



RESEARCH PAPER

Assessment of physico chemical characteristics and plankton diversity of Anchuthengu lake ecosystem, Thiruvananthapuram district – South India

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Abstract : Water is the most widespread substance found in the natural environment; liquid, solid and invisible vapour. Fresh water is a crucial resource for human life and natural systems. The quality of water is usually described according to its physical, chemical and biological characteristics. Rapid industrialization and use of chemical fertilizers and pesticides in agriculture are causing heavy and varied pollution in aquatic environments leading to the deterioration in water quality and aquatic biota. Planktons are taxonomically diverse, composed of plants, animals, bacteria and viruses. Globally the biomasses of phytoplankton and zooplankton are about equal, although the doubling time of zooplankton is considerably longer than for phytoplankton. The present investigation was carried out to assess the water quality and plankton diversity in Anchuthengu lake, Thiruvananthapuram, Kerala, India. Analysis of water quality was done with respect to eleven important physicochemical parameters like air and surface water temperature, pH, TDS, salinity, electrical conductivity, alkalinity, hardness, free CO₂, DO and BOD. Conductivity shows high positive correlation with alkalinity and hardness. Alkalinity is positively correlated with hardness. The aquatic flora and fauna in the lake may grow well because the DO value in the current study was over 5 mg/L, and the BOD value also indicates that the lake is less contaminated.. The dominated plankton species identified in the present study were *Spirogyra*, *Chlorella*, *Navicula*, *Pinnularia*, *Oscillatoria*, *Closterium*, *Cosmerium*.

Key Words : Water quality, Plankton diversity

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