



## Phytoplankton population structure in Lake Urmia during low water level

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### Abstract

Hypersaline environments are important natural assets that have significant economic, ecological, scientific and natural value. Management and protection of these variable ecosystems depend on understanding the influence of salinity on biological productivity and community structure. The object of the present study is to investigate the most important component in Urmia Lake i.e. microalgae, particularly the impact of salinity level on microalgal structure in order to provide a better understanding dynamics of this unique ecosystem. 3 sampling sites were selected in north and south of Urmia Lake. Samplings were carried out monthly from April 2018 to October 2019. Water level, salinity, were analyzed. Phytoplankton species composition and density were also determined. Totally, seven algal species were identified in Urmia Lake in this study. Bacillariophyta with 5 species was the most abundant algal group in the lake. Chlorophyta and Cyanobacteria both had 1 species, however, *Dunaliella salina* as the only representative of green alga alone composed about 99.5 percent of total algal density of Urmia Lake. This study indicated that salinity and water level have the highest effects on phytoplankton population structure and *Dunaliella* spp. dominance in Urmia Lake. However, other factors such as P and N should be considered in future studies.

**Keywords:** Phytoplankton population, *Dunaliella salina*, Urmia Lake, Hypersaline.