

Ichthyofaunal diversity of upper Morna Reservoir, Medshi (MS) India

Solanke MR and Dabhade DS

Post Graduate and Research Department of Zoology, R.A. Arts, Shri M.K. Commerce and Shri S.R. Rathi Science Mahavidhyalaya, Washim, MS, India | Email address: megha30.solanke@gmail.com

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ABSTRACT

Reservoir is main resources exploited for inland fisheries and understanding fish faunal diversity is a major aspect for its development and the sustainability management. In the 2012-2013 investigation total 14 species of fishes belonging 4 orders and 6 families were reported in Upper Morna Reservoir, situated at Medshi village in Washim district. In all 4 orders cypriniformes were found most dominant followed by perciformes and others. In all fishes three species was found dominant i.e. *Catla catla*, *Labeo rohita*, *Cirrhina mrigla* is due to stocking of seed of this fishes intensely so far as the records of fish fauna of other water bodies. Total 14 fishes are recorded as *Rashora daniconius*, *Puntius sarana*, *Schiatura denisoni*, *Catla catla*, *Cirrhinus mrigala*, *Labeo rohita*, *Cirrhinus reba*, *Cyprinus carpio*, *Garra mullya*, *Glossogobius*, *Channa gachua*, *Mystus cavasius*, *Ompak bimaculatus*, *Mastacembelus armatus*.

Keywords: Fish diversity, Washim, Upper Morna Reservoir, Medshi

INTRODUCTION

Fresh water ecosystem is exploited in every possible way and one of it fish production, which is directly depends on the productivity of water ecosystem. The productivity of the fresh water community that determines the fish growth is regulated by the dynamics of its physico-chemical and biotic environment (Wetzel, 1983).

Fisheries sector in India has come a long way since independence; contributing immensely to the country's protein requirements as also export earnings. With annual growth rate of 4-6%, the fisheries sector is contributing about 5.4 million metric tons of fish, enabling per capita availability to the tune of 9kg for the Indian population. With the increasing population pressure and corresponding demanded for fish, various strategies are being formulated for enhancing production for marine inland resources. It is significant that inland fish production has been increasing at a high rate. Aquaculture, highly compatible with other farming systems with the flexibility of operation an investment contribute to more than 1\3rd of the fish production of the country.

It has also been identified as a farming activity that would ensure domestic food security and rural development by organization all over the world particularly in the Asian continent.

Fishes from one of the most important groups of vertebrates, influencing his life in various way. Millions of human beings suffer from hunger and malnutrition and fishes from rich sources of food and provide a meal to tide over the nutritional difficulties of man. In addition to serving as an important item of food, fishes provide several by product to us.

Freshwater fishery comprising species of carps, catfish, freshwater prawns and provides for a highly profitable economic enterprise and the traditional practices in the eastern India have taken shape of an industry in the states like Andhra Pradesh and Punjab. A survey indicates that only about a third of the freshwater aquaculture resources in the country have been put to use and hence great potential for enhancing fish production exists. At a time when the Indian Council of Agricultural Research is making long term plan for the next 25 years, in the form of "Vision -2020", it is highly appreciable that a systematic effort is made to project the potentials of fresh water aquaculture in the country by duly considering the resources and demand in different part of the country. The National Freshwater Aquaculture Development Plan provides the base for planning development strategies in the coming years. The fisheries sector is a very important part of the economy of rural region and provides a valuable source of employment.

MATERIALS AND METHODS

The Upper Morna reservoir is located (18°36'44"N and 76°56'33.61'E) at Medshi, Malegaon Taluka in Washim district of Maharashtra. It is constructed on the Upper stretch of the Morna River, one of the minor river of Vidarbha region of Maharashtra and one of the tributary of the Purna River. The Morna River originates from the village Nagzari located in Washim district & meet the river Purna in Akola district at Andura. The main aim of construction of this reservoir was to save Akola city from the flood conditions, which was generally being occurring in the rainy seasons. Beside this the reservoir is used for irrigations, fishing

activities & drinking purposes by the people residing around reservoir.

Fishes are main economic source for the people in Medshi villege, therefore Society is established called as the Shree Ganesh Machchhimar Co-operative Society Limited Medshi. (Reg. No.369) and the data on fish capture for two consecutive years was collected from it during study period.

Collection of fishes:

The Fishes were collected monthly with the help of fishermen by using different nets like gill net, cast net, traps, hooks & hand picking and brought to laboratory and morphometric study done immediately. Coloration, general pigmentation & fin formula, length and weight were recorded and preserved in 10% formalin.

The identification of fishes was carried out by using standard literature of (Talwar and Jhingran, volume 1 and 2, 1991) and some of them were sent to Zoological survey of India.

RESULTS AND DISCUSSION

Reservoir is main resources exploited for inland fisheries and understanding fish faunal diversity is a major aspect for its development and the sustainability management. In the present investigation total 14 species of fishes belonging to 4 orders and 6 families were reported in Upper Morna reservoir. The collected specimens and their systematic are depicted in given in Table 1 and photoplate I & II.

In all 4 orders cypriniformes were found most dominant followed by perciformes and others. In all fishes three species was found dominant i.e. *Catla catla*, *Labeo rohita*, *Cirrhina mrigla* is due to stocking of seed of this fishes intensely so far as the records of fish fauna of other water bodies, similar findings are recorded by (Kulkarni *et al.*, 2008) they reported cultural fishes Catla, Rohu and Mrigal and 6 species of local fish fauna in Derala tank, Dist. Nanded, Maharashtra. Potentially the vast and varied Inland fishery resources of India are one of the richest countries in the world. Sreekantha and Ramachandra (2005) recorded 43 species of fishes in Linganamakki reservoir, Sharavathi river. Devi Prasad *et al.*, (2009)

reported 45 species of fishes belonging to 15 families, 31 genera in which 6 fishes were threatened, 7 species were vulnerable and 40 species of fish endemic in this region i.e. major wetland of Mysore.

Shinde *et al.*, (2009) investigated 15 fish species belonging to 3 orders, 4 families and 12 genera. The order cypriniformes found dominant with 11 species,

3 species of perciformes and one species of siluriformes in Harsool Savangi dam, Aurangabad (M.S.) India. Kar *et al.*, (2006) revealed 69 species of fishes in biggest water tectonic lake Sone in Assam, India; belonging to 49 genera, 24 families and 11 orders out of which 84.2% belonging to fresh water group, while rest to the peripheral class in aquatic ecosystem of Northeastern India.

Table 1: Fish diversity

Sr. No.	Order	Family	Species
1.	Cypriniformes	Cyprinidae	<i>Rasbora daniconius</i> (Hamilton)
2.	Cypriniformes	Cyprinidae	<i>Puntius sarana</i> (Hamilton)
3.	Cypriniformes	Cyprinidae	<i>Schiatura denisoni</i> (Day)
4.	Cypriniformes	Cyprinidae	<i>Catla catla</i> (Hamilton)
5.	Cypriniformes	Cyprinidae	<i>Cirrhinus mrigala</i> (Hamilton)
6.	Cypriniformes	Cyprinidae	<i>Labeo rohita</i> (Hamilton)
7.	Cypriniformes	Cyprinidae	<i>Cirrhinus reba</i> (Hamilton)
8.	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i> (Linnaeus)
9.	Cypriniformes	Cyprinidae	<i>Garra mullya</i> (Sykes)
10.	Perciformes	Gobiidae	<i>Glossogobius</i> (Hamilton)
11.	Perciformes	Channidae	<i>Channa gachua</i> (Hamilton)
12.	Siluriformes	Bagridae	<i>Mystus cavasius</i> (Hamilton)
13.	Siluriformes	Silridae	<i>Ompak bimaculatus</i> (Bloch)
14.	Synbranchiformes	Mastacembelidae	<i>Mastacembelus armatus</i> (Lacepede)

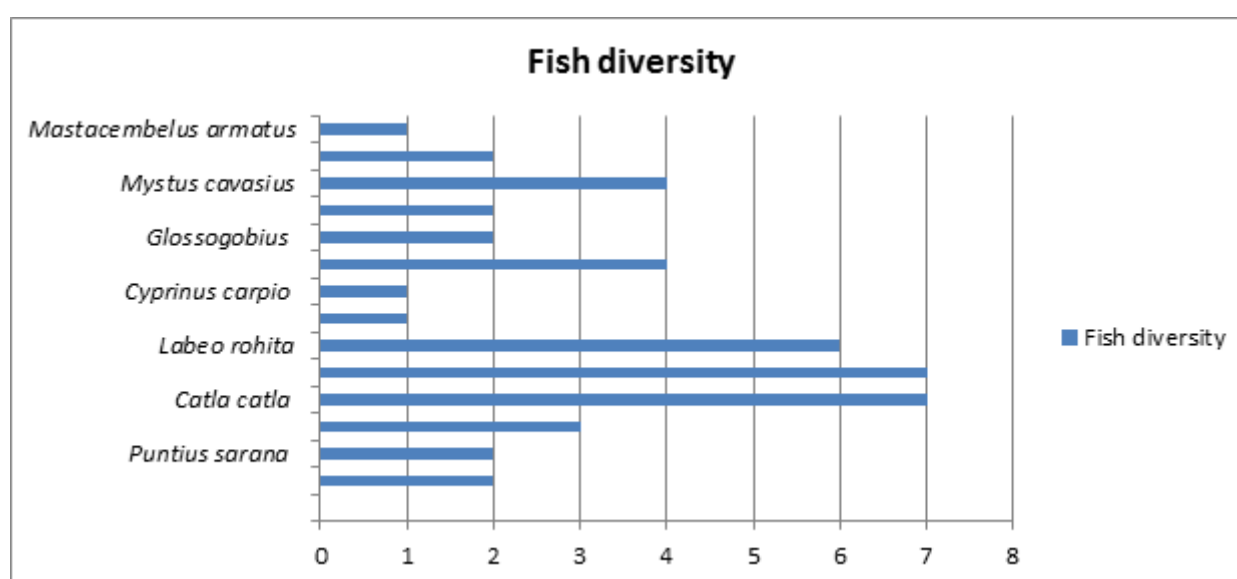
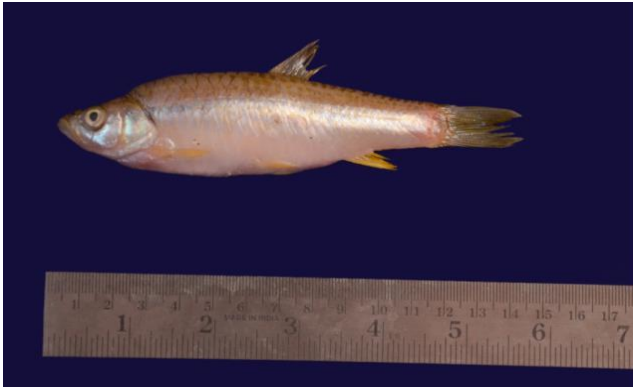


Fig 1: seasonal variation in fishes during 2012-2013.



Rosbora daniconiu



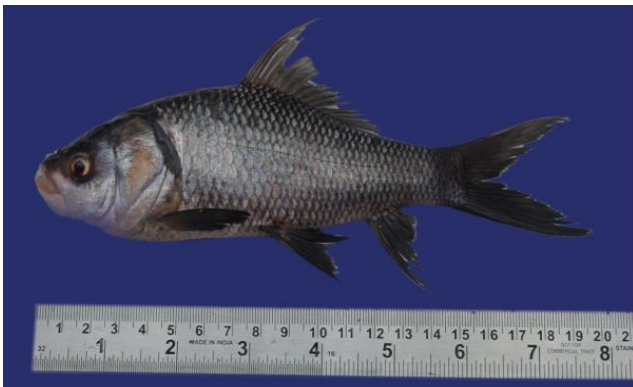
Puntius sarana



Ompok cavasius



Mastacembelus armatus



Catla catla



Cirrhinus mrigala

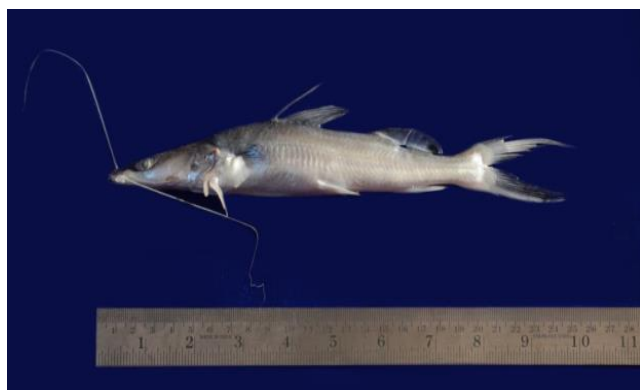


Channa gachu



Garra mullya

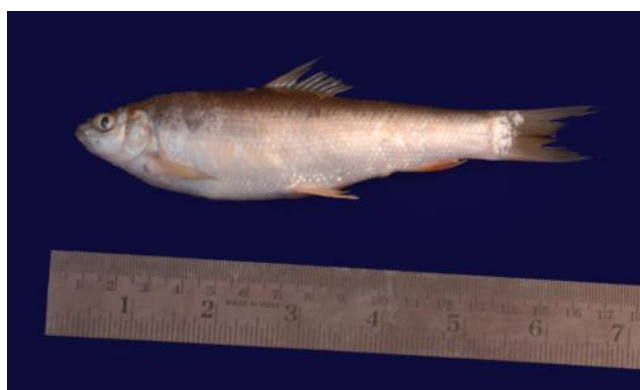
PHOTOPLATE I : (FISHES)



Mystus cavasius



Labeo rohita



Cirrhinus reba



Schistura denisoni



Glossogobius giuris



Cyprinus carpio

PHOTOPLATE – II

CONCLUSION:

To know the economic value of reservoir fish fauna play important role, because fisheries are the main economic source in Morna reservoir, therefore it is essential to introduce systematic management strategies both for conservation and sustained fish production. To attract increasing investment from

private sector. Substitute traditional method by introduction of advanced technology in operation of reservoir fishery. It is a great need of conservation of depleted and endangered species of fish and fishery resources. It is also important to know how from the reservoir sources we up lift the fisherman's co-operative society and how to increases the socio-economic status of traditional fisherman.

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