

## A New Species of the Genus *Mordellina* (Coleoptera, Mordellidae, Mordellistenini) from Okinawa Island, Southwestern Japan

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**Abstract** A new mordellid species, *Mordellina (Mordellina) takakuwai*, is described from Okinawa Island, southwestern Japan. The present new species is similar in general appearance to the other members of the subgenus *Mordellina*, but clearly recognized on its coloration of body and shape of male genital segments.

**Key words:** Mordellidae, *Mordellina*, new species, Okinawa Island, Japan.

### Introduction

The genus *Mordellina* SCHILSKY, 1908 comprises about 100 species and is distributed in Asia, Africa and North America. *Mordellina* is divided into two subgenera, *Mordellina* and *Pseudomordellistena* ERMISCH, 1952 by the number of terminal spurs on hind tibia, the former has only one spur and the latter has two spurs (ERMISCH, 1952; FRANCISCOLO, 1967). However, this subgeneric division is doubtful because of the presence of two pairs of closely related species: *M. atrofusca* (one spur) and *M. watanabei* (two spurs); *M. brunneotincta* (one spur) and *M. hirayamai* (two spurs). Each of these pairs is closely similar in external and genital features, but only different in the number of terminal spurs. Subgeneric division was also doubted in the genus *Mordellistena* by SHIYAKE (1994). To define the subgeneric character states, TSURU (2011) redescribed *Mordellina (Mordellina) gracilis* (SCHILSKY, 1908), the type species of the genus *Mordellina* in details.

According to this redescription, seven species are recognized as the members of the subgenus *Mordellina* from Japan [*M. (M.) brunneotincta*, *M. (M.) hirayamai*, *M. (M.) atrofusca*, *M. (M.) signatella*, *M. (M.) palleola*, *M. (M.) aritai*, and *M. (M.) watanabei*]. In my survey on Okinawa Island, one unknown species was found. This species possesses two terminal spurs on hind tibia, however, the other morphological character states clearly indicate that this is a member of the subgenus *Mordellina*. In the following paragraphs, I will describe this species as the eighth member of the subgenus *Mordellina*.

### Material and Methods

Materials examined in the present paper are preserved in the collection of the Kanagawa Prefectural Museum of Natural History (KPM).

External structures were observed and measured under a binocular stereoscopic microscope Olympus SZ11 (magnification: up to  $\times 110$ ). Microstructures of dissected body parts, i.e. mouth parts, antennae, legs and each genital part, were observed under a binocular light microscope Olympus BX41 (magnification: up to  $\times 400$ ), and drawn using drawing tube Olympus U-DA. The abbreviations and measuring ranges used in the present paper are as follows: BL — body length between anterior



Figs. 1–2. Habitus of *Mordellina (Mordellina) takakuwai* sp. nov. — 1, Dorsal view, holotype, ♂; 2, lateral view, holotype, ♂.

angle of pronotum and apices of elytra; BT — maximal thickness of body; AL — antennal length; HL — length between apex of clypeus and posterior margin of head capsule; HW — maximal width of head; PL — length of pronotum along mid line; PW — maximal width of pronotum; EL — maximal length of elytra; EW — humeral width of elytra; PYL — length of pygidium.

### Taxonomy

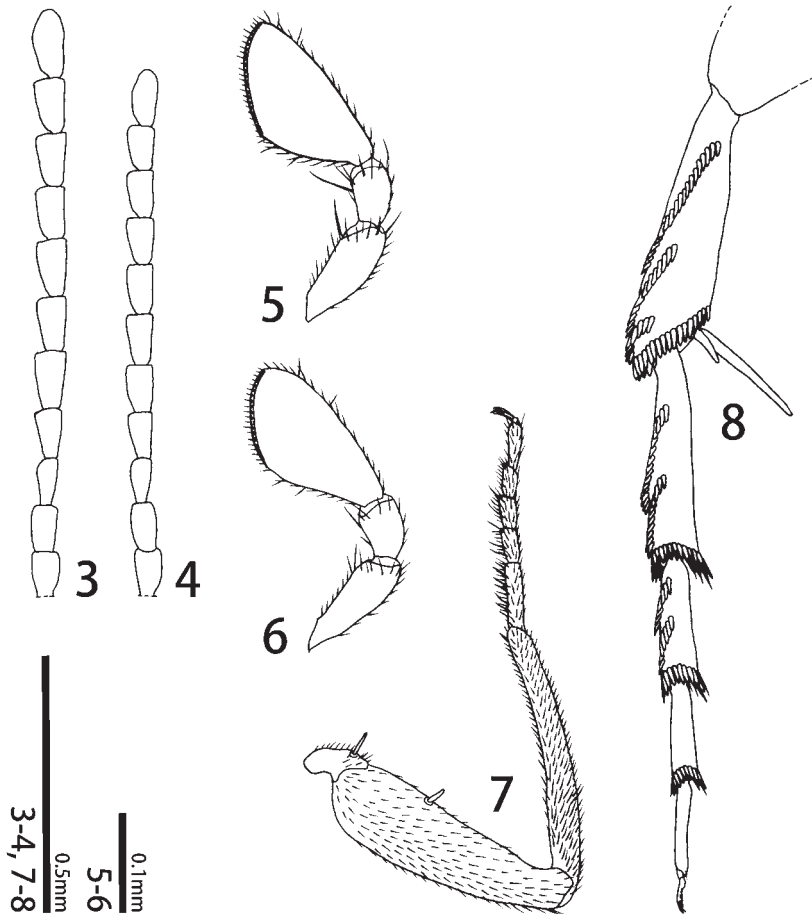
#### *Mordellina (Mordellina) takakuwai* sp. nov.

(Figs. 1–14)

*Type series.* Holotype: ♂, Cape Hedo, Kunigami-son, Okinawa Is., Ryukyu Isls., Japan, 20.VI.2014, T. TSURU leg. (Figs. 1–3, 5, 7–13; KPM). Paratypes: 1 ♀, same data as for the holotype (KPM); 1 ♀, same locality and collector as for the holotype, 19.VI.2014 (Figs. 4, 6, 14; KPM); 1 ♂, 1 ♀, ditto (KPM); 15 ♂♂, 7 ♀♀, Hama, Kunigami-son, Okinawa Is., Ryukyu Isls., Japan, 20.VI.2014, T. TSURU leg. (KPM); 2 ♂♂, 1 ♀, ditto, 19.VI.2014 (KPM).

*Distribution.* SW. Japan (Okinawa Is., Ryukyu Isls.).

*Diagnosis.* This new species is similar in general appearance to the other members of *Mordellina*,

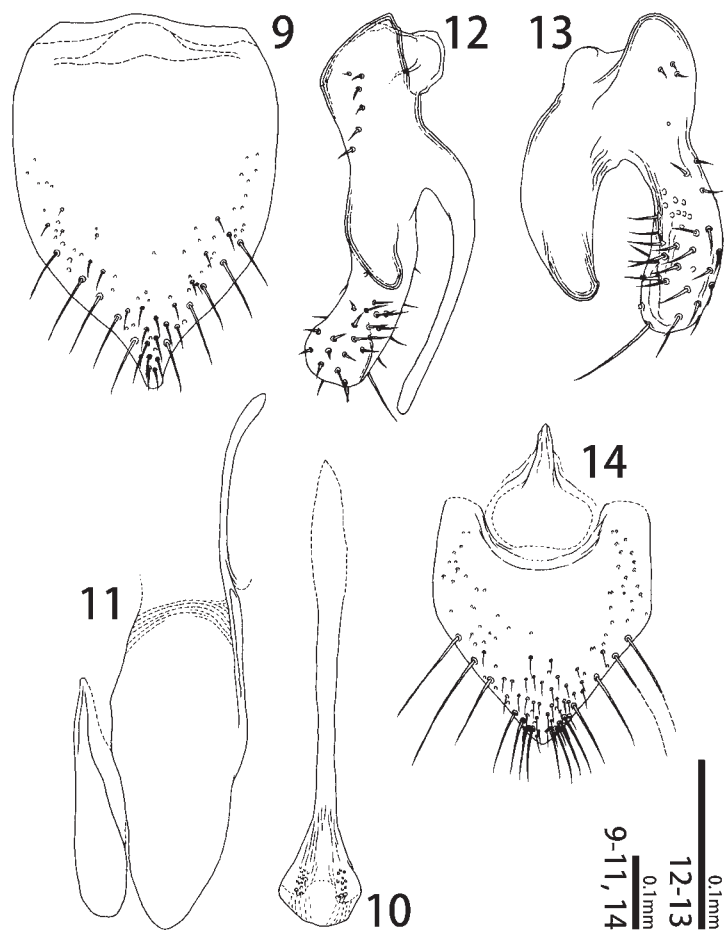


Figs. 3–8. *Mordellina (Mordellina) takakuwai* sp. nov., holotype, ♂, and paratype, ♀. — 3, Right antenna, ♂, dorsal view; 4, right antenna, ♀, dorsal view; 5, right maxillary palpus, ♂, dorsal view; 6, right maxillary palpus, ♀, dorsal view; 7, right fore leg, ♂, dorsal view; 8, right hind leg, ♂, ventral view.

but differs from them mainly in the following respects: 1) elytra almost reddish brown; 2) antennae long, about twice as long as head in male, about 1.6 times as long as in female.

*Description.* M a l e. Body tear-shaped (Figs. 1, 2). Coloration: Body almost brownish black; basal four segments of antennae, mouth parts, fore legs, middle tibiae and tarsi, hind tarsi, and spurs of hind tibiae yellowish brown; middle femora, hind femora and tibiae, apical 1/3 of pygidium reddish brown; elytra reddish brown except for brownish black area around scutellum and basal half of suture, sometimes wholly brownish black except for a pair of humeral reddish brown area which elongate tear-shaped.

Head strongly convex, a little wider than long. Eyes somewhat large, nearly oval, slightly emarginate in front, sparsely haired; total breadth of both eyes occupied about 29 % of head width when seen above; diameter of facet about 0.02 mm. Tempora extremely narrow, a little narrower than diameter of facet. Antennae (Fig. 3) long, about 1.75 times as long as head, weakly serrate in 4th–10th seg-



Figs. 9–14. *Mordellina (Mordellina) takakuwai* sp. nov., holotype, ♂, and paratype, ♀. — 9, Eighth sternite, ♂; 10, 9th sternite, ♂; 11, 9th tergite, ♂; 12, left paramere; 13, right paramere; 14, 8th sternite, ♀.

ments; 1st and 2nd segments cylindrical; 3rd short, narrowest and slender; each of 4th–10th about 1.77 times as long as wide; 11th elliptical, about twice as long as wide; proportional lengths of segments from base to apex: 5.0 : 5.1 : 5.1 : 5.5 : 6.4 : 6.0 : 6.4 : 5.8 : 5.8 : 6.3 : 7.6. Terminal segments of maxillary palpi (Fig. 5) securiform, with apical margin a little longer than inner one.

Pronotum a little wider than long, a little longer than head; lateral margins weakly depressed posteriorly in profile; posterior angles obtuse in lateral view with tip rounded. Elytra about 2.71 times as long as the humeral width, about three times as long as pronotum, tapered posteriorly, and broadly rounded at each apex. Pygidium long and slender, about half as long as elytron, slightly curved ventrad, gradually narrowed to apex in dorsal view, sharply pointed at tip. Anal sternite triangular, with apex rounded.

Fore leg (Fig. 7) slender, showing sexual dimorphism as male character states; trochanter with a short black bristle at apex of inner surface; femur with a short black bristle at basal 2/5 of inner surface. Fourth segment of tarsus simple in shape and cylindrical without emargination on apical margin,

and jointed to terminal segment at apical part.

Hind leg (Fig. 8) slender with long and oblique combs formulated as 3, 2, 2, 0; tibia provided with three combs, apical one shortest and parallel to tibial apical edge, middle one oblique and clearly longer than apical one, basal one oblique and longest, nearly reaching inner margin and basal 1/6 of tibia; 1st segment of tarsus with two oblique combs, 2nd with two oblique combs, 3rd and 4th without combs. Spurs of hind tibia very slightly incurved; inner one about 0.61 times as long as 1st segment of hind tarsus, outer one short, about 0.3 times as long as inner one.

Eighth sternite (Fig. 9) short and shield-shaped, about 1.4 times as long as wide, a little lobed at apex, sparsely short-haired in apical half, somewhat long haired in latero-apical area.

Ninth sternite (Fig. 10) slender, extended at apical area with apical margin widely rounded.

Ninth tergite (Fig. 11) bean-shaped; each of basal part remarkably long and narrow, aciculary elongate to base; each of apical part rounded.

Parameres each provided with a ventral branch; left paramere (Fig. 12) with long main lobe, bended dorsally at apical 1/3, rounded at apical margin, basal process hump-shaped with its apex rounded, located at apical 1/3 of main lobe, ventral branch remarkably long and narrow, moderately incurved, branching at middle by base side, exceeding tip of main lobe; right paramere (Fig. 13) with normally thick main lobe, ventral branch stout, branching near base, reaching apical 1/10 of main lobe.

Proportion of body (arithmetic mean; n = 10): BL/EW 3.15; BT/EW 1.41; HW/HL 1.13; AL/HL 1.75; PW/PL 1.19; PL/HL 1.13; EL/EW 2.71; EL/PL 3.10; PYL/EL 0.48.

*F e m a l e.* Antennae (Fig. 4) slender, about 1.6 times as long as head. Terminal segments of maxillary palpi (Fig. 6) securiform, with apical margin a little shorter than inner one. Fore legs without characteristic bristles. Eighth sternite (Fig. 14) shield-shaped; apodeme short, about 0.43 times as long as 8th sternite. Proportion of body (arithmetic mean; n = 8): BL/EW 3.08; BT/EW 1.40; HW/HL 1.09; AL/HL 1.59; PW/PL 1.19; PL/HL 1.12 EL/EW 2.66; EL/PL 3.15; PYL/EL 0.38.

*Measurement.* Male: BL 2.11–2.63 mm; EW 0.65–0.86 mm; BT 0.93–1.18 mm. Female: BL 2.00–2.80 mm; EW 0.63–0.91 mm; BT 0.95–1.28 mm.

*Biological notes.* All the specimens of this new species were collected by sweeping grasslands along seashore.

*Etymology.* The new specific name is dedicated to the late Dr. Masatoshi TAKAKUWA for his hearty guidance on my taxonomical study of mordellid beetles.

### Acknowledgements

I wish to express my hearty thanks to the late Dr. Masatoshi TAKAKUWA for his kind guidance and continuous support. He was a mentor for my taxonomic study of mordellid beetles. I feel deep sorrow for his early and sudden death last year.

### 要 約

鶴 智之: 沖縄本島からのモンヒメハナノミ属(鞘翅目ハナノミ科ヒメハナノミ族)1新種の記載. ———— モンヒメハナノミ属の原名亜属であるモンヒメハナノミ亜属 *Mordellina* は、これまで日本から7種が知られてきたが、今回沖縄本島から8番目の種が見つかり、本稿にて *Mordellina (Mordellina) takakuwai* sp. nov. (和名: タカクワヒメハナノミ) と命名して記載した. 本種は上翅が赤褐色であることや、長い触角を持つことでモンヒメハナノミ亜属の他種と容易に区別できる.

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