A new species of *Aegyptobia* (Acari: Tenuipalpidae) from Myrtaceae in Australia

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Abstract

Aegyptobia yertle **sp. nov.** from Calytrix fraseri is described from adult females, deutonymphs and protonymphs. The palp and leg chaetotaxy is presented and reviewed for an additional 31 species of Aegyptobia. Of these species, 15 have a palp and leg chaetotaxy identical to A. yertle **sp. nov.** Amongst the remaining 16 species, there are 17 different variable setae. Within Aegyptobia, the greatest number of setae lost by any one species is eight. These results show that leg chaetotaxy is an informative addition to descriptions in the Tenuipalpidae. With respect to Aegyptobia, we suggest that leg chaetotaxy could help subdivide this large genus.

Key words: taxonomy, systematics, new species, leg chaetotaxy, palp chaetotaxy, generic diagnosis

Introduction

Aegyptobia Sayed is a large genus of the Tenuipalpidae comprising 93 species (Mesa *et al.* 2009). Amongst the flat mites only *Brevipalpus* Donnadieu, 1875, and *Tenuipalpus* Donnadieu, 1875, have more described species, with 282 and 307 species respectively. Most *Aegyptobia* are described from the Nearctic and Western Palearctic regions (32 and 26 species, respectively), 10 from the Oriental region and only one species recorded from each of Australia and New Zealand (Table 1 in Mesa *et al.* 2009).

Although flat mite systematists have traditionally placed a great deal of significance on the chaetotaxy of the dorsal opisthosoma, a consistent interpretation has been slow to develop. A standard system of notation based on that of Grandjean (1939) was first applied to the Tenuipalpidae by Quiros-Gonzalez (1986) and is slowly being adopted across the world. Without the adoption of a standard system, it is difficult to make any meaningful morphological comparisons between taxa. Leg chaetotaxy and patterns of ontogenetic additions have long been considered paramount to understanding the Tetranychoidea (Grandjean 1948; Robaux & Gutierrez 1974; Lindquist 1985); however, these data are rarely presented by authors. Tenuipalpid leg chaetotaxy has been published only twice, for *Dolichotetranychus ancistrus* Baker & Pritchard by Zhang and Fan (2004) and *Tenuipalpus orilloi* Rimando by Xu and Fan (2010). Here we include details of leg chaetotaxy for each known stage of a new species of *Aegyptobia*.

Using dorsal chaetotaxy alone, *Aegyptobia* bears a strong resemblance to *Pentamerismus* McGregor from which it is separated by the position of the dorsal opisthosomal setae. Both *Aegyptobia* and *Pentamerismus* have 12–13 opisthosomal setae, with setae e2 being rarely absent in *Aegyptobia* and commonly absent in *Pentamerismus* (Mesa et al. 2009). In *Aegyptobia*, dorsal setae e2 (if present) and f2 are placed sublaterally, i.e. mesad the lateral margin of the opisthosoma. In *Pentamerismus*, setae e2 (if present) and f2 are aligned with the lateral margin and setae c3, d3, e3 and f3. In contrast to Mesa et al. (2009), we feel the variable seta is f2, not e2. According to