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.


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