

A New *Amara* (Coleoptera, Carabidae) from Central Honshu, Japan

Seiji MORITA

Motoazabu 1–3–28–405, Minato-ku, Tokyo, 106 Japan

Abstract A new zabrine carabid beetle, *Amara (Bradytus) ondai* sp. nov., is described from central Honshu, Japan. It is mainly characterized by the convex genae and the reduced hind wings.

Six years ago, a small zabrine carabid beetle belonging to the subgenus *Bradytus* was obtained by Mr. ONDA on Mt. Akaguna-yama, Gunma Prefecture, central Honshu, Japan, and was submitted to me for identification through the courtesy of Mr. SUDA. According to my study, this zabrine beetle had reduced hind wings and belonged to a species theretofore unrecorded from Japan, possibly to an undescribed species. I was, however, unable to describe it, since only a single specimen was available for taxonomic study. Later, in the autumn of 1992, I visited the same mountain with Mr. SUDA and was able to obtain many additional specimens of the same species. After a careful examination, it became evident that the species in question must belong to a new species. In this paper, I am going to describe it under the name of *A. (B.) ondai*.

The abbreviations used herein are as follows: HW – greatest width of head; PW – greatest width of pronotum; PL – length of pronotum, measured along the median line; PA – width of pronotal apex; PB – width of pronotal base; EW – greatest width of elytra; EL – greatest length of elytra; WL – greatest length of hind wing.

Before going further, I wish to express my deep gratitude to Dr. Shun-Ichi UENO of the National Science Museum (Nat. Hist.), Tokyo, for his kindness in reading the manuscript of this paper. Dr. F. HIEKE of Humboldt University read the descriptive part of this paper and gave me important advice. I would like to acknowledge continuing guidance and encouragement of Dr. HIEKE. My thanks are also due to Messrs. Hideo OHKAWA, Kengo ONDA and Tôru SUDA for their kind help, and to Dr. Yûki IMURA for giving me valuable information concerning the type material of *Amara (Bradytus) simplicidens* MORAWITZ preserved in the Zoological Institute, Academy of Sciences, St-Peterburg.

Amara (Bradytus) ondai MORITA, sp. nov.

[Japanese name: Onda-marugata-gomimushi]

(Figs. 1–6)

Description. Length: 7.25–8.10 mm (from apical margin of clypeus to apices of elytra).

Rather small species. Body strongly convex above. Colour blackish brown and shiny; clypeus, labrum, antennae, mandibles, legs and ventral side dark brown.

Head small and convex; eyes small and flat; genae usually convex; frontal furrows clearly impressed, short and a little divergent behind and usually arcuate inwards at the posterior ends; apex of labrum strongly emarginate; apical margin of clypeus almost straight or slightly emarginate, and with transverse impression; mentum tooth variable according to individuals, usually simply rounded, sometimes widely rounded, extremely rarely bifid; anterior supraorbital pores situated at the mid-eye level, posterior ones situated at the post-eye level; surface densely and finely punctate; microsculpture almost vanished; antennae relatively slender; relative lengths of antennal segments as follows: I : II : III : IV : V : VI : XI = 1 : 0.61 : 1.09 : 0.93 : 0.92 : 0.89 : 1.10.

Pronotum transverse, strongly convex and widest at a level a little before the middle; apex almost straight at middle and emarginate at the sides or widely emarginate throughout, clearly bordered at the sides, the borders becoming narrower near apical angles, but not bordered at the median part; apical angles strongly produced and rounded at the tips; sides rather strongly arcuate, distinctly sinuate a little before hind angles; anterior marginal setae inserted a little before the widest part; a small depression rarely present on each side at a level of the widest part; median line clearly impressed, not reaching apex but almost reaching base; basal fovea shallow with two linear bottoms on each side and with coarse punctures; posterior transverse impression short and clearly impressed; hind angles almost rectangular or acute, and with carinae; disc microscopically or finely punctate; base indistinctly bordered, almost straight at the median part, and slightly oblique at the sides; microsculpture almost vanished.

Elytra ovate, strongly convex and widest at about 2/5 from base; wings reduced, WL/EL = 0.44; sides gently arcuate, preapical situation very shallow; shoulder with

Table 1. Standard ratios of body parts in *Amara (Bradytus) ondai* MORITA, sp. nov.

	PW/HW	PW/PL	PW/PA	PW/PB	PA/PB	EW/PW	EL/EW
7 ♂♂	1.61–1.70	1.43–1.50	1.39–1.47	1.12–1.16	0.78–0.82	1.14–1.20	1.23–1.30
Mt. Hikage-yama	(1.65)	(1.47)	(1.44)	(1.15)	(0.80)	(1.16)	(1.27)
5 ♀♀	1.62–1.70	1.45–1.53	1.41–1.46	1.11–1.16	0.77–0.82	1.14–1.17	1.23–1.34
Mt. Hikage-yama	(1.66)	(1.49)	(1.43)	(1.15)	(0.80)	(1.16)	(1.29)
1 ♂	1.68	1.52	1.43	1.16	0.81	1.16	1.29
Mt. Akaguna-yama							
4 ♀♀	1.62–1.72	1.46–1.52	1.43–1.45	1.13–1.17	0.79–0.80	1.13–1.17	1.23–1.33
Mt. Akaguna-yama	(1.66)	(1.51)	(1.44)	(1.15)	(0.80)	(1.16)	(1.28)

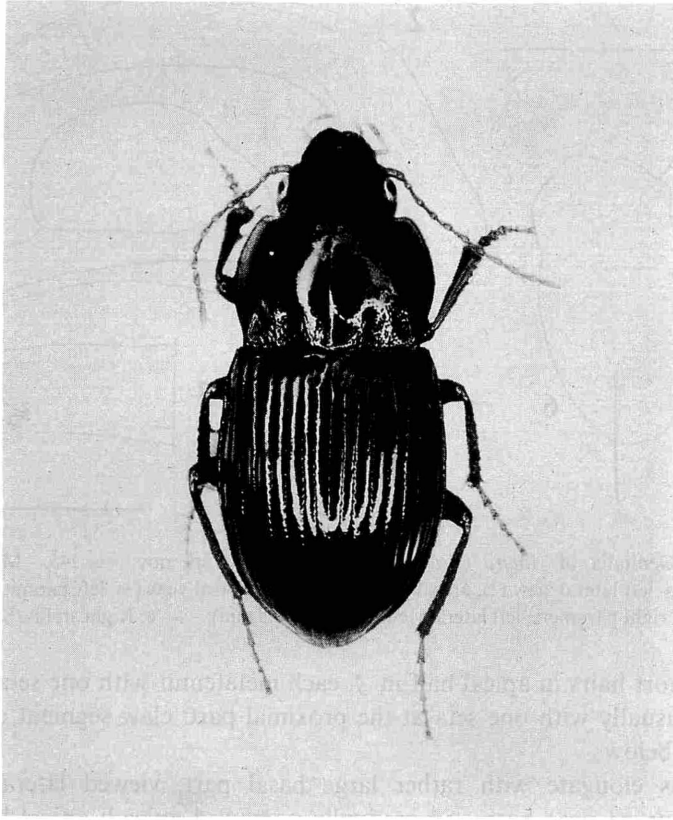
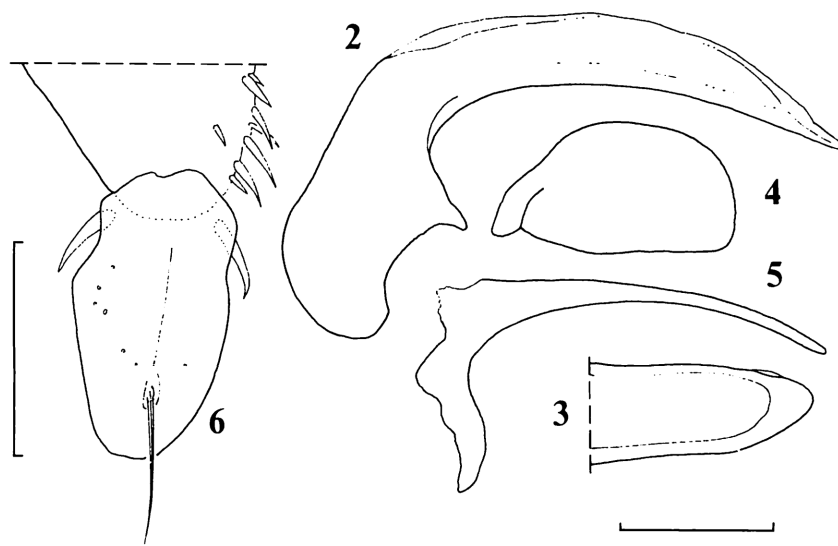


Fig. 1. *Amara (Bradytus) ondai* MORITA, sp. nov., ♂, from Mt. Hikage-yama in Ueno-mura, Gunma Prefecture.

a tooth on each side; intervals weakly convex and finely punctate; striae strongly impressed and weakly punctate; scutellar striole usually short, rarely almost rudimentary; stria 1 not reaching basal border and close to the apical end of scutellar striole; remaining striae reaching basal border which is almost straight; apices conjointly rounded; marginal series composed of 6+7 pores; microsculpture vanished.

Prosternum with a large impressed area at middle in ♂; sides of gula and area between eye and mentum with several oblique wrinkles; prosternum and prepisternum with fine punctures and partially with coarse punctures; microsculpture of hypomeron composed of fine longitudinal meshes; mesosternum, mesepisternum, metepisternum, sides of metasternum and sternites with coarse punctures; epipleuron partially with microscopic punctures and microsculpture composed of longitudinal meshes; anal sternite with one seta in ♂, two setae in ♀ on each side.

Protibia with simple terminal spur; outer apical corner of protibia not produced; mesotibia with a small tubercle near the ventro-apical part; inner side of metatibia



Figs. 2–6. Genitalia of *Amara (Bradytus) ondai* MORITA, sp. nov. — 2–5. Male genitalia; aedeagus, left lateral view (2), apical part of aedeagus, dorsal view (3), left paramere, left lateral view (4), right paramere, left lateral view (5), (scale: 0.5 mm). — 6, Right stylus (Scale: 0.3 mm).

with many short hairs in apical half in ♂; each metafemur with one seta on posterior margin and usually with one seta at the proximal part; claw segment of tarsus with several hairs below.

Aedeagus elongate with rather large basal part; viewed laterally, aedeagus moderately curved near base and gradually narrowed apicad; apical lobe narrowly rounded in dorsal view; right paramere long, weakly curved, and with rounded apex; left one semicircular. Apical styli in female rather broad, and with rounded apex.

Type series. Holotype: ♂, Mt. Hikage-yama, 18-IX-1993, S. MORITA leg.; allotype: ♀, same locality as for the holotype, 15-X-1994, S. MORITA leg. Paratypes: 5 ♂♂, 3 ♀♀, Mt. Hikage-yama, 19-IX-1992, S. MORITA leg.; 8 ♂♂, 2 ♀♀, same locality, 18-IX-1993, S. MORITA leg.; 3 ♂♂, 3 ♀♀, same locality, 15-X-1994, S. MORITA leg.; 1 ♂, Mt. Akaguna-yama, 11-VI-1989, K. ONDA leg.; 5 ♀♀, same locality, 18-IX-1993, S. MORITA leg.

Localities. Mt. Hikage-yama (type locality), 1,180 m alt., Ueno-mura, and Mt. Akaguna-yama, 1,400 m alt., Fujioka-machi, Gunma Prefecture, central Honshu, Japan.

The holo- and allotypes are preserved in the National Science Museum (Nat. Hist.), Tokyo. The paratypes are distributed to Dr. HIEKE's collection and the private collection of the author.

Notes. This new species is separable from the other members of the subgenus by having a combination of the following characters: 1) convex genae, 2) flat eyes, 3) reduced hind wings, 4) structure of scutellar striole, 5) lack of microsculpture on dorsal

side, and 6) right paramere with rounded apex.

According to Dr. HIEKE (pers. comm.), this new species reminds us of *Amara* (*Bradytus*) *exarata* DEJEAN (1828, p. 509) from North America. Incidentally, LINDROTH (1968, p. 680) gave an account of that species as follows:—[body] very short and convex; shiny because of reduced microsculpture, . . . eyes small, little prominent, . . . prothorax with front margin truncate and sides only slightly sinuate before the sharp, somewhat denticulate hind-angles, . . . right paramere with simple, pointed tip. Needless to say, there is a very wide geographical gap between the ranges of the two species.

The discovery of this new species is of deep interest in the following two points. 1) Although all the species of the subgenus *Bradytus* hitherto known are fully winged, this new species has reduced hind wings. 2) In 1978, HABU regarded *Pseudobradytus* as a subgenus of *Amara* by having wide and short apical styli in the female. However, this organ of the new species shows an intermediate state between those of *Bradytus* and *Pseudobradytus*.

要 約

森田誠司：群馬県産マルガタゴミムシの1新種。——群馬県日影山および赤久縄山で採集されたマルガタゴミムシの1新種, *Amara* (*Bradytus*) *ondai* を記載した。本種は、複眼が扁平で、後翅が縮小されることなどの特徴によって、すべての *Bradytus* 亜属の種類から容易に識別される。

References

- HABU, A., 1978. On *Amara* (*Pseudobradytus*) *majuscula* CHAUDOIR found in North Japan. *Ent. Rev. Japan, Osaka*, **31**: 119–126. (In Japanese with English summary.)
- LAFER, G. Sh., 1989. Podotriad Adephaga. In LERA, P. A. (ed.), *Opredelitel' Nasekomykh Dal'nego Vostoka SSSR v Shesti Tomakh*, **3** (1): 67–257. (In Russian.)
- LINDROTH, C. H., 1968. The ground-Beetles (Carabidae, excl. Cicindelinae) of Canada and Alaska. Part 5. *Opusc. ent. Suppl.*, **33**: 649–944.
- MORAWITZ, A., 1863. Beitrag zur Käferfauna der Insel Jesso. Erste Lieferung. Cicindelidae et Carabici. *Mem. Acad. imp. Sci.-Petersb.*, (VII), **6** (3): i–iii + 1–84.
- TANAKA, K., 1985. Carabidae (Pterostichinae, Zabrinae). In UÉNO, S.-I., Y. KUROSAWA & M. SATÔ (eds.), *Coleoptera of Japan in Color*, **2**: 105–138. Hoikusha, Osaka. (In Japanese.)