



Ichthyofaunal diversity and its conservation in Purkabodi lake near Lakhani dist. Bhandara (MS)

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ABSTRACT

The Fishes are rich in protein, healthy and delicious food for man. They occupy all three levels in aquatic ecosystem such as primary, secondary and tertiary consumers of food web. The present investigation was aim to observe the ichthyofaunal diversity in Purkabodi lake, near Lakhani. It is 24km towards East from district headquarter Bhandara and situated on both side of NH-6 India. The wild life sanctuary Nagzira and Koka are about 30to 40km from Lakhani. The study was carried out for a year from October 2013 to September 2014. Literally there is no report on the fish diversity in this lake. During the study, total 23 species were identified belonging to 7 order and 13 families.

Key Words: Ichthyofauna, diversity, conservation, Lakhani.

INTRODUCTION

Fishes are invariable living components of water bodies, they are good indicators of the ecological health of the water they inhabit. The understanding of fish faunal diversity is a major aspect for the exploitation of fresh water reservoirs and the sustainable as well as economical management (Battul *et al.*2007). Biological production in any aquatic body gives direct correlation with its physic-chemical status which can be used as trophic status and fisheries resources potential. Lakes in India support rich variety of fish species, which in turn, support the commercial exploitation of the fisheries potential (Krishna and Piska 2006). According to Pawar *et al.* (2006) the thorough knowledge of fishery resources, their availability and distribution in a particular water body is essential for proper utilization of its fishery resources. Workers like Day (1878), Misra(1962), Motwani and Saigal(1974), Jain (1998), Rathod *et al.*,(2008) and Paliwal *et al.*,(2013) have made valuable contribution in the study of ichthyofauna.

Study site: Purkabodi Lake (20^o59'38" N, 79^o47'35" E) was constructed as a part of irrigation project by government of Maharashtra and situated in the periphery of 5 to 10 km of Lakhani.

METHODOLOGY

To study the ichthyofaunal diversity of Purkabodi lake, the specimens were collected from local fishermen during the time of fishing. Collected samples were brought to laboratory washed, cleaned, observed and identified up to species by following the literature of Day (1878), Talwar and Jhingran (1991), Jayaram (1999), and Vishwanath *et al* (2011). Samples are preserved in 10% formaldehyde. Fishes were identified following their general body form, morphometric and meristic characteristics using above literature.

RESULT AND DISCUSSION

In the present investigation 23 species of fishes were recorded. The data was tabulated in following table.1.

These 23 species were belonging to 7 orders and 13 families. The order cypriniformes was dominant with 8 species followed by siluriformes with 6 species, perciformes 3, ophiocephaliformes 3 and each one of clupiformes, synbranchiformes and beloniformes. Similar observations were earlier made by Sakhare and Joshi (2002) in Palas-Nilegaon reservoir of Osmanabad district, Maharashtra. They reported 28 fish species. Shedge (2007) reported 24 species of fish in Nira river of Pune dist. of Maharashtra. Paliwal *et al.*, (2013) recorded 35 species in Itiadoh reservoir. Londhe and Sathe (2015), and Thakre *et al.*, (2016) also reported similar results. Paritha Bhanu and Deepak (2015) concluded that mainly human interference in lakes and rivers were responsible for the less distribution of fishes. Pollution and intense hot climatic conditions affected the growth and distribution of fishes. Certain adaptations are developed in fish species due to pollution.



Fig. 1: Fishfauna in Purkabodi Lake A. *Tillapia* B. *Clarius batrachus* C. *Catla catla* D. *Labeo rohita* E. *Mystus cavasius* F. *Labeo calbasu* G. *Ophiocephalus punctatus* H. *Heteropneustes fossilis* I. *Lepidocephalus guntea* J. *Puntius sophor* K. *Ompok pabda* L. *Notopterus*.

Table: 1. Ichthyofaunal diversity in Purkabodi lake during 2013-14

SN	Order	Family	Scientific Name
1	Cypriniformes	Cyprinidae	<i>Catla catla</i>
2	Cypriniformes	Cyprinidae	<i>Labeo rohita</i>
3	Cypriniformes	Cyprinidae	<i>Labeo calbasu</i>
4	Cypriniformes	Cyprinidae	<i>Cirrhinus mrigala</i>
5	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>
6	Cypriniformes	Cyprinidae	<i>Rasbora rasbora</i>
7	Cypriniformes	Cyprinidae	<i>Puntius sophor</i>
8	Cypriniformes	cobitidae	<i>Lepidocephalus guntea</i>
9	Siluriformes	Bagridae	<i>Mystus vitatus</i>
10	Siluriformes	Bagridae	<i>Mystus seenghala</i>
11	Siluriformes	Siluridae	<i>Ompok pabda</i>
12	Siluriformes	Siluridae	<i>Wallago attu</i>
13	Siluriformes	Heteropneustidae	<i>Heteropneustus fossilis</i>
14	Siluriformes	Clariidae	<i>Clarias batracus</i>
15	Perciformes	Nandidae	<i>Nandus nandus</i>
16	Perciformes	Cichlidae	<i>Tilapia mossambica</i>
17	Perciformes	Anabantidae	<i>Anabus testudineus</i>
18	Clupiformes	Notopteridae	<i>Notopterus chitala</i>
19	Ophiocephaliformes	Channidae	<i>Ophiocephalus punctatus</i>
20	Ophiocephaliformes	Channidae	<i>Ophiocephalus striatus</i>
21	Ophiocephaliformes	Channidae	<i>Ophiocephalus murulius</i>
22	Synbranchiformes	Mastacembelidae	<i>Mustacembelus armatus</i>
23	Beloniformes	Belonidae	<i>Xenentodon cancila</i>

Fish fauna having less adaptive capability was going on the way of scrub down and fishes having more adaptive capability are more in quantity and show the dominancy. Agricultural runoff containing harmful chemicals, pesticide and insecticides mix into the lake and harm the fish fauna. Fish species were important indicators of ecological health. The abundance and health of fish showed the health of water bodies (Hamzah, 2007). Present study helps to study and conserve the diversity of fish fauna. To conserve the diversity the fishery authorities should investigate and practice the proper exploitation and management of this fishery resources according to ecological principals. Scientific methods of fishing and practice should help to conserve the valuable biodiversity and the health of water body.

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