



ECOLOGICAL IMPORTANCE OF ZOOPLANKTON (Brief Article)

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Abstract:-

Zooplankton being small microscopic organisms play an important role in energy transfer of all aquatic ecosystems .They provide useful information about the environmental changes or disturbances hence they are of ecological importance. Change in their abundance and species diversity or community composition can provide important indications of environmental change .

Key words:- Zooplankton , Ecological Importance , Environmental change ,Disturbances

Introduction:-

Zooplankton are small floating organisms that drift with water currents living in pelagic and littoral zones of oceans , rivers , lakes ,streams and ponds.They are microscopic ,unicellular or multicellular forms . Zooplankton play an important role in aquatic ecosystem by conserving energy from Phytoplankton which are primary producers to fishes . They form an integral component of aquatic food webs, contribute significantly to biological productivity and play an important role in energy transfer in aquatic systems (Tunde, 2009).Zooplankton communities are typically diverse and occur in almost all lakes and ponds and respond to a wide variety of disturbances including nutrient loading (Pace; 1986, Dodson; 1992). As a result any change in the community composition and abundance pattern can provide useful information about the environmental changes or disturbances occurring in their habitat. The shallow lakes are much influenced by the intensive exchange of nutrients between their water columns and sediments (Vicente *et al.*, 2006). Due to the excessive nutrient condition the loss of structural diversity and decrease in biodiversity at upper trophic levels are generated. The eutrophication of lakes often leads to change in species composition due to different nutrient demands.Both biotic and abiotic parameters play an important role in the seasonal succession of zooplankton (Wolfenbarger, 1999). Growth and distribution of Zooplankton depend on the suitability of abiotic (e.g.,transparency,temperature, conductivity, dissolved oxygen and nutrients, etc.) and biotic (e.g.,food availability, competition, predation, etc.) parameters.

For understanding the level of trophic progression of a water body it is important to know the abundance, species diversity and spatial distribution of the zooplankton community in it . Zooplankton community of lacustrine habitats is highly sensitive to environmental variations. As a result change in their abundance and species diversity or community composition can provide important indications of environmental change or disturbances, hence they are of ecological importance. Rotifera is a phylum of primary fresh water Metozoa containing three groups; the Monogononta, Bdelloida and Seisonidea. Monogononts, form a diverse constituent of the fauna of standing fresh water ecosystems. Their wide distribution and abundance explain their standing as one of the three main groups of fresh water Zooplankton in limnological studies along with the Cladocera and Copepoda.

Rotifers play an important role in fresh water environment, particularly in waters of higher trophic stage. Their life cycles are influenced by temperature, food and photoperiod and they quickly increase in population under favourable environmental conditions (Dhanapathi, 2000). Their unique manner of occupying diverse niches of continental water ecosystems is influenced by the interaction of physical,

chemical and biological parameters. These factors determine the complexity that results in the presence of different species (Keppeler and Hardy, 2004). Rotifers serve as indicators of water quality. Many Rotifers are known to indicate pollution (Maemets, 1983) and eutrophic levels in water bodies.

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