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Assessment of phytoplankton abundance and composition in relation to the physico-chemical properties of Lake Zway, Ethiopia

Alebachew Tadie[1] and **Zelalem Teffera**[2]
[1]University of Gondar, Ethiopia
[2]Wolkite University, Ethiopia

Phytoplankton is the main primary producers of lake pelagic regions. The current study was conducted to assess the abundance and composition of phytoplankton in relation to the physico-chemical properties of Lake Zway water. Therefore, main physico-chemical parameters are temperature, conductivity, pH, transparency and DO were measured *in situ*. Inorganic nutrients and phytoplankton biomass in the form of chl were also determined. The Lake Zway water temperature, conductivity, pH, transparency and DO ranged between 22.2-31.0°C, 411-740 µS/cm, 7.6-8.6, 20–23 cm and 6.7-7.1 mg/L, respectively. Their mean values were 25.0°C, 543.1 µS/cm, 8.3, 21.4 cm and 7 mg/L respectively. The values of phosphate, ammonium, nitrate, nitrite, silicate and chl were ranged between 6-371.0 µg-l, 52.8-174.2 µg-l, 16.8-133.3 µg-l, 2.0-28.2 µg-l, 16.3-27.0 mg/L-l and 12.0-125.4 mg/L-l respectively. The mean values were 118.2 µg-l, 79.9 µg-l, 73.1 µg-l, 11.2 µg-l, 23.7 mg/L-l and 44.6 mg/L-l respectively. A total of 26 genera belonging to 23 families and 3 phyla were recorded. During rainy season Microcystis sp. was the most abundant (17.3%) and during dry season Cylindrospermopsis sp. (16.3%). Phylum Bacillariophyta was the most diverse group consisting of 11 genera. The abundance and diversity of phytoplankton were varied seasonally. Water physico-chemical properties were determined by the abundance and composition of phytoplankton community.

Biography

Alebachew Tadie is from department of biology, college of natural and computational science at University of Gondar, Ethiopia.

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