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STUDY OF ICHTHYOFAUNAL DIVERSITY IN KUNDA RESERVOIR, VILLAGE KUNDA (DIST-DHAR) M.P.

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ABSTRACT

The present study deal about Ichthyofaunal diversity in Kunda reservoir. Reservoir is the most important source of water at the Earth surface. In the world, millions of reservoir are made either naturally or man made. The basic concept of this system to conserves water for future use. Fish diversity was poorly studied in Kunda reservoir. In the present investigation, 20 species of fishes were collected, belonging to 3 Orders (Cypriniformes, Ophiocephaliformes and Perciformes) and 8 family (Cyprinidae, Siluridae, Bagridae, Claridae, Heteropneustidae, Ophiocephalidae, Mastacembilidae and Gobiidae) from Kunda reservoir. Among all family, Cyprinidae was found to be most dominant.

KEYWORDS : Ichthyofaunal diversity, Kunda reservoir, Cyprinidae.

INTRODUCTION :

Fishes are the important group of species that participate to the biodiversity of animals world wide. Most of the fishes are used as a food source and many vital vitamins and fatty acids are found in fishes, therefore, it is referred as a good food source. There are a limited literature are available on scientific study on the Fish fauna availability. In India, a very few attempt have been made to document the fish diversity and assemblage (Bhat, 2003). Most of them has been told about declining fish biodiversity and its conservation in Indian River systems (Dubey, 1994; Kapoor et al., 1998). In view of this, the present study are aimed to investigate the fish diversity in Kunda reservoir to know the current status of this reservoir.

MATERIAL AND METHOD

There was no previous data available about the Kunda reservoir, a detailed observation of reservoir was conducted with the help of fisheries department, irrigation department, local fishermen and the fishing contractor. Kunda reservoir is manmade water resource situated in Kunda village, District Dhar (M.P.). The Kunda reservoir is constructed in 1959 by irrigation department for conserving rain water for agriculture purposes. It is about 10 K.M. away from Dhamnod town and is surrounded by agricultural land. During the fishing time we also visited local fish market in village to monitor and looking for the presence of species.

Fishes were collected from the reservoir using different types of nets such as gill net, cast net and also from local fisherman and the tribal fishing. The fishes were thoroughly washes to remove debris, blood stain etc. For documental purposes the photograph were taken. They were brought to the laboratory for the identification and they were preserved in 10% formalin solution for further observation. The fishes were identified up to species level by standard procedures and literatures of Day (1958), Jhingran (1991), Talwar and Jhingran (1991), Shrivastava (1992) and Jayaram (1999).

RESULTS AND DISCUSSION

Results of the present investigation has been summarized in table-1, 2 and 3 and depicted by figure-1. In the present investigation, 20 species of fishes were collected belonging to 3 Orders (Cypriniformes, Ophiocephaliformes and Perciformes) and 8 family (Cyprinidae, Siluridae, Bagridae, Claridae, Heteropneustidae, Ophiocephalidae, Mastacembilidae and Gobiidae) from Kunda reservoir. Orders Cypriniformes consists of 9 species viz; *Catla catla* (Ham), *Cirrhinus mrigala* (Ham), *Labeo rohita* (Ham), *Labeo calbasu* (Ham), *Labeo bata* (Ham), *Puntius ticto* (Ham), *Cyprinus carpio* (Ham), *Rasbora doniconious* (Ham) and *Hypopthalmicthes molitrix* (Valenc), *belonging to family Cyprinidae. Family Siluridae consist of Wallago attu* (Schneider), *Bagridae consists of Mystus singhala* (Sykes), *Mystus bleekeri* (Day) and *Rita rita* (Ham). Whereas, *Clarias batrachus* (Linn) belongs to the family *Claridae and Heteropneuscus fossilis* (Bloch) belongs to the family *Heteropneustidae*. Order *Ophiocephaliformes* (Family-Ophiocephalidae) consists of two species namely, Channa punctatus (Bloch) and *Channa striatus* (Bloch).However, Order Perciformes consists of *Mastacemelus armatus* (Lac) and *Mastacembelus puncalus* (Ham) belongs to family *Mastacembilidae* ; and *Glassogobius giuris* (Ham) belongs to family Gobiidae.

Among all family Cyprinidae was found to be most dominant. The fish species, *Catla catla, Labeo rohita* and *Cyprinus carpio* showed its dominance in the water body because of its hardy nature and tolerable power. Whereas, the fish species, R*asbora doniconious, Rita rita, Mastacembelus armatus, Mastacembelus puncalus* and *Glassogobius giuris* were found least abundant in all the studied site.

Table -1 List of fish species available in Kunda reservoir with Vernacular name and food value.

SN.	Name of fish species	Vernacular name	Food value
01	*Catla catla*	Catla	FD
02	*Cirrhinus mrigala*	Nalan	FD
03	*Labeo rohita*	Rohu	FD
04	*Labeo calbasu*	Calote	FD
05	*Labeo bata*	Bata	FD
06	*Puntius ticto*	Fodri	LV/WF
07	*Cyprinus carpio*	Common carp	FD
08	*Rasbora doniconious*	Katcha Karawa	LV/WF
09	*Hypopthalmicthes molitrix*	Silver carp	FD
10	*Wallago attu*	Burari	PF
11	*Mystus seenghala*	Darai tanger	PF
12	*Mystus bleekeri*	Tanger	PF
13	*Rita rita*	Rita	*PF*
14	*Clarias batrachus*	Magur	LV/FD
15	*Heteropneuscus fossilis*	Singhi	LV/FD
16	*Channa punctatus*	Sabal	LV/PF
17	*Channa striatus*	Sour	LV/PF
18	*Mastacembelus armatus*	Bam	PF
19	*Mastacembelus puncalus*	Malga	PF
20	*Glassogobius giuris*	Bulla	LV/PF

Table-2 List of fish species recorded in Kunda reservoir.

SN.	**Order**	**Family**	**Genera**
1	Cypriniformes	Cyprinidae	*Catla catla (Ham)*
2			*Cirrhinus mrigala (Ham)*
3			*Labeo rohita (Ham)*
4			*Labeo calbasu (Ham)*
5			*Labeo bata (Ham)*
6			*Puntius ticto (Ham)*
7			*Cyprinus carpio (Ham)*
8			*Rasbora doniconious (Ham)*
9			*Hypopthalmicthes molitrix (Valenc)*
10		Siluridae	*Wallago attu (Schneider)*
11		Bagridae	*Mystus seenghala (Sykes)*
12			*Mystus bleekeri (Day)*
13			*Rita rita (Ham)*
14		Claridae	*Clarias batrachus (Linn)*
15		Heteropneustidae	*Heteropneuscus fossilis (Bloch)*
16	Ophiocephaliformes	Ophiocephalidae	*Channa punctatus (Bloch)*
17			*Channa striatus (Bloch)*
18	Perciformes	Mastacembilidae	*Mastacemelus armatus (Lac)*
19			*Mastacembelus puncalus (Ham)*
20		Gobiidae	*Glassogobius giuris (Ham)*

Table-3 Family wise fishes of Kunda reservoir.

SN	**Family**	**Number of species**
O1	Cyprinidae	9
02	Siluridae	1
03	Bagridae	3
04	Claridae	1
05	Heteropneustidae	1
06	Ophiocephalidae	2
07	Mastacembilidae	2
08	Gobiidae	1

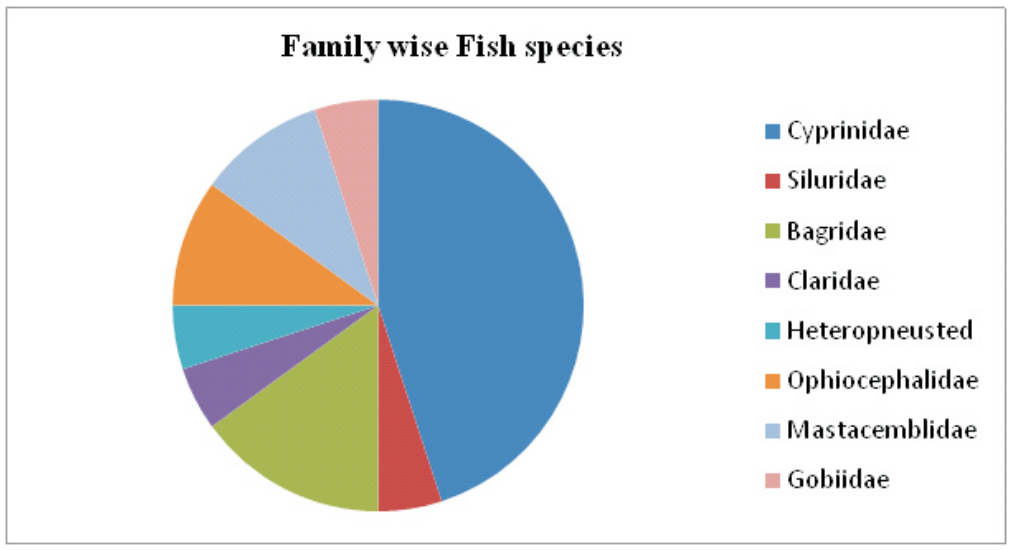

Fig-1: Showing family wise fish species of Kunda reservoir.

In the present work, there are 20 species of fishes were collected belonging to 3 Orders (Cypriniformes, Ophiocephaliformes and Perciformes) and 8 family (Cyprinidae, Siluridae, Bagridae, Claridae, Heteropneustidae, Ophiocephalidae, Mastacembilidae and Gobiidae) from Kunda reservoir. There are about six species of the fish fauna were identified in Lake Awassa. These were *Oreochromis niloticus, Labeobarbus intermidius, L. amphigrama, Aplochelichthys sp., Clarias gariepinus* and *Garra species* (Admassu, 1996). There are 16 fish species recorded from Lakkavali lake, Karnataka and collected fish species are categorized on the basis of occurrence (Noman *et al*., 2009). However, 16 species of fishes were observed from Sanjay Sagar reservoir which belongs to a different orders of class teleosteis viz; Cypriniforms, Siluriforms, Metacembeliformes and Ophiocephaliforms (Solanki *et al.*, 2011). But, 29 fish species were collected from Mod Sagar reservoir, Jhabua district, Madhya Pradesh. Among them, 21 species belongs to order Cypriniformes, 2 species from Perciformes and 2 species from order Mastacembliformes (Dhakad *et al*., 2008).

The water quality in relation to pisciculture of Kelewadi lake, Maharashtra have also been analysed (Pawar and Pandarkar, 2012). However, the ichthyofaunal diversity of Bilawali tank in Indore reveals the occurrence of 21 species belonging to 16 genera, 3 orders and 9 families. The family Cyprinidae were observed as dominant with 11 species constituting 52.40% followed by Bagridae and Ophiocephalidae constituting 9.52% and Siluridae, Saccobranchidae, Clariidae, Gobiidae, Centropomidae and Cichlidae constituting 4.76% of the total fish species in Bilawali Tank (Jain *et al*., 2013). It was further estimated that the fish fauna of Nagaram tank consists of 30 species belonging to 13 families. Among them, 13 species of Cypriniformes, order Siluriformes consists of 7 species, Channiformes consists of 03 species, Perciformes 05 species, Osteoglossiformes 01 and order Atheriniformes consists of one species (Ramulu and Benarjee, 2013). Whereas, 28 species of fish fauna were identified from Dejla Dewada reservoir village Bhagwanpura Khargone, district which belongs to 5 orders and 10 families (Pathak and Kshtre, 2012). There are 44 species of freshwater fishes were recorded from the lower Manair Reservoir in Karimnagar District (Thirupathaian, 2013). There are a total 45 fish species were identified from different sampling station of *Sheonath river* in Rajnandgaon town, *Chhattisgarh* state during study of ichthyofaunal biodiversity. The fish species were recorded are classified in 6 order, 15 families and 32 Genera. Order *Cyprniformes* comprised of 5

families C*yprinidae, Siluridae, Bagridae, Saccobranchidae and Clariidae* were found as a dominant group. The major fishes were recorded as Catla catla, Cirrhinus mrigala, Labeo rohita, Cyprinus carpio, Clarius batrachus and Oreochromis mossambicus (Choubey and Qureshi, 2013). More or less similar finding in context of Ichthyofaunal diversity have been reported in present investigation as suggested by previous authors.

Since there is poorly recorded water quality data are available about this reservoir, so this study helps to manage and improve the ecological knowledge about this reservoir for further utilization of present and future generations.

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