DIVERSITY OF PHYTOPLANKTON OF FRESHWATER OF PAINTAKLI DAM OF BULDHANA DISTRICT (M.S.), INDIA

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Abstract

The availability of good quality water is an indispensable feature for preventing diseases and improving quality of life. Investigative study is related with analysis and diversity of phytoplankton of Paintakali dam of Buldhana District (M.S.) for duration of one year from July 2016 to June 2017. Investigated study of planktons was divide into phytoplanktons from these phytoplankton were belong to genera of different groups like as Chlorophyceae, Euglenophyceae, Bacillariophyceae and Myxophyceae. During investigation period Chlorophyceae are higher in population density and dominant from different of spots of Paintakali dam.

Keywords:Bacillariophyceae, Phytoplankton, Chlorophyceae, Paintakali dam.

INTRODUCTION

The problems relates to water borne diseases attract the attention to the urgency for investigating causes and suggest remedies to prepare future plan of action for maintenance of potable waters and related development issues. It is essential for all living things for the survival on this earth planet. Planktons are the groups of microscopic plants and animals which are minute and able to spend their whole life floating in the water is called as planktons. The name plankton was given by Hansen. Plankton has very flexible locomotary organs. They are unable to move rapidly and also unable to determine direction of their movement. Water is the nature's most wonderful, abundant and most useful chemical compound created by nature with biological, chemical, physical properties, as well as diversity of phytoplankton's and unique characteristics.

It is the most abundant and elixir of life and essential chemical, but this vast natural resource has been depleted and turned into scarce commodity with increased usage catering to the needs of ever-expanding population. There is almost a global shortage of water and the world's most important and front rank problem is to supply and maintain cheap and clean drinking water today to everyone.

The present investigation involves collection, observation and identification of phytoplankton found in water of Paintakli dam of Buldhana district located in Maharashtra, India.

MATERIALS AND METHODS

Sample Collection and Analysis-

In the present study the phytoplankton diversity and the physico-chemical properties of the lake water were studied for monsoon and post monsoon season. Monthly collections of water samples were collected from sampling site for one complete year from July 2016 to June 2017. Samples are collected from sampling sites on months first week at 6.00 a.m. to 10.00 a.m. Plankton net of bolting silk no. 25 was used for sampling purpose. Samples were taken at mid stream 0.5 to 1 m below the surface of water. Plankton samples were collected, fixed and preserved in 5% formalin. Samples were observed under light microscope at 40 – 100X resolution power and identified up to genus and species level with the help of books and keys. (Patterson, 1998 Adoni, 1985).

RESULT AND DISCUSSION

In present investigation phytoplankton were belong to genera of different groups like as Chlorophyceae, Euglenophyceae, Bacillariophyceae and Myxophyceae. During

investigation period Chlorophyceae are higher in population density and dominant. Over that Euglenophyceae are showing less population in the study period. Similar results was found to Manoj Kumar et al, (2015) reported phytoplankton diversity, Chlorophyceae (12 species of 11 genera), Euglenophyceae (3 species of 2 genera), Bacillariophyceae (5 species of 5 genera), and Cyanophyceae (15 species of 7 genera) from Yamuna River at Kalpi. Kadam et al, (2014) reported findings on phytoplankton diversity of reservoirs in Parbhani District, Maharashtra, India they find 37 species of Chlorophyceae, 47 species of Cyanophyceae, 34 species of Bacillariophyceae, 07 species of Euglenophyceae, and 04 species of Dinophyceae. Bamane et al, (2013) studied on phytoplankton diversity of Upvan-lake, Thane, Maharashtra, India reported in his investigation phytoplankton species of Chlorophyta are 13 species, Bacillariophyta 05 species, and Cyanophyta are 02 species.

Sr. No.	Taxonomic Description of Phytoplankton Diversity	
1.	**Phylum : Chlorophyceae**	Scenedesmus dimorphus
2.	**Phylum : Euglenophyceae**	Euglena acus
		Euglena triptis
		Phacus orbicularis
3.	**Phylum : Bacilirophyceae**	Cocconeis sp.
		Navicula rhomboide
		Navicula mutica
		Synendra ulna
		Synendra acus
4.	**Phylum : Myxophyceae**	Oscillatoria
		Microcystasis aeruginosa
		Microcystasis protocystis
		Sphaerocyatis schroeteri
		Oocystic saliteria
		Aphanocapsa
		Lynghya

CONCLUSION

The present investigation has been focused on plankton's diversity including phytoplankton of Paintakali dam water with specific environmental associations. This investigation also focuses on reducing the water pollution due to human activity and helps in improve social and cultural importance of dam and its scenario. Our results will help for assessing the potable nature of dam water.

REFERENCES

Adoni A. D. (1985): Work book on limnology., **Pratibha Publications, Sagar (M.P.).**

Bamane S., Ghondhalekar S., and More K. (2013): Study of phytoplankton diversity and physico-chemical parameters of Upvan-lake, Thane, Maharashtra, India., ***National Conference on Biodiversity: Status and Challenges in Conservation.,*** pp. 1-6

Kadam S. U., Kadam S. S., and Babar M., (2014): Phytoplankton diversity of reservoirs in Parbhani District, Maharashtra, India., ***Int.J.Curr.Microbiol.App.Sci. (2014) 3(8).,*** pp. 459-466.

Manoj Kumar and Khare P.K. (2015): Diversity of Plankton and their Seasonal Variation of Density in the Yamuna River at Kalpi, District Jalaun (U.P.) India., ***Journal of Global Biosciences., Vol. 4 (7).,*** pp. 2720-2729.

Patterson D. J. (1998): Free-living Freshwater Protozoa., **Manson Publishing Ltd 73 Corringham Road, London NW1 7DL.**