

Diversity of Phytoplankton in Jalkotwadi water Tank of Osmanabad District (M.S.) India

G.T.Rathod

Dept. of Zoology

Jawahar Arts, Science and Commerce College, Anadur.Tq.Tuljapur. Dist. Osmanabad

Email: drgrathod70@gmail.com

Abstract

The present investigation deals with the study of diversity of phytoplankton in jalkotwadi water tank of Osmanabad district. The work was carried out during a year June2015 to May 2016. Jalkotwadi water tank is manmade percolation water tank in 1971-72 famine period. The water tank is mainly manmade for irrigation, drinking water ,cloth washing, domestic activities, and fishery purpose. Phytoplankton are microscopic organism which float freely on water surface and drift at the mercy of water current and phytoplankton are ecologically significant as they trap radiation energy of sunlight and convert into chemical energy. In the present investigation there are 25 species of phytoplankton's belonging to four different group such as Chlorophyceae (09),Cyanophyceae (06),Bacillariophyceae (08),and Euglenophyceae (02) species were found in jalkotwadi water tank.

Keyword: Diversity of Phytoplankton; Jalkotwadi water tank.

Introduction

Phytoplankton is one of the most powerful food on Earth and are ecologically important as they trap radiation energy of sunlight convert into chemical energy. In pollution studies phytoplankton are also biological indicators of water quality. The role of phytoplankton in energy budgets of aquatic systems their importance in establishing their states is well known. The evolution of phytoplankton population in terms of their biomass, density, temporal distribution productivities and periodicity is important in management of ecosystem. The density of phytoplankton in water body determines stocking rate of fishes because of they are chief source of food of commercially important fishes. Such results are also been reported by various workers on the phytoplankton such as Hartman and Graffius (1960), Phitipose (1960), Zafar (1964), Pankajann (1965), Kachroo (1971), Tandoon and Singh(1971), Tripathi (1984), Sharma and Diwan (1993), Meshram and Dhande (2000), Rathod and Ugale et'al(2014). There is a no back record of phytoplanktons of jalkotwadi water tank hence the study of diversity of phytoplankton.

IGAS, 2017
SKSM, AUSA



Principal

Jawahar Arts, Science & Commerce College,
Andur Tal. Tuljapur Dist, Osmanabad

Material and method

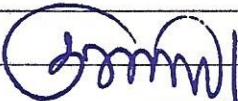
Phytoplankton were collected by using plankton net 38 cm diameter of mouth and bolting silk no. 20 and preserved in 4% formalin. The sample were brought to laboratory further investigation . The identification was done with the help of standard Literature Penak (1998) and Agarwal (1990), Kodarkar et'al (1998) and Trivedy and Goel (1980).

Result and Discussion:

Table no. 1 List of Phytoplankton in Jalkotwadi water tank (jun2015to may 2016)

Sr. no.	Class	Species
01	Chlorophyceae	1.Anlastrodesumus sp.
		2.Coetostrun sp.
		3. Cosmarium sp.
		4. Chlorella sp.
		5. Eudorina sp.
		6. Pediastrum sp.
		7. Spirogyra sp.
		8.Staurstraum sp.
		9.Volvox sp.
02	Cyanophyceae	1.Anabaena sp.
		2.Chrococcus sp.
		3.Microcystis sp.
		4.Mensomopedia sp.
		5. . Nostoc sp
		6. Speriulina sp
03	Bacillariophyceae	1.Cymbella sp.
		2.Cyclotella sp.
		3.Diatoms sp.
		4.Fragillaria sp.
		5.Navicula sp.
		6.Melosira sp.
		7.Pinnularis sp

ICAS - 2017
SKSM, AUSA


Principal

Jawahar Arts, Science & Commerce College,
Andur Tal. Tuljapur Dist, Osmanabad

		8.Syndera sp
04	Euglenophyceae	1.Fucus sp.
		2.euglena sp.

The present result show that diversity of phytoplankton copprises of total 25 species belonging to Chlorophyceae (09), species is dominant any other species than Cyanophyceae (06), Bacillariophyceae (08) ,and Euglenophyceae (02) .The diversity of phytoplankton was observed in the jalkotwadi water tank.The occurrence of certain member of Chlorophyceae, Bacillariophyceae and Euglenophyceae that were tolerant to organism pollution in the water tank indicates polluted nature of water bodies in jalkotwadi water tank.


Acknowledgment:

Author is Thankful to principal .Dr. Meena Jadhav Jawahar Arts, Science and Commerce College, Anadur.Tq.Tuljapur. Dist. Osmanabad for providing necessary library and laboratory facilities.

Reference:

1. Abraham M.(1990), studies of plankton of bhavanisagar reservoir ,J Indian fish soci. India 12(2) , 25-37.
- 2 Agarvoal S,E.(1990), Limnology APH publishing Corporation ,New Delhi pp.150.
3. Arjariya, Amita, (2003). Physicochemical profile and plankton diversity of Ranital lake Chahatarpur M.P. Nature, Environmental Pollution Tech., 2(3) : 327-328.
4. Hartman.R.T. and Grafficus (1960). Quantitative season change in phytoplankton communities Ecology 41:333-340.
5. Nandan S,N, R.J. Patel (1985). A seasonal Variation of phytoplankton.
6. Seenayya G.(1971). B. Ecological studies in plankton of certain fresh water pond of Hyderabad India. II phytoplankton Hydrobiology 37 pp:55-58
- 7.Tonapi G. J.(1980); fresh water Animal of India an ecological Approach Oxford and IBH Publication Co. Bomby 167.

ICAS - 2017
SKSM, AUSA


Principal

Jawahar Arts, Science & Commerce College,
Andur Tal. Tuljapur Dist, Osmanabad