

THE STUDY ON PHYTOPLANKTON OF KUNDRALA DAM, TALUKA MUKHED, DISRTRICT NANDED (MS) INDIA



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Research paper

The free floating and free-swimming, minute algae together with similar other organisms constitute the plankton of the ocean and lakes. Among me algae approximately 10% of the species are marine and 90% are fresh water. Phytoplanktons are found generally in very large number. An estimation of their number can be gathered by the statement of Prescott (1969) that some 'Phytoplanktons may occur in quantities as high as 40,000,000 per liter, but this number can be quickly reduced' because they form a regular food of aquatic animals. Phytoplanktons represents more comprehensive biological index of the environmental conditions. Planktons occur in all natural water as well as in artificial impoundments like ponds, tanks, reservoirs, irrigation cannels, etc. Phytoplankton plays an important role a primary producer in fresh water ecosystem.

Many workers have published their work on aquatic environment and ecology of Phytoplankton in fresh water. Swarup (1979), Chandrashekhar and Kodarkar (1996), Pawar and Madlapure (2002), Sirsat et. al. (2004), Patil et. al. (2005), Pawar et. al. (2006), Jaybhaye et. al. (2007), Khaperkar and Nandkar (2007), Nafeesa Begum and J. Narayana (2006), Waghmare and Mali (2007). The present investigation has been t1L1cen to study the P 10pJ.ankt!m species in Kundrala Dam during the year 2006-07. The construction of dam is completed ill 1971. Jhe dam water is generally used for agriculture, fish culture and drinking pruposes.

MATERIAL AND METHODS:

The water samples for Phytoplankton analysis were collected from the dam for a period of 12 months starting from June 2006 to May 2007. "The sample was collected with the help of plankton net. The sample was taken in 500 mi. bottle and preserved in 4% formalion. The samples were collected monthly in the

morning between 7:00 am to 9:00 am. The quantitative and qualitative analysis was carried out by taking 20 mls. Of concentrate obtained by siphoning the supernatant liquid. Identification of Phytoplankton of different class of different genera were carried out under research microscope. The identification was done up to generic level as described by Fritsch (1956) and L Desikachary (1959).

RESULTS AND DISCUSSION: During the study about 30 genera of Phytoplankton were studied. Out of these 15 belongs to class Chlorophyceae, 07 of Cyanophyceae, 07 belong to Bacillariophyceae and 1 belongs to Euglenophyceae. Kumawat and Jawle (2003) recorded 59 genera of Phytoplanktons from a fishpond at Anjale. Sirsat et. ai. (2004) recorded 24 genera of Phytoplankton from freshwater pond at Dharmapuri in Beed district, Maharashtra. In the present investigation it was found that the geneta of -Chiorophyceae such ,as .ChIQr Ila, Zygnema, Cladophora, Cosmarium, Hydrodictyon, Closterium, SpiroID;fa and Chara were observed through out the year. The Chlamydomonas, Oedogonium, Ulothrix, V olvax, Pediastrum and Nitrela were observed only during monsoon months.

Scendesmus Sp. was observed only in the July, August and September months. The compatibility of green algae in the presence of certain blue-green algae was the most important factor in controlling the population of the green algae. (Lin. 1972) Among Bacillariophyceae Diatum, Capurina, Navicula, Fragillaria Pinnularia were observed through out the year. Bacillaria and paradoxa were less frequent as compared with other algae of Bacillariophyceae. Rao & Raju (2000) observed the Bacillariophyceae Sp. in fish culture pond at Nambur near Guntur, Andhar Pradesh. Seven genera of cyanophyceae were observed. The Nostoc, Oscillaroria, Anabama, and

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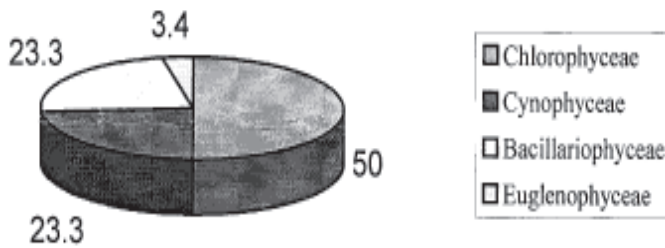


Fig. 1 : Percentage of Phytoplankton of Kunderla Dam

Lyngbya were observed through out the study. Phormidium and Anacystis were present only in winter and summer months. While Microcystis found during monsoon months only. Euglena Sp. of the class Euglenophyceae was predominantly occurred through out the year. Pendse et, al. (2000) observed the Euglenophyceae Sp. Euglena, Phacus, and

Trachelomonas in percolation tank of village Dasane, Maharashtra. The percentage of Phytoplankton of Kunderla Dam is shown in fig.1.

Table No. 1 : Monthly occurrence of Phytoplankton (During the Year 2006-07)

Sr.	Phytoplankton	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May
Chlorophyceae													
1	Chamydamonas Sp.	P	P	P	P	P	A	A	A	A	A	A	A
2	Chlorella Sp.	P	P	P	P	P	P	P	P	P	P	P	P
3	Cladophora Sp.	P	P	P	P	P	P	P	P	P	P	P	P
4	Cosmarium Sp.	P	P	P	P	P	P	P	P	P	P	P	P
5	Hydrodictyon Sp.	P	P	P	P	P	P	P	P	P	P	P	P
6	Oedogonium Sp.	P	P	P	P	P	P	A	A	A	A	A	A
7	Spirogyra Sp.	P	P	P	P	A	P	P	P	P	P	P	P
8	Ulothrix Sp.	P	P	P	P	P	P	P	A	A	A	A	A
9	Chara Sp.	P	P	P	P	P	P	P	P	P	P	P	P
10	Volvox Sp.	P	P	P	P	P	P	P	A	A	A	A	A
11	Pediastrum Sp.	A	P	P	P	P	A	P	A	A	A	A	A
12	Zygnema Sp.	P	P	P	P	P	P	P	P	P	P	P	P
13	Closterium Sp.	P	P	P	P	P	P	P	P	P	P	P	P
14	Nitrela Sp.	P	P	P	P	P	P	P	P	A	A	A	A
15	Scenedesmus Sp.	A	P	P	P	P	P	P	A	A	A	A	A
Cyanophyceae													
1	Nostoc Sp.	P	P	P	P	P	P	P	P	P	P	P	P
2	Oscillatoria Sp.	P	P	P	P	P	P	P	P	P	P	P	P
3	Anabaena Sp.	P	P	P	P	P	P	P	P	P	P	P	P
4	Microcystis Sp.	P	P	P	P	A	A	A	A	A	A	A	A
5	Lyngbya Sp.	P	P	P	P	P	P	P	P	P	P	P	P
6	Phormidium Sp.	A	A	A	A	P	P	P	P	P	P	P	P
7	Anacystis Sp.	A	A	A	A	P	P	P	P	P	P	P	P
Bacillariophyceae													
1	Diatom Sp.	P	P	P	P	P	P	P	P	P	P	P	P
2	Capurina Sp.	P	P	P	P	P	P	P	P	P	P	P	P
3	Naniclea Sp.	P	P	P	P	P	P	P	P	P	P	P	P
4	Fragillaria Sp.	P	P	P	P	P	P	P	P	P	P	P	P
5	Pinnularia Sp.	P	P	P	P	P	P	P	P	P	P	P	P
6	Bacillaria Sp.	P	A	A	P	A	P	P	P	A	A	A	A
7	Paradoxia Sp.	P	A	A	A	P	P	P	P	P	A	A	A
Euglenophyceae													
1	Euglena Sp.	P	P	P	P	P	P	P	P	P	P	P	P

R E F E R E N C E

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