



FISH DIVERSITY OF LENDI RIVER IN MARATHWADA REGION OF MAHARASHTRA

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ABSTRACT :

For sustainable utilisation of the resources and its conservation, information on fish diversity and its distribution is a vital key. The present work was undertaken to study fish diversity and to present a comprehensive report on the diversity and threats to the fish fauna of the Lendi River a Tributary of Manjara River. The survey and documentation was carried out by carrying out six field visits during December, 2016 to December, 2018. A total of, 25 fish species under 8 orders, 9 families and 20 genera were recorded from the Lendi River. The family Cyprinidae has the highest number of fish species (13) followed by Channidae (3), Bagridae and Siluridae were represented by two species each and 4 other families with one fish species each. The present study revealed that, as per IUCN Red List criteria, out of the 25 fish species, 03 species belong to the Near Threatened (NT), 01 species under Data Deficient category (DD) and 15 species under Least Concerned (LC) category including 3 exotic and 3 transplanted species. The Lendi River harbours a good number of fish species but, is facing anthropogenic pressure.

Key words: Fish biodiversity, Lendi River

INTRODUCTION

The Marathwada region is squeezed between Vidarbha and Western Maharashtra comprises of eight districts in the: Aurangabad, Beed, Latur, Osmanabad, Parbhani, Jalna, Nanded and Hingoli. This area receives an average rainfall of about 700 mm and is a rain shadow region. Except for the few parts in the three districts namely Beed, Latur and Osmanabad, the Marathwada region is drained by Godavari river system. The Manjra river is one of the principle tributary of Godavari river and have its origin at Balaghat Range of hills. The principal tributaries of the Manjra are the Tirna, the Karanga and the Haldi joining it from right and the Lendi and the Maner which join from the left. (Dandekar, 2015; Pradhan, 2017). The review of literature suggests that the tributaries of River Godavari has not been surveyed extensively for its fish fauna and checklists for individual rivers are not available (Jadhav *et al.*, 2011). Likewise no fish faunal survey has been carried out in Lendi River. Hence, the present work was undertaken to study fish biodiversity and to present a comprehensive report on the diversity and threats to the fish fauna of the Lendi River.

Study Area:

The Lendi River originates at 18° 26' N Latitude and 77° 4' E Longitude in the Udgir town and meets the Manjra River at Madnoor town. The Lendi River has a total length of 80 Km and is having three tributaries Tiru, Gurdal and Bhuvani. The Lendi river and its tributaries covers the Nanded and Latur district of Maharashtra and have many small and medium irrigation projects.

Materials and Methods

As Lendi River is seasonal in nature and water is available only for four to five months after rainy season. Hence, as and when possible field visits were made to collect fishes from fishermen catches and fish

markets. Total Eight samplings were carried out during October, 2016 to February, 2019) with the help of local fishermen and fishes were observed and collected from the catches. The samples were collected from river at Mukramabad on 13/10/2016, 13/11/2016, 29/12/2016, 09/06/2017 and 29/09/2017, Degloor 25/12/2016, Tiru dam 22/04/2017 and Nideban dam 21/02/2019. Timeline PRA was carried out with the fishermen's of the nearby villages. Representative fish samples were collected from the fishermen catches and were preserved in 10% formaldehyde and brought back to laboratory. The taxonomical identification was carried out with help of available literature of Day (1889), Talwar and Jhingran (1991), Jayaram (2006, 2010). Taxonomic status is given as per Eschemeyer et al. 2018. The threat status of fish native species documented during the present study is given and was adapted from IUCN Red List of Threatened species version 2018 (IUCN 2018).

Results and discussion:

A total of, 25 fish species under 8 orders, 9 families and 20 genera were recorded from the Lendi River. The family Cyprinidae has the highest number of fish species (13) followed by Channidae (3), Bagridae and Siluridae were represented by two species each and 4 other families with one fish species each. Voucher specimens of all the 25 fish species have been preserved and kept in the laboratory of department of Fisheries Biology, College of Fishery Science, Udgir.

The present study revealed that, as per IUCN Red List criteria, (IUCN, 2018) out of the 25 fish species, 03 species (*Anguilla bengalensis*, *Ompok bimaculatus* and *Wallago attu*) belong to the Near Threatened (NT), 01 species under Data Deficient category (DD) and 15 species under Least Concerned (LC) category including 3 exotic and 3 transplanted species.

We could only record one specimen of *Anguilla bengalensis* from the river during the survey. The fish catches from the rivers are declining as per the discussions carried out with fishermen and many fishermen's are shifting to other occupations.

The Lendi river harbours a good diversity of fishes including some of the threatened fish species. The river and its tributaries are dammed at many places and these areas are stocked with the three species of transplanted Indian major carps *Catla catla*, *Cirrhinus mrigala* and *Labeo rohita* which are dominating the fishermen catches and hence we infer that they are posing competition for food and space to the native species which have already lost their original habitat.

The study documented three exotic species *Ctenopharyngodon idella*, *Cyprinus carpio*, *Oreochromis mossambicus* out of which *Ctenopharyngodon idella*, *Cyprinus carpio* is stocked in Tiru reservoir. Further the Nideban dam is harbouring the *Oreochromis mossambicus*. There are chances of escape of these exotic species during the floods. Further, the untreated municipal sewage of Udgir town is washing into the Pimpri and Nideban reservoirs which eventually make it way to the Lendi river during floods. Juvenile fishing is commonly practiced for riverine fishes using small mesh size fishing gears and we believe that the fish fauna of Lendi river is subjected to growth overfishing for consumption.

In conclusion, the Lendi River harbours a good number of fish species but, is facing anthropogenic pressure. It harbours a number of freshwater fish species including globally threatened fish species. The fish which supports the livelihood of local fishing community has to be sustainably utilised by proper planning, conservation and local awareness on impacts of introduction of exotics, growth overfishing is necessary.

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Table 1. List of fishes collected from Lendi River

Particulars	Remark
A. Osteoglossiformes	
I. Notopteridae	
<i>Notopterus notopterus</i> (Pallas, 1769)	LC
B. Anguilliformes	
I. Anguillidae	
<i>Anguilla bengalensis</i> (Gray, 1831)	NT
C. Cypriniformes	
I. Cyprinidae	
<i>Catlacatla</i> (Hamilton, 1822)	T
<i>Cirrhinus mrigala</i> (Hamilton, 1822)	T
<i>Cirrhinus reba</i> (Hamilton, 1822)	LC
<i>Ctenopharyngodon idella</i> (Valenciennes, 1844)	Exotic / I
<i>Cyprinus carpio</i> Linnaeus, 1758	Exotic / I
<i>Labeoboggut</i> (Sykes, 1839)	LC
<i>Labeocalbasu</i> (Hamilton, 1822)	LC
<i>Labeorohita</i> (Hamilton, 1822)	T
<i>Osteobrama peninsularis</i> Silas, 1952	DD
<i>Systemussarana</i> (Hamilton, 1822)	LC
<i>Puntius saphore</i> (Hamilton, 1822)	LC
<i>Rasbora daniconius</i> (Hamilton, 1822)	LC
<i>Garramullya</i> (Sykes, 1839)	LC
D. Siluriformes	
I. Bagridae	
<i>Mystus cavasius</i> (Hamilton, 1822)	LC
<i>Sperata aor</i> (Hamilton, 1822)	LC
II. Siluridae	

<i>Ompokbimaculatus</i> (Bloch, 1794)	NT
<i>Wallagoattu</i> (Bloch and Schneider)	NT
E. Cichliformes	
I. Cichliidae	
<i>Oreochromismossambicus</i> (Peters, 1852)	Exotic / I
F. Gobiiformes	
I. Gobiidae	
<i>Glossogobiusgiuris</i> (Hamilton, 1822)	LC
G. Anabantiformes	
I. Channidae	
<i>Channamarulius</i> (Hamilton, 1822)	LC
<i>Channapunctata</i> (Bloch, 1793)	LC
<i>Channastrata</i> (Bloch, 1793)	LC
H. Synbranchiformes	
I. Mastacembelidae	
<i>Mastacembalusarmatus</i> (Lacepede)	LC

Taxonomic status as per Eschemeyer et al. 2018, T = Transplanted; I = Invasive, IUCN (2018). EN = Endangered, NT = Near Threatened, VU = Vulnerable, LC = Least Concern, NE = Not Evaluated, DD = Data Deficient. Statuses for introduced/transplanted species are not provided.