

# Discovery of a Conifer-feeding Sawfly, *Cephalcia antennata* (Hymenoptera, Pamphiliidae) in Shikoku, Japan

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**Abstract** A collection record of *Cephalcia antennata* Shinohara, 1994, from Ochiai-toge, Tokushima Prefecture, Shikoku, is given. This is the second specimen of the species ever known and represents the first distribution record from Shikoku. Corrections are made to the description and key by Shinohara (1994, 2020).

**Key words:** Symphyta, Cephalciinae, Shikoku.

## Introduction

A conifer-feeding web-spinning sawfly, *Cephalcia antennata* Shinohara, 1994, was described from a single male specimen labeled “Kusatsu, Momi?, 23. V. 1951, Kabe leg.” (Shinohara, 1994). Kusatsu is a well-known hot spring resort about 1200 m high on the eastern slope of Mt. Shirane-san (2106 m alt.) in the northwestern part of Gunma Prefecture, central Honshu, Japan. The holotype is the only specimen of the species known. In late May 2021, Watanabe collected a male specimen of this sawfly in Ochiai-toge at an altitude of 1500 m, Tokushima Prefecture, Shikoku. This is the second collection record and the first distribution record of the species from Shikoku. Here we report on this discovery and point out errors in the previous publications about *C. antennata* by Shinohara (1994, 2020).

## Materials and Methods

The specimens used in this work are kept in

the National Museum of Nature and Science, Tsukuba. For morphological terminology, we generally follow Viitasaari (2002). Examination of anatomy was made with Olympus SZX7 stereo binocular microscope. Photographs were taken with a digital camera, Olympus Stylus TG-4 Tough, with Olympus SZX7 stereo binocular microscope. The digital images were processed and arranged with Adobe Photoshop Elements<sup>®</sup> 9 and 15 software.

## Results and Discussion

*Cephalcia antennata* Shinohara, 1994

(Fig. 1)

*Cephalcia antennata* Shinohara, 1994: 173; Taeger *et al.*, 2010: 79; Shinohara, 2019: 5; Shinohara, 2020: 229.

**Distribution.** Japan: Honshu, Shikoku (new record).

**Specimens examined.** HONSHU: Gunma Pref.: ♂ (holotype, Fig. 1A–D) labeled “Kusatsu, Momi [= *Abies firma* Siebold et Zucc.]? 23. V. 1951, Kabe leg.” “Holotype *Cephalcia antennata* Shinohara, 1994”. SHIKOKU: Tokushima Pref.: 1 ♂ (Fig. 1E–I), Miyoshi-shi, Ochiai-toge, alt.

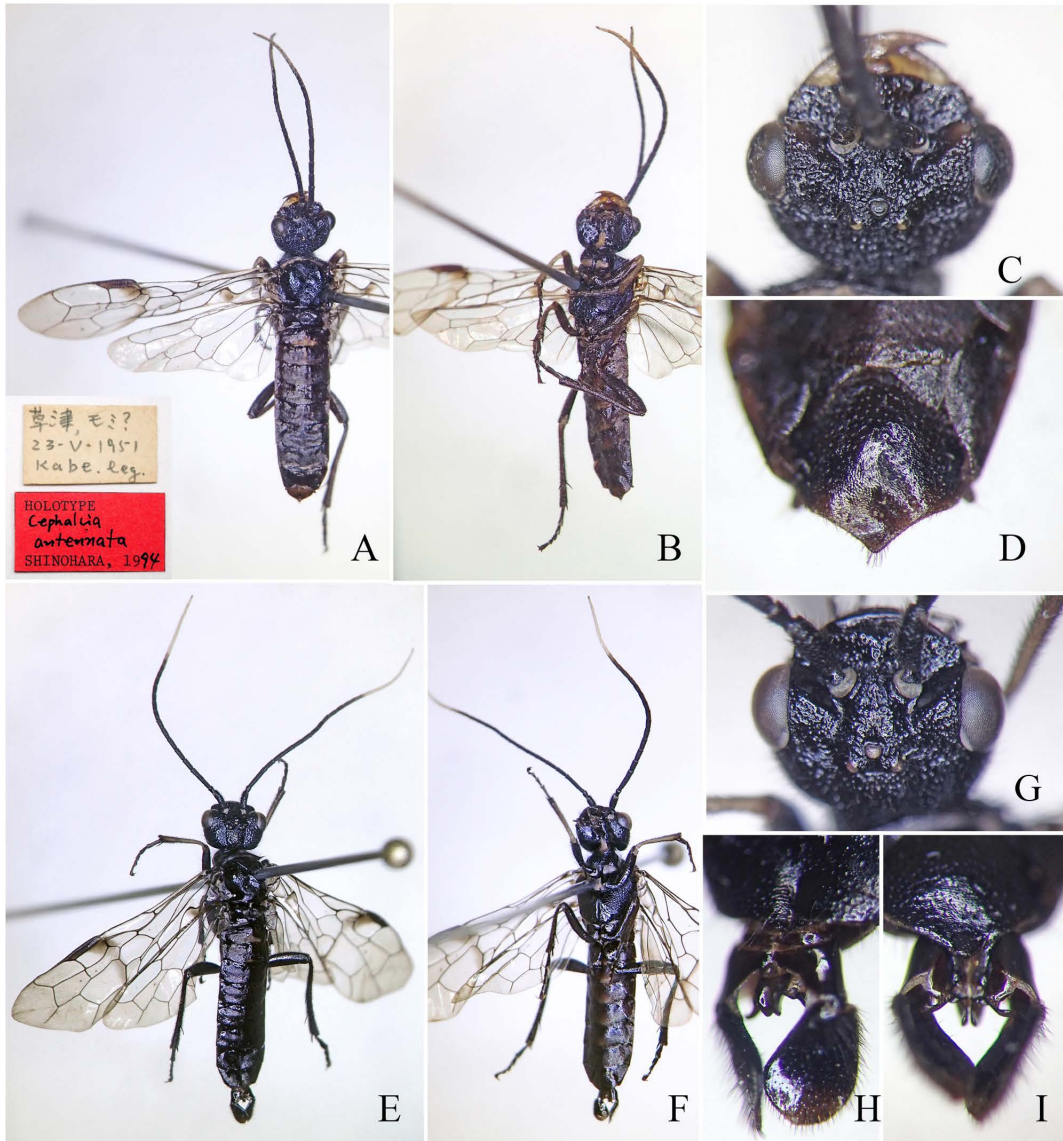


Fig. 1. *Cephalcia antennata*, males, holotype (A–D) and a specimen from Shikoku (E–I). — A, Habitus, dorsal view, and labels; B, F, habitus, ventrolateral view; C, G, head, frontodorsal view; D, sternum 9 (subgenital plate), ventral view; E, habitus, dorsal view; H, genital capsule and apical part of abdomen, dorsolateral view; I, the same, ventral view.

1500 m, May 29, 2021, A. Watanabe leg.

*Host plant.* Unknown.

*Remarks.* *Cephalcia antennata* is a peculiar species well characterized by the entirely or almost entirely black head, thorax and abdomen, the long, apically whitish antennae, the largely black legs, the blackish cloud below the stigma in the forewing, and the narrowly produced and

setose apex of the abdominal sternum 9 (subgenital plate) (Fig. 1D, I). The female is still unknown. It resembles *C. stigma* Takeuchi, 1938, from Japan and *C. hartigii* (Bremi, 1849) from Europe and Tunisia in having a black cloud below the stigma in the forewing, but *C. antennata* is easily distinguished from the two species by a number of features in color and structure as

discussed in detail by Shinohara (1994).

The newly acquired specimen is similar to the holotype but has a slightly darker color pattern. The paraantennal field is entirely black, the mandible is black basally and dark reddish brown apically, and the legs are blackish brown to black except for the narrow apex of the fore femur and the entire fore tibia pale brownish. The holotype has the paraantennal field obscurely marked with pale brown, the mandible almost entirely pale brown, and the narrow apices of the fore and mid femora, the entire fore tibia, and part of mid tibia pale brown. In the original description (Shinohara, 1994), the color of the fore tibia was not correctly described; the fourth line from the bottom of p. 173 should read “fore and mid tibiae” instead of “mid tibiae”.

In Shinohara’s (2020) key to the selected species of Japanese *Cephalcia*, this species was placed in a group of species without distinct cloud below the stigma (couplet 8). However, *C. antennata* actually has a distinct blackish cloud below the stigma in the forewing as in *C. stigma*. Therefore, the couplets 7 to 9 of the key (p. 229, original in Japanese) should be replaced by the following new version.

7. Forewing with distinct blackish cloud below stigma. .... 8  
 -- Forewing without distinct blackish cloud below stigma. .... 9  
 8. Mostly pale brown; antenna pale brown basally and black apically; abdominal sternum 9 (subgenital plate) not narrowly produced at apex. .... *C. stigma*

- Mostly black; antenna black basally and whitish apically; abdominal sternum 9 narrowly produced at apex (Fig. 1D, I). .... *C. antennata*  
 9. Antennal scape entirely orange; wings blackish. .... *C. issaikii*  
 -- Antennal scape partly or entirely black; wings brownish. .... 10

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### References

- Shinohara, A. 1994. *Cephalcia antennata* sp. nov. (Hymenoptera, Pamphiliidae) from Central Honshu, Japan. Bulletin of the National Science Museum, Series A, Zoology, 20: 173–177.  
 Shinohara, A. 2019. Family Pamphiliidae. In Editorial Committee of Catalogue of the Insects of Japan (ed.): Catalogue of the Insects of Japan, Volume 9 Hymenoptera (Part 1 Symphyta), pp. 3–13. Entomological Society of Japan, Kyoto (In Japanese).  
 Shinohara, A. 2020. Family Pamphiliidae. In Naito, T., A. Shinohara, H. Hara and F. Ito: Sawflies and Woodwasps of Japan, pp. 3–23, 222–254. Hokkaido University Press, Sapporo (In Japanese).  
 Taeger, A., S. M. Blank and A. D. Liston 2010. World catalog of Symphyta (Hymenoptera). Zootaxa, 2580: 1–1064.  
 Viitasaari, M. 2002. The suborder Symphyta of the Hymenoptera. In Viitasaari, M. (ed.): Sawflies 1 (Hymenoptera, Symphyta), pp. 11–174. Tremex Press, Helsinki.