

4

STUDY OF FISH FAUNAL DIVERSITY OF UJANI RESERVOIR, NEAR BHIGWAN, DIST. PUNE[#]

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Abstract

Fish is an essential part of the aquatic ecosystem which is a gilled aquatic vertebrate that loss of limbs with digits. Fish are divided mainly into two categories i.e. bony fish and cartilaginous fish. The present survey was conducted from Feb-19 to Jan-20, with a weekly visit to Ujani Reservoir near Bhigwan having geographical coordinates 18°04'26"N75°07'12"E. In the present study total of 17 fish species belongs to 8 families and 5 orders were investigated. The fish diversity of family Cyprinidae is more dominant than other family and most of the species are found rarely and some exotic fish are mostly found in the fishery market of Bhigwan than indigenous fish. That is the need for the conservation of indigenous fish species in the Ujani reservoir near Bhigwan.

Keywords: Ujani reservoir, Bhigwan, Fish diversity, Threat.

[#]Short Communication

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Introduction

Water is an essential natural resource of all biotic factors; water is either freshwater, marinewater, or brackish water, and all over the world the human being depends on fish as a food. Unfortunately due to water quality and geographical conditions, fish diversity is different at different locations. Western Maharashtra is rich in water resources. In the Pune district, there are many resources of a freshwater ecosystem, which are naturally a part of fish diversity as well as the aquatic ecosystem. River Bhima is originated from Bhimashankar hills of Sahyadri and runs through Maharashtra, Karnataka, and Andhra Pradesh states (Theurker, Patil & Ghadage, 2013). The Ujani dam was constructed on Bhima River in 1980, near Ujani gaon in Mahada Tehsil, Solapur district, Maharashtra. The backwater of this Dam spread in Indapur tehsil forming a large Ujani Reservoir, covering both the district, viz, Solapur, and Pune (Yazdani S. V. & Singh 2002). The selected study is 'Bhigwan', which is in Indapur Tehsil at Pune district. The Bhigwan is also popular for Bird sanctuary and Fish Market. Due to location, the population depends on a water body, ecosystem, and diversity of birds & fishes, the study of fish diversity of the Ujani reservoir is needed to be reviewed. It is also important to study ecological threats of fish diversity because some species have a very little population and they are indigenous (Kumbhar and Mhaske, 2012).

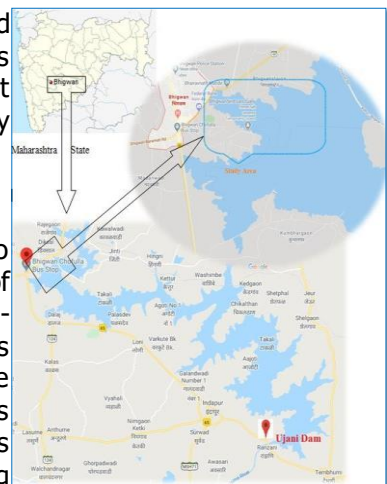
Urbanization, Industrialization is the main aspect of water pollution, which is direct effects on fish diversity (Mule and Patil, 2006). Major Chemical industries are located around this reservoir. These industries and huge populations are located around this wetland, and both the sea is dangerous to the aquatic ecosystem as well as water quality depletion. Bio-monitoring is very essential for conserving water resources (Bobdey A.D. 2014). The present study is included the Ichthyofaunal diversity of the Ujani reservoir in Pune district spreading from Daund Tehsil to Indapur Tehsil (Sarwade J.P. 2010). That is why biological monitoring is very important for the conservation of this aquatic ecosystem as well as the bird sanctuary.

Study Area

Bhigwan is located near the border of the Pune and Solapur districts of Maharashtra in India. The Study area is at Bhigwan Bird sanctuary which is near this town and at backwater of Ujani Reservoir. The location is fully described in figure.

Methodology

The survey was conducted from February 2019 to January 2020, with a weekly visit at the sampling site of Ujani reservoir at Bhigwan having geographical coordinates $18^{\circ}04'26''N 75^{\circ}07'12''E$. The reservoir was surveyed from the bank of the bird sanctuary with the help of boat as well as in the Market also. The fishes collected by local fishermen are also surveyed and photos have taken. Fish identification was done by using



standard literature like Talwar and Jhangan (1991), Masuda et. al (1984), Koumans (1953), Pethiyagoda (1991), Kottelat et.al. (1993) and Jayram (1999).

Result and Discussion

The fish fauna is a very important aspect of the water body; they are different according to the geographical and zoographical status of that aquatic body. In the present survey total of 16 fish species were observed at the Bhigwan site, according to Table No.1, the order Cypriniformes and Family Cyprinidae are observed as a dominant group with six species than other fish species. A total of 8 families and 5 order fishes were observed in the given study area. In that Cyprinidae 6, Siluridae 2, Bagridae 2, Claridae 1, Channidae 2, Percidae 1, Cichlidae 1, and Mastacembelidae 1 was observed. The dominant fish species belongs to Cyprinidae family was also reported by researcher like, Kumbhar, Sheikh and Maske (2018), Ahirrae and Mane (2000), Meshram C.B. (2005), Khedkar (2005), and Sarwade and More (2018), and from other fresh water bodies Sarwade and Khillare (2010).

Table 1: Species Observed in Ujani Reservoir near Bhigwan

Sr.No	Family	Order	Species
1	Cyprinidae	Cypriniforme	<i>Labeo Calbasu</i> (Hamilton, 1820)
2	Cyprinidae	Cypriniforme	<i>Labeo Rohita</i> (Hamilton, Buchanan, 1822)
3	Cyprinidae	Cypriniforme	<i>Catla Catla</i> (Hamilton, Buchanan, 1822)
4	Cyprinidae	Cypriniforme	<i>Cirrhinus Tririgala</i>
5	Cyprinidae	Cypriniforme	<i>Hypophthalmichthys Molitrisse</i>
6	Cyprinidae	Cypriniforme	<i>Ctenopharyngodon idella</i>
7	Siluridae	Siluriformes	<i>Wallago attu</i> (Sneider, 1801)
8	Siluridae	Siluriformes	<i>Ompok bimaculatus</i> (Bloch, 1794)
9	Bagridae	Siluriformes	<i>Mystus seengtee</i> (Day, 1877)
10	Bagridae	Siluriformes	<i>Mystus Cavasiw</i> (Hamilton-Buchanan, 1822)
11	Clariidae	Siluriformes	<i>Clarias batrachus</i> (Scopoli, 1777)
12	Channidae	Perciformes	<i>Channa striata</i> (Bloch, 1793)
13	Percidae	Perciformes	<i>Channa marulius</i> (Hamilton-Buchanan, 1822)
14	Channidae	Anabantiformes	<i>Channa punctata</i> (Bloch, 1793)
15	Cichlidae	Anabantiformes	<i>Oreochromis mossambicus</i> (peters, 1852)
16	Mastacembelidae	Synbranchiformes	<i>Mastecembelus armatus</i> (Lacepede, 1800)

The Bhigwan site is a very important water body of Pune district; it is a very popular Birds sanctuary in this district. It is very essential to know that the fish diversity of this water body. In this reservoir, Cypriniforms are the dominant group off is that are seen but, the abundance of fish is very low because of the presence of some exotic fishes like Tilapi and Mangur. These fishes are carnivores, they feed on other fish so other fishes are threatened, and also they are abundant.

The higher population of Tilapia and Mangur is dangerous to other fish species of the samewater body and it is the main reason for the threat of other species of carp and herbivoresfishes. So there is a need to control the population of this dangerous fish species. With that's ever al water pollutants also affect on water body fish diversity (Lohar and Patil, 2008).

Conclusion

The study of the Ujani reservoir near Bhigwan has a rich diversity off is h fauna, but according to the survey it is seen that the availability of fish species in all-season varies withseasons. But Tilipia and Mangur are available throughout the year. The population of thesespecies affects the diversity of fish fauna which are herbivorous and corps. We have toconserve the indigenou fish species and endanger zone in the given area. So it is concludedthatthe ecologicalthreatto fishspecies needsto conserveinthegivenaquaticbody.

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