

FISH DIVERSITY OF HIRAN RIVER AT JABALPUR (M.P.)

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ABSTRACT : Hiran river is one of the most important water body of Jabalpur division. The river drains from two districts of the division; Jabalpur and Katni. Rural tribes and people from adjacent area are depends on the river for their drinking, domestic use and also for irrigation purpose. During present investigation, a total of 34 fish species belonging to 7 orders and 15 families were recorded. Study period started from January,2006 to December,2007. Out of 34 fish species most of the fishes are belongs to Ciprinidae family. Consist of 11 fish species and showed dominance at all the sampling stations of Hiran river. Different types of fishes were also found in river e.g. *Notopterus notopterus*, *Heteropneustes fossilis*, *Botia dario*, *Silonia silonia*, *Ompok bimaculatus*, *Clarias batrachus*, *Mastacembelus armatus*, *Monopterusuchia*, *Parambassis ranga*, *Channa marulius*, *C.gachua* and *Xenentodon cancila* were also found in the river.

Key words : River, Fish, Native, Ornamental and dominance.

INTRODUCTION

Hiran river rises in the Bhanrer range near the Kundam village of Jabalpur, Madhya Pradesh at an elevation of 600 meters. Geographically, it is originate at latitude of 23°12' North and longitude of 80°27' East. The river flows in generally South-Westerly direction for a total length of 188 meters to merge in the river Narmada from the right side near Sankal village. Hiran river has the distinction of being the biggest right bank tributary of the river Narmada and drains about 4,792 sq/km. The sub-basin covers part of areas of Jabalpur and Damoh districts of Madhya Pradesh.

Rivers, ponds and lakes are important parts of mankind since time immemorial as they are the chief sources of water needed for the development of area. River water is used for the development of agriculture and all developmental activities such as urbanization, industrialization, mining, constructions and development of agriculture, but fisheries is fully dependent on the water.

Large rivers are the principle source of water supply for cities and towns. Generally, the quality of water available from rivers varies throughout the year. It normally decreases in summer, when the demand of water is more. The disposal of water leads to contamination of rivers and lakes chronically affected flora and fauna.

MATERIAL AND METHODS

Jabalpur is also situated in Hiran river basin and it is a major tributary of river Narmada. Hiran river originated from Kundeshwar and after covering around 182 km, it joins river Narmada at Hirapur. For the purpose of fish sampling 5 sampling sites from the beginning of Hiran river to the junction point of river Narmada namely Kundeshwar, Khetaula ghat, Semaria, Khinmi and Hirapur were identified. The sampling was done with the help of local fisherman's applicable net and boat. Generally, gill nets and cast nets were used. Fishes were kept in formalin solution and brought at the laboratory for identification. Identification was done with the help of local name and the standard keys available in the departmental library viz. Jayaram (1981,1999). The threat assessment was documented by Barman (2007).

RESULTS AND DISCUSSION

In India, there are about 2,500 fish species, out of which 930 freshwater and 1570 marine are estimated by Kar (2003). The members of the order Cypriniformes were dominated by 21 species followed by Siluriformes 08 species, Synbranchiformes 02 species and Beloniformes 02 species. Present investigation support positively and agreed with the findings of Adholia (1979), who was recorded 56 fish species from Betwa river. Vyas *et al.* (2012) similarly identified and documented 60 species at the same river. In which they recorded 60 fish species belonging to 07 orders, 18 families and 36 genera. In the present investigation in Hiran river a total of 34 fish species belonging to 07 orders and 15 families was recorded (Table.1 & Figs.1&2).

According to IUCN red list status 07 fish species are endangered, 05 species are in near threatened and rest 06 in intermediate or out of danger category in the present work. 16 fishes were commonly available in all the sampling station, hence it can be considered as common fishes.

Table. 1 Fish fauna of Hiran river, Madhya Pradesh.

| S. | Genus/species | Local name | Common name | Threst/lucn status |
|----------------------------------|--|-------------|------------------------------|--------------------|
| Order : Cypriniformes | | | | |
| Family : Cyprinidae | | | | |
| 1. | <i>Hypophthalmichthys molitrix</i> (Valenciennes,1844) | Silver carp | Silver carp | Common |
| 2. | <i>Ctenopharyngodon idella</i> (Valenciennes,1844) | Grass carp | Grass carp | Common |
| 3. | <i>Cyprinus carpio</i> (Linnaeus,1758) | Common carp | Commo carp | Common |
| 4. | <i>Rasbora daniconius</i> (Hamilton,1822) | Rasbora | Slender Rasbora | Frequent |
| 5. | <i>Rasbora rosboru</i> (Hamilton,1822) | Rasbora | Gangetic Scissortail Rasbora | Frequent |
| 6. | <i>Puntius sophore</i> (Hamilton,1822) | Putti | Pool Barb | Frequent |
| 7. | <i>Pethia ticto</i> (Hamilton,1822) | Karita | Ticto Barb | Common |
| 8. | <i>Catla catla</i> (Hamilton,1822) | Catla | Catla | Common |
| 9. | <i>Cirrhinus mrigala</i> (Hamilton,1822) | Naren | Mrigal | Common |
| 10. | <i>Labeo rohita</i> (Hamilton,1822) | Rohu | Rohu | Common |
| 11. | <i>Labeo calbasu</i> (Hamilton,1822) | Kaari | Orange Fin Labeo | Common |
| Family : Cobitidae | | | | |
| 12. | <i>Botia dario</i> (Hamilton,1822) | Botia | Bengal Loach | Rare |
| Order : Siluriformes | | | | |
| Family : Bagridae | | | | |
| 13. | <i>Sperata seenghala</i> (Sykes,1839) | Singhad | Giant river cat fish | Rare |
| 14. | <i>Mystus cavasius</i> (Hamilton,1822) | Saundh | Gangetic mystus | Common |
| Family : Schilbedae | | | | |
| 15. | <i>Silonia silonia</i> (Hamilton,1822) | Silond | Siland catfish | Sporadic |
| Family : Siluridae | | | | |
| 16. | <i>Ompok bimaculatus</i> (Bloch,1794) | Pabda | Butter cat fish | Sporadic |
| 17. | <i>Ompok pabda</i> (Hamilton,1822) | Pabda | Pabda cat fish | Sporadic |
| 18. | <i>Wallago attu</i> (Bloch and Schneider,1801) | Padhin | Wallago | Frequent |
| Family : Clariidae | | | | |
| 19. | <i>Clarias batrachus</i> (Linnaeus,1758) | Magura | Walking cat fish, Mangur | Frequent |
| 20. | <i>Clarias garipenus</i> (Linnaeus,1758) | Thai magur | Walking cat fish | Abundant |
| Family : Heteropneustidae | | | | |
| 21. | <i>Heteropneustes fossilis</i> (Bloch,1794) | Singhi | Stinging cat fish | Sporadic |
| Order : Osteoglossiformes | | | | |
| Family : Notopteridae | | | | |
| 22. | <i>Notopterus notopterus</i> (Pallas,1769) | Patol | Bronze Feather Back | Rare |
| 23. | <i>Chitala chitala</i> (Hamilton,1822) | Chital | Clown Knife Fish | Rare |
| Order : Synbranchiformes | | | | |
| Family : Mastacembalidae | | | | |
| 24. | <i>Mastacembelus Armatus</i> (Lacepede,1800) | Baam | Spiny Eel Fish | Rare |
| 25. | <i>Mastacembelus punctatus</i> (Lacepede,1800) | Bamil | Eel Fish | Abundant |
| Family : Synbranchidae | | | | |
| 26. | <i>Monopterusuchia</i> (Hamilton,1822) | Endhaha | Cuchia | Rare |
| Order : Perciformes | | | | |
| Family : Ambassidae | | | | |
| 27. | <i>Chanda nama</i> (Hamilton,1822) | Glass fish | Elongate glass Perchlet | Common |
| 28. | <i>Parambassis ranga</i> (Hamilton,1822) | Glass fish | Indian glassy fish | Common |
| Family : Anabantidae | | | | |
| 29. | <i>Anabas testudineus</i> (Bloch,1792) | Chhilahti | Climbing perch | Frequent |
| Family : Channidae | | | | |
| 30. | <i>Channa marulius</i> (Hamilton,1822) | Sambhal | Great snake head | Abundant |
| 31. | <i>Channa striata</i> (Bloch,1793) | Karra | Stripped snake head | Rare |
| 32. | <i>Channa gachua</i> (Bloch,1793) | Kotha | Snake head | Sporadic |
| Order : Beloniformes | | | | |
| Family : Belonidae | | | | |
| 33. | <i>Xenentodon cancila</i> (Hamilton,1822) | Sojja | Freshwater garnish | Abundant |
| Order : Clupeiformes | | | | |
| Family : Clupeidae | | | | |
| 34. | <i>Gudusia chapra</i> (Hamilton,1822) | Doodhia | River shad | Abundant |



Fig. 1 Order wise fish species composition percent of Hiran river, Madhya Pradesh.

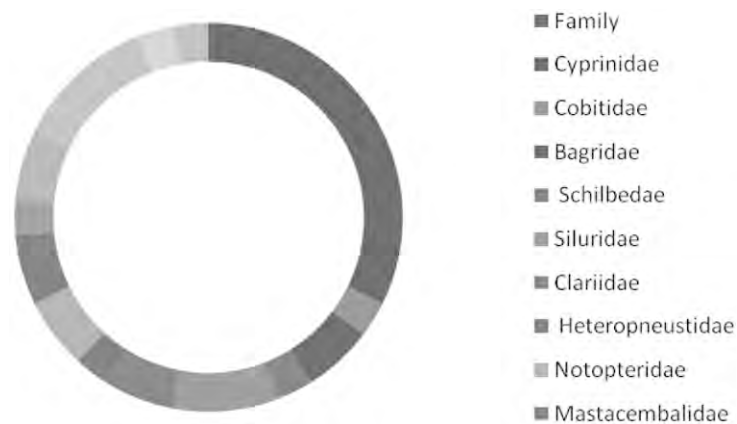


Fig. 2 Family wise fish species composition percent of Hiran river, Madhya Pradesh.

The riverine fishes were considered the best fish diversity source in Indian continent. It consist of the better taste and size, because most of the river originates from hilly forest region. They are enriched with several kinds of minerals and forestrial medicines.

Fishes is considered as the IInd dietary supplement in the world. Out of the total identified 40,000 vertebrates' fish contains 55%, out of which 39% are from fresh water fish species (Jayaram,1991). Hence the author's suggested that, there is lot of scope in the field of diversity estimation.

REFERENCES

- Adholia, U. K. (1979). *Hydrobiology of Betwa river and its fishery resources*. Ph.D. Thesis, Vikram University, Ujjain, p. 179.
- Barman, R. P. (2007). A review of the fresh water fish fauna of west Bengal, India with suggestions for conservation of the threatened and endemic species. *Research of the Zoological survey of India*.
- Jayaram, K. C. and Singh, K. P. (1977). *On the collection of fish from North Bengal*, records of Zoological survey of India.
- Jayaram, K. C. (1981). Methods of preservation of fishes. In : *The fresh weather fishes of India* (ed. Director ZSI). Pakistan, Bangladesh, Barma and Sri Lanka - A handbook. Kolkata Laser Graphics Private Limited, Kolkata.
- Jayaram, K. C. (1999). *The fresh water fishes of Indian region*. Narendra Publishing House, New Delhi.
- Jayaram, K. C. (2006). *The cat fishes of India*. Narendra Publishing House, New Delhi.
- Kar, D. (2003). In : *Environment Pollution and Management*. A.P.H. Publishing Corporation, New Delhi, pp. 203-211.
- Vyas, V.; D. Damde and V. Parashar (2012). *International Journal of Biodiversity and Conservation*, **4(2)** : 71-77.