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ORIGINAL ARTICLE

Small indigenous freshwater fish faunal diversity of Belda and its surroundings

Bidisha Paul[1], Angsuman Chanda[2*]

[1]Research fellow under UGC Project, Raja N. L. Khan Women's College, Midnapore, Paschim Medinipur, WB.
[2]P.G. Dept. of Zoology, Raja N. L. Khan Women's College, Midnapore, Paschim Medinipur, WB.

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ABSTRACT

Small indigenous freshwater fish are often an important ingredient in the diet of village people who live in the proximity of freshwater bodies. Word 'Indigenous' means the originating in and characteristic of a particular region or country & native area. Paschim Medinipur is a districts having 29 blocks, among which Belda is located in Narayangarh block. This block is about 70 km North from Bay of Bengal. Therefore, it represents only it's freshwater indigenous fish resources. In the present study, different rivers and water bodies of Belda and its surroundings have been surveyed thoroughly for natural small indigenous fish diversity. A total number of 44 indigenous freshwater fish species belonging to 33 genera, 18 families and 7 order were collected and identified according to the existing literature, during the survey period. Among all the collected specimens family Cyprinidae shows maximum number of species followed by Ambassidae, Channidae, Mastacembelidae, Bagridae and Gobiidae etc. At the order level Perciformes shows the maximum diversity in the study area. Present study shows the IUCN status of icthyofauna of the study region. A good number of indigenous fishes of the study area are under threat due to eco - destruction of aquasystem and need to be restored by appropriate strategy of conservation.

INTRODUCTION

Belda and it's surroundings is an Agro industrial zone of Paschim Medinipur district**.** Located at 22°05′N 87°21′E22.08°N 87.35°E. It has an average elevation of 12 metres (42 feet). The *gram panchayat*s Belda–I and Belda–II are located in the Narayangarh community development (CD) block in the Kharagpur subdivision of Paschim Medinipur district. Belda is the headquarters of the Narayangarh CD block. Narayangarh block is surrounded by 7 blocks, namely in north Kharagpur I and Kharagpur II block, in south Dantan I and Dantan II, in east Pingla and Sabong and in west Keshiary.

In West Bengal 171 freshwater fish species was reported by Sen, 1992. After few years there were a wide change in number of fish species has been reported fom this region. Mishra et al., 2003 studied on the freshwater fishes of Midnapur, Bankura and Hooghly districts. Barman, R.P. 2007 recorded 239 freshwater species belonging to 147 genera, 49 families and 15 order. 70 indigenous ornamental fish species belonging to 45 genera, 30 families and 9 orders were reported by Basu et al. (2012).Till there were a few works on freshwater fishes has been reported from West Bengal . All of these works are mostly based on indigenous ornamental freshwater fishes. But works on small indigenous freshwater fishes of West Bengal are very poor. So, the record of freshwater fish fauna of Paschim Medinipur is very poor. From this region only the work of Bhakta, J. N. and Bandyopadhyay, P. K. 2008 was reported, but their study area was restricted to Ramnagar, Purba Medinipur. Therefore, present work is the major attempt towards the recording of small indigenous freshwater fish fauna of Belda and its surroundings.

***Correspondence to:**
Dr. Angsuman Chanda, Assistant Proffessor, P.G. Dept. of Zoology, Raja N. L. Khan Women's College, Midnapore, Paschim Medinipur, WB. E.mail : angsumanchanda@yahoo.in

MATERIALS

Present study is mainly based on the specimen collected from the study area. Specimen were collected from different river, pond, bill by different traditional fishing methods throughout the study area during May 2013 to August 2015.

METHODS:

Collection of fish fauna was done at early morning and specimens were immediately preserved in 2-4% formaldehyde and were brought to laboratory in preserved condition. Then fish specimen were washed and finally preserved in 4-6% formaldehyde. Body parts of the specimen have been dissected and studied for identification. List of species, genera, family and order name and also their distribution, threatened status have been furnished. In addition to this an attempt has been made to include a comprehensive coverage of references in the end of this article.

MEASUREMENT:

All Measurement of fish were made in metric system as followed by Talwar-Jhingran,1991; Jayaram, K.C,1999; Jayaram, K.C. 2010 and www.fishbase.org.ver 08/2015.

RESULTS:

Total number of 44 indigenous fish species belonging to 33 genera, 18 families and 7 order were identified during the survey period (May 2013 to August 2015) from different area of Belda and its surroundings (table-1).

DISCUSSION:

Very less attention has been focused on the freshwater small indigenous fishes and their role in aquaculture, nutritional value, biological significance, breeding status, and conservation. Present study reveals that out of 44 small indigenous freshwater fishes of the study area 4 species namely *Oreochromis mossambicus* (Peters,1852), *Parambassis lala* (Hamilton,1822), *Ompok pabo*

(Hamilton,1822) and *Wallago attu* (Bloch & Schneider, 1801) are Near Threatened.

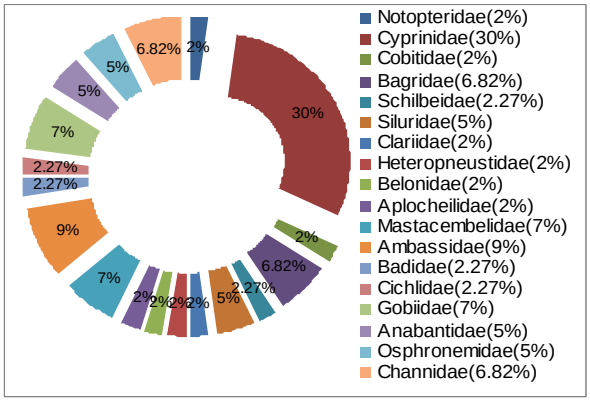

Fig. 1 Family level diversity assessment of fish fauna in Belda and its surroundings, found during the study

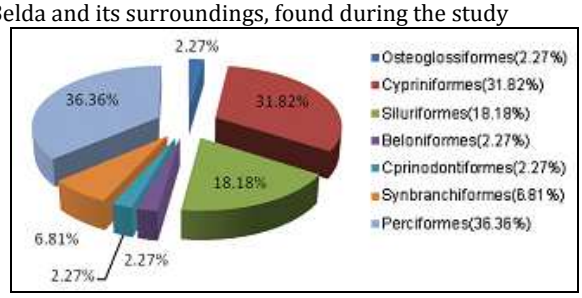

Fig. 2 Order level diversity assessment of fish fauna in Belda and its surroundings, during the study.

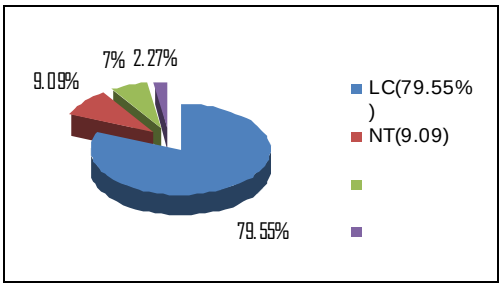

Fig.3 Conservational status assessment of fish Species during the study in Belda and its surroundings (Acc. to IUCN ver.08/2015)

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CONFLICT OF INTEREST: None

Table-1: Distribution of Fish fauna and their IUCN category from Belda and its surroundings

Name of the order	Name of the family	Name of the species	Registration No.	IUCNVersion 8/2015 & NBFGR (2010)	Distribution in Belda and its Surroundings (blockwise)
Osteoglossiformes	Notopteridae	*Notopterus notopterus* (Pallas,1769)	RNLK-16	LC	All blocks
Cypriniformes	Cyprinidae	*Amblypharyngodon mola* (Hamilton,1822)	RNLK-1	LC	All blocks
		Cabdio morar (Hamilton,1822)	RNLK-32	LC	Keshiary, Sabong
		Danio rerio (Hamilton,1822)	RNLK-22	LC	Keshiary, Dantan I, Dantan II
		Esomus danricus (Hamilton,1822)	RNLK-18	LC	All blocks
		Laubuca laubuca (Hamilton,1822)	RNLK-33	LC	Keshiary, Dantan I
		Osteobrama cotio cotio (Hamilton,1822)	RNLK-27	LC	Keshiary
		Puntius chola (Hamilton,1822)	RNLK-15	LC & VU	Pingla, Sabong, Dantan II
		Pethia ticto (Hamilton,1822)	RNLK-21	LC	Pingla, Sabong, Dantan II, Dantan I, KGP I
		Puntius sophore (Hamilton,1822)	RNLK-2	LC	All blocks
		Rasbora daniconius (Hamilton,1822)	RNLK-54	LC	Narayangarh
		Salmophasia bacaila (Hamilton,1822)	RNLK-17	LC	Narayangarh
		Salmophasia phulo (Hamilton,1822)	RNLK-28	LC	Pingla
		Salmophasia sardinella (Valenciennes, 1844)	RNLK-41	LC	Narayangarh, Sabong

	Cobitidae	*Lepidocephalichthys guntea* (Hamilton,1822)	RNLK-3	LC	All blocks
Siluriformes	Bagridae	*Mystus bleekeri* (Day,1877)	RNLK-26	LC	Pingla, Dantan I
		Mystus cavasius (Hamilton,1822)	RNLK-34	LC	Pingla, Sabong
		Mystus tengara (Hamilton,1822)	RNLK-4	LC	Narayangarh, Sabong, Pingla, KGP I
	Schilbeidae	*Neotropius atherinoides (Bloch,1794)*	RNLK-40	LC	Dantan I, Dantan II
	Siluridae	*Wallago attu* (Bloch & Schneider, 1801)	RNLK-5	NT	Pingla, Sabong
		Ompok pabo (Hamilton,1822)	RNLK-38	NT & EN	Narayangarh
	Clariidae	*Clarias batrachus* (Linnaeus,1758)	RNLK-6	LC & VU	Sabong, Pingla
	Heteropneustidae	*Heteropneustes fossils (Bloch,1794)*	RNLK-23	LC & VU	Pingla , Sabong, Dantan II
Beloniformes	Belonidae	*Xenentodon cancila* (Hamilton,1822)	RNLK-36	LC	Sabong , Keshiary, Narayangarh
Cyprinodontiformes	Aplocheilidae	*Aplocheilus panchax* (Hamilton,1822)	RNLK-7	LC	Keshiary, Sabong, Dantan I, KGP I, KGP II
Synbranchiformes	Mastacembelidae	*Macrognathus aral* (Bloch &Schneider,1801)	RNLK-24	LC	Keshiary
		Macrognathus pancalus (Hamilton,1822)	RNLK-13	LC	All blocks
		Mastacembelus armatus (Lacepède, 1800)	RNLK-31	LC	Keshiary
Perciformes	Ambassidae	*Chanda nama* (Hamilton,1822)	RNLK-8	LC	All blocks
		Parambassis baculis (Hamilton,1822)	RNLK-39	LC	Sabong
		Parambassis lala (Hamilton,1822)	RNLK-25	NT	Keshiary, Sabong , Dantan II, Narayangarh, Dantan I
		Parambassis ranga (Hamilton, 1822)	RNLK-19	LC	Pingla
	Badidae	*Badis badis* (Hamilton,1822)	RNLK-35	LC & VU	Narayangarh, Pingla , Sabong,
	Cichlidae	*Oreochromis mossambicus* (Peters,1852)	RNLK-12	NT	Sabong, Pingla , Dantan I
	Gobiidae	*Glossogobius giuris* (Hamilton,1822)	RNLK-9	LC	Narayangarh, Pingla,
		Apocryptes bato (Hamilton, 1822)	RNLK-55	NE	Pingla , Sabong
		Brachyamblyopus brachysoma (Bleeker, 1854)	RNLK-56	NE	Sabong
	Anabantidae	*Anabas testudineus* (Bloch,1792)	RNLK-37	DD &VU	Pingla,
		Anabas cobojius (Hamilton,1822)	RNLK-10	DD	All blocks
	Osphronemidae	*Trichogaster fasciata* (Bloch & Schneider,1801)	RNLK-14	LC	All blocks
		Trichogaster lalius (Hamilton,1822)	RNLK-30	LC	Pingla, Keshiary
	Channidae	*Channa punctata* (Bloch, 1793)	RNLK-20	LC	Keshiary , Dantan I
		Channa gachua (Hamilton, 1822)	RNLK-11	LC	All blocks
		Channa orientalis (Bloch & Schneider,1801)	RNLK-29	NE & VU	Narayangarh

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