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Japanese species of the sawfly genus *Nesodiprion* (Hymenoptera, Diprionidae)

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Abstract

Nesodiprion flavipes **sp. nov.** associated with *Tsuga diversifolia* (Maxim.) Mast. and *N. kojimai* **sp. nov.** associated with *Abies veitchii* Lindl. are described from Honshu, Japan. Additional taxonomic and biological information is given for other Japanese congeners, *N. japonicus* (Marlatt, 1898), *N. albiventris* Togashi, 1998, *N. shinoharai* Togashi, 1998, *N. nigerrimus* Togashi, 1998, *N. kagaensis* Togashi, 1998, *N. niger* Togashi, 2001 and *N. tsugae* Togashi, 2001. The males of *N. shinoharai*, *N. kagaensis* and *N. tsugae* are described for the first time. The host plants of *N. shinoharai* are *Pinus* spp. *Nesodiprion kagaensis* is newly recorded from Hokkaido, Japan, and its host plants are *Pinus* spp. and *Larix kaempferi* (Lamb.) Carrière. Larvae of *N. japonicus* and *N. kagaensis* are briefly described. A division of *Nesodiprion* into the following five species groups is proposed: *N. tsugae* group, *N. niger* group, *N. flavipes* group, *N. japonicus* group and *N. shinoharai* group. Additions to the key to *Nesodiprion* species by Hara & Smith (2012) are given.

Key words: Symphyta, new host record, new distribution record

Introduction

The East Asian sawfly genus *Nesodiprion* Rohwer, 1910 is currently very diverse (Hara & Smith 2012). Rohwer (1910, 1918) characterized *Nesodiprion* mainly as having a very narrow malar space, a long posterior hind tibial spur and a biramose female antenna. Benson (1939) gave additional generic characters: Mesoscutellum with an obtuse anterior margin; narrowly separated cenchri; cell 1A in a hind wing with a short petiole; and the shiny and smooth abdominal terga. These characters have been used to recognize the genus by subsequent authors (e.g., Takeuchi 1940, Gussakovskij 1947, Smith 1974, Xiao *et al*. 1984). However, Togashi (1998, 2001) described some species deviating from the previous concept of *Nesodiprion*, and Hara & Smith (2012) suggested that only the biramose or biserrate female antenna supports the monophyly of the genus.

Recently we noticed that the female of *Gilpinia tohi* Takeuchi, 1940 has a biserrate flagellum. But we do not consider *G. tohi* a *Nesodiprion* as discussed below. Here, we divide *Nesodiprion* into five species groups, which may help understand the relationships between the current members of *Nesodiprion* as well as between those and other diprionine species.

The following seven species of *Nesodiprion* have been known from Japan: *N. japonicus* (Marlatt, 1898), *N. albiventris* Togashi, 1998, *N. kagaensis* Togashi, 1998, *N. nigerrimus* Togashi, 1998, *N. shinoharai* Togashi, 1998, *N. niger* Togashi, 2001 and *N. tsugae* Togashi, 2001. We here describe two new species, *N. flavipes* and *N. kojimai*, from Honshu, Japan, and provide additional taxonomic and biological information on the seven known species.

Material and methods

Depositories of specimens examined are as follows: FFPRIH = Hokkaido Research Center, Forestry and Forest Products Research Institute, Sapporo, Japan; HFRI = Forestry Research Institute, Hokkaido Research

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