



Review of the Oriental planthopper genus *Flata* Fabricius (Hemiptera: Fulgoroidea: Flatidae) with the description of five new species

LING-FEI PENG^{1,3}, MURRAY J. FLETCHER² & YA-LIN ZHANG^{1,4}

¹Key Laboratory of Plant Protection Resources and Pest Management of Ministry of Education, Entomological Museum, Northwest A & F University, Yangling, Shaanxi Province, 712100, China

²Orange Agricultural Institute, Forest Rd, Orange, New South Wales, 2800, Australia

³Biological Control Research Institute, Fujian Agricultural and Forestry University, Fuzhou, Fujian Province, 350002, China

⁴Corresponding author. E-mail: yalinzh@yahoo.com.cn

Abstract

In this paper the oriental planthopper genus *Flata* Fabricius, 1798 is reviewed. The genus is redescribed and all oriental species described and illustrated, including five new species: *F. orientala* **sp. nov.**, *F. pinga* **sp. nov.**, *F. sinuata* **sp. nov.**, *F. taiwana* **sp. nov.** and *F. truncata* **sp. nov.** from tropical or subtropical regions of China. A key to the oriental species of the genus and a checklist of species are provided. Three non-oriental species currently included in *Flata* are treated as being of uncertain generic affinity.

Key words: Homoptera, Fulgoromorpha, Oriental Region, taxonomy, morphology, new species

Introduction

The flatid genus *Flata* Fabricius has a long and intricate history. Since it was established in 1798, more than two hundred species have been designated in this genus. Many have subsequently been transferred to other genera and even other families. In 1839, Spinola designated *Cicada ocellata* Fabricius, 1775 as the type of the genus, but the name was preoccupied by *Cicada ocellata* De Geer, 1773, so Kirby (1891) took *Poeciloptera stellaris* Walker, 1851 as the first available name for the species.

While studying specimens in the collection of the Entomological Museum, Northwest A&F University, Yangling, Shaanxi, China and elsewhere, five new species within the genus were recognized. In this paper we redescribe five *Flata* species, describe five new species, and provide a key to all Oriental species in the genus.

Material and methods

Dry preserved specimens were used in this study. The morphological terminology follows Chou & Lu (1985), and male genitalia terminology follows Yang & Chang (2000). All measurements are in millimeters (mm). The genital segments of the examined specimens were macerated in 10% NaOH and subsequently transferred into glycerin for illustration using a Leica MZ125 stereomicroscope. Photographs of the specimens were made using a Nikon SMZ1500 stereomicroscope with a Q-image CCD camera. Images were produced using the software Automontage (Synoptics, U.K.).

Abbreviations for collections mentioned in the text are ANIC: Australian National Insect Collection, CSIRO, Canberra, Australia; ASCU: Agricultural Scientific Collections Unit, Orange Agricultural Institute, Orange, NSW, Australia; BMNH: The Natural History Museum, London, United Kingdom; MRSN: Museo Regionale Scienze Naturali, Torino, Italy; MVMA: Museum Victoria, Melbourne, Victoria, Australia; NHRS: Museum of Natural History, Stockholm, Sweden; NWAUFU: Entomological Museum, Northwest Agricultural & Forestry University,