



Ichthyofaunal Diversity of Murmadi Lake of Sindewahi Tahsil, District Chandrapur, MS, India

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ABSTRACT

Fishes are an important biological group with considerable economic, nutritional and medicinal significance for human society. They are widely used as a food resource because fish meat contains proteins, carbohydrates and other essential nutritional components. Murmadi lake is a freshwater water body located near Murmadi village in Sindewahi Tehsil of Chandrapur District, Maharashtra. Murmadi is a village under Sindewahi Tehsil and is situated approximately 4 km from Sindewahi, the tehsil headquarters. The village is located in the Vidarbha region of Maharashtra. Available geographical records place Sindewahi at approximately 20.29° N latitude and 79.66° E longitude, with an elevation of about 218 m above mean sea level. This lake receives water from its surrounding catchment area during monsoon season. The water body is associated with activities such as agriculture, fishing and other domestic uses. However, increasing human activities and environmental changes may affect the ecological condition of the lake. The present investigation was carried out to study the fish diversity of Murmadi lake. The study was conducted for a period of two years, from April 2024 to May 2026. Fish specimens were collected, identified and recorded from the study area during the investigation. A total of 24 fish species were recorded from Murmadi Lake. The geographical location and environmental characteristics of Murmadi Lake make it a suitable freshwater habitat for studying aquatic biodiversity. The availability of water, surrounding vegetation and other ecological conditions provide suitable habitats for different aquatic organisms, including fishes.

Keywords: Fish diversity, Murmadi lake, Sindewahi tahsil.

INTRODUCTION

The term ichthyofauna, also referred to as piscifauna, is used to describe the fish community occurring in a particular geographical region or during a specific period. Fishes are widely distributed in both freshwater and marine environments and show considerable variation in their feeding habits. Depending on their food preferences, they may be herbivorous, carnivorous or omnivorous. In aquatic food webs, fishes occupy different trophic levels and many species act as top

predators, while others depend on organisms belonging to lower trophic groups Jayabhaye and Khedkar (2008). Through their feeding activities, fishes regulate the abundance, growth and production of organisms such as phytoplankton, zooplankton and macroinvertebrates, thereby contributing to the functioning and stability of aquatic ecosystems. Apart from their ecological importance, fishes have considerable socioeconomic value because they provide food and support fisheries that contribute to human livelihoods. Fish is particularly important as a source of dietary protein in India, where the consumption of meat and milk is relatively low and fish can supplement cereal-based diets. Protein deficiency continues to be an important nutritional problem worldwide, with approximately 30–40% of the global population estimated to be affected by inadequate protein intake. It has been estimated that around 10 million tonnes of fish would be required annually to satisfy the present demand for fish protein in India, whereas the annual production has been reported to be only about 3.5 million tonnes (Ahirrao and Mane (2000).

Changes in water quality, habitat conditions and excessive fishing pressure can negatively affect fish populations and may also alter the structure and functioning of aquatic ecosystems. A reduction in fish populations can release grazing pressure on organisms such as algae and invertebrates, which may result in their rapid increase and, in some cases, algal blooms. Fish communities are also useful in evaluating contamination in aquatic environments because many fishes occupy higher trophic positions and can accumulate pollutants through bioaccumulation and biomagnification, particularly heavy metals and synthetic organic contaminants. Systematic identification of fish species can be carried out using standard taxonomic keys, including the works of Day (1955), Talwar and Jhingran (1991). Freshwater bodies are therefore important habitats for maintaining dynamic aquatic ecosystems and provide suitable conditions for the interaction of both biotic and abiotic components. However, rapid population growth, unplanned urbanization and increasing exploitation of freshwater resources are placing considerable pressure on these habitats. Continuous degradation of water quality and freshwater ecosystems can ultimately lead to a decline in aquatic biodiversity, including fish communities.

MATERIALS AND METHODS

The study was carried out during April 2025 to May 2026. With the help of fisherman fishes were collected in every month at various sites of fish collection. Small sized fishes directly preserved in 4% formalin solution, while large fishes preserved in 10% formalin in a container by proper spreading of their fins and given an incision in their abdomen. The morphometric characters measured and the collection of fishes from different site of lakes was made with the help of local fishermen. The systemic identification of fishes was done by using the standard keys of Day (1955) and Talwar and Jhingran (1991).



Fig. Satellite image of Murmadi lake.

RESULT AND DISCUSSION

Fishes are an important biological group with considerable economic, nutritional and medicinal significance for human society. They are widely used as a food resource because fish meat contains proteins, carbohydrates and other essential nutritional components. In the present investigation, a total of 24 fish species were recorded from different sites of the lake, representing 8 different orders. The observed fish diversity can be compared with earlier studies conducted in different regions of India. Ahirrao (2000) documented 32 fish species representing 25 genera and 8 families from Parbhani. Telkhade (2007) reported 39 fish species belonging to 6 orders and 17 families from Tadoba National Park, Chandrapur. Jayabhaye and Khedkar (2008) recorded 25 fish species belonging to 6 orders from Sawana Dam in Hingoli District of Maharashtra.

Table 1: Ichthyofaunal diversity of Murmadi lake during 2025-2026

Sr.No.	Orders	Families	Scientific Names
1.	Peraformes	Serranidae	<i>Channa nama</i>
2.	Peraformes	Serranidae	<i>Glossogobius giuris</i>
3.	Siluriformes	Siluridae	<i>Clarias garipinnus</i>
4.	Cypriniformes	Cyprinidae	<i>Rasbora daniconius</i>
5.	Anguilliformes	Anguillidae	<i>Anguilla anguilla</i>
6.	Clupeiformes	Clupeidae	<i>Notopterus chitala</i>
7.	Clupeiformes	Clupeidae	<i>Notopterus notopterus</i>
8.	Cypriniformes	Cyprinidae	<i>Catla catla</i>
9.	Cypriniformes	Cyprinidae	<i>Cirrhina mrigala</i>
10.	Cypriniformes	Cyprinidae	<i>Ctenopherigodon idella</i>
11.	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>
12.	Cypriniformes	Cyprinidae	<i>Labeo rohita</i>
13.	Cypriniformes	Cyprinidae	<i>Noemachilus botic</i>
14.	Cypriniformes	Cyprinidae	<i>Osteobrama cotio</i>
15.	Cypriniformes	Cyprinidae	<i>Oxygaster bacaila</i>
16.	Cypriniformes	Cyprinidae	<i>Punctius condrenius</i>
17.	Cypriniformes	Cyprinidae	<i>Punctius sarana</i>
18.	Cypriniformes	Cyprinidae	<i>Punctius ticto</i>
19.	Cypriniformes	Cyprinidae	<i>Wallago attu</i>
20.	Mastacembaliformes	Mastacembelidae	<i>Mastacembalus armatus</i>
21.	Ophiocephaliformes	Channidae	<i>Channa punctatus</i>
22.	Ophiocephaliformes	Channidae	<i>Channa striatus</i>
23.	Siluriformes	Siluridae	<i>Mystus seenghala</i>
24.	Syngnathiformes	Syngnathidae	<i>Tilapia sp.</i>

Similarly, These earlier studies demonstrate the considerable diversity of freshwater fishes occurring in different aquatic habitats of India and provide a useful basis for comparison with the fish diversity recorded during the present investigation.

Previous investigations from different freshwater habitats have also reported considerable fish diversity. Tijare *et al.*, (2008), recorded 32 fish species from a lake situated in Gadchiroli District, Maharashtra. Ramanathy *et al.*, (2009) documented 30 fish species from Muthupet Reservoir in Nagappattinam District, Tamil Nadu. A comparatively lower diversity of 15 fish species was reported by Kamble and Mudkhede (2013) from Loni Reservoir. Pawar Ravindra *et al.*, (2014) recorded a total of 165 fish species from Maharashtra, representing 9 orders, 26 families and 82 genera, and reported that fishes belonging to the order Cypriniformes were dominant in the state. Patil Alaka (2015) recorded 13 fish species from

Bhambarde Sangh, Maharashtra. Harish Kumar (2015) reported 13 fish species belonging to 11 families, while 24 species representing 19 genera and 10 families under 5 orders were recorded from Jannapura Tank, Bhadravati Taluka of Karnataka. Manjaramkar *et al.*, (2016) documented 39 fish species belonging to 6 orders, 13 families and 20 genera from the Godavari River near Nanded, Maharashtra. Jain (2017) documented 61 fish species belonging to 38 genera, 19 families and 9 orders from various water sources of western Uttar Pradesh, India. Vyas *et al.*, (2020) documented 23 fish species belonging to 19 genera, 10 families and 6 orders from Hiran-II Reservoir, Gujarat. Baral *et al.*, (2022) documented 39 fish species belonging to 28 genera, 13 families and 5 orders from hill streams of Baksa district along the international border between India and Bhutan. Muslim *et al.*, (2024) documented 33 fish species belonging to 26 genera, 16 families and 5 orders from Kalong Floodplain, Ogan Komering Ilir Regency, South

Sumatra, Indonesia. Rao *et al.*, (2025) documented 88 fish species belonging to 62 genera, 33 families and 16 orders from the Godavari River, Andhra Pradesh.

Conflict of interest

The authors declare no competing interests.

Data Availability Statement: Not applicable.

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REFERENCES

- Ahirrao SD, Mane AS (2000) The diversity of ichthyofauna, taxonomy and fisheries from freshwater of Parbhani, Dist. Maharashtra State. *J Aqua Biol* 15(1&2): 40-43.
- Asashree HM, Srinivasa A, Renuka Swamy HM (2008) Biodiversity of fishes in Savalanga pond, Devangere district, Karnataka. *J Aqua Biol* 23(1): 36-39.
- Day F (1958) The fishes of India. Williams Dawson and Sons Ltd, London, 1: 777.
- Harish Kumar K (2015) Limnological characteristics of Jannapura tank in Bhadravati taluka of Karnataka, India 2(46): 1-10.
- Jayabhaye UM, Khedkar GD (2008) Fish diversity of Sawana dam in Hingoli district of Maharashtra. *J Aqua Biol* 23(1): 26-28.
- Kamble AT, Mudkhede LM (2013) Zooplankton diversity of Ambadi reservoir taluka Kinwat, Maharashtra. *International Journal of Biomedical and Advance Research* 4(3): 179-181.
- Manjaramkar UA, et al (2016) Diversity of Fish Fauna in River Godavari Near Nanded, Maharashtra, India. *Vidyabharti International Interdisciplinary Research Journal (Special Proceeding Issue)*: 341-346.
- Patil Alaka A (2015) Biodiversity of Bhambarde reservoir of Sangli, Maharashtra, India. *Research Journal of Recent Sciences* 4(ISC-2014): 209-215.
- Pawar Ravindra H, Patel Nisar G, Patel Yusuf E (2014) Review on fresh water fish diversity of Maharashtra (India). *Journal of Entomology and Zoology Studies* 2(5): 358-364.
- Ramamurthy V, Sathick O, Raveendran S (2009) Physico-chemical factors of Muthupet mangrove and seasonal variation of fish fauna. *J Ecobiol* 25(1): 71-78.
- Talwar PK, Jhingran AG (1991) Inland fishes of India and adjacent countries, Vol I and II. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi, pp 1058.
- Telkhade PM (2007) Hydrobiology and biodiversity of Tadoba lake, Chandrapur. Ph.D. Thesis, R.T.M. Nagpur University, Nagpur.
- Tijare RV, Thosar MR (2008) Ichthyofaunal study from the lakes of Gadchiroli, Maharashtra, India. *J Aqua Biol* 23(1): 29-31.
- Jain S (2017) Current status of ichthyofaunal diversity of various water sources of western Uttar Pradesh, India. *International Journal of Fisheries and Aquatic Studies* 5(2): 473-478.
- Vyas UD, Desai AY, Masani MN, Vandarwala UG (2020) Diversity of ichthyofauna in Hiran-II reservoir, Gujarat (India). *Journal of Entomology and Zoology Studies* 8(5): 1181-1188.
- Baral A, Alom S, Mondal D (2022) Hill stream ichthyofaunal diversity of Baksa district along the international border between India and Bhutan: Economic importance and anthropogenic threats. *Uttar Pradesh Journal of Zoology* 43(21): 1-15.
- Muslim M, Irawan R, Afriansyah A, Karolina A, Fahleny R (2024) Diversity and abundance of ichthyofauna during the rainy season in Kalong Floodplain, Ogan Komering Ilir Regency, South Sumatra, Indonesia. *Iranian Journal of Ichthyology* 11(3): 161-173.
- Rao NV, Jawahar P, Jayakumar N, Sujathkumar NV, Rani V, Rathod R, Mohale HP (2025) An Annotated Checklist of Ichthyofaunal Diversity of the Godavari River, Andhra Pradesh, India. *Pakistan Journal of Zoology* 57(4): 1811-1822.

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