

A New Macrocephalic Species of the Genus *Pterostichus*
(Coleoptera, Carabidae)

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Abstract A new macrocephalic pterostichine carabid is described from the Abetoge, Central Japan, under the name of *Pterostichus toyodai*. It is mainly characterized by the longitudinal ridge on the anal sternite in the male and tumored aedeagus.

In recent years, the *Pterostichus* fauna, especially the so-called macrocephalic forms, of Japan, has become gradually clarified by ardent friends of ours. These results were already reported in several separate papers (e.g., KASAHARA, 1985; KASAHARA & ITÔ, 1987; MORITA & HIRASAWA, 1996; MORITA & KANIE, 1997), which included the discovery of a new subgenus. The purpose of the present paper is to add one more species which was discovered in Shizuoka Prefecture, Central Japan.

The abbreviations used herein are as follows: HW—greatest width of head; PW—greatest width of pronotum; PL—length of pronotum, measured along the midline; PA—width of pronotal apex; PB—width of pronotal base; EW—greatest width of elytra; EL—greatest length of elytra; FL—length of metafemur; ML—length of metatrochanter; TL—length of hind tarsus; M—arithmetic mean; H—holotype of *P. toyodai*; NSMT—National Science Museum (Nat. Hist.), Tokyo.

Before going further, we wish to express our deep gratitude to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for critically reading the original manuscript of this paper. Our thanks are also due to Messrs. Katsuo HIRAI, Koji TOYODA and Keiichi MATSUMOTO for supplying us with important material.

Pterostichus toyodai MORITA et Y. KUROSA, sp. nov.

[Japanese name : Hime-ôzu-naga-gomimushi]

(Figs. 1–7)

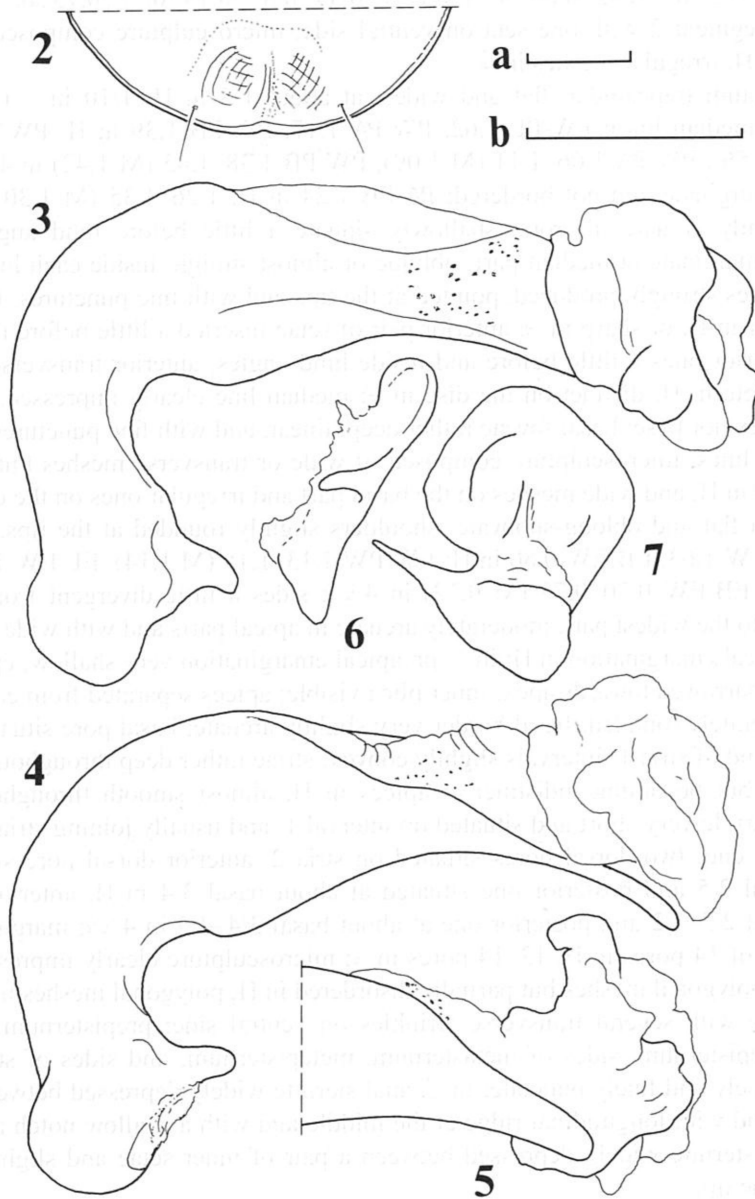
Length: 12.9 mm in H, 12.1–12.9 mm in 4 ♀♀ (from apical margin of clypeus to



Fig. 1. *Pterostichus toyodai* MORITA et Y. KUROSA, sp. nov., ♂, from the Abe-tôge.

apices of elytra).

Colour dark brown; head more or less darker than hind body; appendages dark brown. Body flat and elongate. Head very large, a little narrower than pronotum; PW/HW 1.10 in H, 1.05–1.08 (M 1.07) in 4 ♀♀; frontal furrows short, shallow and almost parallel; genae strongly convex; eyes vestigial in H, very slightly convex in 2 ♀♀; lateral grooves deep, straight, and slightly arcuate inwards at the posterior part, and with no additional groove; mentum tooth bifid and with a pair of setae; mentum with a deep concavity which has a small pit at the bottom on each side; small rounded pit situated on each side at the meeting point of gular suture and basal margin of submentum; submentum with two pair of setae; mandibles very long and strongly hooked at apices; relative lengths of antennal segments as follows:—I:II:III:IV:V:VI:XI=



Figs. 2-7. *Pterostichus toyodai* MORITA et Y. KUROSA, sp. nov., from the Abe-tôge. — 2, Anal sternite in ♂; 3, aedeagus, left lateral view; 4, aedeagus, oblique left ventro-lateral view; 5, apical part of aedeagus, ventral view; 6, right paramere, left lateral view; 7, left paramere, left lateral view. (Scale: 1 mm, a for 2; b for 3-7.)

1 : 0.54 : 0.97 : 0.83 : 0.82 : 0.80 : 0.78 in H, 1 : 0.49 : 0.87 : 0.79 : 0.77 : 0.73 : 0.74 in 3 ♀♀; antennal segment 2 with one seta on ventral side; microsculpture composed of wide meshes in H, irregular meshes in ♀.

Pronotum trapezoidal, flat and widest at about 1/5 in H, 1/10 in ♀ (measured along the median line); PW/PL 1.62, PW/PA 1.17, PW/PB 1.39 in H; PW/PL 1.52–1.63 (M 1.56), PW/PA 1.06–1.11 (M 1.09), PW/PB 1.38–1.45 (M 1.42) in 4 ♀♀; apex widely emarginate and not bordered; PA/PB 1.24 in H, 1.26–1.35 (M 1.30) in 4 ♀♀; sides slightly arcuate in front, shallowly sinuate a little before hind angles; base strongly emarginate at median part, oblique or almost straight inside each hind angle; apical angles strongly produced, pointed at the tips and with fine punctures; hind ones rectangular in H, or sharp in ♀; anterior pair of setae inserted a little before the widest part, posterior ones a little before and inside hind angles; anterior transverse impression obsolete in H, distinct on the disc in ♀; median line clearly impressed, reaching neither apex nor base; basal foveae rather deep, linear, and with fine punctures and fine transverse lines; microsculpture composed of wide or transverse meshes but partially disordered in H, and wide meshes on the basal part and irregular ones on the disc in ♀.

Elytra flat and oblong-subovate; shoulders slightly rounded at the tips; EW/PW 1.13, EL/EW 1.63, EB/EW 0.80 in H; EW/PW 1.13–1.15 (M 1.14), EL/EW 1.55–1.67 (M 1.60), EB/EW 0.70–0.75 (M 0.72) in 4 ♀♀; sides a little divergent from behind shoulders to the widest part, moderately arcuate in apical parts and with wide and shallow preapical emargination in H; in ♀, preapical emargination very shallow; epipleuron gradually narrowed towards apex; inner plica visible; apices separated from each other; apex moderately rounded; basal border very slightly arcuate; basal pore situated at the proximal end of stria 1; intervals slightly convex; striae rather deep throughout, weakly crenulate, but becoming indistinct at apices in H, almost smooth throughout in ♀; scutellar striole very short and situated on interval 1, and usually joining stria 1, rarely free at the end; two dorsal pores situated on stria 2, anterior dorsal pore situated at about basal 2/5 and posterior one situated at about basal 3/4 in H, anterior pore at about basal 2/5–1/2 and posterior one at about basal 3/4–4/5 in 4 ♀♀; marginal series composed of 14 pores in H, 13–14 pores in ♀; microsculpture clearly impressed, consisting of polygonal meshes but partially disordered in H, polygonal meshes in ♀.

Genae with several transverse wrinkles on ventral side; prepisternum, prosternum, mesepisternum, sides of metasternum, metepisternum, and sides of sternites 1 and 2 sparsely and finely punctate; in ♂, anal sternite widely depressed between a pair of setae, and with longitudinal ridge at the middle and with a shallow notch at the tip; in ♀, anal sternite widely depressed between a pair of inner setae and slightly emarginate at the tip.

Legs slender; tarsi smooth on dorsal side in ♂ and ♀; TL/HW 0.95 in H, 0.83–0.97 (M 0.89) in 4 ♀♀; in ♀, ventral sides of protarsi without adhesive hairs (cf. HABU, 1961, pp. 10–11); protibiae slightly bowed in ♂ and ♀, almost smooth in H, sulcate on basal halves of external faces in ♀; mesotibiae longitudinally strigose on dorsal surface between a level near basal 3/10 and apices in ♂ and ♀; metatibiae longitudinally

strigose on dorsal surface between a level near basal 2/5 and apices in ♂ and ♀; metatrochanter short and with rounded apex; ML/FL 0.39 in H, 0.40 in ♀.

Aedeagus elongate and strongly bent at basal third; ventral edge with a tumor at about basal third; apical part inclined to the right; apex rounded in ventral view. Right paramere robust, straight and with rounded apex; left one wide.

Type series. Holotype: ♂, 2-VI-1996, K. TOYODA leg. (NSMT). Paratypes: 1 ♀, 24-VII-1994, Y. KUROSA leg.; 1 ♀, 2-VI-1996, K. MATSUMOTO leg.; 1 ♀, 1-VI-1997, K. TOYODA leg.; 1 ♀, 6-VIII-1997, K. HIRAI leg.

Locality. Abe-tôge, about 1,380 m alt., Shizuoka-shi, Shizuoka Prefecture, Central Japan.

Notes. This new species is separable from the other members of the so-called macrocephalic forms of pterostichine carabids by having a combination of the following characters: 1) anal sternite in male with a longitudinal ridge at the middle, 2) aedeagus with a tumor at about basal third, and 3) tarsi smooth on dorsal side.

Only the single male known, which was designated as the holotype, was already dissected when we received it; its inner sac was, probably irregularly, everted from the aedeagus, and the apical lobe of the aedeagus was covered with the membraneous part of the inner sac. It is, therefore, not easy to examine the shape of apical lobe in both lateral and dorsal views.

要 約

森田誠司・黒佐義郎：静岡県産オオズナガゴミムシの1新種。——静岡市の北に位置する安倍峠から発見された1新種、ヒメオオズナガゴミムシ *Pterostichus toyodai* を記載した。この新種は、雄腹端節に縦隆を備えること、陰茎下面が膨れること、付節背面が平滑であることで、ほかのいわゆるオオズナガゴミムシと容易に識別される。

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