



## Diversity of Plankton In Wardha River Pulgaon Maharashtra India

Abhay KPatki

S.P.M.Science And Gilani Arts Commerce College Ghatanji Dist.Yavatmal

Email ID:- akpatki@yahoo.com

### Abstract

The present communication deals with the study of diversity of phytoplankton and zooplankton in Wardha river (Pulgaon). During survey of June 2014 to July 2015, phytoplankton were studied these belong to various classes Chlorophyceae (10), Euglenophyceae (2) Cyanophyceae (4), Bacillariophyceae (3). Among group of Chlorophyceae were dominant over rest. Total six Zooplankton genera, were reported among them to *Ostracoda*, *Braconchiopoda*, *Maxillopoda* etc are included.

**Keywords** : Diversity , Phytoplankton, Zooplankton, WardhaRiver.

### Introduction :

The name plankton was given by Hansen. The word 'Plankton' is referred to assemblage of microscopic, free floating organism in water which roam at the mercy of winds and currents. On the basis of nature plankton can be divided into two major groups viz. plankton consisting of plant part called as phytoplankton while planktons which are of animal origin are called as zooplankton. Basically phytoplankton are chlorophyll bearing suspended microscopic organism consisting mainly of algae.

Phytoplankton constitutes the basic of nutritional cycle of an aquatic ecosystem. They form bulk of food for zooplankton. Phytoplankton population has direct relation with change of water quality in any aquatic ecosystem. Moreover phytoplankton helps to regulate temperature.

In water bodies, seasonal qualitative & quantitative functions occur in plankton communities. Their density differ according to the nature of water.

Zooplankton diversity is one of the most important ecological factor in water quality assessment. Considering the importance of plankton diversity & variation in their density, several studies have been carried out in this field. (Rajshekhkar 2010, Sheikh et al 2012, Khanna et al 2012, Kadam et al 2014, Sarwade & Kamble 2014, Belkhode and Sitre 2016,

### Aims and Objective :

The present investigation reveals an account of diversity of phytoplankton & zooplankton in Wardha river.

### Study Area :-

The Wardha river is one of the biggest river in Vidarbha Region in (India). The Wardha river joins to the Wainganga River South Chamorshi and Pranhita river (Adilabad). Latitude 19° 18N and 21° 58N and Longitude

77°02E and 79°45E Elevation of 146m. Length 528 km. Study area was Rammandir to Panchadhara (3 km length).

### Materials and Methods :

Investigations were carried out during June 2014 to July 2015. Samples were collected monthly from freshwater by using plankton net. Take a drop of well mixed water by slightly shaking on a clean slide place the cover slip on it. Under the proper magnification slides were observed observe and the samples were identified with the help of relevant literature (Adoni 1985 for plankton & Battish 1992 for zooplankton.)

### Result and Discussion :

During the study period 19 taxa of phytoplankton were reported among them 10 taxa of Chlorophyceae, two Euglenophyceae, two Cyanophyceae and two Bacillariophyceae were identified. Dominance of Chlorophyceae was observed population. Jan onwards. Chlorophyceae was observed in increasing population. Shinde et al., (2012) Manoj Kumar & Khare (2015) have reported maximum number of Chlorophyceae in summer and minimum during June. The species included were *Spirogyra*, *Nitella*, *Chlorella*, *Chlamydomonas*, *Oedogonium velvax*, *Ulothrix*, *tetraspora*, *microspora*, *Cosmarium*. Bacillariophyceae includes *Diatom*, *Tabellaria*, *Navicula*. Euglenophyceae showed *Euglena* & *Phacus*. *Anabaena*, *Nostoc*, *Oscillatoria*, *Microcystis* of Cyanophyceae were dominant. The major of zooplankton was reported during study period was *Nemotoda*, *Copepoda*, *Cladocera*, *Rotifera* Protozoa, *Schizopyrenida* and *Ostracoda*, *Braconchiopoda*, *Maxillopoda* were reported.

### Conclusion :

The study of plankton diversity of Wardha river indicates that variety of phytoplankton and zooplankton present. About

nine teen genera of phytoplankton and six genera of zooplankton were reported. The genera belonging to class Chlorophyceae were dominant during study period. The zooplankton taxa Rotifera Protozoa was seen abundantly.

**Reference :**

- Adoni, A.D. (1985) Work book on limnology, Pratibha Publications Sagar (M.P.)
- Battish S.K. (1992) Fresh water zooplankton of India, Oxford and IBM Publications.
- Belkhole P.P. and Shrikant Sitre (2016) Phytoplankton diversity of DhamRiver in Wardha District of Maharashtra State, India. Indian Journal of Fundamental and Applied Life Sciences Vol. 6(1) : 10 to 13.
- Kadam, S.U. Kadam, S.S. and Babar, M (2014) Phytoplankton diversity of reservoirs in Parbhani District, Maharashtra, Indi, Int. J.Curr. Microbio. Ap.Sci., Vol.3 (8) 459-466.
- Khanna, D.R.,Bhutiani R. Matta, G.Singh, V and Bhadauriya, g. (2012) Study of planktonic diversity of river Ganga from Devprayag to Roorkee, Uttarakhand (India), Env.Cons. Jou., 13 (1&2), 211-217.
- Manoj Kumar and P.K.Khare (2015) Diversity of plankton and their seasonal variation of diversity in the Yamuna river at Kalpi District Jalaun (U.P.) India J.of Global biosciences Vol 4 (7) : 2720-2729.
- Rajshekhhar, M., Vijaykumar,K. and Parveen Z.(2010) Seasonal Variations of zooplankton community in fresh water reservoir. Gulbarga Dist.Karnataka. south India. In J.of system Biology Vol. 2 (1) 6-11.
- Sarwade A.B. and N.A. Kamble (2014) Plankton diversity in KrishnaRiver, Sangli Maharashtra J. of Ecology & the National Environment. Vol 6 (4) : 174-181.
- Sheikh Praveen R. and Bhosle Arjun B (2012) Plankton biodiversity of Siddheshwar Dam in Hingoli Maharashtra India J. of env. Research & Development vol.7 No.2A. 905-916.
- Shinde, S.E. Pathan, T.S. and Sonawane D.L. (2012) Seasonal Variation and biodiversity of phytoplankton in Harsool-Savangidam Aurangabad, India. J.Envi. Bio, 33:643-647.

