

The plankton composition of Lake Mogan in Central Anatolia

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Abstract. The trophic status of Lake Mogan a shallow, alluvial lake in Central Anatolia, was assessed during a nine-month survey in 1994, including community structure and seasonal distribution of planktonic organisms. Bacillariophyta were dominant among the phytoplankton, followed by Chlorophyta, Cyanophyta, Cryptophyta, Euglenophyta and Dinophyta. Among the zooplankton, *Arctodiaptomus bacillifer*, *Diaphanosoma lacustris* and *Keratella quadrata* were the dominant species. Rotifers were most abundant in spring, Cladocera in summer and copepods in autumn. A rapid increase in zooplankton density correlated with a rise in temperature of 8°C and an increase in the chlorophyll concentration during summer. A total of 21 species of Rotifera, 6 species of Cladocera and 2 species of Copepoda have been identified, in addition to 90 species (from 8 genera) of phytoplanktonic organisms.

Kurzfassung. Im Rahmen einer neunmonatigen Erhebung im Jahre 1994 wurde die trophische Struktur des Mogan Gölü, eines seichten, alluvialen Sees in Zentralanatolien, erfasst und die Zusammensetzung des Planktons und das jahreszeitliche Auftreten verschiedener Planktonorganismen bestimmt. Bacillariophyta erwiesen sich als die dominante Phytoplankton-Gruppe, gefolgt von Chlorophyta, Cyanophyta, Cryptophyta, Euglenophyta und Dinophyta. Beim Zooplankton waren *Arctodiaptomus bacillifer*, *Diaphanosoma lacustris* und *Keratella quadrata* dominant. Rotiferen waren am häufigsten im Frühjahr, Cladocera im Sommer und Copepoden im Herbst. Ein rascher Anstieg der Zooplanktondichte im Sommer korrelierte mit einem Anstieg der Temperatur um 8°C sowie einem Anstieg der Chlorophyll-Konzentration. Insgesamt wurden 21 Arten von Rotifera, 6 Arten von Cladocera und 2 Arten von Copepoda festgestellt, dazu 90 Arten (in 8 Gattungen) aus der Gruppe des Phytoplankton.

Key words. Zooplankton, Phytoplankton, limnology, seasonal distribution, Middle East, Turkey.

Introduction

Lake Mogan is a eutrophic, shallow alluvial lake in Central Anatolia (39°37'N, 39°40'E) with a surface area of 630 ha. The lake is fed mainly by Sukesen stream from the west and Çayır stream from the south and by precipitation. Lake Mogan is an important fishing ground. For a description of the Lake (with map) see AKBULUT (1998). However, the water quality and biological structure of the lake have changed in recent times due to both agricultural and industrial pollution, and this has had a negative effect on the structure and composition of living organisms, including fish. In order to understand this situation better, this study attempts to identify the zooplankton organisms of the lake, to discuss the biomass and seasonal distribution of zooplanktonic organisms together with phytoplanktonic organisms, and to make a general limnological characterisation of the lake.