

RESEARCH ARTICLE

Study of Population and Identification of Zooplanktons in three different water samples near Amravati Region

Wagh (Patil) Sanjeevani D

Department of Zoology, Shri. Shivaji Sceicne College, Amravati Abstract

Manuscript details:

Date of publication 18.10.2014

Available online on
<http://www.ijlsci.in>

ISSN: 2320-964X (Online)

ISSN: 2320-7817 (Print)

Editor: Dr. Arvind Chavhan

Cite this article as:

Wagh (Patil) Sanjeevani D (2014) Study of Population and Identification of Zooplanktons in three different water samples near Amravati Region, *Int. J. of Life Sciences*, 2014, Special Issue A2: 139-140.

Copyright: © Author(s), This is an open access article under the terms of the Creative Commons Attribution-Non-Commercial - No Derives License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

ABSTRACT

The word 'Plankton', originated from Greek word, 'planktons' which means drifting about in water under the action of water movement in the various functional aspects of an aquatic systems such as food chains, food web energy flow and cycling of matter, which are influenced by zooplankatons and phytoplanktons which are important biotic component of an aquatic ecosystem. They play important role in recycling the energy within their respective environment.

Key words : Zooplankton, Phytoplanktons, energy recycling, food chain, food webs.

INTRODUCTION

Water, the most vital abiotic factor are component is unique and fascinating for the study of it's biota. Water itself occurs in three stages (solid, liquid and gases) on earth. It acts as solvent for variety of inorganic, organic and gaseous substances. In precipitation, it becomes a mixture and acts as a limiting factor that, inturn regulates biotic diversity and biomass energy, material cycle, tropic levels and rate of succession. Water also contain biodiversity of aquatic flora and fauna. The cyclic function of aquatic habitats is influenced by zooplanktons and phytoplanktons which are it's important biotic components.They recycle the energy within the respective environment. (Rajshekhar *et al.*, 2010, Sharma and Sharma, 2011; Saboor and Altaf; 1995; Vasanth *et al.*, 2011.)

In the present study, population of zooplanktons and phytoplanktons is under consideration and observe species are collected and identified from the three different water samples from the Amravati region.

MATERIAL AND METHOD

Studies on zooplankton and phytoplankton were carried out from September 20013 to May 2014. To study the population of Zooplankton and Phytoplankton and for their proper identification three different water samples were collected from Purna River, Wadali Lake and Amba Nala. Water samples were taken from each source by filtering one liter surface water through 'Planktron Net' made up of blotting silk cloth no. 20. Extreme care was taken in order to keep the water undisturbed at the time of sampling. The collected samples were preserved in 4% formalin. The preserved samples were brought to the laboratory for qualitative and quantitative analysis. "Drop Count method" was used in present study.

RESULT AND DISCUSSION

The qualitative and quantitative analysis of three different water samples showed the presence of following taxons.

In the Present Study the different population of Zooplanktons were observed in the different month, form September 2013 to May 2014 , in three different water samples. The water Samples was Collected from Purna River (Sample 1), Wadali lake (Sample 2),

Ambanala Water (Sample 3). Over all observation state that Protozoan population is more as compared to the others and there number is increasing from September to May. The Zooplankton population is represented by rotifers, copepods, cladocerans And protozoans. The number was Lowest during winter and highest during summer. The study indicate that temperature plays important role in the distribution of zooplankton (Akin-oriolas, 2003; Akthar *et al.*, 2007; Battish, 1992; Frenando, 1980) Ingole *et al.*, 2011 Joshep and Yamakanamardi, 2011).

Table 1: Monthly variations of zooplanktons in three waters samples in Amravati region for September 2013 to may 2014.

Zooplanktons	Sampling station	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Total
Rotifer	Sample 1	5	6	4	5	7	8	10	8	9	62
	Sample 2	4	5	5	8	10	11	11	12	10	77
	Sample 3	3	2	3	4	5	7	8	10	11	53
	Mean	4	4.6	4	5.6	7.3	8.6	9.6	10	10	64
Copepoda	Sample 1	4	5	8	10	12	13	15	12	14	93
	Sample 2	3	2	5	6	8	10	12	14	15	75
	Sample 3	5	6	8	9	11	12	10	12	13	86
	Mean	4	4.3	7	8.3	10.3	11.6	12.3	12.6	14	84.6
Cladocera	Sample 1	5	4	3	2	4	6	7	8	11	50
	Sample 2	5	6	7	8	11	12	10	12	13	85
	Sample 3	4	3	2	3	5	6	8	10	12	53
	Mean	4.6	4.3	4	5.4	6.6	8	8.3	10	12	62.6
Protozoa	Sample 1	6	8	7	6	8	10	11	10	10	76
	Sample 2	5	6	7	8	10	12	13	14	15	90
	Sample 3	7	9	10	12	11	12	14	15	15	105
	Mean	6	7.6	8	8.6	9.6	11.3	12.6	13	13.3	90.3

Purna River water (Sample 1); Wadali Lake water (Sample 2); Amba nala water (Sample 3)

Table 2: Annual variation in zooplankton composition form Amravati city from September 2013 to may 2014.

Zooplanktons	Number of organisms
Rotifer	64
Copepoda	84.6
cladocera	62.6
protozoa	90.3

REFERENCES

- Akin-oriolas GA (2003) Zooplankton Association And Environmentals Factor in ogupa and Ona River, Nigeria. *Rev. Biol.Trop.*,(2). 391-398.
- Akthar R, Jyoti MKN, sawhey and Rajendra Singh (2007) Studies on Population Dynamics of Cladocerans and Copepopds in Sarkoot Pond,Dist. Doda, Jammu and Kashmir. *J. Aqu. Biol.*, 22(2) :15-18.
- Battish SK (1992) Freshwater zooplankton of India. Oxford and IBH Publishing Co. Pvt. Ltd.New Delhi.
- Fernando CH (1980) The Fresh water Zooplankton of Sri lanka with the discussion of Tropical Freshwater zooplankton Composition., *Hydrobiologia*, 65:85-129.
- Ingole SB, Kadam GA, Naik SB and Kulkarny GK (2011)Water quality of Majalgoan Dam with special reference to Zooplankton. *Limnology current Perspective* Edited by .V.B. Sakhare (Daya Publishing House), New Delhi: 248-263.
- Joshep B and Yamakanamardi MS (2011) "Monthly Changes in the Abundance and Biomass o Zooplankton and Water quality parameter in Kulkarahali Lake of Mysore ", *J Environ.Bio.*, 32:551-557.
- Rajashekhar M, Vijaykumar K and Paerveen Zebra (2010) Seasonal variations of Zooplankton community in freshwater reserviour Gulberga District, Karanataka, South India. *Int J. of Systems Biology*, (1):6-11.
- Sharama BK and Sharma S (2011) Zooplankton diversity of Loktak lake, Manipur, India. *J. of Threatened Taxa.*, 3 (5):1745.
- Saboor,A and K, Altaf (1995) Qualitative and quantitive analysis of zooplankton population of a tropical pond during summer and rainy season. *J. Ecobiol.*, 7 (4): 269-275.
- Vasanth KB, Khajure PV and Roopa SV (2011) Zooplankton and bacterial diversity in three ponds of Karwar District ,Karnataka, *Rec Res, Sci Tech*: 39-48.