

“Phytoplaktonic Diversity of Sangmeshwar Medium Project Ieet, Dist. Osmanabad (M.S.)” India

Khair, B. S.,

Dept. of Zoology, Anandrao Dhonde Alias Babaji College, Kada - 414202, Tq. Asthi, Dist. Beed, Maharashtra, India

Abstract

The present paper deals with study of phytoplanktonic diversity of Sangmeshwar Medium Project (Upper Manjara Project). The water body is present in Bhoom taluka of Osmanabad district Maharashtra, India. The work was carried out during July 2012 to May 2013. Phytoplanktons are microscopic organisms which float freely on water surface and drift at the mercy of water current. In the present investigation total nineteen species of phytoplankton's belonging to four different classes such as Chlorophyceae (09), Cyanophyceae (05) Bacillariophyceae (04) and Euglenophyceae (01) were observed.

KEYWORDS: Phytoplankton diversity, Sangmeshwar project, Osmanabad district.

INTRODUCTION:

Phytoplankton plays a very important role in regulating the dynamics of the aquatic food web. Aquatic weeds referred to, as Macrophytes constitute an important component of an aquatic ecosystem.

They provide support, shelter and oxygen to other organism and play an important role in biological production. The diversity of aquatic weeds reflects limnological status of an ecosystem.

Phytoplanktons are ecologically significant as they trap radiant energy for sunlight and convert to chemical energy. Many herbivores graze upon the phytoplanktons thus passing the stored energy to its subsequent trophic levels. The phytoplanktons are also biological indicators of water quality.

The density of phytoplanktons in water body determines stocking rate of fishes because of they are chief sources of food of commercially important fishes. Many workers studied phytoplanktons such as, Tandan and Singh (1972), Tonapi G. J. (1978), Abraham (1980), Zutsi et.al (1984), Ghose and George (1989), Sharma and Diwan (1993) Meshram and Dhande (2000), Sathe et. Al (2001) Gaikwad (2011) Jadhav et.al (2012). There is no back record of phytoplanktons of Sangmeshwar project hence work was undertaken.

MATERIAL AND METHODS:-

Phytoplanktons were collected by using plankton net 38 cm diameter of mouth and a bolting silk No. 20 mesh size. An iron tube was firmly tied to the tapering end of the net and open end of the phytoplankton collecting tube was covered by a piece of bolting silk, securely tied with cotton thread so that phytoplankton collected through the net could be easily transferred into separate plastic bottles. Collected phytoplanktons were preserved in 4% formalin. The samples were

brought to laboratory for further investigation. The identification was done with the help of literature I.e. Pennake (1978) and Agarwal (1990).

RESULTS AND DISCUSSION:-

The phytoplankton diversity comprises of total 19 species belonging to four different classes such as Chlorophyceae, Cyanophyceae, Bacillariophyceae and Euglenophyceae were observed. Class Chlorophyceae observed most diversified including nine species. Five species were recorded belonging to class Cyanophyceae and four species belonging to Bacillariophyceae. Single species was recorded belonging to class Euglenophyceae. Belonging to Chlorophyceae *Cosmarium sp.* and *Pediastrum sp.* were dominated to other members.

Table :- List of Phytoplanktons observed in sangmeshwar project

Sr. No.	Class	Species
1.	Chlorophyceae	<i>Cosmarium sp.</i> , <i>Volvox sp.</i> <i>Pediastrum sp.</i> , <i>Spirogyra sp.</i> <i>Oedogonium sp.</i> , <i>Chlorella sp.</i> <i>Coelostrum sp.</i> , <i>Ulothrix sp.</i>
2.	Cyanophyceae	<i>Spirulina sp.</i> , <i>Nostoc sp.</i> <i>Microcystis sp.</i> , <i>Oscillatoria sp.</i>
3.	Bacillariophyceae	<i>Cymbella sp.</i> , <i>Diatoms sp.</i> <i>Melosira sp.</i> , <i>Nevicula sp.</i> <i>Fregillaria sp.</i>
4.	Euglenophyceae	<i>Phacus sp.</i>

REFERENCES :-

Abraham M. 1980 : studies on plankton of Bhavanisagar reservoir with special reference to limnological conditions inflow and water level. *J. Inland fish Soc. India.* 12 (2) : 25-37.

Agarwal S. E. 1990 : Limnology. *APH publishing corporation. New Delhi pp150.*

Gaikwad V. B.(2011): phytoplanktonic diversity of Chandpur reservoir, Parali. Dist. Beed. *Conf. Proc. Pp. 67-68.*

Jadhav. R. R., M. G. Babare A. S. Bondge and V. K. Muke (2012): Studies on algal flora and phyco-chemical parameters of Sai reservoir, dist. Latur (M. S.) India. *Conf. Proc. Pp. 67-68.*

George M. G. 1966 : Comparative plankton ecology of five fish tanks in Delhi. *Op. Cit. 27: 81-108*

Meshram c. B. and Dhande (2000): Algal diversity with respect to pollution status of wadali lake, sarawati, M. S. India. *Jr. of Aquatic Biology (142) 1-5*

Pennake R. W. (1978): Fresh water invertebrates of united states. *Second edition . John Willey and Sons New York pp. 803.*

Sathe S. S. , A. K. Khabade and M. S. Hujare (2001): Hydrobiological study on two manmade reservoir from Tasgaon Tehsil M. S. India. *Ecol. Envo. And Conservation* 7 (20) 211217.

Sharma Rekha and A. P. Diwan (1993): Limnological studies of Yashwantsagar reservoir I plankton population Dynamics . *In Prof. K. S. Rao (ed) Recent advances in freshwater Biology Vol. 1. Pp 199-211.*

Tandan K. K. and H. Singh (1972) : Effect of certain phyco-chemical factors on the plankton of the Nangal lake. *Proc. Indian Acad. Science* 76 pp. 15-25.

Tonapi G. J. (1978): Fresh water animals of India. An ecological approach , *Oxford and IBH publishing Co. Bombay* 167.

Zutshi D. P. N. Vishin and B. A. Subia (1984): Nutrient status and plankton dynamics of a peremal pond . *Proc. Indian Acad. Science* 77-581