



Zooplankton as bioindicators of trophic status of two wetlands in Kashmir Himalaya

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ABSTRACT

Zooplankton are considered as bioindicator of eutrophication in aquatic environments because of their prompt response to changing environmental conditions and short life cycle. Zooplankton communities from Wular and Hokersar wetlands of Kashmir (India) were sampled for two years (Sep. 2012- Aug. 2014) in order to ascertain the trophic status of these freshwater bodies of Kashmir using plankton as indicators. As plankton communities are very much sensitive to changes in the environment, therefore, show prompt response in the abundance, density and diversity. The present study discusses Jarnefelts Plankton Quotient (Q) and Brachionus: Trichocerca ratio for the evaluation of the nature of the wetlands both recognized as Ramsar Sites of International Importance. A total of 89 taxa belonging to 33 rotifers, 30 cladocerans, 23 copepods and 03 ostracods in both the wetlands were encountered. Wular lake maintains highest number of 39 eutrophic taxa while in Hokersar wetland only 34 eutrophic species were recorded. Interestingly among the rotifers family Brachionidae was represented by Brachionus calyciflorus, B. bidentata, B. quadridentata and Brachionus sp. in both the wetlands suggesting that there is tremendous anthropogenic pressures on the freshwater bodies of Kashmir. Different species of plankters have wide as well as narrow range of tolerance towards the fluctuating environmental conditions. It can be inferred from the study that the Kashmir wetlands especially Wular and Hokersar are under the tremendous pressures of anthropogenic activities as was reflected by high E/O and B/T values.

Keywords: Zooplankton, bioindicators, trophic status, wetlands, Kashmir