

## Two New Pterostichine Carabid Beetles Found on Low Mountains in Central Honshu, Japan

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**Abstract** Two new pterostichine carabid beetles, *Pterostichus (Nialoe) taoi* sp. nov. and *P. (N.) musashiensis* sp. nov., are described from central Honshu, Japan. The former belongs to the *latistylis* group and is found on the hilly district in Aichi Prefecture. The latter may be related to *P. (N.) tokejii* YOSHIDA et TANAKA and is distributed to the low altitude areas of the Kwantô Mountain Range.

There occur two unnamed apterous pterostichine carabids belonging to the subgenus *Nialoe* TANAKA on the hills and low mountains in central Honshu, Japan. One of them was recently discovered by Mr. Minoru TAO in an environment exceptional for a habitat of pterostichines in Aichi Prefecture. The other was first collected by myself more than twenty years ago on low mountains in Saitama Prefecture. At a glance, it appeared to be an aberrant form of some pterostichines, but additional examples of the same species were later collected from various places, showing that the beetle in question is rather widely distributed to the low altitude areas of the Kwantô Mountain Range. Both are clearly separated from their relatives by having characteristic facies and must be new to science. I am describing herewith the former species under the name of *Pterostichus (Nialoe) taoi* sp. nov. and the latter under that of *P. (N.) musashiensis* sp. nov. The abbreviations used herein are the same as those explained in previous papers of mine. All the holo- and allotypes are preserved in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. The paratypes are deposited in my collection.

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. Thanks are also due to Messrs. Terutsune ABE, Katsumi ISHIZUKA, Atsuo IZUMI, Masatoshi NISHIMURA, Akira NISHIYAMA, Shin-Ichi OHSHIMA, Masashi TAKEDA and Minoru TAO for their kindness in supplying with materials.

*Pterostichus (Nialoe) taoi* sp. nov.

[Japanese name: Seto-nagagomimushi]

(Figs. 1–4)

*Description.* Length (measured from apex of labrum to apices of elytra) 14.7–

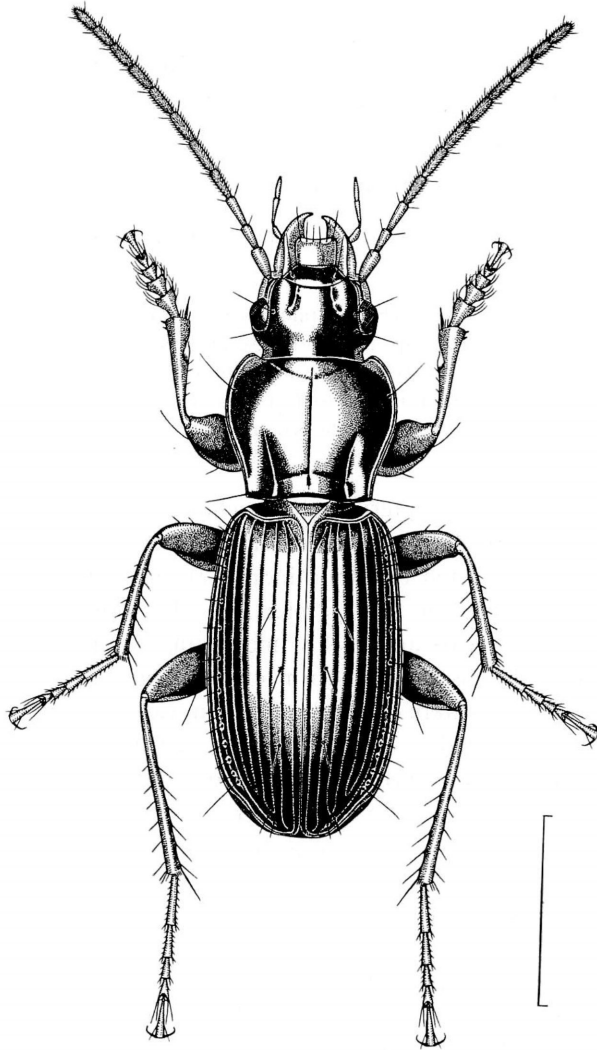


Fig. 1. *Pterostichus (Nialoe) taii* sp. nov., ♂, from Misawa-chô, Seto-shi, Aichi Pref. Scale 5 mm.

15.1 mm; width 5.1–5.3 mm. Black, shiny; labrum, mandibles, antennae, femora and tibiae dark reddish brown; palpi and tarsi reddish brown.

Head moderately convex, shiny; labrum and mandibles normal; eyes convex; temporae shorter than eyes, hardly tumid, or slightly convex especially in the female; genae finely or vaguely rugose near buccal fissure; frontal furrows rather deep, divergent posteriad, and extending to the mid-eye level; clypeal suture fine, though distinct; supraorbital areas convex; lateral grooves deep, extending to behind the post-eye level; antennae relatively long, reaching the basal fifth of elytra; surface very

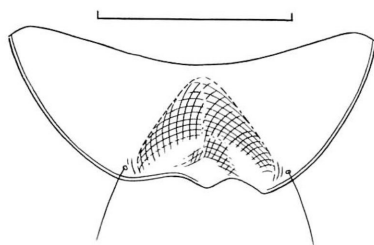


Fig. 2. Terminal sternite in the male of *Pterostichus (Nialoe) taii* sp. nov., from Misawa-chô, Seto-shi, Aichi Pref. Scale 2 mm.

minutely and sparsely punctate; microsculpture hardly visible, formed by fine isodiametric meshes.

Pronotum quadrate-cordate, moderately convex, shiny, widest at apical third, ca. 1.4 times as wide as head (PW/HW 1.38–1.39, mean 1.38), as wide as base in almost the same proportion (PW/PBW 1.37–1.42, mean 1.39), ca. 1.3 times as wide as long (PW/PL 1.26–1.29, mean 1.27); lateral margins evenly well arcuate in apical halves, then distinctly convergent posteriad and sinuate before base; lateral reflexed borders relatively wide; apical margin almost straight, unborded, apical angles produced, rounded at the tips; basal margin as wide as or a little wider than the apical, gently emarginate at median part, and more or less oblique on each side, unborded, basal angles obtuse, blunt at the tips; basal foveae deep, almost smooth, divergent anteriad, linearly impressed at the bottoms; median line deep; both frontal and basal transverse depressions weak or obsolete; surface smooth, though sometimes with transverse wrinkles; microsculpture scarcely visible, formed by fine transverse meshes.

Apterous. Elytra oblong, moderately convex, shiny, and weakly iridescent, widest at the middle, ca. 1.2 times as wide as pronotum (EW/PW 1.16–1.19, mean 1.18), ca. 2.3 times as long as pronotum (EL/PL 2.29–2.38, mean 2.32), ca. 1.55 times as long as wide (EL/EW 1.54–1.57, mean 1.55); basal border complete, gently curved, obliquely extending to shoulder, and meeting with lateral border at an obtuse mal-defined angle; lateral margins weakly arcuate, preapical emarginations shallow, apices rounded though obtusely angulate at the suture; scutellar striole lying on interval 1, and connecting with basal border; striae deep, almost smooth, though weakly notched at the bottoms; intervals gently convex; interval 3 with three dorsal pores, anterior one adjoining stria 3 at basal fourth to third, while posterior two adjoin stria 2 at about middle and apical fourth, respectively; marginal series of pores 19–21 in number, widely spaced at middle; microsculpture scarcely visible on disc, formed by fine transverse meshes in both sexes.

Basal two segments of meso- and metatarsi externally sulcate. Venter shiny, impunctate; prosternal process furrowed at middle, unborded; in the male, terminal sternite deeply and triangularly concave at middle, apical margin emarginate, and with an obtuse projection at middle. Aedeagus robust, strongly bent at basal two-

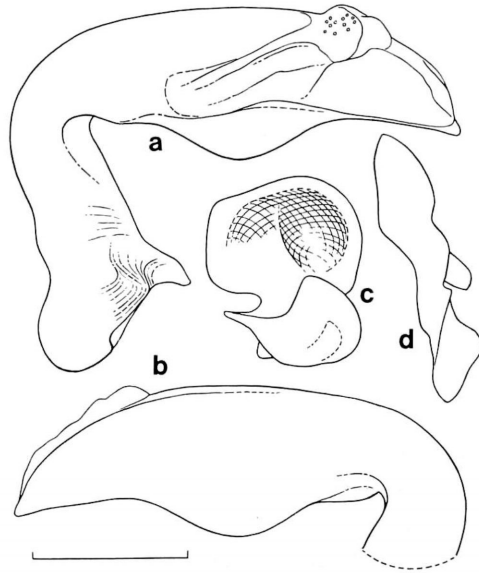


Fig. 3. Male genitalia of *Pterostichus (Nialoe) taoi* sp. nov., from Misawa-chô, Seto-shi, Aichi Pref.; a-b, aedeagus — a, left lateral view; b, right lateral view, basal part omitted; c, left paramere; d, right paramere. Scale 1 mm.



Fig. 4. Habitat of *Pterostichus (Nialoe) taoi* sp. nov., in Misawa-chô of Seto-shi, Aichi Prefecture.

thirds, widely and distinctly tumid on the right ventral side at apical third; left paramere wide, well arcuate at apex; right one almost straight, relatively wide in apical third, tapering towards apex, which is somewhat pointed.



*Type series.* Holotype: ♂; allotype: ♀, Misawa-chô (130 m alt.), Seto-shi, Aichi Pref., 28-IX-1992, M. TAO leg. Paratypes: 1 ♀, same data as for the holo- and allotypes; 1 ♂, 2 ♀♀, same locality, 2-IX-1992, M. TAO leg.; 1 ♀, same locality, 12-V-1993, M. TAO leg.; 1 ♀, same locality, 18-VI-1993, M. TAO leg.

*Notes.* Judging from the configuration of male genitalia, the present new species doubtless belongs to the *latistylis* group, but is clearly discriminated from the other members of the group by conspicuously larger body with wider pronotum and differently shaped terminal sternite in the male. All the other members of the *latistylis* group are usually found under stones by mountain streams, while the present new species dwells under heaps of dead leaves by a small reservoir lying on a low altitude hillside. It seems rare.

*Pterostichus (Nialoe) musashiensis* sp. nov.

[Japanese name: Musashi-nagagomimushi]

(Figs. 5-7)

*Description.* Length (measured as in the preceding species) 16.0-17.6 mm; width 6.1-6.8 mm. Robust and convex, black, shiny; labrum, mandibles, antennae, femora and tibiae dark reddish brown; palpi and tarsi reddish brown.

Head moderately convex, shiny; labrum, mandibles and palpi normal; eyes convex; temporae shorter than eyes, strongly contracted behind, gently swollen; genae finely, sometimes strongly rugose near buccal fissure; clypeal suture fine, though distinct; frontal furrows distinct and wide, divergent in posterior halves, and widening at each extremity; supraorbital areas convex; lateral grooves deep, extending to behind the post-eye level; antennae relatively short, extending a little beyond elytral shoulder; surface minutely punctate, microsculpture scarcely visible, formed by fine isodiametric meshes.

Pronotum cordate, well convex, shiny, widest at apical fourth, ca. 1.37 times as wide as head (PW/HW 1.29-1.41, mean 1.37), as wide as long in almost the same proportion (PW/PL 1.32-1.42, mean 1.36), ca. 1.4 times as wide as base (PW/PBW 1.35-1.47, mean 1.41); lateral margins evenly well arcuate in apical two-thirds, then strongly convergent posteriad and sinuate before base, basal parts parallel or somewhat convergent posteriad; apical margin gently emarginate, very finely and vaguely bordered on each side, apical angles produced, rounded at the tips; basal margin a little narrower than the apical, weakly emarginate, very finely bordered throughout; basal angles nearly rectangular, often a little produced laterad, though blunt at the tips; basal foveae distinct, rather deeply and longitudinally concave in basal halves, though shallowly or vaguely impressed and divergent anteriad in apical halves; median line deep; frontal transverse depression obsolete, basal one vaguely impressed or obsolete; surface smooth, though sometimes very minutely punctate and often with transverse wrinkles; microsculpture slightly visible, formed by fine transverse meshes.

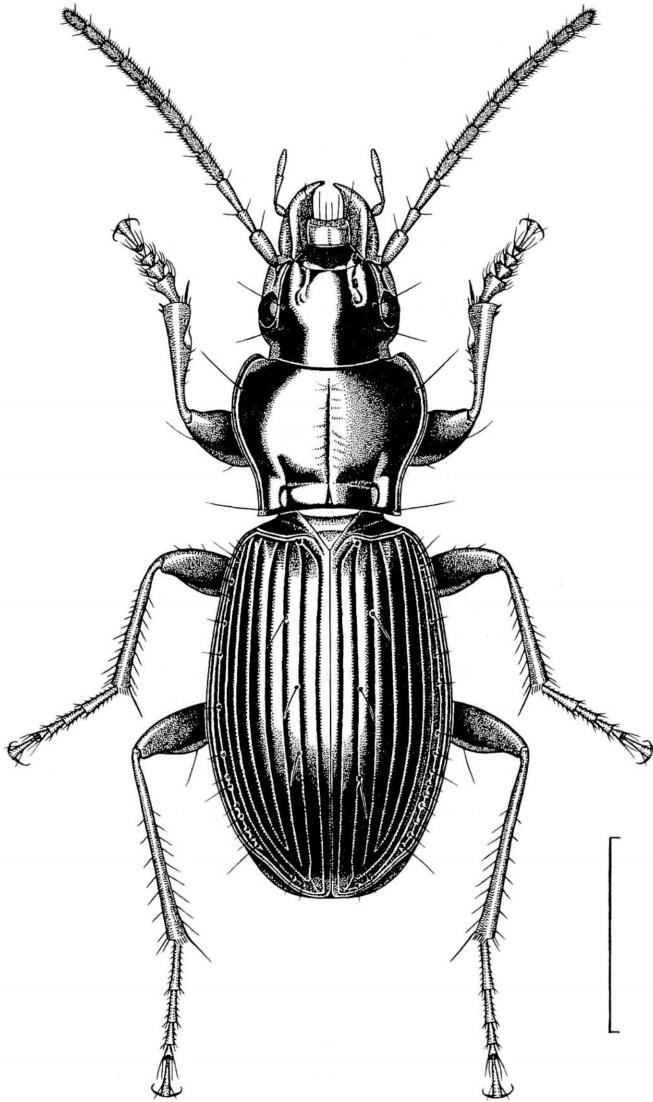


Fig. 5. *Pterostichus (Nialoe) musashiensis* sp. nov., ♂, from Kamiyōzawa, Itsukaichi-machi, Tokyo. Scale 5 mm.

Apterous. Elytra subovate, well convex, shiny, widest at the middle or a little behind middle, ca. 1.3 times as wide as pronotum (EW/PW 1.26–1.36, mean 1.31), ca. 2.5 times as long as pronotum (EL/PL 2.47–2.61, mean 2.52), ca. 1.4 times as long as wide (EL/EW 1.35–1.46, mean 1.42); basal border complete, gently curved, and obliquely extending to shoulder and meeting with lateral border at an obtuse but distinct angle; shoulders rounded; lateral margins gently arcuate from behind shoulders

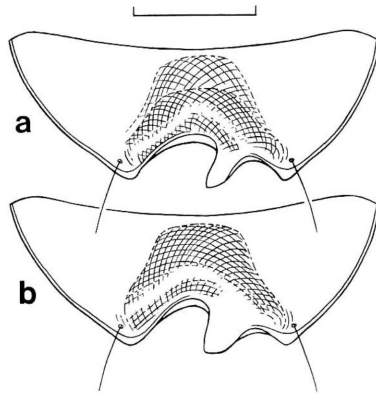


Fig. 6. Terminal sternite in the male of *Pterostichus (Nialoe) musashiensis* sp. nov.; a, from Kamiyôzawa, Itsukaichi-machi, Tokyo; b, from Kabasaka-tôge, Hannô-shi, Saitama Pref. Scale 2 mm.

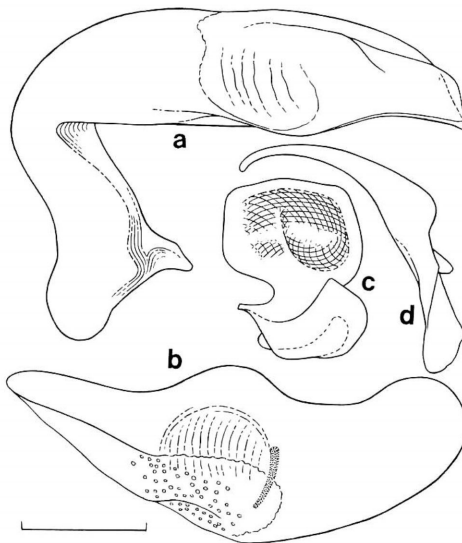


Fig. 7. Male genitalia of *Pterostichus (Nialoe) musashiensis* sp. nov., from Kamiyôzawa, Itsukaichi-machi, Tokyo; a-b, aedeagus — a, left lateral view; b, ventral view, basal part omitted; c, left paramere; d, right paramere. Scale 1 mm.

to preapical emarginations, which are shallow though distinct, apices rounded; sutural angles variable, sometimes obtusely angulate, though often rounded; scutellar striole short, lying on interval 1 and connecting with basal border; striae deep, smooth, though weakly notched at the bottoms; intervals convex; interval 3 generally with three dorsal pores, anterior one adjoining stria 3 at basal fourth, while posterior two

adjoin stria 2 before the middle and at apical fourth, but often irregularly arranged; marginal series of pores 16–18 in number, rather widely spaced at middle; micro-sculpture formed by transverse meshes, more distinct in the female than in the male.

Basal two or three segments of meso- and metatarsi externally sulcate. Venter smooth, though mesepisterna and apical halves of abdominal sternites 2–3 are often punctate; prosternal process almost flat, though vaguely furrowed at middle; in the male, terminal sternite trapezoidally and deeply concave at middle, apical margin deeply emarginate, and with an asymmetrical projection, which is obliquely produced leftwards from the right side of the emargination in ventral view.

Aedeagus strongly bent at more than 90 degrees at basal third, then almost straightly extending to apex in lateral view, apical two-thirds gently bent rightwards, and with a distinct tumour on the right side at apical third in dorsal view; left paramere wide, square; right one slender, well arcuate in apical half, gently tapering towards apex, which is rounded.

*Type series.* Holotype: ♂, Kabasaka-tôge, Hannô-shi, Saitama Pref., 2–VI–1978, S. KASAHARA leg.; allotype: ♀, Shômaru, Hannô-shi, Saitama Pref., 20–IX–1969, S. KASAHARA leg. Paratypes: 1 ♀, same data as for the allotype; 2 ♀♀, Shômaru-tôge, Hannô-shi, Saitama Pref., 3–VII–1979, T. ABE leg.; 1 ♀, Ogawa-machi, Hiki-gun, Saitama Pref., 12–IX–1989, M. TAKEDA leg.; 1 ♂, Yorii-machi, Ohsato-gun, Saitama Pref., 3–VII–1993, M. TAO leg.; 1 ♀, Mt. Takao-san, Hachiôji-shi, Tokyo, 14~15–VIII–1976, A. IZUMI leg.; 2 ♂♂, Kusabana, Akikawa-shi, Tokyo, 22–IX–1990, K. ISHIZUKA leg.; 1 ♂, Kamiyôzawa, Itsukaichi-chô, Nishitama-gun, Tokyo, 22~24–X–1990, K. ISHIZUKA leg.; 1 ♂, 1 ♀, Matsuo, Hinode-machi, Nishitama-gun, Tokyo, 7~9–V–1990, K. ISHIZUKA leg.; 5 ♀♀, Fujino-machi, Tsukui-gun, Kanagawa Pref., 29–IX–1985, T. ABE leg.; 1 ♂, Uenohara-machi, Kitatsuru-gun, Yamanashi Pref., 5~7–X–1987, S. OHSHIMA leg.

*Notes.* The present new species is distinguished at a glance from the other known pterostichine species by its characteristic appearance. Judging from the configuration of male genitalia, it is probably related to *P. (N.) tokejii* YOSHIDA et TANAKA found on the Kwantô Mountain Range. SUDA (1988, pp. 818–819, fig. 79) reported from Minano-machi in Saitama Prefecture an unnamed *Pterostichus* species with a photograph. It seems almost identical with the present new species.

## 要 約

笠原須磨生: 本州中部の低山地にみられるナガゴミムシ属の2新種。——本州中部の丘陵と低山に生息するナガゴミムシ属 *Pterostichus* の *Nialoe* 亜属に属する2新種を記載した。

1) セトナガゴミムシ *P. (N.) taoui* は、愛知県瀬戸市の丘陵地で発見された。雄交尾器の形態的特徴からみて明らかにタナカナガゴミムシ種群 *latistylis* group に属するものであるが、同群中ではさわだつて大型であり、雄腹板末端節の形態も特徴的である。また、生態的にも特異で、被検標本のすべてが丘陵地にある溜池のほとりに堆積した枯葉の下から得られている。

2) ムサンナガゴミムシ *P. (N.) musashiensis* は、東京都、埼玉、神奈川、山梨各県の低山地や山

麓部に分布し、短大で凸隆した体形はきわめて特徴的で、一見して同亜属の他種と識別できる。雄交尾器の形態的特徴から推して、本種とほぼ同様の分布域をもちながら、より標高の高い地に生息するトケジナガゴミムシ *P. (N.) tokejii* YOSHIDA et TANAKA と類縁関係をもつものと考えられる。

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*Elytra, Tokyo*, 21 (2): 345-346, Nov. 15, 1993

## *Morionidius charon* ANDREWES (Coleoptera, Carabidae) New to the Fauna of Thailand

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The morionine carabid beetle, *Morionidius charon* ANDREWES, 1921, was described from Tonkin and Laos, and known so far only from the type localities. Through the courtesy of Mr. Hiroshi MIYAMA, I have recently had an opportunity to examine a male specimen of this species collected in Thailand. Here I will report it as a new record from Thailand.

I wish to express my sincere thank to Mr. Hiroshi MIYAMA for his kind offering the material.

*Morionidius charon* ANDREWES

(Fig. 1)

*Morionidius charon* ANDREWES, 1921, *Annls. Soc. ent. Belg.*, 61: 204-205 (Tonkin, Laos); 1930, *Cat. Ind. Ins.*, (18): 222. — CSIKI, 1929, *Coleopt. Cat.*, (104): 484. — KASAHARA & OHTANI, 1992, *Elytra, Tokyo*, 20: 161, 165.