

New Genus of Comb-clawed Beetles - *Bublina* gen. nov. (Coleoptera: Tenebrionidae: Alleculinae: Alleculini) from Australia

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Abstract. A new genus of Alleculini Laporte, 1840 - *Bublina langeri* gen. and sp. nov. is described and illustrated from Australia as a type species. The new genus *Bublina* gen. nov. is compared with the other Australian genera of Alleculinae. The distinguishing characters for males of the genus *Bublina* gen. nov. allowing to establish the new genus are: very large eyes with very narrow space between eyes; outer edge of protibia without row of minute spinules and inner part with short thorn and a few spinules in apical third; profemora with long and narrow hair-shaped thorn; almost whole meso- and metatibia hollow inside with very long and dense hairs; mesofemora inside with very long and dense hairs; metafemora with large tooth before apex and ultimate abdominal ventrite with large and deep, circular impression.

INTRODUCTION

Mathews & Bouchard (2008) listed 220 species in 21 genera of the subfamily Alleculinae Laporte, 1840 from the territory of Australia. All the species belong to the tribe Alleculini Laporte, 1840, subtribe Alleculina Laporte, 1840.

New genus *Bublina* gen. nov. with only one species *Bublina langeri* sp. nov., as a type species from Northern Territory of Australia are described and illustrated by photographs bellow. Male species is clearly different from other males of all Australian genera by a unique characters mainly on legs, which allow to establish a new genus for Australian fauna of Alleculinae.

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.

The following collection code is used:

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

Measurements of body parts and corresponding abbreviations used in text are as follows: AL - total antennal 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 *Bublina* gen. nov.

(Figs. 1-10)

Type species: *Bublina langeri* sp. nov.

Description (male). Habitus as in Fig. 1, body medium sized, narrow, elongate, slightly shiny, dorsal surface with setae, punctures and microgranulation, widest near middle elytral length. Head (Fig. 3) through the eyes slightly wider than anterior margin, narrower than base of pronotum. Dorsal surface with fine microgranulation, setae and punctures. Clypeus transverse, with lateral margins arcuate, surface with long setae, shallow punctures and microgranulation. Mandibles glabrous, shiny with pale setae in sides. Eyes very large, transverse, excised, space between eyes very narrow (but eyes not touching). Antenna (Fig. 4) long, exceeding half body length. Dorsal surface with pale setae, microgranulation and dense punctures. Antennomeres 3-10 distinctly widened apically. Antennomere 2 shortest, antennomere 11 longest, antennomeres 4-11 longer than antennomere 3. Dorsal surface of maxillary palpus with pale setae, fine microgranulation and very small punctures. Ultimate palpomere widely triangular. Pronotum (Fig. 3) slightly transverse, widest at basal half, slightly narrower than elytra at humeri. Posterior angles slightly obtuse. Elytra (as in Fig. 1) narrow, elongate, widest near middle. Elytral striae with rows of punctures, approximately as large as those in elytral intervals. Scutellum triangular. Elytral epipleura well-developed, narrowing to metaventrite, then leads parallel on apical part. Legs (Figs. 5-7) long and narrow. Mesofemora, meso- and metatibiae inside with very long and dense hairs. Profemora with long and narrow hair-shaped thorn, outer edge of protibia without row of minute spinules, inner part with short thorn and a few spinules in apical third (as in Fig. 5). Almost whole meso- and metatibia hollow in inner side (Figs. 6, 7). Metafemora with large tooth before apex (Fig. 7). Pro- and mesotarsomeres 3-4 and penultimate metatarsomere widened and lobed. Protarsal claws with teeth. Ventral side of body with sparse setae and small punctures. Abdomen (Fig. 8) with dense, long, recumbent setae, small, shallow punctures and fine microgranulation, ultimate abdominal ventrite with large and deep, circular impression. Aedeagus (Figs. 9, 10) large, robust. Basal piece large, rounded laterally and narrowing in dorsal view. Apical piece small, with rounded tip dorsally, beak-shaped from dorsal and lateral views.

Female has body, space between eyes and pronotum a little wider than in male. Legs are normally shaped, protarsal claws with less visible teeth.

Differential diagnosis (based on males). The similar species among 21 Australian genera is not known in present. Males of the genus *Bublina* gen. nov. are a unique mainly because of these distinguishing characters:

- a) very large eyes with very narrow space between eyes (Figs. 1, 3),
- b) outer edge of protibia without row of minute spinules, inner part with short thorn and a few spinules in apical third (Fig. 5),
- c) profemora with long and narrow hair-shaped thorn (Fig. 5),
- d) almost whole meso- and metatibia hollow inside with very long and dense hairs (Figs. 6, 7),
- e) mesofemora inside with very long and dense hairs (Fig. 6),
- f) metafemora with large tooth before apex (Fig. 7),
- h) ultimate abdominal ventrite with large and deep, circular impression (Fig. 8).



Figs. 1- 10. *Bublina langeri* sp. nov.: Figs. 1, 3 (male holotype), Fig. 2- (female paratype), Figs. 4-10 (male paratype). 1- habitus of male; 2- habitus of female; 3- head and pronotum; 4- antenna; 5- protibia and profemora; 6- mesotibia and mesofemora; 7- metatibia and metafemora; 8- abdominal ventrites; 9- aedeagus, dorsal view; 10- aedeagus, lateral view.

Etymology. Patronymic, named after the legendary dog (Bublina) of some Jaroslav Foglar's books. Gender: feminine.

Distribution. Australia (Northern Territory).

***Bublina langeri* sp. nov.**

(Figs. 1-10)

Type locality. Australia, northern territory, 30 km south of Daly Waters, 90 km north of Elliott, 16°46'38.8" E 133°25'53.8", 269 m.

Type material. Holotype (♂): first line: 'Australia: N.T. / ca. 30 km S Daly Waters und' second line: 'ca 90 km N Elliott, am Stuart Hwy,' third line: '04.IV.2011 LF, H = 269 m' fourth line: 'S 16°46'38.8" E 133°25'53.8"' fifth line: 'leg. Michael Langer', (VNPC). Paratypes: (2 ♂♂, 1 ♀): same data as holotype, (VNPC). The types are provided with a printed red label: 'Bublina / langeri sp. nov. / HOLOTYPUS or [PARATYPUS] / V. Novák det. 2024'.

Description of holotype. Habitus as in Fig. 1, body medium sized, narrow, elongate, slightly shiny, from yellow to dark brown, dorsal surface with setae, punctures and microgranulation, BL 9.06 mm. Widest near middle elytral length; BL/EW 3.41.

Head (Fig. 3) slightly longer than wide, through the eyes slightly wider than anterior margin, narrower than base of pronotum. Dorsal surface with fine microgranulation and punctures. Posterior part brown, with sparser setae than those on pale reddish brown anterior part with long, pale setae. Clypeus pale reddish brown, transverse, with lateral margins arcuate, surface with long, pale setae, shallow punctures and microgranulation. Mandibles pale reddish brown, glabrous, shiny with pale setae in sides. HW 1.37 mm; HW/PW 0.72; HL (visible part) 1.44 mm. Eyes very large, transverse, excised, space between eyes very narrow (but eyes not touching); OI equal to 1.17.

Antenna (Fig. 4). Long (AL 5.23 mm, distinctly exceeding half body length - AL/BL 0.58). Dorsal surface with pale setae, microgranulation and dense punctures. Antennomeres 1-4 pale reddish brown, semi-matte with longer setae than those in brown and matt antennomeres 5-11. Antennomeres 3-10 distinctly widened apically. Antennomere 2 shortest, antennomere 11 longest, antennomeres 4-11 distinctly longer than antennomere 3.

RLA(1-11): 0.77 : 0.41 : 1.00 : 1.55 : 1.55 : 1.59 : 1.64 : 1.64 : 1.59 : 1.59 : 1.74

RL/WA(1-11): 1.70 : 1.39 : 3.14 : 3.78 : 3.58 : 3.50 : 3.60 : 3.60 : 3.50 : 3.89 : 6.50.

Maxillary palpus pale reddish brown, semi-matt, with pale setae, fine microgranulation and very small punctures. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere widely triangular.

Pronotum (Fig. 3) pale reddish brown, slightly transverse, shiny, widest at base, slightly narrower than elytra at humeri. Disk with two very small and shallow oblique impressions near base from both sides between posterior angles and scutellum and one shallow impression against scutellum. Dorsal surface with long and erect, pale setae, dense punctures and fine microgranulation. PL 1.55 mm; PW 1.91 mm; PI equal to 81.15. Border lines very narrow, margins conspicuous from dorsal view only at the middle of anterior margin not clearly distinct. Base slightly bisinuate, anterior margin slightly arcuate, posterior angles slightly obtuse.

Elytra. Pale reddish brown in humeral part and in middle, dark brown near lateral margins (as in Fig. 1), narrow, elongate, shiny, widest near middle. Dorsal surface with long, pale setae. EL 6.07 mm; EW 2.66 mm; EL/EW 2.24. Elytral striae with rows of punctures, approximately as large as those in elytral intervals with fine microgranulation.

Scutellum. Pale reddish brown, triangular, matt, with a few long setae and fine microgranulation.

Elytral epipleura well-developed, pale reddish brown, with small punctures on basal part distinctly narrowing to metaventrite, then leads parallel on apical part.

Legs (Figs. 5-7). Long and narrow, femora yellow, tibiae ochre yellow, tarsi pale reddish brown. Dorsal surface with pale setae, small, shallow punctures and fine microgranulation. Mesofemora, meso- and metatibiae inside with very long and dense pale hairs. Profemora with long and narrow hair-shaped thorn, outer edge of protibia without row of minute spinules, inner part with short thorn and a few spinules in apical third (as in Fig. 5). Almost whole meso- and metatibia hollow in inner side (Figs. 6, 7). Metafemora with large tooth before apex (Fig. 7). Pro- and mesotarsomeres 3- 4 and penultimate metatarsomere widened and lobed. RLT: 1.00 : 0.63 : 0.67 : 0.80 : 1.22 (protarsus); 1.00 : 0.28 : 0.42 : 0.38 : 0.90 (mesotarsus); 1.00 : 0.35 : 0.27 : 0.45 (metatarsus).

Protarsal claws with 13 and 14 teeth.

Ventral side of body pale reddish brown with sparse, pale setae and small punctures. Abdomen (Fig. 8) pale reddish brown, shiny with dense, long, recumbent, pale setae, small, shallow punctures and fine microgranulation, ultimate abdominal ventrite with large and deep, circular impression.

Aedeagus (Figs. 9, 10) large, robust, ochre yellow or pale brown, shiny. Basal piece large, rounded laterally and narrowing in dorsal view. Apical piece small, with rounded tip dorsally, beak-shaped from dorsal and lateral views. Ratio of length of apical piece to length of basal piece in dorsal view 1 : 5.98.

Female has body, space between eyes and pronotum a little wider than in male. Legs are normally shaped, protarsal claws have only 9 and 10 visible teeth.

Measurements of female body. BL 8.58 mm; HL 1.23 mm; HW 1.37 mm; OI 11.11; PL 1.42 mm; PW 2.07 mm; PI 68.60; EL 5.93 mm; EW 2.85 mm; AL 4.59 mm; AL/BL 0.54; HW/PW 0.66; BL/EW 3.01; EL/EW 2.08.

RLA(1-11): 0.75 : 0.38 : 1.00 : 1.25 : 1.25 : 1.33 : 1.38 : 1.42 : 1.46 : 1.54 : 1.75

RL/WA(1-11): 1.32 : 0.85 : 2.07 : 2.31 : 2.14 : 2.13 : 2.26 : 2.36 : 2.92 : 3.25 : 4.38.

Variability. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n= 3). BL 8.66 mm (8.42-9.06 mm); HL 1.43 mm (1.39-1.46 mm); HW 1.36 mm (1.32-1.39 mm); OI 2.96 (1.17-4.61); PL 1.49 mm (1.43-1.55 mm); PW 1.84 mm (1.77-1.91 mm); PI 80.97 (80.79-81.15); EL 5.74 mm (5.47-6.07 mm); EW 2.55 mm (2.50-2.66 mm).

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

Etymology. Patronymic, named after the collector of the type series Michael Langer (Germany), after his surname.

Distribution. Australia (Northern Territory).

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