

The Water Mites (Acari: Hydrachnidia) of Isparta Province, Turkey**Furkan DURUCAN^{*1}**  **Yunus Ömer BOYACI²** ¹Işıklar Caddesi No. 16, Antalya, Turkey²Isparta University of Applied Sciences, Faculty of Eğirdir Fisheries, Isparta, Turkey*Corresponding author: f_durucan@hotmail.com**Research Article**

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How to Cite: Durucan, F., & Boyacı, Y. Ö. (2020). The Water Mites (Acari: Hydrachnidia) of Isparta province, Turkey. *Acta Aquatica Turcica*, 16(3), 366-369. <https://doi.org/10.22392/actaquatr.692323>**Abstract**

This paper presents the first results of a study on water mites (Acari: Hydrachnidia) of Isparta (Turkey) using published papers a list was compiled of the water mite fauna of Isparta. We obtained the records for 121 species of hydrachnid mites, representing 39 genera and 21 families. The family Hygrobatidae is the highest number of species in Isparta with 19 species.

Keywords: Acari, Hydrachnidia, Biodiversity, Isparta, Turkey.

Isparta İlinin (Türkiye) Su Akarları (Acari: Hydrachnidia)**Özet**

Bu çalışmada, Isparta ili sınırlarından bugüne kadar tespit edilen su akarları (Acari: Hydrachnidia) liste halinde sunulmuştur. Isparta ili hydrachnid su akarları 21 familya, 39 cins ve 121 tür ile temsil edilmektedir. Hygrobatidae 19 tür ile en yüksek tür sayısı içeren familya olarak bulunmuştur.

Anahtar kelimeler: Akar, Hydrachnidia, Biyoçeşitlilik, Isparta, Türkiye.

INTRODUCTION

Numerous studies on water mites have been carried out by scientists to date from different parts of Turkey. The total number of known water mites (Acari, Hydrachnidia) of Turkey is 335 species, in 62 genera and 25 families (Erman et al., 2019). The first hydrachnid mite record “*Hydryphantes parmulatus*” from Isparta is reported by Boyacı and Özkan in (2001). After this study, there have been some studies that had been done in the district of Isparta. But the most comprehensive study which is a TUBITAK project was performed by (Boyacı et al., 2010a) in the Turkish Lakeland, including Isparta.

MATERIALS and METHODS

The data using in this study are taken from fieldworks between 1993-2010 which contain data on the distribution of water mites in Isparta are included in the systematic part of this paper. In this study, we have reported previously water mites of Isparta as a list.

RESULTS and DISCUSSION

According to the published studies (Boyacı, 2010; Boyacı et al., 2010a, b; Boyacı et. al. 2012a, b; Gülle and Boyacı, 2012; Gülle et al., 2017), the total number of species recorded from Isparta up to date is 121 species, in 39 genera and 22 families (Table 1). The family Hygrobatidae ranks first with 19 species followed by Torrenticolidae with 15 species, Sperchontidae with 14 species, Arrenuridae with 13 species, Anisitsiellidae with 8 species, Lebertidae with 8 species, Hydryphantidae and Aturidae with 6 species, Hydryphantidae with 5 species, Unionicolidae, Pionidae and Protzidae with 4 species, Feltridae with 3 species, Eylidae, Limnesiidae and Mideopsidae with 2 species, and all remaining families (Acherontacaridae, Teutoniidae, Oxidae, Axonopsidae, Limnocharidae, and Hydrovolziidae) with 1 species each. We expect that more collecting in streams and interstitial habitats in Isparta, temporary habitats, moorland pools, and standing water with a good water quality will result in a much number of species.

Table 1. Water mites (Acari: Hydrachnidia) of Isparta

| Family | Species |
|-----------------------------|---|
| Acherontacaridae (1) | <i>Acherontacarus anatolicus</i> Boyacı, Özkan and Didinen, 2010 |
| Eylaidae (2) | <i>Eylais extendens</i> (Müller, 1776) <i>Eylais setosa</i> (Koenike, 1897) |
| Hydryphantidae (5) | <i>Dacothyas kandilliensis</i> Oezkan & Bader, 1988 <i>Panisopsis setipes</i> K. Viets, 1911 <i>Paninus michaeli</i> Koenike, 1896 <i>Paninus torrenticolus</i> Piersig, 1898 <i>Trichothyas petrophila</i> (Michael, 1895) |
| Sperchontidae (14) | <i>Sperchon breviostris</i> Koenike, 1895 <i>Sperchon clupeifer</i> Piersig, 1896 <i>Sperchon denticulatus</i> Koenike, 1895 <i>Sperchon fundamentalis</i> Bader and Sepasgosarian, 1980 <i>Sperchon glandulosus</i> Koenike, 1886 <i>Sperchon hispidus</i> (Koenike, 1895) <i>Sperchon longissimus</i> Viets, 1920 <i>Sperchon papillosus</i> Thor, 1901 <i>Sperchon rostratus</i> Lundblad, 1969 <i>Sperchon senguni</i> Özkan, 1982 <i>Sperchon setiger</i> Thor, 1898 <i>Sperchon thienemanni</i> Koenike, 1907 <i>Sperchon thori</i> (Koenike, 1900) <i>Sperchonopsis verrucosa</i> (Protz, 1896) |
| Teutoniidae (1) | <i>Teutonia cometes</i> Koch, 1837 |
| Anisitsiellidae (8) | <i>Bandakia concreta</i> Thor, 1913 <i>Limnolegeria longiseta</i> Motaş, 1928 <i>Nilotonia longipora</i> (Walter, 1925) <i>Nilotonia tegulata</i> Viets, 1951 <i>Nilotania turcica</i> Özkan and Soysal, 1989 <i>Nilotania vietsi</i> Bader and Sepasgosarian, 1980 <i>Shivatonia ispartaensis</i> Boyacı and Özkan, 2007 <i>Shivatonia turcicus</i> Boyacı, 2010 |
| Lebertidae (8) | <i>Lebertia fimbriata</i> Thor, 1899 <i>Lebertia glabra</i> Thor, 1897 <i>Lebertia harnischi</i> Viets, 1926 <i>Lebertia inaequalis</i> (Koch, 1837) <i>Lebertia leioderma</i> Viets, 1925 <i>Lebertia lineata</i> Thor, 1904 <i>Lebertia martini</i> Gülle and Boyacı, 2012 <i>Lebertia tuberosa</i> (Thor, 1914) |
| Oxidae (1) | <i>Oxus longisetus</i> (Berlese, 1885) |
| Torrenticolidae (15) | <i>Monatractides aberratus</i> (Lundblad, 1941) <i>Monatractides adoratus</i> Di Sabatino and Gerecke, 1996 <i>Monatractides lusitanicus</i> (Lundblad, 1941) <i>Monatractides stadleri</i> Walter, 1921 |

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| | <i>Torrenticola anomala</i> (Koch, 1837) |
| | <i>Torrenticola barsica</i> (Szalay, 1933) |
| | <i>Torrenticola brevirostris</i> (Halbert, 1911) |
| | <i>Torrenticola disabatinola</i> Pešić, 2004 |
| | <i>Torrenticola dudichi</i> (Szalay, 1933) |
| | <i>Torrenticola elliptica</i> Maglio, 1909 |
| | <i>Torrenticola longirostris</i> (Szalay, 1933) |
| | <i>Torrenticola maglioi</i> Koenike, 1908 |
| | <i>Torrenticola nana</i> Di Sabatino and Gerecke, 2003 |
| | <i>Torrenticola persica</i> Pešić, 2003 |
| | <i>Torrenticola thori</i> (Halbert, 1944) |
| Hygrobatidae (19) | <i>Atractides acutirostris</i> (Motaş and Angelier, 1927) |
| | <i>Atractides dentipalpis</i> Walter, 1935 |
| | <i>Atractides distans</i> (K. Viets, 1914) |
| | <i>Atractides fluviatilis</i> (Szalay, 1929) |
| | <i>Atractides fonticolus</i> (K. Viets, 1920) |
| | <i>Atractides gibberipalpis</i> Piersig, 1898 |
| | <i>Atractides gracilipes</i> (Angelier, 1951) |
| | <i>Atractides nodipalpis</i> Thor, 1899 |
| | <i>Atractides ovalis</i> Koenike, 1883 |
| | <i>Atractides pennatus</i> (K. Viets, 1920) |
| | <i>Atractides persicus</i> Pešić and Asadi, 2010 |
| | <i>Atractides protendens</i> K. O. Viets, 1955 |
| | <i>Atractides rutae</i> (Lundblad, 1941) |
| | <i>Hygrobates calliger</i> Piersig, 1826 |
| | <i>Hygrobates decaporus</i> (Koenike, 1895) |
| | <i>Hygrobates fluviatilis</i> (Ström, 1768) |
| | <i>Hygrobates longipalpis</i> (Hermann, 1804) |
| | <i>Hygrobates nigromaculatus</i> Lebert, 1879 |
| | <i>Hygrobates quanaticola</i> Schwoerbel and Sepasgozarian, 1976 |
| Unionicolidae (4) | <i>Neumania deltoides</i> Piersig, 1894 |
| | <i>Unionicola crassipes</i> Müller, 1776 |
| | <i>Unionicola gracilipalpis</i> (Viets 1908) |
| | <i>Unionicola minuta</i> (Soar, 1900) |
| Aturidae (6) | <i>Albia stationis</i> Thor, 1899 |
| | <i>Aturus crinitus</i> Thor, 1902 |
| | <i>Barbaxonella taurusensis</i> Boyacı, Gülle and Didinen, 2012 |
| | <i>Brachypoda mutila</i> Walter, 1928 |
| | <i>Kongsbergia lundbladi</i> Szalay, 1956 |
| | <i>Kongsbergia materna</i> (Thor, 1899) |
| Arrenuridae (13) | <i>Arrenurus bicuspidator</i> Berlese, 1885 |
| | <i>Arrenurus bruzelii</i> Koenike, 1885 |
| | <i>Arrenurus dileri</i> Boyacı and Özkan, 2004 |
| | <i>Arrenurus globulator</i> |
| | <i>Arrenurus fontinalis</i> Viets, 1920 |
| | <i>Arrenurus furcillatus</i> Viets, 1930 |
| | <i>Arrenurus maculator</i> (Müller, 1776) |

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| | <i>Arrenurus nagysalloensis</i> Szalay, 1934 |
| | <i>Arrenurus radiatus</i> Piersig, 1894 |
| | <i>Arrenurus robustus</i> (Müller, 1776) |
| | <i>Arrenurus rodrigensis</i> Lundblad, 1954 |
| | <i>Arrenurus truncatellus</i> (Müller, 1776) |
| | <i>Arrenurus walkanoffi</i> Viets, 1926 |
| Limnesiidae (2) | <i>Limnesia undulata</i> (Müller, 1776) |
| | <i>Limnesia walteri</i> Migot, 1926 |
| Pionidae (4) | <i>Piona alpicola</i> (Piersig, 1896) |
| | <i>Piona carnea</i> (Koch, 1836) |
| | <i>Piona obturbans</i> (Piersig, 1896) |
| | <i>Tiphys torris</i> (Müller, 1776) |
| Mideopsidae (2) | <i>Mideopsis crassipes</i> Soar, 1907 |
| | <i>Mideopsis orbicularis</i> (Müller, 1776) |
| Axonopsidae (1) | <i>Axonopsis paxillatus</i> Uchida and Imamura, 1951 |
| Feltridae (3) | <i>Feltria baderi</i> Özkan, 1982 |
| | <i>Feltria minuta</i> Koenike, 1892 |
| | <i>Feltria rubra</i> Piersig, 1898 |
| Hydrovolziidae (1) | <i>Hydrovolzia placophora</i> (Monti, 1905) |
| Hydryphantidae (6) | <i>Georgella helvetica</i> (Haller, 1882) |
| | <i>Hydrodroma despiciens</i> (Müller, 1776) |
| | <i>Hydryphantes dispar</i> (Schaub, 1888) |
| | <i>Hydryphantes flexiosus</i> (Koenike, 1885) |
| | <i>Hydryphantes parmulatus</i> Koenike, 1912 |
| | <i>Hydryphantes ruber</i> (Geer, 1778) |
| Limnocharidae (1) | <i>Limnocharis aquatica</i> (Linnaeus, 1758) |
| Protzidae (4) | <i>Protzia caucasica</i> (Protz, 1896) |
| | <i>Protzia eximia</i> Protz, 1896 |
| | <i>Protzia rotundus</i> Walter, 1918 |
| | <i>Protzia squamosa</i> Walter, 1908 |

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