



## **Freshwater Fish Diversity in Chittaura Jheel of District Bahraich, Uttar Pradesh State, India**

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### **Abstract**

Fish constitute is an important group of subphylum-Vertebrata, division- Gnathostomata and are very useful in biological researches. The present study on freshwater fish diversity in Chittaura Jheel of district Bahraich, Uttar Pradesh state was carried out from January 2020 to December 2020 for a period of one year. Fishes are very important from biodiversity point of view. Therefore, during the present investigation, fishes were collected and identified. The aim of this study was to reveal the fish diversity of fish species in this Jheel. The various fishes collected from this Jheel are found to be very common in respect of other freshwater reservoir of Bahraich belt and represented 27 fish species, 13 genera, 5 order and 9 families. The family-Cyprinidae was observed as the most abundant: 10 species were recorded while second abundant family-Bagridae: 4 species and Ophiocephalidae: 4 species were observed and other family-Anabantidae: 1 species, Centropomidae: 3 species, Clariidae: 1 species, Heteropneustidae: 1 species, Notopteridae: 2 species and Siluridae: 1 species were also recorded during in this survey. Genus Channa and Mystus were the abundant of other genera. There is no documentary record available of the present study area till the date regarding its freshwater fish fauna. In the present study freshwater fish species in Chittaura Jheel is documented.

**Keywords:** Fish diversity, freshwater and Chittaura Jheel.

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## Introduction

Water is the most productive resource for Pisciculture. Fishes are the largest group of subphylum-Vertebrata and division -Gnathostomata in the world. Around the world approximately 22,000 species of fishes have been recorded out of which 11% are found in India, that is about 2,500 species of fishes of which 930 live in freshwater and 1,570 are marine (Kar, 2003 and Ubarhande et.al.2011). India is one of the mega biodiversity countries in the world and occupies the ninth position in terms of freshwater mega biodiversity (Shinde et. al., 2009). Studies on taxonomy (Ichthyofaunal diversity) have been immense interest to researchers of all times (Day, 1878, Hamilton, 1922 and Menon, 1992).

Many species of fishes are found in different ponds, lakes, dams and river. Many workers have worked on the fish species of different reservoirs of Uttar Pradesh State. Fish from Uttar Pradesh have been reported by Srivastava (2002) who listed 87 fish species. Hora(1949) made a detailed study on river Rihand fish fauna and recorded 42 species. Motwani and David (1957) reported 95 fish species from river Sone and Srivastava et.al. (1966) reported 55 species from river Ken, district Banda, Uttar Pradesh. Menon (1992) listed 141 species occurring in Ganga river system. Joshi (1994) has given an account of the fish fauna of Kali river. Jitendra Kumar et. al. (2013) reported 62 fish species belonging to 41 genera from various water sources of district Faizabad, Uttar Pradesh. Nagma and Afzal Khan (2013) listed 36 fish species belonging to 23 genera from water bodies of district Bijnor, Uttar Pradesh. Shukla and Singh (2013) listed 18 fish species belonging to 17 genera from Aami river Gorakhpur. Verma et.al.(2015) reported 83 fish species belonging to 58 genera from water sources of Lucknow district (Uttar Pradesh). Seema Jain (2017) listed 61 fish species belonging to 38 genera from various water sources of Western Uttar Pradesh, India. Verma et.al. (2018) listed 45 fish species belonging to 32 genera from Bakhira lake (U.P.), India.

The species diversity of an ecosystem is often related to the amount of living, nonliving and organic matter present. In the field of fish fauna there is valuable an incision in their abdomen and preserved. As per economic importance, scope of fish and fisheries especially in Uttar Pradesh state but it is natural to study the distribution and availability of fish from fresh water. The objective of the present study was to documented freshwater fish diversity in Chittaura Jheel of district Bahraich, Uttar Pradesh state, India.

**Location of Study area:**The Chittaura Jheel of district Bahraich is located 27.32574 latitude and 81.38628 longitude and Bahraich borders country of Nepal, district Bardiya to the north west and Banke to the north east. The rest of Bahraich is surrounded by following districts in Uttar Pradesh: Lakhimpur and Sitapur on the west, Barabanki to the south west, Gonda to the south east and Shravasti to the east (Map-1, 2 & 3). It is an important, historical and natural Jheel in district Bahraich (Uttar Pradesh state), India. Chittaura Jheel is situated about 8 km from Bahraich city on Gonda road near Chittaura village in district Bahraich of Uttar Pradesh state. A small river Tedhi Nadi flows from this Jheel is covered area about 1000 acres. Many migratory birds are also found here during August to October (late monsoon period)

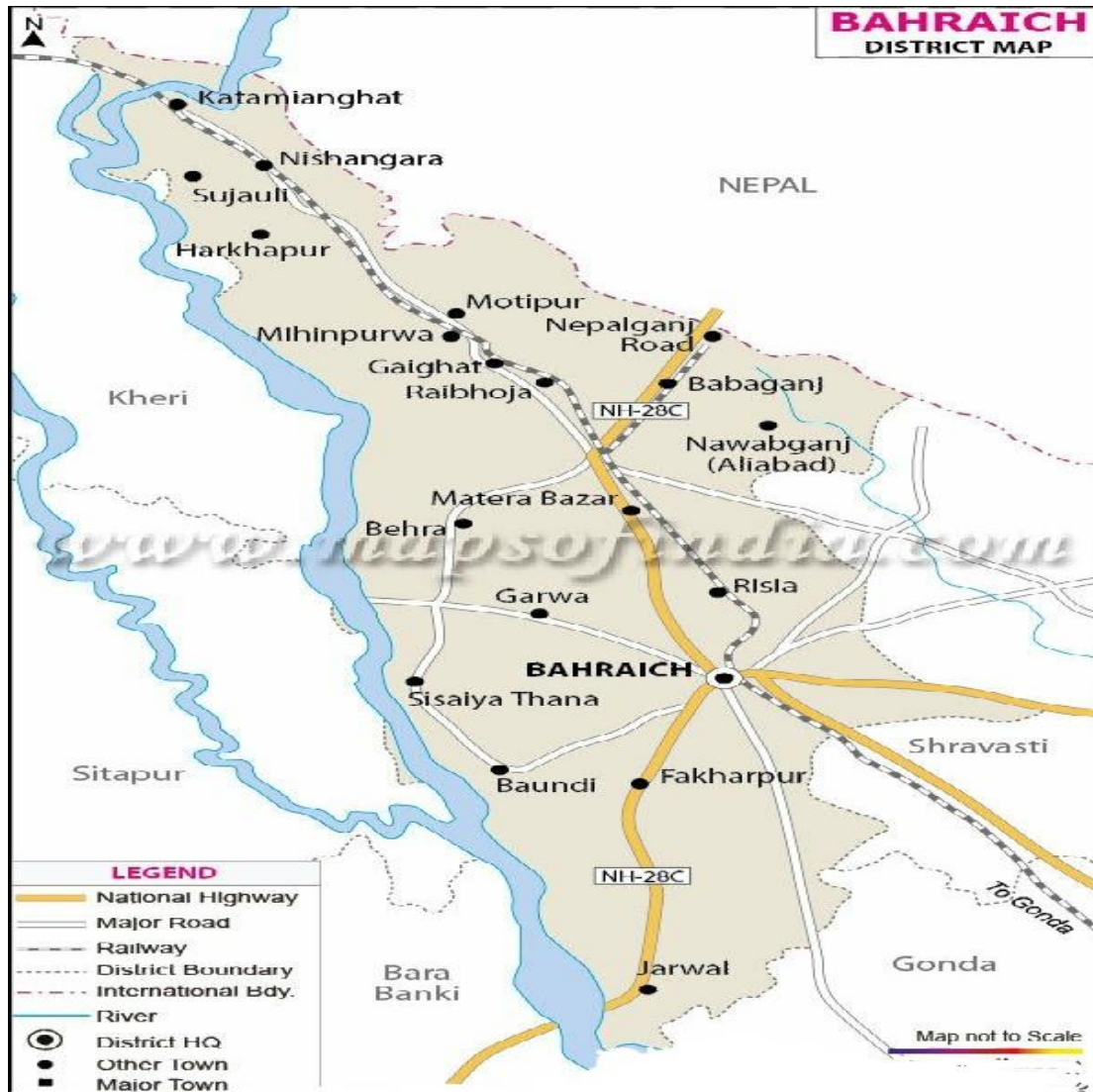
Chittaura Jheel is a hindu pilgrimage site, centred around a pond in Bahraich district of Uttar Pradesh state. The site is believed to be the place where the fight between Raja Sukhdeo and Ghazi Saiyyad Salar Masud took place in June 1033. Ashtwarka Muni, the Guru of Maharaja Janak used to live here in his ashram. Every year, a fair is organized here on Basant Panchami. A temple is also situated here as well as a statue of Raja Sukhdeo.



**Map-1: Location of study area in India**



Map-2: Location of study area in Uttar Pradesh state



Map-3: Location of study area in district Bahraich

## Materials and Methods

In Chittaura Jheel, fishes were caught and collected for the study from four sites of this Jheel by hand nets, gill nets, cast nets, hook and drag nets with the help of local people and fisherman mainly during the time of fishing. Investigation regarding fish capture and collection were conducted fortnightly that is three time in a month for the period of one year from January 2020 to December 2020 (Fig.-1).

Fishes were identified by using the standard keys of Day (1978), Jhingram (1991), Jayram (1999), Srivastava (2002) and Vishwanath (2002). Interaction with local people also assisted the authors in various ways for data collection and identification.



**Fig-1: Chittaura Jheel: Fish collection for identification by investigator and fisherman**

## Results and Discussion

During present study, total of 27 fish species belonging to 13 genera, 5 order and 9 families were collected and identified. The details of these fishes are listed in (Table-1). Fish diversity comprised of 9

families namely, Cyprinidae 37.04%, Bagridae 14.81%, Ophiocephalidae 14.81%, Centropomidae 11.11%, Notopteridae 7.41%, Anabantidae 3.70%, Clariidae 3.70%, Heteropneustidae 3.70% and Siluridae 3.70% (Table-2).

**Table-1: Freshwater Fish diversity in Chittaura Jheel of district Bahraich, Uttar Pradesh State, India (Data of January 2020 to December 2020)**

S.No.	Scientific name	Common name	Order	Family
1	<i>Catla catla</i>	Bhakur	Cypriniformes	Cyprinidae
2	<i>Cirrhinus mrigala</i>	Nain/Mrigal	Cypriniformes	Cyprinidae
3	<i>Cirrhinus reba</i>	Nain/Reba	Cypriniformes	Cyprinidae
4	<i>Cyprinus carpio communis</i>	Common carp	Cypriniformes	Cyprinidae
5	<i>Cyprinus carpio nudus</i>	Common carp	Cypriniformes	Cyprinidae
6	<i>Cyprinus carpio specularis</i>	Common carp	Cypriniformes	Cyprinidae
7	<i>Labeo calbasu</i>	Black rohu/Karonchh/Dini	Cypriniformes	Cyprinidae
8	<i>Labeo goniis</i>	Kurai/Khursa	Cypriniformes	Cyprinidae
9	<i>Labeo rohita</i>	Rohu	Cypriniformes	Cyprinidae
10	<i>Puntius chola</i>	Sidhari	Cypriniformes	Cyprinidae
11	<i>Notopterus chitala</i>	Chital/Moya	Clupeiformes	Notopteridae
12	<i>Notopterus notopterus</i>	Patra	Clupeiformes	Notopteridae
13	<i>Anabas testudineus</i>	Kawai	Perciformes	Anabantidae
14	<i>Chanda baculis</i>	Chanari	Perciformes	Centropomidae
15	<i>Chanda nama</i>	Chanari	Perciformes	Centropomidae
16	<i>Chanda ranga</i>	Chanari	Perciformes	Centropomidae
17	<i>Channa gachua</i>	Chanaga	Ophiocephaliformes	Ophiocephalidae
18	<i>Channa marulius</i>	Saur	Ophiocephaliformes	Ophiocephalidae
19	<i>Channa punctatus</i>	Girai	Ophiocephaliformes	Ophiocephalidae
20	<i>Channa striatus</i>	Sauri	Ophiocephaliformes	Ophiocephalidae
21	<i>Mystus cavasius</i>	Tengra/Shingta	Siluriformes	Bagridae
22	<i>Mystus seenghala</i>	Dariai tengra	Siluriformes	Bagridae
23	<i>Mystus tengara</i>	Tengra	Siluriformes	Bagridae
24	<i>Mystus vittatus</i>	Tengra/Striped dwarf catfish	Siluriformes	Bagridae
25	<i>Clarias batrachus</i>	Mangur	Siluriformes	Clariidae
26	<i>Heteropneustes fossilis</i>	Singhi	Siluriformes	Heteropneustidae
27	<i>Wallago attu</i>	Padhni	Siluriformes	Siluridae

**Table-2: Family wise percentage of Fish diversity in Chittaura Jheel of district Bahraich, Uttar Pradesh State, India**

(Data of January 2020 to December 2020)

S.No.	Family	Number of Genus	Number of species	% of Fish diversity
1	Anabantidae	01	01	3.70
2	Bagridae	01	04	14.81
3	Centropomidae	01	03	11.11
4	Clariidae	01	01	3.70
5	Cyprinidae	05	10	37.04
6	Heteropneustidae	01	01	3.70
7	Notopteridae	01	02	7.41
8	Ophiocephalidae	01	04	14.81
9	Siluridae	01	01	3.70
	Total	13	27	100

The family-Cyprinidae (order-Cypriniformes) was observed as the most abundant contains 10 fish species, namely-*Catla catla*, *Cirrhinus mrigala*, *Cirrhinus reba*, *Cyprinus carpio communis*, *Cyprinus carpio nudus*, *Cyprinus carpio specularis*, *Labeo calbasu*, *Labeo gonius*, *Labeo rohita* and *Puntius chola* were recorded while second abundant family-Bagridae (order-Siluriformes) contains four fish species: *Mystus cavasius*, *Mystus seenghala*, *Mystus tengara*, *Mystus vittatus*, family-Ophiocephalidae (order-Ophiocephaliformes) contains four species *Channa gachua*, *Channa marulius*, *Channa punctatus* and *Channa striatus* were observed. The above discussed fish species were the major composition of fish diversity in Chittaura Jheel. Other family – Anabantidae (order-Perciformes) contains one species *Anabas testudineus*, family-Centropomidae (order-Perciformes) contains three species *Chanda baculis*, *Chanda nama* and *Chanda ranga*, family- Clariidae (order-Siluriformes) contains one species *Clarias batrachus*, family-Heteropneustidae (order-Siluriformes) contains one species *Heteropneustes fossilis*, family-Notopteridae (order-Clupeiformes) contains two species *Notopterus chitala*, *Notopterus notopterus* and family-Siluridae (order-Siluriformes) contains one species *Wallago attu* were also found during our survey. In this way authors recorded 27 fish species. *Heteropneustes fossilis* and *Mystus* species are economically important but these fish species are illegally exploited by the local peoples of this area. Several workers have works in various lentic and lotic water bodies regarding the distribution and abundance of fish species. Dubey (1959), Singh (1994), Jayram (1999), Singh and Mishra (2001), Srivastava (2002), Tewari (2006), Regi and Kumar (2012), Shukla and Singh (2013), Wani and Gupta (2015), Seema Jain (2017), Verma (2018) and Tripathi (2020).

## Conclusion

The result of this study shows that Chittaura Jheel is very rich in fish species diversity and sustains high productivity, this water body is most suitable for pisciculture. This observation can be utilized for decision making conservation and management in a scientific manners. There is an immediate need of more conservation programme in order to retain this natural freshwater body in Chittaura Jheel of district Bahraich, Uttar Pradesh state.

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