

A New *Leistus* (Coleoptera, Carabidae) from the Northern Japanese Alps

Seiji MORITA

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

Abstract A new nebrine carabid beetle is described from the Northern Japanese Alps, Central Japan, under the name of *Leistus kurosawai*. It is related to *L. niger alecto* BATES, but differs from it mainly in the shape of the elytra and the apical lobe of the aedeagus.

The present paper deals primarily with a new species of the nebrine genus *Leistus* from the Northern Japanese Alps, Central Japan. The subsequent paper will deal with a revisional study of the Japanese members of the genus. However, the revision will require several further years for completion.

The late Dr. Yoshihiko KUROSAWA who passed away early in this year affectionately watched my study of carabid beetles for a long time. My deep thanks are due to him, and the new species of *Leistus* described herein is named to his memory.

The abbreviations used herein are the same as those explained in my previous papers. The holotype and allotype of this new species are deposited in the National Science Museum (Nat. Hist.), Tokyo. The paratypes are preserved in the collection of the Toyohashi Museum of Natural History and my private collection.

I am deeply indebted to Dr. Shun-Ichi UÉNO for critically reading the manuscript of this paper. Thanks are also due to Mr. Michiaki HASEGAWA and the late Mr. Hirofumi HAYAKAWA for supplying me with important material.

Leistus kurosawai MORITA, sp. nov.

[Japanese name: Takane-kinokawa-gomimushi]

(Figs. 1–6)

Diagnosis. Body elongate; elytral sides weakly arcuate throughout; hind wings reduced; elytral apices weakly produced; viewed dorsally, apical lobe of aedeagus narrow and basal margin of dorsal membranous part weakly produced.

Description. L: 8.1–9.2 mm. Body elongate with narrow elytral base.

Colour blackish brown; mouth parts, antennal segments II–XI, tibiae and tarsi brown; antennal segment I and femora blackish brown.

Head moderately convex; eyes prominent; frontal furrows very shallow and usu-

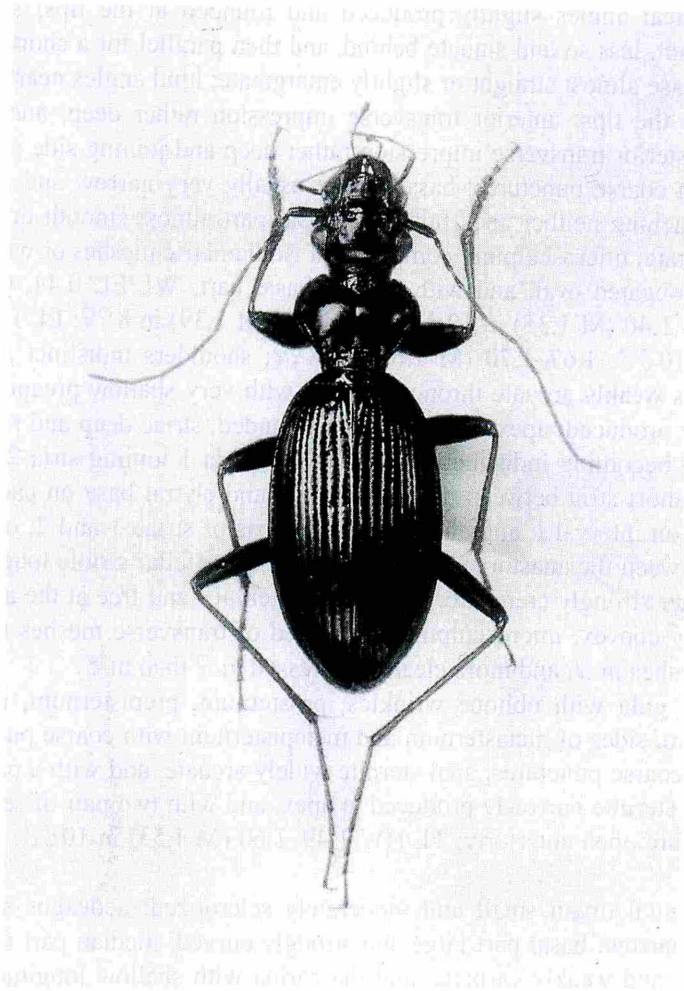


Fig. 1. *Leistus kurosawai* MORITA, sp. nov., ♂, from Mt. Sugoroku-dake.

ally with many longitudinal wrinkles; PW/HW 1.21–1.26 (M 1.23) in 10♂♂, 1.23–1.30 (M 1.26) in 8♀♀; microsculpture composed of isodiametric meshes; antennae slender and reaching basal 11/20 of elytra; relative lengths of antennal segments as follows:— I:II:III:IV:V:VI:XI=1:0.32:0.76:0.57:1.08:1.02:0.78 in 10♂♂, 1:0.32:0.75:0.58:1.11:1.11:0.80 in 8♀♀.

Pronotum transverse and moderately convex; PW/PL 1.33–1.41 (M 1.38) in 10♂♂, 1.36–1.47 (M 1.41) in 8♀♀; PW/PA 1.71–1.86 (M 1.77) in 10♂♂, 1.67–1.77 (M 1.74) in 8♀♀; PW/PB 1.88–2.00 (M 1.92) in 10♂♂, 1.84–2.00 (M 1.89) in 8♀♀; PA/PB 1.03–1.17 (M 1.10) in 10♂♂, 1.06–1.17 (M 1.09) in 8♀♀; apical margin widely and clearly bordered except at middle, moderately produced, and with coarse punctures

at middle; apical angles slightly produced and rounded at the tips; sides strongly rounded in front, less so and sinuate behind, and then parallel for a short way towards hind angles; base almost straight or slightly emarginate; hind angles nearly rectangular and obtuse at the tips; anterior transverse impression rather deep, and with coarse punctures; posterior transverse impression rather deep and joining side gutter on each side, and with coarse punctures; basal foveae usually very narrow and deep; median line linear, reaching neither apex nor base; basal part almost smooth or sparsely and coarsely punctate; microsculpture composed of isodiametric meshes or wide ones.

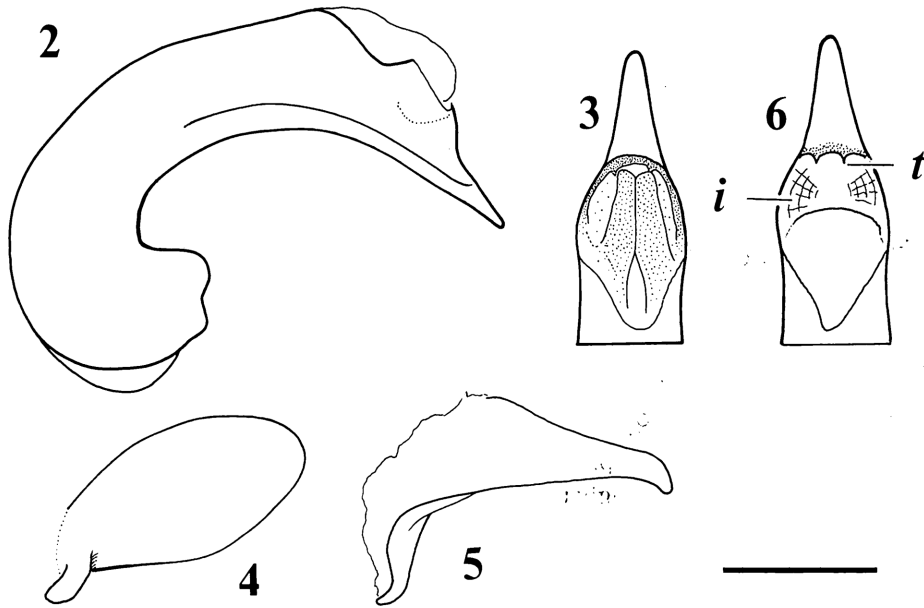
Elytra elongated oval, and with narrow basal part; WL/EL 0.44, 0.46 in 2♂♂; EW/PW 1.33–1.40 (M 1.35) in 10♂♂, 1.34–1.43 (M 1.39) in 8♀♀; EL/EW 1.68–1.75 (M 1.71) in 10♂♂, 1.67–1.70 (M 1.69) in 8♀♀; shoulders indistinct and obliquely rounded; sides weakly arcuate throughout, and with very shallow preapical sinuation; apices weakly produced; apex of each elytron rounded; striae deep and rather strongly crenulate, but becoming indistinct towards apices; stria 1 joining stria 2 at basal part and forming short stria between the anastomosis and elytral base on each side; basal pore situated on interval I, and close to anastomosis of striae 1 and 2, or close to the short stria between the anastomosis and elytral base; scutellar striole long, joining elytral base, rather strongly crenulate, situated on interval I and free at the apical end; intervals weakly convex; microsculpture composed of transverse meshes in ♂, wide or transverse meshes in ♀, and more clearly impressed in ♀ than in ♂.

Sides of gula with oblique wrinkles; prosternum, prepisternum, mesosternum, mesepisternum, sides of metasternum and metepisternum with coarse punctures; basal sternite with coarse punctures; anal sternite widely arcuate, and with a pair of setae in ♂; in ♀, anal sternite narrowly produced at apex, and with two pair of setae which are on a shallow arc open anteriorly; TL/HW 1.49–1.60 (M 1.53) in 10♂♂, 1.41–1.48 (M 1.44) in 8♀♀.

Male genital organ small and moderately sclerotized; aedeagus small; sagittal aileron very narrow; basal part large and strongly curved; median part of ventral side longitudinally and weakly carinate, and the carina with shallow longitudinal sulci on both sides; dorsal membranous part narrow and weakly produced at the proximal end, and with two longitudinal strips which are poorly sclerotized; apical membranous part and sides of the dorsal one heavily sclerotized, and with two teeth (cf. *t* in Fig. 6), and inner wall (cf. *i* in Fig. 6); apical lobe strongly produced and simply rounded in dorsal view; right paramere elongate, and with incurved apex; left one elongated oval.

Variation in elytral chaetotaxy. Setiferous dorsal pores are distributed between 1/20 and 4/5 from elytral base and on interval III and stria 3, but they vary in number and position.

Of the 32 males of the type series, 19 or 60% have three setiferous dorsal pores on the left elytron, and 17 or 55% have three setiferous dorsal pores on the right. Extremes of variation in the number are as follows: two males have five pores on the left elytron and three on the right, respectively; a male has a single pore on the left, and three on the right; a female has two pores on the left and one on the right.



Figs. 2–6. Male genital organ of *Leistus kurosawai* MORITA, sp. nov., from Mt. Sugoroku-dake; aedeagus, left lateral view (2), apical part of aedeagus, dorso-apical view (3), left paramere, left lateral view (4), right paramere, left lateral view (5), and apical part of aedeagus without two longitudinal strips in another specimen, dorso-apical view, *i* – wall, *t* – tooth (6). Scale: 0.5 mm.

In ♂, pores are usually present on interval III and close to stria 3, or joining stria 3, sometimes on stria 3, and rarely on the middle of interval III. In ♀, pores are usually present on interval III and close to stria 3, or on stria 3, and sometimes adjoining stria 3.

Type series. Holotype: ♂, allotype: ♀, Mt. Sugoroku-dake, Gifu Pref., 15~17-VII-1989, M. HASEGAWA leg. Paratypes: 3 ♂♂, Mt. Sugoroku-dake, Nagano Pref., 25-VII-1974, S. TAKENAKA leg.; 2 ♂♂, 1 ♀, same locality, 13-VIII-1989, S. MORITA leg.; 20 ♂♂, 6 ♀♀, Mt. Sugoroku-dake, Gifu Pref., 15~17-VII-1989, M. HASEGAWA leg.; 1 ♂, same locality, 16-VII-1989, N. KANIE leg.; 5 ♂♂, same locality, 8~11-IX-1989, M. HASEGAWA leg.; 1 ♀, Mt. Mitsumatarengedake, Gifu Pref., 9~10-IX-1989, M. HASEGAWA leg.

Localities of the type series. Mt. Sugoroku-dake (type locality) on the borders of Gifu and Nagano Prefectures, and Mt. Mitsumatarengedake, on the borders of Gifu, Nagano and Toyama Prefectures in central Honshu, Japan.

All the specimens were taken at about 2,600 m in altitude.

Notes. According to ERWIN (1970, p.112), this new species belongs to the subgenus *Neoleistus* ERWIN. However, recognition of the subgenus seems to be a matter of opinion (SHILENKOV, 1999, p.76), though I have no intention to go further into discussion on this problem.

This new species is very closely allied to *L. niger alecto* BATES (1883, p. 221). It is, however, distinguished from it by the following points: 1) body usually small; 2) sides of pronotum rather straightly convergent posteriad; 3) pronotum less convex; 4) basal part of elytra narrower, and with more oblique shoulder on each side; 5) elytral sides weakly arcuate throughout; 6) short stria between anastomosis of striae 1 and 2 and elytral base longer, 7) hind wings reduced, WL/EL 0.44, 0.46 in 2♂♂; 8) apices of elytra less strongly produced, and 9) viewed dorsally, apical lobe of aedeagus narrower, and basal margin of dorsal membranous part weakly produced. [In *L. niger alecto*, body larger, L : 8.2–9.8 mm; PW/HW 1.25–1.26 (M 1.25) in 3♂♂, 1.27 in 1♀, PW/PL 1.39–1.41 (M 1.40) in 3♂♂, 1.38 in 1♀, PW/PA 1.74–1.77 (M 1.75) in 3♂♂, 1.75 in 1♀, PW/PB 1.84–1.86 (M 1.85) in 3♂♂, 1.91 in 1♀, PA/PB 1.05–1.06 (M 1.05) in 3♂♂, 1.10 in 1♀, EW/PW 1.32–1.38 (M 1.34) in 3♂♂, 1.34 in 1♀, EL/EW 1.67–1.73 (M 1.70) in 3♂♂, 1.67 in 1♀, TL/HW 1.49, 1.53 (M 1.51) in 2♂♂, 1.37 in 1♀; WL/EL 0.54 in 1♂; viewed dorsally, apical lobe of aedeagus rather wide and basal margin of dorsal membranous part strongly produced.]

要 約

森田誠司：北アルプス産キノカワゴミムシの1新種。——北アルプスの高山帯で採集されたキノカワゴミムシ属の1新種，タカネキノカワゴミムシ *Leistus kurosawai* を記載した。本種は，北日本に分布するキノカワゴミムシ *L. niger alecto* BATES に近縁であるが，上翅側縁がいちように丸まり，翅端が弱く突出すること，陰茎の背面の膜質部が基部方向に強く広がらないこと，陰茎の先端部が細いことなどの点で識別される。

References

- BATES, H. W., 1883. Supplement to the geodephagous Coleoptera of Japan, chiefly from the collection of Mr. George LEWIS, made during his second visit, from February, 1880, to September, 1881. *Trans. ent. Soc. London*, **1883** : 205–290, pl.13.
- ERWIN, T. L., 1970. The Nearctic species of the genus *Leistus* FRÖLICH (Coleoptera : Carabidae). *Pan-Pacif. Entomol.*, **46**: 111–119.
- PERRAULT, G. G., 1991. Le genre *Leistus* FROEHLIG (Coleoptera Carabidae Nebriini) XII—Le sous-genre *Neoleistus* ERWIN : Le groupe de *L. niger* GEBLER. *Bull. mens. Soc. linn. Lyon*, **60**: 14–19.
- SHILENKOV, V. G., 1999. Ground-beetles of the genus *Leistus* FROEHLICH of the Caucasus (Coleoptera Carabidae Nebriini). In ZAMOTAJLOV, A., & R. SCIACKY (eds.), *Advances in Carabidology*, 75–94. MUIISO Publishers, Krasnodar.