



Four new water mite species of the genus *Atractides* Koch (Acari: Hydrachnidia: Hygrobatidae) from Russia

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Abstract

Four new water mite species in the genus *Atractides* are described: *A. yaroslavlensis* **sp. n.** (male, female and larva) and *A. ildicus* **sp. n.** (female) from streams in the Yaroslavl Province, and *A. komarovkaensis* (female) and *A. primoryensis* (female) from the Primory Territory of Russia are presented.

Key words: water mites, Hygrobatidae, new species, running waters, Russia

Introduction

The fauna of water mites of Russia includes about 30 species of the genus *Atractides* Koch, 1837 (Sokolow 1940; Tuzovskij 1977, 2004, 2005, 2006, 2010a, 2010b). The majority of species of this genus is known from the European part of Russia and only several species are recorded from the Asian part of the country. The fauna of water mites of Russia still remains insufficiently investigated. Investigations of the water mite fauna in different regions of Russia have yielded four new species of this genus, described below.

Material and methods

Specimens were collected in streams in the European part of Russia (coll. P. Tuzovskij) and in running waters of the Asian part of Russia (coll. T. Vshivkova). Specimens collected by P. Tuzovskij were not fixed in Koenike liquid, but slides were made from the fresh material. Most specimens were not dissected, thus preserving the natural shape of the body. For several females and males the gnathosoma was mounted in a position that allowed investigating chelicerae and pedipalp in a lateral view. Specimens collected by T. Vshivkova were fixed in a 3% solution of formalin and were dissected. All mite specimens were mounted in Hoyer's medium.

Idiosomal setae and lyriform organs are named according to Tuzovskij (1987): *Fch*—frontales chelicerae, *Fp*—frontales pedipalporum, *Vi*—verticales internae, *Ve*—verticales externae, *Oi*—occipitales internae, *Oe*—occipitales externae, *Hi*—humerales internae, *He*—humerales externae, *Hv*—humerales ventralia, *Sci*—scapulares internae, *Sce*—scapulares externae, *Li*—lumbales internae, *Le*—lumbales externae, *Si*—sacrales internae, *Se*—sacrales externae, *Ci*—caudales internae, *Pi*—praeanales internae, *Pe*—praeanales externae, *Ai*—anales internae, *Ae*—anales externae; i_1 – i_5 —lyriform organs.

Furthermore, the following abbreviations are used: P–1–5, pedipalp segments (trochanter, femur, genu, tibia and tarsus); I–Leg. 1–6, first leg, segments 1–6 (trochanter, basifemur, telofemur, genu, tibia and tarsus) i.e. III. Leg–4 = genu of third leg; S1, proximal sword seta on tibia of leg I; S2, distal sword seta on tibia of leg I; C1—coxal setae located posteromedially on coxa I, C2—coxal seta located posterolaterally on coxa I, C3—coxal seta located posterolaterally on coxa II, C4—coxal seta located anteriorly on coxa III; ac. 1–3, genital acetabula (anterior, median, posterior); s—solenidion, ac—acanthoid seta; L—length; n = number of specimens measured. The length of appendage segments was measured along their dorsal side; all measurements are given in μm .