



INVESTIGATION OF ZOOPLANKTON COMMUNITY IN TERU-DAM AT HALI-HANDERGULI, DIST. LATUR( M.S.)

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ABSTRACT

In the latest research work we provide quantitative information on the month wise variations of zooplankton in Teru dam. It is most fascinating group of microorganism found in aquatic environment. They play an important role in the food chain of aquatic ecosystem. In the observation period from January to December seasonal fluctuation are recorded in zooplankton species. Zooplanktons are capable of affecting the entire aquatic biota. Its fluctuation bring out change in the natural aquatic ecosystem, hence its study is necessary for the composition and distribution.

KEYWORDS : Zooplankton, Investigation, Teru-Dam

INTRODUCTION:-

The zooplankton plays an important role in the aquatic ecosystem. They act as food for small fishes in aquatic ecosystem and importance in fishery research. The zooplankton can also play an important role for indicating the presence or absence of certain species of fishes in a pond or in determining the population densities. They form a bulk food for variety of secondary consumers including commercially important groups of crustaceans, fishes and prawns. They help generation of potentially functional and dynamic aquatic community. Pawaret. al., (2006) showed that the importance of plankton study is very useful tool for the assessment of biotic potential and contributes to overall estimation of basic and general potential of water body.

Excess use of chemicals in the agricultural sectors causing depletion of aquatic biota due to pollution of water bodies Romc and Romc (2003) same effect also observed by Hatchinson(1967).

Zooplankton has been recommended as regional bio-indicators of lake eutrophication zooplankton biodiversity are usually considered to be good indicators of environmental changes in aquatic ecosystem observed by Pawar S.M.(2014). These organisms have been little studied in aquatic ecosystems of Maharashtra Udgir region, therefore their potential value as indicator of alterations in the water quality of dam in these region needs to assessed. This study essential to investigate the structure and composition of the zooplankton community in teru-dam.

STUDY AREA:-

The Teru-Dam is associated just near Hali-Handergulital. Udgirdist. Latur, it is an about 21km. away from the Udgir city. It is most largest dam in Udgirtaluka and the total area of dam is about east-west 2.5km and south-north is 1.8km occupied by water. The water is used for irrigation and it also supply for drinking purposes to the different 52 villages. The maximum depth of water is 15-20 meters at the frontal side of dam.

MATERIALS AND METHOD:-

The water samples were collected for the investigation of zooplankton community from the four different sites of the dam. The water samples collected for zooplankton analysis for seasonal period of one year from Jan-2013 to Dec 2014.

The sample were collected by using plankton net made up of blotting cloth (with 30 meshes/cm) the sample collected in 1000 ml. bottles and preserved 5 % formaldehyde solution the formalin fixed plankton samples ever centrifuged at for 10-15 minutes the zooplankton settled at bottom were diluted to a desirable concentration in such a way that they could be easily counted individually under compound binocular microscope and zooplankton were measured Sharma B.K.(2008) and APHA(2005) species diversity species richness were calculated.

RESULT AND DISCUSSION:-

10 species of Rotifer, 07 species belongs of Cladocera, 03 Microscopic study, 02 species of Ostracoda and 02 species of Copepoda all these seasonal investigation are expressed in the following table.1

Table 1: Occurrence of zooplankton in Teru-dam at Hali-Handerguli, Udgir (M.S.) (+; Present;- Absent)

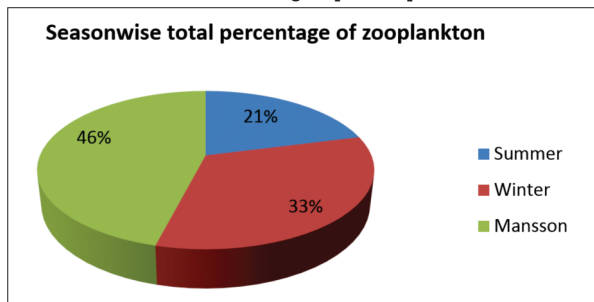
Name of the group and species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Rotifera</b>												
1 Branchiousquadridentatus	+	+	+	+	+	+	-	+	+	+	+	+
2 Branchiousdiversicornis	+	+	+	+	+	+	-	-	-	-	+	+
3. Branchious Caudatus	+	+	+	+	+	+	-	-	-	-	+	+
4. Branchious Faoficula	+	+	+	+	+	+	-	-	-	-	+	+
5. asplanchnasp	+	+	+	+	+	+	-	-	+	+	+	+
6. Testinella sp	+	+	+	+	+	+	-	-	-	-	-	-
7. Horella sp.	+	+	+	+	+	+	+	-	-	-	+	+
8. Filina sp.	+	+	+	+	+	+	+	-	-	-	+	+
9. Hexarthra sp	+	+	+	+	+	+	+	-	-	-	+	+
10. Conochilus sp	+	+	+	+	+	+	+	-	+	+	+	+
11. Monostyla sp	+	+	+	+	+	+	-	-	-	-	-	+
12. keratella tropica	+	+	+	+	+	+	+	-	-	-	+	+
13. Notholca sp	+	+	+	+	+	+	-	-	-	-	-	+
<b>Cladocera</b>												
1 Leydigiasp	+	+	+	+	+	+	-	-	-	-	+	+
2 Chydroussphaerius	+	+	+	+	+	+	-	-	-	+	+	+
3 Bosminasp	+	+	+	+	+	+	-	-	-	-	+	+
4 Macrothriaticoruis	+	+	+	+	+	+	-	-	-	+	+	+

5Monia Branchiata	+	+	+	+	+	+	+	-	+	+	+	+
6 Diaphenoscamasp	+	+	+	+	+	+	-	-	-	-	+	+
7 diaphniasp	+	+	+	+	+	+	-	-	-	+	+	+
Ostracoda												
1 Cyprissp	+	+	+	+	+	+	-	-	-	+	+	+
2 Cyprinotussp	+	+	+	+	+	+	-	-	-	+	+	+
Copepoda												
1 Mesocyclopshyalins	+	+	+	+	+	+	-	-	-	-	+	+
2Mesocyclops sp	+	+	+	+	+	+	-	-	-	+	+	+

In the present study total zooplankton comprises of four groups they are rotifer, cladocera, ostracoda and copepoda. Out of these groups Rotifer is dominant group and is represented in the order of dominance as Rotifera>Cladocera>Copepoda>Ostracoda.

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 recorded during March and April, and minor peak in October. The same study also showed this condition in Yeshwant Sagar 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 like 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. Govind (1978), Ganpati and Pathak (1979), Sharma (2008), Akther et.,(2007)reported cladoceran population as second dominant from various fresh water bodies.

The copepods are major links in the aquatic ecosystem reported Choubey (1991) and Das (1989). 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. Sharma (1980) reported the bimodal pattern in copepod population as reported in the present study.The ostracoda also form a major link in other aquatic ecosystem Khan et.,al,(1986). 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 protozoan population was not observed in research period.Thus the present study deals with the abundance and dominance of zooplanktonic groups, which revealed rotifers as dominant group of zooplanktons.



**CONCLUSION:-**

As per seasonal observation the quantity of zooplankton in monsoon season is more than that of other two seasons. The rotifers are known to be the best food for the fish larvae in an aquatic ecosystem. It is concluded that the zooplankton is an essential food in aquatic food chain so its study is necessary.

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