



## A redescription of *Torymus sapporoensis* Ashmead and description of a new species of *Torymus* Dalman (Hymenoptera: Torymidae) parasitizing *Paratephritis fukaii* (Diptera: Tephritidae) in Japan

KAZUNORI MATSUO

Entomological Laboratory, Graduate School of Bioresource and Bioenvironmental Sciences, Kyushu University, Fukuoka, Japan.

E-mail: k\_matsuo@agr.kyushu-u.ac.jp

### Abstract

*Torymus itoi* Matsuo **sp. nov.** (Hymenoptera: Torymidae) is described as a parasitoid of *Paratephritis fukaii* Shiraki (Diptera: Tephritidae) which induces galls on the petioles and peduncles of *Farfugium japonicum* (L.) Kitam. (Asteraceae) in Japan. Torymid specimens that were previously identified as *T. sapporoensis* Ashmead in Ito (1947) are identical with *T. itoi*, which is shown to be different from *T. sapporoensis*. To complement the insufficient original description, *T. sapporoensis* is redescribed based on the holotype.

**Key words:** *Torymus itoi*, fruit fly, *Farfugium japonicum*, gall

### Introduction

The genus *Torymus* Dalman (Torymidae: Toryminae) contains about 400 species worldwide of which 14 have been recorded from Japan (Grissell 1995; Noyes 2003; Matsuo & Yukawa 2009a, 2009b). Previously, six species were known to attack fruit flies in the Holarctic Region (Grissell 1995; Graham & Gijswijt 1998). Fruit flies include many pest species that infest a wide variety of fruit, particularly in tropics and subtropics. Therefore, taxonomic studies of their parasitoids, such as torymids, are essential in their control.

*Farfugium japonicum* Kitam. (Asteraceae) is a perennial plant, which is distributed in Japan (except Hokkaido), Taiwan, and eastern parts of China (Iwatsuki *et al.* 1995). *Paratephritis fukaii* Shiraki (Diptera: Tephritidae) lay eggs into young petioles or peduncles of *F. japonicum* and induce elongated spindle-shaped galls that contain more than one larva (Higashi *et al.* 1990; Yukawa & Masuda 1996). This fruit fly species is known to occur in Japan except Hokkaido and the Southwestern Islands (Yukawa & Masuda 1996). *Paratephritis fukaii* has two or more generations a year in Kagoshima Prefecture, Kyushu, Japan (Higashi *et al.* 1990).

In 1944, Dr. S. Ito reared parasitic wasps from galls of *P. fukaii* in Fukuoka Prefecture, Kyushu, Japan, which were deposited in the collection of the Entomological Laboratory, Kyushu University, Fukuoka, Japan (ELKU). The specimens were identified by Dr. K. Yasumatsu as *Torymus sapporoensis* Ashmead (Hymenoptera: Torymidae) and *Eurytoma japonica* Ashmead (Hymenoptera: Eurytomidae) (Ito 1947). The specimens in ELKU likely were used by Dr. Yasumatsu for his identification of *T. sapporoensis*, though the name of the person who was responsible for the identification was not indicated on the label. *Torymus sapporoensis* was described by Ashmead (1904) based on a single female collected by Dr. S. Matsumura from Sapporo City, Hokkaido, Japan. The original description of *T. sapporoensis* and the label attached to the holotype do not give any information on its host or associated plant. It is possible that the host and associated plant of *T. sapporoensis* occur elsewhere than Hokkaido, but no other specimens have been found in major parasitoid collections in Japan, such as the Kamijo collection in the Hokkaido University Museum and the Tachikawa collection in the Entomological Laboratory of Kyushu University. In addition to this