A New Genus of the Tribe Sogdini (Coleoptera, Leiodidae, Leiodinae) from Japan, with Description of a New Species

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Abstract. Hinomoto new genus and Hinomoto nihonensis new species of the tribe Sogdini are described from Japan. The new genus is characterized by the large body, the pronotum as long as wide, and the slender, and elongate aedeagus.

Key words: Insecta, Coleoptera, Leiodidae, Leiodinae, Sogdini, new genus, new species, Japan.

Introduction

The tribe Sogdini belongs to the subfamily Leiodinae of the family Leiodidae, and is composed of eight genera with about 50 species from the world (Daffner, 1983; Newton, 1998). From Japan, Hisamatsu (1985) first recorded Triarthron maerkelii Märkel, 1840. After this, no species of Sogdini have been recorded. Thus, T. maerkelii is the only previously known species of this tribe in Japan.

Recently I had an opportunity to examine 3 specimens of this tribe collected from Japan. After a careful study it was found that these specimens belong to a new species of a new genus. In this paper, the new genus and new species are described.

Materials and Methods

The three specimens used in the present study are preserved in the collections of the National Science Museum, Tokyo, and Hokkaido University, Sapporo. Specimens were observed under a microscope with magnifications from 10× to 400×. For further observations, an antenna, hind leg, and aedeagus, were removed from the body. The drawings of important features were made using a section micrometer and a drawing apparatus.

Body length was measured from the apical margin of labrum to the apex of elytra (excluding the length of the mandibles) and body height was measured from elytra to meso-metasterna in extended condition of the specimens, after they were softened in water warmed with several drops of 99% ethanol.

The three specimens used in this study are deposited as type specimens in the respective collections in which they were originally preserved.

Description

Tribe Sogdini
Hinomoto new genus
(Japanese name: Hinomoto-takakinokomushi zoku)

Type species: Hinomoto nihonensis new species

Description. Body large (length: 6.9–8.8 mm) and generally cylindrical (Figs 1–2); dorsum punctate and less shiny; head squarish in dorsal view (Figs 1 & 7); eyes small, their length in dorsal view about 0.25 times as long as length of head; tempora absent; clypeus transverse and truncate; labrum emarginate along front margin; mandibles robust and
asymmetrical along inside margins; right mandible with two well-developed teeth; antennae each with 11 segments; 7th to 11th segments forming a club (Fig. 6), but 8th segment clearly smaller than 7th and 9th--11th segments; pronotum about as long as wide; elytra wider than pronotum and rounded at humeri, with 5 complete striae, 3 incomplete striae (starting after not crossing the humeral area), and 1 irregular stria along outside margins of elytra (Figs 4--5); all striae distinctly punctate; legs robust, pubescent, and spinose; all tibiae each with two spines at inner corner of apical margin; those spines about as long as the 1st segments of tarsi (Fig. 9); tarsal formula 5-5-5 in both sexes and 1st segment as large as 2nd segment as in other genera of the tribe Sogdini; hind wings normal; procoxae very close to each other; mesocoxae narrowly separated (Fig. 8); mesosternum without median carina; metasternum almost flat; metacoxae very closely located to each other; aedeagus slender and usual general shape of the tribe Sogdini; parameres with 5--6 apical setae.

Remarks. Hinomoto new genus has distinct features for the tribe Sogdini: the body is large and the pronotum is about as long as wide. Hinomoto new genus is distinguished from the genus Stereus Wollaston, 1857 by having the antennae with 7th--11th segments forming a club. In contrast, the antennae of Stereus form a club composed of 9th--11th segments. Moreover, Hinomoto new genus is separated from the genus Hydnobius Schmidt, 1841 by the slender aedeagus with parameres shorter than the elongate median lobe, while in Hydnobius, the aedeagus is relatively short and thick, and parameres are longer than the median lobe (see figs in Dafiner, 1983).

Hinomoto new genus superficially resembles the genus Dietta Sharp, 1876 belonging to the tribe Estadiini, in having a large body size and relatively slender pronotum (Figs 1 & 3). However, Hinomoto new genus has the 1st segment of the tarsi about as long as the 2nd (Fig. 9) and the mesocoxae narrowly separated (Fig. 8). In contrast, Dietta has the 1st segment of the tarsi much shorter than the 2nd (Fig. 10), and the mesocoxae are separated by about their length (Sharp, 1876; Newton, 1998).

Etymology. The new genus name is from the Japanese word Hinomoto, which is another name for Japan, and is feminine in gender.

Key to genera of the tribe Sogdini in Palaearctic and Nearctic regions

1. Pronotum almost as long as wide
   .......................... Hinomoto new genus
   - Pronotum clearly wider than long .......................... 2
2. Antennae each forming a club with 9th--11th segments .......................... 3
   - Antennae each forming a club with 7th--11th segments .......................... 4
3. Hind tarsi slender, lateral margins of head almost straight from eyes to the base
   ........................................ Stereus Wollaston
   - Hind tarsi thick, lateral margins of head a little expanded behind eyes, and almost straight to ward the base  ...... Triarthron Märkel
4. Elytral epipleura pubescent .......... Sogda Lopatin
   - Elytral epipleura almost glabrous .................................. Hydnobius Schmidt

Hinomoto nihonensis new species

(Japanese name: Hinomoto-tamakinokomushi)

(Figs 1--2, 4--9, 11--12)


Coloration. Dorsum brown in holotype and one paratype; head and pronotum black and elytra dark brown in the other paratype; antennae reddish brown; legs almost concolorous reddish brown, sometimes coxae, trochanter, and femora darker than other parts of legs; meso-metasterna brown or dark brown; venter brown.

Body 6.9--8.8 mm in length (holotype: 6.9 mm), 2.2--2.6 mm in height (holotype: 2.2 mm), widest at elytra, and about 2.4 times as long as wide (Fig. 1).

Head 1.6--1.9 mm in length (holotype: 1.6 mm), 1.8--2.3 mm in width (holotype: 1.8 mm), feebly expanded laterally at basal one-fourth of lateral margins, punctate minutely (Fig. 4); eyes small,
located in about apical one-fourth at lateral margins; both mandibles sharply narrower from apical one-third toward apex along outside margins, and pointed apically; right mandible about as large as or feebly longer than left one (Fig. 7); antennae 0.78 times as long as width of head; 1st to 3rd segments longer than wide; 4th segment almost as long as wide; the other segments wider than long (Fig. 6); 7th, 9th, and 10th segments almost of the same size; 11th segment ellipsoidal in shape.

Pronotum 2.3–2.7 mm in length (holotype: 2.3 mm), 2.3–2.8 mm in width (holotype: 2.3 mm), widest at apical two-fifths of lateral margins in dorsal view (Fig. 1), as punctate as in the head (Fig. 4); anterior margins of pronotum weakly curved and somewhat protuberant at sides, and with short, fine, and dense pubescence.

Scutellum an equilateral triangle, distinctly punctate (Fig. 4)

Elytra 3.5–4.5 mm in length (holotype: 3.5 mm), 2.8–3.8 mm in width (holotype: 2.8 mm), widest in the area from base to the middle of lateral margins, and becoming regularly narrower toward apex (Fig. 1), very sparsely punctate between striae (Fig. 5), with dense and shallow transverse sulcus between striae; punctures on all striae dense and distinct; 1 stria along outside margins irregular punctate and the other striae simply and regularly punctate (Figs 4–5).

Figs 4–8. *Hinomoto nihonensis* new species. 4: punctures of body, dorsal view; 5: punctures of body, lateral view; 6: antenna; 7: head; 8: meso-metasoma. Scale A: 2 mm for Figs 4–5. Scale B, C, and D: 1 mm for Figs 6, 7, 8, respectively.
Figs 9 & 11–12. *Hinomoto nihonensis* new species. 10. *Dietta sperata* Sharp. 9: hind leg; 10: hind tibia and tarsi; 11: acedeagus, lateral view; 12: acedeagus, ventral view. Scale A: 2 mm for Fig. 9. Scale B: 1 mm for Fig. 10. Scale C: 0.5 mm for Figs 11–12.
All the legs almost of the same shape in both sexes; hind femora with a tooth at about middle of their posterior margins (Fig. 9).

Mesosternum finely and sparsely pubescent, almost impunctate, and strongly microsculptured; metasternum punctate, with pubescence denser than mesosternum, but either glabrous or very sparsely pubescent on central area (Fig. 8); microsculpture of metasternum weaker than that of the mesosternum.

Male. Aedeagus (Figs 11–12) slender in general; median lobe sinuate along lower margin, and simply curved along the apical margin in ventral view; parameres almost straight and somewhat shorter than the median lobe, apically rounded in lateral and ventral views.

Distribution. Japan: Honshu (Chiba Pref. and Tochigi Pref.).

Type series. ♂, Shimoshidu, Saku-City, Chiba Pref., xi. 1943, M. Kubota leg. (preserved in the collection of National Science Museum (Nat. Hist.), Tokyo). Paratypes. 1 ♂, Nasu-Chisan Country Club (golf course), Kuroiso-City, Tochigi Pref., 3. xii. 1968, K. Tazoe leg. (preserved with holotype); 1 ♀, Japan (detailed locality is unclear; this paratype is preserved in the collection of Systematic Entomological Laboratory, Hokkaido University, Sapporo).

Remarks. Hinomoto nihonensis new species is one of the largest species in the subfamily Leidiinae of the world. In the tribe Sogdini, only the species Triarthron maerkeli Märkel, 1840 was previously recorded from Japan (Hisamatsu, 1985). H. nihonensis new species is the second Japanese species of this tribe. This new species is easily distinguished from T. maerkeli by having the larger body (6.9–8.8 mm), the less shining dorsum, the relatively small eyes (their length about 1/4 of that of head), and the pronotum about as long as wide. In contrast, T. maerkeli has the smaller body size (about 2–4 mm), the shining dorsum, the normal eyes, and the pronotum clearly wider than long.

K. Tazoe, collector of 1 paratype, observed that this beetle walked on the ground of a golf course (Tazoe, 2000). However, detailed biological information of this species is not known. Most species belonging to Sogdini probably considered to feed on subterranean fungi (Newton, 1998).

Etymology. The specific epithet is derived from the word Nihon which means Japan.

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