



## A revision the Australian species of the ant genus *Myrmecina* (Hymenoptera: Formicidae)

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### Abstract

The Australian species belonging to the ant genus *Myrmecina* are revised. The genus was found to contain thirteen species, eleven of which are described here for the first time. The species include *M. alpina* sp. n., *M. australis* Wheeler and Wheeler, *M. difficulta* sp. n., *M. eruga* sp. n., *M. inaequala* sp. n., *M. pumila* sp. n., *M. rugosa* Forel, *M. silvalaeva* sp. n., *M. silvampla* sp. n., *M. silvangula* sp. n., *M. silvarugosa* sp. n., *M. silvatransversa* sp. n. and *M. wesselensis* sp. n. The majority of species are found in coastal Queensland with two also occurring in eastern New South Wales and one restricted to the Northern Territory. Several species are known from very limited regions and one is only known to occur above approximately 1000m, making these some of the most restricted and high-elevation specialist ants known from Australia.

**Key words:** Hymenoptera, Formicidae, Myrmicinae, *Myrmecina*, taxonomy, new species, Australia

### Introduction

The myrmicine ant genus *Myrmecina* contains 46 valid species (including those described here) which are found from southern Canada south to southern Mexico, in Europe and northern Africa, and from India east to Korea and Japan and south into Fiji, the Solomon Islands and Australia. It is apparently absent from Central and South America, sub-Saharan Africa and the Middle East (Guenard, 2009). While relatively common and well represented in Papua New Guinea, this fauna is distinct from that of Australia and none of the species examined here are shared between these two regions.

These are uncommon ants that are most often encountered in leaf litter samples, generally in forested areas. Colonies are small and occur in soil with or without coverings, between rocks, in twigs on the ground or in rotten wood. While little is known about their biology, some are thought to be predacious on oribatid mites, and it has been suggested that the exceptionally small heads of larval *Myrmecina* are an adaptation to feeding on the partially opened bodies of these mites (Masuko, 2008). A rare, social parasitic species occurs in nests of *M. americana* in North America (S. Cover, pers. comm.).

Within Australia, *Myrmecina* has been represented by a single species, *M. rugosa*, with a second species, *M. australis*, “accidentally” described from several larvae. Taylor (1991) provided an overview of the Australian fauna, giving general distribution information and speculating that at least eight species occurred here. However, during this study the genus was found to be more diverse, containing 13 species. These species range from widespread and relatively common to extremely restricted and rare. In fact, some are the most narrowly endemic ants known from Australia, being restricted to high-elevation mountain tops within an area of only a few hundred square kilometres. And surprisingly, seven species show nearly identical patterns within a small area of Queensland’s wet tropics, some sympatric, some allopatric on neighbouring mountains, but all with restricted ranges and limited to rainforest. These species are morphologically distinct but do share unique characters not found in other, more wide-ranging species. While similar distribution patterns are