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# Ornamental Fishes Recorded from Terai region of West Bengal, India

**Debashis Das**

Department of Zoology, Tufanganj Mahavidyalaya, Coochbehar-736160, WB, India

**Abstract:** ***In search of ornamental fishes from the Terai region of West Bengal, an extensive survey was conducted from 2013 to 2016 at the Himalayan foothills from Sonkoshkhola in Alipurduar district to Panitanki in Darjeeling district. Study recorded a total of 128 species of fishes of which 116 are indigenous and 12 are exotic. A total of 58 species of ornamental fishes belonging to 8 orders and 21 families were recorded and documented from the various rivers and lakes of the region. Cypriniformes recorded a highest of 29 species, Siluriformes recorded 12 species and Perciformes recorded 10 species out of the total ornamental fishes recorded from the studied region.***

**Keywords:** Terai, fish, ornamental, diversity

## 1. Introduction

The Terai region of West Bengal is the foothills of the Himalaya with dense forest to the North continuous with tea belt and patch of cultivable land to the south. This region is intersected by a number of streams most of which originates from the hills of Bhutan and Sikkim to the north of this region. These rivers swell up enormously during rains and almost dry up in winter. As the tectonic plate of the Brahmaputra river basin tends towards the South-east, therefore most of these rivers enter Bangladesh after flowing their courses in terai region of West Bengal of India. Many marshes, beels, ponds and small pools are present at southern part of Terai region. These wetlands are locally called Dhara, Chhara, Kura, Beels, Doba etc. Luxuriant growths of floating and submerged plants are found in these wetlands along with varieties of planktons and diverse type of fishes.

Many authors published their findings on the ornamental fish recorded from various rivers of North Bengal such as Das (2015) recorded 53 ornamental from Torsa river [1], Dey *et al*. (2015) reported 58 ornamental from Kaljani river [2], Debnath (2015) recorded 46 ornamental fishes from Gadadhar river [3]. Baro *et al*. (2014) recorded 49 ornamental fishes from the Sankosh river [4]. Dey and Sarkar (2015) recorded 55 ornamental fishes from Torsa river [5], Dey *et al*. (2015) reported 46 ornamental fishes from Ghargharia river [6]. Again in a study Sarkar *et al*. (2015) recorded 24 and 26 ornamental fish species from the river Torsa and Ghargharia respectively [7].

Basu *et al*. (2012) reported 41 ornamental fish species from Coochbehar district in a report of total ornamental fishes of West Bengal [8]. Paul and Das (2016) recorded 25 potential ornamental fishes from the Coochbehar district of West Bengal [9].

At this juncture the author has conducted an extensive survey to record the ornamental fishes from the terai region of West Bengal in association with the West Bengal Biodiversity Board and UGC (ERO) to document the diversity of fresh water ornamental fishes of sub-Himalayan terai region of West Bengal during 2013 – 2016.

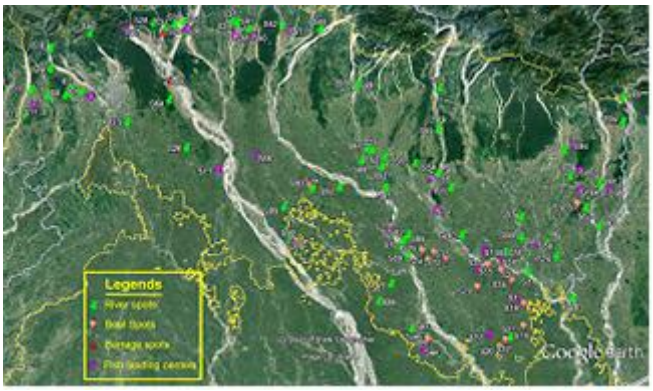



**Plate 1:** Location of the survey spots in Geo Satellite Map (Courtesy: Google Earth).

## 2. Materials and Methods

The study was conducted at 15 beel spots, 2 barrage spots, 63 river spots (in 50 major rivers flowing through the region) and 24 different fish landing centers throughout the region during a period of 2013 – 2016. Location of the survey spots in Google earth map are presented in Plate 1. GPS reading of the location spots were submitted to the ERO-UGC. Local knowledgeable fishermen were interviewed for the selection of the survey spots. Expert fishermen were engaged to capture the fishes from various spots using different types of fishing gears e.g. gill nets, cast nets, dip nets, drag nets etc.

After capturing, a routine documentation was performed using Nikon D7100 DSLR camera, followed by proper preservation using buffered formalin solution following the methods of Bagra and Das (2010) [10]. Collected fishes were identified by their morphometric and meristic characters by consulting the literature of Talwar and Jhingran (1991), Jayaram (1999), Bhattacharyya (2007) and Chanda (2013). Fish Base website was surfed for valid scientific name, and IUCN websites were surfed to evaluate conservation status.

## 3. Result and Discussion

After extensive study it has been noted that 58 fish species have ornamental values out of a total of 128 species recorded

from the sub-Himalayan terai region of West Bengal of India. A total of 17 species was recorded family Cyprinidae which is highest amongst ornamental fishes recorded from the studied region, out of which 9 belongs to sub-family Barbinae and 7 species from the sub-family Danioninae. Six species of ornamental fishes were recorded from the family Nemacheilidae under order Cypriniformes and 5 species recorded from the family Sisoridae under order Siluroformes from the sub-Himalayan terai region of West Bengal.

The result is apparently similar with findings of other researchers as noted in the review section of this article.

**Table 1:** Check list of ornamental fishes recorded from studied spots of Terai region of West Bengal

| Scientific name | Common / Local name | IUCN Status (ver 3.1:2016) |
|---|---|---|
| ORDER: OSTEOGLOSSIFORMES: FAMILY: OPHICHTHIDAE | | |
| *Pisodonophis boro* (Hamilton, 1822) | Chei balu | LC |
| ORDER: CYPRINIFORMES: FAMILY: CYPRINIDAE: SUB FAMILY: Danioninae | | |
| *Amblypharyngodon mola* (Hamilton, 1822) | Maurala | LC |
| *Rasbora daniconius* (Hamilton, 1822) | Darkina / Dankani / Dadhika | LC |
| *Devario devario* (Hamilton, 1822) | Chapling / Chebli / Chapchata | LC |
| *Devario aequipinnatus* (McClelland, 1839) | Chapling | LC |
| *Danio dangila* (Hamilton, 1822) | Chapling | LC |
| *Brachydanio rerio* (Hamilton, 1822) | Anju / Zebra fish | NA |
| *Bengala elanga* (Hamilton, 1822) | Darkina / Elanga | NA |
| SUB FAMILY: Barbinae | | |
| *Puntius sophore* (Hamilton, 1822) | Deshi Puthi / Jat Puthi | LC |
| *Puntius conchonius* (Hamilton, 1822) | Kanchan Puthi | LC |
| *Puntius gelius* (Hamilton, 1822) | Golden barb / Teli Moa / Tepi Mola | LC |
| *Puntius terio* (Hamilton, 1822) | Teri-puthi | LC |
| *Puntius ticto* (Hamilton, 1822) | Tita-puthi / Tit-puthi | LC |
| *Puntius phutunio* (Hamilton, 1822) | Spottedsail barb / Phutuni Puti | LC |
| *Systomus sarana* (Hamilton, 1822) | Sar-puthi / Saral-puthi | LC |
| *Oreichthys crenuchoides* (Schafer, 2009) | Pakhna Puti | DD |
| *Oreichthys cosuatis* (Hamilton, 1822) | Bhuti Puti | LC |
| SUB FAMILY: Garrinae | | |
| *Garra mcClellandi* (Jerdon, 1849) | Kusma | LC |
| FAMILY: PSILORHYNCHIDAE | | |
| *Psilorhynchus sucatio* (Hamilton, 1822) | Nou-chata / Balitita / Kakshi | LC |
| *Psilorhynchus balitora* (Hamilton, 1822) | Baluchata / Titari | LC |
| FAMILY: NEMACHEILIDAE | | |
| *Acanthocobitis botia* (Hamilton, 1822) | Ghar-poia / Khorkey | LC |
| *Nemacheilus corica* (Hamilton, 1822) | Kharika | LC |
| *Schistura beavani* (Gunther, 1868) | Poia | LC |
| *Schistura scaturigina* (McClelland, 1839) | Poia | LC |
| *Schistura multifasciatus* (Day, 1878) | Gharpoia | LC |
| *Schistura savona* (Hamilton, 1822) | Pahari poia | LC |
| FAMILY: COBITIDAE: SUB FAMILY: Cobitinae | | |
| *Lepidocephalichthys guntea* (Hamilton, 1822) | Poia / Poa | LC |
| *Somileptes gongota* (Hamilton, 1822) | Guttum /Gongota Loach | NA |
| SUB FAMILY: Botiinae | | |
| *Botia dario* (Hamilton, 1822) | Botya / Bou Mach / Betrangi | LC |
| *Botia lohachata* (Chaudhuri, 1912) | Ghutur Poa / Baghlata | NA |
| **ORDER: SILURIFORMES:** FAMILY: ERETHISTIDAE | | |
| *Pseudolaguvia ribeiroi* (Hora, 1921) | Batashi / Tinkata | LC |
| *Pseudolaguvia shawi* (Hora, 1921) | Batashi / Tinkata | LC |
| *Erethistoides montana* (Hora, 1950) | Bot Magur / Kutakanti / Kurkanti | DD |
| **FAMILY: BAGRIDAE** | | |
| *Batasio tengana* (Hamilton, 1822) | Bhutani Tengra | LC |
| FAMILY: AMBLYCIPITIDAE | | |
| *Amblyceps mangois* (Hamilton, 1822) | Jal-Singi | LC |
| FAMILY: OLYRIDAE | | |
| *Olyra longicaudata* (McClelland, 1842) | Bot-Singi | LC |
| FAMILY: SISORIDAE | | |
| *Nagra assamensis* (Sen & Biswas, 1994) | Ailsa / Ghora kanta | LC |
| *Glyptothorax telchitta* (Hamilton, 1822) | Telchitta | LC |
| *Gogangra viridescens* (Hamilton, 1822) | Kaoua Tengra / Kea-Kanta | LC |
| *Hara jerdoni* (Day, 1870) | Tarkanta / konakanta | LC |
| *Conta conta* (Hamilton, 1822) | Tiktiki Mach | DD |

| | | |
|---|---|---|
| FAMILY: CHACIDAE | | |
| *Chaca chaca* (Hamilton, 1822) | Chega | NA |
| ***ORDER: CYPRINODONTIFORMES:*** FAMILY: APLOCHEILIDAE | | |
| *Aplocheilus panchax* (Hamilton, 1822) | Te-chokha | LC |
| ***ORDER: BELONIFORMES:*** FAMILY: BELONIDAE | | |
| *Xenentodon cancila* (Hamilton, 1822) | Kankley / Kakley / Khata | LC |
| FAMILY: SYNGNATHIDAE | | |
| *Microphis deocata* (Hamilton, 1822) | Nol mach / Gharial mach | NT |
| ***ORDER: SYNBRANCHIFORMES:*** FAMILY: MASTACEMBELIDAE | | |
| *Macrognathus aculeatus* (Bloch, 1786) | Guchi / Gota | NA |
| *Macrognathus pancalus* (Hamilton, 1822) | Pankal / Pakal / Gota | LC |
| ***ORDER: PERCIFORMES:*** FAMILY: CHANNIDAE | | |
| *Channa orientalis* (Bloch & Schneider, 1801) | Chang | NA |
| FAMILY: AMBASSIDAE | | |
| *Chanda nama* (Hamilton, 1822) | Nama Chanda | LC |
| *Parambassis ranga* (Hamilton, 1822) | Ranga Chanda / Lal Chanda | LC |
| *Pseudambassis baculis* (Hamilton, 1822) | Chanda | LC |
| FAMILY: NANDIDAE: SUB FAMILY: Nandinae | | |
| *Nandus nandus* (Hamilton, 1822) | Bheda / Meni | LC |
| SUB FAMILY: Badinae | | |
| *Badis badis* (Hamilton, 1822) | Napit Mach / Bot Koi / Naoa | LC |
| FAMILY: GOBIIDAE: SUB FAMILY: Gobiinae | | |
| *Glossogobius giuris* (Hamilton, 1822) | Balia / Beley | LC |
| FAMILY: OSPHRONEMIDAE: SUB FAMILY: Luciocephalinae | | |
| *Trichogaster fasciatus* (Bloch & Schneider, 1801) | Khalisha / Kholsa | NA |
| *Trichogaster labiosa* (Day, 1877) | Ranga-kholisha / Kholsa | NA |
| *Trichogaster chuna* (Hamilton, 1822) | Chuna kholisha (Dhutra) | LC |
| ***ORDER: TETRAODONTIFORMES:*** FAMILY: TETRAODONTIDAE | | |
| *Tetraodon cutcutia* (Hamilton, 1822) | Tepa / Tayapa | LC |

**Note:** LC=Least Concern; NT= Near Threatened; EN=Endangered; NA= Not assessed; VU=Vulnerable; DD= Data Deficient.

According to IUCN (Ver 3.1: 2016) Red list 45 recorded species are under the head of 'List Concern', 9 belongs to 'Not Assessed' category, 3 under the head of 'Data Defficient' category and one species belongs to 'Near Threatened'. NT category species recorded from the region is *Microphis deocata* popularly used as an aquarium fish worldwide. Out of 9, three species under the category of 'NA' *Conta conta*, *Erethistoidae montana* and *Oreichthys crenuchoides* have great importance of aquarium potentiality. They need further study about the abundance status and aquarium survivality status. Authority should promote few species under the category of 'LC' namely *Trichogaster chuna*, *Amblyceps mangois*, *Badis badis*, *Aplochelis panchax*, *Pisodonophis boro* etc. for commercial exploration for the economic development of the local people of the sub-Himalayan terai region of West Bengal.

**Plate 2:** Ornamental fishes recorded from sub-Himalayan terai region of West Bengal

*Pisodonophis boro*

*Amblypharyngodon mola*

*Rasbora daniconius*

*Devario devario*

*Devario aequipinnatus*

*Danio dangila*

*Puntius sophore*

*Puntius conchonius*

*Puntius ticto*


*Puntius phutunio*


*Oreichthys crenuchoides*


*Oreichthys cosuatis*


*Garra mcClellandi*


*Psilorhynchus sucatio*


*Psilorhynchus balitora*


*Acanthocobitis botia*


*Nemacheilus corica*


*Schistura beavani*


*Schistura scaturigina*


*Schistura multifasciatus*


*Schistura savona*

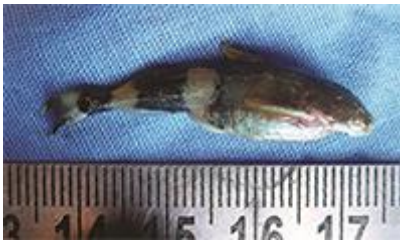

*Lepidocephalichthys guntea*


*Somileptes gongota*


*Botia dario*


*Botia lohachata*


*Pseudolaguvia ribeiroi*


*Pseudolaguvia shawi*


*Erethistoides montana*


*Batasio tengana*


*Amblyceps mangois*


*Olyra longicaudata*


*Nagra assamensis*


*Glyptothorax telchitta*


*Gogangra viridescens*


*Hara jerdoni*


*Glossogobius giuris*


*Chaca chaca*


*Aplocheilus panchax*


*Xenentodon cancila*


*Microphis deocata*


*Macrognathus aculeatus*


*Macrognathus pancalus*


*Channa orientalis*


*Chanda nama*


*Parambassis ranga*


*Pseudambassis baculis*


*Nandus nandus*


*Badis badis*


*Trichogaster chuna*


*Trichogaster fasciatus*


*Trichogaster labiosa*


*Tetraodon cutcutia*


*Conta conta*

## 4. Conclusion

Out of total 128 fishes recorded from 104 different spots of various wetlands of terai region of West Bengal, 58 species are considered as ornamental fishes. Out of these, one is near threatened according to IUCN. Three species belonging to 'DD' category has very good aquarium value. Few species belong to the category of 'Least concerned' recorded during the study needs proper conservation strategies and commercial exploration for the economic development of the

local people of terai region of West Bengal.

## 5. Acknowledgement

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