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A STUDY ON ICTHYOFAUNAL DIVERSITY OF SUKHANA DAM, GARKHRDA, DIST. AURANGBAD, MAHARASTRA, INDIA.

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ABSTRACT :

The present study deals with fish biodiversity undertaken during period July2011 to June 2012 to survey and commercially important fishes in the Sukhana dam.The Fresh water body of Sukhana dam used for irrigation purposes at Garkheda in Aurangabad district. The present study deals with the variety and abundance of fresh water fishes in Sukhana dam of Garkheda in Aurangabad district (M.S.) India. The results of present study reveal the occurrence of fish biodiversity belong to 4 orders 7 families and 16 species. The members of Order Cypriniformes were dominated by 9 species followed by Perciformes 4 species,Siluriformes 2 species and Synbranciformes with one species.

KEYWORDS : *Icthyofaunal diversity, Sukhna dam Garkheda, Economicvalue*

INTRODUCTION

Fishes are one of the most important groups of vertebrate, influencing his life in various ways. Millions of human beings suffer from hunger and malnutrition and fishes form 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 are generally caught for this purpose. Fish diet provides proteins, fat and vitamin A and D. A large amount of phosphorous and other elements are also present in it. They have a good taste and are easily digestible. As there is economic importance and scope of fish and fisheries especially in Maharashtra, it is essential to study distribution and the availability of fish from freshwater reservoirs and tanks (More*et al.,* 2018). Biodiversity is essential for stabilization of ecosystem, protection of overall environmental quality for understanding intrinsic worth of all species on the earth (Ehrlich, P.R. and Wilson, E.O. (1991).

Fish constitutes half of the total number of vertebrates in the world. They live in almost conceivable aquatic habitats; 21,723 living species of fish have been recorded out of 39,900 species of vertebrates out of these 8,411 are freshwater species and 11,650 marine. India is one of the mega biodiversity countries in the world and occupies the ninth position in terms of freshwater mega biodiversity (Mittermeier, R.A. and C.G. Mitemeir, 1997).In India there are 2,500 species of fishes of which 930 live in freshwater and 1,570 are marine (Kar, D. A. Kumar, C. Bohra and L.K. Sigh, (Eds) 2003).

The Sukhana dam is an earthfill dam on Sukhana river at village Garkheda in the state of Maharashtra, India near Aurangabad. The dam was constructed in 1968 for irrigation purpose. The height and length of dam is 16.92 meter and 446 meter respectively and thesurface area of dam is 6.782 km^2. Present work was undertaken to study the icthyofaunal diversity of Sukhana dam at Garkheda in

Aurangabad district. Various indigenous and commercial fishes of economic importance have been noticed and recorded from the said dam.

In the field of ichthyology there is valuable contribution by many workers(Ashashree *et al.,* 2008; Shinde *et al.,* 2009 and Brinda *et al.,* 2010 Ubharhande *et. al.,*2012; Jayabhaye and Lahane 2013, Humbe *et.al.*, 2014; sonawane and Barve 2015, More *et. al.* 2018).

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MATERIALS AND METHODS

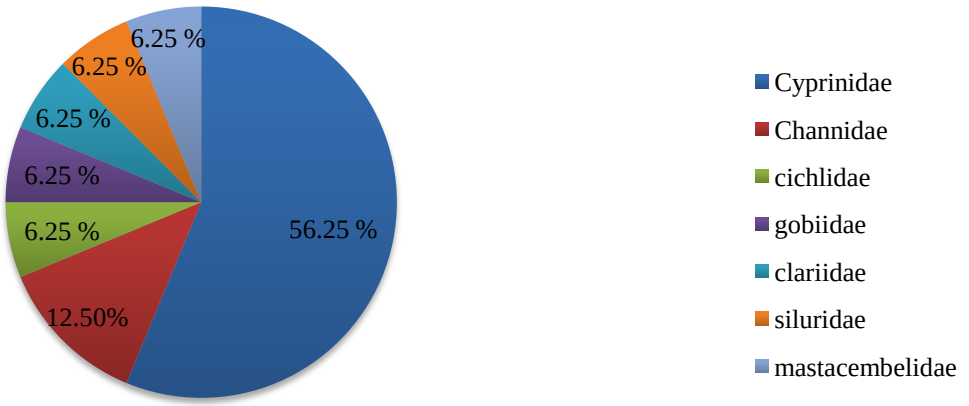
The present study was carried outon sukhana, situated at Garkheda in Aurangabad District (M.S) India, from July2011 to June 2012.Fishes were collectedmonthly, with the help of local fishermen using different type of nets namely gill nets, cast nets, dragnets, wadap net and Bhor jal. Immediately photographs were taken with help of digital camera.

The collected fishes were brought to laboratory then cleaned with rectified sprit and preserved in 6-10% formalin solution in separate specimen jars according to the size of species. Small fishes were directly placed in the formalin solution. While large fishes were giving an incision in their abdomen and preserved.Fishes were identified up to the species levelby using standard keys and books (Day,1978; Jayaram**,** 1999 and Talwar and Jhingran, 1991).

RESULTS AND DISCUSSION

During the present ichthyofaunal study, total 16 species of fresh water fishes belonging to7 families and 3 orders were recorded from the Sukhana Dam duringJuly2011to June 2012. The species found in the Sukhana dam, their taxonomic distribution, scientific name, common name, group of fish, economic value and abundance is given in the table no1.Order Cypriniformes and family cyprinidae were dominated by 9 species followed by Perciformes 4 species Siluriformes 2 species and Synbranchiformes with one species.

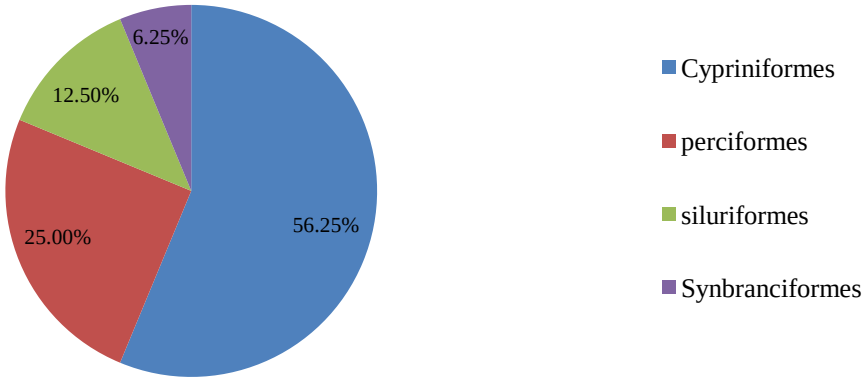
Fig. 1. Familiwise fish species %composition of Sukhana dam at Garkheda



The total 16 species representing by 4 orders, cypriniformes was dominant with 9 species and dominant group in the assemblage composition in which the member of family cyprinidae viz. *Catla-catla, Labeorohita, cirrhinus mrigala*and *Rasbora daniconius* were found most abundant. *Puntius ticto* were found in abundant form. *Puntius stigma, Chela bacaila*, *Garra lamta* and *Thynnichthys sandkhol* were found less abundant. Followed by perciformes in which *Channa striatus*, and *Tilapia mossambica*was found abundant form *Channa punctatus* and Glossogobiusis gluris were found less abundant form Followed by siluriformes in

which one species reported that is *Clarias batrachus* found less abundant and Synbranchiformes reported *Mastacembelus armatus* one species**(Table No. 1).**

Fig. 2. Orderwise fish species %composition of Sukhana dam at Garkheda



Similarresults have been reported by More *et al.,* (2018); Shinde *et al.,* (2011); Kharat *et al.,* (2012); recorded dominance during summer season followed by winter season.In the present study, fishes have been studied under seven family viz., Cyprinidae, Channidae, Cichlidae Gobiidae, Clariidae, Siluridae. Cyprinidae showed its dominance in Sukhana Dam followed by Channidae, Cichlidae and Clariidae.

The sequence of dominance of encountered order is as follows:

Cypriniformes (57.89%) > Persiformes (25.00%) > Siluriformes (12.50%) >Synbranchiformes (6.25%)

The sequence of dominance of encountered families is as follows:

Cyprinidaee (56.25%) > Channidae (12.50%) > Cichlidae (6.25) = Gobiidae (6.25%) = Clarridae (6.25%) = Siluridae (6.25%) = Mastacembelidae (6.25%)

Similar survey of fish fauna has been done by More et al., (2018) reported 19 species of 12 different genera 7 families and 5 orders were recorded at Harsool Dam, Aurangabad during the period January – December 2012. Among the collected species Cypriniformes Order was dominated by 11 species followed by Perciformes 3 species, Siluriformes 2 species, Saccobranchidae and Angulidae with one species.

Shinde *et al.,* (2009) reported the fish diversity of Pravara River, Pravara Sangam Dist. Ahmednagar (M.S) India. The results of investigation reveal the occurrence of 41 fish species belonging to 7 orders, 14 families and 26 genera. Among the collected species order Cypriniformeswas most dominant constituting 50 % followed by order Siluriformes constituting 19 % order Perciformes constituting 14.28 % orders Osteoglossiformes andSynbranchiformes constituting 4.76 % and orders Mugiliformesand Beloniformes constituting 2.38 % of the total fish species.

Nikam *et al.,* (2014) has been done fish surve of Ashti lake Dist. Solapur and reported 23 species belonging to 21 genera,12 familiesand 5 ordrs. Among the collected species order Cypriniformeswas dominant.

The Sukhana dam exhibit a good icthyofaunal diversity represented by 16 species of fishes belonging to 7 families and 4 orders.The fish diversity of Sukhana dam indicates that the pond under taken for study has a well balanced fish community. The maximum population densities of fish were recorded in summer and minimum in winter.

Table 1: - Ichthyofaunal diversity of Sukhana dam Garkheda Dist. Aurangabad (July 2011to June 2012).

Taxonomical rank	Scientific name	Common name	Group of fish	Economic value	Abundance
I. Order: Cypriniformes					
1. Family: Cyprinidae	1.*Catla-catla* (Hamilton)	Catla	Carps	FD	***
	2. *Labeo-rohita* (Hamilton)	Rohu	Carps	LV	***
	3. *Rasbora daniconius* (Ham - Buch)	Black line Rasbora	Food fish	BT, LV,WF	***
	4. *Puntius ticto* (Hamilton)	Ticto	Miscellaneous fishes	BT, LV,WF	**
	5. *Puntius stigma* (Hamilton)	Stigma	Miscellaneous fishes	LV	*
	6. *Chela bacaila* (Ham - Buch)	Chela	Food fish	FD	*
	7. *Cirrhinus mrigala* (Hamilton)	Mrigala	Carps	FD	***
	8. *Garra lamta* (Hamilton)	Garra	Food fish	FD	*
	9.*Thynnichthys sandkhol* (sykes)	Sandkhol carp	Food fish	LV, PF	*
II. Order: Perciformes					
1. Family: Channidae	10. *Channa striatus* (Bloch)		Live fish	FD	**
	11. *Channa punctatus* (Bloch)		Food fish		*
2. Family: Cichlidae	12. *Tilapia mossambica* (Hamilton)			LV	**
3.Family: Gobiidae	**13. Glossogobius giuris** (Hamilton)		Live fish	FD	*
III. Order: Siluriformes					
1. Family: Clariidae	14. *Clarias batrachus* (Linneaus		Carps	LV	*
2. Family: Siluridae	15.*wallago attu*	Wallago / helicaptor cat fish	Food fish	BT, LV,WF	*
IV. Order: Synbranciformes					
1. Family: Mastacembelidae	16.*Mastacembelus armatus*	Zig zag eel	Miscellaneous fishes	BT, LV,WF	*

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