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PHYTOPLANKTON DIVERSITY OF PIMPLA (DHA) TALAV, AMBAJOGAI, DIST-BEED, MAHARASHTRA

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ABSTRACT

The role of phytoplankton in energy budgets of aquatic ecosystem and their importance in establishing steps is well known. The phytoplankton density in water bodies are chief source of food for many fishes and aquatic animals' .During present investigation algal Phytoplankton diversity is studied from April 2007 to March 2008. The present study deals with standing crop of Phytoplankton. Phytoplankton diversity was recorded maximum during the month of July, August, November and December.

KEYWORDS: *Phytoplankton, Pimpla (Dha) , Diversity, Maharashtra.*

INTRODUCTION :

Phytoplankton play very important role in life of human being also used in all life , they are known to contain different bioactive compounds like proteins , carbohydrates , fats, vitamins ,organic acids ,amino acids ,enzymes ,minerals , toxins and antibiotics. All Algae are autotrophic and play key role at the base of food chain in aquatic and semi aquatic habitats, the algal constitute a source of base food, where in their chemical extracts has been potential in manufacture of synthetic food and other useful products. The role of phytoplankton in energy resource of aquatic ecosystem and their importance in establishing the industrial products is well known. Phytoplankton plays an important role in the biosynthesis of organic matter in an aquatic ecosystem. It serves for all living organism of water body, as food of fishes.

The present study was undertaken to record the Phytoplankton diversity in Pimpla Talav. It is 4 km away from Ambajogai. Phytoplankton plays key role in the ecosystem of the environment but over the year, the condition of Talav water as well as the surrounding area got deteriorated mainly due to the increase in human uses. The main objective of the present study is to understand the seasonal change of environment in relation to phytoplankton.

MATERIAL AND METHODS:

Monthly water samples were collected from the Pimpla Talav. The water samples were collected for physio-chemical analysis at monthly interval between 9.00 to 11.00 a.m. in two liter capacity plastic bottles. Algal samples were collected in small plastic tubes and preserved in 5% formalin solution, to which little amount of glycerin was also added. The taxanomic identification of algae was done qualitatively and quantitatively with the help of standard literature and monographs of Hustedt (1976), Prescott (1982) Tripathi and Pandey (1990) were followed to identify the phytoplankton. Now days, people are facing many domestic problems and water is one of them. Algae are specific in growing, therefore, their distributional pattern, ecology, periodicity, qualitative and quantitative occurrence differs widely. The Algal monographs of Prescott (1982), Tripathi and Pandey (1990) were followed to identify the Phytoplanton.

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RESULT AND DISCUSSION:

Composition of algal blooms reveals that 24 genera of planktonic algae were reported from the samples collected during the period of study from Pimpla Talav (Table No.1). It was observed that Cyanophyceae was represented by eight genera, among Cyanophyceae, *Anabaena,   Chroococcus ,Oscillotoria* and *Nostoc was abundance in the* December *,Rivularia Sytonema ,Phormidium , and Spirulina* were recorded throughout the investigation period, with maximum numbers occurred during the month of November and December. Cyanophycean growth was also recorded during winter season by *Gopal et al* (1981) and Pandey and Tripathi (1984). Barhate (1985) and Zafar (1967) considered that high percentage of dissolved oxygen is favourable for more growth and development of cyanophyceae. The abundance of blue green algae have also been emphasized by Pandey and Verma (1992) and Bairagi and Goswami (1994).

Chlorophyceae was most abundant group in the Pimpla Talav. It is represented by twelve genera with *Closterium* occur dominantly in the months of july, August and November*,   Cladophora, Chlorela, Chlamydomonas, Oedogonium, pithophora,   mougeotia ,Zygnema ,Cosmarium   ,Scenedesmus , and Spirogyra* showing with abundance in the month of July, August, November December and january, 2007 and 2008, Nandan (1993) reported this algae in his Ph. D. work. Bacillariophyceae was represented by six genera *Gomphonema, Diatom,* dominancy of *Navicula* reported in the month of October, *dominancy of Diatomr* reported in the month of December . dominancy of   *Synedra* occured in the month of November and Eugleanophyceae was represented by single genera only i.e. *Euglena,* it was dominant in month of July and October.

Table No.1: Phytoplanktonic forms and their dominance in the Pimpla (Dha)Talav, Ambajogai

Sr.No	Phytoplankton	Apr.	may	June	July	Aug.	Sept.	Oct	Nov.	Dec.	Jan	Feb	Mar
	Cyanophyceae												
1	Anabaena	A	A	A	R	R	C	R	C	D	R	A	A
2	Chroococcus	A	A	R	C	C	R	C	C	D	R	R	A
3	Nostoc	A	A	R	C	S	R	C	D	D	C	C	A
4	Oscillatoria	R	A	C	D	D	S	R	C	D	S	S	S
5	Phormadium	A	A	A	R	C	C	C	S	D	R	R	A
6	Rivularia	A	A	A	R	R	A	R	D	D	R	R	R
7	Spirulina	A	A	R	C	R	C	C	D	C	C	R	R
8	Sytonema	A	A	A	R	R	R	R	D	D	R	S	A
	Chlorophyceae												
9	Chlamydomonas	A	A	R	C	D	C	C	D	C	A	A	A
10	Chlorela	A	A	A	D	D	C	C	D	C	R	C	A
11	Cladophora	A	A	A	C	C	A	C	R	C	R	S	A
12	Closterium	A	A	C	D	D	C	C	D	C	R	A	R
13	Cosmarium	A	A	A	D	C	C	S	D	C	C	R	A
14	Mougeotia	A	A	A	D	S	R	C	S	S	C	R	R
15	Oedogonium	A	A	R	R	D	D	C	C	D	D	C	A
16	Pithophora	A	A	R	S	C	R	R	S	C	C	C	R
17	Scenedesmus	A	A	R	S	C	R	C	R	C	C	R	R
18	Spirogyra	A	A	A	R	R	C	C	D	D	D	R	R
19	Zygnema	A	R	R	S	S	C	C	S	R	R	S	A
	Bacillariophyceae												

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20	Gomphonema	A	A	A	R	R	C	C	R	A	R	A	A
21	Diatom	A	A	R	R	C	C	C	A	D	S	S	A
22	Navicula	A	A	R	R	C	C	D	C	C	R	C	A
23	Synedra	A	A	R	R	R	S	C	D	S	S	R	A
	Euglenophyceae												
24	Euglena	A	R	R	D	C	R	D	C	R	S	R	A
A-Absent , R-Rare , C- Common , S- Subdominant , D- dominant													

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