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Australian water mites of the genus *Hydrachna* Müller, with the description of five new species (Acari: Hydrachnidia: Hydrachnidae)

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Abstract

A survey is given of the diversity of the water mite genus *Hydrachna* Müller in Australia. Five new species are described: *Hydrachna cordata* **n. sp**., *H. curtiscutata* **n. sp**., *H. longiscutata* **n. sp.**, *H. novaehollandica* **n. sp.** and *H. queenslandica* **n. sp.**. The females of *H. conjectoides* Lundblad and *H. hamata* Lundblad and the male of *H. tasmanica* Lundblad are described for the first time. The conclusion of Lundblad (1947) that *H. laceriscutata* Lundblad is a synonym of *H. bilobata* is supported. Finally, many new records are given from Australian members of the genus.

Key words: new species, systematics, Australia

Introduction

The monotypic water mite family Hydrachnidae is known from every continent except Antarctica (Di Sabatino et al. 2008). Currently the family is represented by only one genus, as *Bargena* has been lowered to the rank of subgenus by K.O. Viets (1964) (see also Cook 1974). Several subgenera have been described, based on the shape of the dorsal plates and platelets. However, K.O. Viets (1987), followed by Davids et al. (2005), abandoned the subgeneric division due to the fact that males and females were regularly assigned to different subgenera.

The first record of the genus from Australia dates all the way back to the 19th century, when Canestrini (1884) reported larvae from a beetle. He named the species *Hydrachna odontognatha*, but the subject of his description without illustrations must be considered a *species incerta* (K.O. Viets 1987). So far the following ten species are known from Australia: *Hydrachna bilobata* Halík, 1940, *H. approximata* Halík, 1940, *H. australica* Lundblad, 1941, *H. laceriscutata* Lundblad, 1941, *H. conjectoides* Lundblad, 1947, *H. hamata* Lundblad, 1947, *H. linderi* Lundblad, 1947, *H. tasmanica* Lundblad, 1947, *H. triscutata* Lundblad, 1947 and *H. palustris* Smit, 1992 (Harvey 1998).

Hydrachna species can be found in ponds, lakes, pools and standing parts of streams, in permanent as well as in temporary waters. Some species are among the largest water mites known with a body length of up to 8000 µm. The larvae are parasitic on water bugs (Heteroptera) or water beetles (Coleoptera). Females have a tubular ovipositor and lay their eggs inside the stem of water plants (Davids 1973).

Material and methods

All material has been collected by the author, unless stated otherwise. Coordinates were obtained with a GPS or from Google Earth (the latter given as latitude, minutes and seconds). Numbers are given as males/females/deutonymphs. The following abbreviations are used: PI–PV = palp segment 1–5; I-leg-4–6 = fourth-sixth segments of first leg; L/W = Length/Width; L/H = Length/Height (Height = maximum height); AMS = Australian Museum, Sydney; NMV = Museum Victoria, Melbourne; WAM = Western Australian Museum, Perth; SMNH = Swedish Museum of Natural History, Stockholm; RMNH = Naturalis Biodiversity Center, Leiden; NP = National Park; asl = above sea level. Measurements of paratypes are given in brackets. All measurements are in µm, measurements of

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- Genital field only slightly indented anteriorly, capitulum not elongated (Fig. 5D Lundblad 1947). 20
20. PIII more than 280 µm long, genital field more than 400 µm wide . . . . . *H. linderi* female
- PIII less than 200 µm long, genital field less than 300 µm wide . . . . . *H. queenslandica* **n. sp**. female

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