

## Three genera of Mordellidae new to the Australian fauna and *Parastenomordella hackeli* sp. nov from West Australia. (Coleoptera: Mordellidae)

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### Taxonomy, new species, new combinations, key, Coleoptera, Mordellidae, Australia

**Abstract.** *Parastenomordella hackeli* sp. nov. from West Australia, is described and illustrated. *Paramordellaria lepida* (L. Redtenbacher, 1868) comb. nov. (from *Mordella* Linnaeus, 1758) is proposed and illustrated. The following new combinations are proposed and illustrated: *Falsomordellina australasie* (Csiki, 1915) and *Falsomordellina longipes* (Lea, 1895) are transferred from *Mordellistena* Costa, 1854. *Mordellistena* (str.) *longipes* (Lea, 1895) is redescribed and illustrated. Genera *Parastenomordella* Ermisch, 1950, *Paramordellaria* Ermisch, 1968 and *Falsomordellina* Nomura 1966 are thus recorded from the Australian region for the first time. Key to the species of *Parastenomordella* Ermisch, 1950 is proposed.

### INTRODUCTION

In the present paper the results of the revision of some type-specimens of the family Mordellidae from the Museum of Natural History, Vienna and the Natural History Museum, London are presented. The present revision of the tribe Mordellistenini revealed that two Australian species currently placed in the genus *Mordellistena* Costa, 1854 belong in fact to the genus *Falsomordellina* Nomura, 1966, which is new for the fauna of Australia. A further species of the genus „*Mordella*“ belongs in fact to the genus *Paramordellaria* Ermisch, 1968, which is new to Australia as well. In the present paper, a new species of the genus *Parastenomordella* Ermisch, 1950 from West Australia (Perth) is also described. This genus has still contained only two species from South America. The new species thus very probably represents an old Gondwanan relic. Above mentioned changes in the generic classification of some Australian Mordellidae result from the fact that the new system of the family, set up in the papers by Ermisch and Franciscolo after 1945 has not been applied on the Australian fauna so far.

### MATERIAL AND METHODS

The specimens are deposited in the following collections:

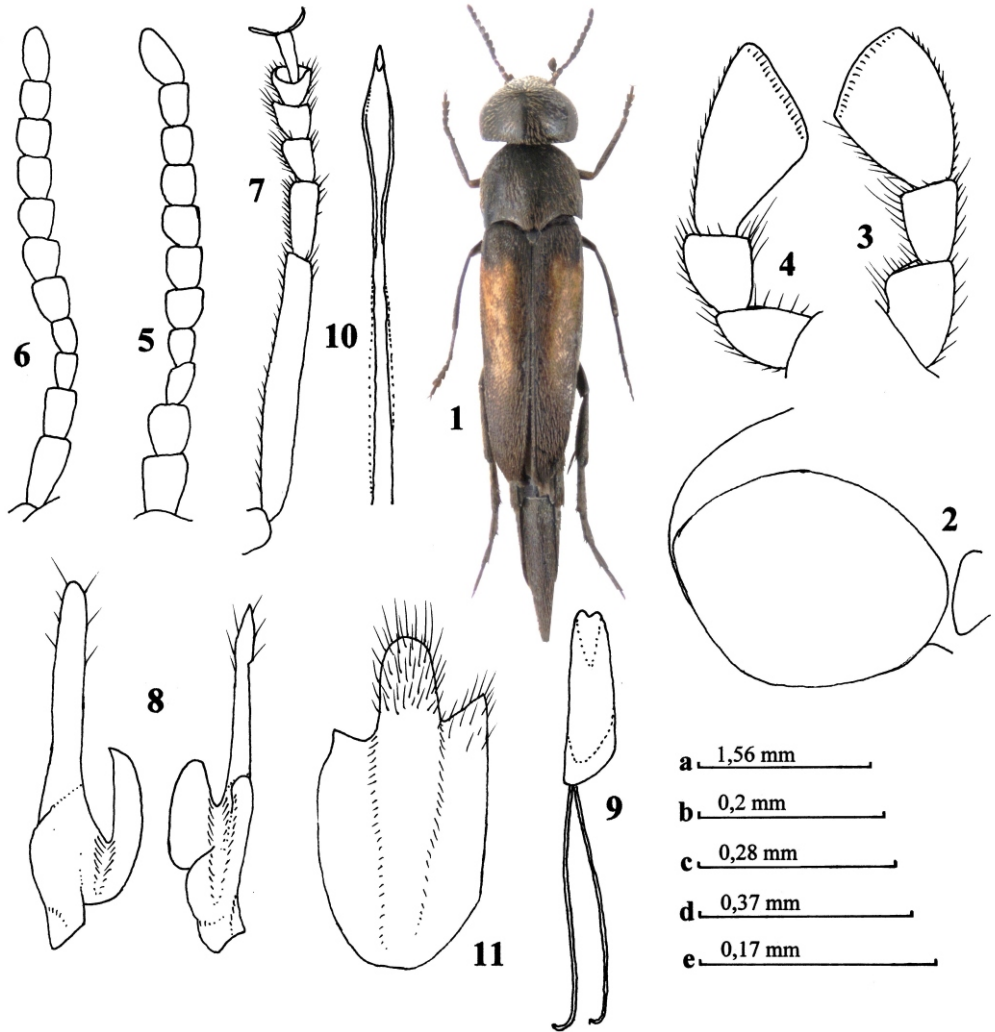
- BMNH The Natural History Museum, London, United Kingdom;  
CHPC private collection of Jan Horák, Prague, Czech Republic;  
WAMP Western Australian Museum, Perth, Western Australia, Australia;  
NHMW Naturhistorisches Museum Wien, Vienna, Austria.

### SYSTEMATIC

#### ***Parastenomordella hackeli* sp. nov.**

(Figs. 1-11)

**Type material.** Holotype (♂): W Australia, Perth city, Ardross, Wireless Hill Park, 32°01' S 115°50' E, xii.2011, M. Häckel leg. (WAMP). Allotype (♀): dito, (CHPC); Paratype (1 ♀): dito, (CHPC).



Figs. 1-11. *Parastenomordella hackeli* sp. nov., holotype, ♂: 1-general view; 2-eye; 3-maxillary palpus; 4-maxillary palpus (paratype, ♀); 5-antenna; 6-antenna (allotype, ♀); 7-anterior tibia and tarsus; 8-paramere; 9-phallobasis; 10-apical part of penis; 11-8° internal sternite. Scale: a-1; b-8; c-5,6; d-2,7,9,10,11; e-3,4.

**Description, male (holotype).** The body is very long and slender, parallel-sided and rather flat. Ground colour black, except longitudinal humeral strip on either elytra, beginning in first fifth and ending in second third of elytral length. Maxillary palpi, all legs and terminal spurs of metatibia black. Anteclypeus, labrum, mandibles and four basal antennomeres black-brown. Pubescence of dorsal surface sparse and golden-yellow, only anterior portion of head, lateral borders of pronotum and ventral surface silvery pubescent.

Head widely convex, shining, very finely and sparsely punctate, ratio maximum length : maximum width of 4.6 : 5.0, with same width as pronotum and elytra, occipital margin straight in middle. Eyes very large, broadly oval, without emargination at insertion of antennae, very finely faceted and with short and sparse hairs. Neither temples nor temporal angles developed. Maxillary palpi small and short, second palpomere lightly clavate, by one fifth wider than third palpomere, terminal palpomere shortly and widely securiform, its inner angle situated approximately at midlength. Antennae very short, reaching to first fifth of pronotum when folded backwards; antennomere 1 conical, 2 times as long and almost as wide as 2 antennomere, 3 antennomere conical, almost as long as and by one fifth narrower than 2 antennomere, 4 antennomere slightly conical, as wide as and by one fourth shorter than 3, 5 antennomere distinctly conical, by one third longer and by one fourth wider than 4, 5-10 antennomeres gradually slightly diminished and approximately as long as wide, terminal antennomere as wide and by one third longer than preceding one, oblong oval.

Pronotum flatly convex, widest in midlength of pronotum, ratio maximum width : maximum length of 11.4 : 11. Anterior angles invisible from above, anterior margin without neck-shaped protuberance. Sides in lateral view only moderately emarginate, posterior angles nearly rectangular and rather sharp. Puncturation rather sparse, rasp-like.

Scutellum small, narrowly triangular with rounded apex.

Elytra very slightly convex, 3 times longer than their combined width. Puncturation in basal portion densely rasp-like.

Pygidium narrowly conical, approximately three times as long as hypopygium and reaching somewhat more than one half of the length of elytra (34 : 19).

Metaepisterna broad, short, rounded at their posterior end.

Anterior tibia straight, without swelling and longer setae at base. Protibia distinctly longer than protarsi. Protarsomere 1 as wide as protibiae, 2 times longer than 2 protarsomere, 2-4 protarsomeres of equal length, 4 protarsomere distinctly bilobed. Mesotibiae moderately curved inwards and only somewhat shorter than metatarsi (11 : 12), 4 mesotarsomere bilobed. Metatibia with only very short apical ridge. Outer terminal spur of metatibia reaching nearly one third length of inner one.

Male genitalia as figured (Figs. 8-10). Shape of ventrite 8 as in Fig. 11.

Length from tips of mandibles to tips of elytra 3.6 mm, to tip of pygidium 4.7 mm.

**Sexual dimorphism** (allotype). Female more robust than male. Pygidium widely conical and terminal maxillary palpomere more prolonged compared to male. Length the same as holotype.

**Variability.** ♀ (paratype). More robust than male. Length from the tips of mandibles to the tips of elytra 3.6-4 mm and to the tip of pygidium 4.7-5.2 mm.

**Etymology.** The new species is dedicated to my friend Martin Häckel (Praha, Czech Republic), a specialist in the Carabidae.

**Differential diagnosis.** Key to the known species of *Parastenomordella* Ermisch, 1950:

- 1(2) Head and pronotum red-brown with black pattern. Elytra 2.75 times longer than their combined width at humeri. Terminal spurs of metatibia yellow and unequally long. Prosternum and metasternum yellow. Pygidium twice as long as hypopygium. 5.66 mm. Brazil. .... *flavolongevittata* Ermisch, 1950  
 2(1) Head and pronotum completely black. Terminal spurs of metatibia black. Underside completely black.

Pygidium three times as long as hypopygium.

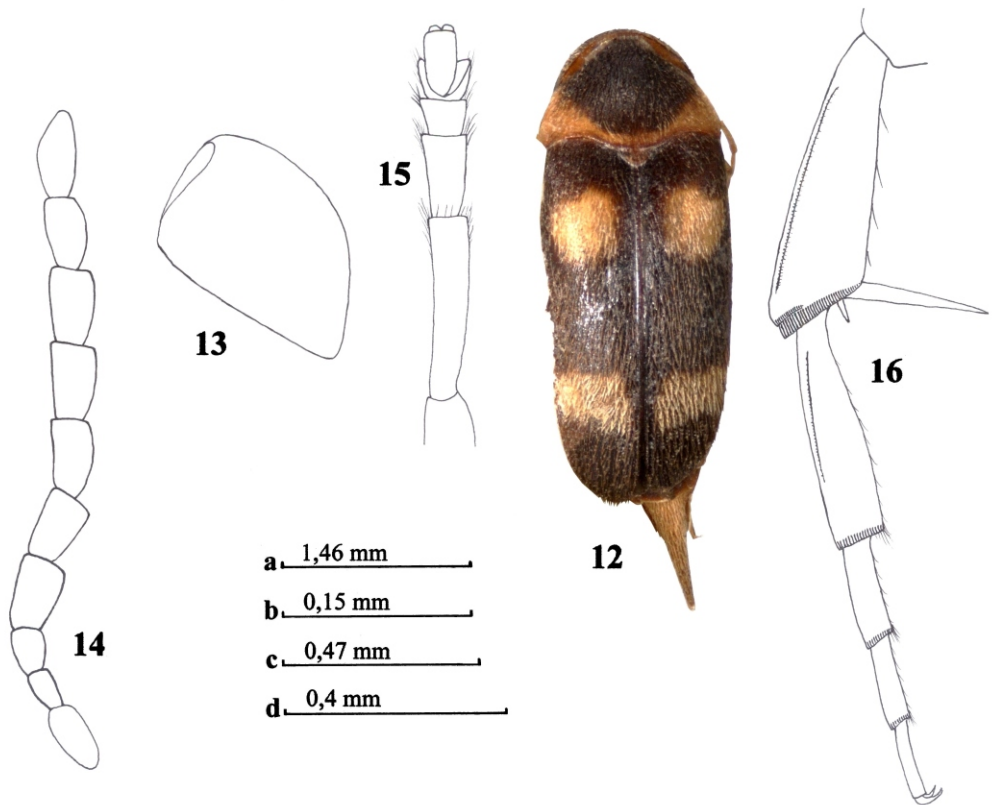
- 3(4) Larger species: 8.7-11.5 mm. Elytra red-brown, except white sutural stripe, epipleura and transversal band in distal third of elytral length. Elytra 2.3 times longer than their combined width at humeri. Terminal palpomere of maxillary palpi narrowly securiform with inner angle situated at its basal third. Argentina. .... *ensifera* Franciscolo, 1989
- 4(3) Smaller species: 4.7- 5.2 mm. Elytra black, except longitudinal humeral strip on either elytra, beginning in first fifth and ending in second third of elytral length. Elytra 3 times longer than their combined width at humeri. Terminal palpomere shortly and broadly securiform with inner angle situated at its midlength. West Australia (Perth). .... *hackeli* sp. nov.

**Distribution.** Western Australia.

***Paramordellaria lepida* (Redtenbacher, 1868) comb. nov.**  
(Figs. 12-16)

*Mordella lepida* Redtenbacher, 1868: 141.

**Type material.** Holotype (by present designation), ♀, [Sydney:L.Redtenbacher 1868, p. 141], Novara Reise, 1857-1859, bearing red label as „TYPUS“, (NHMW).



Figs.12-16. *Paramordellaria lepida* (Redtenbacher), holotype, ♀:12- general view;13- maxillary palpus (last segment); 14- antenna (2-11 antennomeres); 15- anterior tarsus; 16- hind tibia and tarsus. Scale: a- 12; b- 13, 15; c- 16; d- 14.

**Comments.** Rather slender and little convex. Ground colour black with distinct yellow-brown design (Fig. 12). Scutellum broadly subtriangular. The fourth tarsomere deeply emarginate with gently emarginate onychium on the ventral side. Terminal palpomere broadly securiform (female). Pygidium rather narrowly conical, twice as long as hypopygium. Metatibia with one distinct and oblique dorsal ridge, the first posterior tarsomere also with distinct dorsal ridge, following tarsomeres without ridges. The second anterior tarsomere as long as two following ones together. Nevertheless, the species must be placed in the genus *Paramordellaria* Ermisch, 1968, which is a genus new to the Australian fauna.

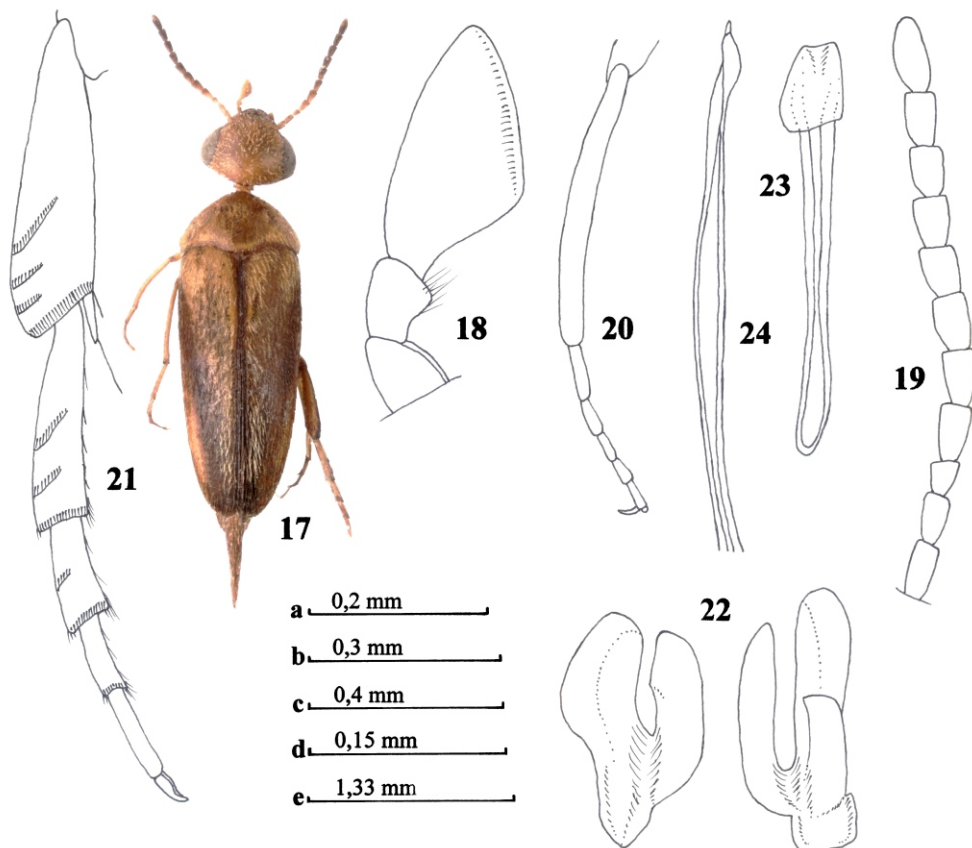
***Mordellistena* (s.str.) *longipes* (Lea, 1895)**

(Figs. 17-24)

*Mordella longipes* Lea, 1895: 303.

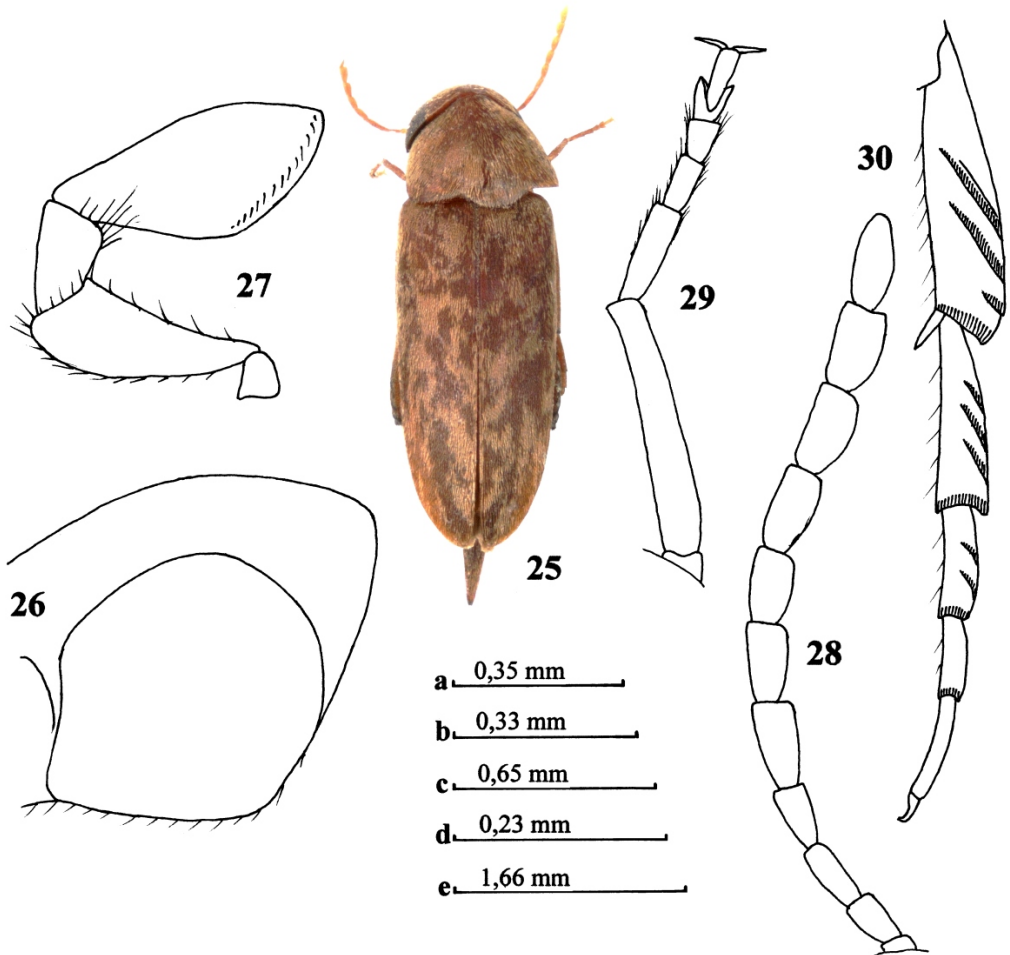
*Mordellistena jucunda* Champion, 1895: 272 not Broun, 1880:415.

**Type material.** Lectotype (by present designation), ♂, W. Australia, Fremantle [Perth], J.J.Walker, (BMNH). Paralectotype (by present designation), 1 ♂, the same data, (BMNH).



Figs. 17-24. *Mordellistena longipes* (Lea), lectotype, ♂: 17- general view; 18- maxillary palpus; 19- antenna; 20- anterior tibia and tarsus; 21- hind tibia and tarsus; 22- paramere (paralectotype, ♂); 23- phallobasis (paralectotype, ♂); 24- apical part of penis (paralectotype, ♂). Scale: a- 22; b- 23,24; c- 19, 20, 21; d- 18; e- 17.

**Comments.** Slender, almost parallel-sided in basal fourth and then moderately narrowed posteriorly towards separately rounded apex. Ground colour yellow-brown with brightly golden-yellow pubescence. By narrowly truncate both anterior and intermediate tarsi, at the distal end of fourth segments and the third and fourth antennomeres of equal length, this species belongs to species related to *Mordellistena* (s.str.) *neuwaldeggiana* (Panzer, 1796), with general distribution over the Oriental Region. Eyes of usual size, particular facets medium-sized with short and sparse hairs. Neither temples nor temporal angles developed. Palpomere 2 only indistinctly wider than palpomere 3, terminal palpomere broadly securiform with inner angle situated at about its midlength. Scutellum comparatively small, triangular with rounded apex. Elytra 2.2 times longer than their combined width. Metatibiae besides apical ridge with three short lateral ridges which are parallel to the posterior margin of tibia. The lower lateral ridge only a little bit longer than



Figs. 25-30. *Falsomordellina australasiae* (Csiki), holotype, ♀: 25- general view; 26- eye; 27- maxillary palpus; 28- antenna; 29- anterior tibia and tarsus; 30- hind tibia and tarsus. Scale: a - 26; b - 28, 29; c - 30; d - 27; e - 25.

apical one, and about one third shorter than upper one. The first tarsomere of posterior tarsus with two ridges, the second has only one ridge. Outer terminal spur of metatibia reaching nearly one third of the length of the inner one. Pygidium slender, somewhat more than twice as long as hypopygium. Length from the tips of mandibles to apex of pygidium 5.2 mm. The original description by Lea, 1895 is supplemented here by illustration of habitus, antenna, maxillary palpus, anterior leg and male genitalia.

***Falsomordellina australasie* (Csiki, 1915) comb. nov.**

(Figs. 25-30)

*Mordellistena aspersa* Champion, 1895: 271 nec Melsheimer, 1846: 314.

*Mordellistena australasie* Csiki, 1915: 30.

**Type material.** Holotype (by present designation), ♀, Adelaide river, 92-20., bearing red label „Type“ and an additional label „*Mordellistena aspersa* Ch., type (BMNH).

**Comments.** Rather robust, parallel-sided and with basic colouration black-brown. Pubescence of elytra brown with many gold-yellow marking on elytra (Fig. 25). Eyes very large, comparatively coarsely faceted and finely and densely pubescent. Antennomere 4 distinctly shorter and narrower than 5 and almost of equal length as antennomere 3. Metatibia besides short and oblique apical ridge, with two very oblique lateral ridges, and above the upper lateral ridge, there is another ridge which does not copy exactly the dorsal surface of the metatibia. Protarsomere 4 deeply bilobed and with truncate onychium in ventral side. Pygidium short, narrowly conical and 2 times as long as hypopygium. Outer terminal spur of metatibia reaching nearly one third of the inner one. Length from the tips of mandibles to the top of pygidium 5 mm.

Because of widely triangular terminal palpomere (♀), eyes large and coarsely faceted, with short hairs and the fourth anterior tarsomere strongly deeply bilobed, this species belongs to the genus *Falsomordellina* Nomura, 1966.

It distinguishes itself from all the species known so far with a unique drawing on the crochets of two-tone hair. For a lighter identification of the species, I added a representation of habitus, maxillary palpus, antenna, anterior tibia and tarsus, hind tibia and tarsus.

***Falsomordellina austrina* (Champion, 1895) comb. nov.**

(Figs. 31-41)

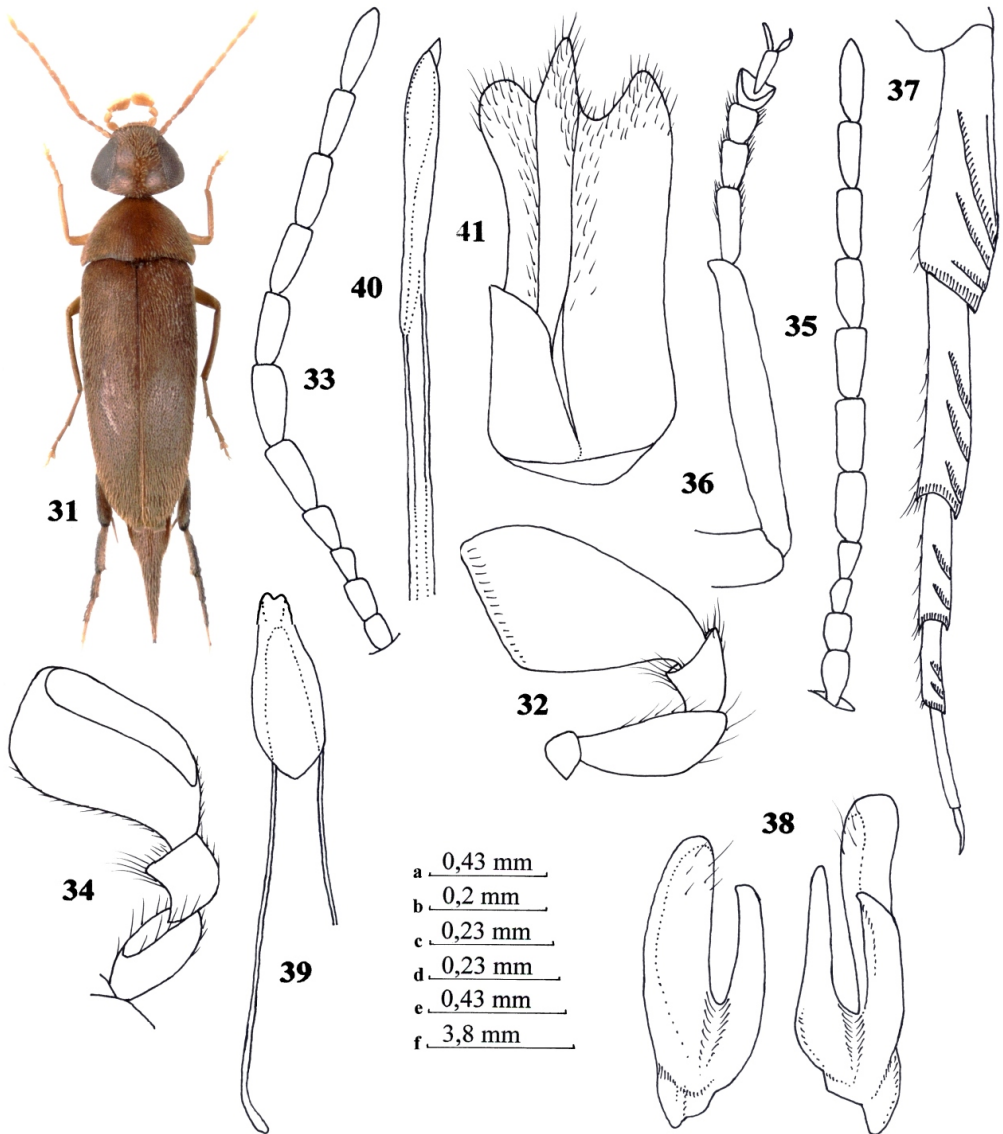
*Mordellistena austrina* Champion, 1895: 272.

*Mordella setipes* Lea, 1895: 298.

**Type material:** Lectotype (by present designation), ♀, N.W. Australia, Port Darwin, J.J. Walker, (BMNH). Paralectotype (by present designation), 1 ♀, Tasmania, New Norfolk, J.J. Walker, (BMNH).

**Additional material** (CHPC): (1 ♂), West Australia, Broome, 17°57.297'S 122°14.635'E, 16.-27.i.2012, J. Horák leg.; (1 ♀), Australia N.T., Litchfield N.P., Tjaynera Falk, 63m, 13°15'S 130°44'E, 20.-26.11.2008, Sv. Bílý leg.

**Comments.** Slender and rather parallel-sided species. Ground colour blackish-brown, only head and pronotum brightly reddish-brown. Pubescence of dorsal surface grey-brownish with faint golden lustre. According to very broadly triangular terminal segment of maxillary palpi (♀), it belongs to the genus *Falsomordellina* Nomura, 1966, eyes large and broad, rather coarsely faceted, with short and sparse hairs, and deeply bilobed fourth segments of anterior and intermediate tarsi. Pygidium by one third longer than hypopygium. Metatibiae with two very long



Figs. 31-41. *Falsomordellina austrina* (Champion), lectotype, ♀: 32- maxillary palpus; 33- antenna. ♂ (West Australia: Broome): 31- general view; 34- maxillary palpus; 35- antenna; 36- anterior tibia and tarsus; 37- hind tibia and tarsus; 38- paramere; 39- phallobasis; 40- apical part of penis; 41- 8° internal sternite. Scale: a- 35, 37; b- 38; c- 41; d- 32, 34; e- 36, 39, 40; f- 31.

and oblique lateral ridges, upper ridge longer than lower one and above upper lateral ridge with another ridge, structurally similar to dorsal ridge. The first posterior tarsomere with 3 oblique ridges, the second and third tarsomeres with 2 oblique ridges. Protarsus distinctly shorter than protibia. Length from tips of mandibles to tip of pygidium 6,8-7 mm. Adding the original text to the description of male. Maxillary palpi with last palpomere hammer-form, protibia gently curved



inwards, without swelling and without longer hairs at base. Pygidium 2 times as long as hypopygium.

**Distribution.** Western Australia, Northern Territory and ? Tasmania.

ACKNOWLEDGEMENTS. I am pleased to thank Maxwell V. L. Barclay (BMHN) and Harald Schillhammer (MHMW), who enabled me study the material in their charge, and to my friend Martin Häckel (Czech University of Life Sciences, Prague, Czech Republic) for extensive collection of the Mordellidae they made available to me.

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Published: 30. 11. 2020