

Two New Pterostichine Carabid Beetles from Central Honshu, Japan

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Abstract Two new pterostichine carabid beetles, *Pterostichus (Nialoe) masahiroi* sp. nov. and *P. (N.) napaea* sp. nov. are described from central Honshu, Japan. The former is closely related to *P. (N.) asymmetricus* BATES, and the latter belongs to the *latistylis* group.

There occur two unnamed pterostichine carabids belonging to the subgenus *Nialoe* TANAKA in central Honshu, Japan. The existence of one of them was previously noticed by SASAJI and SAITO (1985) in their catalogue of Coleoptera from Fukui Prefecture. It has been known from the mountain range bordering Fukui, Gifu and Shiga Prefectures, and is closely related to *Pterostichus (Nialoe) asymmetricus* BATES. It is, however, clearly distinguished from the latter by having different external and genitalic features.

The other one, of which a single male was collected by myself on Mt. Kiso-komagatake in Nagano Prefecture more than ten years ago, has not been identified with confidence until recently. I looked for this species at the same locality, and finally succeeded in obtaining a long series of examples. It has become doubtless that the species belongs to the *latistylis* group in the characteristic shape of the terminal sternite in the male. However, it can be clearly separable from any of the known forms of that group by distinctly shorter elytra and different configuration of the male genitalia. It must be new to science like the preceding one.

In this paper, I will describe the former species under the name of *Pterostichus (Nialoe) masahiroi* sp. nov., and the latter under that of *P. (N.) napaea* sp. nov. The abbreviations used herein are the same as those explained in other papers of mine.

Before going further, I wish to express my deep gratitude to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his advice and for reading the manuscript of this paper. Hearty thanks are also due to Messrs. Toshio ARAI, Masaru OSADA and Masahiro SAITO for their kind aid in material and field works.

Pterostichus (Nialoe) masahiroi KASAHARA, sp. nov.

[Japanese name: Saito-nagagomimushi]

(Figs. 1–2, 4)

Pterostichus sp.: SASAJI & SAITO, 1985, p. 87.

Description. Length (measured from apex of labrum to apices of elytra) 13.0–14.7 mm. Width 4.9–5.5 mm. Black, shiny; labrum, mandibles and antennae dark reddish brown, the last one becoming paler towards apices; femora and tibiae blackish; palpi and tarsi reddish brown; ventral side reddish brown to dark reddish brown.

Head moderately convex, shiny; eyes relatively small, though convex; tempora shorter than eyes, rather tumid; genae almost smooth or feebly rugose near buccal fissure; frontal furrows rather deep, divergent towards posterior extremities; lateral grooves deep, extending a little beyond the level of posterior supraorbital setae, which are situated a little behind the post-eye level; surface sparsely and minutely punctate, microsculpture slightly visible, forming nearly isodiametric meshes; antennae moderately long, extending to behind shoulders of elytra; relative lengths of scape and segments 2–6 as follows:— 1: 0.55: 0.9: 0.9: 0.85: 0.85; segment 2 with three to four setae at apex.

Pronotum cordate, moderately convex, shiny, widest at apical fourth, ca. 1.4 times as wide as head (PW/HW 1.37–1.41, mean 1.39), as wide as long in almost the same proportion (PW/PL 1.32–1.40, mean 1.36), about a half as wide again as basal width (PW/PBW 1.38–1.52, mean 1.45); lateral margins well arcuate in apical halves, thence strongly convergent posteriad and gently sinuate before base, basal part with small irregular notches; apical margin gently emarginate, not bordered; basal margin almost as wide as the apical, almost straight, though weakly emarginate at the median part; basal angles nearly rectangular, rather pointed or occasionally rounded at the tips; basal part relatively flat, densely and strongly punctate on each side, longitudinally and distinctly rugose at the median part; basal foveae shallow, divergent in front, linear impressions weak; median line moderately impressed; both apical crescent and basal transverse depressions weak or obsolete; surface with irregular transverse wrinkles, which often become more distinct on latero-basal areas; microsculpture slightly visible, formed by fine transverse meshes.

Apterous. Elytra oblong-ovate, moderately convex, shiny, widest at about middle, less than 1.3 times as wide as pronotum (EW/PW 1.23–1.28, mean 1.25), one and half as long again as pronotum (EL/PL 2.45–2.64, mean 2.54), a half as long again as wide (EL/EW 1.47–1.51, mean 1.49); basal border gently curved, obliquely extending to shoulder, and joining lateral border at an obtuse but distinct angle; shoulders rounded; lateral margins gently arcuate; preapical emarginations shallow, though distinct; apices rounded, sutural angles dull; scutellar striole very short or obsolete, lying on interval 1 and connecting with basal border; striae finely and deeply impressed, almost smooth; intervals moderately convex, interval 3 with four to five dorsal pores, anterior one or two at basal fourth to third and adjoining stria 3, the remainings adjoin stria 2 and irregularly arranged behind middle; marginal series of pores 17–18 in number; microsculpture formed by transverse meshes.

Basal two or three segments of meso- and metatarsi sulcate on each side. Ventral side more or less shiny; mes- and metepisterna, metasternum and sternites 3–4 par-

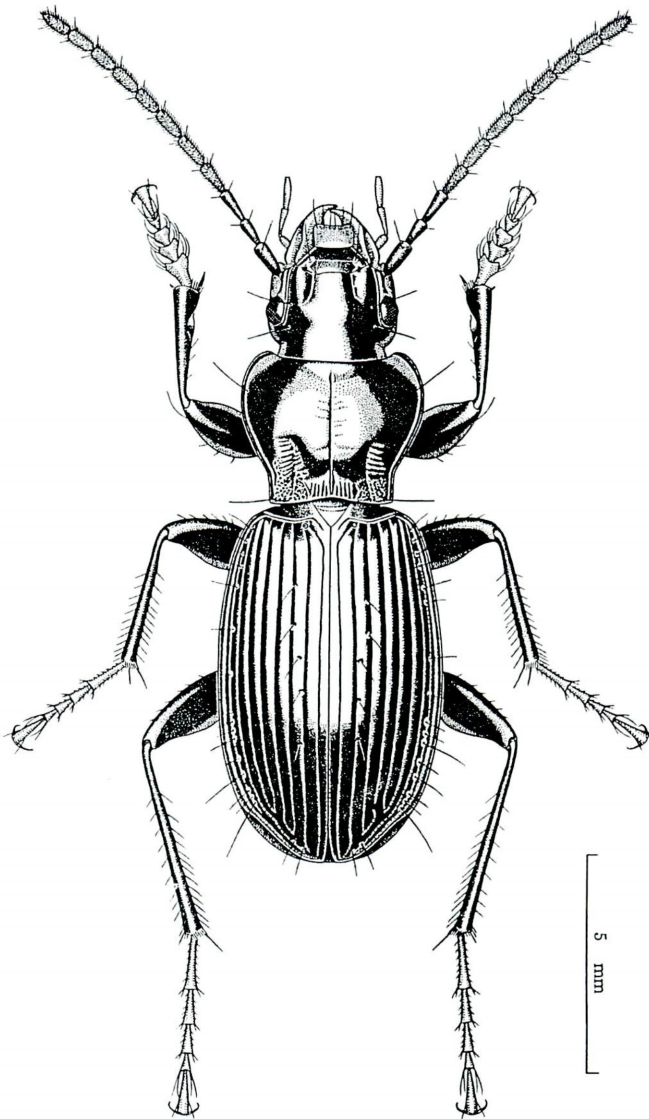


Fig. 1. *Pterostichus (Nialoe) masahiroi* KASAHARA, sp. nov., ♂, from Mt. Kanmuri-yama, Fukui Prefecture.

tially punctate; in the male, terminal sternite deeply concave in apical half, its apical margin bearing asymmetrical emarginations and a projection like the other relatives belonging to the subgenus *Nialoe*, though the projection is relatively wide.

Aedeagus acutely bent at basal third, thence almost straightly extending to apex in lateral view, gently curved and widely tumid on the right side at apical third in

dorsal view, apical lobe simply rounded at apex; left paramere wide, square; right one slender, gently arcuate at apical third, blunt at apex.

Type series. Holotype: ♂, Mt. Kanmuri-yama, Ikeda-chô, Fukui Pref., 15. VIII. 1981, M. SAITO leg.; allotype: ♀, Yashagaike, Imajô-chô, Fukui Pref., 9–10. X. 1981, M. SAITO leg.; paratypes: 1 ♂, Mt. Kanmuri-yama, Ikeda-chô, Fukui Pref., 15. VIII. 1981, M. SAITO leg.; 1 ♂, 3 ♀♀, Yashagaike, Imajô-chô, Fukui Pref., 9–10. X. 1981, M. SAITO leg.; 1 ♂, Sannomata-dani, Ohno-shi, Fukui Pref., 4. VI. 1983, M. SAITO leg.; 1 ♀, Shimo-uchinami, Ohno-shi, Fukui Pref., 24. IV. 1982, M. SAITO leg.; 1 ♀, Mt. Nôgô-hakusan 1,550 m alt., Ohno-shi, Fukui Pref., 17–18. IX. 1984, M. OSADA leg.

The holo- and allotype are deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. The paratypes are preserved in my collection.

Notes. The present new species is so closely related to *P. (N.) asymmetricus* BATES, that it could be regarded as a local race of the latter. However, it has robuster body, wider pronotum with strongly punctate basal part, besides robuster aedeagus with simply rounded apical lobe. These peculiarities suffice for the recognition of a full species. Its locality is probably at the western limit of the distributional range of the *asymmetricus* group.

This species is named after Mr. Masahiro SAITO who found it while investigating the coleopterous fauna of Fukui Prefecture.

***Pterostichus (Nialoe) napaea* KASAHARA, sp. nov.**

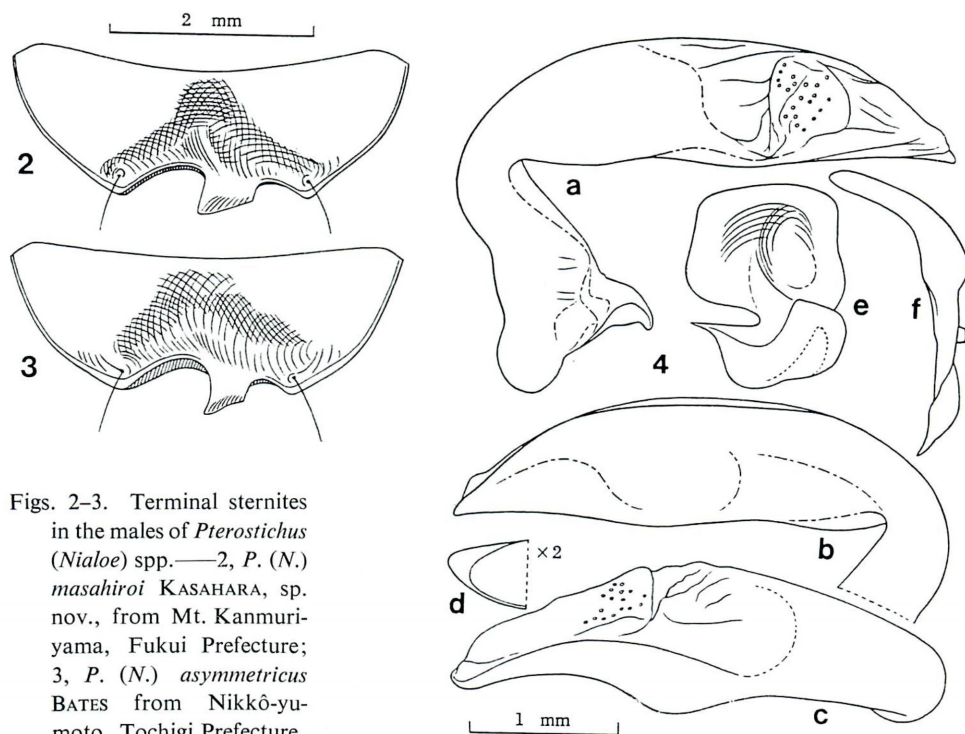
[Japanese name: Kisokoma-nagagomimushi]

(Figs. 5–6, 8)

Description. Length (measured as in the preceding species) 10.0–11.45 mm. Width 3.8–4.2 mm. Black, shiny; labrum, mandibles and antennae dark reddish brown to blackish brown, the last one becoming paler towards apices; palpi and tarsi reddish brown; ventral side almost black.

Head moderately convex, shiny; eyes convex; temporae short, oblique, slightly tumid; genae rather distinctly rugose near buccal fissure; frontal furrows deep, smooth, divergent towards posterior extremities; lateral grooves deep, extending to the level of posterior supraorbital setae, which are situated a little behind the post-eye level; surface very smooth, punctures and microsculpture hardly visible; antennae relatively long, fully reaching the basal fourth of elytra; relative lengths of scape and segments 2–6 as follows:— 1:0.55:0.75:0.8:0.8:0.8; segment 2 usually trisetose at apex.

Pronotum cordate, moderately convex, shiny, widest at apical fourth, ca. 1.3 times as wide as head (PW/HW 1.27–1.37, mean 1.31), ca. 1.4 times as wide as long (PW/PL 1.33–1.43, mean 1.38 in ♂; 1.36–1.50, mean 1.42 in ♀), as wide as base in



Figs. 2-3. Terminal sternites in the males of *Pterostichus (Nialoe)* spp.—2, *P. (N.) masahiroi* KASAHARA, sp. nov., from Mt. Kanmuriyama, Fukui Prefecture; 3, *P. (N.) asymmetricus* BATES from Nikkō-yu-moto, Tochigi Prefecture.

Fig. 4. Male genitalia of *Pterostichus (Nialoe) masahiroi* KASAHARA, sp. nov., from Mt. Kanmuriyama, Fukui Prefecture; a-d, aedeagus; a, left lateral view; b, right lateral view, basal part omitted; c, dorsal view; d, apical lobe; e, left paramere; f, right paramere.

almost the same proportion (PW/PBW 1.33–1.48, mean 1.42); lateral margins evenly well arcuate in apical halves, thence strongly convergent posteriad and fully sinuate before base, basal part more or less divergent posteriad, and with irregular small notches; apical margin gently emarginate, not bordered; basal margin a little narrower than the apical, not bordered, emarginate at the median part, rather oblique on each side, basal angles rectangular, pointed though blunt at the tips; basal foveae deep and smooth, divergent in front, with linear impressions at the bottoms; median line deep; both apical crescent and basal transverse depressions shallow, though often distinct; microsculpture partially and slightly visible, forming fine transverse meshes.

Apterous. Elytra oblong-ovate, short, especially in the male, widest at about middle, a fourth as wide again as pronotum (EW/PW 1.19–1.29, mean 1.25), one and half as long again as pronotum (EL/PL 2.33–2.55, mean 2.45 in ♂; 2.42–2.64, mean 2.53 in ♀), ca. 1.4 times as long as wide (EL/EW 1.36–1.49, mean 1.42); basal border gently curved, obliquely extending to shoulder, and joining lateral border at an obtuse and mal-defined angle; shoulders rounded; lateral margins feebly sinuate from behind shoulders to the widest level, thence roundly convergent to apices; scutellar striole

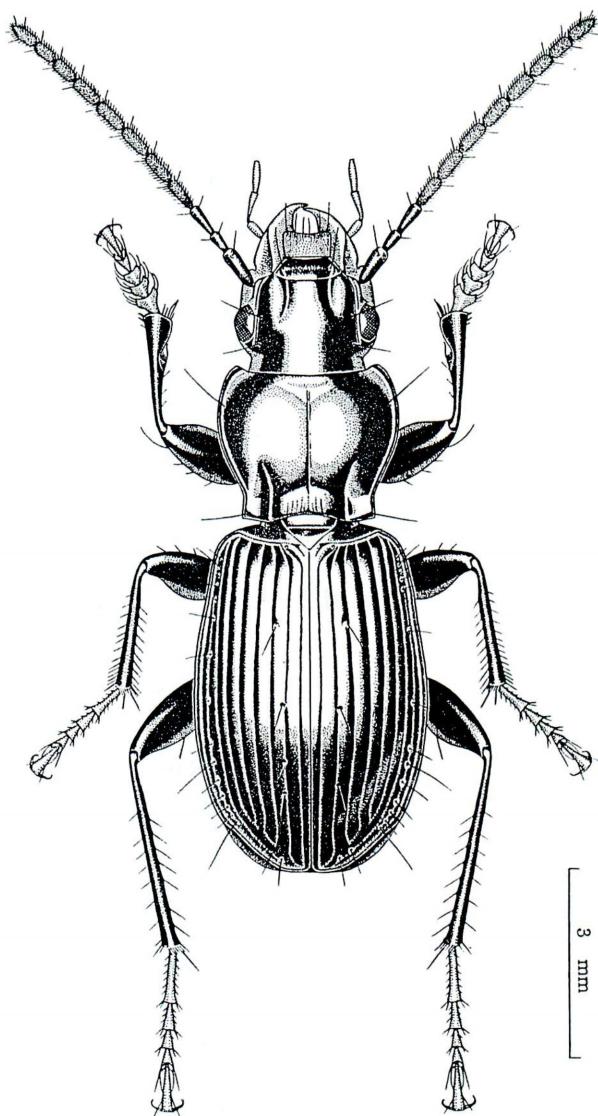
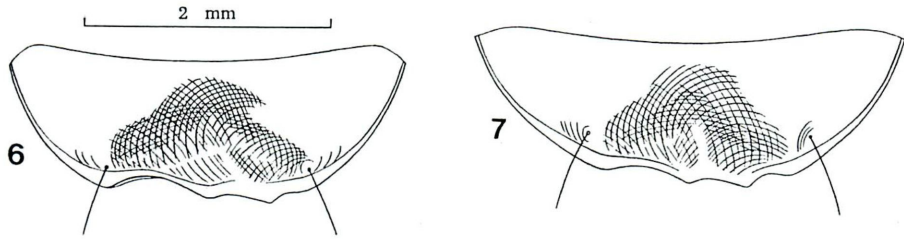
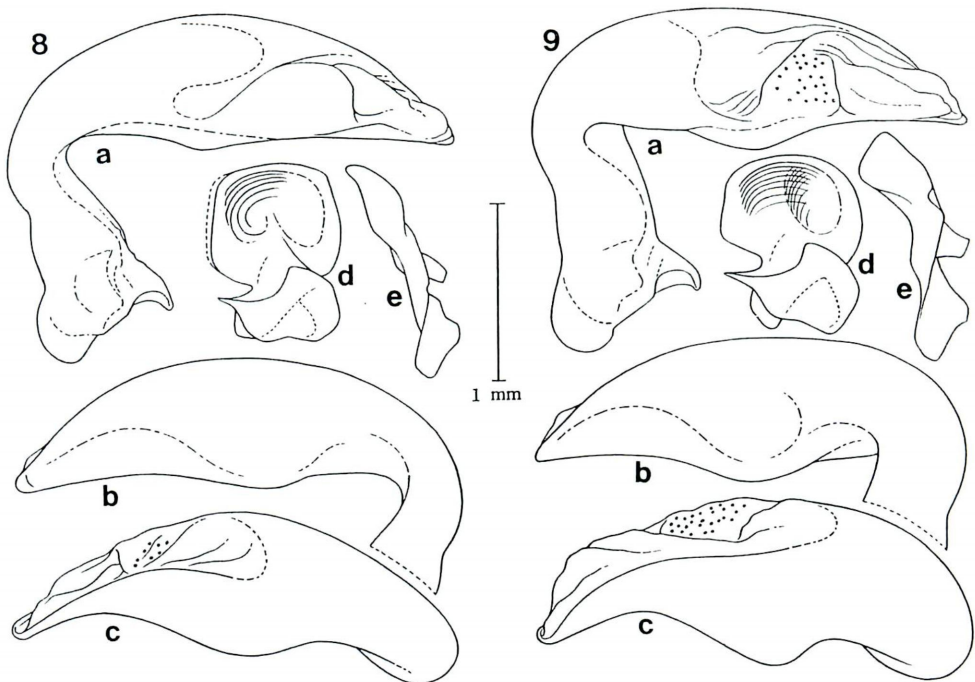


Fig. 5. *Pterostichus (Nialoe) napaea* KASAHARA, sp. nov., ♂, from Isedaki, Mt. Kiso-komagatake, Nagano Prefecture,

short, lying on interval 1 and connecting with basal border; striae fine, though moderately impressed, almost smooth or weakly notched at the bottoms; intervals convex, interval 3 with three or occasionally four dorsal pores, anterior one adjoining stria 3 at basal fourth, while the posterior two adjoin stria 2 at about middle and apical fourth, respectively; marginal series of pores 14–16 in number; microsculpture slightly visible, forming fine transverse meshes.



Figs. 6-7. Terminal sternites in the males of *Pterostichus (Nialoe)* spp. — 6, *P. (N.) napaea* KASAHARA, sp. nov., from Isedaki, Mt. Kiso-komagatake, Nagano Prefecture; 7, *P. (N.) latistylis* TANAKA from Mt. Mitake-san, Ohme-shi, Tokyo.



Figs. 8-9. Male genitalia of *Pterostichus (Nialoe)* spp. — 8, *P. (N.) napaea* KASAHARA, sp. nov., from Isedaki, Mt. Kiso-komagatake, Nagano Prefecture; 9, *P. (N.) latistylis* TANAKA from Mt. Mitake-san, Ohme-shi, Tokyo; a-c, aedeagus; a, left lateral view; b, right lateral view, basal part omitted; c, dorsal view; d, left paramere; e, right paramere.

Metatarsi almost as long as the width of head; basal two segments of meso- and metatarsi externally sulcate. Ventral surface more or less shiny, almost smooth; terminal sternite in the male similar to that of *P. (N.) latistylis* TANAKA.

Aedeagus strongly bent at basal third, thence almost straightly extending to apex in lateral view, gently arcuate to the right and widely swollen on the right side

at apical third in dorsal view, apical lobe small, rounded at apex; left paramere wide, square; right one narrow, tapered in apical fourth, blunt at apex.

Type series. Holotype: ♂, Isedaki, Mt. Kiso-komagatake 1,800 m alt., Miyadamura, Nagano Pref., 1. VII. 1986, S. KASAHARA & T. ARAI leg.; allotype: ♀, same data as the holotype; paratypes: 27 ♂♂, 9 ♀♀, same data as the holo- and allotypes; 1 ♂, Shimizu-daira, Mt. Kiso-komagatake 2,000 m alt., Miyadamura, Nagano Pref., 9. IX. 1975, S. KASAHARA leg.; 4 ♂♂, Shioji-daira 1,450 m alt., Iijima-chô, Nagano Pref., 29. VI. 1986, S. KASAHARA & T. ARAI leg.; 1 ♂, Shirabi-daira, Mt. Kiso-komagatake 1,700 m alt., Miyadamura, Nagano Pref., 1. VII. 1986, S. KASAHARA & T. ARAI leg.

The holo- and allotypes are deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. The paratypes are preserved in my collection.

Notes. This new species seems to have certain relationship with *P. (N.) latistylis* TANAKA in view of the possession of several characteristics. It is, however, easily distinguished from the latter by the following points: smaller body; distinctly shorter elytra, with smaller number of dorsal pores; shorter metatarsi; slender aedeagus, with less tumid swelling on the right side; narrower right paramere and so on. All the examples I have examined were found, often with *P. (Epinialoe) cristatoides* STRANEO, from under stones and rock debris lying on wet places at the bottom of a ravine. Their habitats on Mt. Kiso-komagatake seem to be the highest for the members of the *latistylis* group.

摘 要

笠原須磨生：本州中部産ナガゴミムシ属の2新種。——本州中部から、ミズギワナガゴミムシ亜属 *Nialoe* に属するナガゴミムシ属 *Pterostichus* の2新種を記載した。すなわち、サイトナガゴミムシ *P. (N.) masahiroi* は、福井、岐阜、滋賀各県の境界山地を中心に分布し、本州中部以北に広く分布するミズギワナガゴミムシ *P. (N.) asymmetricus* BATES に近縁である。後者の地方型ともみえるが、外形や雄交尾器の形態的特徴は、十分に種特異的なものと考えられる。また、当該産地は近縁種群の分布域の西限でもある。

もう1種のキソコマナガゴミムシ *P. (N.) napaea* は、長野県木曾駒ヶ岳とその附近に産し、タナカナガゴミムシ *P. (N.) latistylis* TANAKA と類縁が深い。本州に広く分布し、地域変異のみられる後者とは、短小な上翅と細い雄交尾器などからように区別しうる特徴的な種で、近縁種群のなかではもっとも高所に生息している。

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Elytra, Tokyo, 16 (1): 31, May 15, 1988

フジタナガゴミムシ四国に産す

笠原須磨生・伊東善之

Sumao KASAHARA and Yoshiyuki ITÔ: Occurrence of *Pterostichus fujitai* (Carabidae) in the Island of Shikoku

フジタナガゴミムシ *Pterostichus fujitai* TANAKA et ISHIDA は、奈良、三重両県にまたがる大台ヶ原山を基準産地とする種で、大峯山地から和歌山県南部まで分布するが、これまでに紀伊半島以外からは知られていなかった。ところが最近、四国南東部にも本種の生息していることが明らかになった。生物地理学的に両地の関連が深いことを示す興味深い例証のひとつとして、ここに報告しておく。

1♀, 高知県香美郡香北町神賀山, 11. IX. 1976, 伊東善之採集; 2♂♂, 2♀♀, 同, 7~8. VI. 1987, 伊東善之採集。

紀伊半島各地では、本種の主として雄の交尾器に若干の地域変異が認められる。四国産の個体は、外形では紀伊半島産のものと異なるが、雄交尾器を基準産地のものと比較すると、陰茎の先端片がよりまるくて舌状を呈し、和歌山県南部の各地にみられる個体群のものによく似ている。なお、伊東の採集経験によると、四国ではあまり多くないようである。

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