



Genera of Spore-Feeding Thysanoptera from Southeast Asia (Phlaeothripidae, Idolothripinae), with a species checklist from Peninsular Malaysia

L.X. EOW¹, L.A. MOUND² & Y.F. NG¹

¹Centre for Insect Systematics (CIS), Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia.

E-mail: elx163@yahoo.co.uk; ng_yf@ukm.my

²CSIRO Ecosystem Sciences, Canberra, ACT 2601, Australia. E-mail: laurence.mound@csiro.au

Abstract

An illustrated key is provided to the 31 genera of the subfamily Idolothripinae recorded from Southeast Asia, and a checklist provided to 34 species recorded from Peninsular Malaysia. Notes are given on the habitat preferences of these fungal spore-feeding thrips, together with for each genus some discussion of systematic relationships and species diversity.

Key words: Thysanoptera, Phlaeothripidae, Idolothripinae, Southeast Asia, Malaysia, spore-feeding

Introduction

Adults and larvae of the Thysanoptera subfamily Idolothripinae often exist as large colonies on dead leaves and dead branches, where they are considered to feed on fungal spores (Tree *et al.*, 2010). Members of this subfamily, Idolothripinae, exhibit a wide range of body form, and the body size ranges from about 1mm to over 15 mm (Figs. 37–45). Many species in this group of thrips are particularly interesting biologically. Sexual dimorphism can be so extreme that conspecific males and females have sometimes been allocated mistakenly to different species, or even different genera. Even more impressive is the polymorphism found among the males of many species, with allometry of several body structures in association with great variation in body size. In Southeast Asia the significance of such male polymorphism remains unstudied, but in other parts of the world intraspecific variation among male thrips has been found to be associated with male/male competition and combat (Crespi, 1989; Mound, 2005). Moreover, some of these species exhibit varying rates of sex allocation and of reproductive mode, such as viviparity and ovoviviparity (Kranz *et al.*, 2002). Ecologically, the close relationship of these thrips with the microfungi on wood and plant debris, as well as their role in the tropical forest, is not well explored. The Idolothripinae thus constitute a group of readily available insects in tropical Asia that are well suited for interesting biological as well as ecological studies. Moreover, rearing methods have been developed that can be used to produce laboratory cultures for suitable experimentation (Shibata *et al.*, 2007).

Thrips, insects of the Order Thysanoptera, are commonly thought of as pests of flowers and leaves, and studies on their biology are commonly left to economic entomologists. However, about 50% of the known 5500 species feed only on fungus (Morse & Hoddle, 2006), many on hyphae but with members of the Phlaeothripidae subfamily Idolothripinae feeding on fungal spores. Unfortunately, there is a serious lack of taxonomic revisionary studies for thrips from Southeast Asia. Thrips are so little known in Malaysia that they have no local name. When shown these insects during field trips, locals commonly referred to those found on flowers as ‘flower lice’ and those found on wood as ‘wood lice’ or sometimes ‘small scorpions’. This is not too curious as it is natural that local people should refer to any minute arthropods on plants or wood as ‘lice’. In a bigger picture, the Thysanoptera fauna of Southeast Asia is highly diverse, but with large areas effectively un-sampled. These include Myanmar, Laos, Vietnam and Cambodia. The thrips identification systems that are most readily available in tropical countries (Mound & Kibby, 1998; Moritz *et al.*, 2004) give little indication of the wide structural and biological diversity within this Order of insects, while the more specialist literature is widely scattered through many publications, for example, for Thai-