

Two Unexpected New Species of the Genus *Variimorda* (Coleoptera, Mordellidae) from the Ogasawara Islands

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Abstract Two new very beautiful mordellids, *Variimorda hiromiae* sp. nov. and *V. maiae* sp. nov., are described from the Ogasawara Islands of Japan. They resemble *V. inomatai* TAKAKUWA from the same islands at first sight, but are markedly different from it particularly in the coloration of pygidium and pronotum as well as in the structure of the male genitalia. These new species are also apparently different from each other in the coloration of pronotum and the male genitalia. *Variimorda maiae* sp. nov. is divided into two subspecies, the nominotypical subspecies from Ani-jima and Otôto-jima of the Chichi-jima group and *V. maiae shoui* subsp. nov. from Haha-jima of the Haha-jima group.

Two species of the mordellid genus *Variimorda* MEQUIGNON, *V. inomatai* TAKAKUWA and *V. ihai boninensis* NOMURA, have been known from the Ogasawara Islands off ca. 1,000 km south from Tokyo of the Japanese mainland. The former species belongs to the group of *V. flavimana* (MARSEUL) and the latter comprises the group of *V. ihai* CHÛJÔ, and the two groups are also sympatrically distributed though members of the former are fundamentally allopatric.

Nine years ago, I caught a splendidly beautiful strange mordellid specimen belonging to the group of *V. flavimana* on Haha-jima Is. of the Ogasawara Islands in a special research expedition organized by the Kanagawa Prefectural Museum of Natural History in 1997–2003. It is similar particularly in the elytral maculation to *V. inomatai* from the same island, but apparently different from it in morphological characters. Sympatrical distribution of two species of this group was quite unexpected, though any additional specimen has not been collected since then, and it was recorded as *Variimorda* sp. in a list of insects of the Ogasawaras (TAKAKUWA, 2004).

Recently, I have had an opportunity to examine fairly ample materials of *Variimorda* collected by malaise traps on the Ogasawara Islands through the courtesy of Dr. Tomoyuki TSURU of Hokkaido University, Sapporo and my colleague researcher Mr. Haruki KARUBE. The results were quite marvelous; in the first place, the unknown species mentioned above was proved doubtlessly new to science and was found only on Haha-jima Is.; secondly, another new species considered to belong to the same lineage as the former was recognized from Ani-jima Is. and Otôto-jima Is. of the Chichi-jima

group and Haha-jima Is. of the Haha-jima group; and thirdly, in the latter species, the specimens from the Chichi-jima group and the those from Haha-jima Is. should be morphologically distinguished. Therefore, I am going to describe two new species and a new subspecies in the present paper.

The holotypes and several paratypes designated in this paper are deposited in the collection of the Kanagawa Prefectural Museum of Natural History, Odawara. The remaining paratypes are principally preserved in the collections of the National Museum of Nature and Science, Tokyo and the Forestry and Forest Products Research Institute, Tsukuba.

Before going further, I wish to express my deep gratitude to Dr. Shun-Ichi UÉNO of the National Museum of Nature and Science, Tokyo for critically reading the original manuscript of this paper. My sincere thanks are also due to Dr. Tomoyuki TSURU of the Systematic Entomology, Department of Ecology and Systematics, Graduate School of Agriculture, Hokkaido University, Sapporo and to Mr. Haruki KARUBE of the Kanagawa Prefectural Museum of Natural History, Odawara for providing me with the valuable materials used in this paper, and to Mr. Akira OZONO of Fujisawa for taking photographs inserted in this paper.

Variimorda hiromiae sp. nov.

(Figs. 1-2, 7-13)

[Japanese name: Romi-kin'obihananomi]

Variimorda sp.: TAKAKUWA, 2004, Res. Rept. Kanagawa pref. Mus. nat. Hist, (12): 76.

Somewhat resembles *Variimorda inomatai* TAKAKUWA from Chichi-jima Is. and Haha-jima Is. of the Ogasawara Islands particularly in the elytral maculation, but apparently differs from it mainly in having the yellowish brown pygidium and the stouter male genitalia.

M a l e. Body yellowish brown to black, beneath bearing pale to yellowish pubescence all over; head above black except for frons, clypeus, labrum and almost all parts of mandibles which are yellowish brown; maxillae and labial palpi pale yellow; antennae pale brownish yellow in 1st-3rd segments, and gradually darkened towards terminal segments; pronotum dark brown though yellowish in lateral areas; mesothorax dark chestnut brown; metathorax blackish brown; abdominal segments brown though more or less yellowish at each posterior portion; elytra almost brownish black to black though light brown on humeri and the posterior portions like a pair of longitudinal fasciae; pygidium yellowish brown though darkened in apical half; legs light yellowish brown to light brown, with apical combs of hind tarsi and tibiae black.

Head well convex above, 1.45 times as wide as long, bearing yellow pubescence; eye large, oval, 1.12 times as long as wide; genae very narrow. Terminal segment of maxillary palpus almost right-triangular though shortest at outer margin and longest at apical margin. Antenna distinctly broad, about 1.31 times as long as width of head; 2nd

the shortest and cylindrical, 3rd subcylindrical, 4–10th weakly serrate, last segment elongated fusiform. Pronotum fully transverse, 1.48 times as wide as long, gently arcuate at sides, with posterior angles broadly rounded; above bearing yellowish pubescence though broadly with a vague dark macula at middle which bears blackish pubescence. Scutellum lingulate, bearing yellowish pubescence. Elytra apparently narrower than pronotum, about 2.15 times as long as wide, widest just behind humeri; sides very slightly attenuate posteriad, then rather abruptly, arcuately convergent to



Figs. 1–6. Habitus *Variimorda* spp. — 1, *V. hiromiae* sp. nov., ♂, holotype; 2, ditto, ♀, paratype; 3, *V. maiae* sp. nov., ♂, holotype; 4, ditto, ♀, paratype; 5, *V. maiae shoui* subsp. nov., ♂, holotype; 6, ditto, ♀, paratype. (Photos by A. OZONO.)

near each apex which is moderately rounded; surface clothed with blackish pubescence, decorated with golden yellow one as follows: a pair of very broad oblique fasciae from humeral parts to just before the middle, each of which does not reach sutural line and touches scutellum along basal margin; a pair of oblique zigzag broad fasciae behind the middle, each of which barely reaches sutural line and is vaguely connected with the former fascia at lateral side. Pygidium 0.53 times as long as elytra, abruptly attenuate posteriad behind the middle, then gently convergent to apex which is very narrowly truncate; dorsum gradually depressed apicad in posterior 2/5, bearing yellowish pubescence all over, with very few black setae in posterior area. Anal sternite parabolical, narrowly rounded at apex, 0.53 times as long as pygidium, 1.7 times as long as wide. Eighth abdominal sternite very thin, as illustrated; apical projection bilobed, with the emargination reaching apical 2/5. Fore tibiae curved inwards and downwards, beneath densely with short erect hairs on each anterior half.

Parameres stout, as illustrated. Left paramere broad and thick; membranous piece shortly knife-like, rather swollen and somewhat sclerotized, with several long setae only at base. Right paramere shorter than the left; sclerotized branch extremely broadly truncate at apex, the apical tip being narrowly rounded and the basal tip being huge though truncate at the apex; membranous piece broad and subparallel-sided, somewhat sclerotized.

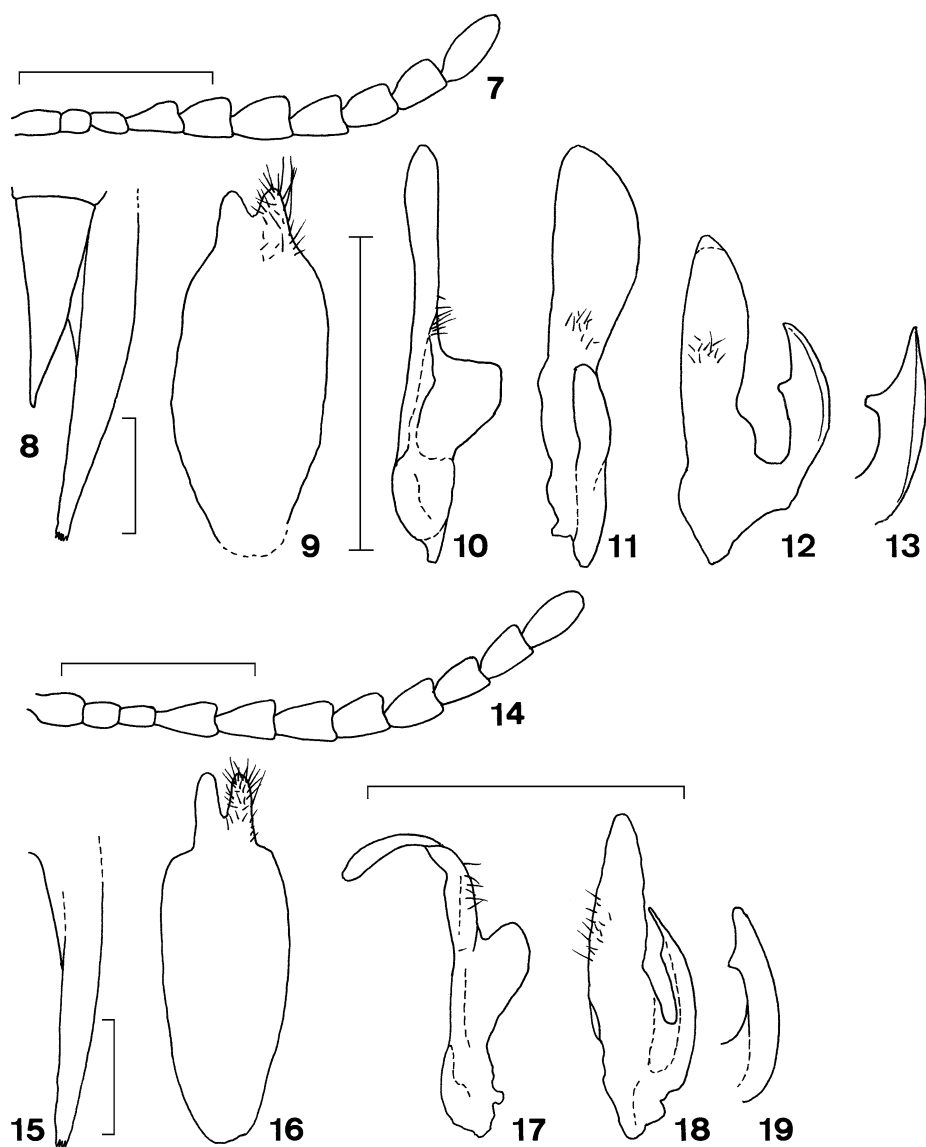
Female. Terminal segments of maxillary palpi obtuse triangular with arcuate outer and distinctly arcuate apical margins, twice as long as inner margin. Antennae shorter than in male, about 1.2 times as long as width of head. Pronotum longer than in male, 1.34 times as wide as long. Elytral yellowish maculation usually more developed than in male. Pygidium usually darker than in male, with a few black setae in posterior area; sides slightly emarginately attenuate apicad. Anal sternite shorter than in male, about a half shorter than pygidium; apex rather broadly truncate. Fore tibiae slightly curved downwards, beneath without erect hairs.

Length: 4.0–5.3 mm (incl. head and excl. pygidium).

Type series. Holotype: ♂, Mt. Kuwanoki-yama, Haha-jima Is., Ogasawara Isls., 22–VI–2001, M. TAKAKUWA leg., collected on a leaf of herb in forest. Paratypes: 11 ♂♂, 19 ♀♀, Sekimon, Haha-jima Is., 3–VII–2009, H. KARUBE leg. (collected by malaise traps).

Distribution. Haha-jima Is. of the Haha-jima group, Ogasawara Isls.

Etymology. The present new species is dedicated to my wife, Hiromi TAKAKUWA, who is the most sympathetic person for me and has always encouraged me to studying insects. The Japanese name of this new species is also dedicated to her, who is called “Romi”, a pet name, by her close friends.



Figs. 7-19. — 7-13. *Variimorda hiromiae* sp. nov., ♂, holotype. — 7, Right antenna; 8, pygidium and anal sternite in lateral view; 9, eighth abdominal sternite; 10, left paramere in inner view; 11, ditto in lateral view; 12, right paramere in inner view; 13, sclerotized branch of right paramere in lateral view. Scales: 0.5 mm. — 14-19. *Variimorda maiae* sp. nov., ♂, holotype. — 14, Left antenna in ventral view; 15, pygidium in lateral view; 16, eighth abdominal sternite; 17, left paramere in inner view; 18, right paramere in inner view; 19, sclerotized branch of right paramere in lateral view. Scales: 0.5 mm.

Variimorda maiiae maiiae sp. et subsp. nov.

(Figs. 3–4, 14–19)

[Japanese name: Mai-kin'obihananomi]

Variimorda sp.: SUGIURA, TSURU *et al.*, 2009, J. Ins. Conserv., London, **13**: 382.

Apparently related to the former new species, but definitely different from it in the following respects:

Body generally lighter. Antennae slenderer. Pronotum yellowish brown all over. Mesosterna quite yellow. Scutellum yellowish except for blackish margins. Elytra with a pair of large light brown areas on humeri and the surroundings including basal lines to scutellum and anterior parts of epipleura. Pygidium thinner and darker, moderately (in male) or densely (in female) with black setae in posterior area; dorsum very gently depressed apicad. Abdomen yellowish brown though more or less yellowish at each posterior portion. Male fore tibiae straight in dorsal view though curved downwards. Eighth abdominal sternite in male narrower; apical projection bilobed with much deeper emargination. Left paramere thinner, with membranous piece apparently reflexed at the middle. Right paramere distinctly narrower; sclerotized branch more shortly truncate at apex, the posterior tip being angulate; membranous piece gradually convergent apicad.

Length: 3.7–4.7 mm (incl. head and excl. pygidium).

Type series. Holotype: ♂, Ani-jima Is., Chichi-jima group, Ogasawara Isls., 19–VI ~21–VII–2006, S. SUGINO leg., collected by malaise trap. Paratypes: 7 ♂♂, 2 ♀♀, same collecting data as the holotype; 2 ♂♂, same locality as the holotype, 25–VI~10–VII–2007, S. SUGINO leg. (all collected by malaise traps).

Specimens examined. 2 ♂♂, 1 ♀, Otôto-jima Is., Chichi-jima group, Ogasawara Isls., 10–VII–2009, H. KARUBE leg. (collected by malaise traps).

Distribution. Ani-jima Is. and Otôto-jima Is. of the Chichi-jima group, Ogasawara Isls.

Etymology. This new species is dedicated to my daughter, Mai TAKAKUWA, who is now a sixth-grade student at the Department of Veterinary Medicine, Faculty of Agriculture, Kagoshima University, Kagoshima and has often deepened my argument about nature and zoology.

This new species is divided into two subspecies.

Variimorda maiiae shoui subsp. nov.

(Figs. 5–6)

Variimorda sp.: SUGIURA, YAMAURA *et al.*, 2009, Biodivers. Conserv., Dordrecht, **18**: 2110.

Differs from the nominotypical subspecies in the following characteristics: body colour in male distinctly more blackish, *e.g.*, basal yellowish parts of elytra reduced, pygidium blackish except for light part before the middle, and abdomen almost black except for dark yellowish brown anal sternite; pygidium somewhat longer in both male

and female, evidently longer than 2–4 abdominal segments combined in female; membranous piece of left paramere fusiform in male and not reflexed; sclerotized branch of right paramere broader at apex in male.

Type series. Holotype: ♂, Mt. Kuwanoki-yama, Haha-jima Is., Ogasawara Isls., 3–VII–2009, H. KARUBE leg., collected by malaise trap. Paratypes: 2 ♀♀, Nagahama, Haha-jima Is., 19–X~1–X–2005, S. SUGINO leg. (collected by malaise traps).

Distribution. Haha-jima Is. of the Haha-jima group, Ogasawara Isls.

Etymology. This new subspecies is dedicated to my son, Shou TAKAKUWA, who was absorbed in insect collecting in his boyhood and helped me in some research works.

要 約

高桑正敏: 小笠原諸島産キンオビハナノミ属(コウチュウ目ハナノミ科)の予期せざる2新種。——小笠原諸島からハナノミ科キンオビハナノミ属の2新種, *Variimorda hiromiae* sp. nov. (ロミキンオビハナノミ)と *Variimorda maiae* sp. nov. (マイキンオビハナノミ)を記載した。前種は母島から知られ, 同所的に分布する近縁種オガサワラキンオビハナノミ *Variimorda inomatai* TAKAKUWA に斑紋などが酷似しているが, 上翅肩部に明るい赤色紋をもち, 尾節板は明黄褐色, 肢もより明色な点で一見して区別できるほか, 雄交尾器側葉片の右片も形状を大きく違える。後種は兄島・弟島(父島列島)と母島から知られ, 明らかに前種と密接な系統関係にあるが, それとは前胸背板と中胸が黄~黄褐色なほか, 雄第8腹板はより細く, 雄交尾器側葉片も形状をかなり違えている。また, 後種の母島産個体は父島列島産のものと比較して尾節板が長く, 雄はとくに黒化がいちじるしいなど形態差が認められるので, *Variimorda maiae shoui* subsp. nov. という亜種名を与え, 父島列島の名義タイプ亜種と区別した。

今回記載された2種は, 明らかに東アジアに分布するキンオビハナノミ類の一員に含まれるが, 尾節板ないし前胸背板の色彩はほかに類を見ないほど特徴的である。この類は従来, 東アジアに異所的に分布する5種が知られていたが, 本新種2種の存在によって小笠原諸島母島だけが同所的に3種を産することになる。また, 系統的にごく近縁な2種が海洋島の小さい島に同所的に生息することも, 予期できないことであった。

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Elytra, Tokyo, **38**(2): 200, November 13, 2010

A New Record of *Platylister horni* (Coleoptera, Histeridae) from the Island of Okinawa-jima, the Ryukyus, Japan

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Platylister (Platylister) horni was described from Taiwan (BICKHARDT, 1913), and is additionally recorded from Amami-Ôshima, Iriomote-jima, Ishigaki-jima and Yonaguni-jima, the Ryukyus, Japan (CHÛJÔ, 1971; ÔHARA, 2008). I have had the opportunity to examine a specimen collected from the Island of Okinawa-jima, the Ryukyus. It is recorded below with the collecting data. New to Okinawa-jima.

1 ex., Yona-rindô, Okinawa-jima, the Ryukyus, Japan, 17~20-VI-1988, S. FUKUDA leg., housed in the Hokkaido University Museum.

I thank late Mr. K. EMOTO and Mr. J. ARAI (Tokyo) who provided me the valuable specimen.

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