

## A New Pterostichine Carabid Beetle from Niigata Prefecture, Central Japan

Seiji MORITA

Motoazabu 1–3–28–405, Minato-ku, Tokyo, 106 Japan

**Abstract** A new pterostichine carabid beetle, *Pterostichus (Eosteropus) sudai* sp. nov., is described from Niigata Prefecture, Central Japan. It is closely allied to *P. (E.) prolongatus* MORAWITZ.

The subgenus *Eosteropus* TSCHITSCHÉRINE (1902, p. 499) consists of five known species mainly distributed in Japan. Very recently, an interesting species of the subgenus was obtained by Mr. Tôru SUDA near the Japan Sea coast of Central Japan, and was submitted to me for taxonomic study. An examination of its genital organ proved that though closely related to *P. (E.) prolongatus* MORAWITZ (1862, p. 209), it was no doubt new to science. In the present paper, I am going to describe it under the name of *P. (E.) sudai*. The abbreviations used herein are the same as those explained in my previous papers.

Before going further, I wish to express my deep gratitude to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for critical reading of the original manuscript of this paper. My thanks are also due to Messrs. Toshio KISHIMOTO and Tôru SUDA for their kind offer of the materials, and to Dr. Yûki IMURA and Mr. Noboru ITO for their kind help.

### *Pterostichus (Eosteropus) sudai* MORITA, sp. nov.

[Japanese name: Echigo-kuronaga-gomimushi]

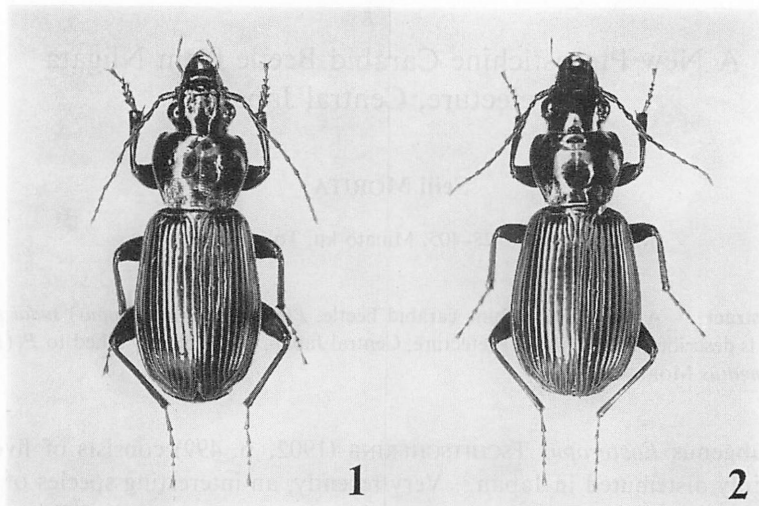
(Figs. 1–8)

Length: 15.8–18.1 mm (from apical margin of clypeus to apices of elytra).

Body relatively large, with ample elytra especially in ♀. Colour black; labrum, mandibles, basal segments of antennae and legs blackish brown; palpi and apical segments of antennae dark brown.

Head large and convex; frontal furrows short, rather shallow, parallel or a little divergent posteriad and reaching the level of anterior supraorbital pore; eyes large; genae relatively convex; mandibles long, hooked at apices; mentum tooth bifid; microsculpture composed of more or less wide meshes though partially irregular; antennae subfiliform and long; relative lengths of antennal segments as follows:— I: II: III: IV: V: VI: XI ≐ 1: 0.46: 0.86: 0.85: 0.84: 0.85: 0.77.

Pronotum transverse, slightly convex, and widest at about apical third; PW/HW



Figs. 1–2. *Pterostichus (Eosteropus) sudai* MORITA, sp. nov., from Yoshikawa-chô, Niigata Prefecture, Central Japan; 1, ♂; 2, ♀.

1.32–1.42 (M 1.38) in 10 ♂♂, 1.35–1.41 (M 1.37) in 10 ♀♀, PW/PL 1.27–1.36 (M 1.31) in 10 ♂♂, 1.28–1.40 (M 1.35) in 10 ♀♀, PW/PA 1.31–1.44 (M 1.36) in 10 ♂♂, 1.28–1.40 (M 1.34) in 10 ♀♀; PW/PB 1.41–1.56 (M 1.47) in 10 ♂♂, 1.40–1.52 (M 1.45) in 10 ♀♀; apical margin widely emarginate, a little wider than base; PA/PB 1.04–1.14 (M 1.08) in 10 ♂♂, 1.04–1.13 (M 1.09) in 10 ♀♀; sides moderately arcuate in front, then strongly convergent posteriad, sometimes very slightly sinuate just before hind angles; apical angles a little advanced and rounded at the tips; hind ones obtuse, rounded at the tips; base almost straight at middle, arcuately oblique inside each hind angle; basal foveae very large but flat, with coarse punctures; median line shallow, reaching neither apex nor base; anterior pair of marginal setae situated at about the widest part; anterior transverse impression almost obsolete; microsculpture composed of irregular lines partially forming irregular meshes.

Elytra oblong-ovate, widest at a level a little behind middle; EW/PW 1.29–1.42 (M 1.34) in 10 ♂♂, 1.32–1.42 (M 1.37) in 10 ♀♀, EL/EW 1.38–1.55 (M 1.45) in 10 ♂♂, 1.37–1.59 (M 1.43) in 10 ♀♀; sides almost straight behind shoulders, moderately arcuate behind middle, and deeply emarginate before apices; striae entire, indistinctly crenulate; intervals slightly convex or almost flat with microscopic punctures; basal part of interval 8 with transverse sulci; epipleuron truncate at apex; inner plica slightly visible in lateral view; apices separately rounded in general, forming a small re-entrant angle; three dorsal pores on interval 3, anterior one adjoining stria 3 and the others adjoining stria 2; marginal series composed of 17 to 18 pores; microsculpture composed of transverse lines partially forming irregular meshes.

Legs rather slender; hind tarsus usually longer than the width of head.

Apical part of mesepisterna with microscopic punctures; metepisterna and sides

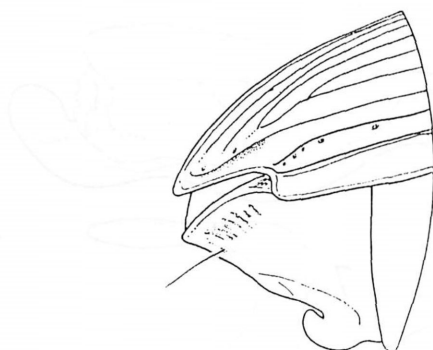


Fig. 3. Hind body of *Pterostichus (Eosteropus) sudai* MORITA, sp. nov.; right lateral view.

of metasternum usually with coarse punctures; in ♂, anal sternite wrinkled and weakly depressed at the sides and the apical part, and with a stout projection and a short longitudinal carina at about middle; viewed laterally, the projection strongly bent and rounded at apex; in ♀, anal sternite usually depressed in apical half, with apical margin more or less angulate on each side.

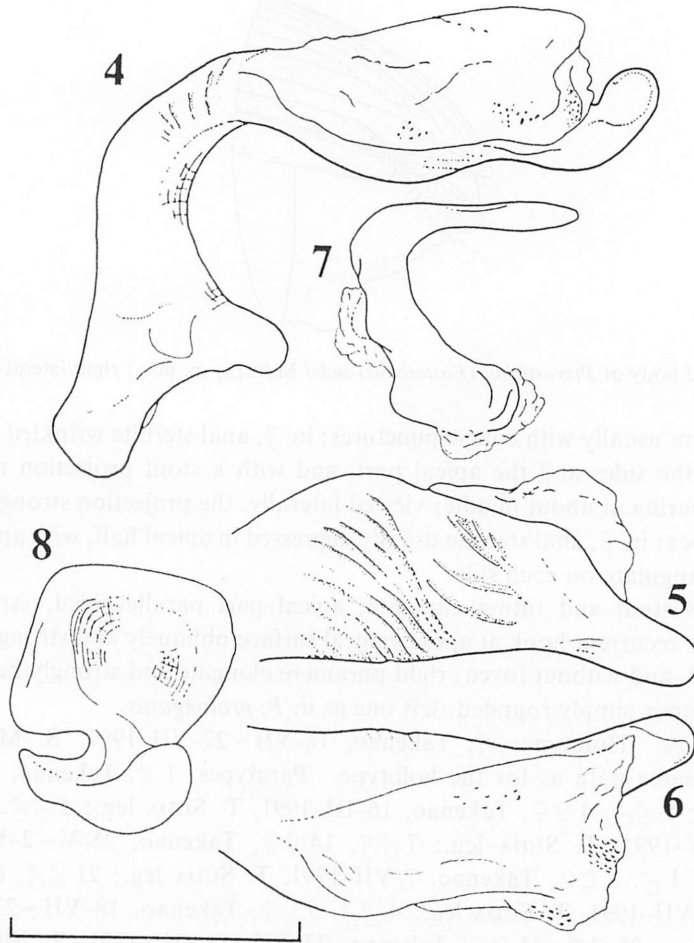
Aedeagus stout and rather elongate; apical part parallel-sided, strongly bent, and forming a recurrent hook at apex; ventral surface obliquely and strongly wrinkled at apical third, and without fovea; right paramere elongate and strongly bent at about middle, with apex simply rounded; left one as in *P. prolongatus*.

*Type series.* Holotype: ♂, Takenao, 18-VII~27-VII-1991, S. MORITA leg.; allotype: ♀, same data as for the holotype. Paratypes: 1 ♂, Takenao, 19-V-1990, T. SUDA leg.; 5 ♂♂, 4 ♀♀, Takenao, 16-III-1991, T. SUDA leg.; 5 ♂♂, 2 ♀♀, Takenao, 13-IV-1991, T. SUDA leg.; 7 ♂♂, 14 ♀♀, Takenao, 25-V~2-VI-1991, S. MORITA leg.; 1 ♂, 3 ♀♀, Takenao, 7-VII-1991, T. SUDA leg.; 21 ♂♂, 64 ♀♀, Takenao, 7~8-VII-1991, T. SUDA leg.; 4 ♂♂, 5 ♀♀, Takenao, 18-VII~27-VII-1991, S. MORITA leg.; 28 ♂♂, 33 ♀♀, Takenao, 27-VII~2-VIII-1991, S. MORITA & T. KISHIMOTO leg.; 4 ♂♂, 8 ♀♀, Takenao, 8~16-VIII-1991, T. KISHIMOTO leg.; 2 ♂♂, Asahi-ike, 17~18-VIII-1991, T. SUDA leg.

*Localities.* Takenao (type locality), 10–15 m in altitude, Yoshikawa-chô; Asahi-ike, 10 m in altitude, Ookata-machi, Niigata Prefecture, Central Honshu, Japan.

The holo- and allotypes are preserved in the National Science Museum (Nat. Hist.), Tokyo. The paratypes are distributed to the above collection and the private collections of the author and Mr. SUDA.

*Notes.* This new pterostichine carabid is closely allied to *P. (E.) prolongatus*. It is, however, distinguished from it by the following points: 1) body larger and wider on an average; 2) pronotal sides strongly convergent posteriad, and sometimes very slightly sinuate just before hind angles; 3) elytra less parallel-sided, oblong-ovate; 5) epipleuron truncated at apex; 6) aedeagus elongate without fovea on the ventral surface. Individual variation in the number of elytral dorsal pores is shown



Figs. 4-8. Male genital organ of *Pterostichus (Eosteropus) sudai* MORITA, sp. nov.; 4, aedeagus, left lateral view; 5, apical part of aedeagus, ventral view; 6, apical part of aedeagus, dorsal view; 7, right paramere, left lateral view; 8, left paramere, left lateral view. (Scale: 2.00 mm.)

in Table 1.

The most obvious diagnostic features of the subgenus *Eosteropus* were summarized by TANAKA (1958). Since then, his view has been accepted by various authors. It is, however, necessary to clarify its true relationship with the subgenus *Steropus* STEPHENS (1828, p. 116). They are very similar to each other with the exception of aedeagal structure.

It seems probable that the actual population density of this new species is considerably high in the summer, since Mr. SUDA once took a long series of this species by baited traps.

Table 1. Individual variation in the number of elytral dorsal pores in *Pterostichus (Eosteropus) sudai* MORITA, sp. nov. Examples. Read the line 3: 4 as follows:— 3 pores on the left elytron, 4 pores on the right elytron.

Number of dorsal pores	♂	♀	Number of dorsal pores	♂	♀
3: 5	1	0	3: 2	0	1
4: 4	2	1	2: 2	1	3
4: 3	8	4	1: 3	1	1
3: 4	5	5	2: 2	0	1
2: 4	0	1	2: 1	1	0
3: 3	55	100			

Total number of specimens examined: ♂ 74, ♀ 117.

### 要 約

森田誠司: 新潟県で採集されたナガゴミムシ属の1新種。——新潟県の低湿地で採集された、ナガゴミムシ属のクロナゴミムシ亜属に属する1新種、エチゴクロナゴミムシ *Pterostichus (Eosteropus) sudai* を記載した。本種は、オオクロナゴミムシ *P. (E.) prolongatus* (MORAWITZ) に似ているが大型で、前胸背板の側縁が強く後角へ向かって狭まること、上翅側片の末端が切断状になること、陰茎が細長く先端部下面に小窩を欠くことなどの点で識別はやさしい。

### References

- MORAWITZ, A., 1862. Vorläufige Diagnosen neuer Coleopteren aus Sudost-Sibirien. *Bull. Acad. imp. Sci. St.-Petersb.*, **4**: 231–265.
- NAKANE, T., 1979. The beetles of Japan (new series) 57. Harpalidae 11. *Nature & Insects, Tokyo*, **14** (7): 4–11. (In Japanese.)
- TANAKA, K., 1958. Studies on the genus *Pterostichus* from Japan (I). Subgenus *Eosteropus* (Carabidae, Coleoptera). *Kontyû, Tokyo*, **26**: 215–219.
- 1985. Carabidae (Pterostichinae, Zabrinae). In UÉNO, S.-I., Y. KUROSAWA & M. SATÔ (eds.), *Coleoptera of Japan in Color*, **2**: 105–138. Hoikusha, Osaka. (In Japanese.)
- TSCHITSCHÉRINE, T., 1902. Platysmatini (Coleoptera, Carabidae) nouveaux ou peu connus de l'Asie orientale. *Hor. Soc. ent. ross.*, **35**: 494–501.