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The Study on Diversity of Phytoplankton in Wan Reservoir at Nagapur, Marathwada Region

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Abstract: ***Phytoplankton are chlorophyll bearing suspended microscopic organisms consisting mainly of algae. The majority of the members of Phytoplankton belongs to Chlorphyceae, Cyanophyceae&Bacillariophyceae group of algae. Phytoplanktons are basis members of aquatic ecosystems and hence change in phytoplankton population has a direct link with the change of water quality in any aquatic medium. The number & species of Phytoplankton serves to determine the quality of water body (Bahura 1991). Phytoplankton being the Primary producer forms the lowest tropic level in the food chain of fresh water ecosystem. The present paper deals with the study of diversity of phytoplankton in Wan reservoir. The work was carried out during year June 2017 - May 2018.The present study showed that there are 15 species of Phytoplankton were found which belongs to 6 species from Chlorophyceae, 4 species form Cyanophyceac, 3 species from Bacillariophyceae, 2 species from Euglenophyceae.***

Keywrods: Phytoplankton, Wan reservoir, Parli Vaijnath

1. Introduction

The Wan reservoir is medium sized reservoir. Government of Maharashtra construction across Wan river in 20th November 1963. Wan reservoir are located at Nagapur, Parli-Vaijnath, Tq.Parli-Vaijnath, Dist.Beed, Marathwada region (M.S.) India. It is 14 Km away from Parli-Vaijnath town & its longitude $76^0$27E. The reservoir is bounded by latitudes $18^0$25' to $18^0$15' to $76^0$15'. The earthen dam of 1981 meters height & 2188.40 meters in length on Wan River. The reservoir have 2371.40Km. Catchment area gross storage capacity 25.181 MCM, more than 51 villages of Beed, Parbhani district have been benefited from this project. This project used by irrigation, fishery purpose, it also supply the drinking water to Parli-Vaijnath town.

Phytoplanktons are photosynthetic & acts as the primary producers in an aquatic environment. The Phytoplanktons are richest source of aquatic animals.

In Indian standing water bodies many authors studied Phytoplanktons, nutrient supply & productivity as Singh (1999), Verma (1995), Sreenivasan (1974) , Pandey*et al (*1990). Many wokers have published their work on aquatic environment & ecology of Phytoplankton in fresh water Dwivedi&Pandey (2002), Nandan (2003), Sirsat *et al* (2004).

The productivity of the Phytoplankton depends upon the quality of water. The primary productivity of the Phytoplankton is one of the most important source of energy input in aquatic ecosystem. The productivity is largely dependent on the nutritional status of the aquatic body. Workers like Verma 1995, Meshram 1996, M. BabuRao*et al*(1981) have carried out studies on primary productivity of freshwater bodies in India.

2. Material & Method

During the present study the water samples were collected from the Wan reservoir, Nagapur, Dist. Beed. Plankton samples were collected with standard plankton net of silk bolting cloth number 25.The amount of water filtered was about 200 liters. The samples collected were concentrated to 50 ml volume & Preserved in 4% formaline. Each species of Phytoplankton sample were identified under research microscope using suitable key & standard texts given by APHA (1985), Tonapi 1980.

3. Result & Discussion

The 15 species of Phytoplankton were observed in Wan reservoir, 6 species from Chlorophyceae& these are Spirogyra condensatea, Cladophorafracta, Chlorella vulgaris, Scendesmusquodricauda, Closterium sp., Pediastrum simplex, 4 species from Cyanophyceae& these areNostoc sp., Oscillatoriclorina, Oscillatorialimosa, Anabaena fertilissima, are found, 3 species from Bacillariophyceae& these are Naviculaviridula, Synedra ulna Cyclotellameneghiniana were found & two species from Euglenophyceae& these are Euglena Viridis& Euglena acus were recorded. Out of these four classes Chlorophyceae were dominant probably due to favourable environmental conditions (Kamawat & Jawale 2003, Yeole&Patil 2005,Pawar *et al* 2006) followed by Cyanophyceae. Euglenophyceae was observed to be less in quantity (Somani & Pejavar 2003)

Table 1: List of Phytoplankton Recorded in Wan Reservoir

Sr. No.	Phytoplankton	Species
1	Chlorophyceae	1. Spirogyra condnesata
		2. Cladophorafracta
		3. Chlorella vulgaris
		4. Scendesmusquodricauda
		5. Closterium sp.
		6. Pediastrum simplex
2	Cyanophyceae	1. Nostoc sp.
		2. Oscillatoriaclorina
		3. Oscillatorialimosa
		4. Anabaena fertilissima
3	Bacillariophyceae	1. Naviculavirdula
		2. Synedra ulna
		3. Cyclotellameneghiniana
4	Euglenophyceae	1. Euglena viridis
		2. Euglena acus

4. Acknowledgement

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