

A Taxonomical Study on the Rotifera Fauna of Tadım Pond (Elazığ)

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Özet: *Tadım Göleti (Elazığ) rotifera faunası üzerine taksonomik bir çalışma.* Bu çalışmada Temmuz 1999-Haziran 2000 tarihleri arasında Tadım Göleti Rotifera faunası taksonomik olarak incelenmiştir. Çalışma süresince Rotifera'ya ait 10 cinse ait 11 tür tespit edilmiştir.

Anahtar Kelimeler: Rotifera, Fauna, Taksonomi, Tadım Göleti

Abstract: In this study the Rotifera fauna of Tadım Pond was studied taxonomically between July 1999-June 2000. As a result of the study, ten genera and eleven species belonging to Rotifera were determined.

Key Words: Rotifera, Fauna, Taxonomy, Tadım Pond

Giriş

In the lake ecosystems, zooplanktonic organisms, which from the second step of the food chain are important food sources of some invertebrate animals and fishes. Copepods, cladocerans and rotifers are the main groups of zooplanktons. It has been indicated by some scientists that certain species of rotifers have indicator characteristics showing water quality, pollution and eutrophication. (Berzins, 1987; Mikschi, 1993). Studies on rotifers have been conducted in Turkey by Dumont and Ridder, (1987); Tokat, (1975, 1976); Ustaoglu and Balık, (1987); Ustaoglu *et al.*, (1996); Emir, (1989, 1990, 1991); Segers *et al.*, (1992); Altındağ and Sözen, (1996); Göksu *et al.*, (1997); Altındağ, (1999, 2000); Altındağ and Yiğit, (1999); Saler and Şen, (2000); Saler *et al.*, (2000); Saler and Şen, (2001); Bekleyen, (2001); Yiğit, (2002); Saler and Şen, (2002).

Ustaoglu, (1986); Ustaoglu and Balık, (1990a, 1990b); Ongan and Temel, (1990); Emir and Demirsoy, (1996);

Altındağ and Özkurt, (1998) studied the zooplankton of some inland waters and they also determined the seasonal distribution of rotifers in their studies.

Material and Methods

Tadım Pond is located in 15 km southwest of Elazığ and have been used for irrigation since 1968. A small dam was built soil stuffed type in front of a stream. A small stream (Hoş Stream), rain and snow waters feed the pond field. A little amount of fish belonging to Cyprinids live in the pond (Anonymous, 1996).

The study was carried out from July 1999 to June 2000. The samples were collected from 4 stations monthly by using 55 µ pore sized Hydro-Bios Kiel plankton net. The samples were preserved in 4% formalin solution immediately after collection and identification of rotifers were made under Leitz inverted microscope according to Dumont and De Ridder (1987), Edmondson (1959), Grasse (1965), Kolisko (1974), Koste (1978 a,b).

Result and Discussion

During July 1999 - June 2000 ten genera and eleven species belonging to Rotifera were determined in Tadım Pond and given below.

Phylum: Rotifera

Classis: Monogononta

Ordo: Ploima

Familia: Brachionidae

Brachionus urceolaris (O.F.Müller, 1773)

Keratella cochlearis (Gosse, 1851)

Keratella quadrata (O.F. Müller, 1786)

Kellicottia longispina (Kellicott, 1879)

Notholca squamula (O.F.Müller, 1786)

Familia: Colurellidae

Lapedella ovalis (O.F. Müller, 1786)

Familia: Lecanidae

Lecane lunaris (Ehrenberg, 1832)

Familia: Notommatidae

Cephalodella gibba (Ehrenberg, 1838)

Familia: Synchaetidae

Synchaeta pectinata Ehrenberg, 1832

Polyarthra vulgaris Carlin, 1943

Ordo: Flosculariacea

Familia: Conochilidae

Conochilus unicornis Rouselet, 1892

The main part of the identified rotifer species in Tadım Pond are cosmopolitan *Brachionus urceolaris*, *Keratella cochlearis*, *Keratella quadrata*, *Kellicottia longispina*, *Lapedella ovalis*, *Lecane luna*, *Cephalodella gibba*, *Synchaeta pectinata*, *Polyarthra vulgaris* and *Conochilus unicornis* are among these species (Koste, 1978 a, b).

A large number of rotifer species living in Tadım Pond can be considered an indicator of oligotrophic status. Of these species, *K. cochlearis*, *K. longispina*, *N. squamula*, were found in the plankton of oligotrophic lakes (Saunders–Davies, 1989).

Elliott (1977), reported *C. unicornis* and *K. longispina* as indicator of oligotrophy, *K. quadrata* and *K. cochlearis* as indicator of eutrophication.

Saksena (1987), showed *Brachionus* species as indicator of eutrophication. In the study five of the identified species found to be belonging to Brachionidae.

S. pectinata, *P. vulgaris*, *K. cochlearis*, *C. uniconris* and *K. longispina* are predominant in lakes (Kolisko, 1974) *Polyarthra vulgaris* is a perennial species. *Synchaeta pectinata* is a winter form while, *Kellicottia longispina* is dominant during summer. *Conochilus unicornis* is common in lake plankton and this species was the first record in inland waters of East Anatolia, though it was found in the other region of Turkey before (Çavuşcu, Karamuk, Abant and Marmara Lakes) (Demirsoy, 1999).

In conclusion, variety of rotifers that were observed in Tadım Pond, including *Brachionus* and *Keratella* species are inhabitants of moderately clean waters. However, more and more knowledge regarding morphological variations and physiological conditions of rotifers should be studied and then they can be used as better indicators of environmental quality.

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