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Ichthyofaunal diversity of Rajewadi Lake, Tal- Atpadi, Dist-Sangli (MS) India

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Abstract

The present study to find out ichthyofaunal diversity of Rajewadi Lake was carried out between June 2013 to May 2014. The samples were collected at four stations with the help of local fishermen. The specimens were collected during the period June 2013 to May 2014, and studied the fish diversity of the tank water. Out of 25 fish specimens identified, 14 were from order Cypriniformes, 7 from order Siluriformes, 3 from Perciformes and 1 from order Synbranchiformes. By analyzing the data it is confirmed that the lake is rich in ichthyofauna and needs to be more exploited for commercial fishery and management for conservation of native ichthyofauna is must.

Keywords: Rajewadi Lake, Ichthyofauna

1. Introduction

Fishes are the rich source of aquatic food rich in protein source inhabiting aquatic life. Fishes are the indicators of status of aquatic body related with aquatic pollution. Due to various anthropogenic activities in the catchment area like sewage disposal, industrial waste dumping, industrial effluents, domestic animal waste, vehicle washing the biochemical status of aquatic body makes the water body polluted that may hamper the aquatic life in that water body and makes the water body unfit for any human use. Fish has been recognized as suitable for biological assessment due to its easy identification and economic value (Siligato & Bolumer, 2001). Ichthyofauna has been widely used as ecological monitors to determine the level of degradation and health of water body at different scales (Vijayalaxmi *et al.* 2010. Plafkin *et al.* (1989) monitored that there are many advantages of using fish diversity as biological indicators. Earlier studies made on ichthyofauna of different water body resources in India (Jayram, 1981 & Mishra *et al* 2003) [5]. Pawar *et al* (2006) studies ichthyofauna of Pethwadaj dam, Nanded, Kulkarni *et al* (2008) studied fish and fisheries of Derala Tank, Nanded District, Maharashtra, Ravinder (2010) studied biodiversity of fishes in Dharmasagar reservoir, Warangal district, Andra Pradesh. Nikam *et al* studied fish diversity at Asthi Lake, Solapur district. The objective of the study was to collect data regarding diversity of ichthyofauna of Rajewadi Lake and to suggest some remedial measures to explore the productivity of this lake.

2. Materials and methods

2.1 Study Area

The fish samples were collected from Rajewadi lake monthly during the period June 2013 to May 2014. This lake is located near Rajewadi town, Tal-Atpadi Dist- Sangli (M.S.). The Lake is located in Sangli District while its catchment area is located in Satara district while the water from lake is used by for irrigation purpose by Solapur district.

2.2 Methods

The fish samples were collected from four different collection stations of study area from June 2013 to May 2014 with the help of local fishermen using gill net. The collected samples were documented through photography. Then the samples were brought to the laboratory for

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their identification and preserved in 10% formaldehyde solution. The fish fauna was identified with the help of standard keys of Day (1878), Jayram (1981) [5] and Talwar and Jhingran (1991) [7].

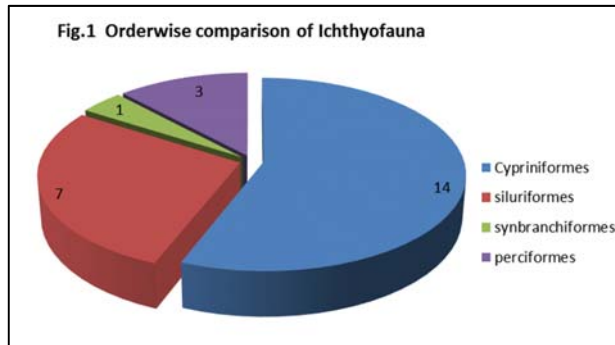
3. Results and Discussion

Total 39900 species of vertebrate fauna is recognized worldwide of which 21723 species belongs to ichthyofauna of which 930 belongs to fresh water and remaining to marine water (Jayram 1991). Fresh water lakes, ponds and manmade farm ponds may fulfill additional food requirement of human population, create more job opportunities and will help in uplifting socioeconomic status of poor fishermen. In the present study 25 fish specimens were identified, 14 were from order Cypriniformes, 7 from order Siluriformes, 3 from Perciformes and 1 from order Synbranchiformes. Among all orders Cypriniformes were dominant comprising 14 species. These were *Labeo angra*, *Cirrhinus mrigala*, *Cirrhinus*

fulungee, *Catla catla*, *Labeo calbasu*, *Osteobrama cotio cotio*, *Labeo sindensis*, *Puntius jerdoni*, *Cirrhinus reba*, *Puntius amphibious*, *Garra mullya*, *Garra gotyla gotyla*, *Salmostoma navacula* belonging to cyprinidae family. The order siluriformes were represented by 7 species these were *Mystus malabaricus*, *Rita rita*, *Mystus montanus*, *Aorichthys aor* *Ompok bimaculatus*, *Heteropneustes fossilis*, *Eutropiichthys murius* belonging to Heteropneustidae and Schilbeidae family. Order synbranchiformes was represented by *Mastacembelus a. armatus* belonging to Mastacembelidae family. While order perciformes was represented by *Glossogobius giuris*, *Lactarius lactarius*, *Pseudambassis ranga* belonging to Gobiidae, Lactariidae and Ambassidae family. In present investigation the order Cypriniformes was dominant with 14 species followed by order siluriformes with 7 species, order synbranchiformes with 1 species and order perciformes with 3 species.

Order	Family	Sub Family	Species			
Cypriniformes	Cyprinidae	Cyprininae	<i>Puntius ticto</i> (Ham – Buch)			
			<i>Labeo angra</i> (Ham – Buch)			
			<i>Cirrhinus mrigala</i> (Ham – Buch)			
			<i>Cirrhinus fulungee</i> (Sykes)			
			<i>Catla catla</i> (Ham – Buch)			
			<i>Labeo calbasu</i> (Ham- Buch)			
			<i>Osteobrama cotio cotio</i> (Ham – Buch)			
			<i>Labeo sindensis</i> (Day)			
			<i>Puntius jerdoni</i> (Day)			
			<i>Cirrhinus reba</i> (Ham- Buch)			
			<i>Puntius amphibious</i> (Val)			
					Garrinae	<i>Garra mullya</i> (Sykes)
						<i>Garra gotyla gotyla</i> (Gray)
		Cultrinae	<i>Salmostoma navacula</i> (Valenciennes)			
Siluriformes	Bagridae		<i>Mystus malabaricus</i> (Jerdon)			
			<i>Rita rita</i> (Ham- Buch)			
			<i>Mystus montanus</i> (Jerdon)			
			<i>Aorichthys aor</i> (Ham- Buch)			
		Siluridae		<i>Ompok bimaculatus</i> (Bloch)		
	Heteropneustidae		<i>Heteropneustes fossilis</i> (Bloch)			
	Schilbeidae		<i>Eutropiichthys murius</i> (Ham- Buch)			
Synbranchiformes	Mastacembelidae		<i>Mastacembelus a. armatus</i> (Lacepede)			
Perciformes	Gobiidae		<i>Glossogobius giuris</i> (Ham – Buch)			
		Lactariidae		<i>Lactarius lactarius</i> (Schneider)		
	Ambassidae		<i>Pseudambassis ranga</i> (Ham- Buch)			

Sr. No.	Order	Number Of Species
1	Cypriniformes	14
2	Siluriformes	7
3	Synbranchiformes	1
4	Perciformes	3



4. Conclusion

After analyzing findings of ichthyofauna recorded in Rajewadi lake it was found that this lake is rich in ichthyofaunal diversity. Fluctuations in fish community is correlated with other physico chemical and biological parameters of this lake. Habitat degradation, anthropogenic activity, sewage disposal, etc are some of the reasons for adversely affecting the occurrence of ichthyofauna in this lake. Proper management of this lake may help to boost the fish production and conservation of habitat.

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