



ZOOPLANKTON DIVERSITY FROM WATER RESERVIOR OF DHANORA WATERBODIES, DIST. BEED (M.S) INDIA.

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ABSTRACT:

The present role of human environmental preservation and human health is important factors. Animals of fresh waters are extremely diverse are the indicators of water pollution and include representatives of nearly all phyla. The zooplankton are heterotrophic group of animals suspended in water with limitations of locomotion migrations they are usually more weight than water, and regularly in motions to lower depths. They are grouped in to four major animal groups. Protozoa, rotifers, and two subclasses of the Crustacea, the cladocerans and copepods. The present investigations qualitative and quantitative analysis have been carried out on same water bodies identified 23 species belonging to three major orders Cladocera, (10) Rotifers (07), Copepods (06). The Cladocerans dominated having ten species followed by Rotifers with seven and copepods six species

Key Words: Diversity, Zooplanktons, Dhanora water bodies.

INTRODUCTION:

About 71% of water surface covered with water. Its surface to an average depth of 380 meter over 99% of this immense hydrosphere is deposited in ocean depressions but only 2.7% of the total water is fresh water of which 1% is ice free water found in the rivers, tributaries, rivulets, streams, lakes, lakes, canals, tanks, ponds etc. It has been estimated that only 0.00192% of the total water on earth is available for human consumption. (Trivedi, 1998). A reservoir is a unique manmade ecosystem where fluvial and lacustrine condition co-exists. (Jhingran, 1975) The dam Sina is 1584 sq. km. Such a shallow water body has been found to be much more productive than large impoundment (Holt, 1966). Therefore first priority should be given to the exploitation of these water bodies.

The major habitats in fresh water include the lotic bodies (Rivers and streams), lentic bodies (Ponds and lakes) ground water zones and of ecotonal water bodies where aquatic habitats meet. (e.g. wet lands, marshes and estuaries) (Palmer et. al. 1997) Manmade lakes and reservoirs are becoming very important water resources throughout the world because of the primary concern of man were thought to be for meeting his basic food requirements.

The primary productivity of the Phytoplankton is one of the most important sources of energy input in aquatic ecosystem. This productivity is largely dependent on the nutritional status of the aquatic body in relation

with other physicochemical parameters. Some workers such as Sreenivasan, (1970, 1976) Gapnapati and Sreenivasan (1970), Vijayraghvan (1971), Vass and Zutshi (1978), M Babu Rao et. al. (1981), Desai and Soni (1994), K Gurusamy and V. Ramadas (2000) have carried out studies on primary productivity of freshwater bodies in India.

Interaction between zooplankton and phytoplankton are accentual topic in plankton ecology. Zooplanktons are primary consumers of phytoplankton's and provide the main food item to fishes and can be used as indicator of the trophic phase of water body (Mathew 1975, Verma and Datta Munshi 1987). Zooplanktons play integral role in transferring energy to the consumers, hence they form the next higher trophic level in the energy flow after phytoplankton. Aquatic weeds (Macrophytes) are important component of an aquatic ecosystem. They provide support, shelter and oxygen to other organism and play an important role in biological production. Their diversity and biomass influence primary productivity and complexities of trophic status (Singh 1991, Verghese 1992).

Study area: - The Dhanora Dam is an irrigation project with an earthen dam on Kambli River near village Dhanora. The river Kambli is a tributary of the river Bhīma in a Krishna basin. It irrigates the land in the Ashti Tehsil of Beed district. The Dam is located at an altitude of 19^o.066 N and longitude 75^o.042 E Tal, Ashti,

Dist. Beed (M.S) India. At Balaghat ranges locally called Garbhgri ranges (Gazette of India 1884, 1976)

MATERIALS AND METHODS :

The qualitative water sampling of zooplankton was done with the plankton net of mesh size 60 - 75 μ in the early morning whereas quantitative samples were collected by one hundred liters of water was flited through a blotting silk plankton net number 25 with diameter of 25cm and length 50cm. Filtered water samples collected and in 50ml capacity of bottles and preserved in 4 percent formalin solution. The samples were taken to the laboratory observed and identified under research microscope and sorted in to different groups (zooplanktons were counted by counting device Sedgewick Rafter Cell) by suitable text keys given by Pennak (1946), Tonapi (1980), Sehgal (1983), Trivedy (1984) Kodarkar (1998) (Petersen, 2010; Yule and Sen, 2004). Taxonomic identification was done.

RESULT & DISCUSSION :

Many protozoans feed on bacteria-sized particles and thereby utilize a size class of bacteria and detritus generally not utilized by large zooplankton, most rotifers are sessile they form major parts of the zooplankton.

The zooplankton community of Dhanora water Resiver identified 23 species belonging to three major orders Cladocera, (10) Rotifers (07), Copepods (06) the relative occurrence of the waterbodies is shown in the Table -1. The Cladocerans dominated having ten species followed by Rotifers with seven and copepods six species

The study of diversity of zooplanktons during study periods there are 16 genera observed which belonging groups Rotifers, Cladocera, and Copepods. The Cladocerans was the most dominating, diversified group representative of six genera, *Ceriodaphnia*, *Daphnia*, *Bosmina*, *Diaphanosoma*, and *Moina Macrotrix*. The Rotifers was the another dominating, diversified group which includes six genera *Brachionus*, *Keratella*, *Asplanchna*, *Trichocera*, *Lecane*, *Testudinella*. Copepods with four genera *Mesocyclops*, *Eucyclops*, *Mysis*, *Nauplius*

The maximum zooplankton diversity observed in the months of winter. The population of the rotifers maximum during the month of Winter (Rotifers. \geq Cladocerans \geq Copepod)

whereas the populations of copepods during the month of Summer increased (Copepod \geq Rotifers \geq Cladocerans). The population occurrence in the order of maximum to minimum as Rotifers – Cladocera – Copepods. Like results was observed by Chavan (2003), Abdar M.R. (2007) Thomas (1999). The more counts of copepods were seen in summer (February, March, and April) this is due to the abundant amount of their favorite food such as ages and diatoms.

Acknowledgment:

Author is grateful to the Principal Shri Amolak Jain's Vidya Prasarak Mandals,

Smt. Shanabai Kantilal Gandhi Art's, Amolak Science, and Panalal Hiralal Commerce college kada for providing laboratory facilities. Also thankful to local persons Shri. Ghodke P.A to help me for collections of samples.

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Table -1 Check List of Zooplanktons identified during study periods the Dhanora waterbodies

ORDERS	FAMILY	GENUS / SPECIES
ROTIFERA	Brachionidae	Brachionus angularis B. calyciflorus Keratella tropica
	Asplanchnidae	Asplanchna priodonta
	Trichocercidae	Trichocera rattus
	Lecanidae	Lecane bulla
	Testudinellidae	Testudinella patina
CLADOCERA	Daphnidae	Ceriodaphnia cornuta Daphnia carinata
	Bosminidae	Bosmina longirostris Bosmina fatalis
	Sididae	Diaphanosoma excisum
	Moinidae	Moina micrura
	Chydoridae	Alona quadrangularis Alona rectangula A. verrucosa
	Macrotrichidae	Macrotrix spinosa
COPEPODA	Cyclopidae	Mesocyclops leuckarti Mesocyclops hyalinus Eucyclops serrulatus
	Diaptomidae	Filipinodiaptomus insulanus
	Pseudodiaptomidae	Mysis sp Nauplius larvae