

Ornamental fish Diversity across Brahmaputra Valley of Assam

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Abstract

Ornamental fishes usually mean attractive colorful fishes of different characteristics or of various pattern. These are also known as aquarium fishes kept as pets in confined spaces for fun or fancy. Assam, a north-eastern state, is blessed with abundance of ornamental fishes in nature and contributes the lion's share of total ichthyospecies in North Eastern region of India. However there are vast unexplored potential for indigenous ornamental fishes in Assam. Scientific & systematic exploration of these potential will definitely ensure employment generation & will help to earn foreign exchange. Henceforth, this paper investigates the varieties of ornamental fishes found in the Brahmaputra valley of Assam.

Keywords: *Ornamental fishes, ichthyospecies, indigenous, foreign exchange, varieties.*

1. Introduction

Fishery Science and Agriculture is the sunshine sector of Indian Economy which provide livelihood to the economically backward population and has immense potential to earn foreign currency. Ornamental fishes usually mean attractive colorful fishes with various characteristics. Assam is blessed with the presence of mild climate and this influences abundance of ornamental fishes in nature. This North-eastern state contributes the lion's share of total ichthyospecies of India. However there are vast unexplored potential for indigenous ornamental fishes in Assam. Scientific & systematic exploration will definitely ensure a significant place for Assam state in the sphere besides employment generation & earning of foreign exchange.

2. Materials and Methods

2.1 Study Area

The River Brahmaputra (having a total length of 2906 km) along with its 47 tributaries has a combined length of 4023 km. Though Brahmaputra is a long course covering the areas of Tibet, China, India and Bangladesh. But the study area covers the basin course within the state Assam of

India. Study area is about 69 km comprising of only few tributaries that flow through Assam.

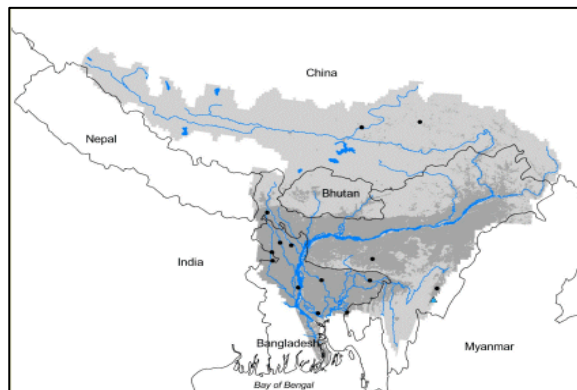
2.2 Sampling

The study area of 69km contains 11 prominent zone having River-Tributary sangam. These 11 sample points (Dhubri, Goalpara, Barpeta, Nalbari, Kamrup, Morigaon, Sonitpur, Jorhat, Sibsagar, Dibrugarh, Tinsukia) were chosen in order to cover all areas and habitat types. Also sampling was done at big market places to cover all the varieties. Sampling records were taken fortnightly from January 2013 to February 2014. Also, local persons and fishermen are interviewed to get more accuracy. Common fishes were recorded at landing sites and a sample collection was made for certain species for further laboratory confirmation.

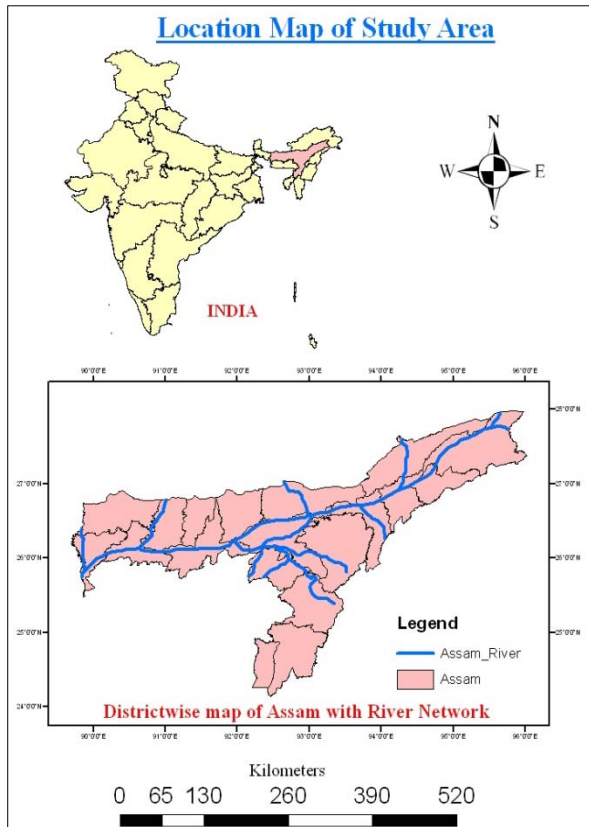
2.3 Survey Method

Specimens were either collected from landing site or on the river by using various gears (nets, hooks etc), hand pricking etc. Landing sites were monitored at intervals. For identification and classification of various fish species Talwar & Jhingran(1991) and Jayaram (1999) were referred. These specimens were preserved in formalin. In addition, the nearby fishermen communities and local persons are interviewed; as well as gears and methods used for capturing fishes were recorded.

3. Figures (Fig 1,2 shows Location Map, Fig 3 shows



some of Fish species)



4. Results

During the study a total of 81 species were studied. It harbors a great variety of species comprising both the small and big fishes. For the better convenience of the

study about the fishes available, it is very essential to place them into some groups. The identified species are grouped as follows –

Major Carps:

1. *Catla catla* (Hamilton, 1822)
2. *Cirrhinus cirrhosus* (Hamilton, 1822)
3. *Channa striata* (Bloch, 1793)
4. *Channa marulius* (Hamilton, 1822)
5. *Cyprinus carpio carpio* (Hankó, 1925)
6. *Ctenopharyngodon idella* (Valenciennes, 1844)
7. *Chitala chitala* (Hamilton, 1822)
8. *Hypophthalmichthys molitrix* (Valenciennes, 1844)
9. *Labeo rohita* (Hamilton, 1822)
10. *Labeo calbasu* (Hamilton, 1822)
11. *Labeo gonius* (Hamilton, 1822)
12. *Labeo nandina* (Hamilton, 1822)
13. *Mastacembalus armatus* (Lacepède, 1800)
14. *Pangasius pangasius* (Hamilton, 1822)
15. *Sperata seenghala* (Sykes, 1839)
16. *Sperata aor* (*Mystus aor*) (Hamilton, 1822)
17. *Wallago attu* (Bloch & Schneider, 1801)

Fishes of Intermediate Group

1. *Ailia coila* (Hamilton, 1822)
2. *Ailia punctata* (Dey, 1872)
3. *Anabas testudineus* (Bloch, 1792; Das, 1966)
4. *Cirrhinus reba* (Valenciennes, 1842)
5. *Clarias magur* (Hamilton, 1822)
6. *Channa gachua* (Hamilton, 1822)
7. *Channa punctata* (Bloch, 1793)
7. *Channa orientalis* (Bloch & Schneider)
8. *Chaca chaca* (Hamilton, 1822)
9. *Clupisoma garua* (Hamilton, 1822)
10. *Glossogobius giuris* (Hamilton, 1822)
11. *Heteropneustes fossilis* (Bloch, 1794)
12. *Labeo bata* (Hamilton, 1822)
13. *Mystus cavasius* (Hamilton, 1822)
14. *Monopterus cuchia* (Hamilton, 1822)
15. *Nandus nandus* (Hamilton, 1822)
16. *Notopterus notopterus* (Pallas, 1769)
17. *Ompok pabo* (Hamilton, 1822)
18. *Ompok bimaculatus* (Bloch, 1794)
19. *Puntius sarana* (Hamilton, 1822)
20. *Xenentodon cancila* (Hamilton, 1822)

Fishes of Small Group

1. *Acanthocobitis botia*, (Hamilton, 1822)
2. *Amblypharyngodon mola* (Hamilton, 1822)
3. *Aspidoparia morar* (Hamilton, 1822)

4. *Aspidoparia jaya* (Hamilton, 1822)
5. *Batasio batasio* (Hamilton, 1822)
6. *Botia histrionic* (BLYTH, 1860)
7. *Botia derio* (Hamilton, 1822)
8. *Laubuca laubuca* (Hamilton, 1822)
9. *Danio rerio* (Hamilton, 1822)
10. *Badis badis* (Hamilton, 1822)
11. *Chanda nama* (Hamilton, 1822)
12. *Colisha lalia* (Hamilton, 1822)
13. *Colisa sota* (Hamilton-Buchanan)
14. *Colisha labius* (Hamilton, 1822)
15. *Chela laubuca* (Hamilton, 1822)
16. *Chela cachiuis* (Hamilton, 1822)
17. *Devario devario* (Hamilton, 1822)
18. *Danio rario* (Hamilton, 1822)
19. *Esomus danricus* (Rao & Sharma, 1972)
20. *Gadusia chapra* (Hamilton, 1822)
21. *Mystus tengara* (Hamilton, 1822)
22. *Mystus bleekeri* (Day, 1877)
23. *Macrognathus aculeatus* (Bloch, 1786)
24. *Macrognathus pancalus* (Hamilton, 1822)
25. *Osteobrama cotio cotio* (Hamilton, 1822)
26. *Puntius sophore* (Hamilton, 1822)
27. *Puntius ticto* (Hamilton, 1822)
28. *Puntius phutunio* (Hamilton, 1822)
29. *Puntius gelius* (Hamilton, 1822)
30. *Puntius conchoniuis* (Hamilton-Buchanan)
31. *Puntius sophore* (Hamilton-Buchanan)
32. *Puntius sarana* (Hamilton, 1822)
33. *Rasbora deniconius* (Hamilton, 1822)
34. *Rasbora rasbora* (Hamilton, 1822)
35. *Tetraodon cutcutia* (Hamilton, 1822)
36. *Parambassis ranga* (Hamilton, 1822)
37. *Trichogaster fasciatus* (Bloch & Schneider, 1801)
38. *Lepidocephalus guntea* (Hamilton-Buchanan)
39. *Mystus vitattus* (Hamilton-Buchanan)
40. *Aplocheilus panchax* (Hamilton-Buchanan)
41. *Pseudambassis ranga* (Hamilton-Buchanan)
42. *Trigonostigma heteromorpha* (Duncker, 1904)
43. *Poecilia latipinna* (Lesueur, 1821)
44. *Poecilia reticulata* (W. K. H. Peters, 1859)

5. Discussion & Conclusions

Jayachandran et al. describes that the ecology of the river consisted of temperature fluctuating widely from 15 to 28 1C, depth from 0.8 to 10 m, turbidity of 11–19 cm, sand mining @ 12,500MT annually, and fish catch of 300–800 kg (from 1.5km area). All these factors pose a great threat to the fish and prawn wealth of the river (Jayachandran *et al.*, 2006). Biswas & Baruah (2000) investigated the habitat ecology of the Gangetic dolphin in the Brahmaputra river stretch within Eastern Assam and Bairagi (1999) reported the impact of the oil bait fishery on the dolphins of Brahmaputra River. The present investigation is a comprehensive account of systematic of ornamental fishes of the Brahmaputra river of Assam. The diversity of ornamental ichthyofauna provides crucial information about the status of ornamental fish diversity. Total 81 species of ornamental fishes are found accounting both classified and non-classified variety.

Acknowledgments

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