

Diversity of Zooplankton in Water Bodies around the Parli-Vaijnath

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Abstract: *Zooplankton are found in freshwater reservoirs ponds and streams. Zooplankton is type of plankton that consists of tiny free floating animals. The present investigation deals with the study of zooplankton diversity in water bodies like Kanerwadi River , Wan Dam and Jirewadi River around Parli-Vaijnath Maharashtra. Zooplankton are microscopic invertebrate animals that drift in water. They are at the base of food chain, feeding on microscopic plants and being fed upon by aquatic insects. The zooplankton plays an important role for maintaining the productivity of the water bodies. In present investigation there are 16 specie sof zooplankton belonging to 4 classes such as Rotifers [6], Cladocera [5], Copepoda [4] and Protozoa[1] are found . The present work was carried out during the June 2018 to May 2019.*

Keywords: Diversity, Zooplankton, Parli-Vaijnath

1. Introduction

Plankton is the productive base of fresh water ecosystem providing food for larger animals. The plant like community of plankton is called phytoplankton and the animal-like community is called zooplankton. Zooplanktons are a type of heterotrophic plankton that range from microscopic organisms to large species. Zooplankton are drifting ecologically important organisms that are an integral component of the food chain. Planktonic communities in natural aquatic ecosystems serve as a key group for energy production [Alikunhi et al 1955]. All aquatic animals depend directly or indirectly on plankton and a healthy zooplankton community in aquatic ecosystems is necessary for productivity of the system. The studies on zooplankton throughout the world were undertaken by various investigators like Rajapaska and Fernando 1982, Sharma 1983, Rao et al 1994, Gupta 2002, Arora and Mehra 2003a.

In ecologically zooplankton are one of the most important biotic components influencing all the functional aspects of aquatic ecosystem, such as food chain, food web, energy flow and cycling of matter [Dadhick and Sexena 1999, Sinha and Islam 2002].

2. Materials and Methods

The plankton samples were collected from Kanerwadi River , Wan Dam and Jirewadi Rivers from Parli-Vaijnath Taluka. Samples were filtered 50 liters of water through plankton net solution. Identification of zooplankton species were done by using taxonomic keys [Battish 1992, Michael and Sharma 1988, Patil and Gounder 1989 and Dhanapathi 2000] under light microscope.

3. Result and Discussion

In the present study the zooplankton diversity comprises of total 16 species belonging to Rotifers [6], Cladocera [5], Copepoda [4] and Protozoa [1].

1) Rotifers

In the present work 6 species are reported from rotifers and these are Brachionus, Keratella, Euchlanis, Trichocerca, Tripleuchlanis, Lacane. Rotifers are commonly called as Wheel animals, commonly found in fresh water environments. Some rotifers are an important part of the fresh water zooplankton. Ganapati and Pathak 1969, Choubey 1991 reported the rotifers in their studies on the different water bodies in India. Rotifers were found to be maximum in summer season.

2) Cladocera

During present study 5 species are recorded from cladocera i.e. Chydorus, Ceriodaphnia, Bosmina, Pleuroxus, Alona. Cladocera are small crustaceans and commonly called as water fleas and common in aquatic habitats. Cladocerans serve as an important food for small fish, aquatic insects. Nayar 1971 and Murugan et al 1998 reported the cladocera in different water.

3) Copepods

In the present communication 4 species i.e. Cyclops, Mesocyclops, Eucyclops and Macrocyclus of copepods are recorded. Copepods are small crustaceans found in every freshwater habitat. Copepods are of great ecological importance providing food for many species of fish. Copepods comprise the most important group [Choudhary 1994, Sarkar et al 1986]. Copepods were maximum in summer.

4) Protozoans

In the present investigation 1 species i.e. Paramoecium caudatum of protozoa is recorded. Protozoa are single celled organisms either free living or parasitic which feed on organic matter such as other microorganisms or organic tissues and debris [Panno, Joseph 2014 and Bertrand et al 2015]. The protozoans are important in the food chain in an aquatic ecosystem. Raghvandan 1992, Saxeena and Mishra 1990 reported Diffugia which was present in polluted water.

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Table 1: Zooplanktons in water bodies around Parli-Vajnath

S. No.	Class	Water Bodies	No. of Species	Name of Species
1	Rotifers	1] Kanerwadi River 2] Wan Dam 3] Jirewadi River	6	1] Brachionus 2] Keratella 3] Euchlanis 4] Trichocera 5] Tripleuchlanis 6] Lacane
2	Cladocera		5	1] Chydorus 2] Ceriodaphnia 3] Bosmina 4] Pleuroxus 5] Alona
3	Copepoda		4	1] Cyclops 2] Mesocyclops 3] Eucyclops 4] Macrocyclus
4	Protozoa		1	1] Paramoecium caudatum

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