



ISSN: 0974 - 0376

The Ecoscan : Special issue, Vol. VIII: 319-323: 2015
AN INTERNATIONAL QUARTERLY JOURNAL OF ENVIRONMENTAL SCIENCES
www.theecoscan.in

ICHTHYOFAUNAL STUDY OF KASURA DAM, DISTRICT JALNA, (M.S.) INDIA

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KEYWORDS

Ichthyofauna
Variety
Abundance
Dominant and Kasuradam

Proceedings of National Conference on
Harmony with Nature in Context of
Bioresources and Environmental Health
(HARMONY - 2015)
November 23 - 25, 2015, Aurangabad,
organized by
Department of Zoology,
Dr. Babasaheb Ambedkar Marathwada University
Aurangabad (Maharashtra) 431 004
in association with
National Environmentalists Association, India
www.neaindia.org



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ABSTRACT

Present Ichthyofaunal study was carried out during January 2013 to Dec 2014 at Kasura dam Dist. Jalna. This is fresh water body especially used for drinking, domestic purpose, agriculture and fisheries purposes by Partur Taluka, Dist-Jalna. The results of present study reveal the ichthyofauna belong to 07orders 09 families, and 20 species, out of 20 species Cyprinidae family was dominant of all with 09 species. This study could serve as baseline information to assess relevant water bodies in the future management and conservation of fishery resources. Finally it may be concluded that kasura dam is rich of Ichthyofaunal diversity.

INTRODUCTION

Fishes are an important part in the economy of many nations as they have been a stable thing in the diet of many people India has prosperous biological heritage that qualifies it as one of the jumbo diversity nations of the world.

Earth is the blue planet which holds the precious matter of the universe, water, covers 2/3 surface, comprises both marine and fresh water ecosystems. Though freshwater habitats occupy a relatively small portion of the earth's surface, their importance to man is greater than their area because they are most convenient and cheapest source of water for domestic and industrial needs (Odum, 1971).

Fishes form one of the most important groups of vertebrates influencing its life in various ways. Millions of human beings suffer from hunger and malnutrition and fishes are a rich source of food and provide a meal to tide over the nutritional difficulties of man, in addition to serving as an important item of food, fishes provide several by-products to us. Fishes have formed an important item of human diet from time immemorial and primary caught for this purpose. Fish diet provides proteins, fat and vitamins A and D. A large amount of phosphorus and other elements are also present in it. They have good taste and are easily digestible. Economic importance and scope of fish and fisheries especially in Maharashtra, it is essential to study the distribution and availability of fish from freshwater reservoirs and tanks (Shinde *et al.*, 2009).

Biodiversity is essential for stabilization of ecosystem protection of overall environmental quality for understanding intrinsic worth of all species on the earth. (Ehrlich and Wilson, 1991). Fish diversity of river essentially represents the fish faunal diversity and their abundance river conserves a rich variety of fish species.

Fish assemblages have widely been used as ecological indicators to assess and evaluate the level of degradation and health of water bodies at various spatial scales (Vijaylaxmi *et al.*, 2010).

The aquatic ecosystem highly depends on water quality and biological diversity. Physico-chemical parameters of water play a significant role in the biology and physiology of fish (Dhavan and Kaur, 2002).

Present study was undertaken to study the fish diversity of Kasura dam, District-Jalna. Various types of fishes were recorded in this dam.

MATERIALS AND METHODS

Study area

Kasura dam constructed in Jalna district near Shristi village 18 km away from Partur, District - Jalna. It is on latitude 19°30'0" N and longitude 76°15'50"E. Which is one of the major irrigation projects in Maharashtra. As the dam is constructed on Kasura river called Kasura dam.

The Ichthyofaunal study of the Kasura dam was carried out during the period January 2013 to Dec 2014. Fishes were collected with the help of local fishermen, who use various fishing crafts, gears with variable mesh size. Identification of fishes

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was done up to species level at fish landing center to get its natural color, pattern of scales, fins, mouth pattern, identification marks like black spot, bloach on operculum, paired and unpaired fins and body parts with the help of standard literature.

Fish species not identified on the field (landing center) were preserved in 10 % formalin and brought to Fishery Research laboratory, Department of Zoology, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad for identification. The Meristic and Morphometric characters were measured and fishes were indentified up to the species level, with the help of standard key from books. Days, (1967); Jayaram, (1999); Talwar et al. (1991).

RESULTS AND DISCUSSION

During the present study fish varieties have been observed in the Kasura dam at Shristi district Jalna (M.S.) India. The results showed, the reservoir was rich in fish biodiversity. Fishes belong to 07 different orders; 09 families and 17 genera were collected, indentified and recorded during course of study period i.e., from January 2013-december 2014. Many collected fish species were of economically important. During study 20 species of 17 different genera, 09 families and 07 orders were recorded (Table 1). The species of order cypriniformes was dominant by 08 species, followed by siluriformes and perciformes with 04 species of each, synbranchiformes, Beloniformes, Osteoglossiformes, Saccobranchidae contribute 01 species each.

Cypriniformes was most dominant with 08 species which included *Catla-catla*, *Labio rohita*, *Cyprinus carpio*, *Rasbora daniconius*, *Puntius ticto*, *Puntius sophore*, *Cirrhinus mrigala*, *Gara lamta*, out of these *Catla-catla*, *Labio rohita*, *Cirrhinus mrigala* were found most abundant. it,s most abundance may due to more fecundity of fishes and sutable environmental condition relatively higher population density of this species



Figure 1: Satellite image of Kasura Dam, District Jalna

was evident in the water bodies.

Where as *Cyprinus carpio*, *Rasbora daniconius*, *Garra lamta* were recorded abundant and *Puntius sophore*, *Puntius ticto* were recorded less abundant. Followed by siluriformes in which *Clarius batrachus* were found abundant and *Wallago attu*, *Ompok bimaculatus*, *Mystus seenghala* were recorded less abundant.

The order perciformes species, *Channa gaucha*, *Channa striatus*, *Channa marulius*, *Oreochromis mossambias* were recorded abundant form.

In order synbranchiformes the species *Mastacembelus armatus* were recorded less abundant. The order Beloniformes the species *Xenentoton cancila* were recorded abundant. The order Osteoglossifoemes species *Notopterusnotopterus* were recorded less abundant. Orders *saccobranchidae* species *Heteropneustus fossils* were found less abundant.

Among the collected species order cypriniformes was most dominant constituting 40% followed siluriformes 20% Perciformes 20% and then Beloniformes 5%, Osteoglossifoemes 5% Saccobranchidae 5%.

Order of dominance

Cypriniformes > Siluriformes =
 Perciformes > Synbranchiformes = Beloniformes =
 Osteoglossiformes = Saccobranchidae.

Table 1: The Ichthyofaunal of the Kasuradam during January 2014 – December 2014.

Order	Family	Scientific name	Common name	Groups of food fishes	Status
1.Cypriniformes	Cyprinidae	<i>Catla catla</i>	Catla	Carps	***
		<i>Labeo rohita</i>	Rohu	Carps	***
		<i>Cyprinus carpio</i>	Common carps	Carps	***
		<i>Rasbora daniconius</i>	Rasbora	Food fish	***
		<i>Puntius sophore</i>	Dhebri	Miscellaneous fishes	**
		<i>Puntius ticto</i>	Dhebari	Miscellaneous fishes	**
		<i>Cirrhinus mrigala</i>	Mrigala	Carps	***
		<i>Garra lamta</i>	Garra	Food fish	*
2.Siluriformes	Siluradae	<i>Wallago attu</i>	Balu /lachi	Predatory fish	**
		<i>Ompok bimaculatus</i>	Pobda	Food fish	**
		<i>Clarius batrachus</i>	Mangur /catfish	Predatory fish	**
3.Perciformes	Bagridae	<i>Mystus seenghala</i>	Singada	Predatory fish	**
		<i>Channa gaucha</i>	Dhoke	Predatory fish	**
	Channidae	<i>Channa striatus</i>	Morrul /banded snakehead	Predatory fish	**
		<i>Channa marulius</i>	Spotted snakehead	Predatory fish	**
	Cichlicdae	<i>Oreochromis mossambicus</i>	Tilapia	Food fish	**
4 Synbranchiformes	Mastacembelidae	<i>Mastacembelus armatus</i>	Japanivam /bam	Predatory Fish	*
5 Beloniformes	Belonide	<i>Xenentoton cancila</i>	Choch/Tochya	Weed fish	*
6 Osteoglossiformes	Notopteridae	<i>Notopterus notopterus</i>	Potala	Weed fish	*
7.Saccobranchidae	Cyprinidae	<i>Heteropneustus fossils</i>	Magur	Food fish	*

*** Most abundant. ** Abundant. * Less abundant.

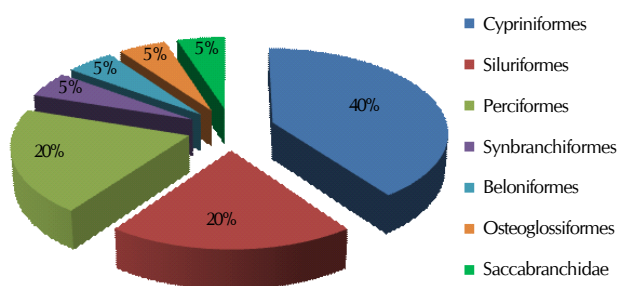


Figure 2. Order wise fish composition at Kasura dam, district Jalna

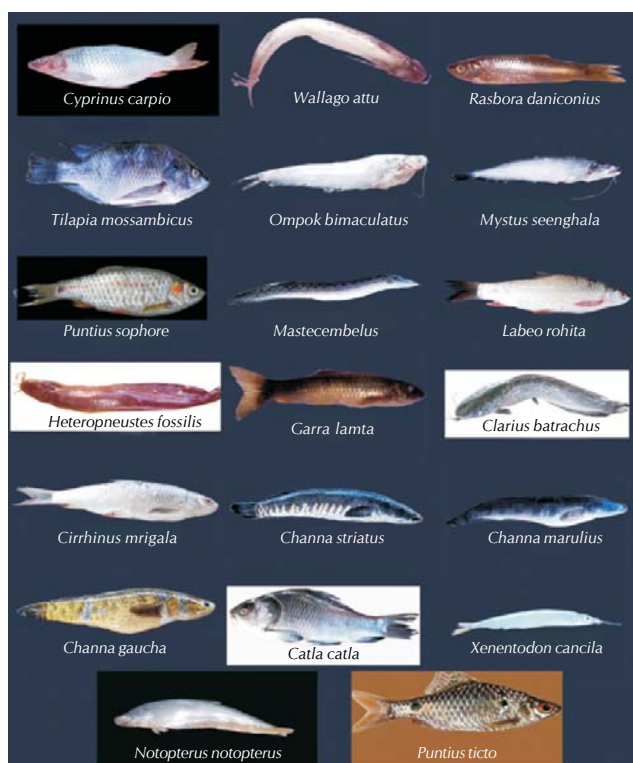


Figure 3: Ichthyofaunal diversity of Kasura dam

Sarwade and Khilare (2010) recorded 60 species of 06 orders in which order cypriniformes were dominant in ujani wetland Maharashtra. Vijaylaxmi and Vijaykumar (2011) reported 29 fish species belong to 06 orders; the order cypriniformes was dominant with 16 fish species from Bheema River in Gulbarga district of Karnataka.

Jaylaxshmy and Sonalkumar (2012) reported 30 fish species belonging to 16 families, cypriniformes was found dominant from pallickal river Kerala, India. Saha and Patra (2013) recorded 46 fish species belonging to 07 orders. Cypriniformes were dominant from river damodar, West Bengal, India. Ubharhande and Sonawane (2012) reported 21 species belonging to 07 order cypriniformes was dominant from paintakli dam, Buldhana (M.S) India. Nikam et.al (2014) recorded 23 species belonging to 05 orders, cypriniformes was found dominant. Kumar Naik et.at (2013) reported 64 fish species belonging

05 orders. the order cypriniformes was dominant from karanja reservoir, Karnataka, India. Basavaraja et.al (2014) reported 25 fish species belongs to 04 orders; cypriniformes was dominated with 14 species. Jag mohansen (2014) reported 27 species of fish, belonging to 06 order, cypriniformes was dominant from matatila reservoir UP, India. B.Laxmappa et.al. (2015) recorded 30 fish species, 12 families and 22 genera, in which order cypriniformes was dominant with 13 species in kolisagar reservoir mahbubnagar dist. Telangana, India. Sonawane and Barve (2015) reported 23 species of 20 genera, 10 families and 08 orders in which order cypriniformes was dominant with 09 species from the Lower Dudhana dam district- Parbhani (M.S) India.

Similar result have been reported by Battul et al. (2007), Hiwara and pawar (2006), Rathod et al. (2012), Humbe et al. (2014). Results reported by earlier workers are more or less similar with the result that has been reported by us.

ACKNOWLEDGMENT

The authors are thankful to Prof and Head, Dept of Zoology, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad - 431004 (M.S) India for providing laboratory and library Facilities. We are grateful to Executive Engineer of Kasura dam District Jalna (M.S.) India for their whole hearted support during the course of study.

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