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The Japanese Species of the Genus *Morion* (Coleoptera, Carabidae)

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Abstract The Japanese species of the carabid genus *Morion* are dealt with. *Morion japonicum* BATES is redescribed, and its new localities are recorded. A new species is described from the Ogasawara Islands under the name of *M. boninense* sp. nov.

The carabid genus *Morion* LATREILLE is well known because of its peculiarly *Passandra*-like facies and saproxylophilous habits. Its members are mostly tropical, and only a few species reach temperate areas. *Morion japonicum* BATES, which was previously known only from western Honshu and Kyushu, is such a rare exception.

In recent years, morionine specimens from various parts of the Japanese Islands become available for our study. Their localities include the Island of Yaku-shima off southern Kyushu, the Island of Okinawa-hontô of the Ryukyus, and the Island of Haha-jima of the Ogasawara Islands. Of these, the specimens from the former two islands are identical with the mainland form, while those from the last-named evidently belong to a different species. Its occurrence was first noticed by KUROSAWA (1976), who surmised that the morionine could be endemic to the island group. Our careful examination has proved that his conjecture is correct. It is clearly different from all the known species of the genus in the configuration of the prothorax and elytra as well as in other details.

In the present paper, we are going to redescribe *M. japonicum* first, and then to describe the new species under the name of *M. boninense* sp. nov. The abbreviations used herein were already explained in previous papers of the first author.

Before going further, we wish to express our deep gratitude to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for affording facilities to examine the specimens under his care, and for reading the manuscript of this paper. Our thanks are also due to Messrs. Hiroshi MAKIHARA, Seiji MORITA, Masatoshi NISHIMURA, Masao TÔYAMA and Susumu YAMAGUCHI for their kind help in supplying with materials and literature.

Morion (Neomorion) japonicum BATES

[Japanese name: Kuchiki-gomimushi]

Morio Japonicus BATES, 1883, pp. 242–243 (Kiushiu; Konose, Yuyama).
Morion japonicus: CSIKI, 1929, p. 481.
Morion japonicum: OHKURA & UÉNO, 1955, p. 45, pl. 12, fig. 228. —— NAKANE, 1963, p. 40; 1978, p. 22. —— TANAKA, 1985, p. 105.

Description. Length 13.2–17.0 mm. Width 4.2–5.2 mm. Elongate, depressed, black, shiny. Head flat, though the vertex and supraorbital areas are convex; eyes well prominent together with temporae; mandibles stout; apical margins of both labrum and clypeus distinctly emarginate; clypeal suture deep; frontal furrows long, extending far beyond the post-eye level, strongly and linearly impressed, divergent posteriad, and arcuate at the posterior parts; lateral furrows deep, almost reaching the middle of temporae; genae excavated for receiving the antennae in repose, which are short, moniliform, and hardly extending beyond the middle of pronotum; terminal segment of maxillary palpus fusiform, ca. 1.6 times as long as the penultimate; mentum tooth bifid at apex.

Pronotum gently convex, widest at the middle, ca. 1.3 times as wide as head (PW/HW 1.29–1.31, mean 1.30), as wide as base in almost the same proportion (PW/PBW 1.27–1.34, mean 1.31), ca. 1.4 times as wide as long (PW/PL 1.34–1.45, mean 1.39); lateral margins gently divergent posteriad in apical halves, then gently arcuate and convergent posteriad, and often weakly sinuate a little before base; basal parts vaguely notched just before basal angles, which are rectangular; apical margin finely bordered on each side, gently emarginate at middle, then almost straightly and obliquely extending to apical angles, which are not produced, though rounded at the tips; median line deep; basal foveae deep, divergent anteriad, with linear impressions parallel to lateral margins at the bottoms.

Elytra oblong, flat, a little wider than pronotum (EW/PW 1.07–1.13, mean 1.11), ca. 2.7 times as long as pronotum (EL/PL 2.69–2.76, mean 2.73), ca. 1.8 times as long as wide (EL/EW 1.75–1.82, mean 1.79); basal border incomplete, short and straight, merely extending from shoulders to the base of stria 5; shoulders dentate, though blunt at the tips; lateral margins straight and parallel to each other from behind shoulders to apical third; preapical emarginations distinct; scutellar striole very short, lying along scutellum; striae deeply impressed throughout, weakly notched at the bottoms; intervals evenly convex throughout, but interval 7 is distinctly raised at shoulders; interval 3 with a dorsal pore at apical third; marginal series of pores 18–19 in number, the apicalmost one large, adjoining stria 7. Wings full.

Venter shiny, impunctate; prosternal process bordered at apex. Legs stout; protibiae with outer apical angles strongly produced, pointed at apices; protarsi almost the same in shape between the two sexes, though basal three segments bear ventral adhesive hairs in the male; metatarsi wide.

Specimens examined. 1 ♀, Mt. Kasuga-yama, Takisaka, Nara Pref., 12–VI–1949,

N. YATÔ leg.; 1 ♀, Mt. Kasuga-yama, Nara Park, Nara Pref., 12–V–1950, S. SHIBANAI leg.; 1 ♀, Cape Sata, Ohsumi, Kagoshima Pref., 29–V–1953, S. KIMOTO leg.; 1 ♂, Mt. Aigo-dake, Is. Yaku-shima, Kagoshima Pref., 5–VIII–1972, T. WATANABE leg.; 1 ♂, 1 ♀, Oku, Is. Okinawa-hontô, Okinawa Pref., 30–VI–1976, H. MAKIHARA leg.

Distribution. Japan: Honshu (Kinki District), Kyushu, Is. Yaku-shima, Is. Okinawa-hontô.

Notes. This species is rather variable in size and shape of the prothorax, but in all the individuals we have examined, the elytra are exactly parallel-sided with the intervals evenly convex throughout. In his original description, BATES (1883) mentioned that *M. japonicum* might be a mere geographical variant of *M. orientale* DEJEAN, but pointed out that he never saw any "variety in which the interstices are nearly equally convex throughout the elytra, near the suture as well as on the sides, as they are in *M. Japonicus*."

JEANNEL (1948, pp. 614–615, fig. 287 e) gave a description and illustration of the male genital organ of *M. orientale* from India, and HABU (1985, p. 11, fig. 112) reported the female stylus of the same species from Thailand. *Morion japonicum* is clearly discriminated from *M. orientale* by different configuration of the genitalia in both sexes. In *M. japonicum*, the aedeagal apex is simply pointed, and the apical stylus bears three spines inserted on the outer ventral margin, while in *M. orientale*, the aedeagal apex is distinctly produced and somewhat twisted to the right, and the apical stylus bears only two spines at the same place. We have seen a male specimen of *M. orientale* from Sulawesi, which has wide pronotum (PW/PL 1.56), flat intervals of the elytra, and the aedeagal apical lobe produced like a beak.

The subgenus *Neomorion* was erected by JEANNEL (1948, pp. 613, 614) for *M. orientale*. It is mainly characterized by the last abdominal sternite unisetose on each side of the apical margin in both sexes, while in the subgenus *Morion* (s. str.), it is plurisetose in both sexes. All the Oriental species including *M. japonicum* and the following new species belong to the former subgenus.

Morion (Neomorion) boninense sp. nov.

[Japanese name: Ogasawara-kuchiki-gomimushi]

(Figs. 1–3)

Morion sp.: KUROSAWA, 1976, p. 23. —— NISHIMURA & ARAI, 1989, p. 41.

Description. Length 14.6–16.6 mm. Width 4.8–5.2 mm. Oblong, depressed, black and shiny; mandibles, labrum, femora and tibiae dark reddish brown to blackish; palpi, antennae and tarsi reddish brown. Head similar to that of *M. japonicum*, though the frontal furrows are finer than those of *M. japonicum*. Pronotum subquadrate, gently convex, narrower than in *M. japonicum*, ca. 1.3 times as wide as head (PW/HW 1.29–1.34, mean 1.31), as wide as base, as wide as long in almost the same proportion (PW/PBW 1.31–1.35, mean 1.32; PW/PL 1.22–1.35, mean 1.29); lateral

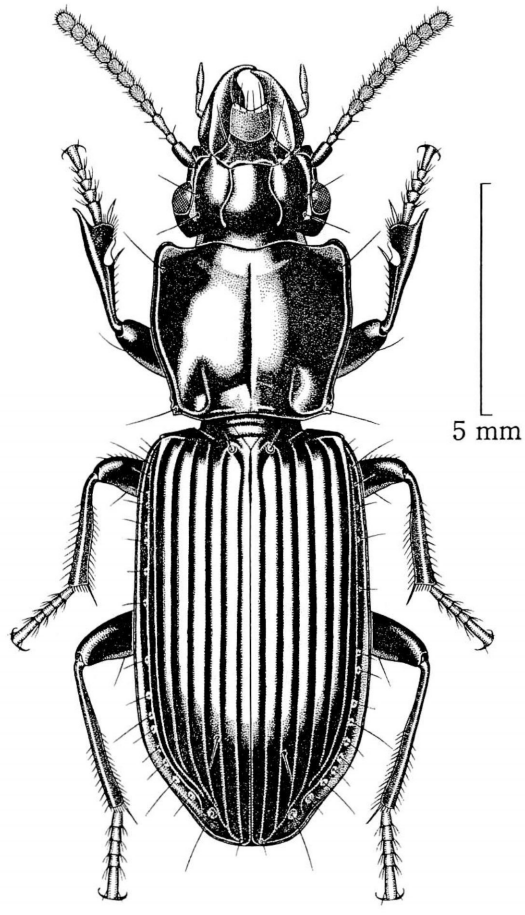
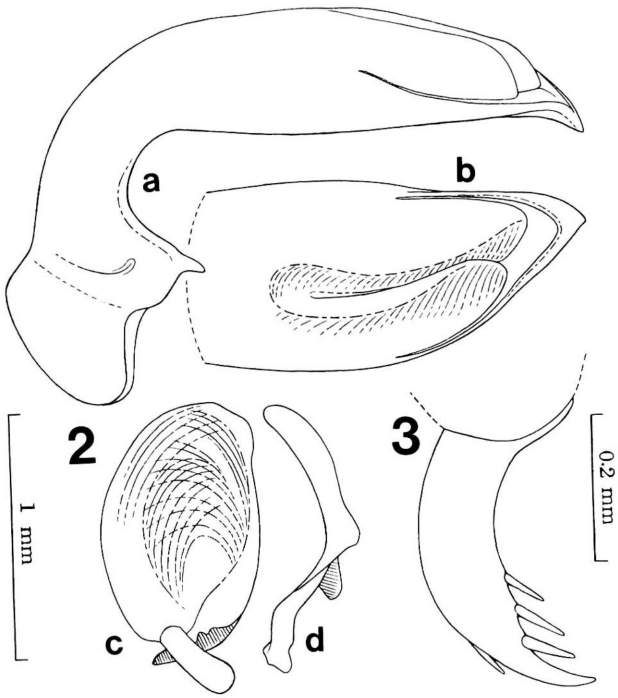


Fig. 1. *Morion* (*Neomorion*) *boninense* sp. nov., ♂, from Is. Haha-jima of the Ogasawara Islands.

margins generally straight and parallel to each other, or sometimes weakly roundish in apical halves and slightly divergent posteriad; apical margin finely bordered on each side, gently emarginate at middle, then sinuately extending to apical angles, which are roundly produced; median line deep, though finer than in *M. japonicum*; basal foveae deep, divergent anteriad as in *M. japonicum*; apical crescent and basal transverse depressions vague.

Elytra oblong, ca. 1.1 to 1.2 times as wide as pronotum (EW/PW 1.11–1.23, mean 1.16), ca. 2.6 times as long as pronotum (EL/PL 2.56–2.67, mean 2.60), ca. 1.7 times as long as wide (EL/EW 1.69–1.75, mean 1.72); basal border as in *M. japonicum*; lateral margins parallel to each other in anterior two-thirds, though slightly arcuate, while they are utterly straight, or often slightly concave in *M. japonicum*; lateral reflexed



Figs. 2–3. Genitalia of *Morion* (*Neomorion*) *boninense* sp. nov., from Is. Haha-jima of the Ogasawara Islands. —— 2, Male genitalia: a, aedeagus in left lateral view; b, apical half of aedeagus in dorsal view; c, left paramere; d, right paramere. —— 3, Left stylus of female genitalia.

borders becoming finer posteriad, disappearing before preapical emargination, then finely appearing again behind the emargination to apices, while they are continuous and complete in *M. japonicum*; scutellar striole, striae and convex intervals as in *M. japonicum*; marginal series of pores 17–18 in number. Inner wings shorter than elytra, not folded. Venter shiny, wholly impunctate; prosternal process bordered at apex.

Aedeagus stout, strongly and rectangularly bent at basal third, then almost straightly extending to apical part, though gently curved downwards at apex in lateral view; apical half wide in dorsal view, tapering apicad, and pointed at apex; apical aperture covered with bilobed lamella; left paramere wide, subovate; right one slender, obtusely bent at middle, depressed in apical half, and rounded at apex; apical stylus in female slender, arcuate, tapered towards apex, with a spine on dorsal outer margin and with three spines on ventral outer margin; apical foramen and seta absent.

Type series. Holotype: ♂, Is. Haha-jima, Ogasawara Islands, 20～21–X–1982, H. MAKIHARA leg.; allotype: ♀, same locality as for the holotype, 27–VI–1976, Y. KUROSAWA leg.; paratypes: 3 ♀♀, same data as for the holotype; 3 ♀♀, same locality as for the holotype, 1～8–VII–1986, H. MAKIHARA leg.; 1 ♀, same locality, 9～12–

VII–1986, H. MAKIHARA leg.; 1 ♀, Mt. Kuwanoki-yama, Is. Haha-jima, 10–VI–1986, S. YAMAGUCHI leg.; 2 ♂♂, same locality, 26–VI–1987, M. NISHIMURA leg.; 1 ♀, same locality, 13～25–X–1973, collector unknown; 3 ♀♀, same locality, 28–V–1989, collector unknown.

The holo- and allotypes are deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. The paratypes are separately preserved in the collections of the authors and of S. MORITA.

Distribution. Japan: Ogasawara Islands (Is. Haha-jima).

Notes. The present new species somewhat resembles the preceding one in appearance, but is easily distinguished from the latter by narrower and squarer pronotum with prominent apical angles, and less parallel-sided elytra with interrupted lateral borders. Besides, the inner wings are rudimentary, which is exceptional for a member of *Neomorion* and may be regarded as a peculiarity of an insular species.

要　　約

笠原須磨生・佐藤正孝: 日本産クチキゴミムシ属の種. —— 日本に産するクチキゴミムシ属 *Morion* のゴミムシは，九州の神ノ瀬と湯山から記載され，本州の奈良春日山を分布の北限とするクチキゴミムシ *M. japonicum* BATES がただ一種知られるのみであった．本篇では，この種を再記載して，屋久島と沖縄本島を分布域に加え，近縁とされている *M. orientale* DEJEAN との異同についても言及した．さらに，小笠原諸島の母島から，同属の1新種オガサワラクチキゴミムシ *M. boninense* を記載した．本種は，前胸背板の形態や，上翅側縁の縁取りが翅端前で中断され，後翅が退化傾向にあることなどで，前種と容易に区別される．すでに黒沢 (1976) が指摘しているように，島嶼化のかなり進んだ小笠原の固有種と考えられる．

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Lectotype Designation of *Carabus micros* HERBST (Coleoptera, Trechinae)

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Having examined the type material of *Lasiotrechus discus* (FABRICIUS) in 1973, I found that it was a melange of two similarly looking species, *L. discus* and *Trechoblemus micros* (HERBST). To avoid possible confusion in the future, I then selected the lectotype for the former species in accordance with the traditional usage (UÉNO, 1974).

Next problem to be cleared up was to ascertain whether or not such a situation also exists in the type material of *T. micros*. My study of HERBST's specimens was realized through the courtesy of Dr. F. HIEKE, to whom my sincere thanks are due. However, this was much more difficult than that of FABRICIUS' ones. First of all, the old specimens preserved in the collection of the Zoologisches Museum of the Museum für Naturkunde der Humboldt-Universität zu Berlin were rearranged, and probably remounted in part, by either G. W. F. PANZER or J. K. W. ILLIGER, which makes it difficult to determine which ones were really seen by HERBST and which ones were not.

There are seven specimens, all bearing a white label inscribed "55449", which must be the catalogue number of *T. micros*. Two specimens (♂♂) bear a red label with the words "Panzer/Plesiotypus/Illiger", and one of them also bears a white label inscribed "Germ.