

AN ASSESSMENT OF PHYTOPLANKTON FROM DOMRI RESERVOIR DISTRICT BEED (M.S.) INDIA

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ABSTRACT

The present investigation was undertaken to studies on an assessment of phytoplankton from Domri reservoir Tq. Patoda District, Beed, Maharashtra. The study was carried out from Dec-2009 to Nov-2010. Phytoplanktons serve as the base of the aquatic food web, providing an essential ecological function for all aquatic life. The population density of phytoplankton varies from month to month. The qualitative and quantitative evaluation of variation of Domri reservoir showed high quantity of phytoplankton population during study periods. The population of phytoplanktons observed 48 species of the following 4 groups namely Bacilliarophyceae, Myxophyceae, Chrophyceae and Euglenophyceae have been enlisted in the present communication. Myxophyceae formed groups are dominating group of organism. The present study revealed that the water Domri reservoirs useful for pisciculture, irrigation and for drinking purpose.

KEY WORDS: Domri reservoir, Phytoplankton.

INTRODUCTION

Domri reservoir can be considered as an example of reservoir ecosystem. Domri reservoir is situated near the Ukhanda village Tq. Patoda, District Beed. It is located on 18⁰-54' longitude and 75⁰-34' latitude. It covers about 2371 sq km. water spread area. It is constructed during the year 1996. It is 16 km away from Beed city. This is the minor project with huge water body on Domri reservoir. It also acts as a source of Water for man, animals and plants. Limnological study of a water body is done Shreeramalu and Ramna (1944), Choudhari (1966), Due to the pollution as well as entry of sewage, waste water or matter and interaction in between all these Factors some notable changes were recorded in the ecosystem. This region of water body is biologically active, having number of flora and fauna. In Marathwada region the studies on phytoplankton were carried out earlier by Kamat (1979, 1980 and 1983), (Sarode and Kamat, 1984) Ashtekar (1980) and Talekar (2009). Fresh water ecosystem plays a key role in pisciculture. Moreover, number and species of Phytoplankton serves to determine the quality of water body. That is why Present investigation was planned.

MATERIAL AND METHODS

The samples of phytoplankton were collected at monthly intervals during the August-2009 to July-2010. The samples were preserved in 4 % formalin. Of Domri water reservoir. Phytoplankton being the primary producer from the lowest tropic level in the food chain of freshwater ecosystem and plays a key role in fish culture. The number of species of phytoplankton serves to determine the quality of water body, the structure of aquatic community is an important in monitoring the water quality. The identification of phytoplankton was done with the help of standard text, relevant monograph and recent available literature (Agarwal, 1990; Desikachary, 1950; Edmondson, 1959; Mrugan, 1998; Fritch, 1956; Patel and Wadgaonkar, 1981; Kamat, 1962, 1963, 1974; Philipose, 1967). Many workers have published their work on aquatic environment and ecology of phytoplankton in fresh water, Dixit (1936), Yogesh Shastri *et al.* (1999), More and Nandan (2003) and also such type work done by other investigators.

RESULT AND DISCUSSION

The phytoplankton communities of the present water body and the total number of phytoplankton species and monthly average of qualitative and quantitative identified species are given in the table -1.

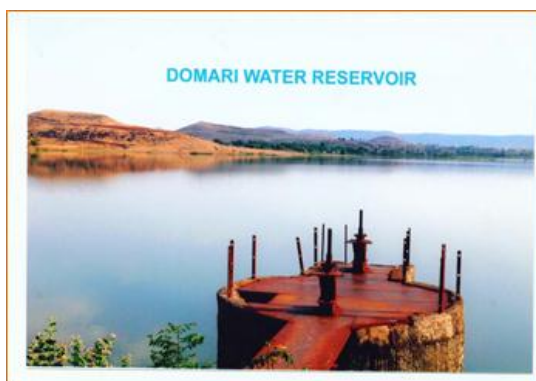


Figure 1. Domri Reservoir

Table 1. Data of various group of phytoplankton (Unit 10x³/L) of Domri reservoir

Months	Chlorophyceae	Myxophyceae	Bacillarophyceae	Euglenophyceae	Total
Dec	19	39	38	06	102
Jan	18	20	41	04	83
Jan	31	18	82	17	148
Feb	28	17	83	07	135
Mar	61	16	85	14	167
April	77	29	129	15	250
May	62	15	80	06	136
June	42	18	69	07	136
July	29	13	18	06	66
Aug	18	12	17	04	51
Sept	15	39	13	02	69
Oct	23	96	13	02	134
Nov	18	113	38	04	173
Total	441	445	706	94	1650
%	26.72	26.96	42.78	5.69	



Figure 2. Map of Beed District Showing Study Area

The phytoplankton population in Domri reservoir is composed of four major groups namely Chlorophyceae, Myxophyceae, Bacillarophyceae and Euglenophyceae of which 23 species belongs to Chlorophyceae, 12 belong myxophyceae 9 species to bascellariophyceae and 7 species belong to euglenophyceae .the total phytoplankton population density ranged from 250x129/1 in April and minimum density 51x4/1 in August 2009 shown in the table. The gradual increase in in the total density of phytoplankton population was observed January to April 2010. The annual mean % composition of different group of phytoplankton revealed to constitute about (26.72) of Chlorophyceae (26.96) Myxophyceae (42.78) Bascillariophyceae (5.69) Euglenophyceae.

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