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Six Rotifer species new for the Turkish fauna

by Ahmet Altındağ, Murat Kaya, Mehmet Borgia Ergönül and Sibel Yiğit

Abstract. The distribution of Rotifers in 18 dam lakes and natural lakes of Inner Anatolia, the Western Black Sea Region, the Mediterranean Region and Eastern Anatolia was studied between 1999 and 2004. Ninety rotifer species were found, of which six (*Brachionus forficula*, *Dicranophorus epicharis*, *Epiphanes macrourus*, *Lecane rhytida*, *Lecane obtusa*, *Testudinella parva*) are new to the Turkish fauna.

Kurzfassung. Zwischen 1999 und 2004 wurde die Verbreitung der Rotiferen in 18 Stauseen und natürlichen Seen in Inneranatolien, der Westlichen Schwarzmeerregion, der Mittelmeerregion sowie in Ostanatolien untersucht. Es wurden 90 Arten gefunden, von denen sechs neu für die Türkei sind: *Brachionus forficula*, *Dicranophorus epicharis*, *Epiphanes macrourus*, *Lecane rhytida*, *Lecane obtusa*, *Testudinella parva*.

Key words. Zooplankton, zoogeography, taxonomy, Turkey, Middle East.

Introduction

In this study, the zooplankton samples obtained from 18 wetlands in Turkey were investigated and 90 species of Rotifers were recorded. Six of these species are new for Turkey.

Material and methods

Rotifer samples were collected by using a standard plankton net (mesh diameter 55 µm). The material was fixed with 4% formaldehyde soon after collection. Species identification was made according to WARD & WHIPPLE (1945), EDMONDSON (1959) and KOSTE (1978). The sampling localities (Fig. 1) are listed below, with the sampling dates given after each locality.

1. Gelingüllü Dam Lake (Yozgat): 23.7.04, 26.8.04, 28.9.04. – 2. Lake Kuru (Karabük): 14.10.04. – 3. Uluabat Dam Lake (Bursa): Seasonal samples between February 2003 and January 2004. – 4. Kapulukaya Dam Lake (Kırıkkale): 28.4.01, 21.7.01, 21.10.01, 28.2.02. – 5. Tekir Pond (Kayseri): 25.6.04. – 6. Ağcaşar Dam Lake (Kayseri): 23.6.04. – 7. Çayırözü Pond (Kayseri): 21.6.04. – 8. Zamantı River (Kayseri): 19.6.04. – 9. Kızılkaya Stream (Ihlara Valley): 22.5.04. – 10. Lake Tortum (Erzurum): 24.9.04. – 11. Araç Stream (Karabük): 14.10.04. – 12. Zap River (Hakkari): Seasonal samples between 15.1.01 and 1.1.02. – 13. Zerne Dam Lake (Hakkari): 15.1.01, 10.4.01, 15.7.01, 15.10.01. – 14. Lake Sihke (Van): 1.5.01, 15.4.01, 15.7.01, 1.11.02. – 15. Lake Titreyen (Antalya): 13.5.2004. – 16. Lake Marmara (Manisa): Seasonal samples between April 2001 and January 2002. – 17. Lake Beyşehir (Isparta): Seasonal samples between May 1999 and April 2000. – 18. Dim Cave (Antalya): 14.5.04.

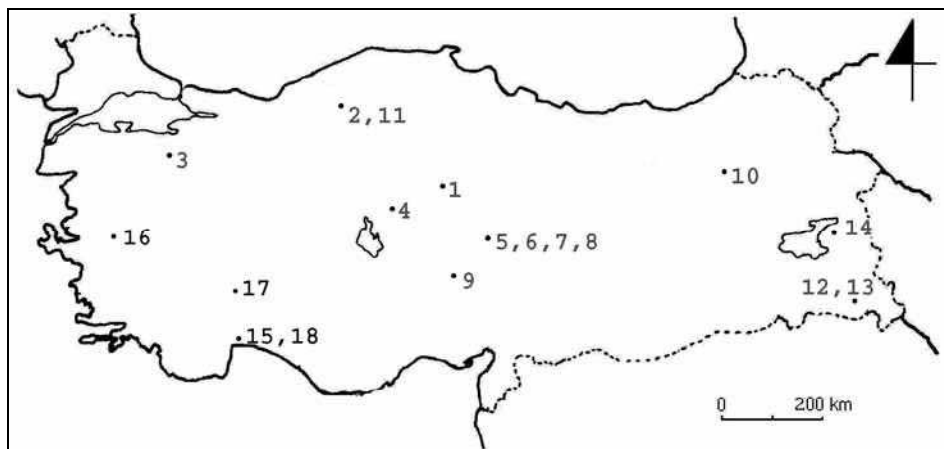


Fig.e 1. The sampling localities. The numbers refer to the localities given in the text.

Results and Discussion

Ninety rotifer species were found in 18 different wetlands of Central Anatolia, the Western Black Sea Region, the Mediterranean region and Eastern Anatolia. The species are listed below in alphabetical order; those marked with an asterisk are new for Turkey. The numbers following the species names refer to the localities given above.

Species list

Anuraeopsis fissa Gosse, 1851: 1, 4, 16.

Ascomorpha ecaudis (Perty, 1850): 4, 16.

Asplanchna girodi (De Guerne, 1888): 4.

Asplanchna priodonta (Gosse, 1850): 1, 3, 4, 5, 12, 16.

Asplanchna sieboldi (Leydig, 1854): 1, 3, 4.

Brachionus angularis Gosse, 1851: 1, 2, 3, 4, 11, 14, 15, 16.

Brachionus calyciflorus Pallas, 1776: 1, 2, 3, 11, 16, 17.

Brachionus diversicornis (Daday, 1883): 3.

Brachionus falcatus Zacharias, 1898: 15.

Brachionus forficula * Wierzejski, 1891: 3.

Brachionus leydigii Cohn, 1862: 13.

Brachionus plicatilis (O. F. M., 1786): 3, 7, 15, 17, 18.

Brachionus quadridentatus Herman, 1783: 1, 2, 3, 4, 15, 16.

Brachionus urceolaris (O. F. M., 1773): 7, 14, 15, 16.

Cephalodella catellina (O. F. M., 1786): 1.

Cephalodella gibba (Ehrb., 1832): 1, 2, 5, 6, 7, 8, 17.

Colurella adriatica Ehrb., 1831: 1, 2, 4, 7, 8, 9, 17.

Colurella colurus (Ehrb., 1830): 2, 7, 15.

Colurella obtusa (Gosse, 1886): 1.

Colurella uncinata (O. F. M., 1773): 2, 15, 17.

Conochilus unicornis Rousselet, 1892: 16.

Dicranophorus epicharis * Harring & Myers, 1928: 13, 15.

Dicranophorus grandis (Ehrb., 1832): 1, 10.

Euchlanis dilatata Ehrb., 1832: 1, 2, 3, 4, 7, 8, 9, 15, 16, 17.

Euchlanis meneta Myers, 1930: 4, 9, 17.

Epiphanes macrourus * (Barrois & Daday, 1894): 3.

Filinia cornuta (Weisse, 1847): 1.

Filinia limnetica (Zacharias, 1893): 1, 16.

Filinia longiseta (Ehrb., 1834): 2, 3, 13, 14, 16.

- Filinia terminalis* (Plate, 1886): 3, 4, 12.
Gastropus styliifer Imhof, 1891: 1, 4, 15, 16.
Habrotrocha sp. (Bryce, 1910): 4.
Hexarthra fennica (Levander, 1892): 4, 17, 18.
Hexarthra intermedia Wiszniewski, 1929: 15.
Hexarthra oxyuris (Sernov, 1903): 4, 15.
Hexarthra mira (Hudson, 1871): 6, 15, 16.
Kellicottia longispina (Kellicott, 1879): 1, 2, 5.
Keratella cochlearis (Gosse, 1851): 1, 2, 4, 6, 7, 10, 11, 12, 13, 15, 16, 17.
Keratella quadrata (O. F. M., 1786): 1, 3, 4, 8, 13, 15, 17.
Keratella tecta (Gosse, 1851): 1, 3, 4, 12, 13, 14, 15.
Keratella tropica (Apstein, 1907): 3, 15, 16.
Lecane bulla (Gosse, 1851): 1, 4, 15, 17.
Lecane closterocerca (Schmarda, 1859): 1, 2, 4, 5, 6, 7, 8, 15, 17.
Lecane elegans (Harring, 1914): 17.
Lecane flexilis (Gosse, 1889): 17.
Lecane grandis (Murray, 1913): 17.
Lecane hamata (Stokes, 1896): 1.
Lecane lamellata (Daday, 1893): 15, 17.
Lecane luna (O. F. M., 1776): 1, 2, 4, 6, 7, 12, 15, 16, 17.
Lecane lunaris (Ehrb., 1832): 1, 2, 4, 5, 6, 12, 13, 15, 17.
Lecane punctata (Murray, 1913): 15.
Lecane rhytida * Harring & Myers, 1926: 15.
Lecane rugosa (Harring, 1914): 2, 15, 17.
Lecane obtusa * (Murray, 1913): 15.
Lepadella acuminata (Ehrb., 1834): 15, 17.
Lepadella ovalis (O. F. M., 1786): 2, 7, 16.
Lepadella patella (O. F. M., 1786): 1, 2, 4, 6, 7, 8, 9, 11, 13, 15, 17.
Lophocharis salpina (Ehrb., 1834): 1, 2, 4, 7, 15, 17.
Monommata caudata Myers, 1930: 15.
Mytilina mucronata (O. F. M., 1773): 2, 7.
Mytilina ventralis (Ehrb., 1832): 2.
Notholca acuminata (Ehrb., 1832): 2, 4, 7, 15, 17.
Notholca salina (Focke, 1961): 15.
Notholca squamula (O. F. M., 1786): 12, 13, 16, 17.
Philodina megalotrocha Ehrb., 1832: 1, 3, 4, 7, 8, 9, 10, 13, 15, 16, 17.
Pompholyx sulcata (Hudson, 1885): 1, 4, 14.
Platylas quadricornis (Ehrb., 1832): 16.
Polyarthra dolichoptera Idelson, 1925: 1, 2, 4, 6, 7, 10, 11, 15.
Polyarthra major Burckhardt, 1900: 16.
Polyarthra remata (Skorikov, 1896): 1, 2, 4, 6.
Polyarthra vulgaris Carlin, 1943: 1, 2, 3, 4, 5, 6, 7, 10, 13, 14, 15, 16, 17.
Rotaria neptunia (Ehrb., 1832): 14.
Rotaria rotatoria (Pallas, 1776): 7, 8, 11, 13.
Synchaeta littoralis Rousselet, 1902: 4, 12, 13.
Synchaeta pectinata Ehrb., 1832: 1, 2, 3, 4, 6, 7, 13, 16.
Synchaeta stylata Wierzejski, 1893: 1, 4.
Testudinella parva * (Ternetz, 1892): 15.
Testudinella patina (Hermann, 1783): 2, 4, 9, 15, 16, 17.
Trichocerca capucina Wierzejski & Zacharias, 1893: 2.
Trichocerca cylindrica (Imhof, 1891): 1, 3, 4, 11.
Trichocerca elongata (Gosse, 1886): 1, 4, 14, 15, 16.
Trichocerca longiseta (Schränk, 1802): 7.
Trichocerca pusilla (Lauterborn, 1898): 3, 4.
Trichocerca rattus (Müller, 1776): 4.
Trichocerca relictata (Donner, 1950): 2, 15.
Trichocerca similis (Wierzejski, 1893): 4.
Trichocerca stylata (Gosse, 1851): 4, 16.
Trichocerca vernalis Hauer, 1936: 7.
Trichotria pocillum (O. F. M., 1776): 2, 4, 7, 15, 17.
Trichotria tetractis (Ehrb., 1830): 4, 6, 14, 16, 17.

Short description of the new records

Brachionus forficula Wierzejski, 1891

Lorica stippled, with four spines, two marginal and two median at the anterior end; lateral spines slightly longer than the median spines, median spines slightly bent inwards, posterior spines two, stout, unequal, bent and with slight knee-like swellings on inner sides of their bases, posterior spines longer than the antero-lateral spines (KOSTE 1978).

Dicranophorus epicharis Harring & Myers, 1928

Body fairly slender, fusiform to subcylindrical. Rostrum very short, broad, rounded. Trunk with fairly distinct lateral sulci. Foot fairly long, with caudal antenna. Toes rather short, straight or very slightly curved ventrally, parallel-sided, tips short, septum absent. Head without palps. Two small red eyespots. Retrocerebral sac rather small, duct well-marked. Salivary glands large. Gastric glands small, ovate. Pedal glands fairly large, pyriform (DE SMET & POURRIOT 1997).

Epiphanes macrourus (Barrois & Daday, 1894)

Body saccate with 3 tufts of cilia on anterior end. Dorsal antenna clearly visible in lateral view. Foot long and wrinkled. In ovigerous female, it bends over the egg. Toes short and blunt. Resting eggs spherical and with numerous minute hair-like projections. Parthenogenetic eggs smaller than resting eggs but larger than mictic eggs (SARMA 1988).

Lecane rhytida Harring & Myers, 1926

Lorica stiff. Dorsal plate anteriorly narrower, medially wider than ventral plate, ornamented. Head aperture margins nearly coincident or parallel, slightly concave, with antero-lateral spines. Ventral plate longer than wide to elongate, with incomplete transverse and longitudinal folds, ornamented. Lateral margins smooth, curved or irregularly folded. Lateral sulci deep. Foot plate broad, coxal plates rounded-triangular. Prepedal fold narrow, elongate, distally with middle projection. Foot pseudosegment projecting, with mediolateral extensions. Toes parallel-sided to medially, then tapering to sharp point. No claws (SEGRS 1995).

Lecane obtusa (Murray, 1913)

Dorsal plate wider than ventral, smooth or weakly ornamented. Head aperture margins coincident, straight or slightly convex. Antero-lateral corners rounded, angulate or with minute spicule. Ventral plate slightly longer than wide, with incomplete transverse and longitudinal folds, not or weakly ornamented. Lateral margins smooth, nearly parallel-sided. No pronounced lateral sulci. Foot plate broad, rounded posteriorly, coxal plates rounded. Prepedal fold narrow, elongate, distally with median projection. Foot pseudosegment simple, not or scarcely projecting. Toe single, parallel-sided, bearing two completely separated claws (SEGRS 1995).

Testudinella parva (Ternetz, 1892)

Body small, more or less rounded. The dorsal plate with one lobe anteriorly. Foot opening large and situated towards the posterior end and elevated. Also somewhat irregularly shaped (CHENGALATH et al. 1973).

DUMONT & DE RIDDER (1987) recorded 96 rotifer species from Turkey; SEGRS et al. (1992) listed 154 species, and ALTINDAĞ & YİĞİT (2001) gave 167 species. Recently, EMİR (2004) reported that the Turkish zooplankton fauna comprises 174 rotifer species. In the present study, we have added 6 Rotifer species which are new to the Turkish fauna, thus increasing the number from 174 to 180.

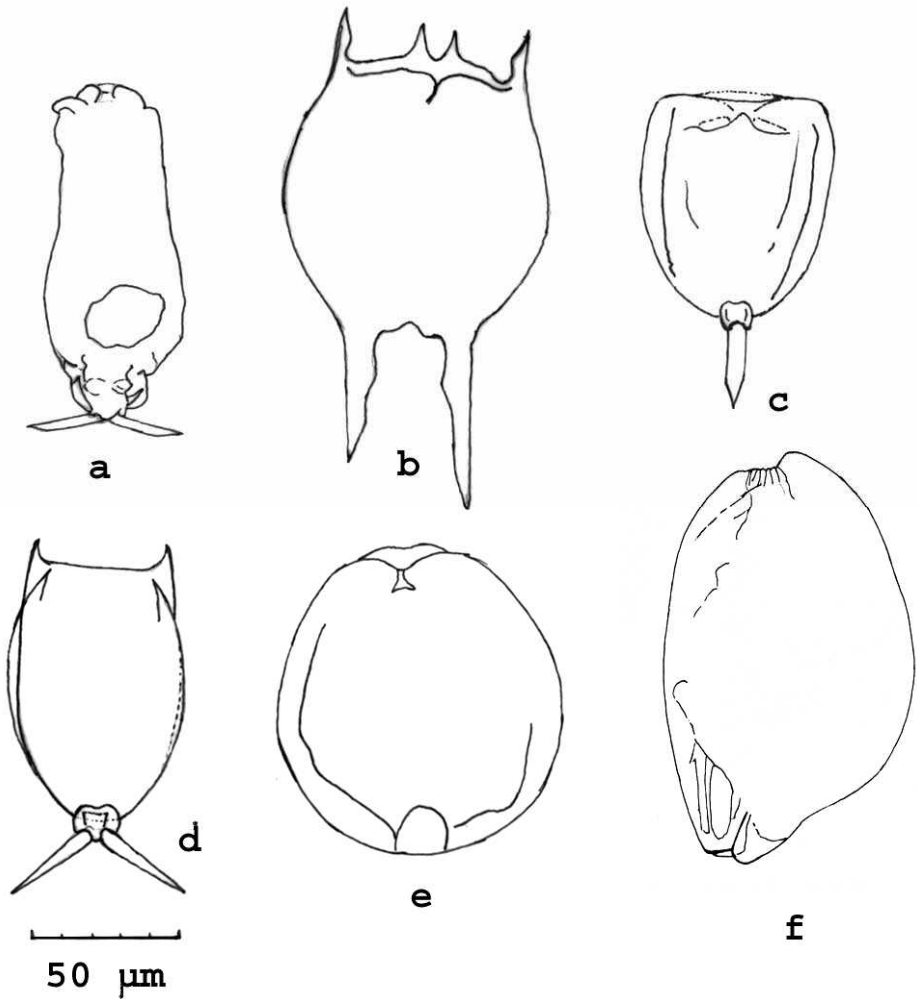


Fig. 2. Drawing of the rotifer species which are new to Turkey. a) *Dicanophorus epicharis*; b) *Brachionus forficula*; c) *Lecane obtusa*; d) *Lecane rhytida*; e) *Testudinella parva*; f) *Epiphanes macrourus*.

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References

- ALTINDAÇ, A. & S. YİĞİT (2001): A short list of Rotifers from Turkey. – *Zoology in the Middle East* 22: 129–132.
- CHENGALATH, R., C. H. FERNANDO, W. KOSTE (1973): Rotifera from Sri Lanka (Ceylon). 2. Further studies on the Eurotatoria including new records. – *Bulletin of the Fisheries Research Station Sri Lanka (Ceylon)*. 24: 29–62.
- DUMONT, H. J. & M. DE RIDDER (1987): Rotifers from Turkey. – *Hydrobiologia* 147: 65–74.
- EDMONDSON, W. T (1959): Rotifera. p. 420–494. In: *Freshwater Biology*. 2nd Edition. – New York.
- EMİR (AKBULUT), N (2004): Limnology in Turkey. In: B. GOPAL & R. W. WETZEL, *Limnology in Developing Countries*. – *International Association of Limnology (SIL)*, 4: 171–218.
- KOSTE, W (1978): *Die Rädertiere Mitteleuropas I. Textband*. – Berlin & Stuttgart, 670 pp.
- SARMA, S. S. S (1988): New records of freshwater rotifers (Rotifera) from Indian waters. – *Hydrobiologia* 160: 263–269.
- SEGBERS, H. (1995): Rotifera. Vol. 2. The Lecanidae (Monogononta). In: H. J. F. DUMONT (Ed.), *Guides to the Identification of the Microinvertebrates of the Continental Waters of the World*. – The Hague.
- SEGBERS, H., N. EMİR & J. MERTENS (1992): Rotifera from North and Northeast Anatolia (Turkey). – *Hydrobiologia* 245: 179–189.
- DE SMET, W. H. & R. POURRIOT (1997): Rotifera. Vol. 5: The Dicranophoridae (Monogononta) and the Ituridae (Monogononta). In: H. J. F. DUMONT (Ed.), *Guides to the Identification of the Microinvertebrates of the Continental Waters of the World*. – The Hague.
- WARD, H. B. & G. C. WHIPPLE (1945): *Freshwater Biology* (2nd Edition). – New York.

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