

# EXPLORING THE DIVERSITY OF SMALL INDIGENOUS FRESHWATER FISHES FROM VIHIRGAON RESERVOIR OF RALEGAON TEHSIL, DIST. YAVATMAL

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## Abstract

In a country like India, diversity of small indigenous fishes is mainly found in the freshwater habitat. Such small indigenous freshwater fishes form the major portion of food consumed by families, especially those who are living near the freshwater bodies like rivers, lakes, dams, and reservoirs. A study was carried out to explore the status, diversity of small indigenous freshwater fishes from Vihirgaon reservoir, situated in Ralegaon Tehsil, Dist. Yavatmal. The study was carried out for the period of 12 months from December 2023 to November 2024. The primary study report shows that fishes belonging to 04 orders, 05 families, were observed. A total of 11 species were observed, of which 7 species belong to the order Cypriniformes, 02 of Perciformes and 1 each to Gobiiformes and Chichliformes. Among these, the Cypriniformes order is dominant. The study was carried out for a limited period of time, and the search is going on. This is the first-ever study on the small indigenous freshwater fish diversity of Vihirgaon reservoir and would help in exploring the fish diversity of Vihirgaon reservoir in Yavatmal district.

## Introduction:

Freshwater habitats, especially the water reservoirs, play the crucial role in the conservation of biodiversity. In the Indian environment, these systems often support the wide variety of fish species, and majority of them are the small indigenous fishes, which plays a crucial role in the socioeconomic developing and local ecological balance. The freshwater

resources are highly important in maintaining the life on the earth and the scientific advancement the development of fisheries in freshwater resources is required to improve. When it comes to freshwater biodiversity, India stands at ninth position among the countries with mega biodiversity. There are large number of

economically important aquatic ecosystems that's make it important (*Thakre 2016*).

The Vihirgaon reservoir, which is situated in Ralegaon tehsil of district Yavatmal is a best and perfect example of such a kind of a freshwater environment, brimming with biological diversity waiting to be explored and understood.

Because of the ecological functions and the cultural importance and the potential financial values therefore the small indigenous freshwater fish species are of the great importance. The need for documenting and guarding these fish species. Especially in light of rising the anthropogenic pressures and habitat loss. Located in the Yavatmal district of Vidharbha area in state of Maharashtra, The Vihirgaon reservoir is an important source of water for peoples living nearby it. It serves not only the needs of people but also the home for the various freshwater fish species. To make sure the sustainable development of effective conservation measures and management of aquatic

ecosystems it is essential to understand their diversity and their distributions patterns and the ecological interactions.

The small indigenous freshwater fishes are traditionally important to the local communities as they are important part of their local foods, traditions, livelihoods, which act as the source of food security and income. Therefore, conserving and trying to manage them sustainably are not only ecologically essential but also crucial for protecting the cultural identity and making communities adaptable to changes in the environment. Understanding the dynamic nature of the small indigenous freshwater fishes is important to understanding the framework of the reservoir, which is important to the region's agriculture, fisheries practices, and the domestic water supply. Extensive research and analysis and regional conserving strategies are required as freshwater habitats around the world are continuously facing extreme pressure from human activity and from climate change. In order to support the sustainable use of the

resources for the present and the future, this study intends to advance the larger scientific communication on the freshwater habitat conservation strategies and its management.

## Materials and methods

### 1. Study area:-

The Vihirgaon reservoir was constructed as a part of an irrigation project which was initiated by the government of Maharashtra in the year 1992. The Vihirgaon Dam's Project official designation is "Vihirgaon, D -04999. It was built on impounds of local Nallah in Ralegaon tehsil in the Yavatmal district of Maharashtra. It is a type of earthen filled gravity dam, and the catchment area of the dam is not known. The length of the dam is 930 m (approx. 3051.18 ft.), and the height of the reservoir above the lowest foundation is approx. 16m (52.4934 ft.). The length of the dam's spillway is not known, and it is un-gated. However, the approximate length of the spillway is about 84m (270 feet.) The dam's maximum storage capacity is 3.179

MCM, and its live storage capacity is about 3.027 MCM. Currently the Vihirgaon reservoir is under the control of the Department of Irrigation, Yavatmal district.

### 2. Collection of samples:-

A study was carried out to assess the status, diversity and abundance of small indigenous freshwater fishes from Vihirgaon reservoir situated in Ralegaon Tehsil, Dist. Yavatmal. The study was carried out for the period of 12 months from December 2023 to November 2024. fishes were collected with the help of local fishermen and preserved in 5% formalin on field and brought into the laboratory in separate according to the size of the specimen and the identification of the fishes were done up to the species level with the help of the standard keys and books of jayram (2010), Jhingran and Talwar (1991).

### Results:-

The results showed that the Vihirgaon reservoir has a variety of small indigenous

fish species and is rich in fish diversity. A primary study report reveals that fishes belonging to 04 orders, 05 families, were observed (table-1). A total of 11 species were observed, out of which 7 species belong to order Cypriniformes, 2 to Perciformes, and 1 species each to Gobiiformes and Cichliformes. Among these the Cypriniformes order is dominant, followed by the Perciformes, Gobiiformes, and Cichliformes.

#### Conclusion:-

It is the preliminary study. And it is the first-ever study on the small indigenous

freshwater fish diversity of Vihirgaon reservoir, which would help in exploring the fish diversity of Vihirgaon reservoir in the Yavatmal district. Here we have found a total of 11 species of small indigenous freshwater fishes, with the Cypriniformes being the dominant with a total of 7 species, followed by 2 species of Perciformes and 1 species each of Gobiiformes and Cichliformes. This diversity of fishes shows how important the Vihirgaon reservoir is for fish habitats and emphasizes the need for the current sustainable efforts to preserve the valuable natural resources.

**Table no 1: list of small indigenous freshwater fishes**

Order	family	Scientific name	Common name	Local name
Cypriniformes	Cyprinidae	<i>Salmostoma bacaila</i>	Large razorbelly minnow	chal
		<i>Osteobrama cotio</i>	cotio	bhondu
		<i>Cyprinus mola</i>	mola	nawari
		<i>Rasbora daniconius</i>	rasbora	Gana
		<i>Puntius ticto</i>	Spotted fin barb	Tepri
		<i>Puntius sarana</i>	Olive barb	karwadi
		<i>Garra mullya</i>	Stone sucker	khadak chati
Gobiiformes	gobiidae	<i>Glossogobius giuris</i>	Goby fish	ghasra
Perciformes	Ambassidae	<i>Chanda nama</i>	Indian glassy fish	Zanjad

	nandidae	<i>Nandus Nandus</i>	Leaf fish	dukkar
Cichliformes	cichlidae	<i>Oreochromis niloticus</i>	Tilapia	chilapi

**Table 2: Percentage contributions of different orders of small indigenous freshwater fish species of Vihirgaon reservoir**

Sr.no	Order	Total species	% contribution
1	Cypriniformes	07	63.64 %
2	Gobiiformes	01	9.09 %
3	Perciformes	02	18.18 %
4	Cichliformes	01	9.09 %

**Table 3:- Percentage contributions of different families of small indigenous freshwater fish species of Vihirgaon reservoir**

Sr.no	Families	Total species	% contribution
1	Cyprinidae	07	63.64%
2	Gobiidae	01	9.09%
3	Ambassidae	01	9.09%
4	Nandidae	01	9.09%
5	Cichlidae	01	9.09%

Fig1:-Percentage contributions of different orders of small indigenous freshwater fish species of vihirgaon reservoir

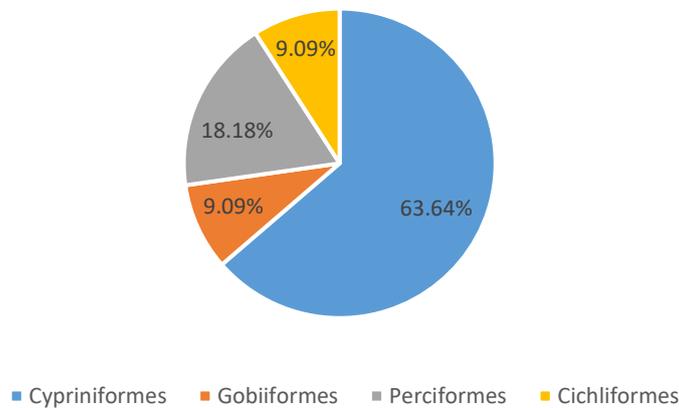


Fig2:-Percentage contributions of different families of small indigenous freshwater fish species of vihirgaon reservoir



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