

A Remarkable New *Pterostichus* (Coleoptera, Carabidae)  
from Shikoku, Southwest Japan

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**Abstract** A remarkable new pterostichine carabid beetle is described from Shikoku, Southwest Japan, under the name of *Pterostichus* (*Pterostichus*) *tosanus* sp. nov. It is found under rock debris in the gullies on mountains, and seems very rare.

In the autumn of 1986, the junior author happened to collect a strange pterostichine carabid beetle on Okuminagawa-yama, a head on the southeastern branch of the Ishizuchi Mountains, in Kôchi Prefecture of the Island of Shikoku, Southwest Japan. It was a single female, though clearly discriminated from any of the known pterostichine species in its peculiar facies and must be new to science. Since then he often looked for the male of this species at various places of the island, but was unable to obtain additional specimens. Nine years later, late in the summer of 1995, he at last succeeded in obtaining long awaited male of the same species at Kashiyama in Kôchi Prefecture, lying about 27 km distant to the east by south from the first locality.

In this article, the authors are going to describe it under the name *Pterostichus tosanus* sp. nov. The abbreviations used herein are the same as those explained in other papers of the senior author. The holotype is preserved in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. The paratypes are deposited in the authors' collection.

Before going further, the authors wish to express their deep gratitude to Dr. Shun-ichi UÉNO, Emeritus Curator of the National Science Museum (Nat. Hist.), Tokyo, for critically reading the manuscript of this paper.

*Pterostichus* (*Pterostichus*) *tosanus* sp. nov.

[Japanese name: Tosa-nagagomimushi]

(Figs. 1–3)

*Description.* Length (measured from apex of labrum to apices of elytra): 11.0–

12.3 mm; width 3.7–4.1 mm. Medium-sized, elongate, and rather flat; dark reddish brown, shiny.

Head moderately wide, gently convex; eyes gently convex, though not prominent; postgenae as long as eyes, gently swollen; apices of both labrum and clypeus weakly emarginate; clypeal suture fine, though distinct; frontal furrows deep, linearly impressed at the bottoms, and divergent posteriad; lateral grooves deep, extending to behind the post-eye level; surface very minutely and sparsely punctate; microsculpture hardly visible; antennae long, reaching the middle of elytra, relative lengths of scape and segments 2–6 as follows:— 1:0.65:1:1:0.9:0.9; segment 2 ventrally unisetose at apex.

Pronotum quadrate-cordate, gently convex, widest at apical third; ca. 1.28 times as wide as head (PW/HW 1.24–1.31, mean 1.28), ca. 1.4 times as wide as base (PW/PBW 1.40–1.43, mean 1.41), ca. 1.24 times as wide as long (PW/PL 1.20–1.27, mean 1.24); lateral margins evenly and gently arcuate in apical halves, then strongly convergent posteriad, and sinuate before base; apical margin distinctly emarginate, apical angles rather acutely produced, though blunt at the tips; basal margin emarginate at median part, almost straight on each side, basal angles rectangular; median line deep, posterior extremity reaching the basal margin; basal foveae deep, linearly impressed at the bottoms, almost parallel to each other, smooth or vaguely punctate; apical transverse impression rather distinct, basal one obsolete; surface smooth, though the basal part often bears transverse wrinkles; microsculpture invisible.

Apterous. Elytra elliptical, flat on the disc, widest a little behind the middle, ca. 1.25 times as wide as pronotum (EW/PW 1.24–1.26, mean 1.25), ca. 2.6 times as long as pronotum (EL/PL 2.56–2.64, mean 2.60), ca. 1.67 times as wide as base (EW/EBW 1.63–1.76, mean 1.67), as long as wide in almost the same proportion (EL/EW 1.66–1.71, mean 1.68); basal border complete, obliquely extending to shoulder, and joining lateral border at an obtuse but distinct angle; shoulders rounded; lateral margins gently divergent from behind shoulders to the widest level, then roundly convergent posteriad, preapical emarginations rather distinct, apex of each elytron rounded; scutellar striole absent; intervals gently convex; interval 3 with three dorsal pores, anterior one adjoining stria 3 at basal fourth, while posterior two adjoin stria 2 at about middle and apical fifth, respectively; marginal series of pores 13–14 in number, widely spaced at middle; microsculpture faintly visible, formed by very fine transverse meshes.

Legs slender; basal three segments of meso-, and metatarsi sulcate on each side. Venter moderately shiny; gula transversely rugose on each side; pro-, meso- and metepisterna, and abdominal sternite 1 punctate; sternites 2–5 vaguely rugged and punctate on each side; prosternal process vaguely bordered, and shallowly furrowed at middle; in the male, terminal sternite excavated at middle, apical margin with a wide and trapezoidal projection, which is emarginate at the apex.

Aedeagus strongly bent at an acute angle at basal third, widely tumid at apical third, then straightly extending to apex in lateral view; distinctly curved rightwards at apical fifth in ventral view; inner sac provided with a heavily sclerotized wide copula-

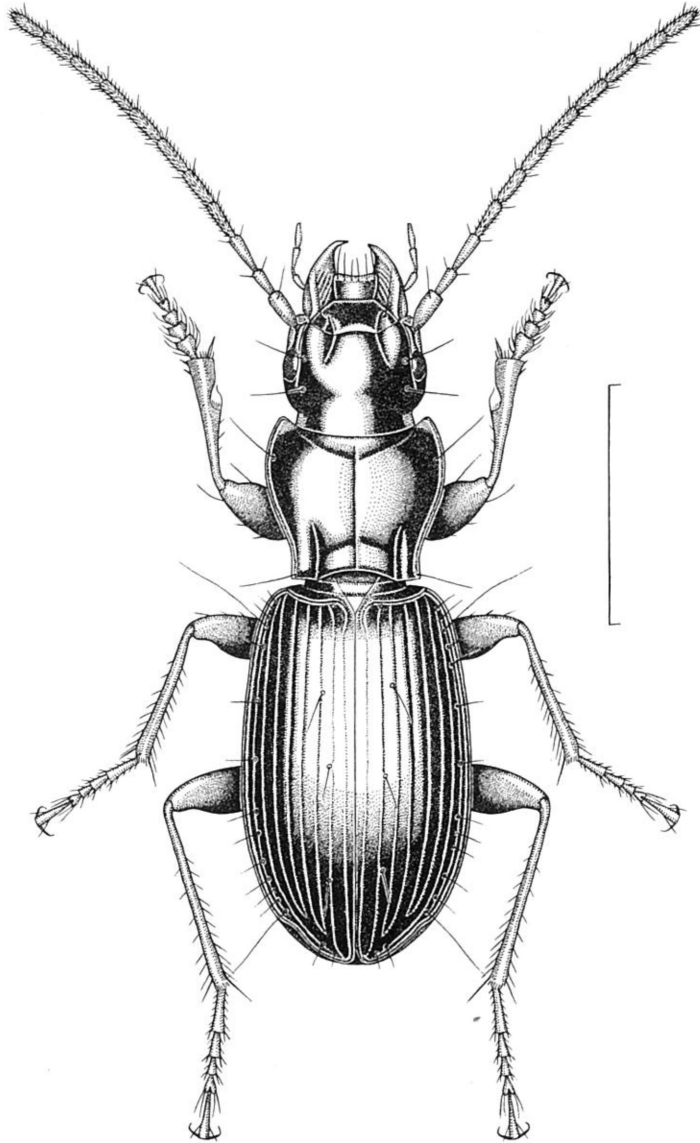


Fig. 1. *Pterostichus (Pterostichus) tosanus* sp. nov., ♂, from Kashiya in Kôchi Pref. Scale 4 mm.

tory piece near apical orifice; left paramere wide and square in apical half; right paramere thick, widely rounded at apex.

*Type series.* Holotype: ♂, Kashiya (600 m alt.), Tosa-chô, Kôchi Pref., 24-VI-1995, Y. ITÔ leg. Paratypes: 1 ♂ (teneral), same locality as for the holotype, 14-IX-1995, Y. ITÔ leg.; 2 ♀♀, same locality, 25-VI-1995, Y. ITÔ leg.; 1 ♀, Okuminagawa-

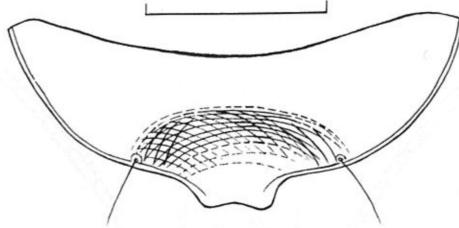


Fig. 2. Terminal sternite in the male of *Pterostichus (Pterostichus) tosanus* sp. nov., from Kashiya in Kôchi Pref. Scale 1 mm.

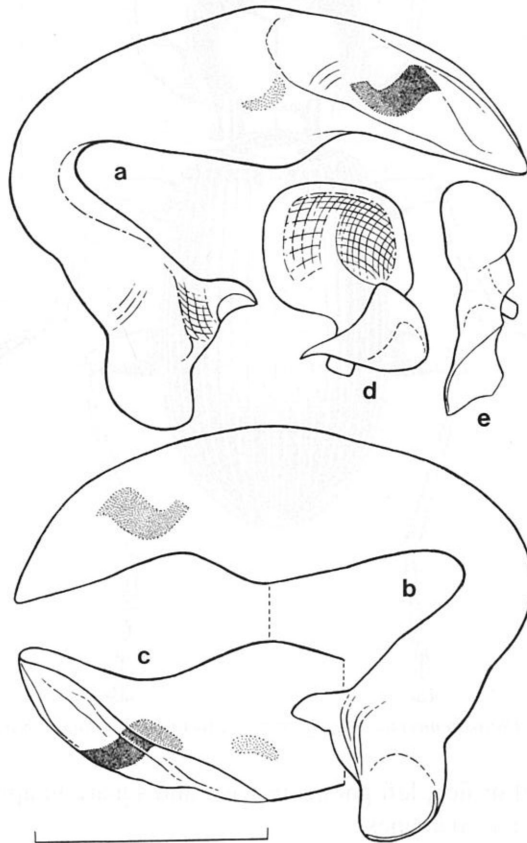


Fig. 3. Male genitalia of *Pterostichus (Pterostichus) tosanus* sp. nov., from Kashiya in Kôchi Pref.; a, aedeagus, left lateral view; b, same, right lateral view; c, apical half of the same in ventral view; d, left paramere; e, right paramere. Scale 1 mm.

yama, Hongawa-mura, Kôchi Pref., 22-IX-1986, Y. ITÔ leg.

*Notes.* This new species seems very rare. All the examples examined were dug out from under rock debris emplaced at the sides of small gullies, and often found in coexistence with *P. (Sphodroferonia) miyamai* KASAHARA et ITÔ (1987, pp. 139-145), an upper hypogean dweller. Judging from their habitat and from the conformation of aedeagus, the two pterostichine species may have some relationship with each other.

### 要 約

笠原須磨生・伊東善之：四国産の注目すべきナガゴミムシ属の1新種。——10年ほど前に四国の石鎚山系の山中で発見されたナガゴミムシの1種の雌は、その特徴的な形態から明らかに新種と認められるものであったが、雄が容易には得られなかった。一昨年（1995年）、最初の産地から27km東方の山中で、ようやく雄を含む数頭の同種が採集されたので、これらに基づき、トサナガゴミムシ *Pterostichus (Pterostichus) tosanus* と命名記載した。所見標本は、いずれも小谷のかたわらに堆積した岩礫の下から掘り出されたもので、同時にしばしばシコクヒラタナガゴミムシ *P. (Sphodroferonia) miyamai* KASAHARA et ITÔ が得られている。生息個所のみならず雄交尾器の構造も似ているので、両種の間にはなんらかの類縁関係があるのかもしれない。

### References

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## A New Record of *Hypocaccus lewisii* (Coleoptera, Histeridae) from Urup Island of the Kuril Archipelago

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Key words: Coleoptera; Histeridae; middle Kuril Islands; Russia.

A team of American, Russian and Japanese biologists surveyed the fauna and flora of the