

Two New Patrobine Carabid Beetles from Western Honshu, Japan

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Abstract Two new patrobine carabid beetles, *Apatrobus odanakai* sp. nov. and *A. yamajii* sp. nov., are described from western Honshu, Japan. The former species belongs to the *echigonus* group, and the latter to the *hikosanus* group.

There occur two unnamed patrobine carabid beetles belonging to the genus *Apatrobus* in western Honshu, Japan. One of them belongs to the *echigonus* group. It was found on Mt. Ôe-yama in Kyoto Prefecture, which is the westernmost locality of that group so far known. The other one is a member of the *hikosanus* group. It was collected on northern mountains in Okayama Prefecture. Both the species are, however, clearly distinguished from their relatives by several characteristics and must be new to science. In this article, I will describe the former species under the name *Apatrobus odanakai* sp. nov., and the latter under the name *A. yamajii* sp. nov. The abbreviations used herein are the same as those explained in other papers of mine. All the holotypes to be designated are preserved in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. The paratypes are deposited in my cabinet.

Before going further, I wish to express my deep gratitude to Dr. Shun-Ichi UÊNO, the former chief of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo, for his encouragement and for reading the manuscript of this paper. Thanks are also due to Messrs. Kôichi NOJIMA, Ken ODANAKA and Osamu YAMAJI for their kind supplying with valuable specimens.

Apatrobus odanakai sp. nov.

[Japanese name: Ôeyama-nurechi-gomimushi]
(Figs. 1–2)

Description. Length (measured from apex of labrum to apices of elytra) 8.6–8.9 mm; width 3.1–3.2 mm. Dark reddish brown, shiny; palpi and tarsi light reddish brown.

Head moderately convex; eyes convex, though not prominent; genae as long as eyes, weakly swollen; neck constriction distinctly impressed and strongly punctate dorsad; frontal furrows distinct, arcuate outwards, strongly punctate; lateral grooves

deep, extending to behind the post-eye level; supraorbital areas and frons convex; surface sparsely punctate except on vertex; microsculpture invisible, though well visible on labrum; antennae moderately long, reaching the basal fourth of elytra, relative lengths of scape and segments 2–6 as follows:—1:0.5:1.4:0.9:0.8:0.75.

Pronotum quadrate-cordate, moderately convex, widest at apical two-fifths, ca. 1.26 times as wide as head (PW/HW 1.24–1.28, mean 1.26), ca. 1.33 times as wide as base (PW/PBW 1.31–1.35, mean 1.33), 1.24 times as wide as long; lateral margins gently arcuate, strongly convergent posteriad and slightly sinuate before base; apical

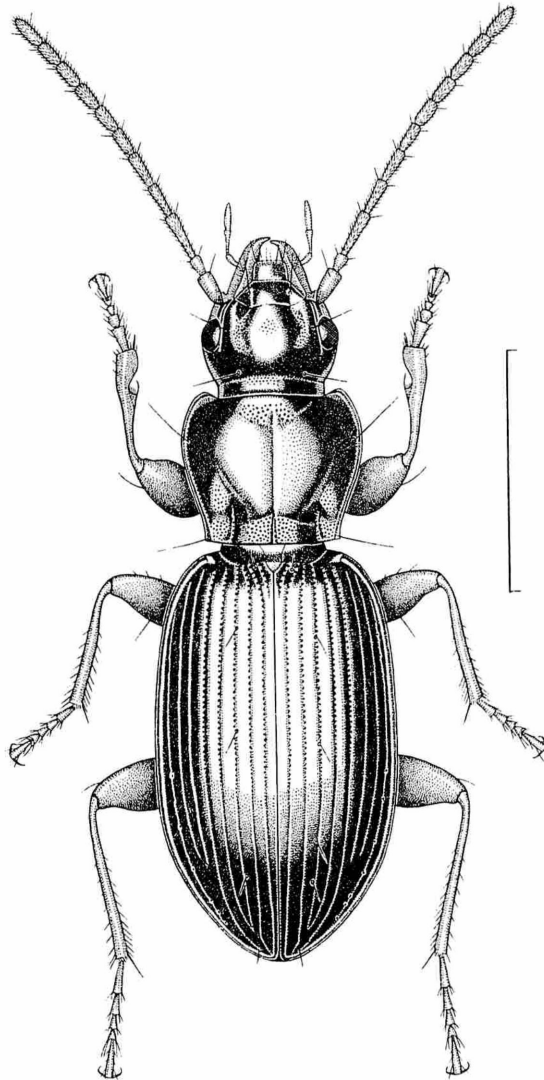


Fig. 1. *Apatrobis odanakai* sp. nov., ♂, from Mt. Ôe-yama in Kyoto Pref. Scale 3 mm.

margin almost straight, apical angles produced, rounded at the tips; basal margin as wide as or a little wider than the apical, straight, though somewhat oblique on each side, basal angles rectangular, slightly produced laterad; basal foveae deep, strongly and ruggedly punctate; median line deep, strongly punctate in basal part; surface strongly punctate in apical, basal and lateral areas, minutely punctate on disc; microsculpture almost invisible.

Wings reduced. Elytra oblong subovate, moderately convex, widest at about middle, ca. 1.36 times as wide as pronotum (EW/PW 1.35–1.37, mean 1.36), ca. 2.8 times as long as pronotum (EL/PL 2.76–2.81, mean 2.79), ca. 1.65 times as long as wide; shoulders widely rounded; lateral margins gently divergent from behind shoulders to the widest level, then roundly convergent towards apices; scutellar striole short and punctate, arising from basal pores; striae distinctly punctate, though the punctures become finer towards apices; intervals gently convex, though almost flat in apical parts, sparsely and minutely punctate; interval 3 with three to four dorsal pores, adjoining stria 3 at basal fifth, about middle and apical fifth; microsculpture slightly visible, formed by fine transverse meshes.

Venter strongly punctate on neck constriction, pro-, meso- and metepisterna, pro- and mesosterna, and abdominal sternites 3–4, weakly punctate and rugose on lateral sides of sternites 5–8; prosternal process furrowed at middle.

Aedeagus strongly bent at basal third and almost straightly extending to apex in lateral view, apical half gently curved rightwards in dorsal view; apical lobe longer than wide, tapered towards apex, which is rather pointed, though dull at the tip; inner sac containing three copulatory pieces, apical one long and heavily sclerotized, horn-shaped; parameres wide and thin, not produced at apices.

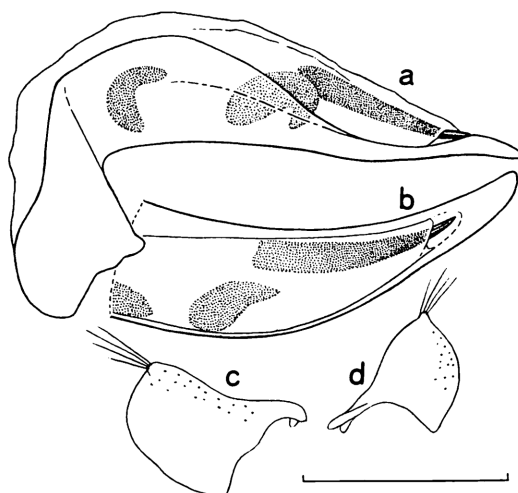


Fig. 2. Male genitalia of *Apatrobis odanakai* sp. nov., from Mt. Ôe-yama in Kyoto Pref. — a–b, Aedeagus: a, left lateral view; b, dorsal view, basal part omitted; c, left paramere; d, right paramere. Scale 1 mm.

Type series. Holotype: z, Mt. Ôe-yama, Kyoto Pref., 2-X-1983, K. ODANAKA leg. Paratype: 1♀, same data as for the holotype.

Notes. The present new species may be related to *A. iwasakii* MORITA (1987, p. 36) and *A. hasemiya* MORITA (1990, p. 35) both described from Gifu Prefecture, but is distinguished from the latter two by having different configuration of male genitalia. This species is dedicated to Mr. Ken ODANAKA, who is the collector of this interesting beetle.

Apatrobus yamajii sp. nov.

[Japanese name: Yamaji-nurechi-gomimushi]

(Figs. 3-5)

Description. Length (measured as in the preceding species) 8.8–10.2 mm; width 3.2–3.8 mm. Black, shiny; labrum, mandibles, antennae, femora and tibiae dark reddish brown; palpi and tarsi reddish brown.

Head moderately convex; eyes convex, more or less prominent; genae shorter than eyes, gently swollen; neck constriction distinctly impressed and punctate dorsad; frontal furrows arising from clypeal pores, deeply impressed, divergent posteriad and punctate; lateral grooves deep, extending to behind the post-eye level; supraorbital areas and frons convex; surface minutely punctate and often with a small fovea in the middle of frons; microsculpture invisible; antennae moderately long, reaching the basal third of elytra; relative lengths of scape and segments 2–6 as follows:—1:0.5:1.4:0.9:0.9:0.9.

Pronotum cordate, moderately convex, widest at apical third, ca. 1.3 times as wide as head (PW/HW 1.26–1.35, mean 1.32), ca. 1.5 times as wide as base (PW/PBW 1.47–1.59, mean 1.52), ca. 1.25 times as wide as long (PW/PL 1.23–1.27, mean 1.25); lateral margins well arcuate, strongly convergent posteriad and slightly sinuate before base; apical margin almost stright, apical angles somewhat produced, rounded at the tips; basal margin narrower than the apical, almost straight, though rather oblique on each side, basal angles obtuse or nearly rectangular, evidently angulate; basal foveae deep, strongly and ruggedly punctate; median line deep, strongly punctate in basal part; surface strongly punctate in apical, basal and lateral parts, minutely punctate on disc; microsculpture invisible.

Wings reduced. Elytra oblong subovate, gently convex, though rather flat on disc, widest at middle, more than 1.3 times as wide as pronotum (EW/PW 1.32–1.40, mean 1.33), ca. 2.65 times as long as pronotum (EL/PL 2.56–2.71, mean 2.65), ca. 1.6 times as long as wide (EL/EW 1.47–1.64, mean 1.59); shoulders widely rounded, and very minutely dentate; lateral margins gently arcuate from behind shoulders and roundly convergent towards apices; scutellar striole moderately long, arising from basal pores, strongly punctate; striae fine but deep, distinctly punctate, though the punctures become finer towards apices; intervals gently convex, minutely but clearly punctate; interval 3 with three to four dorsal pores, adjoining stria 3 at basal fifth,

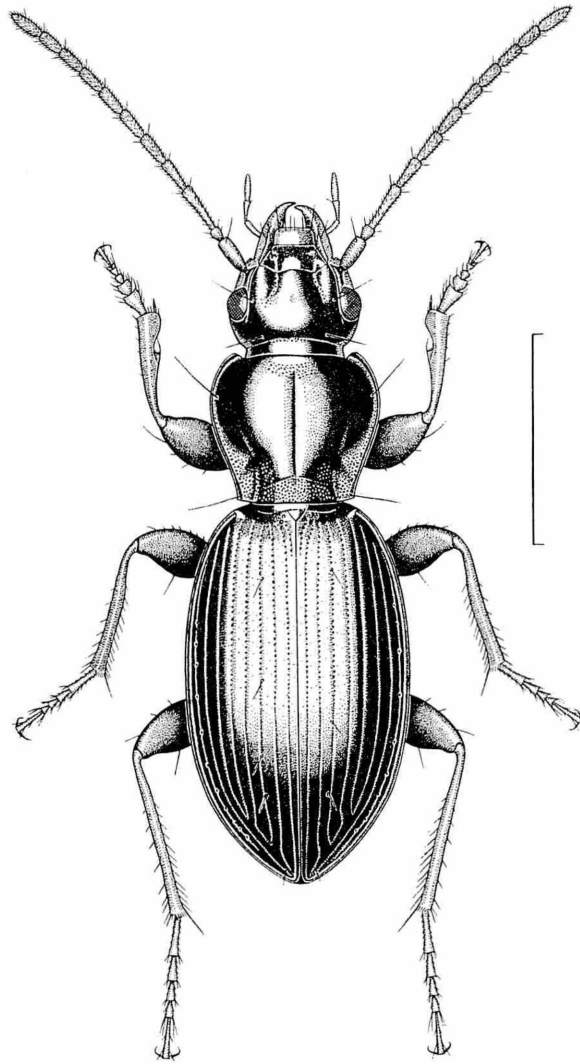


Fig. 3. *Apatrobis yamajii* sp. nov., ♂, from Mt. Yamanori-sen in Okayama Pref. Scale 3 mm.

about middle and apical fifth; microsculpture slightly visible, formed by fine transverse meshes.

Venter strongly punctate on neck constriction, pro-, meso- and metepisterna, mesosternum, lateral sides of pro- and metasterna, and abdominal sternites 3-4; minutely punctate and rugose on lateral sides of sternites 5-8; prosternal process distinctly furrowed at middle.

Aedeagus strongly bent at basal third, weakly curved upwards in apical half, apex truncate in lateral view; apical lobe as long as wide, obliquely truncate at apex, left

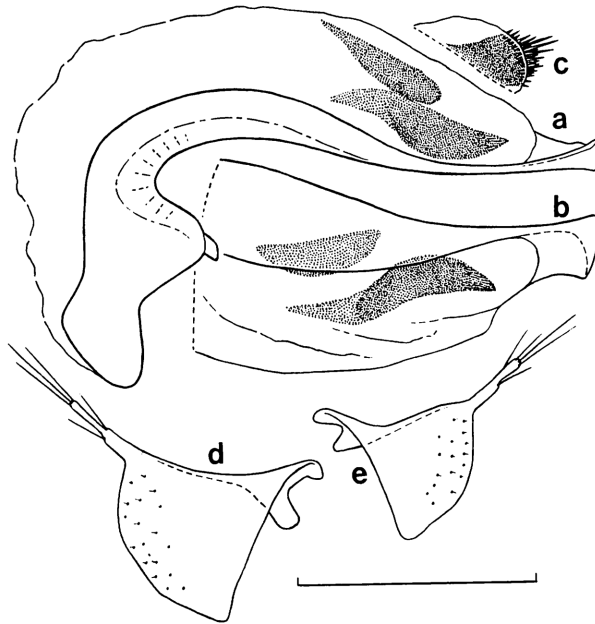


Fig. 4. Male genitalia of *Apatrobus yamajii* sp. nov., from Mt. Yamanori-sen in Okayama Pref. — a-c, Aedeagus: a, left lateral view; b, dorsal view, basal part omitted; c, apex of apical copulatory piece exposed from apical orifice, lateral view; d, left paramere; e, right paramere. Scale 1 mm.

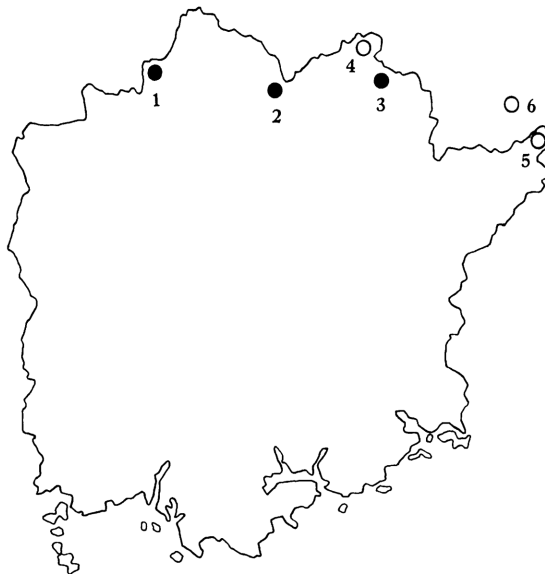


Fig. 5. Map showing the distribution of *Apatrobus* spp. in Okayama and adjacent prefectures. Black circles, *A. yamajii* sp. nov.; open circles, *A. nishiwakuræ* (HABU). — 1, Mt. Kenashin-zen, Shinjô-son, Okayama Pref.; 2, Mt. Yamanori-sen, Chûka-son, Okayama Pref.; 3, Kurami, Kamo-chô, Okayama Pref.; 4, Akawase, Kamisaibara-son, Okayama Pref.; 5, Wakasugi-tôge, Nishiwakura-son, Okayama Pref.; 6, Yakô-dani, Chizu-chô, Tottori Pref.

margin gently emarginate; inner sac containing two copulatory pieces in apical third, apical one spindle-shaped, with the apex formed by a bundle of numerous spines; parameres wide, triangular, apex distinctly prolonged.

Type series. Holotype: ♂, Mt. Yamanori-sen, Chûka-son, Okayama Pref., 15-IX-1994, O. YAMAJI leg. Paratypes: 3♀♀, same locality as for the holotype, 21-VI-1992, O. YAMAJI leg.; 1♂, 2♀♀, same locality, 10-IX-1994, S. KASAHARA leg.; 1♂, 1♀, Mt. Kanashi-zen, Shinjô-son, Okayama Pref., 29-V-1993, O. YAMAJI leg.; 1♀, same locality, 14-V-1994, O. YAMAJI leg.; 1♂, 1♀, same locality, 1-VI-1994, K. NOJIMA leg.; 1♂, 6♀♀, Kurami, Kamo-chô, Okayama Pref., 26-IX-1992, O. YAMAJI leg.

Notes. The present new species resembles *A. nishiwakurae* (HABU) (1980, p. 47) in general appearance and occurs in a close proximity, but is clearly discriminated from the latter by punctate intervals of elytra and different configuration of male genitalia. The species was named after Mr. Osamu YAMAJI, who is keenly investigating the coleopteran fauna of Okayama Prefecture.

要 約

笠原須磨生：本州西部産ヌレチゴミムシの2新種。——京都府の大江山で発見されたオオエヤマヌレチゴミムシ *Apatrobis odanakai* と、岡山県北部の山地に分布するヤマジヌレチゴミムシ *A. yamajii* を記載した。前種はエチゴヌレチゴミムシ群 *echigonus* group に属し、本群の分布域のなかでもっとも西に分布するものである。一方、後種はヒコサンヌレチゴミムシ群 *hikosanus* group に属し、近似のニシアワクラヌレチゴミムシ *A. nishiwakurae* (HABU) と分布域を接しているが、上翅間室に点刻のあることや、雄交尾器の形態が相違していることで明らかに区別できる。

References

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