



The genus *Zygoneura* Meigen in China, with descriptions of three new species (Diptera, Sciaridae)

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Abstract

The taxonomy of the genus *Zygoneura* Meigen in China was studied. Seven species are recognized, including three new species that are described and illustrated: *Zygoneura disparilis* Zhang & Wu **sp. nov.**, *Z. longa* Zhang & Wu **sp. nov.**, and *Z. occidentis* Zhang & Wu **sp. nov.** In addition, *Z. sajanica* Mamaev, 1976, and *Z. sciarina* Meigen, 1830 are reported for the first time from China. A key to the Palaearctic and Oriental regions species is also provided.

Key words: Diptera; Sciaridae; *Zygoneura*; new species; China

Introduction

The genus *Zygoneura* Meigen, 1830 is distributed mainly in the Palaearctic region, with few species recorded from Oriental and Australian regions. There are three subgenera (Menzel & Mohrig 1998, 2000), including about 14 species: two species in the subgenus *Allozygoneura* Menzel & Mohrig, 1998; five species in the subgenus *Pharetratula* Mamaev, 1968; three species in the subgenus *Zygoneura* Meigen, 1830 s. str., and several species *incertae sedis*. The subgenus *Allozygoneura* is characterized by a flagellomere body twice as long as the flagellomere neck and short subequal setae, a basally weakly bowed M₁, and a gonostylus with 4–5 megasetae; the subgenus *Zygoneura* has long setae of subequal length on the flagellomere body; the subgenus *Pharetratula* has mostly short setae on the flagellomere body and a distinctly long row near the neck (Menzel & Mohrig 2000).

Previously, only two species had been recorded from China: *Zygoneura (Pharetratula) bidens* (Mamaev, 1968) from Inner Mongolia (Yang & Zhang 1990; Menzel & Mohrig 2000) and *Z. (Pharetratula) transferata* Rudzinski, 2005 from Taiwan (Rudzinski 2005). In an investigation of Chinese Sciaridae, we found a number of specimens of *Zygoneura* in various localities, including three species new to science.

Material and methods

All specimens were collected by sweeping in the field and preserved in 75% ethanol, and all of them were mounted on glass slides in xylol-based Canada balsam after clearing in creosote. The specimens were observed and measured under a Nikon SMZ1500 stereoscopic microscope, with a Nikon DS-L1 Digital Sight Camera System attached. The illustrations were prepared under a Nikon Eclipse 50i optical microscope, with an attached drawing tube. The terminology follows Menzel & Mohrig (2000) and Hippa & Vilkkamaa (2007). The length of 4th flagellomere is taken from the apex of the neck to the base of the body. The wing length is the straight distance from the humeral angle to the apical angle. The body length is the straight distance between the apex of the head and the apex of the hypopygium. All of the type specimens in this study were deposited at the Laboratory of Forest Protection, Zhejiang Forestry University, Hangzhou, Zhejiang province, China.