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Fresh Water Fish Diversity of Khushrangi (Kosrangi) Dam, Arang Block Raipur District Chhattisgarh

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ABSTRACT

The present study deals with the fresh water fish diversity of Khushrangi (Kosrangi) Dam which is located at the east direction of Raipur district Arang block of Chhattisgarh. Altogether 39 fish species under 17 families and 9 orders were identified from Khushrangi reservoir. In the study Cyprinidae family were dominated with 16 spe. followed by Bagridae with 3 spe. beside other family as Cobitidae with 2 sp. and Saluridae, Claridae both has 2 spe. and Saccobranchidae with 1 spe. and other family as Ophiocephalidae-2, Notopetridae with 1, Cantropomidae-1, Anabantidae-1, Gobiidae-1, Cichlidae-1, Clupeidae-1, Mastacembelidae with 2, Tetraodontidae-1 and Pangosidae-1, Belonidae-1. The present study is to progress the present characteristics of this Dam and complete the Diversity of fishes. The 2 years from Jan. 2019 to Dec.2020.

Keywords: Fishes, Diversity, Khushrangi (Kosrangi) Dam.

INTRODUCTION:

Limnology- is the study of aquatic ecology and hydrology which deals about aquatic organisms and their hydrological environment. To understand the structure and function of fresh water we need to know about saline waters, reservoirs, rivers, streams, ponds, wetland and ground atmosphere. It covers most attribute as biological, chemical, physical, geological etc. Limnology is the study of structural and functional relationship productivity of fresh water. The diversity of fishes fauna has its own importance like other aquatic and terrestrial animals. Fish constitute more than a half of the world. Out of 64,000 vertebrates, 32,900 species of fish had been described by November 2014 (forese and pauly 2014). Fishes are the most diverse group of the vertebrate lexa and are distributed in a range of aquatic environments (Bone and Marshall 1983 - De Silva et. al. 2007). Fisheries play a very important role in the socio economic development of a country and being a foreign exchange earner.

In Chhattisgarh there is much committed work of limnology that has been done in this field. It was noticed that Khushrangi Dam was abundance of fish faunas in this study to attempt to fish diversity in Khushrangi Dam.

STUDY SITES:

Khushrangi dam is an old dam of Raipur District Arang block. Location of the dam is situated on the border of Kosrangi village. The reservoir is situated between 21°22' 0.672" N Latitude and 81°39' 39.996" E Longitude.

Kosrangi Dam is used for irrigation and aquaculture purposes. In this study has been performance on 4 sampling sites of Koshrangi dam for its fish diversity estimation.

Site-1 was fixed near the Kosrangi village.

Site-2 was fixed near the Ghibra village.

Site-3 was fixed near the Deortilda village.

Site-4 was fixed near the Paraswani village.

The Dam is man made dam which is surrounded by black soil. The Dam was build on Mahanadi river near Kosrangi village at the time of British in (1909).

MATERIAL AND METHODS:

The fishes were collected from Khushrangi Dam is different catchment areas during the study period with the help of local fishermen using different types of net specially gill net, hand net, cast net etc.

The collected fish were stored in formalin and photographs were taken immediately with the help of a digital camera.

Fish identification, classification and arranged with the help of Talwar and Jhingran (1991) with slight modification by days Fauna (1958), Jayaram (1999), Mondal (2014) species identification was done on the basis of morphometric characters-total & standard length of the body. Length and depth of the head, shout length, length of Dorsal, Pectoral and caudal fins, Distance between pectoral and pelvic, pelvic and anal fin. Maximum & minimum girth Discriptive characters are as followed- Body profile and shape, skin texture and coloration, position & shape of lip shout and mouth. Fin origin, fin rays and fin formula, Barbells and Jaw, Scales and lateral line system of the body, sexual dimorphism, Tail and special markings.

Table-1- Family wise contribution of fish species from Khushrangi Dam.

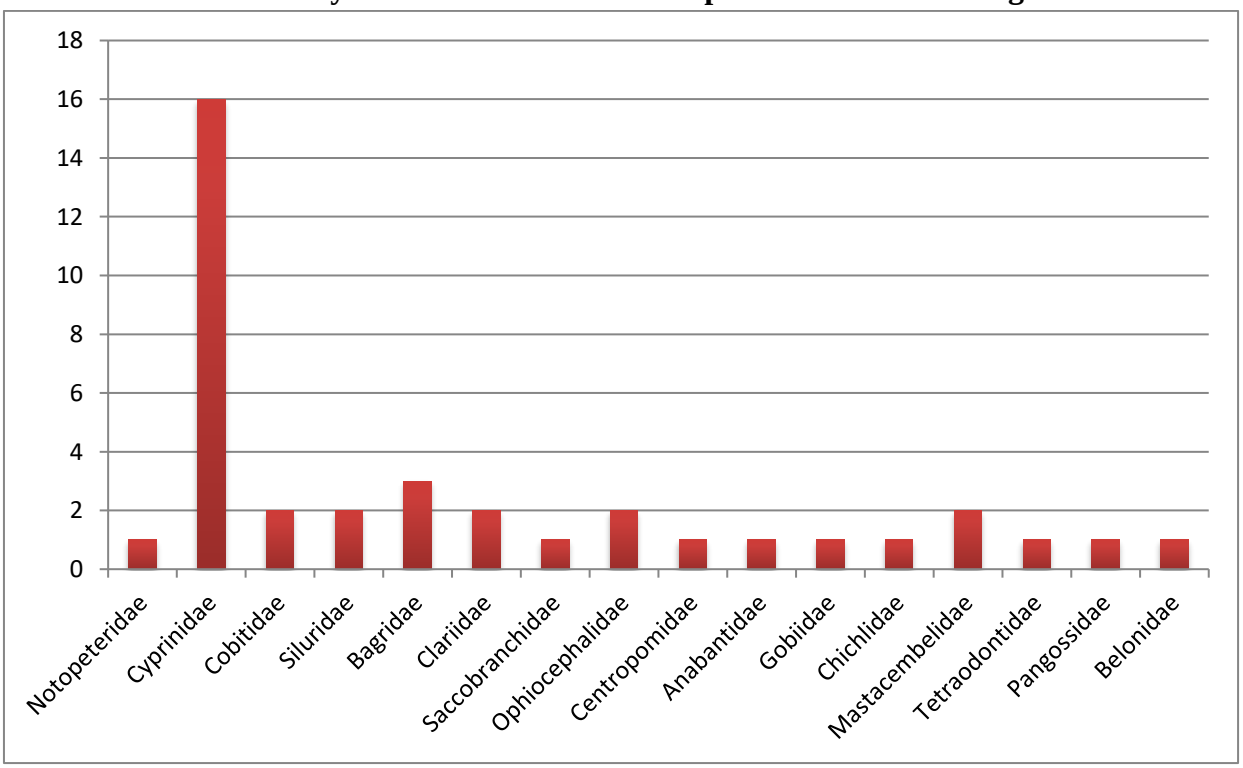

Table-2- List of fish diversity recorded from Khushrangi (Kosrangi) Dam.

S.No.	Order	Family	Name of fish Species	Species Composition
1	Clupeiformes	Notopteridae	1. Notopterus notopterus	2%
2	Cypriniformes	Ciprinidae	1. Catla catla 2. Cirrhinus reba 3. Cirrhinus mrigala 4. Lebeo reba 5. Garragotyla 6. Hypophthamic thys molitrix 7. Rosbora danionius 8. Puntius ticto 9. Puntius sophor 10. Puntius sarana 11. Oxygastar bacailla 12. Osteobrama cotia 13. Labeo rohita 14. Cyprinuscarpio 15. Labeo calanbasy 16. Ctenopharyngo doidella	43%
		Cobitidae	1. Nemacheilus botia 2. Leidocephalycthys guntea	6%
		Siluridae	1. Ompok pabda 2. Wallago attu	6%
		Bagridae	1. Mytus tengara 2. Mytus cavasius 3. Mytus oar	8%
		Clariidae	1. Clarius batrachas 2. Clarias gariphynus	2%
		Saccobranchidae	1. Hetropheustes fossilis	2%
3	Ophioce Phaliformes	Ophiocephalidae	1. Channa straitus 2. Channa punctatus	6%
4	Periciformes	Centropomidae	1. Channa nema	2%
		Anabantidae	1. Anabas testudineus	2%
		Gobiidae	1. Glossogobius girius	2%
		Cichlidae	1. Oreochromis mossambicus	2%
5	Clumpeiformes	Clupeidae	1. Gudusia chapra	2%
6	Mastacembese-	Mastacembelidae	1. Mastacembelus	6%

	formes		armatus 2. Macrognathus aculeatus	
7.	Tetraodonti-formus	Tetroodontidae	1. Puffer fish	2%
8	Siluri formus	Pangasiidae	1. Pangasius pangasius	2%
9	Beloni formus	Belonidae	1. Xenentodon cancila	2%

RESULT AND DISCUSSION:

The result of the current study showed that the fresh water Khushrangi Dam of Chhattisgarh. Now this dam is mostly used for irrigation, aquaculture in various types of uses by villagers. In these reported fishes in the family the Cyprinidae was most dominant, many studies have presented the strong dominance of Cyprinidae family in their (Ichthyo Faunal diversity) Investigation.

Kalbande (2007) reported a total 29 spe. were identified belonging to 19 orders where Cyprinidae and through the diff. spe. Lebeo and Catla were observed to be most dominant in order of Cypriniformes.

Sharma (2008) reported 87 spe. under 36 genera belong to the Cyprinidae family from water of Nepal.

Choubye et. al. (2013) Reported 45 spe. in Rajnandgaon town of C.G., Cyprinidae was the largest dominant family contributing 15 spe. In this Limnological studies with their special references to diversity of fishes in Mongra dam of Ambagarh Chowki Rajnandgaon district C.G. This study are also support the present study, so the present research attempt has been made to study Limnological with special references to fish diversity of Khushrangi Dam of Raipur district Arang block C.G. due to the development of the fish culture, science and technology resulting in the economic relation of C.G. region. That is why, instantly beneficial to develop the knowledge of rural places, so it can improve their economic status by taking on this process in their region.

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