



Water mites of the genus *Monatractides* (Acari: Hydrachnidia, Torrenticolidae) from Australia, with descriptions of four new species

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Abstract

New records of water mites of the genus *Monatractides* (Acari: Hydrachnidia, Torrenticolidae) from streams in Australia are presented. Four new species are described: *Monatractides polypapillatus*, *M. ironicus*, *M. harveyi* and *M. fontinalis*. A first description of the female is given for *M. australicus* (Cook, 1986). A key to the species of *Monatractides* from Australia is presented.

Key words: Acari, water mites, new species, running waters, Australia

Introduction

Monatractides was treated as a subgenus of *Torrenticola* for a long time, but Wiles (1997), based on a phylogenetic analysis, demonstrated it to be a separate monophyletic genus. It differs from other genera in the Torrenticolinae in the structure of the palps and the capitulum, which has long posterior apodemes and a little developed rostrum (Di Sabatino *et al.* 2010). *Monatractides* species are recorded from all continents except Antarctica. Wiles (1997) suggested that *Monatractides* may be considered or an ancient clade from which other torrenticolid genera and subgenera evolved following the breakup of Pangea or a recent clade which has subsequently spread to Australia. Smith *et al.* (2001) considered the genus *Monatractides* of Laurasian origin. As far as documented so far, the genus appears to have its highest diversity in the Palaearctic and Oriental region. Only three species are known in South America (Rosso de Ferradás & Fernández 2005), and in Australia five (this paper). In the Afrotropical region the genus is more diverse, with 42 species known (K.O. Viets 1970, 1987; Goldschmidt & Smit 2009). Its immigration to the Australasian and Neotropical regions from the northern hemisphere is thus very likely of relatively recent origin, while it invaded Africa much earlier.

At present, two species are known from Australia (Cook 1986), i.e. *Monatractides australicus* (Cook, 1986) and *M. kotooma* (Cook, 1986).

During a survey of the water mite fauna of Australia, many specimens of the genus *Monatractides* were collected. Six species are identified of which four are new to science. Descriptions of these species are given in this paper.

Material and methods

Water mites were collected by hand netting, sorted on the spot from the living material, preserved in Koenike's fluid and dissected as described elsewhere (e.g. Gerecke *et al.* 2007). All material has been collected by the junior author. Holotypes and selected paratypes are deposited in the Queensland Museum, Brisbane (QM), the Northern Territory Museum, Darwin (NTM), Western Australian Museum, Perth (WAM); other paratypes and non-type material in the Netherlands Centre for Biodiversity Naturalis in Leiden (RMNH).