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Study of cladocera diversity with reference to chydoridae and bosmanidae family of nira left bank canal baramati and Tarangawadi Lake of indapur Taluka district Pune

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ABSTRACT

The present paper focuses on the study of cladocera of nira left bank canal and Tarangawadi lake of indapur and baramati region cladocera are fresh water zooplankton inhabiting oll the niches of fresh water bodies. The study of cladocera has being fascinating subject to the biologist. In the digestive tract of most fishes one to ninty percent cladocera are found. Hence in order to increase pisiculture study of cladocerans are important. The water samples were collected between 8 am to 11am during the year Dec 2010 to august 2011. The collected samples were preserved in 4% formalin to study diversity of chydoridae family. The species identified by standard key method. About 17 species have been recorded identification was based on the presence of body parts

Introduction

Cladocerans are fresh water zooplankton inhabiting oll the niches of fresh water bodies. The cladocerans has been the object of microscopic study dating back to 18th century. Cladocerans are minute forms the average length being 0.2mm to 3.5mm.

Swammerdan (1969), Muller (1785), Daday(1889) and sars (1901) revealed the valuable information about the cladocerans . The cladocerans fauna of the united states has been the result of several workers. Birge (1918), Pennak (1953) and Brook (1959) wrote a comprehensive chapter on the cladocerans of the united state. The book on chydoridae cladocerans of the ussr is a notable contributation from smirnov (1974) Near about 110 species have been recorded from india (patil and Goundar 1984) .

The cladocerans are divided into 7 families Daphnidae, Chydroidae, Macrothriadae, Moinidae are found in india and Polyphenidae , Leptidoridae, Holopodidae are characteristically absent in the inland water of India. Family Chydrodiae is divided into orders Alona, Biapertura, pleuroxus, dunhevida, chydorus.

Topography of Area

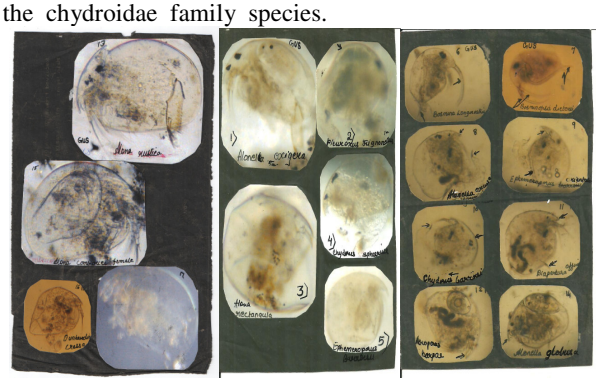
The water bodies of Baramati and indapur region were selected for water sampling. Nira left bank canal is built on the veer dam and flows through the purandar, baramati and indapur region it lies at latitude 18 08 28 n and longitude 74 32 0.2 02 east Tarangawadi lake is situated in indapur region it is 50 km away from baramati region water from Khadakswasala dam water is stored in the lake it lies at latitude about 18n and 19N Latitude and 75 east longitude east.

Material Method

The water sample were collected from both Nira left bank canal baramati region and Tarangawadi lake of indapur region. The samples were collected using plankton net and stored in 100ml bottles during early morning hours between 8.am to 10am. The collected samples were preserved in 4% formalin.

The collected samples were placed in sedwig Rafter cell slide. The volume of cell 1/cm3 or 1ml exactly 1ml of sample is kept on the slide and a special cover glass is kept over it after organism settle. The chydroidae family order Alona were separated and again identified. The identification of the species were done with the help of standard key methods used for identification of cladocera with reference to chydroidae family.

Body parts like head, antennae, upper lip, labrum , rostrum beak like structure between antennules , post abdomen and coiled intestine are taxonomically important for identification of the chydroidae family species.



Result

Total 17 species have photographed and recorded from

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both Nira left bank canal and Tarangawadi lake it seems that both the water bodies are rich source of cladocera (chydoridae) species it is good food source for pisiculture

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Sr	Species	Dorsal /Ventral	Anntenules	Labrum	Postabdomen
1	Alona exigera	round	long	pointed (beak)	Trigonal with denticles And claw
2	Pleuroxus Trignonellus	Dorsal hood like	short	short	Elongated with pair of claw
3	Alonella Rectangula	round (half moon shape)	elongated	pointed	elongated with claw
4	Chydorus Sphaericus	round	short	beak like	elongated with denticles With single claw
5	Ephemeroprus	Square shape	Short	pointed beak	present
6	Bosmina Longirostis	dor(round) Ven(vase shp)	short	elephant trunk like elongated	single claw point spine at base
7	Bosminopsis Dieterus	dor(round) vent(vase shp)	short	elephant trunk like elongated	pair of claw
8	Alona Excusa	round	short	pointed curved inside elongated	dot on abdomen
9	Ephemeroporus Orientalis	dor(round) ven(square)	blunt	short	elongated with claw
10	C.Barroisi	Spherical	short	short stick like pointed	bears a basal spine
11	Biapertura Affinis	round	Blunt	short	short with claw
12	Acroperus Harpae	round	long Beak like	birfucated	short with claw
13	Alona Rustica	round	elongated hairy	stick like	Triangular With Bifurcated claw
14	Alonella Globusa	round	long	stick like	short with claw
15	Alona Combouei	round	long	pointed	
16	Dunhevedia Crassa	round	short	triangular shp	
17	Pleroxus similis	round	v short	short bifurcated	Body transparent whitish in colour

Discussion

Chydoridae bears antennae situated in the head region is represented by formula 1-1-30-0-3 or 0-1-3 the antennae serves for locomotary organ. The upper lip labrum is taxonomically0-0-1 important in chydoridae and it bears a keel. The presence or absence of the hair or setae and their size on the legs are counted for systematic position. The post abdomen may be short and stout it bear spine and denticles of various shape and arrangement are of great taxonomic important and the intestine is coiled in chydoridae. Rostrum is stout beak like structure situated between the antennules. It is long and pointed its shape and size are taxonomically important. In alona spp the ocellus is bigger than the eye brain optic gangilion and anterior part of the digestive tract in the head region. Apair of club shaped or slender antennules bearing sensory setae at the free end in the head region.

Both the water bodies of nira left bank canal and Tarangawadi are rich source of food to fishes which will be useful in increasing pisiculture good for production of carps.

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