, 1925) mainly by distinctly wider space between eyes (OI approximately 27), by dark brown or black legs, antennae and palpomeres and slightly sparser punctuation of pronotum; while *Palpicula fliola* (Borchmann, 1925) has space between eyes narrower (OI 17), legs, antennae and palpomeres are pale brown and punctuation of pronotum is denser.

**Etymology.** Named after the type locality - country of origin Malaysia.

**Distribution.** Malaysia.

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