



Australian spore-feeding Thysanoptera of the genus *Bactrothrips* (Phlaeothripidae – Idolothripinae)

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Abstract

Six species, including four new species, are recognised from Australia in *Bactrothrips*, and *Lasiothrips* Moulton is synonymised with this genus. This group of spore-feeding thrips is widespread on dead leaves across the Old World tropics from Africa to Japan. The Australian species are mainly associated with dry fruiting capsules of *Eucalyptus* trees. Males usually have lateral tubercles on the abdomen, but no fore tarsal teeth, and the significance of this in sexual behaviour is noted.

Key words: Idolothripinae, Idolothripina, *Bactrothrips*, new species

Introduction

Sexual dimorphism and male polymorphism are common amongst fungivorous thrips in both subfamilies of Phlaeothripidae, the Idolothripinae and Phlaeothripinae, and variation in male size is often accompanied by allometric growth patterns involving various body parts (Palmer & Mound, 1978; Eow *et al.*, 2011). This variation in structure is a product of competitive behaviour between males for sexual partners (Mound, 2005), such that larger males fight with each other whereas the smallest males attempt to sneak mate (Crespi, 1986, 1988, 1989). In most such species, males have enlarged fore femora and a tooth on each fore tarsus, and they use these front legs in attempts to stab their rivals during combat. In contrast, a fore tarsal tooth is not developed in males of one Palaeotropical group, the subtribe Idolothripina, and these males usually have one or more pairs of lateral tubercles on the abdomen. These males also have tergite IX setal pair S2 short and stout, a condition more typical of males in the subfamily Phlaeothripinae, whereas males of most Idolothripinae have these setae long. Sexual interactions within species of Idolothripina are little studied, but males appear to use lateral flicking movements of their abdomen when competing with rivals (Kranz *et al.*, 2002).

The species of the Idolothripina are amongst the largest of all thrips, with slender bodies about 10–15 mm in length. The black adults and their red larvae are commonly found in colonies within bunches of dead hanging tree leaves, particularly in tropical countries. In Australia, however, some species are particularly associated with the dead fruiting capsules of various species of *Eucalyptus*. Worldwide, the Idolothripina includes about 65 described species in 10 genera, but 46 of these species are members of the single genus *Bactrothrips*, with the other 20 species scattered through the nine nominal genera. Some of these genera were erected more than 100 years ago, and their names are entrenched in the northern hemisphere literature with almost no consideration of their phylogenetic significance. Relationships amongst the Idolothripina genera thus remain poorly defined (Eow *et al.*, 2011), in part because of the lack of studies on variation within and between the species of this essentially tropical group. The purpose of this paper is to provide an identification system to the Australian species of *Bactrothrips*, a genus that is widespread around the Old World tropics. As a result of these studies, the genus *Lasiothrips* is considered a synonym of *Bactrothrips*, and there are now 51 species listed in this genus. Full nomenclatural information about Thysanoptera is available on the web (Mound, 2011).