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# Study of Ichthyofaunal diversity in a pond of district Madhubani (Bihar) India

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## ABSTRACT

Ichthyofaunal diversity in a pond of district Madhubani, Bihar was studied, named as R. K. College, Madhubani campus pond. On the basis of percentage composition and species richness, order Cypriniformes was found dominant followed by Siluriformes, Perciformes, Beloniformes and Synbranchiformes.

**Keywords:** *Ichthyofaunal diversity, R. K. College, Madhubani Campus pond, Fish species.*

## INTRODUCTION

Fish diversity comprises of species richness (number of species in defined area), species abundance (relative number of species) and phytogentic diversity (relationship between different groups of species)( Gorman and Karr, 1978).

Pond is noted for their abundant and rich varieties of plant and animal life, which all are maintained in a delicate ecological balance. Fishes form the most important aquatic natural product on a global scale providing the primary source of protein for nearly 1 billion people worldwide and food security for many more. Changes in the species composition of fishes and other ecological indicators help in monitoring the extent of pollution. Thus population dynamics of the aquatic biota is essential for understanding the health of the system and to know the environmental impact. The present paper is presented in the light of the ecological impact in the studied pond.

## MATERIALS AND METHODS

Fish samples were captured at intervals with the help of local skilled fishermen in the studied pond during 2013-14 and 2014-15. Fishes were presented directly in concentrated formaldehyde in the field itself and then 40% formation or further study in the laboratory of P.G. Department of Zoology, R. K. College, Madhubani, Bihar. All the fishes identified after standard books and literatures (Day, 1971 and 1978; Talwar and Jhingran, 1991 and Srivastav, 2012).

**Table 1**

**Ichthyofaunal Diversity: Identified fish species during study in RK College, Madhubani Campus Pond.**

| S. No. | Family | Scientific Names of fishes | Common Name of Fishes |
|---|---|---|---|
| 1. | Cyprinidae (carps) (Total fish species – 16) | 1. *Barilius bendelisis* | Bhola |
| | | 2. *Catla catla* | Bhakur/Cactla |
| | | 3. *Cirrhinus mrigala* | Nain |
| | | 4. *Cirrhinus reba* | Nain |

| | | | |
|---|---|---|---|
| | | 5. *Labeo rohita* | Rohu |
| | | 6. *Oxygaster bacaila* | Chalhawa |
| | | 7. *Puntius chrysopterus* | Sidhari |
| | | 8. *Puntius muzaffarpurensis* | Pothia |
| | | 9. *Puntius sophore* | Darahil |
| | | 10.*Rasbora daniconius* | Dendua |
| | | 11. *Labeo calbasu* | Basrahi |
| | | 12. *Amblypharyngodon mola* | Dhawahi |
| | | 13. *Aspidoparia morar* | Chilwa |
| | | 14. *Labeo bata* | Raeya |
| | | 15. *Hypophthalmichthys molitrix* | Silver carp |
| | | 16. *Ctenopharyngodon idella* | Grass carp |
| 2. | Cobitidae (Total species =01) | 1. *Botia Dario* | Baghua |
| 3. | Bagridae (Total fish species = 05) | 1. *Mystus aor* | Tengara |
| | | 2. *Mystus wittatus* | Tengara |
| | | 3. *Mystus pangasius* | Tengara |
| | | 4. *Mystus pangasius* | Tengara |
| | | 5. *Mystus tengara* | Tengara |
| 4. | Siluridae (Total fish = 02) | 1. *Ompak bimaculatus* | Jal kapoor |
| | | 2. *Wallago attu* | Boari/ Bayari |
| 5. | Channidae (Total fish =04) | 1. *Channa straitus* | Saur |
| | | 2. *Channa gachua* | Changa |
| | | 3. *Channa morulus* | Changa |
| | | 4. *Channa punctates* | Garai |
| 6. | Notopteridae (Total fish species= 02) | 1. *Notopterus notepterus* | Bhunna/Patra |
| | | 2. *Notopterus chitala* | Patra/Bhunna |
| 7. | Anabantidae (Total fish species = 02) | 1. *Anabas testudineus* | Kabai |
| | | 2. *Anabas scandens* | |
| 8. | Clariidae (Total fish species = 02) | 1. *Clarias batrachus* | Mangur |
| | | 2. *Clarias lagra* | Thai Mangur |
| 9. | Osphronemidae (Total fish species = 03) | 1. *Colisa fasciatus* | Khosra |
| | | 2. *Trichogaster fasciata* | Khosra |
| | | 3. *Trichogaster lalius or colisa lalius or Red lalius* | Khosra |
| 10. | Mastacembe lidae (Total fish species = 04) | 1. *Macrognathus fasciculatus* | Bam |
| | | 2. *Macrognatus aculeates* | Gainchi |
| | | *3. Mastacembelus armatus* | Sping eal |
| | | 4. *Macrognatus pancalus* | Gainchi |
| 11. | Belonidae (Total fish species = 01) | 1.*Xenentodon cancila* | Kauwa |
| 12. | Hetenopreustus tidae (Total fish species = 01) | 1.*Heteropneustes fossilis* | Singhi |
| 13. | Gobiidae (Total fish species = 01) | 1.*Glossogobius giuris* | Bhulla |
| 14. | Clupidae (Total fish species = 01) | 1.*Gudusia chapra* | Suhia or Suiya or Suia |

## RESULTS AND DISCUSSION

The present study was completed in the fish culture pond named RK College, Madhubani Campus pond. On the basis of composition and species richness, total 45 fish species families were identified. On the basis of family wise species richness the following pattern from ascending to descending orders are in the record:

Cyperinidae > Bagridae > Channidae & Mastacembe lidae > Osphronemidae > Siluridae, Notopteridae, Anabantidae and Clariidae > Cobitidae, Belonidae, > Hetenopreustus tidae, Gobildae and clupidae, having 16, 05, 04, 04, 03, 02, 02, 02, 02, 01, 01, 01, 01 fish species. This showed icthyofaunal diversity in the studied pond.

The approximately similar report from Jawalgaon reservoir of Solapur district in Maharastra was confirmed (Sakhare, 2001). According to Hamilton, 1822; Arun Kumar and Manimeklan, 2018; Gorman and Karr, 1978; Tesfey *et al*., 2019 and Gunasekhar and Issae, 2017), significant debility in distribution of some fish species might be as result of pollution habit loss, changes in environmental conditions, illegal fishing, water abstraction, siltation and invasion of exotic species, eutrophication, overexploitation and over harvesting of food fish, ornamental trade and as sport also. A rapid decline in the population in species might be expected due to its hybridization with closely related and rapidly spreading namely introduces species. As a results, the distributional ranges of some species have shrunk tremendously over the last decades and restricted only to localized area.

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