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Fish bio-diversity of River Gomti: present status and future predictions

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Abstract:

River Gomti is an important tributary of Ganga river system. This is a perennial river and a variety of animal and plant species are inhabiting in this riverine environment. Ichthyofauna of the Gomti river was recorded. Only 35 fish species were recorded and it was found that catch was dominated by trash fishes. Indigenous major Carps have almost disappeared however a few specimens of Cirrhinus mrigala was recorded at Sultanpur. Specimens of *Labeo calbasu* were found in flooded condition of the river. Catfishes namely *Mystus vittatus, M. Cavassius, Sperata seenghala, S. aor, Rita rita, Bagarius bagarius, Ailia Coila* and *Eutropiichthys vacha* dominated the catch. Feather backs were represented by *Notopterus notopterus* and *Chitala chitala*, Snakeheads like *Channa puctatus, C. marulius, C. striatus* were recorded in fish catches. *Colisa faciatus, Nandus nandus, Gadusia chapra, Aspidoparia morar, Xenentodon cancila Puntius sophore, P. Sarana, Oxygaster bacoila* were abundantly recorded at all the landing sites.

Keywords: Major carps, Catfishes, fish biodiversity, Riverine environment, trash fish

Introduction

Bio-diversity, the species richness is very important for stability and success of the ecosystems. Due to habitat destruction, introduction of exotic species, pollution threats etc. the bio-diversity of various ecosystems is declining rapidly. Rivers are natural homes for a variety of valuable fish species but due to anthropogenic activities and alterations of riverine environment a number of valuable fish species are disappearing from the river systems of the country.

River Gomti originates from Madhoganj Tanda Village of Pilibhit district, U.P. and passes through Shahjanpur, Khiri, Sitapur, Hardoi, Lucknow, Barabanki, Sultanpur, Jaunpur and extending approximately 900 Kilometers and meets Ganga river near Saidpur Kaithi in Varanasi. Sai is an important tributary which joins near Jaunpur. According to hindu mythology river is daughter of Sage vashist and bathing in waters of Gomti on Ekadashi can wash away one's sins. Rivers are natural habitats of a variety of Indigenous fishes but recently due to pollution and other anthropogenic effects a variety of valuable fish species are disappearing from the river systems of the Country. Dominance of Indigenous major Carps and Cat fishes were well described by Jhingran (1970) for the Ganga river system and during sixties and seventies fishery structure of the system was quite different in comparison to today's situation. Species-wise fish landings in riverine ecosystem were recorded by several workers. Gupta & Tyagi (1992) observed fish landings in Allahabad region and found out dominance of *Aorichthys aor, A. Seenghala* and *Labeo calbasu* and miscellaneous fishes in the Ganga river system. Singh *et al.* (1998) reported upsurge of Calbasu fishery in the riverine environment and considered as a complex problem and reported its environmental success over its allied forms. Catch of Hilsa have become negligible. They also reported that cat fishes like *Sperata aor, S. Seenghala, Rita rita, Clupisoma garua, Eutropiichthys vacha, Wallago attu* etc. dominated the fish catch in the riverine ecosystem of Allahabad. Singh (2014) studied fish biodiversity of Ganga river system and found out decline in the bio-diversity and recorded approximately seventy fish species in the system

and observed that the fish bio-diversity is decling due pollution threats and introduction of alien species.

Material and Method

For the observations on fish landings in the Gomti river three fish landing sites were visited monthly during January to December 2003 these were Sahipul at Jaunpur, Golaghat bridge at Sultanpur at Garha Sultanpur. Fish species were identified with the identification keys described by Day (1889), Jayaram (1981) and Srivastava (1992). Doubtful fishes were preserved in 8% Formalin solution for further examination of morphometric and meristic characteristics in the laboratory.

Result and Discussion

Fishes are masters of aquatic life and are available wherever there is availability of water. River Gomti, the important tributary of Ganga river system is a perrenial river. A variety of fish species are inhabiting in this riverine environment. At all the three sites trash fishes like *Puntius sophore P. sarana, Colisa fasciatus, Oxygaster bacoila. Aspidoparia morar, Gadusia chapra, Nandus nandus, Gagata cenia* etc. dominated the fish catch at all the fish landing sites. During period of survey exotic fishes were not found at Garha Sultanpur and at Jaunpur however few specimens of *Cyprinus carpio* var. *communis* where recorded at Sultanpur. Catfishes like *Ailia coila, Clupisoma garua, Eutropiichthys vacha, Rita rita, Bagarius bagarius, Wallago attu* were frequently recorded at all the landing sites. All the fish species are important as they play important role is food chain of the riverine ecosystem. Ichthyofaunal diversity is important for stability and success of aquatic systems and presently represented by approximately thirty five species. Entrance of invasive alien fish species in riverine systems may create catastrophic situation.

Table Ichthyofauna of the Gomti river

Name of the fish species	Family
Cirrhinus mrigala	Cyprinidae
Cirrhinus reba	"" "" ""
Labeo Calbasu	"" "" ""
Puntius sarana	"" "" ""
Puntius sophore	"" "" ""
Puntius ticto	"" "" ""
Oxygaster bacoila	"" "" ""
Oteobrama cotio	"" "" ""
Aspidoparia morar	"" "" ""
Ompok bimaculatus	Siluridae
Wallago attu	Siluridae
Aorichthys seenghala	Bagridae
Aorichthys aor	Bagridae
Aorichthys tengra	"" "" ""
Aorichthys Vittatus	"" "" ""
Aorichthys cavassius	"" "" ""
Rita rita	"" "" ""
Ailia coila	Schilbeidae
Eutropiichthys vacha	"" "" ""
Clarias batrachus	Clariidae
Heteropneustes fossilis	Saccobranchidae
Xenetodon Cacila	Belonidae
Channa Punctatus	Ophiocephalidae
Chana striatus	"" "" ""
Channa marulius	"" "" ""
Anabas testudineus	Anabantidae
Nandus nandus	Nandidae
Colisa faciatus	Anabantidae
Mastacembelus armatus	Mastacembelidae
Mastacembelus puncalus	"" "" ""
Gadusia chapra	Clupeidae
Gonialosa manmina	"" "" ""
Notopterus notopterus	Notopteridae
Notopterus chitala	"" "" ""
Gagata Cenia	Sisoridae

Menon (1974) has listed 207 species of fish from the Gangetic plains which belong to 29 families and 82 genera. Mayank & Tyagi (2013) recorded 90 fish species belong to 8 orders and 28 families from the Yamuna river. Freshwater biodiversity has declined faster than either terrestrial or marine biodiversity over the past 30 years (Jenkins 2003, UNESCO 2003).

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