

**Limnological Assessment On the Shallow Uluabat Lake (Bursa/ Turkey) Plankton  
Composition, Benthic Macroinvertebrates, Chemical And Physical Variables, CCA  
Analysis)**

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**Abstract**

Uluabat Lake is one of the RAMSAR site wetland which is under the threat of human activities such as drainage of irrigable lands and pollution like industrial, domestic and agricultural. The objective of the study was to investigate the distribution patterns and composition of the zooplankton, phytoplankton, benthic macroinvertebrates considering the physical and chemical variables and heavy metals. Data were collected from the shallow Lake Uluabat between 2001-2002 and analysed. A total of 54 zooplankton species were identified; of them 31 species belonging to Rotifera, 13 to Copepoda, and 10 to Cladocera. A total of 191 phytoplankton species were identified: of them 115 belonging to Bacillariophyceae; 40 to Chlorophyceae. Among benthic organisms a total of 21 species and 8281 individuals from three stations were identified. Groups present in large numbers included oligochaete (81%) and chironomidae (18%), with the dominant species of *Chironomus plumosus*. The highest total number of individuals was observed in summer, while the lowest was observed in winter.

During the study the Chl-a concentration ranged from 0.313-110.77 µg/l. Our results showed that phytoplanktonic organisms and rotifers dominated in spring and early summer period while cladoceran species and copepods became abundant in summer and fall periods. Multivariate ordination techniques were applied to investigate zooplankton and benthic macroinvertebrates seasonal and spatial distribution according to physico-chemical variables and heavy metals.

**Key Words:** Zooplankton, Phytoplankton, Benthic Macroinvertebrates, Heavy metals, Physical and Chemical variables, CCA