

Lataxiphyda nodai (Togashi, 1982) (Hymenoptera, Xiphydriidae): New Synonym, New Combination and New Distribution Record

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Abstract *Hyperxiphia tabunokii* Togashi, 2007 (= *Lataxiphyda makiharai* Togashi, 2009) is synonymized with *Hyperxiphia nodai* Togashi, 1982 (in Togashi and Hirashima, 1982), as a result of comparative studies of the holotypes. Both taxa were described from Amami-Oshima Island. *Hyperxiphia nodai* is newly combined with *Lataxiphyda* and the species is newly recorded from Okinawa-Honto Island.

Key words: New synonym, new combination, new distribution record, *Hyperxiphia nodai*, *Hyperxiphia tabunokii*, *Lataxiphyda*, Okinawa-Honto Island.

Introduction

A xiphydriid woodwasp, *Hyperxiphia nodai* Togashi, 1982 (in Togashi and Hirashima, 1982), was described based on a female specimen “collected on a path in the central forest area” (Togashi and Hirashima, 1982, p. 189) of Amami-Oshima Island. Togashi (2007) described another species of *Hyperxiphia* Maa, 1949, *H. tabunoki*, based on seven specimens from Mt. Yui in southern part of Amami-Oshima Island. From the same locality, Togashi (2009) described a new species of the other genus *Lataxiphyda* Smith, 2008, *L. makiharai*. These three nominal taxa are all mostly black xiphydriids from Amami-Oshima Island. After examining the holotypes of *H. tabunoki* and *L. makiharai*, Shinohara and Hara (2015) synonymized the latter with the former and combined the species with *Lataxiphyda*.

I have recently examined the holotype of *H. nodai* and found that it is conspecific with the holotypes of *H. tabunoki* and *L. makiharai*. Here I synonymize *H. tabunoki* (= *L. makiharai*) with *H. nodai* and place *H. nodai* in the genus *Lataxiphyda*.

Materials and Methods

Abbreviations for the depositories of the material used are: EU—Ehime University, Matsuyama; KYU—Kyushu University, Fukuoka; NSMT—National Museum of Nature and Science, Tsukuba; USNM—National Museum of Natural History, Washington, D. C.

Type material examined. Holotype of *Hyperxiphia nodai* (Figs. 1A–C, 2A–C): ♀, “Amami-Oshima, Chuo-rindo, 1980.6.29, R. Noda” “*Hyperxiphia nodai* sp. nov., det. I. Togashi” “Typus” (KYU). One flagellum missing, one flagellum, right mid tarsus and right forewing detached and glued on a small card pinned with the specimen (Fig. 1C). Holotype of *Hyperxiphia tabunokii* (Figs. 1D, 2D): ♀, “Mt. Yui, Amami-Oshima, Kagoshima Pref. 13. V. 2005 H. Makihara” “Food plant: *Machilus thunbergii* Sieb. et Zucc.” “NSMT-HYM 62281” “Holotype, *Hyperxiphia tabunokii* sp. nov.” (NSMT). In perfect condition. Paratypes of *Hyperxiphia tabunokii*: 1 ♂ (Fig. 1F), “Mt. Yui, Amami-Oshima, Kagoshima Pref., 6. V. 2005, H. Makihara” “Food plant: *Machilus thunbergii* Sieb. et Zucc.” “NSMT-HYM 62282” “Paratype, *Hyperxiphia tabunokii* sp. nov.”

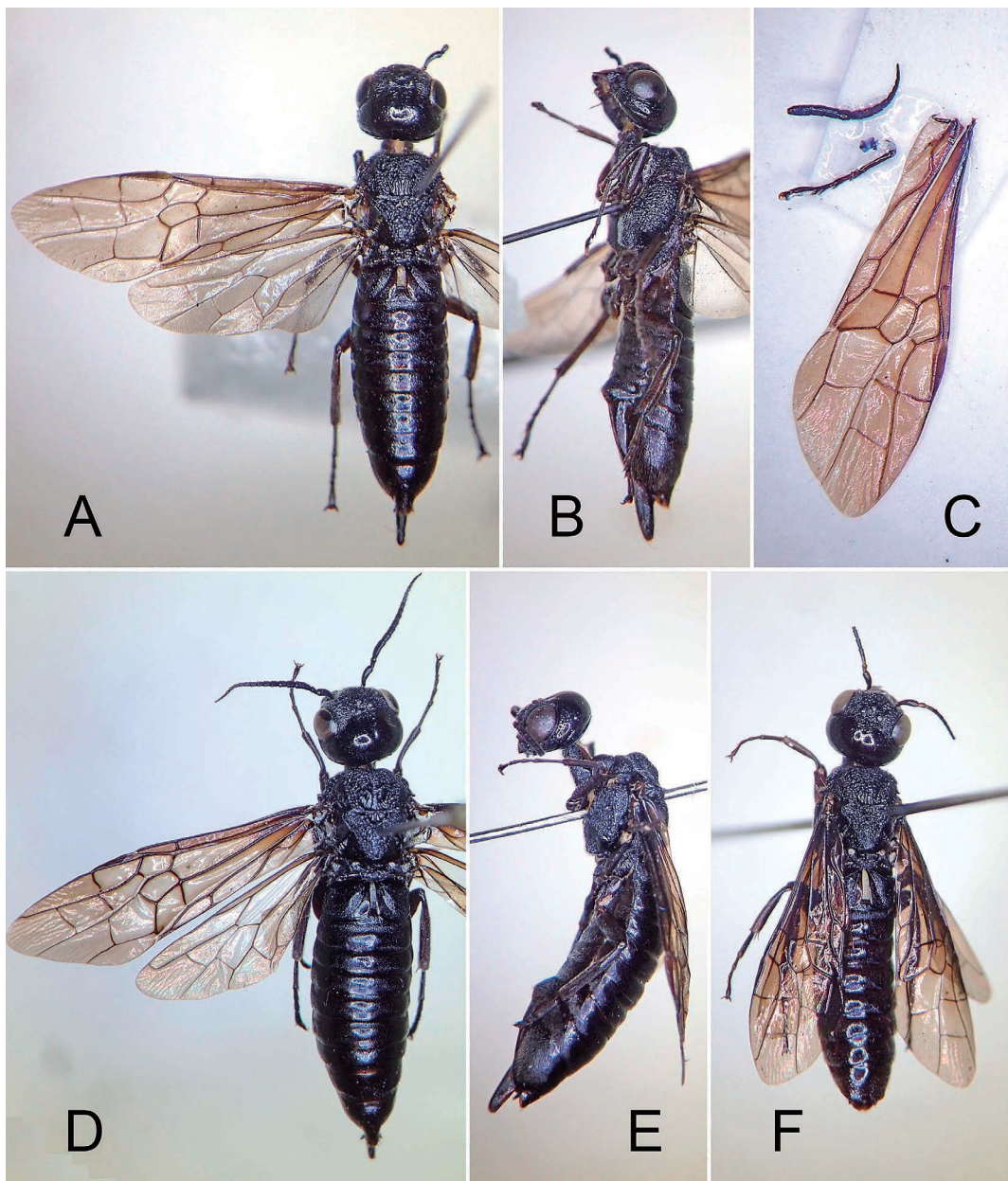


Fig. 1. *Lataxiphyda nodai*, females (A–E) and male (F).—A–C, *Hyperxiphia nodai*, holotype; D, *H. tabunokii*, holotype; E, *Lataxiphyda makiharai*, holotype; F, *H. tabunokii*, paratype.

(NSMT); 1 ♂ (Fig. 2E), “Mt. Yui, Amami-Oshima, Kagoshima Pref., 28. VII. 2004, H. Makihara” “Food plant: *Machilus thunbergii* Sieb. et Zucc.” “NSMT-HYM 62283” “Paratype, *Hyperxiphia tabunokii* sp. nov.” (NSMT); 1 ♀, “Mt. Yui, Amami-Oshima, Kagoshima Pref., 26. VII. 2004,

H. Makihara” “Food plant: *Ardisia sieboldii* Miq.” “Paratype, *Hyperxiphia tabunoki* sp. nov.” (USNM). Holotype of *Lataxiphyda makiharai* (Fig. 1E): ♀, “Mt. Yuidake, Amami-Oshima Is., Kagoshima Pref., Japan, collected dead plants, 17. VII. 2004, H. Makihara leg.” “Mokutachibana,

Ardisia sieboldii Miq. x. 2004" "NSMT-HYM 37086" "Holotype, *Lataxiphyda makiharai* sp. nov." (NSMT). Apices of both antennae, right fore tarsus, right mid tarsus, and left hind tarsus missing. *Other material examined.* 1 ♂, "[Okinawa: RYUKYU], Mt. Nishimedake, 360 m, Kunigami, 19. X. 1987, M. Sakai leg." (EU).

Observations of morphology were made with Olympus SZX7 stereo binocular microscope. For morphological terminology, I followed Viitasaari (2002). 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® 9 and 15 software.

Results and Discussion

Lataxiphyda nodai (Togashi, 1982), comb. n.

(Figs. 1, 2)

Hyperxiphia nodai Togashi, in Togashi and Hirashima, 1982: 186.

Hyperxiphia tabunokii Togashi, 2007: 436. Syn. n.

Lataxiphyda makiharai Togashi, 2009: 145. Syn. n.

Lataxiphyda tabunokii: Shinohara and Hara, 2015: 180.

Summary of taxonomic characters. Black, with mandible and legs partly dark brownish and apical margin of each coxa narrowly whitish; wings uniformly blackish infuscated (Fig. 1). Head in lateral view convex behind ocelli and slightly depressed near lateral ocelli; vertex and most of gena smooth, shiny. Labial palpus with four palpomeres and maxillary palpus with five palpomeres. Forewing with cell C very broad; hindwing with crossvein 2r-m present and cell A rounded both anteriorly and posteriorly. Female: Length without ovipositor 9.0–18.5 mm. Antenna with 16 or 17 antennomeres ($n=4$); flagellum slender, each flagellomere longer than broad (Fig. 2D). Tarsal claws with inner tooth at middle in fore leg and near base in middle and hind legs in addition to rounded basal lobe; inner tooth distinctly shorter than apical tooth. Male: Length 11.0–12.0 mm. Basal three antennomeres often partly dark brownish. Antenna with 18 antennomeres ($n=4$). Tarsal claws with inner tooth near

apex in all legs; inner tooth slightly shorter than apical tooth; basal lobe low, indistinct. Abdominal tergum 9 very weakly convex, without median longitudinal keel, widely rounded at apex; sterna (particularly 4–7) with conspicuous long golden hairs near posterior margin medially (Fig. 2E).

Distribution. Japan (Ryukyu Islands: Amami-Oshima Island, Okinawa-Honto Island [new record]).

Remarks. Togashi, in Togashi and Hirashima (1982) and Togashi (2007, 2009) described three new species of Xiphydriidae from Amami-Oshima Island, all mostly black species, *Hyperxiphia nodai* Togashi, in Togashi and Hirashima, 1982, *Hyperxiphia tabunokii* Togashi, 2007, and *Lataxiphyda makiharai* Togashi, 2009. Shinohara and Hara (2015) examined the type series of *H. tabunokii* and *L. makiharai* and regarded them as synonyms (see Shinohara and Hara, 2015, for more discussion). They also assigned *H. tabunokii* to the genus *Lataxiphyda*.

Togashi (2007) separated *Hyperxiphia tabunokii* from *H. nodai* by the number of the antennomeres (14 in *nodai* and 18 in *tabunokii*), the relative lengths of the scape and the flagellomere 1 (scape is slightly shorter than flagellomere 1 in *nodai* but longer in *tabunokii*), the relative lengths of the hind tarsomere 1 and the hind tarsomeres 2–4 (tarsomere 1 is shorter than combined lengths of tarsomeres 2–4 in *nodai* but longer in *tabunokii*), the color of the forecoxa (entirely black in *nodai* but white-marked in *tabunokii*), and the presence or absence of the "appendiculate vein" at the base of 2A + 3A of the forewing (absent in *nodai* but present in *tabunokii*). In the key, Togashi (2007) used three of the five characters above, i.e. the number of the antennomeres, the color of the forecoxa and the presence or absence of the "appendiculate vein" for distinguishing the two species.

A close examination of the holotypes of *H. nodai* and *H. tabunokii* has revealed that the differences given above are wrong or difficult to recognize. The number of the antennomeres are actually 16 in the holotype of *H. nodai* (both antennae are broken but a flagellum with 14 flag-

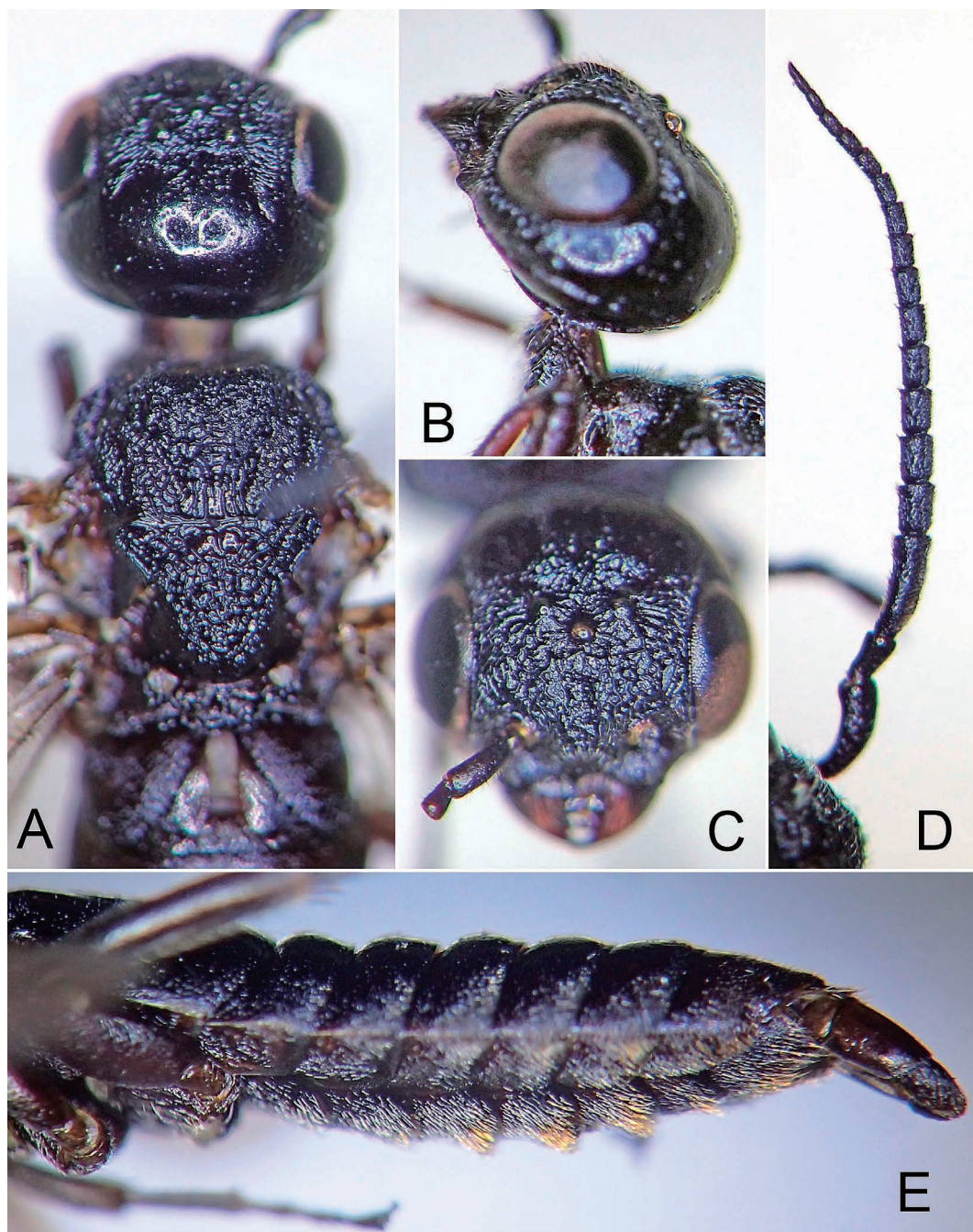


Fig. 2. *Lataxiphyda nodai*, females (A–D) and male (E).—A–C, *Hyperxiphia nodai*, holotype; D, left antenna, dorsal view, *H. tabunokii*, holotype; E, abdomen, lateral view, *H. tabunokii*, paratype.

ellomeres, detached from the head capsule with the intact scape and pedicel, is preserved, Fig. 1C) and 17 in the holotype of *H. tabunokii* (Fig. 2D) (a male paratype has 18 antennomeres). The

holotype of *H. nodai* has the scape about 1.27 times as long as the flagellomere 1 and the hind tarsomere 1 about 1.19 times as long as the tarsomeres 2–4 combined, while the holotype of *H.*

tabunokii has the scape about 1.24 times as long as the flagellomere 1 and the hind tarsomere 1 about 1.21 times as long as the tarsomeres 2–4 combined. The color of the forecoxa is not very different between the two holotypes, though that of the holotype of *H. nodai* looks all dark, because the narrow pale (originally whitish?) apical margin has been darkened by some oily substance. The “appendiculate vein” at the base of 2A + 3A of the forewing is not clearly recognizable. The two holotypes are otherwise quite similar to one another, except for the fairly large difference in size (9.0 mm in *H. nodai* and 16.0 mm in *H. tabunokii* without ovipositor), which is a common variation among the individuals in the Xiphydriidae. I conclude that the two holotypes are conspecific and propose to treat *H. nodai* and *H. tabunokii* (= *L. makiharai*) as synonyms.

Lataxiphyda was proposed for three species from the Philippines and peninsular Malaysia. It is mainly characterized by the very broad costal cell of the forewing, elongated head length behind eyes, and rounded apex of the anal cell of the hindwing (Smith, 2008). *Hyperxiphia nodai* agrees with these characters and here I propose to place it in *Lataxiphyda*.

This is an almost entirely black species with uniformly blackish wings and mostly smooth vertex and gena. Among the Japanese Xiphydriidae, no other species have such a combination of characters (Takeuchi, 1938; Hara and Shinohara, 2018; Shinohara, 2019a, b; Shinohara and Kameda, 2019). With mostly smooth vertex and gena, this species may resemble *L. paraerythropus* Smith, 2008, from Malaysia, but differs from it in the slender antenna, with all the flagellomeres distinctly longer than broad (Fig. 2D).

This species was known only from the type series of *H. nodai*, *H. tabunoki* and *L. makiharai*, all from Amami-Oshima Island. The male specimen listed above represents the first record of this species from Okinawa-Honto Island.

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