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## **Australian and New Guinean Stingless Bees of the Genus *Austroplebeia* Moure (Hymenoptera: Apidae)—a revision**

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## Abstract

The stingless bee genus *Austroplebeia* Moure occurring in Australia and New Guinea is revised, based on a morphological analysis of samples from 177 colonies. Five species are recognised: *A. cincta* (Mocsáry), *A. essingtoni* (Cockerell), *A. australis* (Friese), *A. cassiae* (Cockerell) and *A. magna*, **sp. nov.** Three different colour morphs of *A. australis* are described. Five new synonymies are proposed: *A. cockerelli* (Rayment), *A. ornata* (Rayment), *A. percincta* (Cockerell) and *A. websteri* (Rayment) = *A. australis*; *A. symei* (Rayment) = *A. cassiae*. Workers, males and queens are described for all species. Populations of *A. cincta*, recently found in Queensland, Australia, are compared with *A. cincta* from the type locality and other areas in New Guinea. A lectotype is designated for *A. percincta* (Cockerell). Provenance of type material is discussed. A key to the species, distributions and nest descriptions are provided.

**Key words:** Australia, colour morph, description, Meliponini, New Guinea, new species, nest structure

## Introduction

*Austroplebeia* Moure is a group of small, robust stingless bees occurring in Australia and New Guinea (Michener 1990). They can be distinguished from the other stingless bee species in these regions (*Tetragonula* Moure, *Platytrigona* Moure and *Papuatrigona* Michener & Sakagami) by the presence of cream or yellow markings found usually on their face and thorax. In Australia, substantial numbers of *Austroplebeia* and *Tetragonula* colonies are kept in boxed hives or logs by beekeepers, especially in Queensland (Halcroft *et al.* 2013a). They show potential as pollinators of both field and greenhouse crops (Cunningham *et al.* 2002, Greco *et al.* 2011, Halcroft 2012). They are also culturally significant to indigenous people (Halcroft *et al.* 2013b). Despite their value and significance, the taxonomy of the *Austroplebeia* species was in urgent need of revision.

The single species of *Austroplebeia* found in New Guinea can be distinguished readily by its colouration and pilosity. However, the other *Austroplebeia* taxa in Australia are difficult to separate reliably by body size or morphology, similar to the situation with Australian *Tetragonula* species (Dollin *et al.* 1997). There are also few differences in their nest structures. This has hindered taxonomic studies to date and no workable key existed for the *Austroplebeia* species (Rasmussen 2008).

Nine *Austroplebeia* species were described between 1898 and 1932 (Cardale 1993). As with many other native bee species worldwide (Gonzalez *et al.* 2013), these descriptions were based largely on the colour markings of small numbers of specimens collected from flowers in isolated locations. However, the coloration of *Austroplebeia* bees varies greatly, even within a single colony (Fig. 6), making identifications based on colouration unreliable.