



The genus *Manota* Williston (Diptera, Mycetophilidae) in Japan, with a key to the Palaearctic species of the genus

HEIKKI HIPPA¹, JOSTEIN KJÆRANDSEN² & TOYOHEI SAIGUSA³

¹Swedish Museum of Natural History, Box 50007, SE-104 05 Stockholm, Sweden. E-mail: heikki.hippa@gmail.com

²Department of Biology, Museum of Zoology, Lund University, Helgonavägen 3, S-223 62 Lund, Sweden.
E-mail: jostein.kjaerandsen@biol.lu.se

³7-1-402, Baikoen 2-chome, Minami-ku, Fukuoka-shi, 810-0035 Japan. E-mail: toyohei_saigusa@yahoo.co.jp

Abstract

The Japanese fauna of *Manota* comprises of 11 out of 14 Palaearctic species with a strong influence of Oriental elements in the southern subtropical parts of the country. The following five new species are described: *M. curvistylus*, *M. kyushuensis*, *M. omotoensis*, *M. tripectinata*, and *M. yaeyamaensis*. Three species are recorded for first time from Japan: *M. bilobata* Papp, 2004, *M. epigrata* Hippa, 2009 and *M. planilobata* Hippa, 2008. The hypopygia of the Japanese specimens of *M. bilobata* and *M. planilobata* are illustrated. New Japanese records are given of the following three species: *M. indahae* Hippa & Kjaerandsen, 2010, *M. satoyamanis* Hippa & Kjaerandsen, 2010 and *M. tunoae* Hippa & Kjaerandsen, 2010. A key to the Palaearctic species of *Manota* is given.

Key words: Diptera, Mycetophilidae, *Manota*, new species, key, Palaearctic region, Japan

Introduction

The fungus gnat genus *Manota* Williston may be described as an open-ended taxon (Bickel 2009) due to recent uncovering of tremendous species diversity in tropical areas around the world (e.g. Jaschhof & Hippa 2005; Hippa 2006, 2007, 2008 a, b, 2009, 2011; Hippa & Ševčík 2009). The Holarctic region on the other hand, while being generally very rich in fungus gnat species, appears to be comparatively poor in species of the subfamily Manotinae (Hippa & Kjaerandsen 2010). Before we looked into the Japanese fauna of *Manota* only three Palaearctic species were known (Lundström 1913; Ševčík 2002; Papp 2004), a very low number in comparison to the 84 known Oriental species (Hippa 2011). Hippa & Kjaerandsen (2010) recorded three new Palaearctic species as the first records of the genus in Japan and indicated that the rich Oriental elements in the Japanese insect fauna would suggest a number of additional *Manota* species to be found, especially in the southern subtropical parts of the country. Based on a large collection of fungus gnats from all over Japan (in the possession of one of the authors, TS) we are now able to add eight additional species new to the Japanese fauna, five of which are new to science and the remaining three recorded from Taiwan or Thailand. With altogether 11 out of 14 known Palaearctic species represented in Japan, a regional key to identify the males of the genus is proposed.

Material and methods

The material was originally dry pin mounted. Subsequently, the abdomens have been removed, macerated in potassium hydroxide and stored in vials in glycerol. For the present study, part of the material, including the hypopygia of all the proposed holotypes, were slide mounted in Canada balsam following the procedure described by Kjaerandsen (2006). The body of the holotype of *M. omotoensis* was mounted in “Euparal” after treatment in potassium hydroxid and dehydration in alcohol.