



Investigating The Abundance And Diversity Of Fish In Fresh Water Reservoir: Borgaon Yavatmal Maharashtra

Tejaswini Atkulwar¹, Praveen Joshi²

¹Research Scholar, Department of Zoology, Amolakchand Mahavidyalaya, Yavatmal-445001.

² Professor and HOD, Department of Zoology, Amolakchand Mahavidyalaya, Yavatmal-445001.

Abstract:

The current study identified the variety of fish found in Yavatmal District's Borgaon Reservoir, which is close to Madani Town. This dam was built in 1993 on the nearby Nallah River as part of the Maharashtra government's irrigation projects. In this investigation, samples were gathered using fishing nets with the assistance of local fishermen, and they were recognized using identification keys. Eleven fish species from the area were identified, categorized into six orders and seven families. *Puntitus dorsalis*, *Chela cachius*, *Labio bata*, *Puntitus sophore*, and *Labeo cylindricus* are the five species that make up the family Cyprinidae, and the order Cypriniformes was the most dominating order. Order Anguilliformes, Anabantiformes, Osteoglossiformes, and Perciformes each contribute 01 species under the families Anguillidae, Channidae, Notopteridae, and Ambassidae. Order Siluriformes contributes 02 species under the families Siluridae and Bagridae. In the hopes that the diversity number will rise as well, more research on the relationship between eating habits. and pathogenicity will continue.

Keywords: Fish diversity, Borgaon reservoir, Yavatmal district, Maharashtra

INTRODUCTION

The nature has furnished us by giving the wealth like biodiversity and its environment that is very important for the sustenances of life on this earth. India is the third largest fish producing country and the second largest aquaculture fish producer in the world. India contributes about 7% to the global fish production. The country is also home to more than 10% of the global fish biodiversity and is one of the 17-mega biodiversity rich countries. From this country Maharashtra is state in the western region of india. Maharashtra is rich in freshwater reservoirs, like rivers, dams, irrigation canal, lakes and its native fish diversity. Therefore, Maharashtra is one of the most important states for fish production and natural water resources and there is great scope for developing fisheries as well as economically. On the basis of ecosystem, Fish species diversity is roughly divided into marine and freshwater ecosystem. According to Fresh water ecosystem, antropogenic factors affect water quality and due to that anthropogenic activity the native fish diversity is declining rapidly day by day. This diversity is not only the wealth of our world but it also affect on treasure of fisheries. By keeping all these things in mind, this study investigated the native fish diversity in borgaon reservoir, which is fresh water reservoir. this study is first attempt to found out the native fish diversity from Borgaon Reservoir of Yavatmal District

Material and Method

Study Area:

The present study was carried out on the Borgaon Reservoir, Yavatmal. Which is located in the offshoots of Yavatmal city, near Madani Town. It is built on and impounds a local Nallah River. It is an Earth fill Dam. The main purpose of the dam is for irrigation. The Length of dam is 830 m (2723.1 Feet), while the Height of the dam above lowest foundation is 20 m (65.6168 Feet) with volume content 0.01404 km³ (0.00337 cu mi) and its gross storage capacity is 0.014040 km³ (0.003368 cu mi). The nearest city to dam is Yavatmal in Yavatmal District of Maharashtra. The local and popular name of Borgaon dam is "Borgaon Lake or Borgaon Talav".

Figure 1. Photograph of Borgaon Reservoir of Yavatmal district.



Collection of fish sample

For the study of Native Fish Diversity, fishes were collected with the help of local Government contractor and some local fishermen by using different types of nets namely gillnets, casts nets and dragnets from the different station of the reservoir. After the collection of fish specimens, it transferred into the icebox for further morphometric study on species level.

Identification of fish sample and study fish diversity

The collected fish specimens were identified on the species level by using identification keys like, identification keys available from central or state fisheries departments, and also study agencies (ZSI, Fish Base) on the basis of their taxonomic level and Observed Native fish diversity in Borgaon Reservoir.

Result and discussion

During study of local fish diversity, total of 11 species belonging to 7 families were recorded (Table 1). These families were Cyprinidae (05), Siluridae(01), Bagridae(01), Anguilidae(01), Channidae(01), Notopteridae(01) Ambassidae(01) were recorded(Figure 2). Out of those families, the family Cyprinidae was the most dominant. Other potential studies also confirmed the abundance of Cyprinidae families in this region (S.K, 2017; Tantarapale 2015; Takhare, 2016; Kamdi, 2018). Fishes are very important for the aquatic ecosystems because healthy fish populations tend to mean a healthier aquatic environment. This information is useful to know how the dam is rich with native fishes and also it will be useful for the fisheries department to know the present status of native fishes.

Conclusion

The present study is a preliminary base study on native fish diversity of Borgaon Reservoir. In this study we only focused on the local fish diversity in Borgaon Reservoir, Yavatmal, for that study, we arranged multiple visits in the morning to the reservoir to observe a variety of fishes inhabiting the reservoir which was trapped by the local fisherman. After visiting the reservoir, we found a various different species of fishes, out of those some are the commercially important fishes in Yavatmal district. This study will continue further for counting the greater number of fishes in Borgaon Reservoir, Yavatmal.

Table 1. Taxonomical classification of fish diversity.

Order	Family	Species	Common name
1.Cypriniformes	Cyprinidae	1. Puntitus dorsalis	Podshi
		2. Chela cachius	Chela
		3. Labio bata	Navara
		4. Puntius sophore	Khavli, karvati
		5 Labeo cylindricus	Mhaira
2. Siluriformes	Siluridae	Ompok pabda	Patula/Varja
	Bagridae	Mystius cavasius	Katarna
3.Anguilliformes	Anguillidae	Anguilla bengalensis bengalensis	Wire
4.Anabantiformes	Channidae	Channa striata	Murrel
5.Osteoglossiformes	Notopteridae	Notopterus notopterus	Bhangad
6.Perciformes	Ambassidae	Ambasis ranga	Chandi

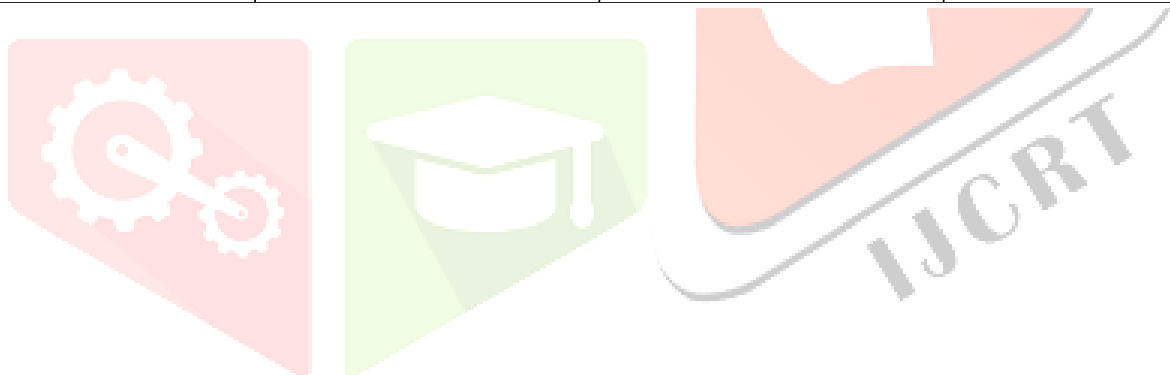


Figure 2. Photographic evidence of Fish Diversity.



Puntitus sophore



Labeo cylindricus



Channa striata



Notopterus notopterus



Ambassis ranga



Mystus cavasius



Ompok pabda



Anguilla bengalensis bengalensis



Puntitus dorsalis



Chela cachi



Labio bata

References:

- A.G. Thakare, S. J. (2016). DIVERSITY OF FRESH WATER FISHES FROM THE WASHIM DISTRICT OF MAHARASHTRA, INDIA. Indian Streams Research Journal, 6 (5), 1-13.
- H.S.Moga/ekar, P. J. (2015). REVIEW ON NEW RECORDS OF FRESHWATER FISHES from india with ote on distribution and conservation status. Journal of Aquaculture in the Tropics, 30, 211-232.
- Joshi P. S., V. T. Tantarpare and K.M. Kulkarni. (2013). Fishing Methods Commonly Employed In Buldhana District and Neighborhood, Maharashtra State (India) Bioscience Discovery, 4(1): 54-57.
- Kamdi, S. K. (2018). FISH BIODIVERSITY OF SAIKHEDA DAM WETLAND AREA OF LINGTI VILLAGE IN KELAPUR TALUKA, DIST.-YAVATMAL (M.S.), INDIA. INTERNATIONAL JOURNAL OF RESEARCHES IN BIOSCIENCES, AGRICULTURE AND TECHNOLOGY, 1 (vii), 17-22.
- Kamdi, S. K. (July 2017). Studies On Fish Biodiversity Of Nawargaon Lake In Maregaon Taluka, District Yavatmal, (M.S.) India. INTERNATIONAL JOURNAL OF RESEARCHES IN BIOSCIENCES, AGRICULTURE AND TECHNOLOGY, v (2), 863-866.
- Kumar, S. T. (2014). Fish Diversity in Selected Stretch of the River Mahanadi in Odisha and the. International Research Journal of Biological Sciences, Vol. 3(8), 98-104.
- Mandal, B. A. (2021). Diversity of freshwater fishes in the eastern part of Purba Medinipur district of West Bengal. International Journal of Fisheries and Aquatic Studies, 9 (1), 153-158.
- Mirgane AP and AC Kumbhar. (2016). Checklist of freshwater fishes at Katphal Lake, Tal- Sangola, Dist- Solapur (M.S) India. International Journal of Applied Research, 991-995
- Nishi Kumari,(2017). Study on the Collection and Types of New Fishes in Bhusara Maun of Muzaffarpur Bihar. RESEARCH REVIEW International Journal of Multidisciplinary, 2(8).107-109.
- Paliwal G.T., Bhandarkar S.V. Bangadkar M.K. (2020). Freshwater Fisheries of Vidarbha: Issues and Concerns,ResearchG (Kamdi, FISH BIODIVERSITY OF SAIKHEDA DAM WETLAND AREA OF LINGTI VILLAGE IN KELAPUR TALUKA, DIST.-YAVATMAL (M.S.), INDIA., 2018)ate, 43-63.
- Pawara Ravindra H., P. N. (2014). Review on fresh water fish diversity of. Journal of Entomology and Zoology Studies , 358-364.
- SK, P. (2017). Fish diversity in relation to fish economics of Isapur dam, from Pusad, Yavatmal District (Maharashtra), India. Int. J. of Life Sciences,5, 133-136.
- Shivaji B Ubarhande, Raosaheb V Barote and Shivaji B Adhale. (2016).Ichthyofaunal diversity from Khadakpurna dam,district Buldhana, Maharastra, India.International Journal of Fisheries and Aquatic Studies, 362-366
- Sobhage S.S., D. D. (2018, March). Fish Diversity in Nijamabad District,Telangana. Aayushi International Interdisciplinary Research Journal , 515-519.
- Tantarpare,V. R. (2015). ICHTHYOLOGICAL FAUNA OF AMRAVATI DISTRICT (M.S.) INDIA. (D. N. Shinde, Ed.) International Multidisciplinary Research Journal, 5 (2).
- Tanay Vyas1, S. M. (2020). Ichthyofaunal Diversity of the Mahi Bajaj Sagar Reservoir, District Banswara, Rajasthan, India. International Journal for Research in Applied Science & Engineering Technology , 8 (xii).