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# Quantitative analysis of Zooplankton of Ghagardara dam, District Nanded, Maharashtra, India

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**ABSTRACT**

The present study was conducted to the Quantitative Analysis of Zooplankton of Ghagardara Dam of Kandhar Taluka in Nanded District, Maharashtra, India, during the year June 2017 to May 2018. Presently 41 Zooplankton genera representing various groups 11 species of Cladocera 05 species of Ostracoda 08 species of Copepoda 17 species of Rotifera. Among Zooplankton particularly Rotifera was the dominant group throughout the study. The highest count of 1877 species was record in the month of May.

**Key word:-** Ghagardara dam, Zooplankton, Rotifers, Cladocera, Ostracoda, Copepoda.

## INTRODUCTION

The Zooplanktons are important for fishes as they are used as source of food. The seasonal fluctuations of Zooplanktons population can be expressed by various quantitative parameters such as population density, biomass and biochemical compound. Zooplanktons are important in nutritive level, temperature, and population used to determine the health of an ecosystem (purushothama et all, 2011). The biodiversity of phytoplankton of Zooplanktons are also rich in nature (Kangasabapathi and Rajan, 2010). (Salve and Hiware, 2010). Zooplanktons is good indicators of the changes in water quality because they are strongly affected by environmental conditions and respond quickly to changes in water quality. Zooplanktons are the intermediate link between phytoplankton and fish (Pawar, 2017a, 2017b, 2018a, 2018b, 2018c).

The present investigation have been undertaken to study a quantitative analysis of Zooplankton in Ghagardara Dam. Qualitative and quantitative analysis of Zooplankton assessment were carried out. The Ghagardara Dam is an earthen pond 315 m. in length with maximum height 19.84 m. Full tank level (FTL) 468.70 m. and maximum water level (M.W.L.) 471.20 m. The water of dam is one of the most important aquatic resources. The water of dam is used irrigation, fish culture and drinking purposes. Hence

qualitative and quantitative studies of Zooplanktons are of great importance in dam water body.

## MATERIAL AND METHODS

The methods for the collection preservation and enumeration of plankton have been described monthly samples of Zooplankton were collected from Jun 2017 to May 2018, by using plankton net of mesh size 41 µ m. plankton samples, were collected from four fixed stations between 8:00 A.M. to 11:00 A.M. the sample were transferred to 500 ml. capacity plastic bottles and preserved using 4% formalin solution. Standard fauna and other literature were used for identification of different Zooplankton species. APHA (1989), Pennak (1989), Dhanapathi (2000). The number of Planktons Perliter was determined using Sedgwick rafter cell by taking 1 ml of approximately diluted sample and the observation was reported number of Zooplanktons per liter.

## RESULTS AND DISCUSSION

The prominent group of Zooplankton identified during present study were Cladocera, Ostracoda, copepoda and Rotifera. The list of Zooplanktons observed is given below:

**1. Cladocera:**
*Ceriodaphin laticaudata, C. cumuta, Alonarectangula richardisars, Moina brachiata jurine., M. micrura, Daphinia, Bosminia, Chydorus sp., Pseudosida sp., Simocephalus, Sida sp.*

**2)Ostracoda:**
*Strandesia, Stenocypris, Cypris, Heterocypris, thermocyclops.*

**3) Copepoda:**
*Cyclops sp., C. sternuus Argulusfoliaceous, Mesocyclops sp., Microcyclops sp., Heliodioptomus sp. ,Nauplius, Undinula valgaris.*

**4) Rotifera:**
*Asplancha, A.intermedia, Brachious durgae, B. calyciflorus, B. falcatus typical, B.rubens, B. Caudatus, B. forficula, B. diversicornis, Filinia bory., F. terminals, Keratella, Philodena. K. crassa, K. chochlearis, K. tropica, Notholea sp*., The monthly variations in the density Quantitative Analysis of different groups of Zooplanktons is shown in the table.

The amount of natural food in the dam is the most important parameter determining the efficiency of supplementary feed intake by fish by growth. The present observation is similar to those observation made by other workers. Ramakrishna (2014) ABDAR (2015), PATEL *et al.* (2015), Dede, and Deshmukh (2015), Jose *et al.* (2015), (Pawar, 2017a, 2017b, 2018a, 2018b, 2018c), Kehayias *et al.* (2014), Manickam (2015), Manickam *et al.* (2014), Watkar and Barbate (2013), Smitha *et al.* (2013).

**Table 1:** Month wise Quantitative Analysis (No/Lit) of Different Zooplankton Groups of Ghagardara Dam During the Year June 2017 to May 2018.

| Zooplankton Group | Monsoon Season | | | | Winter Season | | | | Summer Season | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | March | April | May | |
| **1** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** |
| **Cladocera** | 53 | 85 | 112 | 121 | 128 | 147 | 171 | 131 | 110 | 109 | 80 | 61 | **1308** |
| **Ostracoda** | 18 | 23 | 47 | 52 | 49 | 41 | 35 | 39 | 71 | 77 | 82 | 68 | **602** |
| **Copepoda** | 106 | 103 | 118 | 107 | 91 | 98 | 111 | 101 | 107 | 122 | 129 | 118 | **1311** |
| **Rotifera** | 57 | 98 | 109 | 120 | 182 | 210 | 240 | 272 | 247 | 139 | 111 | 92 | **1877** |
| **Total Zooplankton** | **234** | **309** | **386** | **400** | **450** | **496** | **557** | **543** | **535** | **447** | **402** | **339** | **5098** |

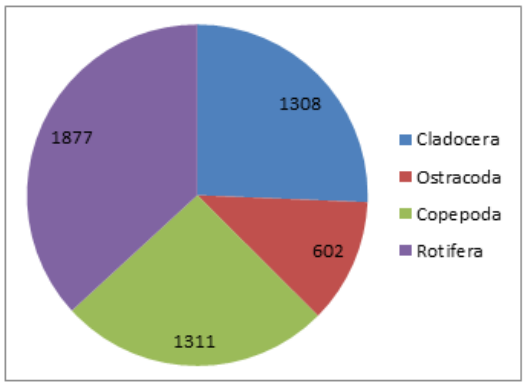


**Figure 1:** Different Zooplankton Groups in Ghagardara Dam. During the Year June 2017 to May 2018.

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