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ICTHYOFAUNAL DIVERSITY OF KUSHESHWAR ASTHAN CHAURS, DARBHANGA DISTRICT OF BIHAR

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Abstract:-The present study on ichthyofaunal biodiversity of a Kusheshwar sthan chaurs was carried out from June 2013 to may 2014, for a period of one year. Fishes are very important from the biodiversity point of view. Therefore, during the present investigation, fishes were collected and identified. The aim of this study was to reveal the faunistic diversity of fish species in this lake. The various fishes collected from this lake are found to be very common in respect of other lentic and lotic water bodies of Darbhanga and are represented by 9 orders, 18 families, 27 genera and 50 species. The family Cyprinidae was observed as the most abundant of all, consisting of 50 species are recorded, genus Puntius was the dominant, followed by carps, Murrals, and cat fishes.

Keywords: Ichthyofauna, biodiversity, Kusheshwar sthan, Bihar. Jhang .

INTRODUCTION

Kusheshwar sthan is one of the best wetland available in the country and has a traditional wintering refuge of migratory birds besides resident species. It is valuable repository of both plant & animal biodiversity. Large scale of fishing activities occurs in these water bodies now due to wild life protection act bird trapping is decline. Kusheshwar sthan (26°10'N86°02'E) is the 2nd largest protected area for birds in Bihar known since pre dependence for its large diverse congregation of birds This permanent water body is located 65 km from Darbhanga town (MSL49m) in Biraul subdivision including the Block Biraul Ghanshyampur.The low laying area of these block are dotted with perennial ponds and lakes during flood the water from nearby river fills the lake and water level of the lake rises during the monsoon more than 10,000 ha become inundated as this lakes join with Simri jheel & Kabar taal (an IBA) (yahaya 1995) rain and over flow of The rivers Kamla ,Bagmati, Kareh are the main source of water for these lakes. Large no of local people have been dependent on this wetland for fishing and for some aquatic crops such as Makhana (Euryale ferox)Now the lake is occupied by fisherman and agriculturist although the trapping of birds is prohibited. Now many local people still depends on it for there survival catching birds and selling them live. Kusheshwar sthan was known as the winter capital of migratory birds. it is one of the best water fowl habitats in India Kusheshwar sthan is famous for its shiv temple and is an important site for religious tourism. The Kusheshwar sthan wet land are famous for the fresh water fish such as for food fish and ornamental fish most of the wetland pond are covered with water hyacinth, Eichhornia crassipes the local fisherman bind them together in small pocket for fishing by a special technique known as jhang fishing. jhang is artificial assemblage of wild fish after constructing of jhang left over for 10-20 days to aggregate fish after that press net (chatty jaal) are used for catching of wild fish. The North Bihar and especially the Darbhanga district has large inland fisheries and adequate fresh water resources in the form of rivers and their tributaries, Ponds, tanks, wetlands (Chaurs), and canals. This is one of the prime aquatic resources of this district supporting a rich aquatic biodiversity. The main source of water is rain in the catchment area Fishes are one of the best indicators of quality of any aquatic ecosystem and occupy a remarkable position from socio economic point of view. A large population of this area and the district is suffering from nutritional hazards mainly from malnutrition and protein deficiency. The fishes are very rich source of protein as well as vitamins and other minerals. This Chaurs is used for capture of fishes by local fishermen communities.-

SIZE OF KUSHESHWAR STHAN

The Kusheshwar sthan chaurs varies ranges from 50 to 700 ha the depth of these water bodies ranges from 1.0 to 3

meter water spread area at the rainy season is about more than 10,000ha During winter season (Months) the chaurs is around Kusheshwar sthan provide lucarative capture fishery such as W.attu, Eel, Cuchia, carp, Murrels, food fish and ornamental fish as beside capture a no of resident migratory bird. Fishing and bird trapping are rampant in the area. The primary source of water in chaurs Kamla Bagmati and Kareh.

FISH AND FISHERIES

The Chaurs of Kusheshwar sthan have icthyo faunal diversity refers to variety of species Labeo rohita, Labeo calbasu, Puntius ticto, Puntius conchonius, Puntius Sarana, Esomus danricus, Chela laubuca, Cirrihinus mrigala, Cirrihinus reba, Catla catla, Oxygaster bacaila, Amblypharyngodon mola, Botia Dario,Nemacheilus botia, lepidocephalychithys guntea ,Somileptes gongota ,Bagarius bagarius ,Silonia silondia , Wallago attu,Ompak bimaculatus,Aorichthys seenghala,Mystus vittatus,Ailia coila,Heteropneustes fossilis, Clarias batrachus, Channa punctatus, Channa striatus, Channa gachua, Channa marulius, Macrognathus aculeatus, Mastacembelus pancalus, Mastacembelus armatus, Anabas testudineus, Colisa fasciatus, Chanda nama, Chanda ranga, Colisa chunna, Nandus nandus, Glossogobius giuris, Gonialosa manmina,Gudusia chapra,Setipinna phasa,Notopterus notopterus, Notopterus chitala,Tetradon cutcutia, Xenentodon cancila ,Amphipnous Cuchia. As well as Exotic major carp of two species Cyprinus carpio and Ctenopharyngodon idella, Dominate in the catch. The Average catches composition of various groups of fishes (based on collection observation and interviewing of local wild fish collector, merchant /commission agent.

MATERIAL AND METHODS

The entire study was undertaken mostly in morning hours. The samples were captured at intervals with the help of local skilled fishermen. Drag net, caste net, scoop net, basket trap, hooks etc. were used for capturing fish samples. The fishes collected from The Kusheshwar sthan chaurs were treated with 8% formalin for 48 hours. After that the fishes were transferred in 5% formalin and preserved for further study in the laboratory of Department of Zoology, Millat college Darbhanga,L.N.M.U Darbhanga. Preserved specimens were identified to genus and species level using taxonomic keys and Standard literatures.

RESULTS AND DISCUSSION

During the entire study period, 50 species belonging to 18 families, 27 genera and 9 orders were collected and identified. The details of these fishes are listed in table-1 and figure 1- 50.The order Cypriniformes was observed as the most abundant including two families i.e. Cyprinidae (7 species) and Cobitidae (8 species). Among Cyprinidae Labeo rohita ,Labeo calbasu, Puntius ticto, Puntius conconius, Puntius Sarana, Esomus danricus, Chela laubuc, and Cirrihina mrigala, Cirrihina reba, Catla catla, Oxygaster bacaila, Amblypharyngodon mola, Botia Dario, Noemacheilus botia, Esomus danricus, lepidocephalichthys guntea,Somileptes gangota representative of family Cobitidae as well as Sisoridae and ,Schilbeidae family represents one species each family Bagarius bagarius and Silonia silondia . Siluriformes order represents 7 species order Channiformes represents 4 species order Mastacembeliformes represents 4 species ,order Perciformes represents 7 species, order Clupeiformes represents 5 species ,order Tetraodontiformes represents 1 species, order Beloniformes represents 1 species and order Symbranchiformes represents 1species

CONCLUSION

The result of this study shows that Kusheshwar sthan chaurs is very rich in fish diversity and sustains high productivity but due to lack of management as well as by the use of so many fish toxicants now fish production is declining if Kusheshwar asthan is used for cage culture fish production will increase so many folds. Scientific methods of fish culture and proper care are needed to upgrade this chaur. It will not only be profitable but also be an easier process to fulfil the protein requirement of malnutrition and unprivileged population of Kusheshwar sthan as well as Darbhanga district. Cage culture / Aquaculture have the potential to fulfil the nutritive food supply and can also enhance the food security and income generation of fishermen communities of this area.

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Table-1
Details of Collected Fishesof Kusheshwar sthan (June 2013-May 2014)

ORDER	FAMILY	SCIENTIFIC NAME	LOCAL NAME
Cypriniformes	Cyprinidae	*1. Labeo rohita*	Rohu
		2. Labeo calbasu	Basrahi
		3. Puntius ticto	Sidhari/Pothia
		4. Puntius conchonius	Pothia
		5. Puntius Sarana	Darahi
		6.Chela laubuca	Dendula
		7. Cirrihinus mrigala	Naini
	Cobitidae	*8. Cirrihinus reba*	Rewa
		9. Catla catla	Bhakura/Catla
		10. Oxygaster bacaila	Challhawa
		11.Amblypharyngodon mola	Madwa
		12. Botia dario	Baglatta
		13. Nemacheilus botia	Natwa
		14.Esomus danricus	Dedwa
		15.lepidocephalychithys guntea	Nakti
		16.Somileptes gongota	
		17.Bagarius bagarius	Baluari
	Sisoridae	18.Silonia silondia	Gonch
	Schilbeidae		Bachawa
Siluriformes	Siluridae	*19. Wallago attu*	Boyari/barari
		20. Ompak bimaculatus	Jalkapoor/checr
	Bagridae	*21.Aorichthys seenghala*	Gagri
		22. Mystus tengara	Tengra
		23. Mystus vittatus	Palwa tengra
	Heteropneustidae	*24. Ailia coila*	Patasi
	Claridae	*25.Heteropneustes fossilis*	Singhi
		26. Clarias batrachus	Mangur
Channiformes	Channidae	*27. Channa punctatus*	Garai
		28. Channa striatus	Sauri
		29. Channa gachua	Chanaga
		30. Channa marulius	Saur
Mastacembeliformes	Mastacembelidae	*31. Macrognathus aculeatus*	Pateya
		32.Mastacembelus pancalus	Gaichi
		33.Mastacembelus armatus	Baami

Perciformes	Anabantidae	*34. Anabas testudineus*	Kawai
	Centropomidae	*35. Colisa fasciatus*	Kotra
		36.Chanda nama	Chanari
		37.Chanda ranga	Chanri
	Sciaenidae	*38.Colisa chunna*	Kholisa
		39. Nandus nandus	Dalla/Dabri
		40. Glossogobius giuris	Bulla
Clupeiformes	Clupeidae	*41.Gonialosa manmina*	Majlhali suhiya
		42. Gudusia chapra	Suhia
		43.Setipinna phasa	Phasi
	Notopteridae	*44.Notopterus notopterus*	Bhuna/Patra
		45. Notopterus chitala	Moya
Tetraodontiformes	Tetraodontidae	*46. Tetradon cutcutia*	Galphulani
Beloniformes	Belonidae	*47.Xenentodon cancila*	Kauwa
Symbranchiformes	Amphinidae	*48. Amphipnous cuchia*	Anhaya Baam

EXOTIC CARP

ORDER	FAMILY	SCIENTIFIC NAME	LOCAL NAME
Cypriniformes	Cyprinidae	49. *Cyprinus carpio* *50.Ctenopharyngodon idella*	Common carp *Grass carp*

FISHES OF KUSHESHWARSTHAN CHAURS

Figure 1. Labeo rohita

Figure 2. *Labeo calbasu*

Figure 3.Puntius ticto

Figure 4.Puntius conchonius

Figure 5 .Puntius sarana

Figure 6. *Esomus danricus*

Figure 7.Cirrhinus mrigala

Figure 8.Cirrhinus reba

Figure 9. Catla catla

Figure 10. *Oxygaster bacaila*

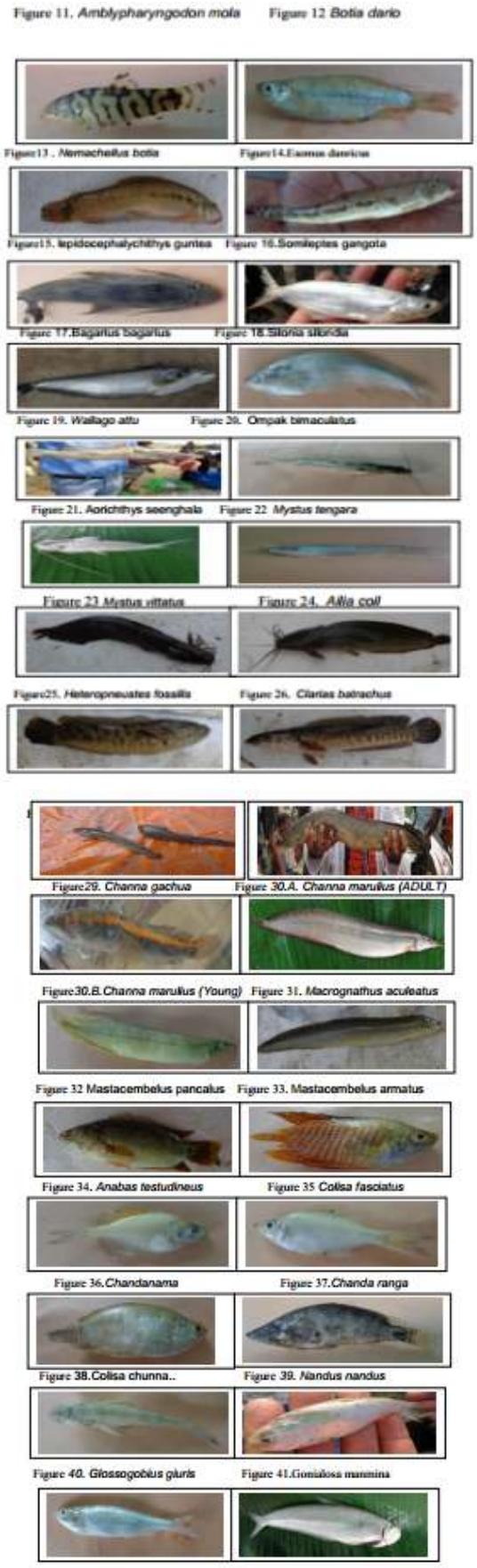
Figure 11. Amblypharyngodon mola
Figure 12 Botia dario
Figure13 . Nemacheilus botia
Figure14.Esomus danricus
Figure15. lepidocephalychthys guntea
Figure 16.Somileptes gangota
Figure 17.Bagarius bagarius
Figure 18.Silonia silondia
Figure 19. Wallago attu
Figure 20. Ompak bimaculatus
Figure 21. Aorichthys seenghala
Figure 22 Mystus tengara
Figure 23 Mystus vittatus
Figure 24. Alia coil
Figure25. Heteropneustes fossilis
Figure 26. Clarias batrachus
Figure29. Channa gachua
Figure 30.A. Channa marulius (ADULT)
Figure30.B.Channa marulius (Young)
Figure 31. Macrognathus aculeatus
Figure 32 Mastacembelus pancalus
Figure 33. Mastacembelus armatus
Figure 34. Anabas testudineus
Figure 35 Colisa fasciatus
Figure 36.Chandanama
Figure 37.Chanda ranga
Figure 38.Colisa chunna..
Figure 39. Nandus nandus
Figure 40. Glossogobius giuris
Figure 41.Gonialosa manmina

Figure 42.*Guduscia chapra*

Figure 43.*Setipinna phasa*

Figure 44.*Notopterus notopterus*

Figure 45. *Notopterus chitala*

Figure 46. *Tetradon cutcutia*

Figure 47. *Xenentodon cancila*

Figure 48. *Amphipnous cuchia*

EXOTIC CARP IN FISHES OF KUSHESHWARSTHAN CHAURS

Figure49. *Cyprinus carpio*

Figure .50.*Ctenopharyngodon idella*

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