



***Phylleremus* n. gen., from leaves of deciduous trees in eastern Australia (Oribatida: Licneremaeoidea)**

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Abstract

We propose a new genus of licneremaeoid oribatid mite, *Phylleremus*, based on two new species collected from leaves of woody dicots in Queensland, New South Wales, Victoria and Tasmania, Australia. Description of the type species, *Phylleremus leei* n. sp., is based on adults and all active immature stages; that of *Phylleremus huntii* n. sp. is based on adults and tritonymphs. *Phylleremus* adults have the notogastral octotaxic system of dermal glands developed either as 1 or 4 pairs of sacculles, and nymphs are bifid and plicate. We discuss the characteristics and relationships of this genus to others in Licneremaeoidea and argue for an affiliation with Adhaesozetidae.

Key words: Oribatida, *Phylleremus*, Licneremaeoidea, new genus, new species, Australia, leaves

Introduction

Licneremaeoidea is a diverse assemblage of oribatid mite families, none of which is rich in described species. All members of included families, Adhaesozetidae, Dendroeremaeidae, Lamellareidae, Licneremaeidae, Micreremidae, Passalozetidae, Scutoverticidae, have apherodermous immatures with plicate hysterosomal integument, and adults with the octotaxic system of dermal glands (Grandjean 1954a; Behan-Pelletier *et al.* 2005). These character states are shared by the Achipteriidae, Tegoribatidae and Epactozetidae (Achipteroidea) and Phenopelopidae (Phenopeloidea), and thus, these early derivative poronotic mites are sometimes referred to as the 'higher plicates' (Norton & Alberti 1997). Among this group, Licneremaeoidea seem the earliest derivative superfamily, as members lack pteromorphs in the adult and the octotaxic system is variably developed (Norton & Alberti 1997).

We describe a new genus of Licneremaeoidea for which material representing two new species is available for study. These species are found infrequently on leaves of woody dicots in arboreal habitats in eastern Australia. Thus, they share the same general habitat as *Adhaesozetes polyphyllos* Walter & Behan-Pelletier 1993, but are usually found on plants with densely tomentous leaves, and only rarely on plants with the smooth leaves favoured by *A. polyphyllos* (Walter & Behan-Pelletier 1993). As family placement is problematic, it is treated in a concluding discussion.

Materials and methods

Sampling and specimen preparation

Specimens were obtained during a study by the junior author of arboreal mites in eastern Australia. Mites