



FISH FAUNA OF DHANERI-MANERI BEEL AND ITS MANAGEMENT, NALBARI DISTRICT, ASSAM, INDIA

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Abstract:

A study was undertaken in the Dhaneri-Maneribeels of Nalbari District, Assam during the year 2021 to document the fish fauna and its conservation status. The result reveals the presence of 42 species belonging to 8 orders and 12 families. The most dominant order is Cypriniformes followed by Siluriformes. The IUCN statuses of the fishes were also evaluated as endangered, threatened, vulnerable, least concern etc. The total number of endangered species was found to be 7 followed by threatened which is found to be 3, vulnerable 8, least concern 17, near threatened 7. The study on the Dhaneri – Maneribeel calls an urgent need for conservation of the species in the beel of the Nalbari District.

Key Words: Conservation, IUCN, Nalbari, Fish Fauna & Endangered

Introduction:

North East region is one of the hotspot area of the world. It harbours a wide variety of climatic condition throughout the year. The mighty river Brahmaputra and Barak flows through the state of Assam. There are many tributaries of the rivers having a large number of faunal diversity. The river, Beels, Ponds are lucrative habitat of freshwater fishes in Assam. Sinha (1994) reported 185 species from Assam belonging to 98 genera under 34 families.

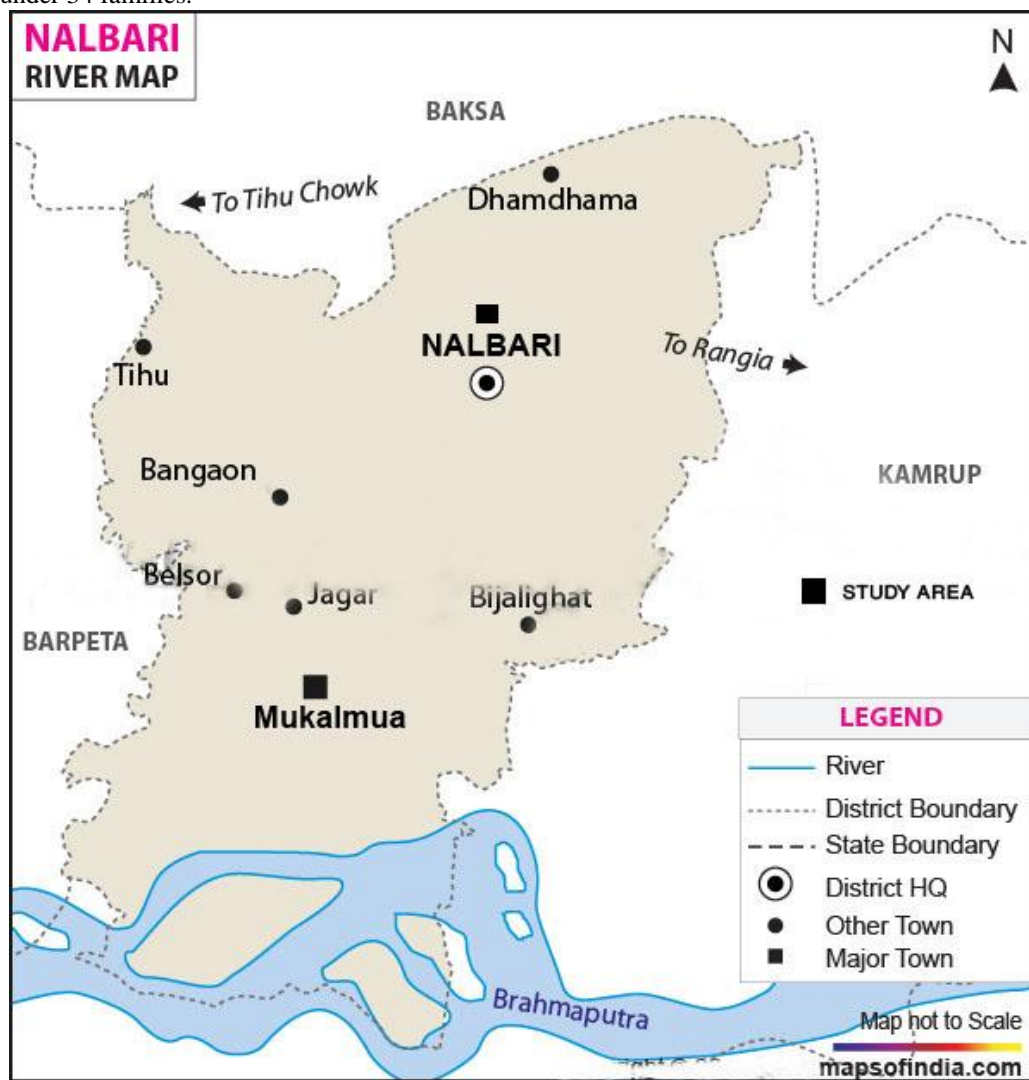


Figure 1: Map of Nalbari District Showing Study Area

Nalbari, a low lying area in the lower part of Assam lies 26.366°N latitude and 91.3276°E longitude having rich fish diversity. The Dhaneri-Maneri Beel is situated in the heart of the city covering an area of 200 hac. In the east of the Beel there is a large number of agricultural field, in the west there is an agricultural field, in the south part of the Beel there is Nalbari city and in the north part of the there is also an agricultural field. The study was carried out to document the fish diversity of the Dhanri-Maneri Beel (Figure 1) and its conservation status as no scientific exploration was done in the Beel. So the study area was selected by the worker for the first time.

Material and Method:

The fish specimens were collected twice in a month in the morning with the help of fisherman during the year 2021. Some fishes were identified in the spot and some fishes were taken to the fish and fishery biology laboratory of Bhattadev University and later on preserved 10% formaline. The fish specimens were identified following the literature of Talwer and Jhingran (18th June, 1974) and Jayaram (14th January, 2022). The conservation status of the fishes were evaluated by CAMP report (1998).

Result and Discussion:

The study reveals the presence of 42 species and presented in the table 1 belonging to 8 orders and 16 families. The dominant family and order is Cyprinidae and Cypriniformes respectively. The occurrence of exotic carp i.e Cyprinus carpio, Ctenopharyngodon idella, Hypophthalmichthys molitrix found in the beelis due to flood.

Table 1: List of Diversity of fishes in the Dhaneri- Maneri Beel

S.No	Name of Fish Species	Order	Family	Status
1	Cyprinus carpio	Cypriniformes	Cyprinidae	LC
2	Ctenopharyngodon idella	Cypriniformes	Cyprinidae	LC
3	Labeo bata	Cypriniformes	Cyprinidae	LC
4	Labeo rohita	Cypriniformes	Cyprinidae	LC
5	Labeo calbasu	Cypriniformes	Cyprinidae	LC
6	Labeo gonius	Cypriniformes	Cyprinidae	LC
7	Puntius sarana	Cypriniformes	Cyprinidae	LC
8	Puntius sophore	Cypriniformes	Cyprinidae	EN
9	Chirrhinus mrigala	Cypriniformes	Cyprinidae	EN
10	Gebilion catla	Cypriniformes	Cyprinidae	EN
11	Danio devario	Cypriniformes	Cyprinidae	NT
12	Chela laubuca	Cypriniformes	Cyprinidae	NT
13	Esomus danricus	Cypriniformes	Cyprinidae	NT
14	Hypophthalmichthys molitrix	Cypriniformes	Cyprinidae	LC
15	Puntius ticto	Cypriniformes	Cyprinidae	LC
16	Amblypharyngodon mola	Cypriniformes	Cyprinidae	LC
17	Mystus cavasius	Siluriformes	Bagridae	EN
18	Mystus bleekeri	Siluriformes	Bagridae	EN
19	Wallago attu	Siluriformes	Siluridae	LC
20	Clarius magur	Siluriformes	Clariidae	LC
21	Heteropneustes fossilis	Siluriformes	Heteropneustidae	LC
22	Mystus tengera	Siluriformes	Bagridae	LC
23	Mystus vittatus	Siluriformes	Bagridae	EN
24	Pangasius pangasius	Siluriformes	Pangasiidae	EN
25	Channa punctatus	Channiformes	Channidae	NT
26	Channa stewartii	Anabantiformes	Channidae	NT
27	Channa striatus	Anabantiformes	Channidae	TH
28	Channa marulius	Perciformes	Channidae	NT
29	Anabas testudineus	Perciformes	Anabantidae	LC
30	Chanda nama	Perciformes	Centropomidae	NT
31	Badis badis	Perciformes	Badidae	TH
32	Pampus chinensis	Perciformes	Stromateidae	TH
33	Nandus nandus	Perciformes	Nandidae	VU
34	Tilapia mosambica	Perciformes	Anabantidae	VU
35	Channa gachua	Anabantiformes	Channidae	LC
36	Trichogaster fasciatus	Anabantiformes	Osphronemidae	LC
37	Notopterus chitala	Osteoglossiformes	Notopteridae	VU
38	Notopterus notopterus	Osteoglossiformes	Notopteridae	VU
39	Xenentodon cancella	Beloniformes	Belonidae	VU

40	Monopterusuchia	Synbranchiiformes	Synbranchidae	VU
41	Mastacembelus armatus	Synbranchiiformes	Synbranchidae	VU
42	Mastacembelus pancalus	Synbranchiiformes	Synbranchidae	VU

“LC”= Least Concerned, “VU”=Vulnerable, “NT”= Near Threatened, “EN”= Endangered, “TH”= Threatened

Table 2: Percentage contribution of different order of fishes

S.No	Order	Percentage
1	Cypriniformes	38%
2	Siluriformes	19%
3	Anabantiiformes	9%
4	Perciformes	16%
5	Osteoglossiformes	4%
6	Synbranchiiformes	7%
7	Channiiformes	2%
8	Beloniiformes	2%

Table 3: Percentage Contribution of different family of fishes

S.No	Family	Percentage of Family
1	Cyprinidae	38%
2	Channidae	11%
3	Anabantidae	4%
4	Notopteridae	4%
5	Bagridae	9%
6	Belonidae	2%
7	Clariidae	2%
8	Heteropneustidae	2%
9	Badidae	2%
10	Pangassidae	2%
11	Siluridae	2%
12	Synbranchidae	7%
13	Osphronemidae	2%
14	Nandidae	2%
15	Centropomidae	2%
16	Stromateidae	2%

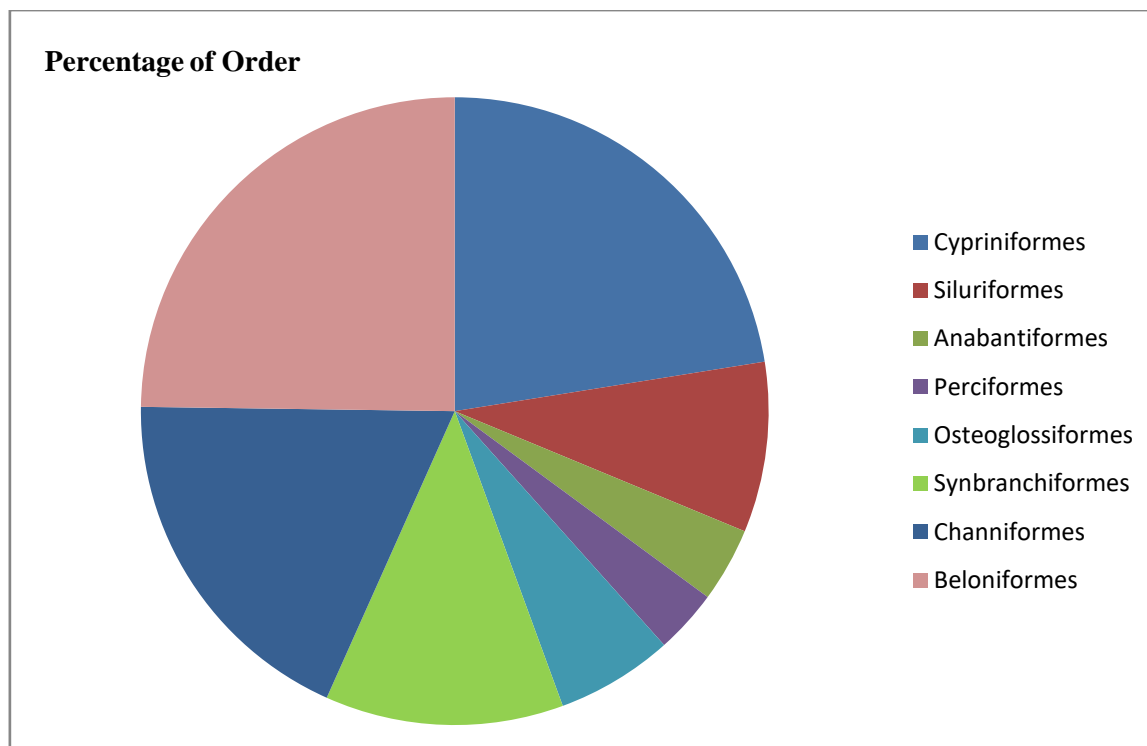


Figure 2: Pie diagram of different order of fishes

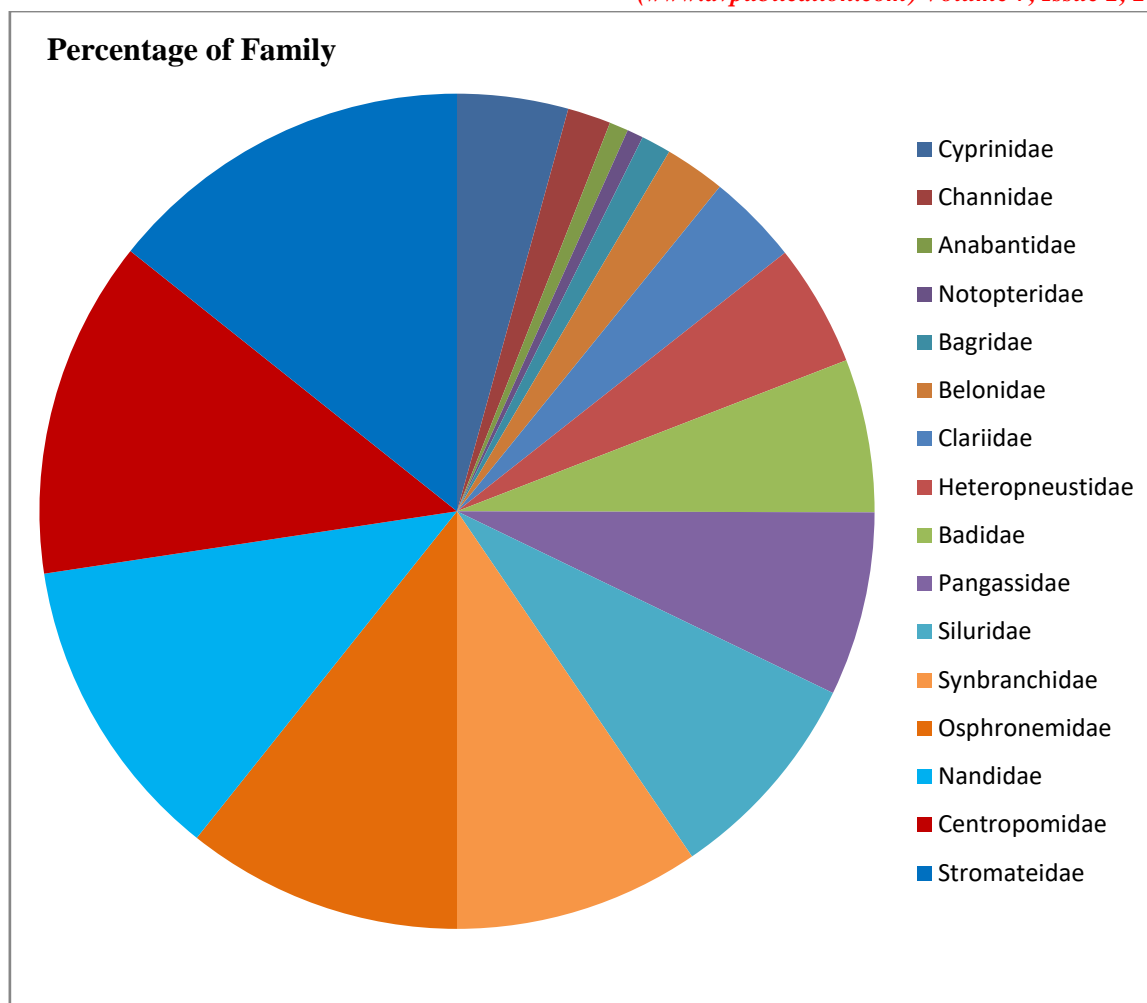


Figure 3: Pie diagram of different family of fishes

The identified 42 species may be grouped as IMC (Gebilioncatla, Labeorohita, Chirrhinusmrigala), Indian Minor Carp (Labeobata, Labeogonius, Labeocalbasu, Puntiussoophore, Puntiusstictioetc), Cat fish (Clariusmagur, Wallagoattuetc), Snake headed fish (Channagachua, Channastriatus, Channamaruliusetc), Feather back (Notopterusnotopterus, Notopteruschitala), Larvevorous fish (Anabas testudineus, Trichogaster fasciatuetc). The study indicates the presence of total number of endandered species was found to be 7 followed by threatened species 3, vulnerable 8, least concern 17, and near threatened 7.

Conclusion:

In conclusion documentation of biodiversity of fish is one of the most important aspects of study from ichthyological point of view. No fishing should be allowed during spawning season especially with mosquito nets for sustainable ecosystem management as well as to sustain the identified fish fauna in the beel. A systematic process should be developed for creating awareness on fish diversity in fringe villagers all along the beel area.

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