

## Cladocera and Copepoda (Crustacea) Fauna of İkizcetepeler Dam Lake (Balıkesir, Turkey)

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Received 07 August 2006  
Accepted 08 March 2007

### Abstract

Cladocera and Copepoda (Crustacea) fauna of İkizcetepeler Dam Lake were studied by monthly sampling between August 2004 and May 2005. Examination of the samples revealed a total of 12 species, composed of eight cladoceran and four copepod species.

*Key words:* Fauna, Cladocera, Copepoda

### Introduction

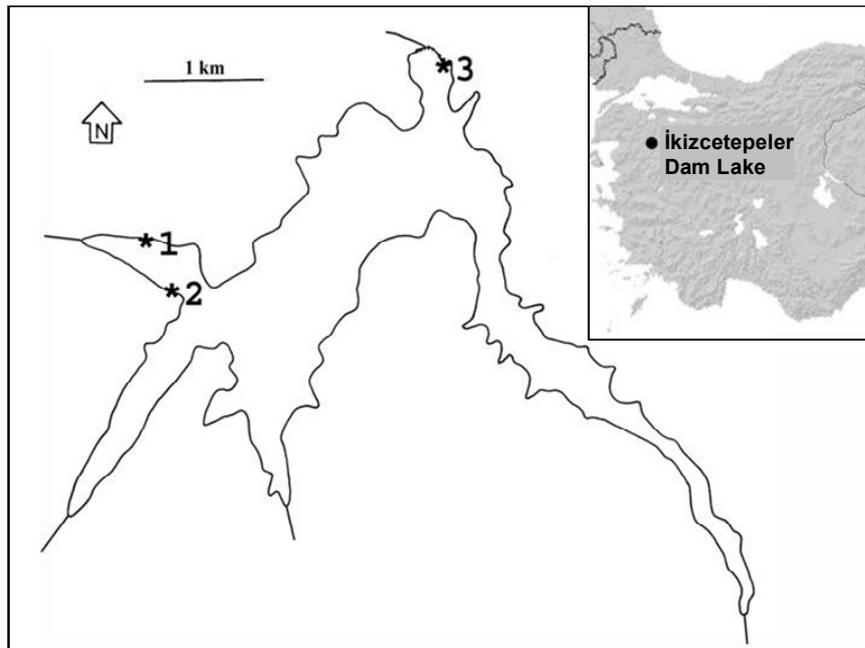
Cladocerans and copepods play a key role in freshwater food chains by transferring energy from primary productivity to higher trophic levels (Lampert and Sommer, 1997). Although studies on Cladocera and Copepoda fauna of many Turkish inland waters have been carried out (Ustaoğlu, 2004) there are still many water bodies, such as dam lakes that need to be investigated.

Cladocera and Copepoda fauna of İkizcetepeler Dam Lake have not been studied so far. The aim of this research was to determine the Cladocera and Copepoda fauna of İkizcetepeler Dam Lake.

### Materials and Methods

#### Study Area

İkizcetepeler Dam Lake is situated 20 km south of Balıkesir province. It was constructed between 1986 and 1992 across Kille stream and is fed by Akçaköy, Taşköy and Kozludere creeks (Figure 1). The lake is used to irrigate Pamukçu and Aslıhantepecik plains and is also used for drinking water. The altitude of the lake is 177 m, the drainage area is 469.5 km<sup>2</sup>, the surface area is 960 hectare, the maximum water capacity is 164.56 x 10<sup>6</sup> m<sup>3</sup>, the maximum depth is 45 m (URL, 2006). Water



**Figure 1.** İkizcetepeler dam lake and sampling stations.

temperature, pH etc. could not be measured during the study period due to lack of equipments.

Monthly sampling at three different stations was made between August 2004 and May 2005 (Figure 1). Sampling could not be made due to unfavorable weather conditions or various technical reasons in May-July 2004, November 2004, January 2005 and February 2005. Samples were collected with 55 µ pore sized plankton net by horizontal hauls and the specimens were immediately preserved in 4% formaldehyde. The specimens were dissected using Olympus SZX12 stereomicroscope and were identified by using Olympus BX-50 differential interference contrast microscope.

The Cladocera and Copepoda species were identified according to Kiefer (1955), Rylov (1963), Dussart (1969), Einsle (1996), Lilljeborg (1900), Negrea (1983), Smirnov (1974), Ueda and Reid (2003). Martin and Davis (2001) were followed for higher classification of the species.

## Results and Discussion

Cladocera and Copepoda species determined are as follows:

Phylum: Arthropoda Latreille, 1829  
Subphylum: Crustacea Brunnich, 1772  
Class: Branchiopoda Latreille, 1817  
Subclass: Phyllozoa Preuss, 1951  
Order: Diplostraca Gerstaecker, 1866  
Suborder: Cladocera Latreille, 1829  
Infraorder: Ctenopoda Sars, 1865

Family: Sididae Baird, 1850

Species: *Diaphanosoma brachyrum* (Lievins, 1848)

Family: Daphniidae Straus, 1820

Species: *Daphnia longispina* O.F. Müller, 1785

Species: *Ceriodaphnia quadrangula* (O.F. Müller, 1785)

Species: *Simocephalus vetulus* (O.F. Müller, 1776)

Family: Bosminidae Baird, 1845

Species: *Bosmina longirostris* (O.F. Müller, 1785)

Species: *Bosmina cornuta* (Jurine, 1820)

Family: Chydoridae Stebbing, 1902

Species: *Chydorus sphaericus* (O.F. Müller, 1776)

Species: *Alona guttata* Sars, 1862

Class: Maxillopoda Dahl, 1956

Subclass: Copepoda Milne-Edwards, 1840

Infraclass: Neocopepoda Huys & Boxshall, 1991

Superorder: Podoplea Giesbrecht, 1882

Order: Cyclopoida Burmeister, 1834

Family: Cyclopidae Dana, 1846

Subfamily: Eucyclopinæ Kiefer, 1927

Species: *Eucyclops serrulatus* Fischer, 1851

Species: *Tropocyclops prasinus* (Fischer, 1860)

Subfamily: Cyclopinæ Dana, 1846

Species: *Cyclops vicinus* Ulyanin, 1875

Species: *Acanthocyclops robustus* (G.O. Sars, 1863)

The monthly distributions of the species are given in the Table 1. All species identified were recorded for the first time in İzikcetepeler Dam Lake although they were reported from several other lakes in Turkey (Ustaoglu, 2004).

Among the species identified, *Cyclops vicinus*, *Acanthocyclops robustus*, *Diaphanosoma brachyrum*,

**Table 1.** Monthly distribution of Copepoda and Cladocera species in İzikcetepeler Dam Lake

Species	Months												
	2004					2005							
	M	J	J	A	S	O	N	D	J	F	M	A	
CLADOCERA	<i>Diaphanosoma brachyrum</i>	x	x	x	+	+	+	x	+	x	x	+	+
	<i>Bosmina longirostris</i>	x	x	x	+	+	+	x	+	x	x	+	+
	<i>Bosmina cornuta</i>	x	x	x	+	-	+	x	-	x	x	-	-
	<i>Ceriodaphnia quadrangula</i>	x	x	x	+	+	+	x	+	x	x	+	+
	<i>Simocephalus vetulus</i>	x	x	x	-	-	-	x	-	x	x	-	+
	<i>Daphnia longispina</i>	x	x	x	+	-	-	x	-	x	x	-	+
	<i>Chydorus sphaericus</i>	x	x	x	-	+	-	x	-	x	x	-	-
	<i>Alona guttata</i>	x	x	x	+	-	+	x	-	x	x	+	-
COPEPODA	<i>Cyclops vicinus</i>	x	x	x	+	-	+	x	+	x	x	+	+
	<i>Acanthocyclops robustus</i>	x	x	x	+	+	+	x	+	x	x	+	+
	<i>Tropocyclops prasinus</i>	x	x	x	-	-	-	x	-	x	x	-	+
	<i>Eucyclops serrulatus</i>	x	x	x	-	-	-	x	-	x	x	-	+

*Bosmina longirostris* and *Ceriodaphnia quadrangula* were recorded in the zooplankton almost throughout the sampling period. In contrast, *Tropocyclops prasinus*, *Eucyclops serrulatus*, *B. cornuta*, *Simocephalus vetulus*, *Daphnia longispina*, *Chydorus sphaericus* and *Alona guttata* were rarely found in the lake.

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