

A New *Pterostichus* (Coleoptera, Carabidae) from Shizuoka Prefecture, Central Japan

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Abstract A new pterostichine carabid beetle, *Pterostichus (Nialoe) hiraii* sp. nov. is described from Shizuoka Prefecture, Central Japan.

Although *Pterostichus (Nialoe) asymmetricus* BATES (1883, p. 245) is a variable species (HABU & BABA, 1971), particularly by its body length, it has been regarded as a single species in the past. Examining more than 800 specimens of this species from various places of Central Japan, I suspected that it consisted of several new forms. In this paper, I am going to describe a new species collected recently.

The abbreviations used herein are as follows: L — body length, measured from apical margin of clypeus to apices of elytra; HW — greatest width of head; PW — greatest width of pronotum; PL — length of pronotum, measured along the mid-line; PA — width of pronotal apex; PB — width of pronotal base; EW — greatest width of elytra; EL — greatest length of elytra; TL — length of hind tarsi; M — arithmetic mean.

Before going further, I wish to express my deep gratitude to Mr. Katsuo HIRAI for offering me the important materials. My thanks are also due to Mr. Takashi MIYAKE for his kind help. Without their cooperation, I could not have undertaken this study.

Pterostichus (Nialoe) hiraii MORITA, sp. nov.

[Japanese name: Senmai-naga-gomimushi]

(Figs. 1–7)

Diagnosis. A *Pterostichus* species with large genae and convex eyes; elytra elongated ovate and not shiny in ♀; anal projection elongate and asymmetrical form; aedeagus elongate with wide apex in lateral view; right paramere elongate.

Description. L: 15.29–17.43 mm. Body large and robust. Body black; elytra shiny in ♂, not so in ♀; appendages dark brown to brown.

Head relatively large and convex; eyes convex; frontal furrows deep, linear, short and reaching a level of basal 2/3 of eyes on each side; lateral grooves deep, straight and becoming wider towards apices; anterior supraorbital pore situated a little before the mid-eye level; posterior one a little apart from the post-eye level; surface moderately convex, and sparsely and very finely punctate; PW/HW 1.37–1.41 (M 1.39) in ♂, 1.34–1.35 (M 1.34) in ♀; genae strongly convex, a little shorter than eyes (measured along the mid-line); microsculpture consisting of isodiametric meshes; mentum tooth strongly produced and bifid at apex; neck wide with rather distinct constriction; relative lengths of antennal segments as follows: — I : II : III : IV : V : VI : XI \cong 1 : 0.58 : 0.92 : 0.93 : 0.88 : 0.91 : 0.86 in ♂, 1 : 0.62 : 0.98 : 0.96 : 0.93 : 0.90 : 0.83 in ♀.

Pronotum wide, convex and widest between basal 4/5–9/10 (measured along the mid-line); apex widely and moderately emarginate; PW/PL 1.33–1.42 (M 1.37) in ♂, 1.38–1.47 (M 1.41) in ♀; sides

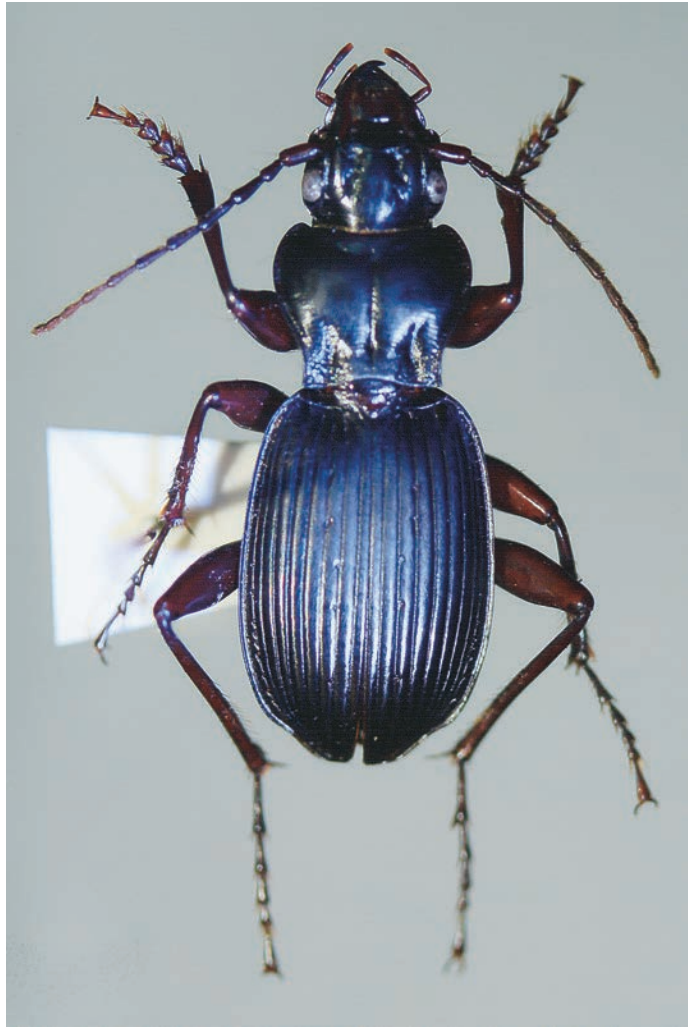


Fig. 1. *Pterostichus (Nialoe) hiraii* MORITA, sp. nov. from Mt. Senmai-dake.

strongly and widely arcuate in front, moderately sinuate at basal $1/7-1/5$ (measured along the mid-line) and then weakly divergent towards hind angles, and partially crenulate near hind angles; reflexed lateral areas rather wide between apical angles and basal $1/5$; base moderately emarginate at median part, and briefly and weakly oblique at the sides; PW/PA 1.33–1.41 (M 1.37) in ♂, 1.31–1.39 (M 1.39) in ♀; PW/PB 1.43–1.46 (M 1.44) in ♂, 1.47–1.56 (M 1.51) in ♀, PA/PB 1.02–1.10 (M 1.05) in ♂, 1.06–1.13 (M 1.10) in ♀; apical angles moderately produced and simply rounded at the tips; hind angles slightly produced laterad; anterior pair of marginal setae inserted a little before the widest part; posterior ones a little before and inside hind angles; anterior transverse impression obliterated; median line deeply impressed, not reaching apex nor base; basal foveae deep, punctate, wrinkled and linear at the bottom; microsculpture clearly impressed and composed of fine transverse meshes; surface finely and very sparsely punctate; basal part with short and longitudinal wrinkles and punctures.

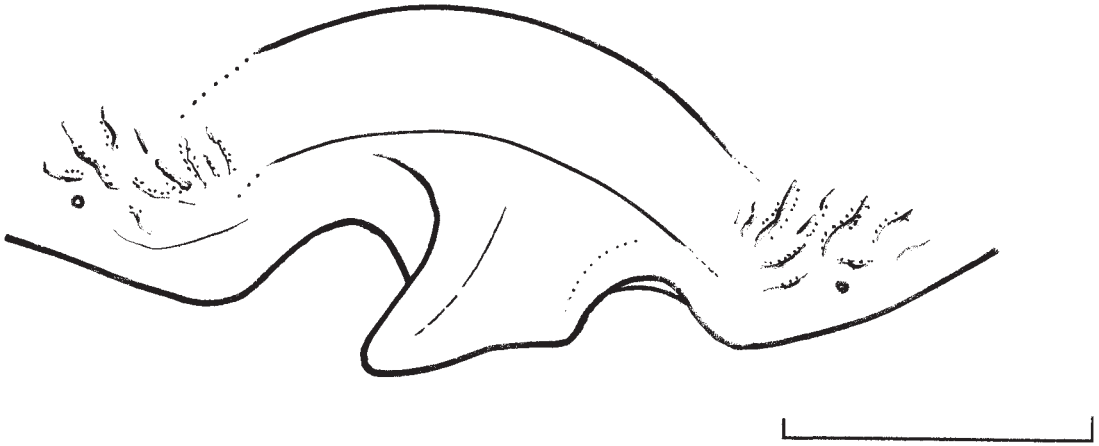


Fig. 2. Anal projection of *Pterostichus (Nialoe) hiraii* MORITA, sp. nov. from Mt. Senmai-dake. (Scale: 1 mm.)

Elytra elongated ovate, very weakly convex and widest at about middle or a little behind the middle; EW/PW 1.29–1.31 (M 1.30) in ♂, 1.26–1.34 (M 1.31) in ♀; EL/EW 1.38–1.55 (M 1.46) in ♂, 1.48–1.52 (M 1.50) in ♀; shoulders widely arcuate; base narrow; sides weakly arcuate towards the widest part, and then moderately so at the apical parts, with wide preapical emargination on each side; apices slightly separated from each other; apex obtuse; scutellar striole short, situated on interval I, and adjoining basal border which is very weakly arcuate; striae smooth and deep throughout; basal pore situated at the base of stria 1; dorsal pores on interval III usually six in number, on each side, rarely four, seven or eight, and situated between basal 1/5–9/10, and usually close to stria 2 or adjoining the stria, sometimes adjoining stria 3, rarely on the interval III; dorsal pores on interval V usually one in number, rarely with two, three or without pore on each side, and situated between basal 3/17–1/2, and close to stria 4 or adjoining the stria; intervals weakly convex and impunctate; microsculpture composed of fine transverse meshes; inner plica visible; epipleuron gradually narrowed towards apex; marginal series composed of 18–20 pores.

Prepisterna and mesepisterna sparsely punctate; in ♂, anal projection elongate, obliquely produced, and strongly emarginate at the sides and very deeply excavated at the basal part. TL/HW 1.40–1.43 (M 1.42) in ♂, 1.21–1.27 (M 1.24) in ♀.

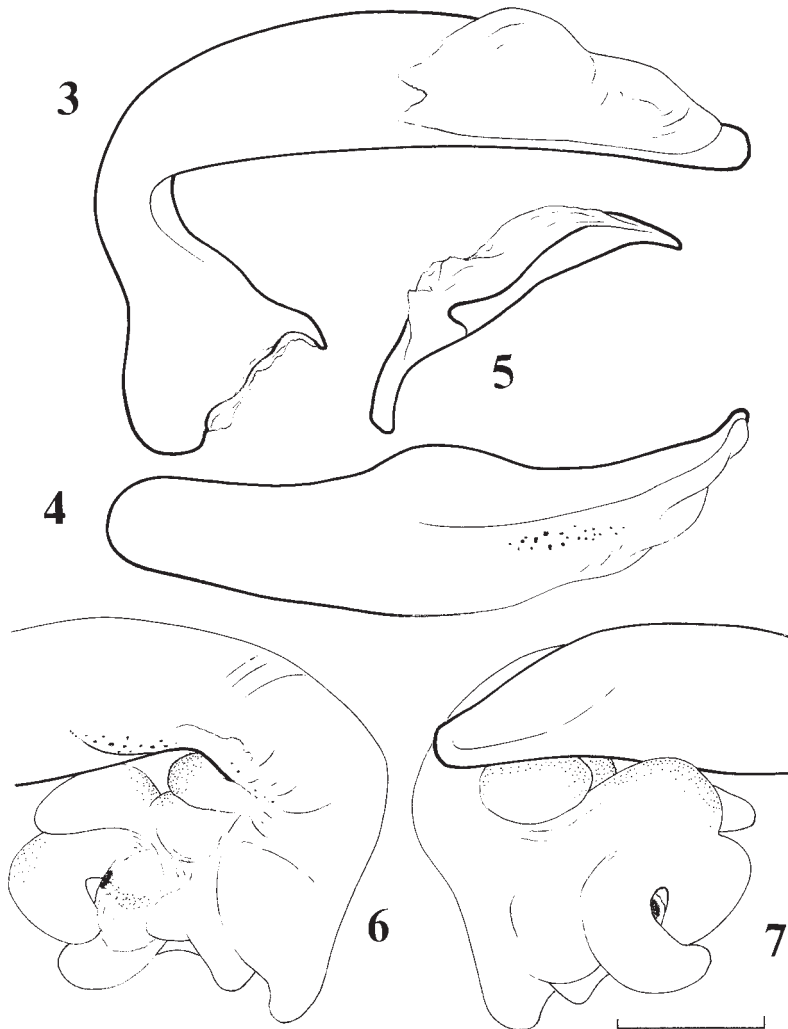
Aedeagus elongate, strongly bent at basal third; apex rather short, wide in lateral view; viewed dorsally, right wall with small tumor in apical third, and apical part weakly curved; inflated inner sac C-shaped and armed with many lobes as in Figs. 6 and 7. Right paramere elongate, weakly curved, rather strongly so at apical part.

Type series. Holotype: ♂, Mt. Senmai-dake, 16–18.VIII.2013, S. MORITA and K. HIRAI leg. Paratypes: 3 ♂♂, 2 ♀♀, Mt. Senmai-dake, 16–18.VIII.2013, S. MORITA and K. HIRAI leg.; 1 ♂, 1 ♀, Dentsuku Pass, 19–20.VII.2014, S. MORITA leg.

Depository of the holotype. The holotype is deposited in the Department of Zoology, the National Museum of Nature and Science, Tsukuba.

Type localities. Mt. Senmai-dake, alt. 2,000 m alt., and Dentsuku Pass, Shizuoka-shi, Shizuoka Prefecture, Central Japan.

Specimens compared. In my collection, there are more than 800 specimens of *Pterostichus (Nialoe) asymmetricus* BATES (1883, p. 245) from various areas.



Figs. 3–7. *Pterostichus (Nialoe) hiraii* MORITA, sp. nov. from Mt. Senmai-dake. — 3, Aedeagus, left lateral view; 4, same, dorsal view; 5, right paramere, left lateral view; 6, everted inner sac, left lateral view; 7, same, right lateral view. (Scale: 1 mm.)

Notes. This new species is certainly similar to *P. (Nialoe) asymmetricus* BATES in both external and genitalic features, including the structure of the aedeagal inner sac (cf., SASAKAWA, 2005). It is, however, distinguished from the latter by the following points: 1) body larger, 2) in ♀, elytra not shiny, 3) genae larger, 4) eyes less convex, 5) elytra elongated ovate, 6) aedeagus slenderer at about basal 2/3 in left lateral view, with smaller tumor, and 7) right paramere shorter and wider, with shorter apical part and curved at apical part

Mt. Senmai-dake, the type locality of this new species, is situated in the central part of the Southern Japanese Alps and rises 2,880 m above sea-level. It is about 380 km southwest of Chûzenji of the Nikkô district, the type locality of *P. (N.) asymmetricus* in a bee-line. The Senmai-dake specimens were found at 2,000 m in altitude and coexisted with the pterostichine carabid species, *P. (N.) brunneipennis akaishikus* TANAKA.

SASAKAWA (2005) showed a photo of the inner sac of *P. (N.) asymmetricus* collected from Kinshô Pass (probably a misreading of Konsei Pass) of the Nikkô District. His specimen shares almost the same structure of the aedeagal inner sac.

要 約

森田誠司：静岡県産ナガゴミムシ（鞘翅目オサムシ科）の1新種。——静岡県静岡市の千枚岳および伝付峠（南アルプス）から採集されたナガゴミムシを新種と認め、センマイナガゴミムシ *Pterostichus (Nialoe) hiraii* sp. nov. と命名し記載した。この種は、雄の腹端節の突起や交尾器の形状から判断して東北から中部地方にかけて広く知られているベーツナガゴミムシ *P. (N.) asymmetricus* BATES に近い種であるが、はるかに大型で、雌の上翅の光沢は鈍く、陰茎の小さな結節、先端部の形、ならびに雄交尾器右側片の形の差異などの点で識別される。

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