

*Kontyû, Tokyo*, **52** (2): 262–265. June 25, 1984

## A New Species of *Harnischia* (Diptera, Chironomidae) from Japan

Hiroshi HASHIMOTO

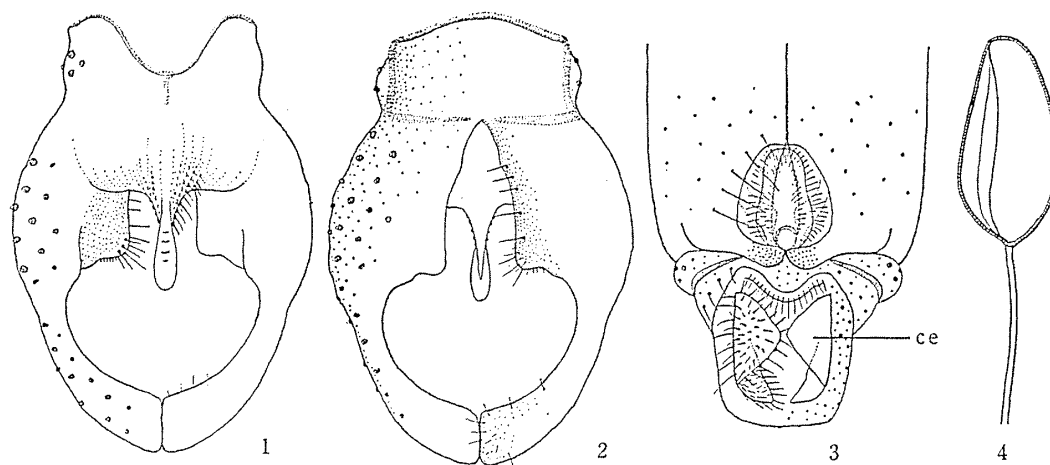
Department of Biology, Faculty of Education, Shizuoka University,  
836, Ohya, Shizuoka, 422 Japan

**Abstract** Adults, male and female, immature forms, pupa and larva, and biological notes of a new species of the genus *Harnischia* KIEFFER 1921 are described.

There is very little information in the literature on the genus *Harnischia* from Japan. The author reported *Harnischia viridula*, *H. curtilamellata*, and *H. incidata* from Thailand and the former two species are found in Japan (HASHIMOTO *et al.*, 1981). An interesting species *H. angularis* which was originally described from Rumania (ALBU & BOTNARIUC, 1966) was once obtained from Lake Biwa, Shiga Prefecture, Japan, 1975 (HASHIMOTO, unpublished). A new species of *Harnischia* described in this paper is most related to *H. angularis*, but is readily distinguished from it in the feature of the male hypopygium. The terminology on general morphology used in this paper is based on the article of SAETHER (1980) but the abbreviations of the wing venation is quoted from TOWNES (1954). The coloration described is that of living or freshly preserved alcoholic specimen.

### *Harnischia japonica* n. sp.

**Male.** Body length 2.5–3.0 mm. Head with about 6 short fine outer verticals and about 6 long stout postorbitals. Frontal tubercles absent. Antennae dark brown, 12-segmented, A.R. 2.0–2.5. Palpi with four segments in proportion of 3:10:13:18. Pronotum pale green, narrow and bare, notch on dorso-median apex rather fused; mesonotum pale green, with about 6 short acrostichals and about 3 long prealars; mesonotal vittae pale yellowish brown, without marking; scutellum yellowish green with a row of 6–8 setae; postnotum brown; posterior anepisternum and preepisternum pale brown. Wings bare, smoky along veins R1, R4+5, M, Cul, and Cu2; veins R, R1, and R4+5 each with a row of macrotrichia; fCu always distad of r-m; squamal fringe present. Legs largely green, partially brown; femora of all legs green, tibiae brownish, tarsi dark brown; fore tibia without apical lobe or spur, tarsal segment I of fore leg paler on proximal and darker on distal portion, segments II–V dark brown, tarsal beards absent; L.R. 2.0–2.5; tibiae on middle and hind legs each with combs and spurs; last tarsal segments of all legs distinctly darker than preceding four segments; claws black, pulvilli well developed. Abdominal segments I–V green, segments VI–VIII brown. Hypo-



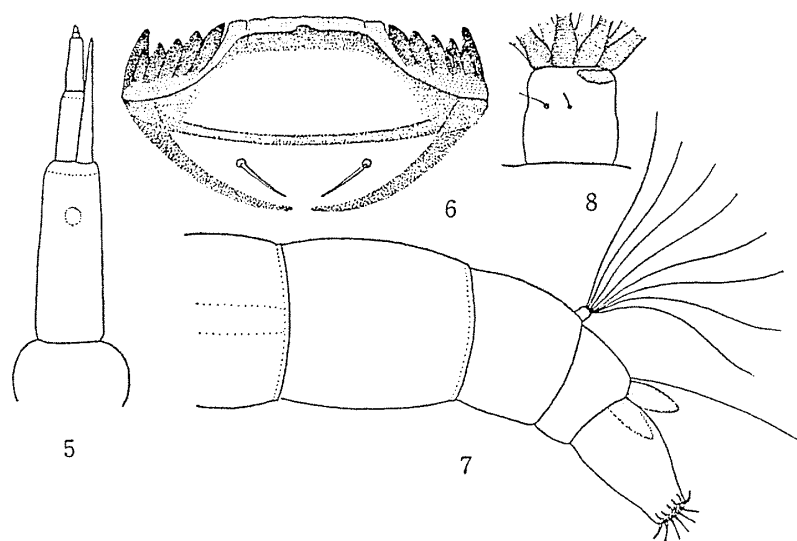
Figs. 1-4. *Harnischia japonica* n. sp. — 1, Male hypopygium, dorsal view; 2, male hypopygium, ventral view; 3, female posterior abdominal segments, ventral view (ce, cercus); 4, seminal capsule.

pygium (Figs. 1-2) brown, with anal point which is slightly spatulate in dorsal view, beaklike in lateral view, with several minute impressions on dorsal surface. Coxite very thick with a large mesal protuberance bearing a group of several strong setae, ventro-mesal margin of coxite with a row of about 5 setae; style markedly narrower than coxite, arched and stout, caudal apex broadened and rather truncate, with a row of short fine setae on ventral side; apices of styles usually colse to or just contacted with each other in living specimen as shown in Figs. 1-2. Dorsal and ventral appendages absent.

*Female.* Body length 2.5 mm. Head distinctly smaller than that of male. Antennae with six segments in proportion of 5:6:5:5:5:15, terminal segment markedly darker than preceding four segments. Structures and coloration of thorax, wings, and legs similar to those of male. Abdomen green. Cercus (Fig. 3, ce) triangular in lateral view, rather broad and short. Seminal capsule (Fig. 4) two in number, large and elongate longitudinally, tapered anteriorly and broadened posteriorly.

*Pupa.* Body length 4.0 mm. Cephalic tubercles sharply pointed at tip. Abdominal tergite II with caudal rows of spinules; tergites III-VI with caudal rows of teeth rather than spinules; tergites VII-VIII without caudal spinules or teeth but with several short swimming hairs on lateral margins; latero-caudal corners of tergite VIII without stark chitinous projection or spur. Anal lobe with more than 30 long swimming hairs. Sheath of style in male or cercus in female simple without spine or seta at tip.

*Larva.* Body length 3.5-4.0 mm in full-grown stage; bright red in ground color. Head capsule rather short and broad, without special marking. Antennae (Fig. 5) with five segments; segment I thick and long, apex with a blade which is



Figs. 5–8. *Harnischia japonica* n. sp., larva. — 5, Antenna; 6, mentum; 7, posterior abdominal segments; 8, procercus.

as long as segments II–III together; segment II about one third of length of I; segment III slightly shorter than II; segments IV and V vestigial. Sensory organs on labrum absent or vestigial except SI which is well developed and forms a long spine-like blade. Premandibles with a blunt tooth on basal portion and 8 distinct teeth on distal portion. Mandibles without teeth. Mentum (Fig. 6) with a large median plate of which apical margin rather smooth and about 6 lateral teeth; a pair of short but distinct setae present on basal portion. Paralabial plate somewhat membranous. Anterior parapods moderately developed with many long claws. Posterior abdominal segments (Fig. 7) without lateral or ventral gills. Procercus (Fig. 8) as long as width, with 2 minute lateral setae and about 8 long black apical setae. A pair of long caudal setae arising on dorso-caudal apex of the base of the posterior parapods. Posterior parapods moderately developed with rather long black claws. Anal gills thick and tapered apically.

*Distribution.* Japan.

Holotype ♂ and 1 ♀ paratype, Katayama, Shizuoka, August 22, 1983, are deposited in the Department of Biology, Faculty of Education, Shizuoka University.

#### *Biological notes*

Adults of this species mainly appear during summer and are obtained by means of sweeping along the watersides of pond, reservoir, and various small stagnant land water with insect net. Flies are also lured by light and commonly seen in summer on the window-pane. However, swarming of adult flies in nature is quite unknown. The author has not seen the natural living specimens of the immature forms. Pupae and larvae used in this study were based on the specimens cultured from eggs laid by the females captured by the light trap. According to the ob-

servations in the laboratory, oviposition takes place after the sunset. Egg mass is linear type, arched or roughly looped, not coiled, and lies on the bottom of water. Length of egg mass usually 15–20 mm, and each contains about 100–200 eggs which range in two rows in a central core. Larvae of this species actively creep about in the bottom mud as in those of Tanypodinae. They are carnivorous rather than herbivorous.

### Discussion

This species is provided with all important features of the genus *Harnischia* KIEFFER 1921 characterized by SAETHER (1971), but is not accorded with any known species of the genus. The male adult differs from all known males of *Harnischia* in its unique structure of the style. *H. angularis* somewhat resembles this species because of presence of a distinct mesal lobe on coxite and caudally broadened style, but the style of *H. angularis* is distinctly shorter, more broadened apically and its mesal corner is sharply pointed. The female of this species is rather difficult to distinguished from the females of the other related species, but the feature of smoky wing veins and the coloration of tibia, besides leg ratio are available for the identification of this female.

Pupa of this species is similar to that of *H. curtilamellata* described by PAGAST (1931) and SAETHER (1971) in the features of the abdominal tergites. According to them, in *H. curtilamellata*, caudal margin of the abdominal tergites II–VI with rows of spinules, while in this species, those are modified into apparent teeth especially tergites III–VI.

Larval structure of this species is basically well accorded with that of *H. curtilamellata* described by LENZ (1954) and SAETHER (1971), but the antennal blade is as long as antennal segments II–III together in *H. japonica*, while it is longer than those in *curtilamellata*.

### References

- ALBU, P., & N. BOTNARIUC, 1966. Les Chironomides de la rizi re de Chirnogi (Oltenitza-Roumanie). *Gew ss. Abw ss.*, **41/42**: 48–63.
- HASHIMOTO, H., T. WONGSIRI, N. WONGSIRI, C. TIRAWAT, A. LEWVANICH & K. YASUMATSU, 1981. Chironominae from rice fields of Thailand with descriptions of 7 new species. *Taxonomy Branch, Entomology & Zoology Division, Dept. Agr., Bangkok, Tech. Bull.*, **7**: 1–47.
- KIEFFER, J. J., 1921. Chironomides nouveaux ou peu connus de la r gion pal arctique. *Bull. Soc. Hist. nat. Metz.*, **29**: 63.
- LENZ, F., 1954–62. Tendipedidae (Chironomidae) b. Subfamilie Tendipedinae (Chironominae). B. Die Metamorphose der Tendipedinae. In LINDNER (ed.), *Fliegen pal arkt. Reg.*, **3** (13c): 139–260.
- PAGAST, F., 1931. Chironomiden aus Bodenfauna des Usma-See in Kurland. *Fol. zool. hydrobiol.*, **3**: 199–248.
- SAETHER, O. A., 1971. Nomenclature and phylogeny of the genus *Harnischia* (Diptera: Chironomidae). *Can. Ent.*, **103**: 347–362.
- 1980. Glossary of chironomid morphology terminology (Diptera: Chironomidae). *Ent. Scand. Suppl.*, **14**: 5–51.
- TOWNES, H. K., 1945. The Nearctic species of Tendipedini (Diptera: Tendipedidae (=Chironomidae)). *Amer. Midl. Nat.*, **34**: 1–206.