

# New Records of Hyporheic Water Mites from Australia, with a Description of Two New Genera and Ten New Species (Acari: Hydrachnidia)

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**ABSTRACT.** Twenty-four species, representing 10 families, of hyporheic water mites were collected from Queensland and New South Wales, Australia. Two new genera, *Davidisia* n.gen. (Aturidae) and *Janszoonia* n.gen. (Athienemanniidae), and ten new species, *Anisitsiellides fuscatus* n.sp. (Anisitsiellidae), *Australiobates hyporheicus* n.sp. (Hygrobatidae), *Koenikea saponaria* n.sp. (Unionicolidae), *Austraturus crystalensis* n.sp., *Barwontius setipes* n.sp., *Davidisia aurita* n.sp. (Aturidae), *Hesperomomonie similis* n.sp., *Partidomomonie tertia* n.sp. (Momonidae), *Janszoonia difficilis* n.sp. (Athienemanniidae) and *Arrenurus bunyaensis* n.sp. (Arrenuridae) are described. A list is given of all known hyporheic species of Australia. Finally, some considerations are given about the occurrence of hyporheic water mites in Australia.

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Australia is rich in hyporheic water mites. Weigman & Schminke (1970) described the first hyporheic species from Australia. Cook (1986) described thus far the majority of the Australian hyporheic water mites. However, due to his sampling method, most of his collections were a mixture of epigeic and hypogean species. Since then, more species were described by Harvey (1988, 1989, 1990a, 1996, 1998a, 2003) and Smit (1998) and I recently collected the first known *Recifella* species from Australia (Smit, 2007). Table 1 gives an overview of the known hyporheic species from Australia. Additional information was taken from Harvey (1998b). Although several species from bottom deposits reported by Cook (1986) are very likely hyporheic, these have not been included. This applies especially to members of the genera *Anisitsiellides* Lundblad and *Frontipodopsis* Walter (Harvey, 1998b). Moreover, Boulton *et al.* (2004) found many undescribed species in the hyporheic of the Never Never Creek (New South Wales).

In this paper the results are given of the hyporheic samples made during collecting trips in 2003 and 2005 in New South Wales and Queensland. Two new genera and ten new species are described.

## Material and methods

Unless stated otherwise, all material has been collected by the author. Several collecting trips were undertaken for hyporheic water mites. In the past the Karaman-Chappuis method was occasionally used by digging a hole in a gravel bank. Since 2003 a pump was used according to Boulton *et al.* (1992). This is an adapted Bou-Rouch pump, but much lighter, and therefore easier to use in the field. All species treated in this paper are collected with this method, and this is not repeated in the text.