



Present Status of Fish Diversity and Population Abundance of Selected Fish Species in Khudiya Dam, Mungeli Chhattisgarh, India

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Author's contribution

The sole author designed, analyzed, interpreted and prepared the manuscript.

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ABSTRACT

Fish has a vital role in the socioeconomic structure of South Asian nations and is a valuable source of protein. India is one of the twelve countries in the world with the highest level of biological diversity due to its vast biological heritage. Since the turn of the century, researchers have focused on the 2,546 species of fish that make up the fish population as well as the fish in the Indian subcontinent's inland waterways. The ichthyofauna's lack of knowledge is a major barrier to the popularization of lesser-known fish species in a given environment. Therefore, it is necessary to assess the fish species linked with various freshwater habitats in order to plan production and successful exploitation strategies. The goal of the current study is to better understand the fish diversity in Khudiya Dam between 2023 and 2024. The distance between this dam and Lormi Village in Mungeli District is 20 kilometers. Thirty fish species from five orders and ten families were observed in the current study.

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Keywords: Dam; water; ichthyofaun; fish diversity.

1. INTRODUCTION

The maintenance of ecosystem stability and the preservation of the general standard of the environment depend on biodiversity. Fish are an abundant and nutrient-dense food source that have gained popularity among humans. Fish has a vital role in the socioeconomic structure of South Asian nations and is a valuable source of protein. India is one of the twelve countries in the world with the highest level of biological diversity due to its vast biological heritage. Since the turn of the century, researchers have focused on the 2,546 species of fish that make up the fish population as well as the fish in the Indian subcontinent's inland waterways. Dam of knowledge about the ichthyofauna is a major barrier to the popularization of lesser-known fish species in a given environment. Therefore, it is necessary to assess the fish species linked with various freshwater habitats in order to plan production and successful exploitation strategies. Nayak and Sharma [1]. The potential of fish culture in India has not yet been completely realized. The reservoir's fish biodiversity mainly reflects the variety and quantity of the fish species. A wide range of fish species are preserved by dams, supporting commercial fisheries. There are over 20,000 fish species in the globe and 2179 species in India that are found in freshwater sources such lakes, tanks, and dams. Numerous researchers, including Day (1978), Khanna (1992), Suresh [2], Jayaram [3] and Price [4], have examined fish in India. S. H. Jambhule and P. M. Telkhade (2017). The goal of the current study is to examine the diversity of fish in the Khudiya dam in Mungeli. Evaluating the region's fish variety is the study's goal.

2. MATERIALS AND METHODS

The Khudiya is located in District Mungeli, 20 kilometers from Lormi Village. The goal of the current study is to better understand the fish diversity in Khudiya Dam between 2023 and 2024. Fish from the Khudiya dam were individually harvested, as well as with assistance from fishermen. By consulting the standard literature of Day [5], Jayaram [3], Menon [6], and Talwar and Jhingran [7], the fish were recognized up to species. S. H. Jambhule and P. M. Telkhade [8].

3. OBSERVATION AND RESULTS

Thirty fish species from five orders and nine families were observed in the current study. With

20 distinct species, the Cypriniformes order out of five in found to be dominating, followed by the Ophiocephaliformes order with six species. Whereas Clupeiformes and Anguliformes only display one species of fish, Order Perciformes displays two distinct species. The family Cyprinidae dominated the distribution according to family, with 16 species, followed by Ophiocephalidae (04), Bagridae (03), Siluridae (01), Cichlidae (03), and each of the Notopteridae, Gobidae, and Mastacembelidae (01). In the Order Cypriniformes, Labeo and Catla were found to be prominent among the many species, with Omphok pabda appearing least frequently.

4. DISCUSSION AND CONCLUSION

Fish of the Indian subcontinent's freshwater or inland water bodies have been studied since the turn of the century, claims Jhingran [9]. Researchers such as Alikunhi et al. [10] have spent the last few decades studying the diversity of ichthyofauna from various freshwater basins in India. Thirty fish species from five orders and ten families were observed in the current study. Twenty distinct species were found to make up the main order among the five orders. Whereas Clupeiformes and Anguliformes only display one species of fish, Order Perciformes displays two distinct species. Gayakwad and Kadam [11] 23 fish species from six orders were found in the Masooli Reservoir in the Maharashtra district of Parabhani. In the Govindsagar reservoir in Himachal Pradesh, Kumar [12] discovered 51 ichthyofauna belonging to 4 groups, of which 12 species were significant for commerce. In Hyderabad's Ibrahimbagh and Sathamraj reservoirs, ichthyofauna was documented by Devi [13]. He added that Fish of the cypriniformes family predominated in these reservoirs. The state of Rajasthan has seven classifications, according to Jain [14]. According to Sukumaran and Rahman [15], there are a lot of predatory fish in most of Karnataka's reservoirs. In Pong Reservoir, a total of 27 fish species from 6 families were identified [16]. In the state of Rajasthan, Jain [14] recorded 53 species of fish fauna and classified them into seven groups. The size, form, and lifespan of the species varied greatly, according to Jhingran [9]. For each species, there are unique maximum sizes and ages [17,18]. A fish species's growth is influenced by its surroundings. Five important carp species are examined in this study (Catla,

Table 1. Diversity of Ichthyofauna in Khudiya Dam during year 2023-24

S.N	Name of Fishes	Order	Family
1	<i>Labeo gonius</i>	Cypriniformes	Cyprinidae
2	<i>Labeo calbasu</i>	Cypriniformes	Cyprinidae
3	<i>Labeo rohita</i>	Cypriniformes	Cyprinidae
4	<i>Catla catla</i>	Cypriniformes	Cyprinidae
5	<i>Cyprinus carpio</i>	Cypriniformes	Cyprinidae
6	<i>Cirrhinus mrigala</i>	Cypriniformes	Cyprinidae
7	<i>Ctenopharyngodon idella</i>	Cypriniformes	Cyprinidae
8	<i>Puntius sarana sarana</i>	Cypriniformes	Cyprinidae
9	<i>Rasbora daniconius</i>	Cypriniformes	Cyprinidae
10	<i>Puntius sophore</i>	Cypriniformes	Cyprinidae
11	<i>Amblypharyngodon mola</i>	Cypriniformes	Cyprinidae
12	<i>Puntius ticto</i>	Cypriniformes	Cyprinidae
13	<i>Bariilus bendelisis</i>	Cypriniformes	Cyprinidae
14	<i>Wallago attu</i>	Cypriniformes	Cyprinidae
15	<i>Punctius conchonius</i>	Cypriniformes	Cyprinidae
16	<i>Lepidocephalichthys</i>	Cypriniformes	Cyprinidae
17	<i>Chela bacaila</i>	Cypriniformes	Siluridae
18	<i>Mystus seenghala</i>	Cypriniformes	Bagridae
19	<i>Mystus cavisius</i>	Cypriniformes	Bagridae
20	<i>Mistus vittatus</i>	Cypriniformes	Bagridae
21	<i>Ophiocephalus punctatus</i>	Ophiocephaliformes	Ophiocephalidae
22	<i>Ophiocephalus striatus</i>	Ophiocephaliformes	Ophiocephalidae
23	<i>Ophiocephalus gachua</i>	Ophiocephaliformes	Ophiocephalidae
24	<i>Ophiocephalus marulis</i>	Ophiocephaliformes	Ophiocephalidae
25	<i>Chanda nama</i>	Ophiocephaliformes	Cichlidae
26	<i>Chanda ranga</i>	Ophiocephaliformes	Cichlidae
27	<i>Sorotherodon mossambicus</i>	Perciformes	Cichlidae
28	<i>Mastecambalus armatus</i>	Perciformes	Mastacembelidae
29	<i>Glassogobius giuris</i>	Anguilliformes	Notopteridae
30	<i>Notopterus notopterus</i>	Clupeiiformes	Gobidae

The most common and prolific species in the dam are Rohu, Marigal, Common, and Grass carp. Other species are present in smaller quantities and are infrequently found. Every fish is suitable for eating. S. H. Jambhule and P. M. Telkhade [8].

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COMPETING INTERESTS

Author has declared that no competing interests exist.

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