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Ichthyofaunal Diversity of The Khushrangi Dam (Kosrangi) Raipur Chattishgarh India

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The survey was under taken for Ichthyofaunal diversity study in the Khushrangi dam reservoir of Raipur district . The study is focused on the CIPRINIFORMES Order. In the present survey number of Catla and Panties sarana and some number of Heteropneustes fossilis and Clarias batrachus were found of fishes species. This is the first ever study of fish diversity of Khushrangi dam which would be helpful to explore the fish fauna of dam and the nearest regions.The exploration of fauna adds to our realization that fishes are master of many aquatic habitats. Having seen something of their adaptability. Valid scientific description exist for about 24,600 living species of fishes in 482 families and 57 orders (Nelson -2006).

Keywords :- Khushrangi Dam , Ichthyofaunal Diversity , Order.

INTRODUCTION

India is very rich in Biodiversity, India supports about 10% of the world's biological diversity with just 2% of world land area. Chhattisgarh is endowed with diverse group of flora and fauna. Fish is the most diverse and pretentious group of vertebrates, we know that more than twenty thousand living kinds but our inventory is by no means complete. Each year may be seen in the zoological record, many new species are described. They come from underground, stream, river, lake, swamps, inshore waters, coral reefs the deep sea and so forth .Fishes are the important group of animal world contributing to the biodiversity of animal.

Each discovery adds to our realization that fishes are masters of many aquatic habitats. Having seen something of their great adaptability .Valid scientific description exist for about 24,600 living species of fishes in 482 families and 57 orders [Nelson-2006].

The fish diversity is not only the wealth of the district but it also has serious implication fisheries .studied have been made on Ichthyofaunal diversity of various fresh water bodies in INDIA during the last years. India has offered a large variety of water bodies and habitats to aquatic life. Its coastal marine waters, river system, streams, different wetlands , lakes and ponds of different water quality.

The Reservoirs play an important role in the development process of a Nation and also have an integral role in fisheries and livelihood security of the local community.
Reservoirs "The man made lakes "are constructed with the aim of generation of electricity and water storage for purpose of Irrigation.
Kosrangi Dam is man-made reservoir which is abounded by black soil. The dam made on Mahanadi river near Kosrangi village in (1909) in British time .

Total water spread area is around –

1. AT MWL – 0.10sq.km.(12.05 HACT)
2. WATER SPREAD AREA AT MWL:2.58 sq.km. (258,58 FEET)

Fish diversity comprises of species richness [number of species in a define area], species abundance [relative number of species] and phylogenetic diversity relationships between different group of species Gorma and Kaur [1978] .Choubye and quresh [2013] ,studied on Ichthyofaunal biodiversity of Rajnandgaon town Chhattisgarh INDIA . The result of this study show that Rajnandgaon town in biodiversity of fishes Author concludes that fish culture is only sources of income generation for the local fisherman. Singh Tarun kumar ,Guru bhikhari charan and Swami saroj kumar in [2013]is studied in this review of literature work on fish diversity of the Mahanadi river indicate that the Mahanadi river is endowed with a wide verity of endemic fish species . A significant number of these fishes are considered ornamental species. S.Mondal ,Agrawal R.K. ,and S.Thiske (2014) studied about the diversity of fishes in Mongra dam Rajnandgaon C.G.has find that fish production in directly related to the water quality and concluded that to develop the knowledge of rural reason can improve their economical status to develop poultry-cum-fisheries .
The review of literature indicate that there is no attempt made to document the fish diversity along with their habitat, in this area.
HYPOTHESIS - This work is to describe the species of fishes composition abundance and species diversity index , species richness evenness and similarity of the Ichthyofauna of this reservoir throughout a one year period in Khushrangi dam of RAIPUR district Aarang block.

METHODS AND MATERIALS -

The investigation of Limnological that Kosrangi Dam is prime consideration to access the quality of water for its best uses like as Irrigation , Drinking , Aquaculture and cloth washing and so on besides the pollution strength and its affection the ecology of the dam .The dam is mainly rain feed.

STUDY AREA - CHATTISGARH stat was formed after bifurcation of old Madhya Pradesh in 1st November 2000 . Geographically Chhattisgarh is situated between 17* 46"- 24* 80"N latitude and 80*15" – 84* 24"E longitude . Chhattisgarh has river basin, plateau and hilly area . Its plains form basin of many rivers and its water potential is trapped in the form of some reservoir . Chhattisgarh stat has 28 district and Raipur district has total 4 block [Dharsiwa , Tilda ,Arang, Abhanpur]and the dam is located in Arang block Khushrangi dam. It is located 46 km. toward

East from District head Quarters Raipur .14 km. Arang .46 km from state capital Raipur .Kosrangi pin code is 493225 and postal head office is Kharora.

About Kosrangi Dam;-

NAME- Kosrangi dam

AREA- 201.258775

PERMIT SAM- 2012587.754

LATITUDE- 21*22'0.672"N

LONGITUDE- 81*59'39.996"E

Kosrangi dam is 7181 ft. tigh from sea level.

AREA OF WATER – 110

OWNERSHIP – Irrigation dept.

SEASONALITY – Perennial

WATER RETANTATION – 12

(Data from Google earth . com)

[http://www.one five nine . com / India /village /Raipur/ Arange/Kosrangi]

Fishes wear collected from Khushrangi dam catchment area .Fish were collected every month from each station for a period of one year from January 2019 –December 2019 .The fish were collected by hand net ,cast net ,seeking help of local fisher man and local fish market.

The fish so called shall be photograph on the spot and study shall be based on it. Identification on fishes was done on the basis of Morphometric characters descriptive characters and fin formula . Fishes are classified and arranged based on the work of the Talwar and Jhingran (1991),with slight modification as followed by Days fauna (1998) , Manon (1999) and Jayaram (1999) ,Sunil mondal (2014).

RESULT AND DISCUSSION

The present study resulted that the various fish species of CIPRINIFORMES Order were collected from the study area to identify the fish species and their diversity .The total identified species were Catla catla (katla),Cirrhinus mrigla (mrial),Labeo rohita (rohu), Oxygaster bacaila (sirangi) ,Panties sarana (kotra), Nullugo attu (padhan), Mystus cavasius (tengna), Heteropneustes fossilis (singhi) ,Clarias batrachus (mongri) .In which Catla catla and Panties sarana founded the more number of species that is 4-4 and Heteropneustes fossilis and Clarias batrachus that is only 1-1 species of each . The present study is showing the abundance of fishes and their great adaptability in Khushrangi dam . This study of the fish diversity observation is similar to as S.Mondal (2014) who studied about the fish diversity in Mongra dam . Choubey K.and Qureshi Y.(2013)who studied about the Ichthyofaunal diversity of Rajnandgaon .Divya kumudni minj and R.K.Agrawal who studied about the fish diversity of Pakhanjoor reservoir etc.








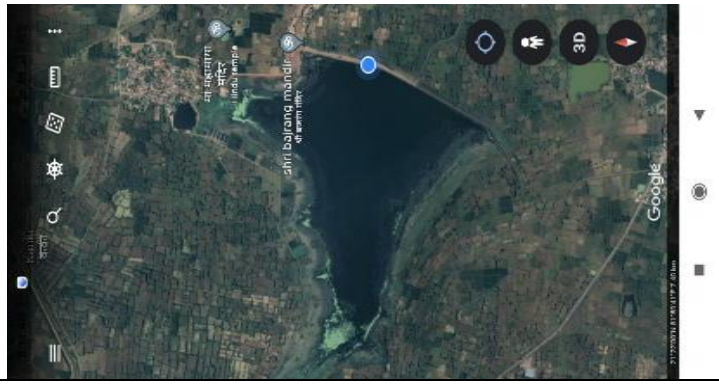

TABLE :- 1 Occurrence of different fish diversity from Cipriniformes ORDER.

S.No.	ORDER	FAMILY	GENUS AND SPECIES	LOCAL NAME	NO.OF FISHES
1	Cipriniformes	Ciprinidea	Catla catla	Katla	4
	Cipriniformes	Ciprinidea	Cirrhinus mrigla	Mrigal	2
	Cipriniformes	Ciprinidea	Labeo rohita	Rohu	3
	Cipriniformes	Ciprinidea	Oxygaster bacaila	Sirangi	2
	Cipriniformes	Ciprinidea	Panties sarana	Kotra	4
2	Cipriniformes	Siluridae	Nallugo attu	Padhan	2
3	Cipriniformes	Bagridae	Mystus cavasius	Tengna	2

4	Cipriniformes	Saccobranchidea	Heteropneustes fossilis	Singhi	1
5	Cipriniformes	Claridae	Clarias batrachus	Mongri	1

CONCLUSION

The richness of fish diversity is good in Khushrangi dam due to its survival quality and proper quantity of the ecological factor .Here a proper environment for abundance of fish diversity which is with rich planktons in the dam . The conclusion is that some important fish species are threatened Heteropneuster fossilis (singhi)and Clarias batrachus (mongri) which found in very less in number .Fish culture is only source of income generation for the local fisherman.

REFERENCES

1. Agrawal ,R.K. , Thiske sanjay and Mondal Sunil et. al. (2014) Ichthiyo faunal diversity of the Khairkatta dam diversity North basin Kanker C.G. INDIA [ISSN 2347-755 Volume 1 ,Issue 6 June ,2014]
2. Bhalerao ,S.N. (2012). Study of fish diversity and water quality at Kasar sai dam,Hinjewadi ,Pune,MS, India .international Reasearch journal of Biological sciences , 1 (4),51-55.
3. Choubey ,K. And Qureshi , Y .(2013) study of Ichthyofauna biodiversity of Rajnandgaon town C. G. ,INDIA ,Int.reserch journal of Bio. sci. Vol.2 (2),21-24 .
4. Minj Divya kumudni and Agrawal R.K. (2005) study of Ichthyofaunal diversity of Pakhanjoor reservoir volum 3, ISSU 2,pp: 144-147, .
5. STEWART , A,J,Robert,G.,and Wetzel,W.K.(1982).Influence of dissolved humic materials on carbon assimilation and alkaline phosphatase activity in natural algal-bacterial assemblages. Freshwater Biology ,12 (4),369-380.
6. Nagma and Khan M.A 2013 studied on freshwater fish fauna of district Bijnor in western Uttarpradesh INDIA ,Int J. Life. Sci-bt and pharm .Res.2013 vol.2 No. 3. ,ISSN 2250-3137 .
7. Marshall, N.B. (2000).Fish: life Environment and Diversity,Agrobio (India).
8. Paunikar ,S. et.al. (2012) studied on Ichthyofaunal diversity of Gaur river, Jabalpur Madhya Pradesh , central INDIA .World journal of fish and Marine science , 4 (4),356-359.
9. SS .Mishra ,S.Mohanty ,MS. Chari and HK. Vardia (2017) . International journal of fisheries and aquatic studies is.(2) :425-429.
10. Sharma H.S.(2007) ,Fresh water fishes ,in fauna of Madhya Pradesh ,state fauna series ,(10,147-244) .
11. Singh Tarun kumar ,Guru Bikari charan and Sroj kumar et.al. (2013) fish diversity in the river Mahanadi and identifying the problem potential ornamental fishes among them with reference to threats and conservation measures .Res.J.Animal veterinary and fishery sc.[ISSN 2320-6535]vol.1 (3), 16-24, April .
12. Raghav M. ,Dixit S. (2009), Diversity of fishes in a fresh water Reservoir of Chhattisgarh , India.Res.J.sci. Tech 1 (3), 103-107 .4, 2013.