

Diversity of zooplankton of Nalganga reservoir Nalgangapur, Buldana District (MS)

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Abstract

The plankton plays a very important role for maintaining the productivity of the water body. 20 Zooplanktonic species belonging to Protozoa, Rotifers, Cladocera, Copepoda, were identified from Nalganga Reservoir, Nalgangapur. These groups are represented in order of dominance as Rotifera>Cladocera>Copepoda>Protozoa.

Keywords: - Zooplankton, Nalganga, Rotifer, reservoir.

1. Introduction

The zooplankton organisms occupy a central position in the food webs of aquatic ecosystem. They play a significant role in aquatic system as consumers. They are capable of affecting the entire aquatic biota. The studies of zooplanktons have been described [1].

The aim of the present study was to investigate the species composition, distribution of diversified zooplankton assemblages in Nalganga Reservoir, Nalgangapur. The fluctuation of the zooplanktonic assemblages in Nalganga Reservoir was studied in the Year 2010- 2011.

2. Materials and Methods

Nalganga Reservoir is located at Malkapur-Buldana Road, about 17-Km. Malkapur City. It is a man-made reservoir situated in the Vidarbha, Buldana District, and Maharashtra State. The plankton samples were collected by filtering 50 liters of water through plankton net having pore size 64 m. concentrated plankton samples were fixed in 5 % formalin solution. They were identified with the help of Key [2].

3. Results and Discussion

In the present study total zooplankton comprises of five groups Protozoa, Rotifera, Cladocera, Ostracoda and Copepoda. Out of these groups Rotifera is dominant group and is represented in the order of dominance as Rotifera >Cladocera >Copepoda > Ostracoda > Protozoa.

The Rotifers are microscopic soft-bodied fresh water zooplanktons. They indicate trophic status of water body. In the present study the major peak in rotifer populations is recorded during March and April, and minor peak in October. Many workers [3-4] reported the rotifer groups in their studies on the different water bodies in India. Observations showed maximum number of rotifers during summer months [5]. The present study also showed this condition in Nalganga Reservoir. The high rotifer densities in summer seasons may be due to reduced water volume and their by increased concentration of nutrients.

The Cladocerans are of commonly occurrence in almost all the fresh water bodies. They represent an important link in the aquatic food chain. This group also showed major peak in May and June, and minor peak in September and October. It is second dominating group of zooplankton in the present study. Various fresh water bodies reported Cladoceran as second dominant population [6-7].

The Copepods are major links in the aquatic ecosystem. The copepod population ranked third in order of dominance during present study. This group showed major peak in April and May and the minor peak in January and December.

The Ostracoda also form a major link in the aquatic ecosystem. The Ostracoda population ranked fourth in order of dominance during present study. This group showed major peak in summer and minor peak in winter.

Protozoans are also important members in food chain in an aquatic ecosystem. In the present study the maximum protozoan population was observed during March and April, and minimum in June. This group ranked fifth in order of dominance.

Thus the present study deals with the abundance and dominance of Zooplanktonic groups, which revealed rotifers as dominant group of zooplanktons in Nalganga Reservoir, Nalgangapur.

Table, 1: Occurrence of Zooplankton in the Nalganga Reservoir, Nalgangapur (M.S.) (+: Present; -: Absent)

Name of Group & Species	J	F	M	A	M	J	J	A	S	O	N	D
Protozoa												
1. <i>Arcello sp.</i>	-	+	+	+	+	-	-	-	-	-	+	+
2. <i>Ceratium sp.</i>	+	+	+	+	+	+	-	-	-	-	+	+
3. <i>Euglypha sp.</i>	+	+	+	+	+	+	-	-	-	-	+	+
4. <i>Opercularia</i>	-	-	+	+	+	-	-	-	-	-	+	+
5. <i>Diffugia sp.</i>	-	-	+	+	+	-	-	-	-	-	-	+
Rotifera												
1. <i>Branchious auadridentatus</i>	+	+	+	+	+	+	-	+	+	+	+	+
2. <i>Branchious divesicornis</i>	+	+	+	+	+	+	-	-	-	-	+	+
3. <i>Branchious caudatus</i>	+	+	+	+	+	+	-	-	-	-	+	+
4. <i>Branchious forficula</i>	+	+	+	+	+	+	-	-	-	-	+	+
5. <i>Asplanchna sp.</i>	+	+	+	+	+	+	-	-	+	+	+	+
6. <i>Testinella sp</i>	+	+	+	+	+	+	-	-	-	-	-	-

7. <i>Horella sp.</i>	+	+	+	+	+	+	+	-	-	-	+	+
8. <i>Filina sp.</i>	+	+	+	+	+	+	+	-	-	-	+	+
9. <i>Hexarthra sp.</i>	+	+	+	+	+	+	+	-	-	-	+	+
10. <i>Conochilus sp.</i>	+	+	+	+	+	+	-	+	+	+	+	+
11. <i>Monostyla sp.</i>	+	+	-	-	-	-	-	-	-	-	-	+
12. <i>Keratella tropica</i>	+	+	+	+	+	+	-	-	-	-	+	+
13. <i>Notholca sp.</i>	+	+	+	+	+	+	-	-	-	-	-	+
Cladocera												
1. <i>Leydigia sp.</i>	+	+	+	+	+	+	-	-	-	-	+	+
2. <i>Chydrous sphaerius</i>	+	+	+	+	+	+	-	-	-	+	+	+
3. <i>Bosmina sp.</i>	+	+	+	+	+	+	-	-	-	-	+	+
4. <i>Macrothria laticoruis</i>	+	+	+	+	+	+	-	-	-	+	+	+
5. <i>Monia Brachiata</i>	+	+	+	+	+	+	+	-	-	+	+	+
6. <i>Diaphenosoma sp.</i>	+	+	+	+	+	+	+	-	-	+	+	+
7. <i>Diaphnia sp.</i>	+	+	+	+	+	+	-	-	-	+	+	+
Ostracoda												
1. <i>Cypris sp.</i>	+	+	+	+	+	-	-	-	-	+	+	+
2. <i>Cyprinotus sp.</i>	+	+	+	+	+	-	-	-	-	+	+	+
Copepod												
1. <i>Mesocyclops hyalins</i>	+	+	+	+	+	+	-	-	-	-	+	+
2. <i>Mesocyclops sp.</i>	+	+	+	+	+	+	-	-	-	+	+	+
3. <i>Phyllodiaptomus sp.</i>	+	+	+	+	+	+	-	-	-	+	+	+

4. References

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