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A New Species of the Water Mite Family Pontarachnidae Koenike (Acari: Hydrachnidia) from Turkey, Found in a Gill Filament of a Fish

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Abstract: A new species of the water mite family Pontarachnidae, *Pontarachna episce* n. sp., is described from the Mediterranean Sea near Turkey. It is the first member of this family from Turkey. The species was collected from a gill filament of a fish.

Key Words: Hydrachnidia, Pontarachnidae, Turkey, new species

Introduction

The water mite family Pontarachnidae is the sole family of the Hydrachnidia occurring in the marine environment. The family is represented by 2 genera, *Pontarachna* Philippi, 1840 and *Litarachna* Walter, 1925. The family has a cosmopolitan distribution, but occurs almost entirely in (sub) tropical waters. Of the genus *Pontarachna*, 16 species are known worldwide (Mari and Morselli, 1983; Smit, 2002, 2003). Of these, 3 species are known from the Mediterranean Sea. *Pontarachna punctulum* Philippi, 1840 is the most widespread species, and is reported from the Mediterranean Sea, the Black Sea, and the Red Sea. *Pontarachna adriatica* Morselli, 1980 and *P. aenariensis* Mari & Morselli, 1983 are confined to the Mediterranean Sea around Italy, and are only known from the type localities.

This paper deals with a new *Pontarachna* species found in the gill of a fish, collected in the Mediterranean Sea near Turkey. It is the first record of the Pontarachnidae from Turkey.

Materials and Methods

The holotype was collected from a gill filament of the Shi Drum or Bearded Umbrine (*Umbrina cirrosa* Linnaeus, 1758). The material was fixed in ethanol. The holotype is deposited in the Zoological Museum of the University of Amsterdam (ZMAN). The following abbreviations have been used: PI-PV palp segments 1-5; IV-leg-4-6 fourth to sixth segments of fourth leg. All measurements are dorsal lengths and are in micrometers.

Systematic part

Pontarachna episce n. sp.

Material examined. Holotype male, littoral at a depth between 0 and 15 m, Mediterranean Sea, Yumurtalık, Turkey, 36º45´35.71´´ N 35º42´59.07´´ E, 16 August 2007, leg. Özak & Demirkale (ZMAN).

Description

Male: Idiosoma 316 long and 235 wide. First coxal plates separated medially (Figure 1). As the specimen had been fixed in ethanol, it could not be put in a good position on the slide. Therefore, only one side is illustrated. Suture line of second and third coxal plates incomplete, suture lines of first and second and suture lines of third and fourth coxal plates complete, ending in apodemes. Both lateral and medial posterior apodemes of fourth coxal plates relatively short, medial apodemes not extending beyond posterior margin of genital field. Sclerotized area around genital field with 6 pairs of setae, most posterior pair distanced from anterior 5 pairs. Margin of the sclerotized area irregularly shaped.

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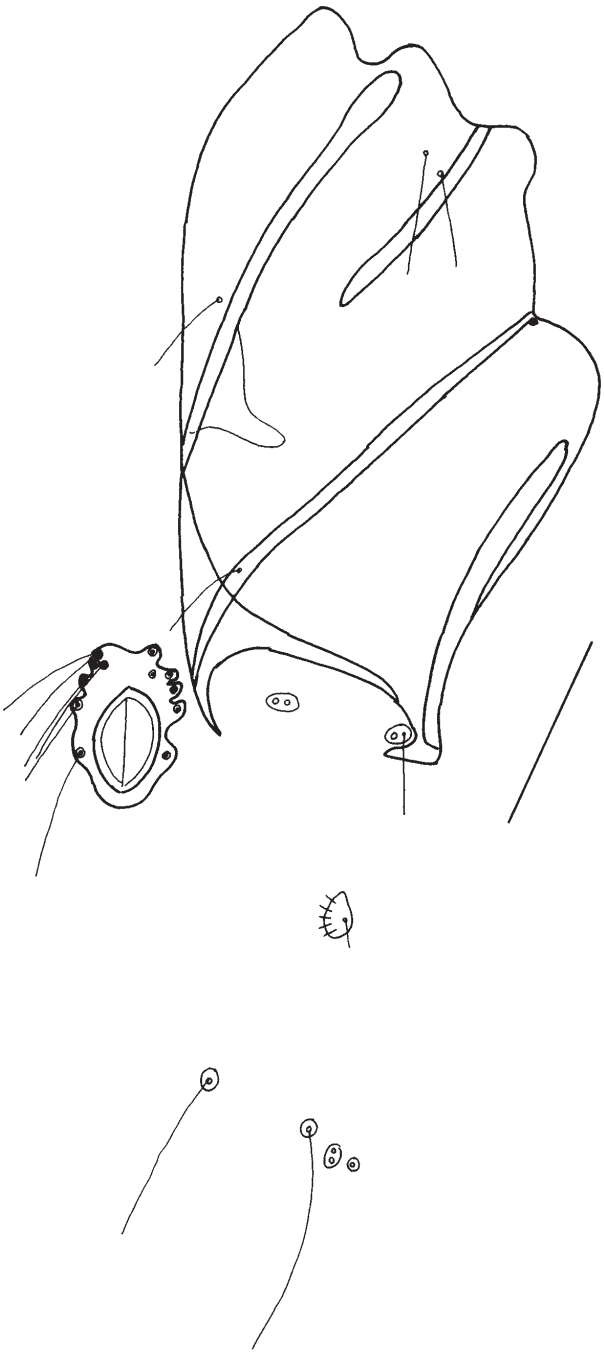

Figure 1. *Pontarachna expisce* n. sp., holotype male, ventral view. (scale bar 50 µm).

Gonopore 24 long. Directly posteriorly of fourth coxal plates 2 glandularium-like structures, accompanied by a seta. More posteriorly a structure that could be a so-called wheel-like acetabulum (sensu Cook, 1996) or specialized glandularia (sensu Tuzovskij, 1978). Near posterior margin a glandularium-like structure accompanied by 2 setae, and more medially of this structure another seta. Chelicerae stillettiform, typical for the genus. Lengths of PI-PV: 12, 36, 26, 54, 12. Ventral margin of PIV straight, anteriorly with 2 setae (Figure 2). Lengths of I-leg-4-6: 33, 46, 36; segments of first leg stocky, I-leg-5 anteroventrally with 2 stout setae (Figure 3). Lengths of IV-leg-4-6: 62, 74, 60. IV-leg-5 with 2 swimming setae, 1 of which is broken off (Figure 4).

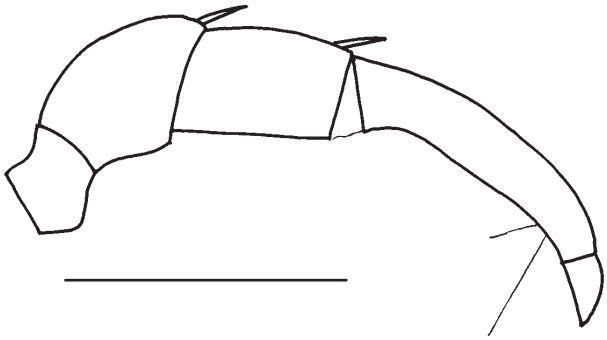

Figure 2. *Pontarachna expisce* n. sp., holotype male, palp (scale bar 50 µm).

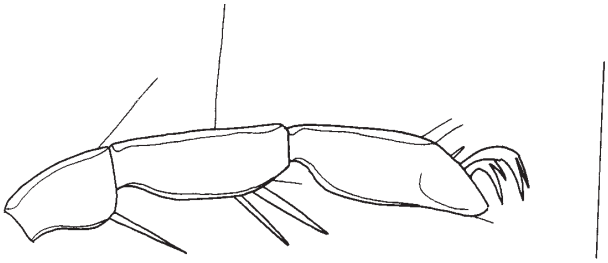

Figure 3. *Pontarachna expisce* n. sp., holotype male, I-leg-4-6 (scale bar 50 µm).

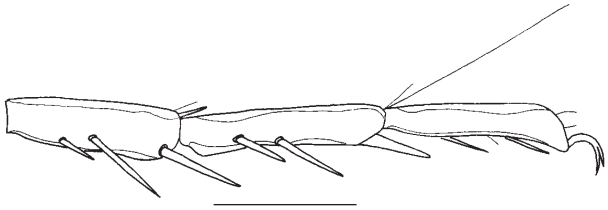

Figure 4. *Pontarachna expisce* n. sp., holotype male, IV-leg-4-6 (scale bar 50 µm).

Female: Unknown.

Etymology

Named for being collected in a fish.

Remarks

Most males of *Pontarachna* species have the sclerotized area around the genital field with numerous setae, usually more than 10. However, a number of Australian *Pontarachna* species are only known in the female sex. Only *P. erythraea* K.O. Viets, 1966 from the Red Sea and *P. valkanovi* Petrova, 1978 from the Black Sea have less than 10 setae. In *P. erythraea* a sclerotized area is lacking and the 7-8 genital setae are situated in a row medial and posterior to the genital field. In other aspects, e.g., palp, legs, shape of coxal field, and glandularia-like structures, it is very similar to the new species. Between the fourth coxal field and the posteriorly located glandularium-like structures the female of *P. erythraea* has a structure with a seta and 2 pores, which Viets (1966) considered glandularia. In addition, *P. valkanovi* has similar palp and legs, although the latter are not as stocky as in the new species; the male genital field has 5 pairs of setae arranged in a row in the sclerotized area (Petrova, 1978). The posterior apodemes of the fourth coxal plates of *P. valkanovi* are very broad.

Very likely the fish from which the holotype has been collected swallowed the mite when feeding.

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