



## Article

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### The Australia-New Zealand connection re-visited, with two new species of *Cartomothrips* (Thysanoptera, Phlaeothripinae)

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#### Abstract

The distribution of the six species in *Cartomothrips* is considered, and a key provided for their identification. *C. tofti* sp.n. is described from New Zealand; *manukae* is widespread in New Zealand but also found in Tasmania; *neboissi* is infrequent in New Zealand but common in southern Australia; *laughlini* is known only from South Australia; *browni* breeds in the seed capsules of some *Eucalyptus* species and thus presumably is an Australian species but has also been found in Brazil, California, Kenya and New Zealand; *C. abrsi* sp.n. is described from Tasmania.

**Key words:** New Zealand, Australia, Thysanoptera, Phlaeothripidae, Myrtaceae, distribution

#### Introduction

More than 120 species of the insect order Thysanoptera are recorded from New Zealand, and 25% of these are recognized as having been introduced from Australia (Mound 2006). This insect order is not an ideal subject for biogeographic studies, because many species are so easily distributed widely around the world, both by winds and by the horticultural trade (Mound 1983). Despite this, relationships between New Zealand and Australia, as evidenced by species of the genus *Cartomothrips*, were discussed by Mound & Walker (1982), and the possibility of vicariance across the Tasman in the genus *Lomatothrips* was considered by Mound (2006). The trans-Tasman distribution of the genus *Cartomothrips* is difficult to evaluate. Of the six species here recognized in this genus, two are known only from Australia, one is presumably Australian but has been widely distributed around the world in *Eucalyptus* seed capsules, one is known only from New Zealand, and two are known from both sides of the Tasman. There is no certainty concerning the area of origin of either of these latter two species, *C. manukae* and *C. neboissi*, but they breed within the dried fruiting capsules of particular species of Myrtaceae in the genera *Kunzea* and *Leptospermum*, and these plants are closely related to (or even considered synonymous with) Australian species.

The purpose of this article is to re-examine the four previously described species of *Cartomothrips*, to describe one new species from Tasmania, also one new species that has been found recently on the Dennison Plateau, situated within the Protected Natural Area of the Ngakawau Ecological District (Overmars et al. 1998) in the north-west of South Island, New Zealand. The elevated, geologically distorted, tableland of Buller coal measures rises steeply from the Westport coastal plain. Although lower than most alpine areas in New Zealand (500-1040m), it retains the characteristics of a harsh alpine environment, giving rise to an invertebrate fauna more characteristic of higher altitudes. Mean annual rainfall is over 6000mm and a notable climatic feature is fog caused by moist oceanic air ascending the western escarpment. The steep sided fissures that dissect the sandstone pavements on the plateau provide protection, and an accumulation of soil, that encourages diverse plant communities, and it is within one of these fissures at 680m that the new species of *Cartomothrips* was found.