

ICHTHYOFAUNAL DIVERSITY OF PALDHAG RESERVOIR IN CHIKHALI TALUKA OF BULDANA DISTRICT (M. S.) INDIA

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Abstract

Present investigational study was carried out to detect the fish diversity of Paldhag reservoir constructed on Vishwaganga river in Chikhali taluka. This is earth fill dam and used for agriculture irrigation, domestic supply and fishery purpose. Fish samples were collected from January 2021 to December 2021. This literature announces the fish faunal diversity found at Paldhag reservoir. During study period, 28 species of ichthyofaunal group were recorded from this study area including 7 orders and 13 families. This indicates the better condition of water and richness of biodiversity of related waterbody.

Keywords: Ichthyofaunal diversity, freshwater, Paldhag reservoir, Buldana.

Introduction

“Biodiversity is soul for life. Each life is important to it.” It is necessary for stabilization of ecosystem, protection of environmental quality and also for understanding intrinsic worth of all species on earth. The biologist and writer Edward Wilson call biodiversity as “The key to the maintenance of the world.” (Ehrlich and Wilson;1991) Fish fauna is one of the important factors of this biodiversity. This fauna make up the largest group of chordates, representing half of all vertebrates. These are the most primitive vertebrates have been swimming in earth water from more than five hundred million years that is from Cambrian period, longer than any other kind of vertebrate have been seen on earth. These are the most beautiful creation of nature found in almost all parts of universe. We are well known about freshwater fish fauna, these are the aquatic vertebrates, live in water having pH less than 0.5 ppt, (part per thousand) respire with their gills and exhibit enormous diversity of shape, size, biology and habitat. Over 10,000 fish species live in freshwater which are approximately 40 % of global fish diversity and one quarter of global vertebrate diversity (Lundberg et al.; 2000). (Froese and Pauly; 2018)

As per the official records of fisheries department of Maharashtra the inland fish production of state has increased from 9000 million tone to 1,24,166 million tone. Maharashtra is famous for its varied fresh water resources including lakes, tanks and rivers. Directly somewhat indirectly this fauna provides improved food, reduce food scarcity, increase income, improve life hoods, promote economic growth and protect our environment with natural resources.

This diversity is being eroded each day mainly because of unending anthropogenic stress. About 20,878 assessed and 2,849 threatened species of fishes are recorded from current report of IUCN (2020). Biodiversity and its conservation are regarded as major issue and necessity for stability of ecosystem. Hence today’s most urgent and

significant need to protect Ichthyofaunal diversity in their natural habitat. This systematic study will help to define ecosystem and present status of related fauna that leads to sustainable fishery in study region.

Study Area: Paldhag reservoir is high irrigation Project constructed on Vishwaganga river in Chikhali taluka, in Buldana district of Vidarbha region in 1974. It coordinates 20° 35’ 47” N and 76° 18’ 3” E. It is located 16 km away from Buldana. Paldhag reservoir got created as a result of construction of Paldhag dam of irrigation project. Official designation of this project is Paldhag D- 01375. Locally this is also known as ‘Paldhag Talaw or Paldhag lake’ The dam is earth fill gravity. Water spread area of this dam is 2.02 sq.km. The length of the dam is 841 m and height 24.06 m. Maximum storage capacity of this dam is 9.09 MCM and live storage capacity is 8.01 MCM. This fresh water body is used for purpose of irrigation, domestic water supply and for fishery production.



Paldhag Dam on Vishwaganga River

Materials and Methods:

Preliminary surveys were conducted among the local fishermen to understand the areas from where fishes were collected. Monitoring and sample

collection were done in morning period mainly. Fish samples were collected with the help of skilled local fisherman, by using various fishing nets, crafts and gears. Identification of fishes was done at fish landing center to get its original characters like as natural colors, mouth pattern, fins, type of scales, and other morphological characters. Recognized fish samples were captured in camera. The standard literature was used for identification, Classification and Nomenclature of fish. (Day, 1986; Menon, 1992; Talwar and Jhingram, 1991; Jayaram; 1999; Eschmeyer and Frike; 2019, Froese and Pauly, 2021).

Fish species which were not identified on the field (collecting center) were collected. Small sized samples were preserved in plastic can filled with 10% formalin. 5cc of formalin was injected in the belly of large sized fish with disposable syringe and packed in polythene bags and brought to research center, Department of Zoology, Jijamata college Buldana, Sant Gadge Baba Amravati University, for further identification.

Additional information was collected by observation, interview and questionnaire method from Fishermen, market and native people.

Analysis of collected data and data processing would be done by using computer software M.S. Excel and standard statistical and graphical application.

Result and Discussion

Fish diversity of this reservoir split in to 7 orders and 13 families. All this fish species belongs to class Actinopterygii with orders Cypriniformes, Siluriformes, Perciformes, Osteoglossiformes, Synbranchiformes, Beloniformes and Mugiliformes. Order Cypriniformes was dominant, contribute 12 species followed by Siluriformes 06 and Perciformes 04 species. Order Osteoglossiformes and Synbranchiformes both have 02 species individually while order Beloniformes and Mugiliformes have one species each. Some similar species of these fauna was recorded by Ubarhande and Sonawane (2012) from Pentakali reservoir; Joshi *et al.*, (2012) from Purna river; Ubarhande *et al.*, (2016) and Nikam (2016) from Khadakpurna reservoir; Kale and Bathe (2022) from Lanjud reservoir under Buldana District (M. S).

Sr. No.	Order:	Family:	Genus- Species
1	Cypriniformes	Cyprinidae	<i>Amblypharyngodon mola</i>
2	Cypriniformes	Cyprinidae	<i>Acanthocobites murreh</i>
3	Cypriniformes	Cyprinidae	<i>Cirrhinus mrigala</i>
4	Cypriniformes	Cyprinidae	<i>Catla catla</i>
5	Cypriniformes	Cyprinidae	<i>Cyprinus carpio communis</i>
6	Cypriniformes	Cyprinidae	<i>Labeo rohita</i>
7	Cypriniformes	Cyprinidae	<i>Labeo bata</i>
8	Cypriniformes	Cyprinidae	<i>Puntius ticto</i>
9	Cypriniformes	Cyprinidae	<i>Rasbora daniconius</i>
10	Cypriniformes	Cyprinidae	<i>Salmophasia balooki</i>
11	Cypriniformes	Balitoridae	<i>Nemacheilus beavani</i>
12	Cypriniformes	Balitoridae	<i>Nemacheilus botia botia</i>
13	Siluriformes	Bagridae	<i>Sperata seenghala</i>
14	Siluriformes	Bagridae	<i>Mystus cavasius</i>
15	Siluriformes	Siluridae	<i>Ompok bimaculatus</i>
16	Siluriformes	Siluridae	<i>Wallago attu</i>
17	Siluriformes	Clariidae	<i>Clarias batrachus</i>
18	Siluriformes	Schilbidae	<i>Eutropiichthys goongwaree</i>
19	Perciformes	Channidae	<i>Channa punctatus</i>
20	Perciformes	Channidae	<i>Channa marulius</i>
21	Perciformes	Gobiidae	<i>Glossogobius giuris</i>
22	Perciformes	Ambassidae	<i>Chanda nama</i>
23	Osteoglossiformes	Notopteridae	<i>Chitala chitala</i>
24	Osteoglossiformes	Notopteridae	<i>Notopterus notopterus</i>
25	Synbranchiformes	Mastacembelidae	<i>Macrognathus armatus</i>
26	Synbranchiformes	Mastacembelidae	<i>Macrognathus pancalus</i>
27	Beloniformes	Belonidae	<i>Xenentodon cancila</i>
28	Mugiliformes	Mugilidae	<i>Rhinomugil Corsula</i>

Conclusion

During investigative study 28 species of ichthyofaunal group are found, which contribute under 7 orders and 13 families. This indicate the better condition of water and richness of biodiversity of related waterbody. This study provides data on ichthyofaunal diversity of Paldhag reservoir for first time. It will be helpful and provide guideline to researchers and fisherman society related to this area and Buldana district.

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