



<http://dx.doi.org/10.11646/zootaxa.3919.1.6>

<http://zoobank.org/urn:lsid:zoobank.org:pub:F711CA99-1B2C-4E18-9F4B-7521D38D2303>

Revision of the status of some genus-level water mite taxa in the families Pionidae Thor, 1900, Aturidae Thor, 1900, and Nudomideopsidae Smith, 1990 (Acari: Hydrachnidiae)

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Abstract

A number of changes to the status of genus group names in water mites are proposed to foster a more consistent and phylogenetically defensible approach to the ranking of taxa at this level of the classification. The water mite taxa *Acercoopsis* Viets, 1926 (Pionidae: Tiphyninae), *Madawaska* Habeeb, 1954 (Pionidae: Foreliinae), *Brachypodopsis* Piersig, 1903, *Cubanaxonopsis* Orghidan & Gruia, 1981, *Hexaxonopsis* Viets, 1926, *Paraxonopsis* Motaş & Tanasachi, 1947, *Vicinaxonopsis* Cook, 1974, *Parabrachypoda* Viets, 1929, and *Ocybrachypoda* Cook, 1974 (Aturidae: Axonopsinae), *Ameribrachypoda* Smith, 1991 (Aturidae: Aturinae), and *Allomideopsis* Smith, 1990 (Nudomideopsidae) are elevated in rank from subgenera to full genera to reflect current knowledge of their species diversity, morphological distinctness, relationships and apparent age. In light of the above changes in the subfamily Axonopsinae, the subgenera *Kalobrachypoda* Viets, 1929 and *Navinaxonopsis* Cook, 1967 are transferred from the genus *Axonopsis* to the genus *Brachypodopsis*, the subgenus *Plesiobrachypoda* Viets, 1942 is transferred from the genus *Axonopsis* to the genus *Hexaxonopsis*, and the species formerly placed in the subgenus *Hemibrachypoda* Viets, 1937 are transferred from the genus *Brachypoda* to the genus *Parabrachypoda* Viets, 1929, and *Hemibrachypoda* is placed in synonymy with *Parabrachypoda*. The family group taxa to which all of these genera belong are reviewed to provide context for the proposed changes.

Key words: Acari, Hydrachnidia, Pionidae, Aturidae, Nudomideopsidae, generic classification

Introduction

The comprehensive effort to revise the generic classification of water mites by Cook (1974a) resulted in a stable arrangement that has been generally accepted for the past forty years (Viets 1987). During this time, advances in surveying regional faunas and the resulting revisionary work have greatly expanded knowledge of species diversity in many long established genera and subgenera. Recent efforts to construct keys for adult water mites (Smith & Cook 1991, Smith *et al.* 2001, 2010) have highlighted some inconsistencies that have developed in the approach to ranking genus level taxa in the group.

The purpose of this paper is to contribute to the process of updating the generic classification of water mites to

Diagnosis. *Larva* (modified from Smith 1983b, 1990): Character states of family Nudomideopsidae. First coxal plate with setae *Ia* long, third coxal plate with transverse muscle attachment scar relatively long.

Adults (modified from Smith 1990): Character states of family Nudomideopsidae. Idiosoma nearly round in shape; convex dorsally. First coxal plate not extending to anterior edge of shield; suture line between third and fourth coxal plate ending medially near posteromedial angle on posterior coxal group so that fourth plate has a short medial edge. Genital field bearing five to seven pairs of acetabula that are free in gonopore in both sexes; fourth coxal plate bearing small projection that partially covers opening for insertion of fourth leg, with suture line at posterior edge moderately distinct. Pedipalp tibia stocky and slightly expanded ventrally; bearing two slender setae ventrally in proximal half of segment.

Type species. *Paramideopsis susanae* Smith.

Species included. *Paramideopsis susanae* Smith (western North America), *P. kyphus* Cook (New Zealand).

Distribution. Western North America and New Zealand.

Discussion. Smith (1983b) proposed *Paramideopsis* as a distinct genus. This treatment was followed by Smith (1990), Cook (1992), Smith & Cook (1991, 1999) and Smith *et al.* (2001, 2010), and is followed by us here.

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