

Ornamental Fishes of Coochbehar District of West Bengal, India

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Abstract: A study was carried out during 2013 – 2016 to record the status of present ornamental fish diversity from Coochbehar district of West Bengal, India. One hundred and five species belonging to nine order and 29 families were recorded during the study. It has been recorded that 52 species have ornamental value of which 31 are consumed by the local people as food and other 21 species have only the ornamental importance. After extensive ex-situ study in the laboratory 25 species were recorded as the potential ornamental fishes and other 27 were excluded because of various factors that need extensive study to acclimatize them for the aquarium habitat. 12 exotic fishes were also recorded during the survey from the Coochbehar district of which 3 were ornamental fishes.

Keywords: Coochbehar, fish, ornamental, diversity

1. Introduction

The Coochbehar District is situated in the foothills of the Eastern Himalayas in West Bengal India. The district lies between 25°57'47" & 26°36'20" North Latitude [1]. It is located at the North-Eastern part of West Bengal; bounded by the districts of Alipurduar in the north and Jalpaiguri in the north-west, state of Assam in the east (bounded by the districts of Kokrajhar & Dhubri of Assam) and the International Border in the form of Indo-Bangladesh boundary in the south-west, south and south-east. The Area of the district is 3387 sq. Km, which contributes 3.82% of the land mass of the State of West Bengal [1].

There are few researchers published their findings of ornamental fish diversities of various waterbodies of Coochbehar district. Such as Das (2015) recorded 53 ornamental out of 105 recorded fish species from the total stretches of Torsa river flowing through West Bengal, Dey *et al.* (2015) reported 58 ornamental out of total recorded 138 fishes from Kaljani river flowing through Coochbehar, Debnath (2015) recorded 46 ornamental out of 73 recorded fishes from Gadadhar river flowing through the district.

Basu *et al.* (2012) reported 41 ornamental fish species from Coochbehar district in a report of total ornamental fishes of West Bengal. Baro *et al.* (2014) recorded 49 ornamental fishes from the Sankosh river which is flowing through the border of the Coochbehar district.

Dey and Sarkar (2015) recorded 55 ornamental fishes out of 107 recorded species from Torsa river flowing through Coochbehar, Dey *et al.* (2015) reported 46 ornamental fishes from Ghargharia river of Coochbehar district,

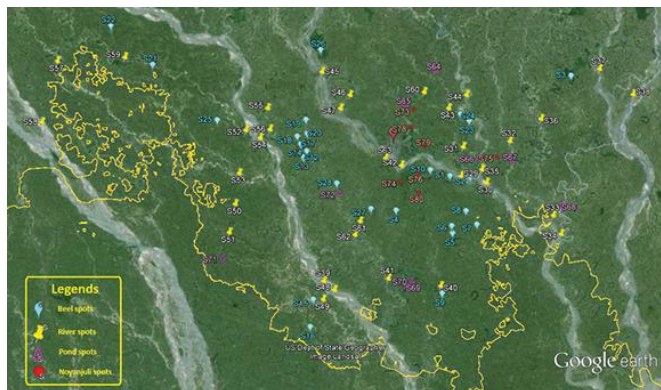
Again in a study Sarkar *et al.* (2015) recorded 24 and 26 ornamental fish species from the river Torsa and Ghargharia respectively.

At this juncture the author has conducted a study in association with the West Bengal Biodiversity Board and UGC (ERO) to document the diversity of fresh water fishes of Coochbehar district during 2013 – 2016. This article is the report on the survey and study of the potentiality of the recorded ornamental fishes from Coochbehar district of West Bengal, India.

2. Materials and Methods

Study was conducted at 28 Beel spots, 35 river spots (in major rivers flowing through the district) and 17 different Pond & Nayanjuli spots throughout the district during a period of 2013 – 2016. Location of the survey spots in Google earth map are presented in Plate 1. Stress was given to the interview of the local knowledgeable fisherman about the selection of the spots. Conventional different types of fishing gears e.g. gill nets, cast nets, dip nets, drag nets etc. were used and expert fishermen were engaged to capture the fishes from various spots. After capturing routine photography and proper preservation (Bagra and Das, 2010) were followed as per conventional method. Identification by morphometric and meristic characters was carried out by consulting the literature of Talwar and Jhingran (1991), Jayaram (1999), Bhattacharyya (2007) and Chanda (2013). For valid scientific name Fish Base website and to evaluate conservation status and trends IUCN websites were surfed.

PLATE 1: Location of the survey spots in Geo Satellite Map (Courtesy: Google Earth).



3. Result and Discussion

In our observation it is noted that 52 fish species have ornamental values out of total recorded 105 species from the district of Cooch Behar of West Bengal, India. Among these 31 species under 6 order and 12 family are used by the local people as food and other 21 fish species under 6 order and 10 family do not have potential food value. List of all 52 species with their abundance status and IUCN status and trends are presented in Table 1.

The result is corroborating with findings of other surveyor as discussed in the review section of the article.

Table 1: Check list of potential ornamental fishes recorded from studied spots of Cooch Behar

Scientific name	Common / Local name	Abundance recorded	Economic importance	IUCN Status (ver 3.1, 2015)	IUCN Trend
ORDER: OSTEOGLOSSIFORMES: FAMILY: OPHICHTHIDAE					
<i>Pisodonophis boro</i> (Hamilton, 1822)	Chei balu	III	Or	LC	UK
ORDER: CYPRINIFORMES: FAMILY: CYPRINIDAE : SUB FAMILY: Danioninae					
<i>Amblypharyngodon microlepis</i> (Bleeker, 1853)	Mourla	II	Fd/Or	LC	UK
<i>Rasbora daniconius</i> (Hamilton, 1822)	Darkina / Dankani / Dadhika	I	Fd/Or	LC	UK
<i>Esomus danricus</i> (Hamilton, 1822)	Darika	II	Fd/Or	LC	ST
<i>Devario devario</i> (Hamilton, 1822)	Chapling / Debra / Chebli / Chapchata	II	Fd/Or	LC	UK
<i>Brachydanio rerio</i> (Hamilton, 1822)	Anju / Zebra fish	II	Or	NA	UK
<i>Bengala elanga</i> (Hamilton, 1822)	Darkina / Elanga	II	Or	NA	UK
SUB FAMILY: Barbinae					
<i>Puntius sophore</i> (Hamilton, 1822)	Deshi Puthi / Jat Puthi	II	Fd/Or	LC	UK
<i>Puntius conchonius</i> (Hamilton, 1822)	Kanchan Puthi	II	Fd/Or	LC	UK
<i>Puntius gelius</i> (Hamilton, 1822)	Golden barb / Teli Moa / Tepi Mola	III	Or	LC	UK
<i>Puntius terio</i> (Hamilton, 1822)	Teri-puthi	I	Fd/Or	LC	UK
<i>Puntius ticto</i> (Hamilton, 1822)	Tita-puthi / Tit-puthi	II	Fd/Or	LC	UK
<i>Puntius phutunio</i> (Hamilton, 1822)	Spottedsail barb / Phutuni Puti	III	Or	LC	UK
<i>Oreochthys crenuchoides</i> (Schafer, 2009)	Pakhna Puti	IV	Or	DD	UK
<i>Oreochthys cosuatis</i> (Hamilton, 1822)	Bhuti Puti	IV	Or	LC	UK
FAMILY: PSILORHYNCHIDAE					
<i>Psilorhynchus sucatio</i> (Hamilton, 1822)	Baluchata / Nou-chata / Balitita/ Kakshi	I	Fd/Or	LC	ST
<i>Psilorhynchus balitora</i> (Hamilton, 1822)	Baluchata / Titari	I	Fd/Or	LC	UK
FAMILY: BALITIRIDAE: SUB FAMILY: Nemacheilinae					
<i>Acanthocobitis botia</i> (Hamilton, 1822)	Ghar-poia / Khorkey	I	Fd/Or	LC	D
FAMILY: COBITIDAE: SUB FAMILY: Cobitinae					
<i>Lepidocephalichthys guntea</i> (Hamilton, 1822)	Poia / Poa	I	Fd/Or	LC	UK
<i>Somileptes gongota</i> (Hamilton, 1822)	Guttum /Gongota Loach	II	Fd/Or	NA	UK
<i>Acanthocobitis botia</i> (Hamilton, 1822)	Poia	II	Fd/Or	LC	D
<i>Schistura beavani</i> (Gunther, 1868)	Poia	II	Fd/Or	LC	UK
SUB FAMILY: Botiinae					
<i>Botia dario</i> (Hamilton, 1822)	Botya / Bou Mach / Betrangi	III	Fd/Or	LC	UK
<i>Botia lohachata</i> (Chaudhuri, 1912)	Ghutur Poa / Baghlata	III	Fd/Or	NA	UK
ORDER: SILURIFORMES: FAMILY: BAGRIDAE					
I. BATASIO TENGANA (HAMILTON, 1822)	Bhutani Tengra	III	Fd/Or	LC	UK
<i>Mystus vittatus</i> (Bloch, 1794)	Tengra	II	Fd/Or	LC	D
<i>Mystus tengra</i> (Hamilton, 1822)	Godhuli Tengra	II	Fd/Or	LC	UK
<i>Mystus menoda</i> (Hamilton, 1822)	Ghora Kanta	III	Fd/Or	NA	UK
<i>Rita rita</i> (Hamilton, 1822)	Rita	III	Fd/Or	LC	D
FAMILY: AMBLYCIPITIDAE					
<i>Amblyceps mangois</i> (Hamilton, 1822)	Jal-Singi	IV	Or	LC	UK
FAMILY: SISORIDAE					
<i>Glyptothorax telchitta</i> (Hamilton, 1822)	Telchitta	IV	Or	LC	UK
<i>Glyptothorax horai</i> (Fowler, 1934)	Ailsa / Kala kabri	III	Fd/Or	LC	UK
<i>Laguvia shawi</i> (Hora, 1921)	Khat Khuta Tengra	III	Or	NA	UK

II. GOGANGRA VIRIDESCENS (HAMILTON, 1822)	Kea-Kanta (Kaoua Tengra)	I	Fd/Or	LC	UK
<i>Erethistes pusillus</i> (Muller & Troschel, 1849)	Tarkanta / konakanta	III	Or	LC	UK
<i>Conta conta</i> (Hamilton, 1822)	Tiktiki Mach	IV	Or	DD	UK
FAMILY: CHACIDAE					
<i>Chaca chaca</i> (Hamilton, 1822)	Chega	III	Or	NA	UK
ORDER: CYPRINODONTIFORMES: FAMILY: APLOCHEILIDAE					
<i>Aplocheilus panchax</i> (Hamilton, 1822)	Te-chokha	II	Or	LC	UK
ORDER: BELONIFORMES: FAMILY: BELONIDAE					
<i>Xenentodon cancila</i> (Hamilton, 1822)	Kankley / Kakley / Khata	II	Fd/Or	LC	UK
FAMILY: SYNGNATHIDAE					
<i>Microphis deocata</i> (Hamilton, 1822)	Nol mach / Gharial mach	IV	Or	NT	UK
ORDER: SYNBRANCHIFORMES: FAMILY: MASTACEMBELIDAE					
<i>Mastacembelus armatus</i> (Lacepede, 1800)	Bam /Bain	II	Fd/Or	LC	UK
<i>Macrogathus aculeatus</i> (Bloch, 1786)	Guchi / Gota	II	Fd/Or	NA	UK
<i>Macrogathus pancalus</i> (Hamilton, 1822)	Pankal / Pakal / Gota	II	Fd/Or	LC	UK
ORDER: PERCIFORMES: FAMILY: CHANNIDAE					
<i>Channa orientalis</i> (Bloch & Schneider, 1801)	Chang	II	Fd/Or	NA	UK
FAMILY: AMBASSIDAE					
<i>Chanda nama</i> (Hamilton, 1822)	Nama Chanda	II	Or	LC	D
<i>Parambassis ranga</i> (Hamilton, 1822)	Ranga Chanda / Lal-chanda	II	Or	LC	ST
<i>Pseudambassis baculis</i> (Hamilton, 1822)	Chanda	II	Or	LC	D
FAMILY: NANDIDAE: SUB FAMILY: Badinae					
<i>Badis badis</i> (Hamilton, 1822)	Napit Mach / Bot Koi / Naoa	III	Or	LC	UK
FAMILY: GOBIIDAE: SUB FAMILY: Gobiinae					
<i>Glossogobius giuris</i> (Hamilton, 1822)	Balia / Beley	II	Fd/Or	LC	UK
FAMILY: OSPHRONEMIDAE: SUB FAMILY: Luciocephalinae					
<i>Trichogaster fasciatus</i> (Bloch & Schneider, 1801)	Khalisha / Kholsha	I	Fd/Or	NA	UK
<i>Trichogaster labiosa</i> (Day, 1877)	Ranga-kholisha / Kholsha	I	Or	NA	UK
<i>Trichogaster chuna</i> (Hamilton, 1822)	Chuna kholisha (Dhutra)	III	Or	LC	UK
ORDER: TETRAODONTIFORMES: FAMILY: TETRAODONTIDAE					
<i>Tetraodon cutcutia</i> (Hamilton, 1822)	Tepa / Tayapa	II	Fd/Or	LC	UK

Note:

Abundance category: I= Very common; II= Common; III= Rare; IV= Very rare

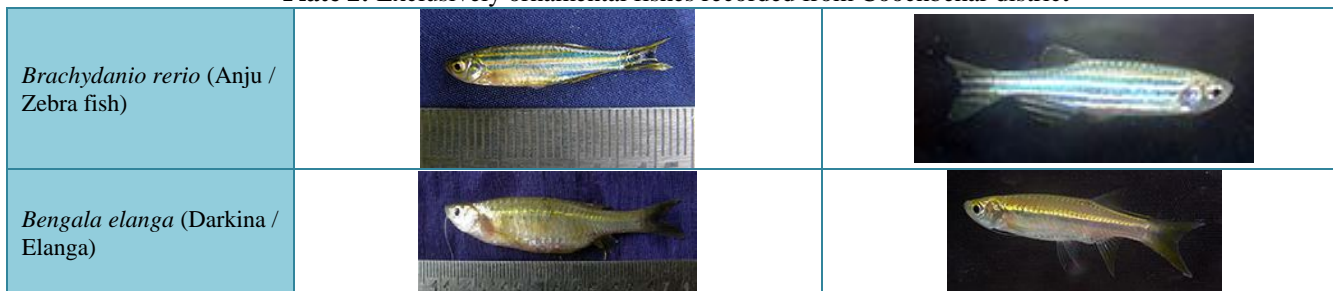
Economic importance: Fd=Food fish; Or=Ornamental fish.
















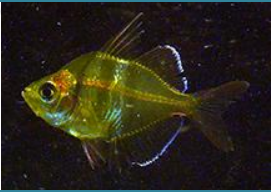




Status & Trend: LC=Least Concern; NT= Near Threatened; EN=Endangered; NA= Not assessed; VU=Vulnerable; DD= Data Deficient; D=Decreasing; UK=Unknown; ST=Stable























After extensive study in the laboratory supplying commercially available feed, it is observed that 25 species has the potentiality to be considered as exclusively ornamental considering their colour, survivability at artificial environment and also their considerable body size. All these 25 species are tabulated in Plate 2 along with their photographs. Out of these 25 species 14 are considered as ornamental and other 11 are used as ornamental as well as food by the local people. Other 27 species could be excluded from ornamental category because of their huge body size, length, feeding habit, feed demand as well body texture and colour.

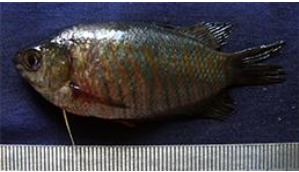

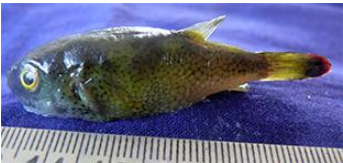

Our survey recorded 12 exotic fishes from the Coochbehar district of West Bengal during the study of which 9 are having food value. *Gambusia affinis* were recorded from the drainage system of Cooch Behar town which has ornamental value. The Red-bellied pacu or Rupchanda (*Piaractus brachypomus*) and Crocodile fish (*Hypostomus guacari*) also recorded from the wetlands of the district. According to fishermen the seedlings of *Piaractus brachypomus* are illegally transported from neighboring country Bangladesh for commercial purposes especially to use as food and *Hypostomus guacari* were released to few wetlands of the district by the aquarium maintaining people because of their over growth in household system.

Plate 2: Exclusively ornamental fishes recorded from Coochbehar district



<p><i>Puntius gelius</i> (Golden barb / Teli Mola / Tepi Mola)</p>		
<p><i>Puntius phutunio</i> (Spottedsail barb / Phutuni Puti)</p>		
<p><i>Oreochthys crenuchoides</i> (Pakhna Puti)</p>		
<p><i>Oreochthys cosuatis</i> (Bhuti Puti)</p>		
<p><i>Aplocheilus panchax</i> (Te-chokha)</p>		
<p><i>Microphis deocata</i> (Nol mach / Gharial mach)</p>		
<p><i>Chanda nama</i> (Nama Chanda)</p>		
<p><i>Parambassis ranga</i> (Ranga Chanda / Lal chanda)</p>		
<p><i>Pseudambassis baculis</i> (Chanda)</p>		
<p><i>Badis badis</i> (Napit Mach / Bot Koi / Naoa)</p>		

<p><i>Trichogaster labiosa</i> (Ranga-kholisha / Kholisa)</p>		
<p><i>Trichogaster chuna</i> (Chuna kholisha / Dhutra)</p>		
<p><i>Rasbora daniconius</i> (Darkina / Dankani / Dadhika)</p>		
<p><i>Esomus danricus</i> (Darika)</p>		
<p><i>Devario devario</i> (Chapling / Debra / Chebli / Chapchata)</p>		
<p><i>Puntius sophore</i> (Deshi Puthi / Jat Puthi)</p>		
<p><i>Puntius conchonius</i> (Kanchan Puthi)</p>		
<p><i>Botia dario</i> (Botya / Bou Mach / Betrangi)</p>		
<p><i>Botia lohachata</i> (Ghutur Poa / Baghlata)</p>		
<p><i>Mystus vittatus</i> (Tengra)</p>		
<p><i>Mystus tengra</i> (Godhuli Tengra)</p>		

<i>Trichogaster fasciatus</i> (Khalisha / Kholsa)		
<i>Tetraodon cutcutia</i> (Tepa / Tayapa)		

4. Conclusion

Out of recorded total 105 fishes from 80 different spots of various wetlands of Coochbehar district of West Bengal, 25 species has potential to be considered as ornamental fishes. Out of these, 11 were used by the local people as food fish which need special attention about their diversity status in regular interval. 27 species initially considered as ornamental (as reported by many surveyor of the district) has been excluded because of their low survivability rate in artificial environment, feeding habit, food selection etc. needs further attention about their acclimatization in aquarium condition.

5. Acknowledgement

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