



Studies on European species of the water mite family Aturidae Thor (Acari: Hydrachnidia)

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Abstract

Selected water mite species of the family Aturidae are revised. The following synonyms are established: *Aturus intermedius serrata* K. Viets, 1922 = *A. asserculatus* Walter, 1906; *A. lelgioensis* Rensburg, 1971 = *A. natangensis* Protz, 1900; *A. oudemansi* Besseling, 1932 = *A. intermedius* Protz, 1900. The proposal of E. Angelier (1965), to synonymize *A. paucisetus* Motaş & Tanasachi, 1946 with *A. brachypus* K. Viets, 1934 is rejected. *Aturus elongatus* Walter, 1927 (described after females, type material heavily damaged) and *Ljania bipapillata subterranea* Schwoerbel, 1964 (no type material available, no type locality defined) are considered as *species incertae*. *Ljania macilenta longissima* Schwoerbel, 1962 is redescribed and elevated to species rank.

Two species of the genus *Kongsbergia* are described as new to science from interstitial habitats in the Central Mediterranean: *K. albanorum* **sp. nov.** from Western Sicily and *K. jaentschi* **sp. nov.** from Sicily and Sardinia. *Woolastookia basilicalabrica* **sp. nov.** is described from mountain streams in Southern Italy.

Numerous new records are given, extending noteworthy the known distribution area of several species in Southern Europe. *Aturus rotundus* Romijn, 1921, *Kongsbergia dentata* Walter, 1947 and *K. simillima* K. Viets, 1949 are recorded for the first time from Italy, *K. pectiniger* Motaş & Tanasachi, 1946 from France and Italy; first records from Corsica are given for *Aturus intermedius* and *A. spatulifer* Piersig, 1904.

Lectotypes are designated for *Aturus asserculatus* Walter, 1906; *A. asserculatus serratus* K. Viets, 1922; *A. oudemansi* Besseling, 1932.

Key words: Acari, Hydrachnidia

Introduction

Aturidae is a very species-rich family of water mites. Obviously, the highest diversification is reached in tropical areas, but also cold-temperate and circumpolar regions have their own aturid associations (e.g., Lundblad 1968). Mites of this family are in general heavily sclerotized and small. Representatives of numerous genera have adapted to life in the interstitial habitat, others live in the sediment of streams or in the moss carpet of cascades, and several species are provided with swimming setae-bearing legs and prefer pools of streams or the vegetation belt of stagnant waters. While several aturid species may be found coexisting in low order streams, only a few are crenophilous, and, at least in the European fauna, true spring-typical species (crenobionts) are not known so far.

In addition to rather widely distributed and frequently recorded species, many aturid genera include also really rare ones which have been recorded in a few occasions only—sometimes they are documented by single specimens, and in various cases they have been only incompletely described.

The aim of this paper is to contribute new information about the European representatives of this interesting group of freshwater-dwelling mites. Considerations are based on both, revisional studies of type material and other preparations deposited in museum collections, and populations collected during field work in the past decades. The lion's share of the newly collected material derives from the Mediterranean. The taxonomic composition is somewhat casual: In addition to a detailed treatment of species of the subfamily Aturinae, a taxon widely understudied in Southern Europe, new data are included also for several axonopsine genera. Representatives of Axonopsinae, many of them deriving from collecting sites treated also in the present paper, have been reported in several papers published in the past two decades (Gerecke 1991b, 1994, Gerecke et al. 2014, Gerecke & Di Sabatino 2013, Gerecke & Meyer 1989, Pešić & Gerecke 2003, Pešić et al. 2010). Along with the information in these papers, data published here complete a new survey of the diversity of the family Aturidae in Southern Europe.

Material and methods

The new material was collected with hand nets, sorted in the field from the living material and fixed in Koenike's fluid. Representatives of all populations were selected for slide mounting. In general, dorsal and ventral shields were not separated, but, when larger series were available, some specimens were mounted dorsally, others ventrally. In the course of this revision it became clear that in male Aturinae most important diagnostic characters are found on the dorsal idiosoma. Thus, if idiosoma shields are not separated, males should be mounted with dorsal

- E 134 Aragon, Rio Mataranya upstr. Calaceite, 450 m, 19.04.1998
E 161 Albacete, Sra del Segura, Rio Mundo, Los Alejos, 850 m, 15.04.1999
E 162 Albacete, Sra del Segura, Rio Mundo, Riópar, El Laminador, 950 m, 15.04.1999
E 163 Albacete, Sra del Segura, Rio Escorial, Ref. El Barranca, 1400 m, 15.04.1999
E 164 Albacete, Sra del Segura, nacimiento Rio Mundo, cueva Los Chorros, 1100 m, 16.04.1999
E 166 Albacete, Sra del Segura, Rio Segura, la Juntas (Salto de Miller), 1300 m, 16.04.1999
E 167 Albacete, Sra del Segura, Rio Zumeta, Piscifactoria Santiago de la Espada, 1100 m, 16.04.1999
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