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

S. Ghaherwal<sup>1</sup>, Ravindra Rawal<sup>2</sup>, C. S. Shrivastava<sup>1</sup> and Nageshwar Wast<sup>1</sup>

<sup>1</sup>Govt. Holkar Science College, Indore. M. P.

<sup>2</sup>Govt. P. G. College, Khargone, M.P.



S. Ghaherwal

### 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, Mastacembelidae 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 Dhamnodd 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 washed to remove debris, blood stain etc. For documental purposes the photographs 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, Clariidae, Heteropneustidae, Ophiocephalidae, Mastacembelidae and Gobiidae) from Kunda reservoir. Order 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 daniconius* (Ham) and *Hypophthalmichthys 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 Clariidae and *Heteropneusticus 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 punctatus* (Ham) belongs to family Mastacembelidae; and *Glossogobius giurus* (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, *Rasbora daniconius*, *Rita rita*, *Mastacembelus armatus*, *Mastacembelus punctatus* and *Glossogobius giurus* 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	<i>Catla catla</i>	Catla	FD
02	<i>Cirrhinus mrigala</i>	Nalan	FD
03	<i>Labeo rohita</i>	Rohu	FD
04	<i>Labeo calbasu</i>	Calote	FD
05	<i>Labeo bata</i>	Bata	FD
06	<i>Puntius ticto</i>	Fodri	LV/WF
07	<i>Cyprinus carpio</i>	Common carp	FD
08	<i>Rasbora doniconious</i>	Katcha Karawa	LV/WF
09	<i>Hypophthalmichthes molitrix</i>	Silver carp	FD
10	<i>Wallago attu</i>	Burari	PF
11	<i>Mystus seenghala</i>	Darai tanger	PF
12	<i>Mystus bleekeri</i>	Tanger	PF
13	<i>Rita rita</i>	Rita	PF
14	<i>Clarias batrachus</i>	Magur	LV/FD
15	<i>Heteropneuscus fossilis</i>	Singhi	LV/FD
16	<i>Channa punctatus</i>	Sabal	LV/PF
17	<i>Channa striatus</i>	Sour	LV/PF
18	<i>Mastacembelus armatus</i>	Bam	PF
19	<i>Mastacembelus puncalus</i>	Malga	PF
20	<i>Glassogobius giuris</i>	Bulla	LV/PF

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

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

**Table-3 Family wise fishes of Kunda reservoir.**

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



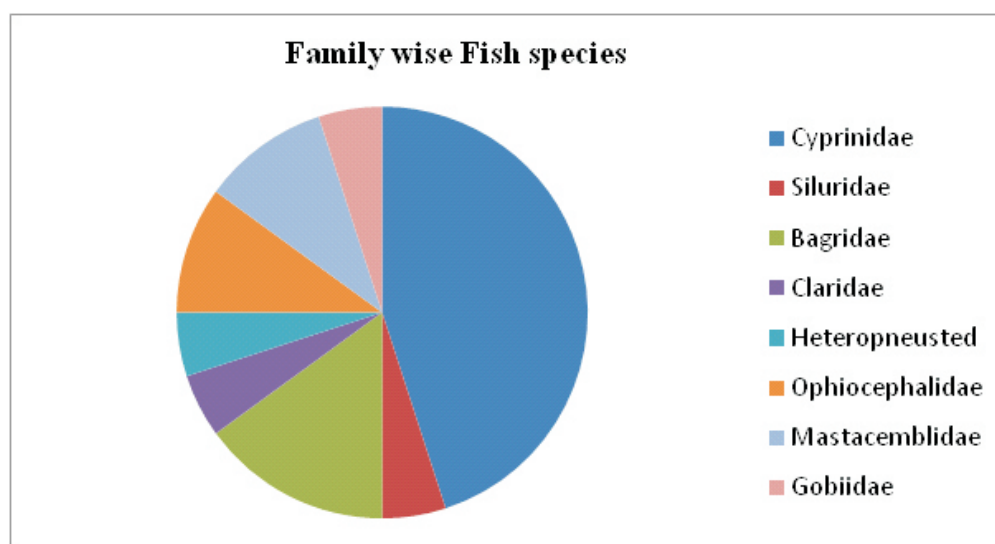


Fig-1: Showing family wise fish species of Kunda reservoir.

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, Mastacemblidae and Gobiidae) from Kunda reservoir. There are about six species of the fish fauna were identified in Lake Awassa. These were *Oreochromis niloticus*, *Labeobarbus intermedius*, *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 teleostei viz; Cypriniformes, Siluriformes, Metacembeliformes and Ophiocephaliformes (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 Dejala Dewada reservoir village Bhagwanpura Khargone, district which belongs to 5 orders and 10 families (Pathak and Kshre, 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 *Cyprinidae*, *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.**

#### REFERENCES

1. Admassu, D. (1996). The breeding season of tilapia, *Oreochromis niloticus* L. in Lake Awassa (Ethiopian rift valley). *Hydrobiologia*, 337:77-83.
2. Bhat, A. (2003). Diversity and composition of freshwater fishes in the river systems of Central Western Ghats, India, *Environmental Biology of Fishes*, 68: 25–38.
3. Choubey, K. and Qureshi Y. (2013). Study of Ichthyofaunal Biodiversity of Rajnandgaon town, CG, India. *International Research Journal of Biological Sciences*, 2(2): 21-24.
4. Day, F.S. (1958). *The fishes of India*. William and Sons, London.
5. Dhakad,, N.K. Shinde, D. and Choudhary, P. (2008). Fish Fauna of Mod Sagar reservoir of Jhabua District, M.P. *Nature. Environ. & Poll. Tech.*, 7(1): 159-161.
6. Dubey, G.P. (1994). Endangered, Vulnerable and Rare Fishes of West Coast River Systems of India, In: *Threatened Fishes of India*, NATCON, 4: 77-95.
7. Jain, R., Choudhary, P. and Dhakad, N. K. (2013). Study on ichthyofaunal diversity of Bilawali tank in Indore (M.P.). *Journal of Chemical, Biological and Physical Sciences*, 3(1): 336-344.
8. Jayaram, K. C. (1999). *The fresh water fishes of India, region*. Narendra Publication House. Delhi, 110006, (India).
9. Jhingran, V. G. (1991). *Fish and Fisheries of India 3rd Edition*. Hindustan Publication Corporation, Delhi.
10. Kapoor, D., Mahanta, P.C. and Pande, A. (1998). India: Status and Conservation In *Fish Gen. Biodiversity*, *Conserv. Nat. Pub.*, 47-53.
11. Noman, M.A. Puttaian, E.T. and Shahnawa, A. (2009). Fish fauna of Lakkavalli Lake, Karnataka with respect to environment variables. *Envi.Con.Jour.*, 10(3): 21-24.
12. Pathak, S.K. and Kshetre, S. (2012). Study of Ichthyofauna diversity of Dejala Dewala Reservoir from Bhagwanpura Tehsil, M.P. India. *Envi.Con.Jour.*, 13(3): 69-71.
13. Pawar, B.A. and Pandarkar, A.K. (2012). Studies on water quality of Kelewadi lake in relation to Pisciculture, Maharashtra, Uttar Pradesh. *J. Zool.*, 31(1): 35-41.
14. Ramulu, N. K. and Benarjee, G. (2013). Fish Species Diversity of Nagaram Tank of Warangal, Andhra Pradesh. *IOSR Journal of Environmental Science, Toxicology And Food Technology*, 3(4): 14-18.
15. Shrivasytava, G. (1992). *Fishes of U.P. and Bihar*. Vishwavidyalay Prakashan, Chowk, Varanasi (India).
16. Solanki, P. Singh, S. Sharma, I.V. and Mathur, R. (2011). Fish fauna of Sanjay Sagar Reservoir of district Guna M.P. *Biological forum an International Journal*, 3(1): 44-45.
17. Talwar, P.K. and Jhingran, A.G. (1991). *Inland fishes of India and adjacent countries*. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi, 1-322.
18. Thirupathaiyan, M. Samatha, Ch. and Sammaian, Ch. (2013). A check list of freshwater fishes of the lower Manair Reservoir in Karimnagar District A.P. India. *Res. J. Animal Veterinary and fishery Sci.*, 1(6): 10-14.

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