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Araştırma Makalesi / Research Paper

A Study on New Record Water Mite Species from Turkey: *Atractides (Polymegapus) rutae* (Lundblad, 1941)

Yunus Ömer BOYACI[1], Pınar GÜLLE[2*]

[1]Isparta University of Applied Sciences, Faculty of Eğirdir Fisheries, Isparta, Turkey
[2]Burdur Mehmet Akif Ersoy University, Faculty of Science and Arts, Burdur, Turkey

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Sorumlu Yazar (Corresponding author): pnarozsimsek@gmail.com*
+90 248 2133000 *+90 248 2133099*

ABSTRACT

In this study, descriptions of ***Atractides* (*Polymegapus*) *rutae*** (Lundblad, 1941) newly recorded for the fauna of Turkey is given. In addition, some taxonomically important morphological features of the females were analyzed in detail, diagnostic characters were illustrated and measurements belonging to body parts were given along with geographical distribution records.

Keywords: *Atractides*, fauna, new record, Turkey

Türkiye'den İlk Defa Kaydı Verilen Su Kenesi Türü Üzerine Bir Araştırma: *Atractides (Polymegapus) rutae* (Lundblad, 1941)

ÖZ

Bu çalışmada, Türkiye faunası için yeni kayıt olan ***Atractides* (*Polymegapus*) *rutae*** (Lundblad, 1941)'nin tanımı verilmiştir. Ayrıca, türün dişi bireylerinin taksonomik açıdan önemli bazı morfolojik özellikleri detaylı şekilde incelenmiş, diagnostik karakterleri çizilmiş ve vücut üyelerine ait ölçümlerle birlikte coğrafik dağılım üzerinde durulmuştur.

Anahtar Kelimeler: *Atractides*, fauna, yeni kayıt, Türkiye

INTRODUCTION

Water mites of the genus *Atractides* have been found in all biogeographical regions except for Australia and Antarctica. Most species are found only in clean waters with well conserved substratum, thus they are probably sensitive to many forms of human impact (Gerecke, 2003).

Water mite fauna of Turkey is insufficiently known, while it is recognizable with increasing number of recently described species. One of the genera among most focused on is *Atractides* Koch, 1837, known so far with 38 species from Turkey (Erman et al., 2010; 2019).

During the research in freshwater systems in the Isparta province in Turkey, one species belonging to the genus *Atractides* was appeared to be new records for the Turkish fauna.

MATERIAL AND METHODS

Water mites were collected by hand netting and sorted on the spot from the living material, preserved in Koenike's fluid (50% glycerin, 20% acetic acid, 30% distiled water) and dissected for slide mounting in Hoyer's fluid. All measurements are given in µm scales. For a detailed description and discussion of the characteristics of the genus *Atractides* and a detailed methodological introduction, see Gerecke (2003).

The following abbreviations are used: Ac= acetabulum, Cx-I = first coxae, H = height, L = length, I-L-6 = Leg 1,

Yunus Ömer BOYACI, https://orcid.org/0000-0002-4027-4482
Pınar GÜLLE, https://orcid.org/0000-0003-1347-4283

sixth segment, P-1 = palp, first segment, S-1 = large proximal ventral seta at I-L-5, S-2 = large distal ventral seta at I-L-5, Vgl = ventroglandulare, W = width.

RESULTS

Family: Hygrobatidae
Genus: *Atractides* Koch, 1837

Atractides (Polymegapus) rutae (Lundblad, 1941)

Female. Idiosoma L/W 830/698, dorsal integument striated; prefrontal and postocular on large, roundish, separate platelets; Dorsalia1 not visible as distinct platelet, or reduced, all other dorsalia free, not fused to neighbouring glandular platelets (Fig. 1b).

Palp not showing sexual dimorphism. Distal margins of P-2 and 3 smooth and slightly concave; P-4 ventral setae close to each other, P-4 with fine denticles near insertions of ventral hairs and strong sword seta inserting proximally from proximoventral hair, P-5 long and slender. L/H of palp segments 35/31, 100/54, 90/54, 130/55, 62/22 (Fig. 1c).

Cx-I-IV are show completely the borders of secondary chitinization. Posterior margin of Cx-I and II equally narrowed, mouth opening and Cx-II short (Fig. 1a).

I-L-5 both margins parallel, I-L-6 short, basally enlarged; S-1 and S-2 emerging from the same spot, S-1 basally broad and tapering towards the pointed tip. I-L-5 L 162, I-L-6 L 99, I-L-5/6 L 1,63 (Fig. 1d).

Vgl-1 and 2 fused. Genital plate crescent shaped and with distinct secondary chitinization, genital field L/W 175/207. Excretory pore sclerotized.

Studied material and habitat. Fast flowing river with sandy and gravel bottom, 22.06.2008, 2 female, head of Köprüçay River, Isparta. Leg.Y.Ö.Boyacı.

Distribution. Madeira and Canaries (Gerecke, 2003).

Habitat: Crenophilous; inhabitant of springs and hygropetric habitats (Gerecke, 2003).

Remarks. The closest species to *A. rutae* is *A. orghidani* Motaş & Tanasachi, 1960. The mainly difference between the two species is the dorsal plates. Dorsal integument in *A. rutae* striated, with thick, irregularly undulating lines; muscle attachments: sclerotized, but dorsal integument in *A. orghidani* lineated, with strong, more or less irregular lines; muscle attachments: unsclerotized (Gerecke, 2003). There are slight differences in the shape and placement of the dorsal plates in our sample compared to the original definition. We think this may be due to individual variations.

Lundblad compared *A. rutae* with *A. polyporus* and two further species from India (Lundblad, 1934) that display I-L-characters typical for the subgenus *Polymegapus*, *A. minutus* (Walter, 1928) and *A. proximalis* (Lundblad, 1934). *A. polyporus* and *A. minutus* differ from *A. rutae* in having a genital field provided with more than three pairs of Ac. The European three-acetabulate Polymegapus species, A. rutae, A. elegans and A. orghidani, form a taxonomic complex that requires studying in more detail (Gerecke 2003).

A. rutae is one of the species with narrow distribution and its original habitat are spring waters and hygropetric habitats. However, it was caught from the head of the Köprüçay River. Köprüçay River,a relatively short river, but the water mite fauna detected in Köprüçay is very rich (71 species). Although the tolerance of water mites to organic pollution varies at the species level, the presence of widespread species (mesosaprobic) generally with moderate pollution in Köprüçay River draws attention. Apart from their habitats, the sizes of our samples are also different from the original description. More samples are needed to determine the true average size of this species (Gerecke, 2003; Boyacı et. al., 2012)

With this record, the number of species the subgenus *Polymegapus* in Turkey has reached 4 (Erman et al., 2019).

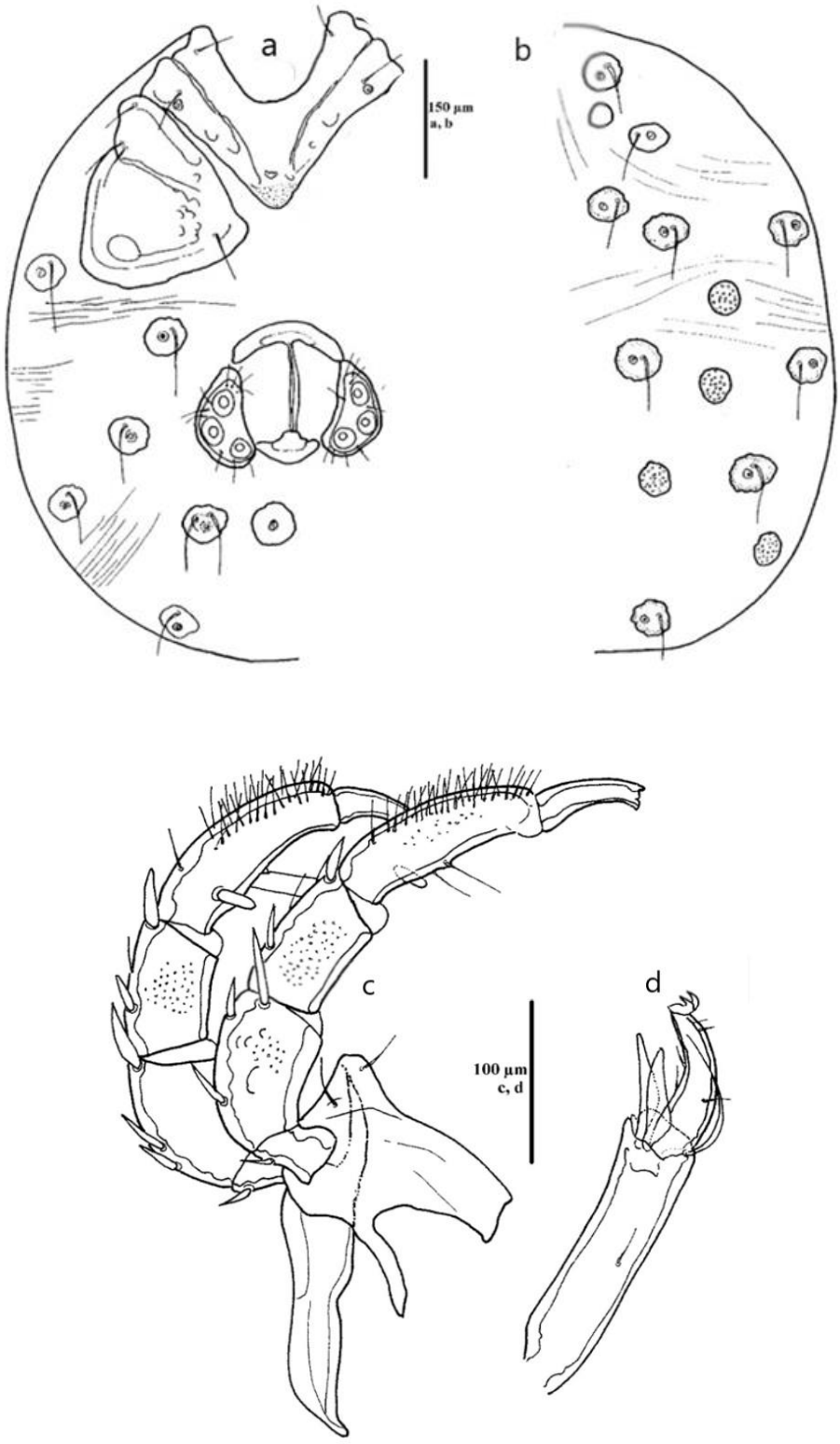

Figure 1. ***Atractides rutae,*** female a) idiosoma, ventral view b) idiosoma, dorsal view c) gnathosoma d) I-L-5-6

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