Arch. Biol. Sci., Belgrade, 61 (4), 773-776, 2009 DOI:10.2298/ABS0904773S

DISTRIBUTION AND HABITATS OF THE WATER SPIDER *ARGYRONETA AQUATICA* (CLERCK, 1757) (ARANEAE, CYBAEIDAE) IN TURKEY

O. SEYYAR[1] and H. DEMIR[2]

[1]*Department of Biology, Faculty of Science and Arts, Erciyes University,* TR-38039 Kayseri, Turkey
[2]*Department of Biology, Faculty of Science and Arts, Gazi University,* TR-06500 Ankara, Turkey

Abstract — The water spider *Argyroneta aquatica* has been found in different parts of Turkey, and its distribution is presented with a list of new localities. Observations on the ecology of the species are provided, and its habitats are photographed from the collection sites. The data indicate that *A. aquatica* was usually found in eutrophic ponds, marshes, and small lakes in Turkey.

Key words: *Argyroneta aquatica*, Araneae, distribution, new localities, Turkey

UDC 595.44(560)(28):574

INTRODUCTION

Spiders are distributed in all kinds of environments and hence have to adapt to different environmental conditions. However, most species prefer a particular climatic zone and occupy a specific strategic niche in consonance with the availability of prey (Bakker et al., 2006). *Argyroneta aquatica* is certainly one of the most interesting species, since it is the only spider that spends its entire life under water.

Unlike aquatic insects, the water spider is unable to respire in the water because of the lack of gills. However, it makes an air dome in the water and keeps air in it, and feeding, copulation, and oviposition are conducted in the dome. When the water spider swims in the water, air is attached to the surface hairs of its abdomen by means of surface tension (Foelix, 1981).

The first Turkish spider list was prepared by Karol (1967). She mentioned in her list that Rouzsky (1925) recorded *Argyroneta aquatica* for the first time from Turkey, but the exact locality is unclear. In 2005, specimens of this species (only four males) were collected at Karagöl in Beyşehir, Konya (Topçu et al., 2005). We have established new localities of the given species from the western and central parts of Turkey and here provide some ecological data regarding these localities.

MATERIAL AND METHODS

In this study, 19 specimens were collected from seven new localities in Western and Central Anatolia. All specimens were found between spring and autumn of 2008, except those at the locality of Sultan marsh. The examined specimens are deposited in the Arachnology Museum of Niğde University (NUAM). The specimens were preserved in 70% ethanol. Identification was done with the aid of a SZX61 Olympus stereomicroscope.

RESULTS AND DISCUSSION

Argyroneta aquatica was found in different parts of Turkey and has even been seen in running water. We observed egg sacs of *A. aquatica* on *Sphagnum* from some localities. *Sphagnum* spp. occur abundantly at all localities where *A. aquatica* was found. According to Kadono (1981), the activity of sphagnums and presence of organic acid in ponds cause low pH and low dissolved oxygen. Sphagnums also provide the supporting structure of the air dome of water spider (Masumoto et al., 1998). Hence, sphagnums are important for making ideal environmental conditi-

ons for the water spider in its habitat. All specimens were colleceted in different wetlands, usually ponds and small lakes in Western and Central Anatolia. Aquatic plants such as *Phragmites australis*, *Salix alba*, *Lemna minor*, *Typha latifolia*, and *Polygonum amphibium*, etc. were widely found in these wetlands, together with *Sphagnum* spp. Photographs of their habitats, knowledge of localities, and some observations are provided in detail.

Habitat photographs and knowledge of localities are given below.

Locality 1: Afyon Province, Çay district (Çayıryazı village pond), 38°22'468"N 30°44'550"E, 1112 m, 27.VI.2007.

Fig. 1. Çayıryazı village pond.

Locality 2: Afyon Province, Emirdağ district (Pınarbaşı spring), 39°02'877"N 31°19'605"E, 899 m, 19.IV.2008.

Fig. 2. Pınarbaşı spring.

Locality 3: Afyon Province, İhsaniye district, Döğer village (Emre pond), 39°06'607"N 30°26'403"E, 1154 m, 17.VIII.2008.

Fig. 3. Emre pond.

Locality 4: Afyon Province, Çay district (Eber pond), 38°36'875"N 31°09'611"E, 973 m, 10.VI.2008.

Fig. 4. Eber pond.

Locality 5: Denizli Province, Honaz district, Yukarı dağdere village (Saklıgöl lake), 37°46'621"N 29°21'901"E, 959 m, 07.V.2008.

Fig. 5. Saklıgöl lake.

Locality 6: Denizli Province, Çivril district (Işıklı lake), 38°16'077"N 29°55'498"E, 827 m, 18.IX.2008.

Fig. 6. Işıklı lake.

Locality 7: Kayseri Province, Develi district (Sultan marsh), 38°14'057"N 35°11'297"E,1066 m, 03.VII.2003.

Fig. 7. Sultan marsh.

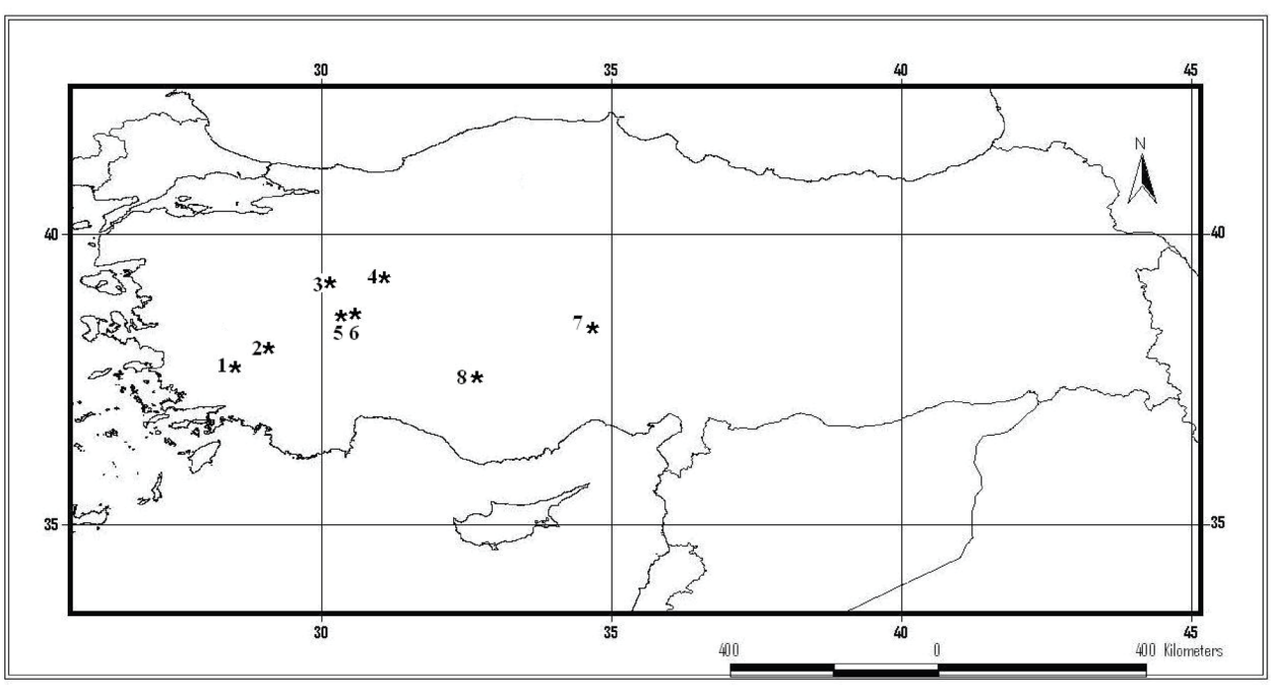

Fig. 8. Map of the distribution of *Argyroneta aquatica* (Clerck, 1757) [*] in Turkey. 1 = Işıklı lake (new locality), 2 = Saklıgöl lake (new locality), 3 = Emre pond (new locality), 4 = Pınarbaşı spring (new locality), 5 = Eber pond (new locality), 6 = Çayıryazı village pond (new locality), 7 = Sultan marsh (new locality), 8 = Karagöl lake.

Acknowledgment — We thank Dr. Fatih Duman (Erciyes University, Turkey) for help in identifying the aquatic plants in wetlands.

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