



## New records of water mites (Acari: Hydrachnidia) from interstitial freshwaters of India, with descriptions of three new species

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### Abstract

New records of six water mite species (Acari: Hydrachnidia) from interstitial waters of India are reported; three of them, viz. *Atractides panesari*, *Albaxona indica* and *Axonopsis periyar* are described as new to science. *Atractides gracilis* Jin, 1997 is replaced with *Atractides jini* nom. nov. Moreover, an additional description of the female of *Atractides biscutatus* Cook, 1967 is given.

**Key words:** Acari, new records, hyporheic habitat, interstitial, India

### Introduction

The distribution of water mites in Indian interstitial habitats is poorly known. The first and most extensive study on hyporheic water mites from India was conducted by Cook (1967). He listed 52 species from interstitial waters in India (Table 1). However, due to his sampling method, most of his collections were a mixture of epigeic and hypogean species. Since then, water mites have not been recorded from interstitial waters.

In 2007 and 2008, the junior author conducted a biological survey of interstitial waters of India under the auspices of an ongoing Major Research Project on Indian groundwater biodiversity, with special reference to Copepoda and Bathynellacea (Crustacea) (Ranga Reddy & Defaye 2007, 2008). Despite repeated sampling efforts, hyporheic water mites could only be collected in a few habitats and in very small numbers. This is probably due to the fact that hyporheic mites are sensitive to changes in the environment, e.g. land use (logging, agriculture), pollution and fluctuations in the water table (Boulton *et al.* 2003).

This paper presents the acarological results of the investigations. Six species are identified, three of them are new for science. Descriptions of these new species are given in this paper.

### Materials and methods

Specimens were obtained from core samples taken from hyporheic habitats. A rigid PVC tube (70 cm length and 4 cm diameter) was used to extract cores from the sediment surface to a depth of 10–30 cm within submerged sections of a rivers. At each site, core samples were pooled in a bucket, filled with water from the site and stirred vigorously. The supernatant was filtered through a bolting-silk plankton net (70 µm mesh size) and the filtrate fixed in 5% formaldehyde.

Water mites were sorted in the laboratory under a stereo microscope. Specimens were preserved in 95% ethanol and dissected as described elsewhere (e.g. Gerecke *et al.* 2006). The holotypes of the new species are