



## ***Prolixus* (Acari: Trombidiformes: Tenuipalpidae) newly recorded from New Zealand: A new species from Cyperaceae and its ontogenetic patterns in chaetotaxy**

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### **Abstract**

The genus *Prolixus* (Acari: Tenuipalpidae) was represented by two species from Australian sedges prior to this study. A new species, *Prolixus meyerae* sp. nov., is here described and illustrated from leaves of *Gahnia* (Cyperaceae) in Auckland, New Zealand. In this paper, we present the ontogenetic additions in idiosomal and leg chaetotaxy from larva to adult. A key to world species of *Prolixus* is also proposed.

**Key words:** Flat mite, false spider mite, Cyperaceae, *Gahnia*, ontogenetic changes

### **Introduction**

With the rising interest in flat mites (Tenuipalpidae) recently, several new species are being described every year. The described flat mite fauna currently contains over 1100 species in 38 genera (Mesa *et al.* 2009; Beard & Ochoa 2011; Zhang *et al.* 2011; Navajas & Ochoa 2013; Beard *et al.* 2013; Beard *et al.* 2014). Ten species belonging to five genera of the Tenuipalpidae have been described from Cyperaceae: *Acaricis plana* Beard & Gerson, 2009, *A. danutae* Beard & Gerson, 2009, *A. urigersoni* Xu & Zhang, 2013, *Cyperacarus foliatus* Beard & Ochoa, 2011, *C. naomae* Beard & Ochoa, 2011, *Gahniacarus gersonus* Beard & Ochoa, 2011, *G. tuberculatus* Beard & Ochoa, 2011, *Prolixus forsteri* Beard, Fan & Walter, 2005, *P. corruginus* Beard, Fan & Walter, 2005, *Tenuipalpus obvelatus* Wang, 1983. Eight of the 10 species are from Australia, and only one species was recorded from New Zealand.

The genus *Prolixus* was erected by Beard *et al.* (2005) with only two species collected on *Gahnia aspera* from Australia and was believed to be endemic to Australia. In this paper, we describe and illustrate a new species of this genus, which is a new record to the New Zealand fauna, with samples collected from *Gahnia* (Cyperaceae) in New Zealand. The ontogenetic development of this species is examined and all the life stages and the variations in the chaetotaxy of the idiosoma and legs are presented. A key to world species of this genus is also provided.

### **Material and methods**

Mites were mounted in Hoyer's medium, and examined at 1000 times with a DIC Leica DM5000B microscope. All measurements were made from slide-mounted specimens using a stage-calibrated ocular ruler and are given in micrometers (µm) (Zhang & Fan 2004). Measurements of the paratype as a range are presented, followed by the holotype data in parentheses. Body length was measured from the anterior margin of the prodorsum to posterior margin of the opisthosoma, and body width was measured as the greatest distance posterior to coxae II. Setae were measured from the centre of the setal base to the tip of the seta; distances between setae were measured as the distance from the centre of one setal base to the other. Legs were measured from the basal end of trochanter to the distal end of tarsus. Terminology follows that applied to the Tetranychidae by Lindquist (1985).

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