



<http://dx.doi.org/10.11646/zootaxa.3981.4.5>

<http://zoobank.org/urn:lsid:zoobank.org:pub:861CEBBE-5277-4E4C-B3DF-8850BEDD2A23>

On the taxonomic state of water mite taxa (Acari: Hydrachnidia) described from the Palearctic, part 3, Hygrobatoida and Arrenuroidea with new faunistic data

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Abstract

Following revision of material from museum collections and recent field work, new taxonomic and faunistic data are given for several representatives of the water mite superfamilies Hygrobatoida and Arrenuroidea.

Ten new synonyms are established: Family Limnesiidae: *Limnesia martianezzi* Lundblad, 1962 = *L. arevaloi arevaloi* K. Viets, 1918; *Limnesia jaczewskii* Biesiadka, 1977 = *Limnesia connata* Koenike, 1895. Family Hygrobatidae: *Hygro-bates properus* Láska, 1954 = *H. trigonicus* Koenike, 1895. Family Unionicolidae: *Unionicola finisbelli* Ramazzotti, 1947 = *U. imusitata* Koenike, 1914. Family Pionidae: *Tiphys koenikei* (Barrois & Moniez, 1887) = *Forelia variegator* (Koch, 1837); *Piona falcigera* Koenike, 1905, *P. brehmi* Walter, 1910, *P. trisetica bituberosa* K. Viets, 1930 and *P. dentipes* Lundblad, 1962 = *P. alpicola* (Neuman, 1880). Family Arrenuridae: *Arrenurus furciger* K. Viets, 1935 = *A. denticulatus* Moşaş, 1927.

The species of the *Piona nodata*-complex are discussed, based on morphological and molecular studies.

Piona sejugata K.O. Viets, 1953 (monstrosity) and *Atractides diastema* Szalay, 1935 (insufficiently described, only known from the female and the type material is lost) must be regarded as *species incertae*.

A redescription is given for *Atractides glandulosus* Walter, 1918, based on a population from an affluent of Lake Constance (S Germany).

The following new faunistic data are notable: *Javalbia bella* Cook, 1974 and *Brachypoda baderi* Di Sabatino & Cicolani, 1990 (Aturidae, Axonopsinae)—first records from continental France; *Arrenurus (s.str.) refractariolus* Biesiadka, 1978 (Arrenuridae)—first record from the Balkan area (Montenegro); *Arrenurus membranator* Thor, 1901—first records from Iceland and Kyrgyzstan.

Key words: taxonomy, synonymy, new records, systematics

Introduction

As part of the preparatory work for a re-edition of the mite volume(s) of “Süßwasserfauna von Mitteleuropa” (Freshwater fauna of Central Europe, last edition: Koenike 1909), we had the occasion to revise a set of problematic representatives of the superfamilies Hygrobatoida and Arrenuroidea. This paper shows taxonomic changes which derived from our morphological observations on type material from museum collections and aspects of intraspecific variability with populations from an extended geographical range. In addition, interesting faunistic information is given for several species. The terminology and explanation of abbreviations follow Davids *et al.* (2007). This paper includes a variety of different techniques in handling these revisions: geographic variation analysis, morphological analysis, and mtDNA analysis. This makes what first appears as a simple list of changes into something a lot more elaborate.