

**STUDY OF ICHTHYOFAUNAL DIVERSITY OF MARATHWADA REGION, MAHARASHTRA WITH REFERENCE TO *CLARIAS BATRACHUS*****Chilgar O. S. and Jagtap H. S.\***

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**ABSTRACT**

In the present work attempts were made to understand ichthyofaunal diversity of various reservoir of Marathwada region (Parbhani, Nanded, Beed, Hingoli and Aurangabad) with reference to *Clarias batrachus* population. The work was conducted during the period July, 2015 to June, 2016. It was found that present fish diversity showed 6 orders, 17 families, 63 fish species. Order cypriniformes dominated with 34 species. The species of wild varieties particularly catfishes *Clarias batrachus* and *Heteropneustus fossilis* was found very rare species. It also showed that Marathwada region reservoirs are the major resources for fish diversity.

**KEYWORDS:** Fish diversity, Marathwada region, reservoir, *Clarias batrachus*.**INTRODUCTION**

Biodiversity is essential for stabilization of ecosystem, protection of overall environmental quality for understanding intrinsic worth of all species on the Earth (Jayaram, 2010). Over exploitation and habitat degradation as an example have depleted the stocks and reduced the replacement rate in the population (Khan et al., 1996). Fishes are very important to maintain aquatic ecosystem. They also indicate quality of water. Fishes are caught for the purpose of food and nutrition. Fish diet provides rich amount of proteins, fats, vitamins and other nutrients. Fishes has nutritive and medicinal value and helps to maintain health of people.

Fishes of inland water bodies of Indian sub-continent have been a subject of study seen long back (Hamilton Buchanan (1822), Day (1878), Mishra (1962), Jayram (1981), Talwar and Jhingran (1991), Rao et al. (1999). India is one of the mega biodiversity countries in the world and occupying ninth position in terms of fresh water biodiversity (Ahirrao and Mane, 2000). Fresh water fishes are poorly studied group since information available is from a few well studied locations only (Ehrlich and Wilson, 1991). Reservoir fisheries of India is also important from social economic point of view as it has potential of providing employment to about 2 million people (Khan et al., 1999). In India there are 2500 species of fishes of which 930 live in fresh water and 1570 are marine (Kar et al., 2003). Indian reservoirs preserve a rich variety of fish species.

The Maharashtra is endowed with an area of 1,79,430 ha. Under reservoirs and state produces 516 tons of fish of these area, the state Fisheries Corporation was operating in 6,272 ha. of reservoirs and marketing the catches. (Sreenivasan, 1991). Economic importance and scope of fish and fisheries especially in Maharashtra, it is essential to study the distribution and availability of fish from freshwater reservoirs and tanks (Shinde et al., 2009). Maharashtra is one of the important states for fish production and natural water resources and there is great scope for developing fisheries in this state. (Pawara et al., 2014). Fresh water fish diversity of Marathwada region was studied by many workers (Ahirrao and Mane, 2000; Pawar et al., 2003; Hiware and Pawar, 2006; Hiware, 2006; Sakhare, 2007; Shinde et al., 2009; Sonwane and Barve, 2015).

Many species of fishes were found in this region which are commercially important. Present study was undertaken to study fresh water fish diversity of Marathwada region particularly with wild population of *Clarias batrachus*.

## MATERIALS AND METHODS

### Study area: Marathwada region, Maharashtra.

Marathwada is rich in freshwater fish diversity. Marathwada is rich source of fresh water bodies like rivers (Godavari, Purna, Dudhana, Manjra, Painganga) reservoirs (Nathsagar dam, Majalgaon dam, Yeldari, Siddheshwar, Masoli dam Vishnupuri dam) and lakes.

The research work was carried out in Nanded, Hingoli, Parbhani, Beed and Aurangabad districts of Marathwada region. Fishes were collected from various local fish markets of these districts like Nanded fish market, Parbhani fish market, Gangakhed fish market, Majalgaon fish market and Aurangabad fish market etc. Fishes were collected monthly from July 2015 to June 2016 from above mentioned fish markets and fishing spots of these districts. Fishes were systematically identified up to species level using taxonomic keys of Jayram (1981), Jhingran (1991) and Qureshi (1983) and preserved in 4% formalin in laboratory. Fishes were recorded and kept in research laboratory for further studies.

## RESULTS AND DISCUSSION

During the present study 63 species of fresh water fishes belonging to 06 orders, 17 families were recorded from Marathwada region. Number of species and their status is given in table 1. The Indian major carps are Catla, Rohu and Mrigal. Other fishes recorded includes murrels, catfishes and other palatable fishes. These fishes were commonly used as a food fishes.

The order Cypriniformes is dominant having 34 species followed by order Siluriformes (13 species), Perciformes (05 species), Channiformes (04 species), Clupeiformes (02 species), Synbranchiformes (02 species), Beloniformes (01 species), Mugiliformes (01 species) and Anguilliformes (01 species). Some of the reported exotic species in Maharashtra are *Oreochromis mossambica* (Kharat, 2003., Singh and Lakra, 2011., Sugunan, 1995).

Ahirrao and Mane (2000) recorded 32 fish species belonging to 25 genera and 08 families from Parbhani district Maharashtra. Hiware and Pawar recorded 43 fish species from Nath Sagar Dam Paithan in Aurangabad district. Sakhare (2007) reported 29 fish belonging to 20 genera falling in 4 orders from Yeldari reservoir of Parbhani district.

Pawar *et. al.* (2003), observed 11 species belonging to 05 orders from Sirur Dam near Mukhed, Nanded district (M.S.). Sonawane and Barve (2015) reported 23 species of 20 genera, 10 families and 08 orders in which order cypriniformes was dominant with 09 species from the Lower Dudhana dam district- Parbhani (M.S) India. Hiware (2006) studied ichthyofauna of four district of Marathwada region of Maharashtra.

Results reported by above mentioned workers are more or less similar with the results that have been reported by us. In the present work it is also found that wild species population is decreasing day by day, particularly catfishes *Clarias batrachus* and *Heteropneustus fossilis* were found as rare species, on the extinct stage in Marathwada Region.

*Ctenopharyngodon idella* were not found anywhere during this study. Hence there is need to develop some conservative measures to protect these wild species.

**Table 1.** Ichthyofaunal Diversity of Marathwada region during July, 2015 to June, 2016.

Sr. No.	Order	Family	Scientific name	Status
1	Cypriniformes	Cyprinidae	<i>Catla catla</i> (Hamilton, 1822)	++++
2			<i>Labeo rohita</i> (Hamilton, 1822)	++++
3			<i>Labeo calbasu</i> (Hamilton, 1822)	++
4			<i>Cirrhina mrigala</i> (Hamilton, 1822)	++++
5			<i>Cyprinus carpio</i> (Linnaeus, 1758)	++++
6			<i>Puntius ticto</i> (Hamilton, 1822)	++++
7			<i>Puntius sarana</i> (Hamilton, 1822)	++++
8			<i>Puntius jerdoni</i> (Day)	++
9			<i>Puntius amphibias</i> (Valenciennes)	++
10			<i>Puntius sophera</i> (Hamilton, 1822)	++++
11			<i>Puntius stigma</i>	+++
12			<i>Ctenopharyngodon idella</i> (Valenciennes, 1844)	+
13			<i>Chela argentea</i> (Valenciennes, 1844)	++
14			<i>Chela phulo</i> (Hamilton, 1822)	+++
15			<i>Chela sladoni</i> (Day)	+++
16			<i>Chela baccala</i>	+++
17			<i>Cirrihinus reba</i> (Hamilton, 1822)	++++
18			<i>Cirrihinus flungee</i> (Hamilton, 1822)	++
19			<i>Discognathus modestus</i> (Hacker)	++
20			<i>Discognathus lamta</i> (Hamilton, 1822)	++
21			<i>Hypothalamichthys molitrex</i> (Valenciennes, 1844)	+++
22			<i>Amblypharyngodon mola</i> (Hamilton, 1822)	++++
23			<i>Amblypharyngodon microlepis</i> (Bleeker)	++++
24			<i>Labeo boggut</i> (Skyles)	++
25			<i>Labeo fimbriatus</i> (Bloch)	++
26			<i>Osteobrama cotio</i> (Hamilton, 1822)	++
27			<i>Osteobrama belkeri</i> (Skyles)	+++
28			<i>Thynnichthys sandkhol</i> (Skyles)	++
29			<i>Rasbora daniconius</i> (Hamilton, 1822)	++++
30			<i>Tor tor</i> (Hamilton, 1822)	++++
31		Cobitidae	<i>Lepidocephalichthys guntea</i> (Hamilton, 1822)	++
32			<i>Nemacheilus botia</i> (Hamilton, 1822)	++++
33			<i>Nemacheilus aureus</i> (Hamilton, 1822)	+++
34			<i>Nemacheilus beavani</i> (Hamilton, 1822)	+++
35	Clupeiformes	Notopteridae	<i>Notopterus notopterus</i> (Pallas)	++++
36			<i>Notopterus chitala</i> (Hamilton, 1822)	++++
37	Siluriformes	Bagridae	<i>Mystus seenghala</i> (Sykes, 1839)	++++
38			<i>Mystus aor</i> (Hamilton, 1822)	++
39			<i>Mystus bleekeri</i> (Day)	++++
40			<i>Mystus cavasius</i> (Hamilton, 1822)	++++
41			<i>Mystus tengara</i> (Dum)	++++
42			<i>Mystus vittatus</i> (Bloch)	++++
43			<i>Rita rita</i> (Hamilton, 1822)	+++
44		Siluridae	<i>Wallago attu</i> (Bloach & Schneider, 1801)	++++
45			<i>Ompok bimaculatus</i> (Bloch)	++++
46		Clariidae	<i>Clarias batrachus</i> (Linnaeus)	+
47			<i>Clarias gariepinus</i>	++
48		Heteropneustidae	<i>Heteropneustes fossilis</i> (Bloch)	+
49		Schilbeidae	<i>Pseudeuotropius taakree</i> (Bleeker)	++
50	Perciformes	Cichlidae	<i>Oreochromis mossambicus</i> (Peters 1852)	++++
51			<i>Eitroplu ssuratensis</i> (Bloch, 1795)	++++
52		Ambassidae	<i>Chanda nama</i> (Hamilton, 1822)	++
53		Anabantidae	<i>Anabas testudineus</i> (Bloch)	++
54		Gobiidae	<i>Glossogobius giuris</i> (Hamilton, 1822)	++
55	Channiformes	Channidae	<i>Channa striatus</i> (Bloch, 1793)	++++
56			<i>Channa punctatus</i> (Bloch, 1793)	++++
57			<i>Channa maurilius</i> (Hamilton, 1822)	++++
58			<i>Channa gachua</i> (Hamilton, 1822)	++++
59	Synbranchiformes	Mastacembelidae	<i>Mastacembelus armatus</i> (Lacepede, 1800)	+++
60			<i>Mastacembelus pancalus</i> (Hamilton, 1822)	+++
61	Beloniformes	Belonidae	<i>Xenentodon cancila</i> (Hamilton,	++++
62	Mugiliformes	Mugilidae	<i>Mugil cephalus</i> (Linnaeus)	++++
63	Anguilliformes	Anguillidae	<i>Anguilla bengalensis</i> (Gray)	+++

(++++ most abundant; +++ abundant; ++ less abundant; + rare).



**Photo Plate 1.** Nanded fish market



**Photo Plate 2.** Gangakhed fish market



**Photo Plate 3.** Parbhani fish market



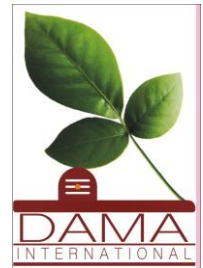
**Photo Plate 4.** Aurangabad fish market



**Photo Plate 5.** Jintur Fish Market



**Photo Plate 6.** Hingoli fish market



## CONCLUSION

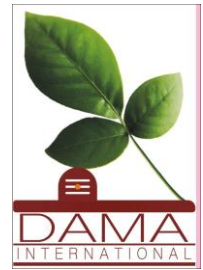
There is rich fish diversity in Marathwada region of Maharashtra. Fishes maintain aquatic ecosystem hence there is need for conservation strategies. Over fishing and immature fishing are main causes of loss of many fish species. Seasonal fluctuation, anthropogenic activities, climate change (extreme heat and cold), invasion of exotic species, dry drought, and water pollution are some causes for complete and partial loss of many fresh water fishes. Many fish species are already become extinct while some of them are endangered. To maintain fish diversity in Marathwada region there is need for conservation. Total number of fresh water fish species recorded during the present study indicates rich fish diversity in Marathwada region of Maharashtra.

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