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Studies on Zooplankton Diversity of Kavery River at Omkareshwar Area

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Abstract- Air, water, land, flora and fauna are the natural resources of the earth. Water is vitally important substance. It is the medium, which gave birth to first primitive living molecules. The role of planktonic organisms in aquatic environment is an essential link in the food chain and they are capable of affecting the entire aquatic biota. For the study of water quality, the limnological observation is needed. As the living organisms found in water are reliable indicators of water quality. Most of the organisms are being extensively used as indicators of water pollution. The biological indicators provide a direct clue and quick information of the aquatic systems. In present study, the zooplankton of the River Kavery was studied for a period of one year. It deals with the total zooplankton diversity and seasonal variation of river Kavery. The qualitative samples observed from the study site showed an annual species diversity of 48 species. Out of 4809 species belonged to Protozoa, 15 to Rotifera, 16 to Cladocera , 06 to Copepoda and 02 to Ostracoda .The maximum zooplankton species(45) were recorded in summer 2009 and the minimum species diversity (31) occurred in the winter season 2008-09 at the study site of river Kavery. The rich diversity of plkankton in River Kavery may be due to sufficient nutrients present in the river.

Keywords- *Kavery River, zooplankton, biological Indicators, aquatic biota*

I. INTRODUCTION

Air, water, land, flora and fauna are the natural resources of the earth. Water is vitally important substances. It is the medium, which gave birth to first primitive living molecules. Without water, we can't imagine lakes, rivers, wetlands and life on earth.

The availability of pure and clean water is now a glaring topic everywhere in the world. River constitutes a very important part of our environment. Water pollution is a serious problem for entire world. It threatens the health and well being of human, plants and animals. As the world become more industrialized and smaller due to communication and trade, accidental and purposive hazardous dumping have contributed to the problem of river pollution. All water pollution is dangerous to the health of humans and animals. Population all over the world use river as primary sources of potable water. Water neesds to be free of salinity, plants and animal waste, heavy metals, stoxin and bacteria,to be safe of drink. Water scarcity and water pollution are becoming increasing problems in many areas of world. All over the world, the rivers in high altitude are subjected to exploitation to generate hydel energy resulting disturbance in the riverine ecosystem including deterioration of water quality and affecting associate abiotic and biotic components.

II. MATERIAL AND METHODS

Kavery study site

The Kavey study site is situated at ($22^0$14'N,$76^0$10'E) a distance of about 1 km from the confluence point of river Narmada and Kavery.Kavery joins River Narmada at left bank. This station has a depth range between 5-8m.

General methodology

Analysis of plankton of water: It included parameters under zooplankton. Qualitative studies of the zooplanktonic population were made at the studies as per the standard methodology given in Welch (1948, 52), Ruttner (1963) and Wetzel (1983). For qualitative studies plankton samples were collected by standard plankton net made of nylon monopfilament screen cloth with a mesh size of 120µ and 60µ.

III. MATERIAL AND METHODS

Biological Characterstics of river Kavery

In the present study,the zooplankton of the River kavery was studied for a period of one year.The present study deals with the total zooplankton diversity and seasonal of river Kavery.

Zooplanktonic diversity

The qualitative samples observed from the study site showed an annual species diversity of 48 species. Out of 48,09 species belonged to protozoa,15 to Rotifera,16 to Cladocera, 06 to Copepoda and 02 to Ostracoda. The maximum zooplanktonic species (45) were recorded in summer 2009 and the minimum species diversity (31) occurred in the winter season 2008-09 at the study site of Kavery river.

IV. Result and Discussions

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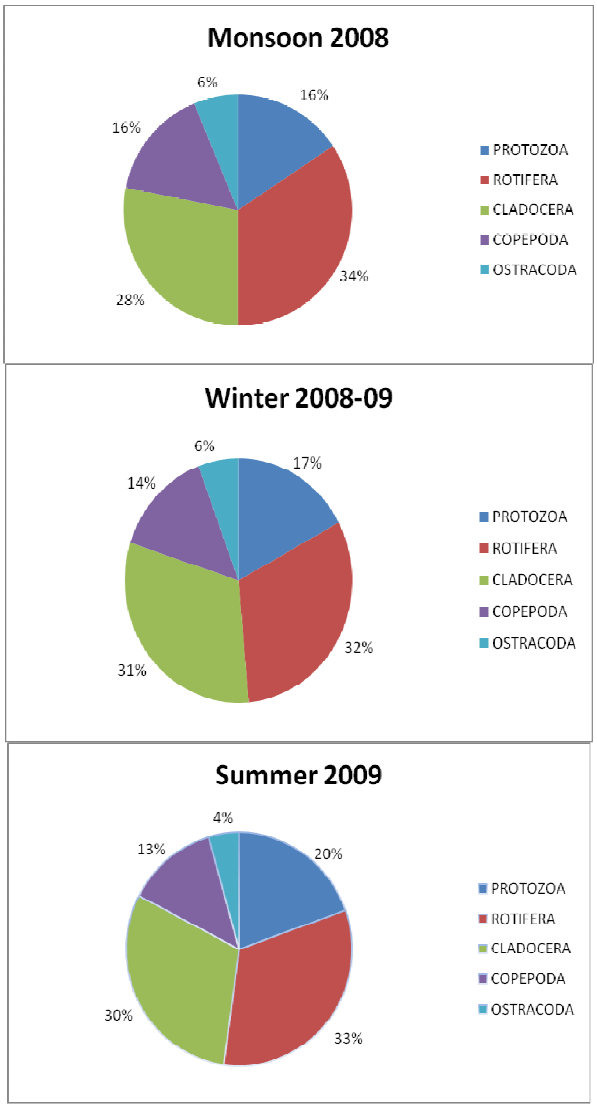

Fig:1 Graph showing seasonal occurrence of different Zooplankton group at Kavery River.

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