



Article

A revision of the ant genus *Probolomyrmex* (Hymenoptera: Formicidae: Proceratiinae) in Australia and Melanesia

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Abstract

Five species of the rarely encountered ant genus *Probolomyrmex* are known from Australia and Papua New Guinea, four of which are described here for the first time. Two species belong to the *greavesi* species-group (*P. greavesi*, *P. latalongus* **sp. n.**) while three belong to the *longinodus* species-group (*P. aliundus* **sp. n.**, *P. newguinensis* **sp. n.**, *P. simplex* **sp. n.**). The genus is now known to occur broadly across northern Australia and *P. newguinensis* and *P. simplex* are the first species of the genus described from Papua New Guinea. A key to Australian and Melanesian species is provided.

Key words: Formicidae, *Probolomyrmex*, Australian Region, new species, key

Introduction

Species of the enigmatic genus *Probolomyrmex* have been collected throughout the World's tropics and subtropics, with one species known from temperate south-eastern Australia and others from temperate China, Japan and South America. Since the time of Taylor's (1965) revision, the number of species has risen from nine to 20 (Agosti, 1994; Brown, 1975; Eguchi *et al.*, 2006; Fisher, 2007; O'Keefe & Agosti, 1997; Tanaka, 1974; Terayama & Ogata, 1988; Xu & Zeng, 2000). As cryptic ants with hypogean habits and on average about 20 workers per colony, it is not surprising that they are infrequently encountered. However, despite their diminutive size, it appears they have an ability to disperse widely. *Probolomyrmex tani* has been found throughout the island of Madagascar from habitats as diverse as montane forest to spiny bush (Fisher, 2007) and *P. bidens* was collected from an altitude of 2150m in montane grassland in southern India (Brown, 1978).

Within the Indo-Pacific region *Probolomyrmex* species were divided into two species-groups by Eguchi *et al.* (2006), the *P. greavesi* group (with 7 species) and the *P. longinodus* group (9 species). Both species-groups occur from India east to Australia with the *greavesi* group extending on to the Solomon Islands (represented by *P. salomonis*), although only the *longinodus* group is known from Papua New Guinea. Most species have been collected a limited number of times and their true distributions are difficult or impossible to assess. Only two species are known from more than one country, with *P. longinodus* ranging from Japan to northern Thailand and *P. vietii* occurring from Thailand and Vietnam south to Java (Eguchi *et al.* 2006). Additionally, *P. latalongus* occurs across northern Australia from Cape York Peninsula to northern Western Australia (this study). Based on the distribution of *P. tani* in Madagascar, it seems likely that species of *Probolomyrmex* will show broader distribution ranges than current material indicates.

Within Australia specimens of *Probolomyrmex* have been collected from a variety of localities and habitats. For example, the type specimens for *P. greavesi* were collected from under a stone in an exotic pine plantation in the south-eastern corner of the continent. *Probolomyrmex aliundus* has been collected from rainforest litter in far northern Queensland while the final species, *P. latalongus*, has been found in habitats ranging from rainforest through *Eucalyptus* woodland to spinifex grasslands and occurs across the top of Australia from Queensland to Western Australia. This last species was recently collected on Barrow Island, Western Australia (20° 52.012'S 115° 24.349'E). This winged queen was collected in an intercept trap placed at ground level in a spinifex (*Triodia*)