International Journal of Advance and Applied Research
www.ijaar.co.in
ISSN – 2347-7075 Impact Factor – 7.328
Peer Reviewed Bi-Monthly
Vol.9 No.5 May – June 2022

STUDIES ON ICTHYOFAUNAL DIVERSITY FROM VISHNUPURI DAM, NANDED

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Abstract:

This study on Fish diversity of Vishnupuri Dam, Nanded was carried out from January 2018 to December 2018. The fish diversity is correlated with biological and various physio-chemical parameters that regulate the productivity and distribution of different species of fishes. The fish population is abundant and majority of the fishes are exploited for human consumption. For the purpose of the study, attempts were made to collect, classify and identify fish of Vishnupuri Dam. The major fish abundance was noticed in the family Cyprinidae; 16 species of fish belonging to the four order were present. They were Cypriniformes, Osteoglossiformes, Siluriformes, Perciformes. The data shows the dam are dominated by Cyprinidae. The result of the present study provides an insight on fish diversity of Vishnupuri dam, its proper management and the importance to conserve the fish diversity.

Keywords: Cypriniformes, Icthyofaunal diversity, Osteoglossiformes, Perciformes, Siluriformes, Visnupuri dam.

Introduction:

Godavari River is very important river in Maharashtra and the source of capture fishery in this region. Godavari River is originated from Trimbakeshwar, Dist. Nasik. It flows 7 District in Mahrashtra, Vishnupuri Dam was constructed on Godavari river at Nanded.

Fishes are an important resource for humans, especially for food. Fishes in India have very important economic activity and is a flourishing sector with varied recourses and potentials. India is an important country that produces fish through aquaculture in the world. India is also the home to more than 10% of the global fish diversity. Due to the anthropogenic activities, the rivers and streams are facing a large number of environmental problems resulting in the decline of fresh water biodiversity. Fish have been regarded as an effective biological indicator of environmental quality and anthropogenic stem in aquatic ecosystem (Vijayasree and Radhakrishnan, 2014).

Fishes are used for major foods to human being. These are good source of Protein and vitamin D. The Godavari river is important source of water for Nanded City, water is used for water supply and irrigation purpose.

Materials and Methods:

Study area: Vishnupuri dam, Nanded.

Vishnupuri Dam is a dam in Nanded district of Marathwada in Maharashtra . It is known as the largest upsa irrigation project in Asia. The dam is known as Shankarsagar. Built on the Godavari River, it is the largest upsa irrigation project in Asia. This project is near Asarjan village. Km Is at a distance. The project in Nanded city was completed in 1988. Backwater area 40 km. Is at a distance. Length of Godavari river. The cultural command area of the project is 23222 hectares.

Fish Sample Collections: Fish samples were collected from Vishnupuri dam during the study period from January 2018 to December 2018 with the help of local fishermen using different types of nets namely gillnets, cast nets of standard size and dragnets with a mesh size of 2 mm. Immediately photographs were taken prior to preservation in 10% formalin solution. Fishes brought to the laboratory were fixed in this solution in separate jars according to the size of species. Smaller fishes were directly placed in the formalin solution while larger fishes were given an incision on the abdomen before they were fixed.

Fish Identification: The fishes were identified by using Day (1978); Talwar and Jhingran (1991) and Jayaram (2009, 1981).

Result and Discussion:

During the study of fish biodiversity of Vishnupuri dam, for a period of one year, a total of 16 species of fishes were recorded from 04 families, shown in table 1.

Table 1: Icthyofaunal Diversty with their order and family

S.N.	Order	Family	Fish species
1	Cypriniformes (50.00%)	Cyprinidae (50.00%)	08
2	Siluriformes (18.75%)	Claridae (18.75%)	03
3	Perciformes ((18.75%)	Channdae ((18.75%)	03
4	Osteoglossiformes(12.50%)	Notopteridae (12.50%)	02

The Cryprinede family dominated with 08 species whereas Claridae and Channdae followed with three species each and Notopteridae with 2 species.

Similar work were carried by different workers throughout country as- Sakhare (2001) while studying the fish diversity of Ujani wetland in Maharashtra recorded more than 21 species of fish with the dominant fish belonging to the order Cypriniformes (4 species) followed by Osteoglosiformes, Perciformes and

Channiformes all recording two species each. Pawaret al. (2003) monitoring Sirur Dam in Nanded recorded 11 species of fish belonging to five orders. However, Menon (2004) while studying the fish diversity of Koyna River recorded 58 species in that system, while Khedkar (2005) studying the fish diversity of Nathsagar Reservoir in Aurangabad was able to record 67 fish species belonging to seven orders and 19 families. Shinde et al. (2009) while studying the fish diversity in Rawanwadi lake in Maharashtra recorded 29 species of fish dominated by Cypriniformes (11 species) followed by Perciformes (3 species). Later, Shinde et al. (2009a, b) while studying fish diversity of Harsool Savangi Dam in Aurangabad and Pravara River in Ahmednagar record 15 and 41 species respectively; while the Harsool Savangi Dam recorded 11 species of Cypriniformes and three species of Perciformes, the Pravara River recorded seven orders, 14 families and 26 genera. Among the various orders Cypriniformes formed the bulk (50%) followed by Siluriformes (19%), Perciformes (14%), Osteoglossiformes and Synbranchiformes (4.76%) and Mugiliformes and Beloniformes forming 2.38% each of the total fish species. Vijayalaxmi et al. (2010) while monitoring the fish distribution in Mullameri River in Karnataka suggested that Cypriniformes formed the dominant group followed by Siluriformes, Channiformes, Mastacembiformes and Osteoglossiformes while Ubharhande et al. (2011) reported the ichthyofauna of Ambadi Dam comprised of 27 species belonging to eight orders, 11 families and 22 genera of which Cypriniformids dominated with 13 species forming 48.16% of the total fish species. On the other hand, Sanjay et al. (2012) while studying the Krishna River at Wai reported a total of 51 species belonging to 14 families and 13 genera while Sarkar et al. (2013) studying the fish diversity of River Gerua in Uttar Pradesh recorded a total of 87 species of fish belonging to six Orders, 22 families and 52 genera of which Cypriniformes comprised 12 species followed by Siluriformes(4 species) and Siluriformes (3 species) of fish.

All the workers reported the dominance of Cypriniformes in all the systems as was also noticed in the present study. Thus, it appears that the most common species that appears in Indian fresh water systems belong to this Order. However, there were differences in the composition of the species as well as with other Orders and families which suggests that each systems are unique thus necessitating to study each and every system however close they may be.

Conclusion:

There is a rich diversity of fish in Godavari river in Nanded Maharashtra. This ichthyofaunal study is a very important aspect to understand the diverse fish fauna in the water body. Changes in the fish community directly or indirectly affect the physical chemical and biological characteristics of the dam. Fish fauna and distribution is useful for designing and applying conservation strategies. In order to maintain fish diversity certain conservative measures are recommended:(i) To avoid harvesting of fingerling/fry (ii) No harvesting in breading seasons (iii) Prevent anthropogenic activities like pollution, contamination etc. (iv) Educate/train the people about the importance of

biodiversity in maintaining ecological balance.

In future, this work will provide strategies for monitoring, controlling, conserving and developing the diverse fish fauna of Vishnupuri dam.

Acknowledgements:

The authors are thankful to Principal, Yeshwant Mahavidyalaya, Nanded for their kind help, inspiration and providing necessary laboratory facilities.

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