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Description of a New Species of Dryinid Wasp (Hymenoptera, Dryinidae) from the Ogasawara Islands, Japan

Mamoru TERAYAMA
Division of Agriculture and Agricultural Life Sciences, The University of Tokyo,
Yayoi, Bunkyo-ku, Tokyo, 113–8657 Japan

and

Takashi OHBAYASHI *
Agricultural Pest Division, Ogasawara Subtropical Branch of
Tokyo Metropolitan Agricultural Experiment Station,
Ogasawara-mura, Tokyo, 100–2101 Japan

Abstract A new species of the genus *Gonatopus* of the family Dryinidae, *G. hagoromo* sp. nov., is described from the Ogasawara Islands, Japan. This new species is a parasitoid of *Geisha distinctissima* (WALKER, 1858) (Hemiptera; Flatidae).

Introduction

Recently, T. OHBAYASHI, one of the authors, reared several dryinid wasps belonging to the *synchromus* species group of the genus *Gonatopus* from nymphs of *Geisha distinctissima* in Chichi-jima Island, the Ogasawara Islands. After careful examination, we concluded that it was an undescribed species.

The genus *Gonatopus* LJUNGH, 1810, belonging to the subfamily Gonatopodinae of the family Dryinidae comprises about 380 species in the world. In 1993, OLMI divided known species of this genus into 11 species groups. This new species belongs to the *synchromus* species group distributed in the Palaearctic (3 spp.), Ethiopian (5 spp.), Oriental (4 spp.), Nearctic (2 spp.), and Neotropical (1 sp.) regions. The *synchromus* species group is separated from the other species groups of the genus *Gonatopus* by the 5-segmented maxillary palpi, 3-segmented labial palpi, a strong transversal impression of pronotum, enlarged claw of forelegs with subapical tooth and lamellae, fore and hind tibiae each with a single spur, and middle tibia without spur.

The following abbreviations are used in this paper. HL–head length; HW–head width; LP–length of pronotum; WP: dorsal width of pronotum; LMP–length of mesonotum and propodeum combined; DWP–dorsal width of propodeum; TL–total body length; POL–distance between posterior ocelli; AOL–distance between posterior ocellus and anterior ocellus; OOL–distance from a posterior ocellus to nearest eye margin: OPL–distance from a posterior ocellus to nearest posterior margin of head; EPM–distance from an eye margin to nearest posterior margin of head.

Gonatopus hagoromo sp. nov.

(Figs. 1–6)

Female (Holotype). Apterous, HL 0.73 mm, HW 1.00 mm, LP 1.95 mm, WP 0.64 mm, LMP 1.30 mm, DWP 0.53 mm, TL 3.7 mm.

Head black; mandible, clypeus and antennal scape yellowish brown; 2–7 antennal segments brown; 8–10 segments whitish; thorax and propodeum black; coxae and femora dark brown; trochanters, tibiae and tarsi brown; gaster black.

Head (Fig. 1) wider than long, with strongly concave vertex in full face view; frons

* Present address. Tokyo Metroplitan Agricultural Experiment Station, 3–8–1, Tachikawa, Tokyo, 190–0013 Japan

and vertex shiny, smooth, without sculpture; no occipital carina; frontal line complete. Mandible with 4 acute teeth. Clypeus with convex anterior margin. Antennal segments (Fig. 2) in a ratio of 12 : 5 : 20 : 11 : 7 : 7 : 7 : 5 : 5: 8 in length. Eye 0.63 mm in length. POL : AOL = 4 : 3; OOL 5.0 times POL; OPL : EPM = 1 : 2.

Pronotum (Figs. 3, 4) smooth and shining; enlarged anterior part clearly defined from narrow posterior part by sharp impression; anterior border set off by marginal groove. Mesothorax shagreened, dorsal margin concave in profile. Posterior sides with 5 transverse rugae; meso-metapleural suture distinct and complete; dorsum of metathorax straight in profile; metapleuron shiny, smooth, without sculpture. Propodeum convex, dorsal margin evenly arched in profile; anterior half without sculpture, smooth and shiny; posterior part transversely striate.

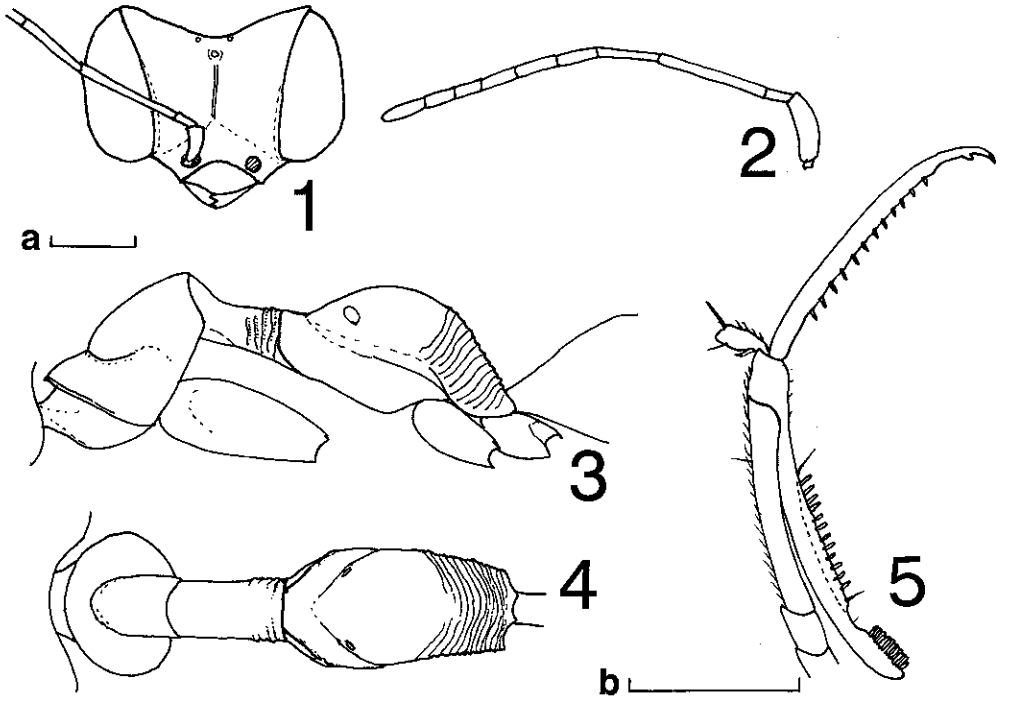
Gaster smooth and shining.

Fore tarsal segments (Fig. 5) in a ratio of 18 : 4 : 6 : 21 : 25 in length; 3rd segment slightly longer than wide; 4th segment 9.4 times as long as wide; 5th segment with a row of 12 separate lamellae, proximal four longer; apex with a group of about 15 closely set lamellae lamellae; elongated claw acute apically, with subapical tooth and 12 lamellae.

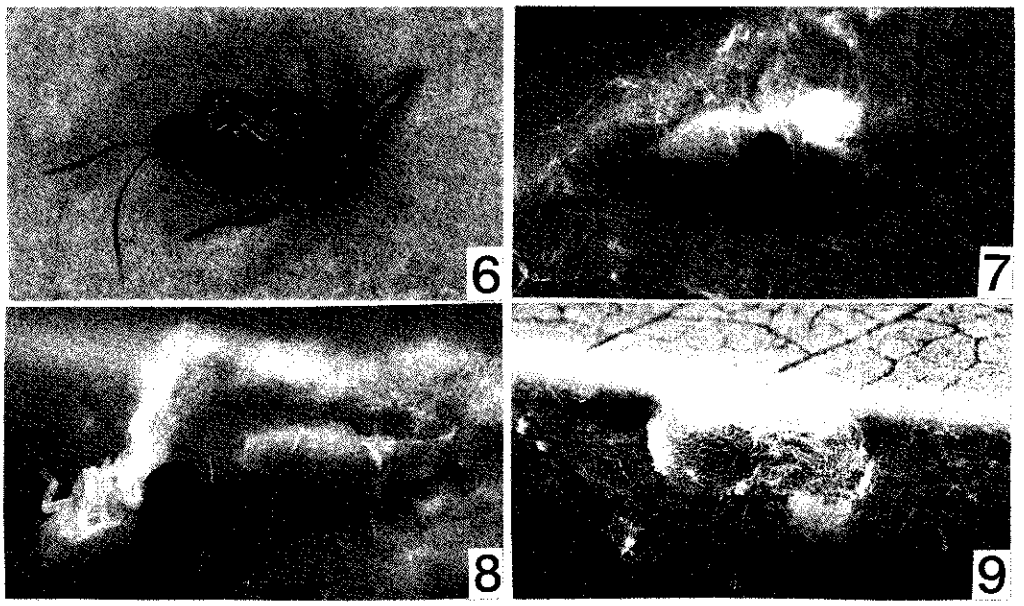
Holotype. Female, Komagari, Chichi-jima, Ogasawara Is., Tokyo, 3. vii. 1997, T. OHBAYASHI leg.

Paratypes. 2 females, same locality of holotype, 10. vii. 1997, T. OHBAYASHI leg.; 2 females, Yake-yama, Haha-jima, Ogasawara Is., Tokyo, 20. iv. 1997, K. NISHIMOTO leg.

Type depository. The types are to be preserved in the National Institute of Agro-Environmental Sciences, Tsukuba, Japan (NIAES).



Figs. 1–5. *Gonatopus hagoromo* sp. nov., female. — 1, Head, full face view; 2, antenna; 3, thorax and propodeum, profile; 4, *ditto*, dorsal view; 5, chela. Scale bars: a; 0.5 mm for 1–4, b; 0.5 mm for 5.



Figs. 6–9. *Gonatopus hagoromo* sp. nov., adult, larva and cocoon. — 6, Adult female, profile; 7, a sac of larva (arrow in the photo) which projects from the host's abdomen; 8, larval emergency from its sac; 9, cocoon on the food-plant leaf of the host.

Etymology. The specific epithet is the Japanese noun 'hagoromo', which means clothes putting on the celestial nymphs in Japan.

Remarks. This species is mostly resembles *G. borneanus* (OLMI, 1984), from Sarawak, Malaysia, but it is separated from the latter by the elongate claw of foreleg with acute apical tooth and 12 lamellae.

Two specimens from Haha-jima Island are smaller than the holotype; HL measures 0.49 and 0.48 mm, and HW 0.73 and 0.85 mm.

Biology. This species is a parasitoid of *Geisha distinctissima* (WALKER, 1858) (Japanese name: Aoba-hagoromo) of family Flatidae in Hemiptera. Three nymphs of *G. distinctissima* which were parasitized by this species were collected by T. O. in May 18, 1997. The dryinid larvae were in a blackish sac or syst (Fig. 7). In July 6 and 7, the larvae came out from its developmental sac (Fig. 8), and pupated in cocoons span on the food-plant leaf of the host (Fig. 9) which were flat and close-fitting the surface of the leaf. The adult females emerged from the cocoons in about July 20.

Acknowledgement

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