

A Checklist of Fishes from Lohalia River, Patuakhali, Bangladesh

¹Mir Mohammad Ali, ²Md. Murad Mufty, ³M. Belal Hossain,

¹Zinat Fatima Mitul and ²Md. Ash-Wadul Alam

¹Department of Aquaculture, Faculty of Fisheries,
Patuakhali Science and Technology University, Patuakhali-8602, Bangladesh

²Department of Fisheries, Ministry of Fisheries and Livestock, Bangladesh

³Department of Fisheries and Marine Science,
Noakhali Science and Technology University, Sonapur, Noakhali- 3814, Bangladesh

Abstract: Fishes are the major animal protein source in Bangladesh and also support livelihood of millions people. This study was carried out at Lohalia River of Patuakhali and aimed to identify the available fish species. Data were collected from June 2012 to May 2013 from five sampling stations of Lohalia River and then identified up to species level. The survey recorded a total 53 species of fishes belong to 9 orders and 26 families. Proper management strategies are required for management of fisheries diversity at Lohalia River.

Key words: Lohalia River • Fish • Diversity and Bangladesh

INTRODUCTION

Bangladesh has the third largest aquatic fish biodiversity in Asia, after China and India, with about 800 species in fresh, brackish and marine waters [1]. This is because Bangladesh is mainly composed of an alluvial delta of ca 144,000 km² formed by the Ganges–Padma, Meghna and Jamuna–Brahmaputra rivers and their tributaries which all support a favorable aquatic ecosystem for large variety of fish diversity. Fish communities in this region characteristically have a large number of species and complex interactions. Aquatic ecosystem of this area is also characterized by high biological productivity associated with relatively extreme and varying environmental conditions. This species diversity has been attributed to the diverse aquatic ecosystem which are scattered all over the country in the form of rivers, ponds, ditches, beels, lakes, haors, baors, floodplains and canals. Total fish production from inland closed water area in the year 2003-2004 was 914,752 mt, as against 78.34% of the total production and fisheries sector accounts for 4.92% of GDP, 23% of the gross value added to agricultural products, more than 11% of export earnings and employs over 2 million people [2].

The fisheries sector plays an important role in the economy in terms of nutrition, income, employment and

earning foreign exchange. In 2002–2003, the sector contributed to 4.91% of gross domestic product (GDP), 5.1% of export earnings and about 10% of total employment [3, 4-9].

Due to increased fishing pressure fisheries biodiversity of Bangladesh now is in the face of crisis. Over extraction, destructive fishing methods, polluted aquatic environment as well as lack of proper management initiatives are triggering the depletion of fisheries biodiversity of Bangladesh. Only a few studies have been undertaken on the status of resources in Bangladesh [4-9] and present study aims to identify the available fish species in the Lohalia River of Patuakhali, Bangladesh.

MATERIALS AND METHODS

Present study was carried out at Lohalia River of Patuakhali district (Figure 1). This river is rich in fisheries biodiversity which supports local fish protein demand and livelihood of local fishermen. Agriculture is the profession of the most of the people. But fishing is also a prominent profession. Huge number of boats goes into the deep river to fish and come back with tons of fish. Paddy, Jute and different types of vegetables are the main product of agriculture sector.

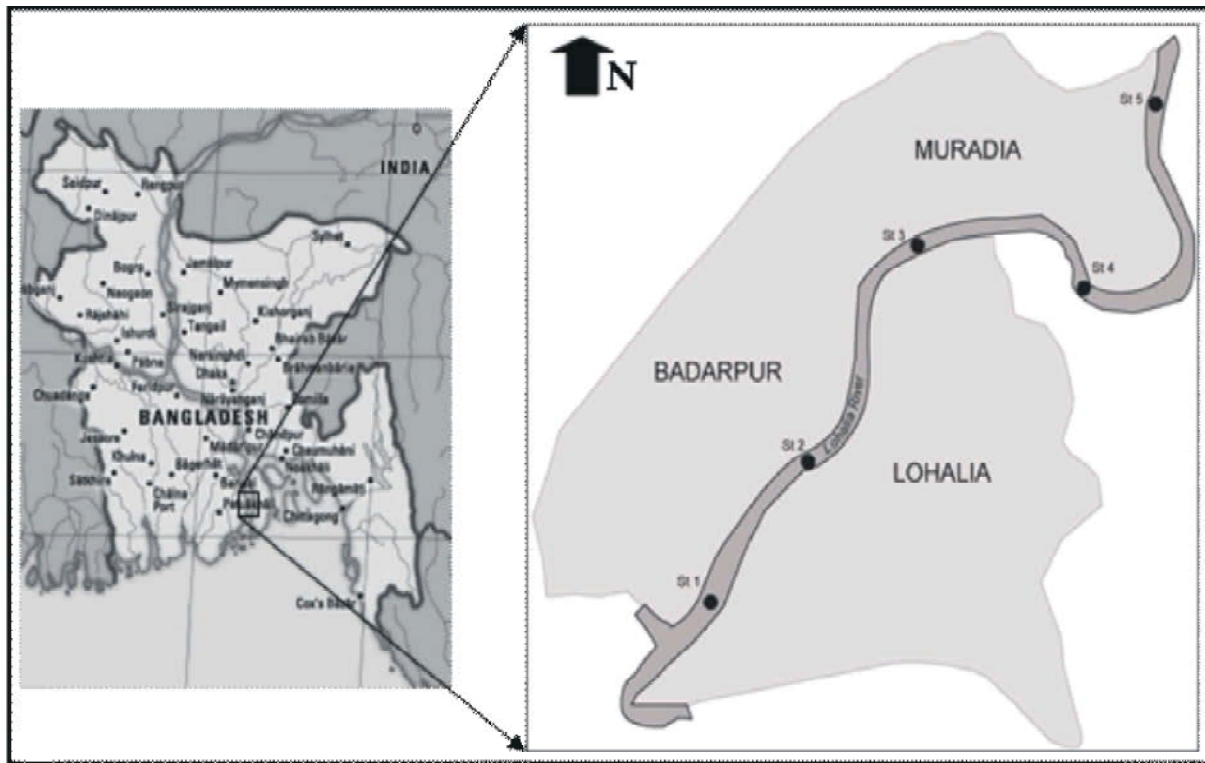


Fig. 1: Geographical location of the study area

The specimens were collected from Lohalia River during June 2012 to May 2013. Samplings were conducted at five sampling stations (st1, st2, st3, st4 and st5) of Lohalia River (Figure 1). A total 11 samples were undertaken (each in every month) during the study period. Fisher men generally go for fishing during night and back next day morning and sell captured fish at nearby landing center. From the fishermen, fishes were sold in such way that covers all species of that catch. Data were analyzed in relation to composition of species caught in every month (June 2012 to May 2013) and identified by Ficher *et al.*, DeBruin *et al.*, Hossain *et al.* and Talwar & Jhingran [10-13].

RESULTS

Checklist of available fish species with their taxonomic position (Order and Family name), scientific name, local name and their presence in selected five stations are presented in Table 1. A total 53 species under 9 orders and 26 families were recorded from the study area. *Mastacembelus armatus*, *Macrogathus aculeatus*, *Tenualosa ilisha*, *Corica soborna*, *Gudusia*

chapra, *Pseudosphromenus cupanus*, *Colisa lalia*, *Colisa fasciata*, *Channa punctata*, *Channa striata*, *Channa orientalis*, *Mystus vittatus*, *Heteropneustes fossilis*, *Pangasius pangasius*, *Labeo rohita*, *Labeo boggut*, *Labeo calbasu*, *Puntius ticto*, *Puntius terio*, *Labeo bata*, *Puntius chola*, *Puntius conchonius*, *Puntius guganio*, *Cirrhinus cirrhosus*, *Rasbora daniconius*, *Puntius puntio*, *Botia dario*, *Tetraodon cutcutia* and *Tetraodon fluviatilis* were found in all selected five stations. *Ompok pabda*, *Ompok pabo*, *Bagarius bagarius* and *Botia dario* were recorded at lowest number at stations (2). Osteoglossiformes comprised 1.89% of the total species where Beloniformes, Synbranchiformes, Mugiliformes, Clupeiformes, Perciformes, Siluriformes, Cypriniformes and Tetraodontiformes are 1.89%, 3.77%, 1.89%, 7.55%, 30.19%, 24.53%, 24.53% and 3.77% respectively (Figure 2). Osteoglossiformes, Synbranchiformes, Mugiliformes, Tetraodontiformes and Beloniformes comprised only one family, on the other hand Clupeiformes 2, Perciformes 10, Siluriformes 8 and Cypriniformes 2 family. A plate on some commercially important fish species is presented in Figure 3.

Table 1: Checklist of available fish species at Lohalia River

Taxonomic position	Scientific Name	Local Name	Stations				
			St 1	St 2	St 3	St 4	St 5
Order: Osteoglossiformes							
Family: Notopteridae	<i>Notopterus notopterus</i>	Chital	✓		✓	✓	✓
Order: Belontiiformes							
Family: Belontiidae	<i>Xenentodon cancila</i>	Kakila	✓	✓	✓		
Order: Synbranchiiformes							
Family: Mastacembelidae	<i>Mastacembelus armatus</i>	Baim	✓	✓	✓	✓	✓
	<i>Macrogynathus aculeatus</i>	Tara baim	✓	✓	✓	✓	✓
Order: Mugiliformes							
Family: Mugilidae	<i>Sicamugil cascasia</i>	Kachki	✓	✓	✓	✓	✓
Order: Clupeiformes							
Family: Clupeidae	<i>Tenulosa ilisha</i>	Ilish	✓	✓	✓	✓	
	<i>Corica soborna</i>	Kachki					
	<i>Gudusia chapra</i>	Chapila					
Family: Engraulidae	<i>Setipinna phasa</i>	Phasa		✓	✓	✓	✓
Order: Perciformes							
Family: Osphronemidae	<i>Pseudosphromenus cupanus</i>	Koi	✓	✓	✓	✓	✓
	<i>Colisa lalia</i>	Lal kholisha	✓	✓	✓	✓	✓
	<i>Colisa fasciata</i>	Khailsha	✓	✓	✓	✓	✓
Family: Trichuridae	<i>Lepturacanthus savala</i>	Churi		✓	✓	✓	
Family: Channidae	<i>Channa marulius</i>	Gozar	✓	✓	✓		
	<i>Channa punctata</i>	Taki	✓	✓	✓	✓	✓
	<i>Channa striata</i>	Shol	✓	✓	✓	✓	✓
	<i>Channa orientalis</i>	Gachua	✓	✓	✓	✓	✓
Family: Latidae	<i>Lates calcarifer</i>	Bhetki		✓	✓	✓	
Family: Polynemidae	<i>Polynemus paradiseus</i>	Taposi		✓	✓	✓	
Family: Eleotridae	<i>Eleotris fusca</i>	Bhut bele	✓	✓	✓		
Family: Gobiidae	<i>Acentrogobius caninus</i>	Nuna baila		✓		✓	✓
	<i>Glossogobius giuris</i>	Bele	✓		✓	✓	
Family: Sillaginidae	<i>Sillaginopsis panijus</i>	Tular danti	✓	✓	✓		
Family: Badidae	<i>Badis badis</i>	Napte koi		✓	✓	✓	
Family: Nandidae	<i>Nandus nandus</i>	Nodoi / Meni/ Bheda	✓	✓	✓	✓	
Order: Siluriformes							
Family: Bagridae	<i>Rita rita</i>	Rita	✓	✓	✓	✓	✓
Family: Siluridae	<i>Ompok pabda</i>	Pabda		✓	✓		
	<i>Ompok pabo</i>	Pabda catfish	✓			✓	
Family: Sisoridae	<i>Bagarius bagarius</i>	Baghair	✓	✓			
Family: Bagridae	<i>Mystus gulio</i>	Nuna-tengra	✓	✓	✓	✓	
	<i>Sperata seenghala</i>	Air	✓	✓	✓	✓	
	<i>Mystus vittatus</i>	Tengra	✓	✓	✓	✓	✓
Family: Heteropneustidae	<i>Heteropneustes fossilis</i>	Shingi	✓	✓	✓	✓	✓
Family: Erethistidae	<i>Pseudolaguvia ribeiroi</i>	Kani tengra		✓	✓	✓	
Family: Siluridae	<i>Wallago attu</i>	Boal		✓	✓		✓
	<i>Ompok bimaculatus</i>	Kani pabda	✓	✓		✓	
	<i>Ompok pabda</i>	Madhu pabda	✓	✓			

Table 1: Continued

Family: Pangasiidae	<i>Pangasius pangasius</i>	Pangas	✓	✓	✓	✓	✓
Order: Cypriniformes							
Family: Cyprinidae	<i>Labeo rohita</i>	Rui	✓	✓	✓	✓	✓
	<i>Labeo boggut</i>	Ghonia	✓	✓	✓	✓	✓
	<i>Labeo calbasu</i>	Kalibaus	✓	✓	✓	✓	✓
	<i>Puntius ticto</i>	Tit punti	✓	✓	✓	✓	✓
	<i>Puntius terio</i>	Teri punti	✓	✓	✓	✓	✓
	<i>Labeo bata</i>	Bata		✓	✓	✓	
	<i>Puntius chola</i>	Punti	✓	✓	✓	✓	✓
	<i>Puntius conchonius</i>	Kanchan punti	✓	✓	✓	✓	✓
	<i>Puntius guganio</i>	Mola punti	✓	✓	✓	✓	✓
	<i>Cirrhinus cirrhosus</i>	Mrigal	✓	✓	✓	✓	✓
	<i>Rasbora daniconius</i>	Darkina	✓	✓	✓	✓	✓
	<i>Puntius puntio</i>	Punti	✓	✓	✓	✓	✓
Family: Cobitidae	<i>Botia dario</i>	Bou mach		✓		✓	
Order: Tetraodontiformes							
Family: Tetraodontidae	<i>Tetraodon cutcutia</i>	Tepa	✓	✓	✓		
	<i>Tetraodon fluviatilis</i>	Potka	✓	✓	✓	✓	✓

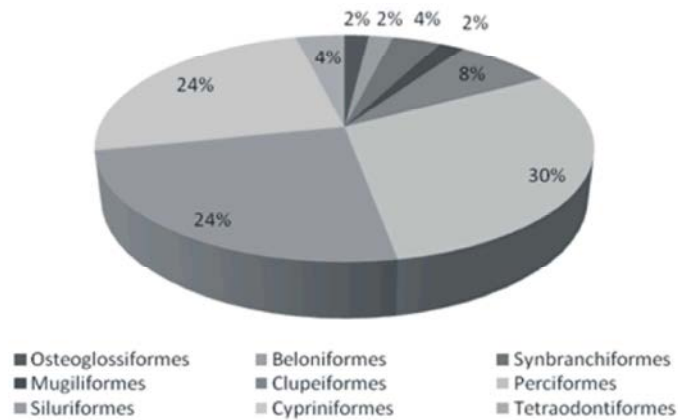


Fig. 2: Composition of different orders at Lohalia River

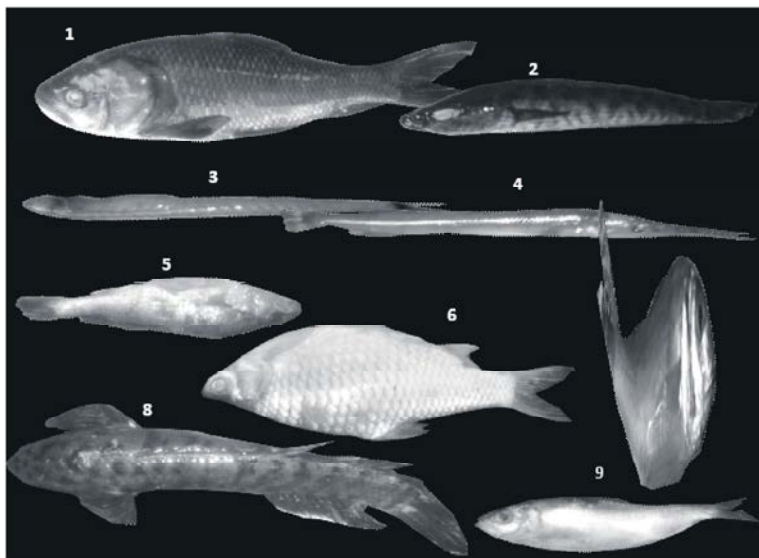


Fig. 3: A plate on some important fish species. 1) *Catla catla*, 2) *Channa punctata*, 3) *Oxyurichthys microlepis*, 4) *Xenentodon cancila*, 5) *Johnius argentatus*, 6) *Puntius puntio*, 7) *Johnius diacanthus*, 8) *Channa striata* and 9) *Gudusia chapra*

DISCUSSION

Present study found 53 species under 9 orders and 26 families at Lohalia River of Patuakhali. Findings of the present study indicate that Lohalia River supports a wide variety of fish species as a local riverine ecosystem which is contributing in meeting local fish protein demand as well as national supply. Hosain *et al.* [14] found 53 species from Meghna River estuary which is similar to the present study. Hossain *et al.* [15] also found 128 species belonging to 12 orders and 35 families from flood plain area of greater Noakhali which is around three times more than the findings of the present study. It can be happen due to selection of extensive study area and favorable environmental parameters for survival of fish species. Hossain *et al.* [12] reported about 161 species collected by different types of net from Naaf river estuary. Kamal and Nabi *et al.* [16, 17] identified 48, 76, 46 and 45 finfish species from Chittagong coast, Moheshkhali Channel, Karnaphulli river estuary and Bakkhali estuary respectively. Rahman [18] compiled a list of 265 species of freshwater fishes belonging to 154 genera and 55 families from Bangladesh. Bhuiyan [19] gave an account of 71 species of freshwater fishes belonging 45 genera and 25 families which was collected from Dhaka. Bhuiyan *et al.* [20] listed 133 species freshwater fishes belonging to 73 genera, 32 families, 12 orders and 2 classes from different parts of Rajshahi district which are similar to present study.

Besides providing protein supply, fisheries resources at Lohalia River also supports livelihood of local community. Local community use river water for domestic uses, bathing and irrigation purposes. Continuous increase of human population is creating extensive fishing pressure which causes declining of fisheries biodiversity at Lohalia River. Proper management strategies must be applied with an integrated approach of government, researchers, NGOs and donors to save the fisheries diversity of Lohalia River.

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