



ICHTHYOFAUNAL DIVERSITY AND CONSERVATION STATUS OF PENDUR LAKE, MALVAN, MAHARASHTRA, INDIA

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ABSTRACT

Freshwater lakes serve as important ecological units supporting fish diversity and providing livelihood resources to local communities. The present investigation documents the ichthyofaunal composition of Pendur Lake, a man-made freshwater lake located in Malvan Taluka of Sindhudurg district, Maharashtra, India. The lake covers an area of approximately 21 hectares with an average depth of about 4 m and is primarily utilized for irrigation. Fish sampling was conducted from different zones of the lake using gill nets, bag nets, and drag nets to ensure comprehensive coverage. Collected specimens were preserved in 5% formalin and identified based on external morphological characters using standard taxonomic keys and published literature. A total of 15 fish species belonging to 14 genera, 11 families, and 9 orders were recorded from the study area. Conservation status assessment based on the IUCN Red List revealed that 13 species fall under the Least Concern category, while *Ompok bimaculatus* and *Anguilla bengalensis* are categorized as Near Threatened. The occurrence of near-threatened species indicates the ecological importance of Pendur Lake and emphasizes the need for conservation attention. The fish diversity of the lake is influenced by anthropogenic pressures such as habitat alteration, overexploitation, pollution, and climate change. The present study provides baseline information on the ichthyofaunal diversity of Pendur Lake, which can be useful for future biodiversity assessments, fisheries management, and conservation planning in freshwater ecosystems of the Konkan region.

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INTRODUCTION

Maharashtra is having 2,73,750 ha reservoir area, of which 226 ha area is covered by reservoirs and lakes in Sindhudurg. Sindhudurg is a district located in Maharashtra, the 3rd largest state of India covering a geographical area of 5087 Sq.km. Climate in Sindhudurg is moist and humid with the average rainfall of 2300 mm in its Malvan tehsil. Many small and large dams and irrigation tanks constructed over the major rivers and their tributaries to fulfil the need of water during the summer. These freshwater bodies inhibit diverse form of freshwater fauna including fishes, crustaceans, molluscs etc. which are economically important, especially fishes which form an important source of food. The reservoirs with large number of aquatic fauna are economically important for human beings as well as for the sustainability of nature. High endemism with

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respect to the freshwater ichthyofauna was stated in Western ghats of India by several authors (Pawara R., 2014). Several authors have recorded and confirm a total of 165 fish species belonging to 09 orders, 26 families and 82 genera in Maharashtra. Present study aims at investigating and recording the fish fauna diversity of the study area.



Sampling site- Pendur lake, Malvan, Maharashtra.

MATERIALS AND METHODS

Study Area

Pendur lake is located in Pendur village of Malvan Taluka of Sindhudurg district of Maharashtra with the coordinates 16°4'6" N, 73°36'41" E. Average rainfall is 2285.76 mm. It is a very old man made freshwater lake constructed generally used for irrigation purpose enclose 21 hectares area with the depth of 4 meters.

For present study fishes were collected from different areas of lake by netting operations. Gill net, bag net and drag net was utilised. Certain part of catch was preserved in 5% formalin for identification. Identification was done by observing morphological characters with the help of standard literature available. (Daniels R. 2002), (Datta MJS, 1988), (Day F. 1878), (Gray JE. 1831), (Jayram KC. 1981), (Katwate U, Katwate C. 2015), (SK Mandar P, D Neelesh. 2012), (Sykes WH. 1839), (Talwar PK, Jhingran AG. 1991)

RESULTS AND DISCUSSION

Ichthyofauna of 9 orders, 11 families, 14 genera and 15 species was recorded from the Pendur lake. Out of the 15 species which were recorded 13 species are listed under least concern category and 2 species are listed under near threatened category. (Ng HH. 2010), (Fernando M. 2019), (Ng HH. et al. 2010), (Raghav an R. 2019), (Chaudhary S, Dahanukar N. 2011), (Jenkins A, Ali A. 2011), (Larson H, Sparks JS. 2017), (Froese R, Pauly P. 2020), (Abraham R et al. 2019), (Chaudhary S. 2010), (Ng HH, Low BW. 2019), (Dey SC et al. 2019), (Shahi CP. 2015), (Dahanukar N. 2011), (Pike C et al. 2019). *Ompok bimaculatus* and *Anguilla bengalensis* are categorised under near threatened category. The population trend of *Ompok bimaculatus* is unknown but the threats responsible for the decline of this species are exploitation for food, and habitat destruction (Ng HJ. et al, 2010). With unknown population trend *Anguilla bengalensis* is also under the threats like hab-

itat destruction, unsustainable exploitation, migrational barriers, invasive species, pollution and predation(Pike C. et al, 2019). Even if the *Danio malbaricus* showing stable population the population of this species may decrease because of the dams and water resource management projects, introduction of alien species, pollution, climate change (Raghavan R. et al, 2019). In some areas *Aplocheilus lineatus* is harvested for aquarium trade. *Rasbora daniconius* is harvested for aquarium trade and for poultry feed, which may cause the population to decrease in the near future (Jenkins A. et al, 2011). Major threats for these ichthyofauna includes habitat destruction and increasing pollution levels and the climate change. These fishes are also known to have economic importance locally and are extensively caught for aquarium trade and as a source of food. Such practices may affect the fish diversity of Pendur lake. Present study conducted to assess the ichthyofaunal diversity of the Pendur lake provides a baseline information of fish fauna. (table 1).

Diversity of fishes in Pendur lake.



Table 1. Checklist of ichthyofauna of Pendur lake.

Sr.No.	Scientific Names	Localnames in Marathi	Conservation status	Year assessed
1.	<i>Gagata gagata</i>	Shengti	Least concern	2009
2.	<i>Mastacembelus armatus</i>	Kadai	Least concern	2009
3.	<i>Ompak bimaculatus</i>	Walai	Near threatened	2010
4.	<i>Danio malbaricus</i>	Panputli	Least concern	2019
5.	<i>Aplocheilus lineatus</i>	Chandaka	Least concern	2009
6.	<i>Porluciosoma daniconius/ Rasbora daniconius</i>	Dandkai	Least concern	2011
7.	<i>Psammogobius gotyla</i>	Kharcha	Least concern	2016
8.	<i>Gara gotyla gotyla</i>	Malva	Least concern	2009
9.	<i>Etroplus suratensis</i>	Kalundra	Least concern	2019
10.	<i>Channa marulius</i>	Maral	Least concern	2009
11.	<i>Clarius batrachus</i>	Thigur	Least concern	2019
12.	<i>Xenentodon cancila</i>	Tol	Least concern	2019
13.	<i>Puntius narayani</i>	Bel	Least concern	2010
14.	<i>Puntius sarana subnastus</i>	Khawla	Least concern	2011
15.	<i>Anguilla bengalensis</i>	Ahir	Near threatened	2019



Table 2. List of names of fishes given above.

Sr.No.	Scientific names
1.	<i>Gagata gagata</i>
2.	<i>Mastacembelus armatus</i>
3.	<i>Ompak bimaculatus</i>
4.	<i>Danio malbaricus</i>
5.	<i>Aplocheilus lineatus</i>
6.	<i>Porluciosoma daniconius/ Rasbora danioconius</i>
7.	<i>Psammogobius gotyla</i>
8.	<i>Gara gotyla gotyla</i>
9.	<i>Puntius narayani</i>
10.	<i>Puntius sarana subnastus</i>

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