

A New Alpine Patrobine Carabid Beetle from Central Honshu, Japan

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Abstract A new patrobine carabid beetle is described from Mt. Haku-san in Honshu, Central Japan, under the name of *Apatrobus hasemiya*. It is related to *A. echigonus* (HABU et BABA), but differs from it mainly in the configuration of male genitalia.

In the present paper, I am going to describe a new patrobine carabid beetle recently discovered in the alpine zone of Mt. Haku-san, Central Honshu, Japan. It looks like a member of the group of *A. echigonus* (HABU et BABA) (1962, pp. 143–147) in having the simple apical lobe of aedeagus, but clearly differs from all the known members of the group mainly in the shape of proximal copulatory piece of inner sac. It must be a new species, and I prefer to introduce it into science.

The abbreviations used herein are as follows: HW – greatest width of head; PW – greatest width of pronotum; PL – length of pronotum, measured along the mid-line; PA – width of pronotal apex; PB – width of pronotal base; EW – greatest width of elytra; EL – greatest length of elytra; M – arithmetic mean.

The holo- and allotypes are preserved in the National Science Museum (Nat. Hist.), Tokyo. The paratypes are preserved in the collection of the Gifu Prefectural Museum, and of mine.

I am deeply indebted to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for not only giving advice but also reading the original manuscript. Thanks are also due to Messrs. Michiaki HASEGAWA and Akihiko MIYANO for kindly supplying me with important material.

Apatrobus hasemiya MORITA, sp. nov.

[Japanese name: Hakusan-nurechi-gomimushi]

(Figs. 1–7)

Length: 7.38–7.82 mm (from apical margin of clypeus to apices of elytra).

Colour darker than in *A. echigonus*; head large and more convex than in *A. echigonus*; frontal furrows deep and wide with punctures denser and coarser than in *A. echigonus*; anterior supraorbital pore located at about the mid-eye level, posterior one apart from the post-eye level and close to neck constriction which bears coarse punctures; eyes moderately convex; apical margin of labrum usually emarginate,

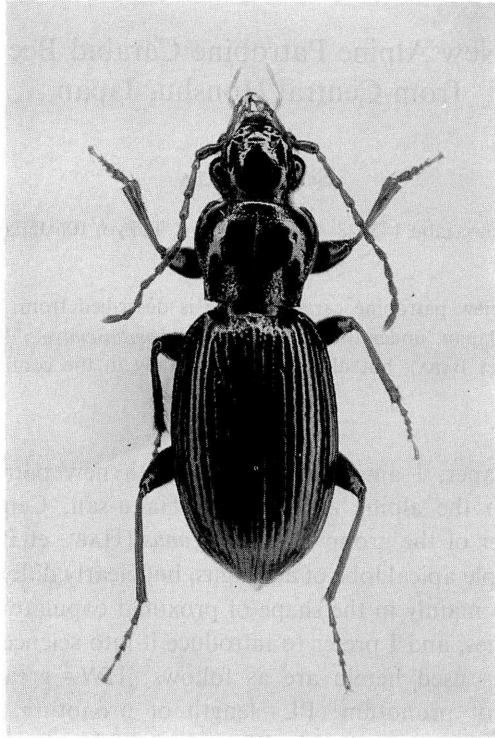


Fig. 1. *Apatrobis hasemiya* MORITA, sp. nov., ♂, from Mt. Haku-san in Shirakawa-mura, Gifu Prefecture.

rarely straight; relative lengths of antennal segments as follows: I: II: III: IV: V: VI: XI \cong 1: 0.44: 1.28: 0.88: 0.82: 0.84: 1.02.

Pronotum rather quadrate; PW/HW 1.25–1.31 (M 1.28) in 5 ♂♂, 1.28, 1.33 (M 1.31) in 2 ♀♀, PW/PL 1.23–1.31 (M 1.26) in 5 ♂♂, 1.32, 1.33 (M 1.33) in 2 ♀♀, PW/PA 1.36–1.42 (M 1.39) in 5 ♂♂, 1.39, 1.39 (M 1.39) in 2 ♀♀, PW/PB 1.26–1.32 (M 1.29) in 5 ♂♂, 1.25, 1.33 (M 1.29) in 2 ♀♀; apex usually straight, rarely weakly emarginate, a little narrower than base; PA/PB 0.90–0.94 (M 0.92) in 5 ♂♂, 0.90, 0.95 (M 0.93) in 2 ♀♀; sides moderately arcuate in front, rather weakly sinuate behind, and then parallel before hind angles; reflexed lateral borders narrow; apical angles rather widely rounded, hind ones a little sharp, without carina; anterior transverse impression nearly obliterated though strongly punctured; median line distinct, somewhat widening basally; base almost straight; basal foveae large, somewhat diverging anteriorly; surface coarsely and densely punctured though minutely punctured on the disc; a small rounded discal fovea present on each side before middle.

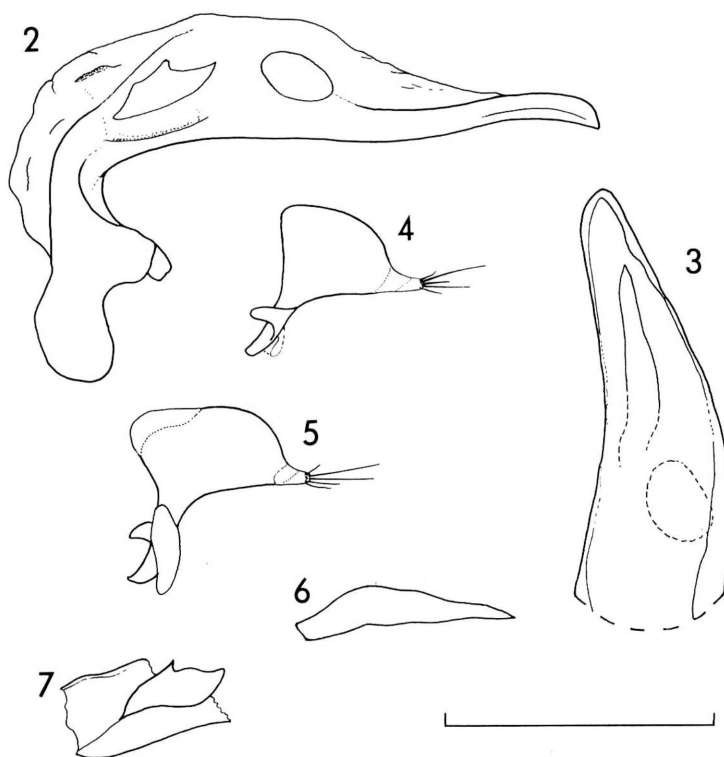
Elytra elongated ovate, widest a little behind middle, and narrower than in *A. echigonus*; EW/PW 1.29–1.38 (M 1.35) in 5 ♂♂, 1.30, 1.36 (M 1.33) in 2 ♀♀, EL/EW 1.51–1.60 (M 1.57) in 5 ♂♂, 1.60, 1.61 (M 1.61) in 2 ♀♀; shoulders more oblique

than in *A. echigonus*; sides gently arcuate, very slightly sinuate before apices; intervals slightly convex near bases but flat at apices, with microscopic punctures; striae rather deep, sparsely though coarsely punctate, becoming shallower near apices; three dorsal pores on interval 3, situated at $1/5$, $2/5-1/2$, and $3/5-4/5$ from base respectively, anterior two adjoining stria 3, and posterior one usually adjoining stria 3, rarely lying on interval 3.

Prosternum, prepisternum, mesosternum and mesepisternum with coarse punctures; sides of gula and metasternum rarely punctate; in ♀, anal sternite with two pair of setae on a straight transverse line.

Microsculpture of pronotum partially slightly visible, consisting of wide meshes; that of elytra more clearly impressed, consisting of meshes which are more or less irregular in ♀ but nearly isodiametric in ♂.

Male genital organ basically similar to that of *A. echigonus*; aedeagus moderately sclerotized; viewed dorsally, apical half inclined to the right and gradually tapered towards apex, which is very narrowly rounded; inner sac armed with two copulatory



Figs. 2-7. Male genitalia of *Apatrobis hasemiya* MORITA, sp. nov. — 2, Aedeagus, left lateral view; 3, apical part of aedeagus, dorsal view; 4, separated right style, left lateral view; 5, separated left style, left lateral view; 6, separated apical copulatory piece, ventral view; 7, separated proximal copulatory piece, left lateral view. (Scale: 1.00 mm.)

pieces and a teeth-patch; apical copulatory piece heavily sclerotized, spine-like, pointed at apex but broad in basal half, and obliquely truncated at the left proximal corner; proximal copulatory piece lightly sclerotized and strongly rolled, with no projection; teeth-patch consisting of heavily sclerotized teeth; styles very poorly sclerotized, each bearing five setae.

Type series. Holotype: ♂, 10-VIII-1989, M. HASEGAWA & A. MIYANO leg. Allotype: ♀, 14~15-IX-1988, M. HASEGAWA & A. MIYANO leg. Paratypes: 1 ♀, 14~15-IX-1988, M. HASEGAWA & A. MIYANO leg.; 4 ♂♂, 10-VIII-1989, M. HASEGAWA & A. MIYANO leg.

Type locality. Midorigaike~Kankurasekkei, 2,400–2,500 m in altitude, Mt. Haku-san, in Shirakawa-mura of Gifu Prefecture, Central Honshu, Japan.

Notes. The type specimens of the present new species were found at two different stations in the alpine zone, at altitudes of about 2,400 m and 2,500 m, respectively. They were obtained from under stones which had been accumulated on the borders of snow patches, coexisting with alpine carabids, *Nippononebria pusilla* S. UÉNO and *Bembidion fujiyamai* HABU. They were not so active as in the case of *A. echigonus* of the northern end of the Northern Japanese Alps.

This new patrobine carabid is closely allied to *A. echigonus*. It is, however, distinguished from it by the following points: 1) body smaller and narrower on an average; 2) less arcuate sides of pronotum and of elytra; 3) apical copulatory piece broad and obliquely truncated at the left proximal corner; and, 4) proximal copulatory piece with no projection (cf. MORITA, 1987, pp. 36–40).

The specific name of this new patrobine was formed from an arbitrary combination of letters taken from the names of the two collectors, *Hase-GAWA* and *Miya-NO*.

要 約

森田誠司：高山性ヌレチゴミムシの1新種。——加賀白山の高山帯で採集されたヌレチゴミムシを、新種と認めて記載した。この種は、北アルプスの北部より知られているヒメヌレチゴミムシ *Apatrobis echigonus* に近縁であるが、小型で、おもに雄交尾器の陰茎内部に存在する骨片の形状から識別される。*hasemiya* という新名は、本種の採集者である長谷川道明、宮野昭彦の両氏に献名されたものである。

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