

ORL-EB&C-17**Planktons Diversity, Richness and Seasonal Variations in the Eight Lakes of Pokhara Valley, Kaski, Nepal**

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In lake ecosystems, plankton is the main producer, and changes in its community composition impact ecosystem structure, function, and stability. Plankton studies and observation are useful for manage the physio-chemical and biological environment of the aquatic ecosystems, thus playing a vital role in fisheries. Seasonal variations affect the physio-chemical variables thus causing variation in abundance and diversity of plankton. For Physiochemical parameter and plankton analysis samples were collected from Phewa, Begnas, Rupa, Khaste, Dipang, Neureni, Maldi and Gunde lakes in the month of November 2023 (Post- monsoon) and April 2024 (pre-monsoon).

A total of 35 species of zooplankton and 56 species of phytoplankton were recorded from the Pokhara Valley lakes. The results showed that Rupa lake has highest plankton diversity than other lakes (Fig.1). The values of the Shannon–Weaver index (H') for zooplankton showed lowest in the Gunde lake (2.11) and highest in Rupa lake (2.79) in post-monsoon, however in pre-monsoon, it was lowest in the Maldi lake (1.26) and highest in the Begnas Lake (2.75). The H' value recorded in pre-monsoon for phytoplankton lowest in Rupa lake (1.48) and highest in the Phewa Lake (3.17) and in post monsoon lowest in the Maldi Lake (2.34) and highest in the Rupa Lake (3.07). The value of the Pielou evenness index (J) of zooplankton of all lakes was higher in post-monsoon than in pre-monsoon. In both seasons, rotifers were highly dominant in all lakes. it is important to prevent nutritional load on water quality parameters during the urbanization process to control lake N and P and to increase plankton stability and diversity in these lakes.

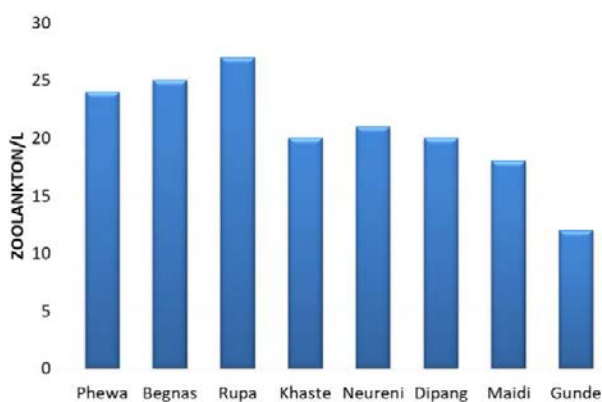


Figure 1. Zooplankton diversity of eight lakes of Pokhara valley

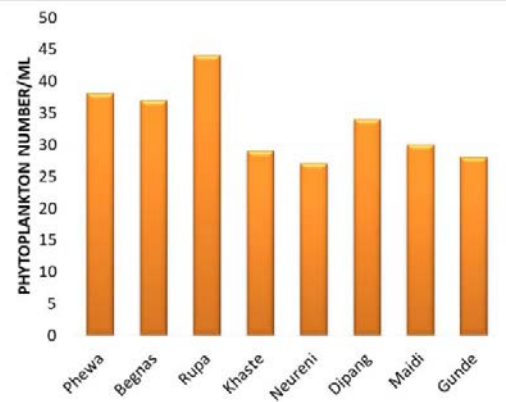


Figure 2. Phytoplankton diversity of eight lakes of Pokhara valley