

# Cladocera and Copepoda (Crustacea) Fauna of Çatalan Dam Lake (Adana, Turkey)\*

Ahmet Turan Aladağ<sup>1</sup>, Cahit Erdem<sup>1</sup>, \*Süphan Karaytuğ<sup>2</sup>

<sup>1</sup>Department of Biology, Faculty of Arts and Sciences, University of Çukurova, 01100 Adana, Turkey

<sup>2</sup>Department of Biology, Faculty of Arts and Sciences, Mersin University, 33343, Mersin, Turkey

\*E mail: skaraytug@mersin.edu.tr

**Özet:** Çatalan Baraj Gölü'nün (Adana) Copepoda ve Cladocera (Crustacea) faunası. Çatalan baraj gölünün Cladocera ve Copepoda (Crustacea) faunası Temmuz 2001 ve Haziran 2002 tarihleri arasında aylık periyotlarla alınan örneklerin incelenmesiyle belirlendi. Örneklerin değerlendirilmesi sonucunda, Çatalan baraj gölünde kladoserlerden 8, kopepodlardan ise 2 olmak üzere toplam 10 tür saptanmıştır.

**Anahtar Kelimeler:** Crustacea, Cladocera, Copepoda, Çatalan Baraj Gölü.

**Abstract:** Cladocera and Copepoda (Crustacea) fauna of Çatalan dam lake were studied by monthly sampling between July 2001 and June 2002. Examination of the samples revealed a total of 10 species composed of eight cladoceran and two copepod species.

**Key Words:** Crustacea, Cladocera, Copepoda, Çatalan Dam Lake.

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## Introduction

Although Cladocera and Copepoda fauna of Turkish inland waters have been intensively studied (see Ustaoğlu, 2004 for complete review) there are still many water reservoirs that are in need of investigation, such as dam lakes, rivers and that especially high altitude lakes which can reveal new faunistic records (Ustaoğlu et al., 2005).

Cladocera and Copepoda fauna of Çatalan dam lake have not yet been studied. The aim of this paper was to determine Cladocera and Copepoda fauna of Çatalan dam lake and hence contribute to the fauna of Turkey.

## Material and Methods

Sampling was made monthly at five different stations between July 2001 and June 2002 (Figure 1) in order to determine the Cladocera and Copepoda fauna of Çatalan dam lake. Samples were collected with a 55 µ pore sized Hydro-Bios plankton net by horizontal and vertical hauls and the specimens were immediately preserved in 4 % formaldehyde.

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

Water temperature and pH were measured by using Hanna HI 9025 microcomputer pHmeter; oxygen was measured by YSI-55 oxygenmeter; turbidity was measured by a 25 cm diameter secchi disc.

Çatalan dam lake (Figure 1) is an important inland water reservoir of Southeast of Mediterranean Region which

constructed across Seyhan River in order to prevent flooding and is benefited for irrigation, drinking water and energy supply. The water accumulation studies were started in 1996. The lake is situated at North of Adana province and 25 km away from Çukurova University campus area.

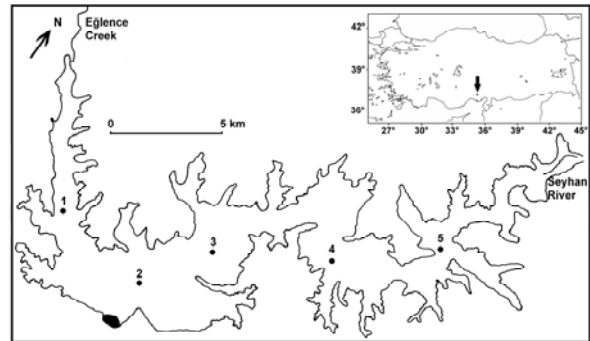


Figure 1. Çatalan dam lake and sampling stations.

## Results and Discussion

Temperature, pH, dissolved oxygen and secchi depth parameters were measured monthly between July 2001 and June 2002. Physical and chemical parameters determined in Çatalan dam lake are given in Table 1. Sampling could not be made due to unfavourable weather conditions in December 2001. Unfortunately oxygenmeter probe was broken down in November 2001 therefore dissolved oxygen parameter could not be measured in the following months.

Table 1. Physical and chemical parameters determined in Çatalan dam lake. T (Temperature), DO (Dissolved Oxygen), SD (Secchi Depth), N (Number of measurements), se (standard error).

Date	N	T (°C)	pH	DO (mgL <sup>-1</sup> )	SD (m)
		Mean ± se	Mean ± se	Mean ± se	Mean ± se
04.07.2001	5	29,16 ± 0,21	8,20 ± 0,02	6,98 ± 0,26	1,52 ± 0,17
28.08.2001	5	30,78 ± 0,12	8,14 ± 0,02	5,18 ± 0,17	2,24 ± 0,45
26.09.2001	5	28,38 ± 0,29	8,19 ± 0,02	5,20 ± 0,10	3,68 ± 1,27
31.10.2001	5	20,58 ± 0,18	8,03 ± 0,05	7,54 ± 0,12	3,68 ± 0,50
28.11.2001	5	14,30 ± 0,11	7,82 ± 0,03	-----	4,20 ± 0,46
16.01.2002	5	10,14 ± 0,31	7,87 ± 0,02	-----	2,84 ± 0,29
14.02.2002	5	11,46 ± 0,30	8,11 ± 0,03	-----	2,94 ± 0,15
31.03.2002	5	15,02 ± 0,31	8,08 ± 0,04	-----	2,88 ± 0,43
30.04.2002	5	20,52 ± 0,28	8,13 ± 0,04	-----	3,72 ± 0,32
29.05.2002	5	25,72 ± 0,45	7,97 ± 0,06	-----	2,76 ± 0,19
27.06.2002	5	28,42 ± 0,28	8,06 ± 0,04	-----	2,60 ± 0,14

Cladocera and Copepoda species determined between July 2001 and June 2002 are as follows:

Phylum: Arthropoda

Subphylum: Crustacea Brunnich, 1772

Class: Branchiopoda Latreille, 1817

Subclass: Phyllopoda Preuss, 1951

Order: Diplostraca Gerstaecker, 1866

Suborder: Cladocera Latreille, 1829

Infraorder: Haplopoda Sars, 1865

Family: Leptodoridae Lilljeborg, 1900

*Leptodora kindtii* (Focke, 1844)

Infraorder: Ctenopoda Sars, 1865

Family: Sididae Baird, 1850

*Diaphanosoma orghidani* Negrea, 1983

Infraorder: Anomopoda Stebbing, 1902

Family: Daphniidae Straus, 1820

*Daphnia cucullata* Sars, 1862

*Ceriodaphnia pulchella* Sars, 1862

*Moina micrura* Kurz, 1874

Infraorder: Anomopoda Stebbing, 1902

Family: Bosminidae Baird, 1845

*Bosmina longirostris* (Müller, 1785)

Family: Chydoridae Stebbing, 1902

*Chydorus sphaericus* (Müller, 1776)

*Disparalona rostrata* (Koch, 1841)

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: Eucyclopinae Kiefer, 1927

*Cyclops vicinus* (Uljanin, 1875)

*Mesocyclops leuckartii* (Claus, 1857)

The monthly distributions of the species are given in the Table 2. Among the species identified, *Diaphanosoma orghidani*, *Ceriodaphnia pulchella*, *Bosmina longirostris*, *Disparalona rostrata*, *Mesocyclops leuckartii* and *Cyclops vicinus* were recorded in the zooplankton almost throughout the sampling period. In contrast, *Leptodora kindtii*, *Daphnia cucullata*, *Moina micrura*, *Chydorus sphaericus* are rarely found in the lake.

As a result of species identification, 8 cladocerans and 2 copepods were identified. All of these species are recorded for the first time in Çatalan dam lake although they have previously been reported (Ustaoglu, 2004).

Table 2. Monthly distribution of Copepoda and Cladocera species in Çatalan dam lake.

Species	Months											
	2001						2002					
	J	A	S	O	N	D	J	F	M	A	M	J
<i>Leptodora kindtii</i>	+	+	-	+	+	X	+	-	-	+	+	+
<i>Diaphanosoma orghidani</i>	+	+	+	+	+	X	+	+	+	+	+	+
<i>Daphnia cucullata</i>	-	-	-	+	+	X	+	+	+	+	+	-
<i>Ceriodaphnia pulchella</i>	+	+	+	+	+	X	+	+	+	+	+	+
<i>Moina micrura</i>	+	+	+	+	+	X	+	-	-	-	+	+
<i>Bosmina longirostris</i>	+	+	+	+	+	X	+	+	+	+	+	+
<i>Chydorus sphaericus</i>	-	-	-	-	+	X	-	-	-	-	-	+
<i>Disparalona rostrata</i>	+	+	-	+	+	X	+	+	+	+	+	+
<i>Mesocyclops leuckartii</i>	+	+	+	+	+	X	+	+	+	+	+	+
<i>Cyclops vicinus</i>	+	+	+	+	+	X	+	+	+	+	+	+

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