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New species of *Thinophilus* Wahlberg (Diptera: Dolichopodidae) from mangroves in southern China (Shenzhen)

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Abstract

Three species of *Thinophilus* Wahlberg are recorded from mangroves near Shenzhen (China). Two species new to science are described and illustrated: *T. dongae* **sp. nov.** and *T. zhuae* **sp. nov.** In addition, *Thinophilus lamellaris* Zhu, Yang & Masunaga originally described from Hainan (China) is reported here. Females of this species are described for the first time and variability in male characters is given. These three species plus 6 additional *Thinophilus* and three *Nanothinophilus* species from South China Sea mangroves were COI barcoded and compared to species known from the northern part of the South China Sea.

Key words: Dolichopodidae, *Thinophilus*, new species, mangrove

Introduction

The present paper is part of a study on the diversity of dolichopodid flies in the mangroves along the South China Sea. A long term study of mangrove dolichopodid diversity was started in Singapore in 2000 (Evenhuis & Grootaert 2002). This study was intensified in 2005–2006 when the first author (PG) sampled two mangroves for an entire year. Grootaert (2006) described firstly a few mangrove species of *Teuchophorus* Loew while several mangrove species of *Paraclius* Loew and *Hercostomus* Loew were published by Zhang *et al.* (2007, 2008). A monograph describing the diversity of mangrove Tachydromiinae (Empidoidea, Hybotidae) was published by Grootaert & Shamshev (2012). In 2009, the National Parks of Singapore commissioned a one-month sampling campaign in twelve mangrove fragments (26 stations) along Singapore's coasts to assess the insect diversity of these fragments. Finally, a weekly sampling of four sites with eleven sampling stations was performed from 2012 to 2014 in support of an in-depth study of the diversity and phenology of mangrove insects. The Dolichopodidae were used as indicator species (Grootaert *et al*. 2014).

The goal of the present study is to investigate differences in diversity as well as the genetic distance of species living in the northernmost mangrove of the South China Sea compared to Singapore, which lies in the southern part of the South China Sea. During several short field trips in September 2014 near Shenzhen we collected three species of *Thinophilus* and a female of *Hercostomus*. Hand collecting in mangroves is generally difficult and the samples contained few species. Only long-term sampling using Malaise traps captures the rich species composition of this type of habitat (Grootaert *et al*. 2014). Here we describe two new species of *Thinophilus* Wahlberg collected in Shenzhen as well as the female of *T. lamellaris* Zhu, Yang & Masunaga which was previously known only from two males from Hainan. The variability of the characters is given.

Seventeen species of *Thinophilus* are known from China. They are keyed and illustrated in Yang *et al*. (2011). A large number of species inhabit terrestrial environments with Palaearctic distributions and only a few have a marine distribution. We suspect that the seven species described from Taiwan by Becker (1922) and Parent (1941) are mangrove species as well as *T. lamellaris* and *T. clavatus* Zhu, Yang & Masunaga described from Hainan.

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