

Notes on the Platynine Genus *Synuchus* (Coleoptera, Carabidae) of Japan

Part 3. Three Species from Amami-Ôshima Island, Southwestern Japan

Seiji MORITA

Higashi-gotanda 5–19–7, Shinagawa-ku, Tokyo, 141–0022 Japan

Abstract Three species of the genus *Synuchus* are recorded from Amami-Ôshima Island, southwestern Japan. *Synuchus (Synuchus) shibatai* HABU is redescribed based on the holotype and newly obtained specimens.

I am going to deal with three species of the genus *Synuchus* collected by Mr. M. NISHI and myself from Amami-Ôshima, southwestern Japan. They are *S. shibatai* (HABU, 1978, p. 346), *S. amami-oshimae* (HABU, 1978, p. 392) and *S. tokararum* (LINDROTH, 1956, p. 533). One of them, *S. shibatai* was described by HABU based on two specimens. He concluded that his new species may be placed at the side of *S. dulcigradus*, though he did not study its male genitalia. Since then, little information has been added to the taxa. On the other hand, the latter two species are peculiar in the habitus, therefore the identification of the specimens from this island is not too difficult.

The abbreviations used herein are as follows: — L – body length, measured from apical margin of clypeus to apices of elytra; 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; WL – length of hind wing; TL – length of metatarsus; M – arithmetic mean. The PB value was taken by the width between the roots of hind angular setae, since the hind angles are rounded.

Before going further, I wish to express my deep gratitude to Dr. Luca TOLEDANO and Mr. Toshi-nobu MATSUMOTO for their kind help. My thanks are also due to Mr. Masahiro NISHI for supplying me with the important material. Further, I am deeply indebted to Dr. Shin-ichi YOSHIMATSU and Dr. Hira-ku YOSHITAKE of the National Institute for Agro-Environmental Science, Tsukuba for giving me the opportunity to study the type specimens of *Synuchus* described by HABU. Without their cooperation, I could not have undertaken this study.

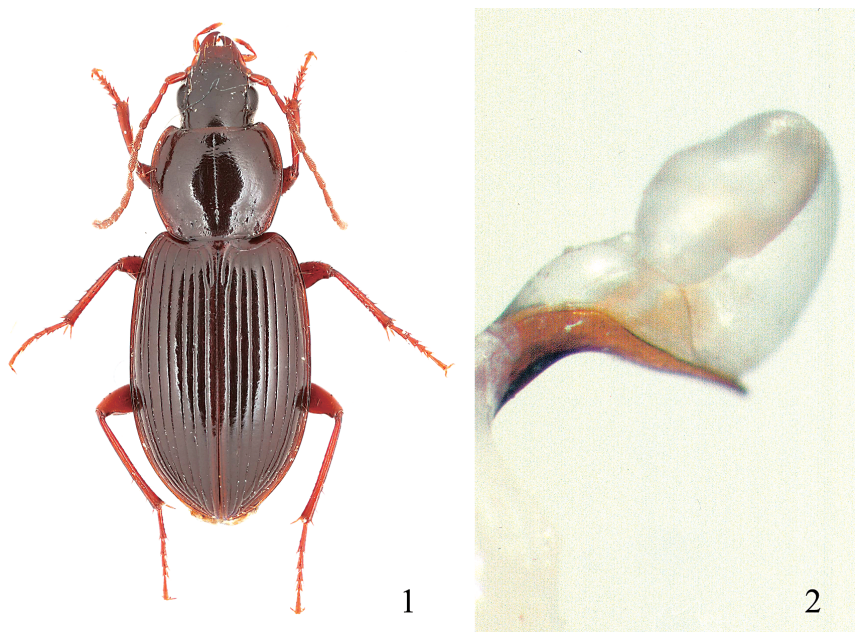
Synuchus (Synuchus) shibatai HABU

[Japanese name: Shibata-tsuya-hirata-gomimushi]

(Figs. 1–8)

Synuchus (Synuchus) shibatai HABU, 1978, 346: type locality: Ikari.

Diagnosis. Body relatively small; eyes weakly convex; terminal segments of palpi not dilated; antennal segment II with a long seta and a short seta on each side; sides of pronotum moderately arcuate throughout; elytral apices not obliquely truncated; apices of striae 2 and 7 not anastomosed near the elytral apices; claw with several teeth; in ♂, anal sternite with moderately arcuate margin; aedeagus bent at about middle; basal half of aedeagus deeply concave at ventral side and forming ridges at the sides; right paramere of male genitalia moderately bent at about middle, with narrowly rounded



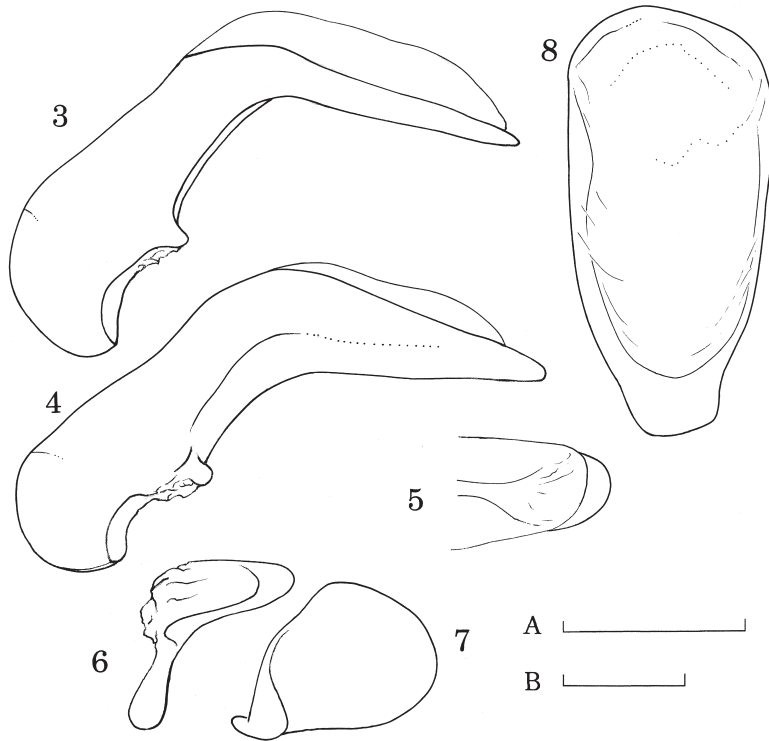
Figs. 1–2. *Synuchus (Synuchus) shibatai* HABU. — 1, Habitus; 2, apical half of aedeagus in left lateral view, showing everted inner sac.

apex; left paramere wide; in ♀, apical styli elongate, with two elongate spines (HABU, 1978, p. 345).

Description. L: 7.85–9.57 mm. Body relatively small. Body black; sides of pronotum and appendages brown.

Head weakly convex; eyes weakly convex; frontal furrows vanished or very shallow and short; lateral grooves linear, deep, straight and reaching the post-eye level; a pair of anterior supraorbital pores situated at a level of basal 2/3 of eyes; a pair of posterior supraorbital pores situated at post-eye level; microsculpture sharply impressed, consisting of polygonal meshes; genae oblique and short; neck rather wide; mentum tooth moderately bifid at the tips; apex of labrum usually almost straight or sometimes weakly emarginate; in ♂, terminal segment of labial palpus rather wide, widest at about middle (not dilated); terminal segment of maxillary palpus widest at about middle; antennae short and reaching about basal 3/20 of elytra; antennal segment II with one long seta and one short seta on each side; relative lengths of antennal segments as follows: — I : II : III : IV : V : VI : XI \cong 1 : 0.61 : 1.06 : 1.12 : 1.15 : 1.10 : 1.34 in ♂, 1 : 0.55 : 1.00 : 1.07 : 1.10 : 1.04 : 1.21 in ♀.

Pronotum weakly convex and widest at about middle or a little before the middle; PW/HW 1.58–1.63 (M 1.61) in ♂, 1.50–1.63 (M 1.56) in ♀; PW/PL 1.17–1.27 (M 1.23) in ♂, 1.18–1.31 (M 1.22) in ♀; PW/PA 1.46–1.59 (M 1.52) in ♂, 1.48–1.55 (M 1.51) in ♀; PW/PB 1.31–1.35 (M 1.33) in ♂, 1.31–1.38 (M 1.34) in ♀; PA/PB 0.85–0.91 (M 0.88) in ♂, 0.87–0.90 (M 0.89) in ♀; sides moderately arcuate throughout; apical angles weakly to moderately produced, and narrowly and simply rounded at the tips; apex almost straight and moderately emarginate at the sides, or moderately so throughout; median line finely impressed and close to margins; a pair of anterior marginal setae situated a little before the widest part; anterior transverse impression obliterated; basal foveae very shallow, wide and weakly rugose; hind angles rounded and each with a seta; base almost straight; basal part sparsely punctate and weakly wrinkled at the median part; microsculpture weakly impressed and con-



Figs. 3–8. *Synuchus (Synuchus) shibatai* HABU. — 3, Aedeagus, left lateral view; 4, same, oblique left ventro-lateral view; 5, apical part of aedeagus, dorsal view; 6, right paramere, left lateral view; 7, left paramere, left lateral view; 8, genital segment. Scale: 0.5 mm. A for 3–7; B for 8.

sisting of fine transverse meshes at most part, and of polygonal meshes at basal foveae and the narrow areas along the outside of hind angles.

Elytra narrow, elongate and moderately convex; EW/PW 1.26–1.40 (M 1.32) in ♂, 1.30–1.42 (M 1.34) in ♀; EL/EW 1.54–1.67 (M 1.60) in ♂, 1.53–1.60 (M 1.57) in ♀; shoulders moderately arcuate; sides very weakly arcuate from shoulders to the widest part and moderately so towards apices, without preapical emargination; apices weakly produced, weakly separated from each other, and each with narrowly rounded apex (not obliquely truncated); striae deep and impressed with microsculpture of transverse line; scutellar striole rather long, situated on interval I; basal pore situated on base of stria 1; microsculpture strongly impressed and consisting of coarse and polygonal meshes; intervals weakly convex and very sparsely and finely punctate; marginal series of umbilicate pores 15–17 in number; two dorsal pores very weak, situated on interval III and adjoining stria 2; the first pore situated between basal 1/3–2/5 in ♂ and ♀; the second one between basal 7/10–3/4 in ♂, 3/5–7/10 in ♀; subapical pore close to apical part of stria 7 (cf. HABU, 1978, p. 329); elytral epipleuron gradually narrowed apicad; inner plica indistinct. WL/EL 1.37 in 1 ♂, 1.39 in 1 ♀.

Ventral surface almost smooth; sides of sternites (II–V) with short and longitudinal wrinkles; in ♂, anal sternite (VI) coarsely and strongly impressed with microsculpture of transverse meshes, and narrowly arcuate at apex.

Legs of moderate size; TL/HW 1.09–1.21 (M 1.15) in ♂, 1.05–1.11 (M 1.07) in ♀; metatrochanter robust, with widely rounded apex; in ventral view, metafemora each with a long seta at about mid-

dle and with one or two short and stout setae at subapical part; outer sides of basal two segments of meso- and metatarsi sulcate; claw segments of meso- and metatarsi with two pairs of setae on ventral side; claw with several teeth.

Genital segment elongate with wide and short handle.

Aedeagus elongate and moderately bent at about middle; basal part large without sagittal aileron; basal half of ventral side deeply concave, and forming ridges at the sides; apical half of ventral side almost flat; in lateral view, apical lobe very short with narrowly rounded apex; viewed dorsally, both sides not close to each other at apical half; apex widely rounded at the tip in dorsal view.

Right paramere moderately bent at about middle, with narrowly rounded apex; left paramere wide.

Inflated inner sac strongly curved towards left ventro-lateral side; basal part with poorly sclerotized parts on both sides; surface almost smooth, and subapical part covered with very poorly sclerotized scales.

In ♀, apical styli elongate, with two elongate spines.

Specimens examined. 1 ♀ (holotype), “IKARI, AMAMI IS. 4.VI.1960 T. Shibata” / “Holotype *Synuchus shibatai* HABU”; 1 ♂, Gusuku, Sumiyō, 28.I.2013, M. NISHI leg.; 1 ♂, 2 ♀♀, Higashinakama, 17.I.2014, M. NISHI leg.; 1 ♂, 7 ♀♀, Yuwan, 29.I.2014, M. NISHI leg.; 3 ♀♀, Nishinakagachi, 8–9. II.2014, M. NISHI leg.; 1 ♂, Yuwan 23.III.2014, S. MORITA leg.

Range. Amami-Ōshima Is., Kagoshima Pref., southwestern Japan.

Specimens dissected and measured. Standard ratios of body parts shown in the descriptive part are those of three males and five females. The genitalia of three males were dissected. The structure of inner sacs of two specimens was examined.

Notes. This species is no doubt a close relative of *S. inadai* (MORITA et ARAI, 2003), as indicated by both the external and genitalic features.

Synuchus (Synuchus) tokararum LINDROTH

[Japanese name: Tokara-tsuya-hirata-gomimushi]

Synuchus (Synuchus) tokararum LINDROTH, 1956, p. 533; type locality: Takara-jima Is., southwestern Japan.

Redescription based on a female. L: 10.86 mm. Head with moderately convex eyes; microsculpture weakly impressed and consisting of polygonal meshes; surface sparsely and finely punctate; relative lengths of antennal segments as follows: — I : II : III : IV : V : VI : XI = 1 : 0.63 : 1.18 : 1.24 : 1.21 : 1.19 : 1.29.

Pronotum weakly convex; PW/HW 1.50, PW/PL 1.32, PW/PA 1.53, PW/PB 1.27, PA/PB 0.83; apical angles with weakly protrudent apices; microsculpture weakly impressed, consisting of wide or transverse meshes at most part, and more strongly impressed and consisting of polygonal meshes at basal foveae and reflexed sides.

Elytra wide, elongate and moderately convex; shoulders moderately arcuate; EW/PW 1.47, EL/EW 1.49; sides weakly arcuate from shoulders to the basal 3/5, then moderately so towards apices; apex obliquely truncated; microsculpture strongly impressed, consisting of coarse and polygonal meshes; intervals moderately convex and very sparsely punctate; two dorsal pores very weak, situated on interval III and adjoining stria 2; the first pore situated at basal 2/5 and the second at basal 7/10.

Anal sternite widely arcuate; microsculpture strongly impressed and consisting of transverse meshes.

Specimens examined. 1 ♀, Kominato, Amami-shi, 4.XII.2011, M. NISHI leg.; 1 ♀ (teneral), same

locality, 22–23.II.2014, M. NISHI leg.

Range. Takara-jima Is. and Nakano-shima Is., Tokara Isls., and Amami-Ôshima Is., Kagoshima Prefecture; Okinawa-jima Is., Okinawa Prefecture, southwestern Japan.

Notes. The Amami-Ôshima specimen is identical in every external features with the Takara-jima females, but is slightly different from the latter in the weakly protrudent apices of apical angles of pronotum.

The body length and the ratios of body parts in five females from Takara-jima are as follows: L: 10.42–11.57 mm; relative lengths of antennal segments as follows: — I : II : III : IV : V : VI : XI \approx 1 : 0.61 : 1.12 : 1.19 : 1.10 : 1.07 : 1.08; PW/HW 1.44–1.51 (M 1.48); PW/PL 1.27–1.31 (M 1.29); PW/PA 1.45–1.51 (M 1.49); PW/PB 1.24–1.32 (M 1.28); PA/PB 0.81–0.89 (M 0.86); EW/PW 1.46–1.48 (M 1.47); EL/EW 1.51–1.61 (M 1.57); TL/HW 1.23–1.27 (M 1.25). Their collecting data are as follows: 5 ♀♀, Takara-jima, 1–7.IV.1976, S. MORITA leg.

Synuchus (Calathosynuchus) amamioshimae HABU

[Japanese name: Amami-tsuya-hirata-gomimushi]

Synuchus (Calathosynuchus) amamioshimae HABU, 1978, 392: type locality: Hatsuno.

Specimens examined. 1 ♀, Yuwan, Uken-son, 29.I.2014, M. NISHI leg.; 1 ♂, Ishihara, Sumiyô-chô, 17.V.2014, M. NISHI leg.; 1 ♀, same locality, 28.VI.2014, M. NISHI leg.

Range. Amami-Ôshima Is., Kagoshima Prefecture, southwestern Japan.

Notes. This species is very peculiar in the shape of elytra and bordered prosternal process.

要 約

森田誠司：日本産ツヤヒラタゴミムシ属の研究（鞘翅目オサムシ科）。Part 3. 奄美大島産の3種について、—— 奄美大島から3種を記録し、おもに、2頭の標本をもとに記載されたシバタツヤヒラタゴミムシの再記載を行った。

References

- HABU, A., 1978. Carabidae: Platynini (Insecta: Coleoptera). Fauna Japonica. viii + 447 pp., 36 pls. Keigaku Publishing, Tokyo.
MORITA, S., & K. ARAI, 2003. A new *Synuchus* (Coleoptera, Carabidae) from Okinawa-hontô Island, Southwestern Japan. *Elytra, Tokyo*, **31**: 403–408.

Manuscript received 6 April 2015;
revised and accepted 10 July 2015.