



## RESEARCH ARTICLE

### STUDY ON ICHTHYOFAUNA OF PAKHAL LAKE IN PAKHAL WILDLIFE SANCTUARY WARANGAL DISTRICT, (TS), INDIA

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#### ABSTRACT

The fish diversity in Pakhal Lake, Khanapur Mandal, Warangal District, Telangana State, India, the survey was focused mainly on fish biodiversity and undertaken during the year 2013-2014. A total of 22 species of fishes belonging to 18 genera, 11 families were identified. Cyprinidae were found most family represented by 8 species followed by Anguillidae with 1 species, Bagridae with 2 species, Siluridae with 2 species, Notopteridae with 1 species, Channidae with 3 species, order Perciformes with 4 species and family Belonidae with 1 species. This was the systematic survey on the fish diversity of this lake. It is proposed that the scientific information on ichthyofaunal diversity and distribution status will surely help in serving the future purposes of sustainable exploitation and concurrent conservation of fish resources.

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## INTRODUCTION

Fishes are aquatic creatures, well adopted for life in water. Fresh water bodies comprise variety of fishes. Irrigation tanks are one of the important inland fisheries resources in India besides providing agricultural water. India is having very rich sources of inland water bodies in the form of rivers, canals, reservoirs and lakes. These water bodies are located in different parts of the country especially in rural areas, it mainly used as a source of drinking water, irrigation and fish production. Fishes alone contribute about 2,546 species and the fishes of inland water bodies of Indian subcontinent have been subject of study since last century (Kalbande *et al.*, 2008). Millions of people are suffering from hunger and malnutrition throughout the world while fishes form rich source of food and provide a meal to tide over a nutritional difficulties of man. Fishes have formed an important item of human diet from time immemorial and are primarily caught for this purpose (Sarwade and Khillare, 2010). In order to maintain sustainable development and stability of ecosystem, surveillance of fish faunal diversity of water bodies is needed. Kamble and Reddi (2012), Kharat *et al.* (2012), Golib *et al.* (2013), Nagabhushanam and Hosetti (2013), Chandrashekhar (2014), Biswas and Panigrahi (2014) have contributed in the field of study of fish faunal diversity in

fresh water bodies. The present study has been chosen to evaluate the present status of fish diversity to protect the biological resources of traditional use values for the livelihood of local communities depending on this lake from centuries.

## MATERIALS AND METHODS

Pakhal lake is one of the important historical, man-made freshwater lake located in the Khanapur Mandal, Warangal District, Telangana State. It was constructed during the period of Kakatiya dynasty by the great King Prathaparudra Deva. Fish samples were collected every week during the study period with the help of skilled local fishermen. Sampling location was changed for the collection of fish fauna according to the season. Identification of fishes was done up to species level at fish landing centre to get its natural colour, pattern of scales, fins, mouth pattern, paired and unpaired fins and body parts with the help of standard literature by Day (1878), Munshi and Shrivastava (1988), Jayaram (1981), Talwar and Jhingran (1991), Menon (1987), Jyothi (2006). Fish species which were not identified on the field were preserved in 10 % formalin and packed in polythene bags. These fish samples were brought to the laboratory for further identification.

## RESULTS AND DISCUSSION

In the present investigation the number and percentage of genera and species under various families were represented in the Table-I and II, and Fig. 1, 2, and 3.

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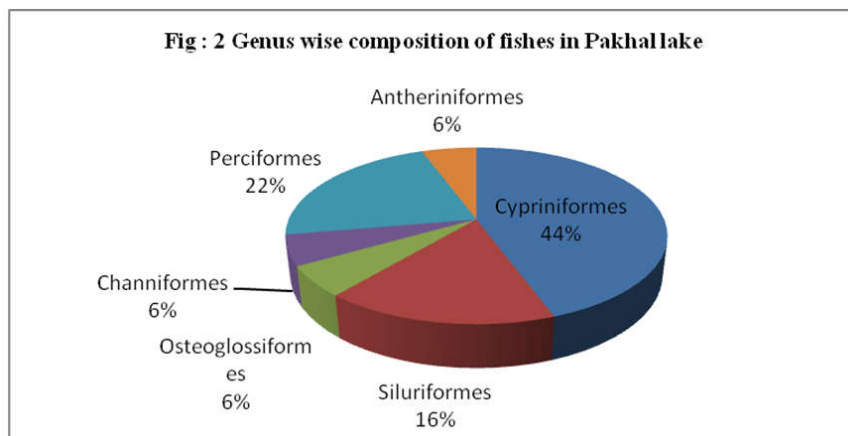
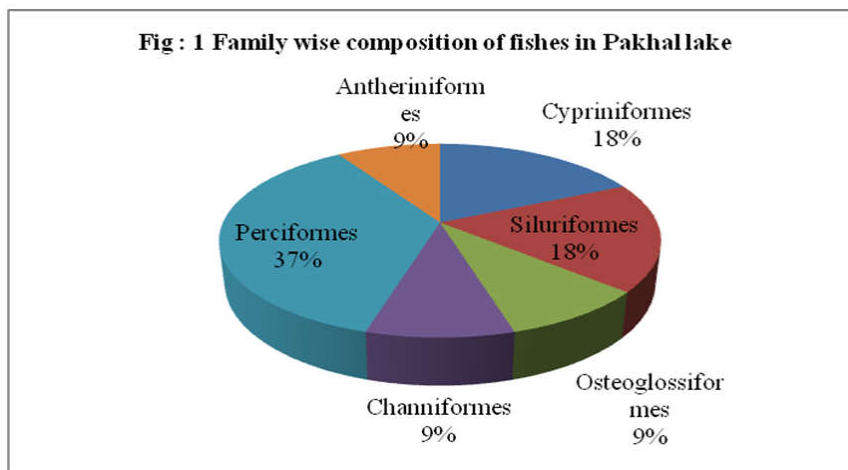
**Table 1. List of fishes collected from the lake during 2013-14**

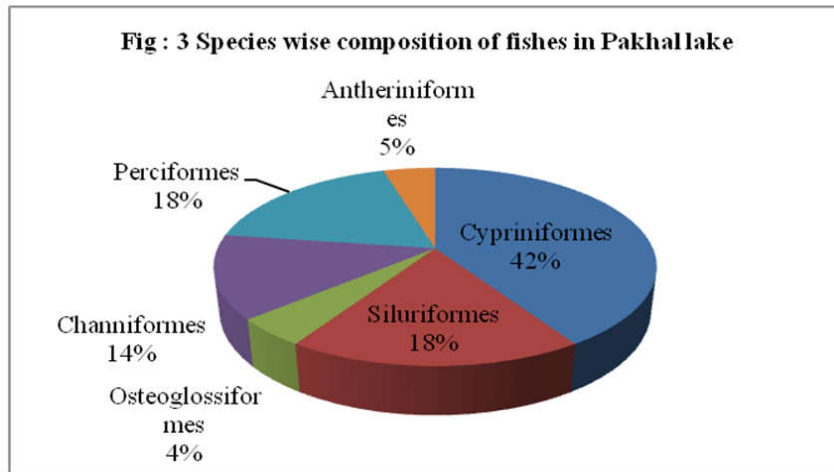
S.No.	Order	Family	Genus	Species	Local name	Status			
1.	Cypriniformes	Cyprinidae	Catla	Catla	Botcha	+++			
			Cirrhinus	Mrigala	Merige	+++			
			Labeo	Rohita	Rohu	+++			
			Puntius	Sarana	Gunda paraka	+++			
				Ticto	Budda paraka	++			
				Amblypharyngodon	Microlepis	Kodipe	+		
				Rohtee	Ogilbii	Kailam	+		
				Salmostoma	Bacalia	Chandamama	+		
			2.	Siluriformes	Anguillidae	Anguilla	Biclor	Malugubelu	++
						Bagridae	Mystus	Bleeker	Jella
Siluridae	Wallago	Seenghala			Kommu jella	++			
	Ompak	Attu			Waalugu	+++			
	Bimaculatus	Buggadamma			++				
3.	Osteoglossiformes	Notopteridae	Notopterus	Notopterus	Vollenka	+++			
4.	Channiformes	Channidae	Channa	Punctatus	Mottapilla	+			
				Striatus	Bomme	-			
				Marulius	Poomeenu	-			
5.	Perciformes	Chandidae	Chanda	Nama	Bommadarra	-			
		Nandidae	Nandus	Nandus	Pandi paraka	-			
		Gobiidae	Glossogobius	Giuris giuris	Shala korramatta	-			
		Mastacembelidae	Mastacembelus	Armatus	Paapera	-			
		Belonidae	Xenentodon	Cancela	Nayanikuntha	-			

+++ = Most abundant; ++ = Abundant; + = Less; - = Rare

**Table II. Overall qualitative and distribution of fishes**

S.No	Order	Family	Genus	species	% of Family	% of Genus	% of Species
1.	Cypriniformes	2	8	9	18	44	42
2.	Siluriformes	2	3	4	18	16	18
3.	Osteoglossiformes	1	1	1	9	6	4
4.	Channiformes	1	1	3	9	6	14
5.	Perciformes	4	4	4	37	22	18
6.	Antheriniformes	1	1	1	9	6	4
	Total	11	18	22			





**Fishes collected from Pakhal lake**



**Fig: 4** *Amblypharyngodon microlepis*



**Fig: 5** *Rohtee ogilbii*



**Fig: 6** *Anguilla biclor biclor*



**Fig: 7** *Chanda nama*



**Fig : 8** *Channa punctatus*



**Fig: 9** *Channa striatus*



**Fig: 10** *Glossogobius giuris giuris*



**Fig: 11** *Nandus nandus*



**Fig: 12** *Xenentodon cancella*



**Fig: 13** *Salmostoma bacaila*



**Fig: 14** *Puntius ticto*



**Fig: 15** *Mystus bleeker*

In ichthyofauna, 22 species under 18 genera, 11 families and 6 orders were recorded. Order Cypriniformes was dominant with 9 species (42%), Siluriformes with 4 species (18%), Osteoglossiformes with 1 species (4%), Channiformes with 3 species (14%), Perciformes with 4 species (18%), and Antheriniformes with 1 species (4%), were recorded. Cyprinidae family was dominant during study period due to their hardy nature and better adaptability of surrounding atmosphere (Mohan *et al.*, 2013), Jain *et al.* (2013). *Catla catla*, *Cirrhinus mrigala*, *Labeo rohita*, *Puntius sarana*, *Puntius ticto*, *Amblypharyngodon microlepis*, *Rohtee ogilbii*, and *Salmostoma bacaila* belongs to the family Cyprinidae, *Anguilla biclor* belongs to the family Anguillidae, *Mystus bleeker*, *Mystus seenghala* belongs to the family Bagridae, *Wallago attu*, *Ompak bimaculatus* belongs to the family Siluridae, *Notopterus notopterus* belongs to the family Notopteridae, *Channa punctatus*, *Channa striatus*, *Channa marulius* belongs to the family Channidae, *Chanda nama* belongs to the family Chandidae, *Nandus nandus* belongs to Nandidae, *Glossogobius giuris*, belongs to the family Gobiidae, *Mastacembelus armatus* belongs to Mastacembelidae family, and *Xenentodon cancila* belongs to the Belonidae family were identified.

### Conclusion

Present study made an attempt to make biological database for the protection of endangered and threatened fish species from Pakhal Lake. The present investigation strongly recommends that there should be some conservation steps to be taken to stop illegal fishing, crucial breeding habitats and creating mass awareness are compulsory to be saved to protect fish faunal biodiversity.

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