



A systematic revision of the Australian ploiaroline thread-legged assassin bugs (Hemiptera: Reduviidae: Emesinae)

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Abstract

The Australian members of the emesine tribe Ploiariolini (Hemiptera: Heteroptera: Reduviidae) are revised. A key, as well as diagnoses and figures, are presented for all 16 Australian species. Seven new species are described. Four species previously not recorded from Australia are included in the continent's fauna. *Emesopsis* is expanded to include species in which the basal cell of the forewing is absent.

Key words: Ploiariolini, Assassin Bugs, Taxonomy, Australia, keys to genera, keys to species

Introduction

The Ploiariolini, a moderately sized tribe in the Emesinae, is composed of 16 genera and 142 described species (Maldonado 1990). Ploiariolines are distributed throughout the globe, though concentrated in the tropics. Wygodzinsky (1956) treated the Australian Ploiariolini, describing four new species in separate genera, each of which was a new generic record for the continent. These four species plus the presence of the cosmopolitan *Empicoris rubromaculatus* (Blackburn) comprise the total described Australian ploiaroline fauna (Cassis & Gross 1995). The most recent global treatment of the Ploiariolini is within Wygodzinsky's (1966) epic monograph of the Emesinae.

Biology. With some notable exceptions ploiarolines are associated with dark, protected, structurally complex habitats. Due to their carnivorous nature, emesines typically do not show close affiliations with particular plants, though several species are associated with specific habitats created by certain plant species. For instance, many ploiarolines are frequently collected from overhanging palm and fern leaves. Similarly, Polhemus (2000) found many Hawaiian Ploiariolini closely associated with the root masses of *Metrosideros polymorpha* Gaundich. Other structurally complex habitats occupied by ploiarolines include bird nests (Southwood and Leston 1959) and flood debris (Elkins 1951). Some species of *Empicoris* Wolff are found in association with humans, particularly under roof eaves and window sills (Southwood and Leston 1959). Many emesines, with some Ploiariolini included, are associated with spider or psocid webs (see Wygodzinsky 1966 for a review), where they may either be kleptoparasitic, or hunt the spiders or psocids themselves (e.g. Wignall and Taylor 2008).

Little is known concerning the habits and habitats of Australian Ploiariolini. Greater than 70% of the material examined in this study has been collected by pyrethrum fogging of mossy logs and tree trunks by Geoff Monteith (Queensland Museum) over the course of the last two decades. Further pyrethrum fogging across the continent's temperate rainforest, as well as the north-western monsoonal rainforest will likely lead to the discovery of additional new species. Locality data suggest that Australian ploiarolines are primarily associated with the moister habitats, though this might be an artefact of collecting effort. Additionally, one of us (GC) hand collected an undescribed species from the ground amongst leaf litter on Lord Howe Island, and two species described herein were also collected in sieved litter, representing some of the few known records of litter dwelling Ploiariolini.

Ploiariolines prey on a variety of small arthropods. Some species of *Empicoris* are known to feed on psocids (Southwood and Leston 1959), while Charbonnier (1903) fed *Empicoris culiciformis* (De Geer) a diet of *Culex* Linnaeus (though this may not reflect its natural food choice). Additionally, some of the material examined by the