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Comparative Study of Rotifers in Two water bodies from Omerga Taluka (M.S.) India

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Abstract

The study of comparative diversity of rotifers in two water bodies from Omerga Taluka (m.s.) India. The work was carried out during the year June 2022 to May 2023. Jakkekur water bodies 8.5 km & Bennetura water bodies about 18 km away from omerga Taluka head quarter. The both dams were manmade in 1978 and 1984 completed. Jakkekur is longitude 76°-34-0 and latitude 17°--48°-30°.The maximum height of the dam is 14.83 meters, the catchment area is 21.00Sq.kms.full tank level is 11.30.m.The second water tank of Bennetura.It's location is longitude 76°-27"--40°and latitude 17°--47"-40°,.The maximum height is 13.38 m. , The catchment area is 79.58 Sq.kms. capacity of living storage 11.47 M³.Full tank level water 10.30 m. The water bodies used for irrigation, domestic activities, cloth washing & fish culture purposes. The quantitative analysis of rotifer was Carried out as a part of the Limnological investigation of these jakkekur & bennetura water tanks. In the present study there are sixteen species of rotifers.They are seven different families such as Branchionidae (08), Filiniidae (02) Lecanidae (02), As planchidae (01), Hexarthidae (01) Synchatridae (01) and Trichocercidae (01) species were found in Jakkekur & Bennetura Water bodies from omerga taluka.

Keywords: *Diversity of rotifers, 07 Family, 16 Species, Jakkekur & Bennetura Water bodies, Site A & B, Omerga Taluka.*

Introduction

Rotifer is one of the most important role in energy transfer in an aquatic ecosystem. Its microscopic aquatic animals found in many fresh water bodies in moist soil where they inhabit the thin Films of water that are formed around soil material. The habitat of rotifer may include still water environments, such as Lake bottoms as well as flowing water environments such as rivers of stream. Rotifer present a high diversity in Fresh water ecosystem they play an important role in the trophic dynamics and in energy transfer in the aquatic ecosystem. Rotifer species exhibit marked difference in their tolerance and adaptability to changes in parameter like physicochemical and Biological. The provide food for Fishes and in fish production. Among the rotifers can Populate Vacant niches with extreme rapidity and primary production into a form unable for secondary consumers, producing up to 50%. of the total plankton biomass. Rotifers is one of the Fascinating group of Zooplankton in the aquatic ecosystem Its occurred almost universally in freshwater habitat & Form an important group of zooplankton community. At about globally ground 2000 species of rotifers are known Shiel (1995) and Howey (1999), They are very common in Indian water their occurrence in entropic water bodies is also well noted somoni et'al(2013) with the global loss of thousand of species as a result of population habitat disturbance assessment of species diversity and richness are needed May (1986). The Omerga taluka Is intangible most important tren of Dharashiv district in the respect zooplankton study, so that is the first attempt of such type of study as per our knowledge of Jakekur & Bennetura water bodies.

Material and methods:

Comparative study of rotifers in Jakekur & Bennetura Water bodies from omerga taluka. The water sample site A &B were collected seperately plastic bottle monthly for a period a year from June 2022 to May 2023, the water Sample Filtered with help of bolten silk (200 Meshes/cm) conical net sample were collected especially form comparatively undisturbed part of pollution and its eutrophic condition. plankton sample were obtained by Filtering so liters of water through the net for quantitative and qualitative analysis and presented 4./ Formalin with a small amount of glycerine For Further studies in 100ml plastic bottles. Some live sample were isolated and in living condition. The rotifers was observed for their taxonomic identification by using key and monographs of Pennalc (1978) Battish

(1992), Kodarkar (1998), Dhonpathi (2000), Warner et al (1988), Orston (1999) and has Further been confirmed with the kind help From experts as Zoologist.

Result & Discussion:

Table No1: Occurrence of fresh water rotifers into Jakekur and Bennetura water bodies (June 2022 to may 2023)

Sir no.	Family	Species'	Occurrence Rotifer in Jakekur	Occurrence Rotifer in Bennetura
1	Brachionodae	1. Brachionus Calyciflorus	++	+
		2. B. .Urceolaria	+	-
		3. B .Forficula	+	+
		4. B Anguaria	+	+
		5. B.Caudatus	+	++
		6. Anuareopsisfissa	+	-
		7. Keratella Tropica	++	+
		8. KTicilensis	++	++
2	Filiniidae	1. Filinilogiseta	+	++
		2. F. Apiloensis	+	-
3	Lecanidae	1. Lecanebulla	_	+
		2. L. Papuana	+	+
4	Asplanchnaidae	Asplanchna Sp.	+	+
5.	Hexarthridae	Hexarthra Sp.	+	-
6	Synchatridae	Polyarthravulgaris	+	-
7	Trichocercidae	Tricocera cylindrical	-	+

Table no: 2 Monthly Population of rotifers in Jakekur water bodies Jun 2022 to May 2023

Months/Sample station	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
A	11	08	05	08	07	11	11	09	07	12	10	11
B	07	08	05	05	08	10	09	09	06	08	07	12
Average	09	08	**05**	6.5	7.5	11.5	10	09	6.5	10	8.5	**11.5**

Graph No: 1 Graphically study of monthly variation in rotifers in number per list Jun 2022-May-2023 at station A and B site. in Jakekur water bodies.

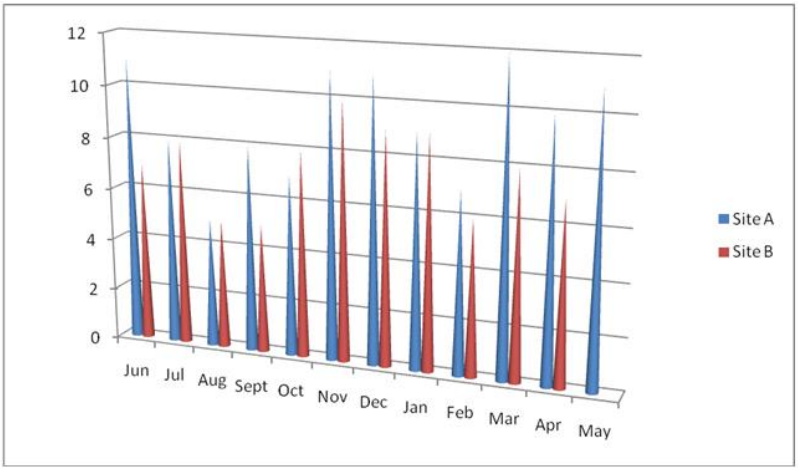
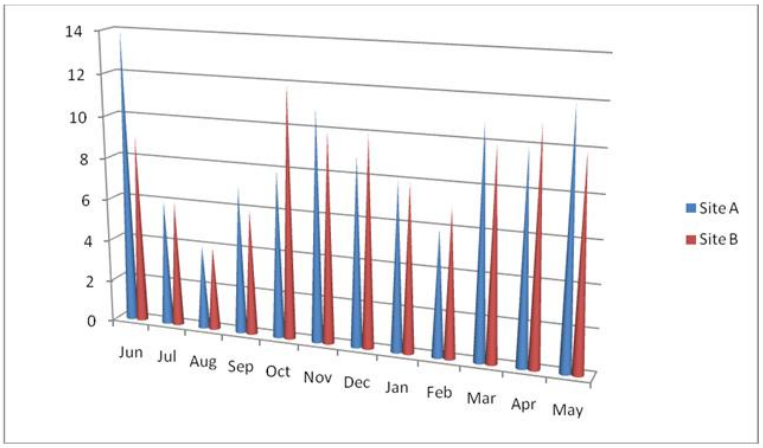


Table no: 3 Monthly Population of rotifers in Bennetura water bodies Jun 2022 to May 2023

Months/ Sample station	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**
A	14	06	04	07	08	11	09	08	06	11	10	12
B	09	06	04	06	12	10	10	08	07	10	11	10
Average	11.5	06	04	6.5	10	10.5	9.5	08	6.5	10.5	10.5	11

Graph No: 2. Graphically study of monthly variation in rotifers in numbes per list Jun 2022-May 2023 at station A site and B site in Bennetura water bodies.



The present result shows that comparative diversity of rotifers in Jakekur and Bennetura water bodies from Omerga Taluka was carried out during a year Jun 2022 to May 2023.The rotifers comprise seven families and about 18 Species belonging to Family Branchionidae (08) species is dominant any other family than Filiniidae (02) species, family Lecanidae (02) species. Family Asplanchnidae, (01) species, Family Hexarthridae (01) species family Synchatridae (01) species and Family Trichocercidne only one species (shown Table no.1. Monthly variation of population of rotifers was highest in summer season, while lowest in the monsoon season in Jakkekur & Bennetura water bodies.

The average of rotifers population between 05 to 11.5/50 lit.in water sample A site and B site of Jakekur. The number of maximum population in 11.5/50 lit. month of May and minimum in 05/50 lit. month of Augest (shown Table no.2 &Graph no 1).In Bennetura average of rotifers population between 04 to 11.5/50 lit in water sample A site and B site.The number of maximum population in 11.5/50lit.month of June and minimum in 04/50 lit.month of Augest (shown Table no.3 & Graph no.2) ..The observed total rotifers population the comparative study a period .The high diversity of rotifers was observed in water sample A and B site of Jakekur and Bennetura water bodies.The occurrence of Fresh water rotifers species than were tolerance to organic pollution in the water bodies indicates the polluted nature of jekkekur –bennetura. In the some work of rotifers by. Chandarshekhar & Kodarkar (1995), Somani & Pejaver (2003)

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Conflicts of Interest
The authors declare that there are no conflicts of interest regarding the publication of this paper.

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