



A new species of *Paradiplogynium* (Acari: Diplogyniidae) from *Titanolabis colossea* (Dohrn) (Dermaptera: Anisolabididae), Australia's largest earwig

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Abstract

Paradiplogynium nahmani sp. n. is described from three specimens taken from the Colossus Earwig *Titanolabis colossea* (Dohrn) in Australia. This new species differs from its only congeneric species, *Paradiplogynium panesthia* Womersley, by its larger body size and presence of one pair of latigynial setae (instead of two pairs). Setal designations are given for leg setae. Leg chaetotaxy for this species is compared with previous data and is generally, but not entirely, consistent with other Diplogyniidae.

Key words: Trignyaspida, Antennophorina, taxonomy, host association, leg chaetotaxy

Introduction

The Giant or Colossus Earwig, *Titanolabis colossea* (Dohrn 1864), is Australia's largest earwig and amongst the world's dermapteran leviathans (Fig. 1; Rentz & Kevan 1991). Despite their size, they are not encountered frequently but can be locally abundant. Furthermore, little is known of these beautiful earwigs: they reach 57 mm in length, live in rotting logs in wet sclerophyll and rainforests of eastern Australia, and females brood their eggs, but otherwise their habits remain unknown (Rentz & Kevan 1991; pers. obs.). In 1996, I captured a *T. colossea* that carried three mites of an attractive new species of *Paradiplogynium* (Acari: Diplogyniidae) and also one female *Heatherella callimaulos* Walter 1997 (Acari: Heatherellidae).

Diplogyniid mites are moderately large (ca. 500–1000 µm), often dark-brown or reddish-brown animals that, like most of their trigynaspid kin, have an affinity for insects. Generally, only adult male and female mites are found on insects, while immature stages are presumably free-living predators in their hosts' habitat. For example, adult *Cryptometasternum derricki* Womersley 1958 are common on several species of passalid beetle in south-eastern Queensland. Their larvae and nymphs live within the beetles' tunnels and can be reared on a diet of nematodes (pers. obs.). *Paradiplogynium* is represented by just one species, *Paradiplogynium panesthia* Womersley 1958, collected from the large wood cockroach *Panesthia cribrata* Saussure 1864. Its adult stages were found on these cockroaches in New South Wales and Queensland and although the immature life stages are unknown, they are probably free-living predators in the wood chambers of their host. Womersley (1958) gives a long diagnosis of the genus, of which its most striking feature is the membranous region surrounding the anus.

Materials & methods

Mites were killed in 80% ethanol, cleared in Nesbitt's fluid, slide-mounted in Hoyer's medium and later