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A New *Apatrobus* (Coleoptera, Carabidae) from the Suzuka Mountain Range, Central Japan

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Abstract A new patrobine carabid beetle, *Apatrobus narukawai* sp. nov., is described from the Suzuka Mountain Range, Central Japan. It is related to *A. iwasakii* MORITA, but differs from it mainly in the shape of pronotum and the configuration of male genitalia.

In the spring of 1980, a medium-sized patrobine carabid beetle was obtained by Mr. Nobuyuki NARUKAWA at the Sakamoto-dani Valley of the Suzuka Mountain Range, Central Japan. He submitted this beetle to me for taxonomic study. An examination of its genitalia proved that though closely related to *A. iwasakii* MORITA (1987, pp. 36–40), it was no doubt new to science. Recently, I had an opportunity to visit the valley with him and succeeded in obtaining many additional specimens at the collecting site.

In this paper, I am going to describe it under the name of *A. narukawai*. The abbreviations used herein are the same as those explained in my previous papers.

Apatrobus narukawai MORITA, sp. nov.

[Japanese name: Suzuka-nurechi-gomimushi]

(Figs. 1–7)

Length: 8.55–9.75 mm (from apical margin of clypeus to apices of elytra).

Colour somewhat darker than in *A. iwasakii*. Head large, wide and convex; frontal furrows wide and moderately deep with rather coarse punctures; lateral grooves deep but short; anterior supraorbital pores located at the mid-eye level; posterior ones apart from posterior margin of eyes and close to neck constriction, which bears coarse punctures; mandibles rather short and stout; apical margin of labrum somewhat emarginate or almost straight; mentum tooth bifid; antennae rather short, reaching basal fourth of elytra, segment 2 usually with four setae, rarely three; relative lengths of antennal segments as follows: I: II: III: IV: V: VI: XI≒1: 0.47: 1.43: 0.94: 0.89: 0.86: 1.13.

Pronotum quadrate, moderately convex, widest at apical third; PW/HW 1.28–1.39 (M 1.36) in 10 ♂♂, 1.30–1.38 (M 1.34) in 8 ♀♀, PW/PL 1.28–1.38 (M 1.32) in 10 ♂♂, 1.27–1.37 (M 1.30) in 8 ♀♀, PW/PA 1.35–1.43 (M 1.34) in 10 ♂♂, 1.33–1.42 (M 1.38) in 8 ♀♀, PW/PB 1.28–1.39 (M 1.32) in 10 ♂♂, 1.26–1.33 (M 1.30)

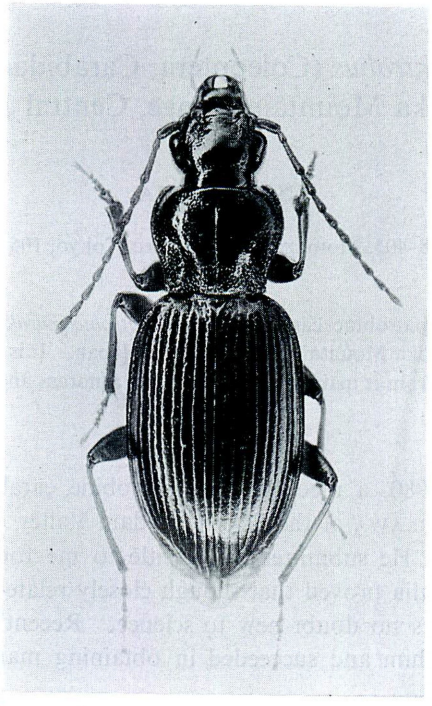
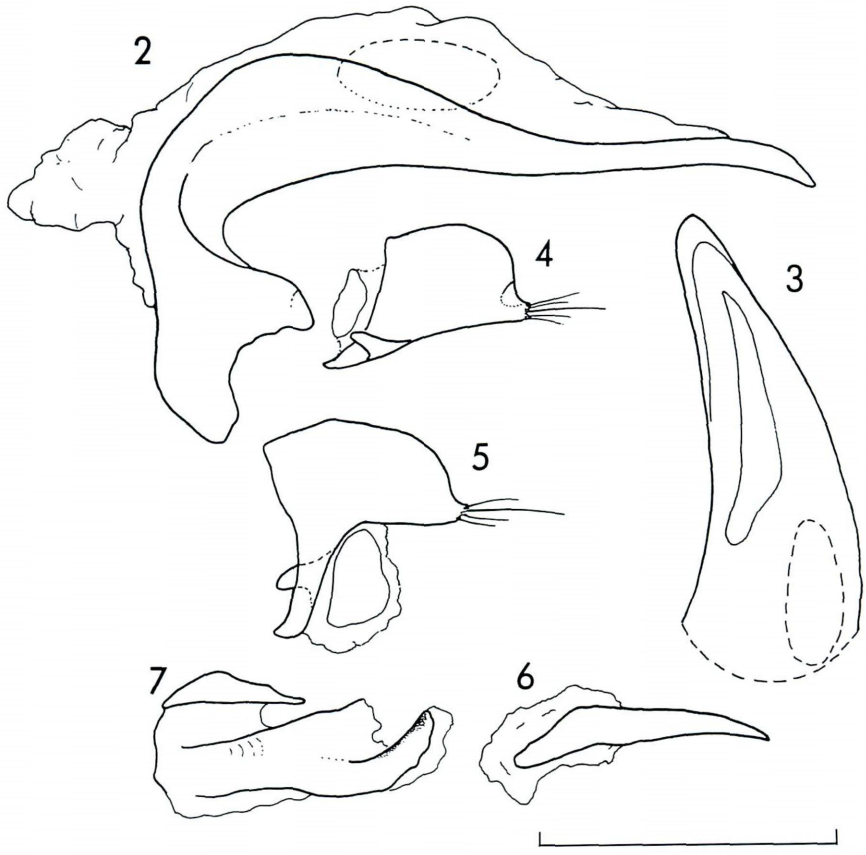


Fig. 1. *Apatrobus narukawai* MORITA, sp. nov., ♂, from the Sakamoto-dani Valley in Fujiwara-chô, Mie Prefecture.

in 8 ♀♀, apex weakly emarginate, usually a little narrower than base, PA/PB 0.90–1.00 (M 0.95) in 10 ♂♂, 0.88–0.98 (M 0.94) in 8 ♀♀; sides rather strongly arcuate in front, weakly sinuate behind and then parallel before hind angles; reflexed lateral borders gradually becoming wider both from the level of anterior marginal setae to apical angles and in the parallel-sided parts; apical angles produced and widely rounded, hind angles rectangular or a little sharp without carina; anterior transverse impression very shallow, though bearing coarse punctures; anterior marginal setae inserted a little before the widest part, with no additional seta, posterior ones inserted just before and inside hind angles; median line deep, becoming widened near base; basal foveae large and deep with coarse punctures; basal area between the foveae and the median line with coarse punctures and wrinkles.

Elytra elongated ovate, widest at about or a little before middle; EW/PW 1.30–1.38 (M 1.34) in 10 ♂♂, 1.32–1.37 (M 1.35) in 8 ♀♀, EL/EW 1.54–1.64 (M 1.58) in 10 ♂♂, 1.55–64 (M 1.59) in 8 ♀♀; surface convex though rather depressed at the basal part; shoulders rounded, less oblique than in *A. iwasakii*; intervals slightly convex with minute punctures which are coarser and denser than in *A. iwasakii*; scutellar striole short; striae rather deep, distinctly though coarsely punctate, becoming shallower near apices; three dorsal pores on interval 3, anterior two adjoining stria 3, and posterior one usually adjoining stria 3, rarely lying on interval 3.



Figs. 2–7. Male genitalia of *Apatrobus narukawai* 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, ventral view. (Scale: 1.00 mm.)

Variation in elytral chaetotaxy. Of the 22 specimens of the type series, 1 ♂ and 1 ♀, or 9.1%, are aberrant in the number of dorsal pores on the elytra, that is, they have an additional pore on the right elytron at basal fifth and sixth, respectively.

Apex of prosternum sparsely punctate; prepisternum, prepimeron, mesosternum, mesepisternum and metepisternum with coarse punctures; sides of metasternum sparsely punctate; in ♀, anal sternite with two pair of setae on a straight transverse line.

Microsculpture of pronotum partially slightly visible, forming transverse meshes; that of elytra distinct, forming wide or almost isodiametric meshes.

Male genital organ basically similar to that of *A. iwasakii*; aedeagus moderately sclerotized and bent at about 90 degrees at the basal fourth; lateral walls reduced at apical halves; viewed dorsally, apical half inclined to the right and gradually tapered towards apex, which is very narrowly rounded; viewed laterally, apical part curved

ventrad; inner sac armed with two copulatory pieces and a teeth-patch; apical copulatory piece heavily sclerotized, spine-like, pointed at apex, broader than in *A. iwasakii*, and obliquely truncated at left proximal corner; proximal copulatory piece lightly sclerotized, rather elongate and strongly rolled with a long and arcuate projection which is produced to the left; teeth-patch lies at the middle of inner sac along the left wall, consisting of heavily sclerotized teeth; styles rather poorly sclerotized, each bearing four or five setae.

Type series. Holotype: ♂, allotype: ♀, 29–IV–1989, S. MORITA & N. NARUKAWA leg.; 1 ♂, 26–IV–1980, N. NARUKAWA leg.; 9 ♂♂, 10 ♀♀, 29–IV–1989, S. MORITA & N. NARUKAWA leg.

The holo- and allotypes are preserved in the National Science Museum (Nat. Hist.), Tokyo.

Type locality. Sakamoto-dani Valley in Fujiwara-chô, Mie Prefecture, Central Japan.

Notes. This new species is closely allied to *A. iwasakii*. It is, however, distinguished from it by the following points: 1) head with coarse punctures; 2) pronotal sides more strongly arcuate in front and deeply sinuate behind; 3) apical angles of pronotum widely rounded; 4) elytra with less oblique shoulders; 5) apical copulatory piece broad and obliquely truncated at the left proximal corner; and, 6) proximal copulatory piece with a long and arcuate projection which is produced to the left.

The type locality of this new species is about 75 km distant to the southwest from that of *A. iwasakii*.

In concluding, I wish to thank Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his kindness in reading the original manuscript. My thanks are also due to Mr. Nobuyuki NARUKAWA for his kind help in the field.

要　約

森田誠司：鈴鹿山脈産ヌレチゴミムシの1新種．—— 鈴鹿山脈で採集されたヌレチゴミムシを，おもに前胸背板の外形，雄交尾器の内部構造から新種と認め，スズカヌレチゴミムシ *Apatrobus narukawai* と命名した．この新種は，岐阜県根尾村のイワサキヌレチゴミムシ *A. iwasakii* にもっとも近縁のものと考えられる．

References

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