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Taxonomic studies on *Dolichothrips* (Thysanoptera: Phlaeothripinae), pollinators of *Macaranga* trees in Southeast Asia (Euphorbiaceae)

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Abstract

Five new species associated with the inflorescences of *Macaranga* trees are described in the Asian genus *Dolichothrips* Karny. Four of these, *chikakoae*, *eriae*, *fialae* and *utae*, are from the Malaysian region where they are involved in the pollination of these trees. The fifth, *franae*, is described from the Hawaiian Islands but is probably introduced from Southeast Asia, and this species appears also to be a pollinator of its host plant. In contrast, little is known of the biology of the many species of *Dolichothrips* from India. However, *D. indicus* (Hood) is here interpreted as a variable, polyphagous and widespread species around the tropics, with *D. nesius* Stannard and *D. pumilus* Priesner placed as new synonyms. *D. reuteri* (Karny) from Australia, is also not restricted to *Macaranga*, and *D. flavipes* (Moulton) from Taiwan is here considered a new synonym of *reuteri*. An identification key is provided to 15 species of this genus, but this excludes five species for which specimens were not available. *D. citricrurus* Moulton, described from Ethiopia, is transferred to *Apelaunothrips* Karny.

Key words: *Macaranga*, pollination, *Dolichothrips*, new species, Malaysia, Hawaii

Introduction

Species of the Thysanoptera genus *Dolichothrips* are known to be pollinators of trees in the Euphorbiaceae genus *Macaranga* in Southeast Asia (Fiala *et al*. 2011), although the initial study on this subject (Moog *et al*. 2002) referred to the pollinators as members of the related Haplothripini genus *Neoheegeria.* Not until the studies of Mound and Minaei (2007) and Minaei and Mound (2008) was there any clarity in the diagnosis either of this tribe or of the common genera of mainly flower-living Phlaeothripinae species that it comprises. *Haplothrips* is the largest of these genera, and is found in flowers worldwide. In contrast, *Neoheegeria* is essentially Palaearctic in association with the flowers of Lamiaceae (Minaei *et al*. 2007), and *Dolichothrips* is from the tropical areas of eastern Asia and is commonly found in the flowers of *Macaranga* and *Mallotus* species. *Macaranga* is a genus, mainly of trees, that occurs from Africa to Japan and Australia, but with most of the 250 or more species in SE Asia (Whitmore 2008). The data presented here comprise the first attempt to understand the diversity within this genus of thrips.

Pollination studies inform us about one aspect of insect/plant relationships, in that seed-set, and hence survival of the plants is dependent on the insects. However, pollination studies rarely provide information on the extent to which survival of a pollinating insect is dependent on the plant pollinated. Any assumption that a specific pollinator of a plant species is dependent on that plant for survival is clearly premature in the absence of collateral information. For example, Williams *et al*. (2001) demonstrated that an Australian Monimiaceae tree, *Wilkiea huegliana*, is pollinated only by *Thrips setipennis*, despite that insect being highly polyphagous and breeding in the flowers of many different plant species. A rather similar situation seems to exist with at least some species of *Dolichothrips*. In Hawaii, *Dolichothrips indicus* is common in the terminal buds of two unrelated plants, *Macaranga tanarius* and the small Malvaceae tree, *Hibiscus tiliaceus*. Similarly around the coasts of northern Australia, *Dolichothrips reuteri* is common in the buds of these same two plant species. Unfortunately, no

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