

Zooplankton of Lake Gebekirse (Izmir-Turkey)

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Lake Gebekirse is an alluvial dam lake with an area of almost 75 hectares, a maximum depth of less than 5 meters and slightly salty waters (Fig. 1). The lake is fed mostly by rain and some freshwater sources on the northern side. It has a connection to the Aegean Sea via a man-made southern channel to KÜÇÜK Menderes River. The lake is surrounded completely with reeds (*Phragmites australis*). *Veronica anagallis-aquatica* and *Juncus hybridus* were observed in the water. *Juncus acutus*, *Halimione portulacoides* and *Salicornia europaea* were reported from saline marsh area near the lake (SEÇMEN and LEBLEBİCİ, 1982). During our investigation, we found *Moerisia pallasii* (*Moerisiidae-Hydrozoa*), which is a new species for Turkish inland waters (BALIK and USTAĞLU, 1987). There are 11 fish species living in the lake, 3 of them are freshwater species (*Cyprinus carpio*, *Barbus capito*, *Gambusia affinis*) and the rest of them originated from salt water (*Mugil cephalus*, *Liza ramada*, *Liza saliens*, *Liza aurata*, *Anguilla anguilla*, *Dicentrarchus labrax*, *Sparus aurata*, *Solea vulgaris*). The yearly physico-chemical ratios in the surface water of the lake are as follows: Transparency, 35-165 cm; Temperature, 10.8-27.7°C; pH, 7.1-8.0; Dissolved Oxygen (DO), 8.99-12.15 mg l⁻¹; Salinity, 1.976-4.281‰; Ca²⁺, 90.84-175.40 mg l⁻¹; Mg²⁺, 84.30-196.99 mg l⁻¹; Total Hardness, 573.33-1153.00 mg l⁻¹; Temporary Hardness, 10.82-36.40°d; NO₂⁻-N, 1.503-14.830 µg l⁻¹; NO₃⁻-N, 0.000-288.980 µg l⁻¹; NH₄⁺-N, 9.260-495.320 µg l⁻¹; PO₄³⁻-P, 2.860-417.530 µg l⁻¹ (BALIK and USTAĞLU, 1988).

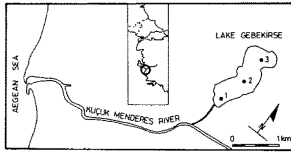


Fig. 1. Location and sampling stations in Lake Gebekirse.

Lake Gebekirse is an eutrophic and brackish lake with a salinity above 3‰ (except in February and March where heavy rainfall occurs).

Zooplankton samples were collected from 3 stations at monthly intervals for a one year period (October 1984-September 1985) with a zooplankton net of 60 µ mesh size. The samples were fixed in 4% formaldehyde.

The zooplanktonic organisms of Lake Gebekirse belong mainly to the *Rotifera*, *Cladocera*, *Copepoda*, *Hydrozoa* (*Limnomedusae*), *Decapoda* (*Zoea* larvae) and *Mysidacea* groups.

A total of 20 species have been identified in the lake, comprised of 11 species of rotifers, 4 species of copepods, 2 species of cladocerans, 1 species of *Limnomedusae*, 1 species of *Mysidacea* and 1 species of decapod zoea larvae.

The monthly distribution of the zooplanktonic organisms found in Lake Gebekirse are given Table 1.

Table 1. Monthly distribution of zooplanktonic organisms in Lake Gebekirse.

SPECIES	MONTHS	O	N	D	J	F	M	A	M	J	J	A	S
HYDROZOA													
<i>Moerisia pallasii</i>		+	-	-	-	-	-	-	-	-	-	-	+
ROTIIFERA													
<i>Brachionus quadridentatus</i>		+	-	+	+	+	+	+	+	+	+	+	+
<i>Brachionus urceolaris</i>		+	+	+	+	+	+	+	+	+	+	+	+
<i>Brachionus calyciflorus</i>		-	-	-	+	+	+	+	+	+	+	+	-
<i>Brachionus angularis</i>		-	+	+	-	+	-	-	-	-	-	-	-
<i>Keratella quadrata</i>		-	-	+	+	+	+	+	+	+	+	+	-
<i>Keratella valga</i>		-	-	+	-	-	-	-	-	-	-	-	-
<i>Notholca acuminata</i>		-	-	+	+	+	+	+	+	+	+	+	-
<i>Notholca squamula</i>		-	-	+	+	+	+	+	+	+	+	+	-
<i>Lecane luna</i>		-	+	-	-	-	-	-	-	-	-	-	-
<i>Hexarthra fennica</i>		+	-	+	-	+	+	+	+	+	+	+	-
<i>Hexarthra oxyuris</i>		-	-	-	+	-	-	-	-	-	-	-	-
CLADOCERA													
<i>Alona rectangularis</i>		-	-	-	+	+	+	+	+	+	+	+	-
<i>Chydorus sphaericus</i>		-	+	+	+	+	+	+	+	+	+	+	+
COPEPODA													
<i>Calanipeda aquaedulcis</i>		+	+	+	+	+	+	+	+	+	+	+	+
<i>Diacyclops bicuspidatus</i>		-	-	-	+	+	+	+	+	+	+	+	-
<i>Mesochra aestuarii</i>		-	+	-	+	+	+	+	+	+	+	+	-
<i>Ergasilus cf. sieboldi</i>		-	+	-	+	+	+	+	+	+	+	+	+
DECAPODA													
<i>Palaemonetes antennarius</i>		-	-	-	-	-	-	-	+	+	+	+	-
MYSIDACEA													
<i>Mesopodopsis slabberi</i>		+	+	-	-	-	-	-	-	-	-	-	+

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