

Ornamental Fishes of East Kolkata Wetland, West Bengal, India



Zoology

KEYWORDS: East Kolkata Wetlands, Ornamental fish, Species, Vulnerable.

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ABSTRACT

East Kolkata Wetlands (EKW) is popular not only for the food fishes but there are available a numbers of ornamental fishes. A total of 41 ornamental fish species recorded from the EKW. These ornamental fish represents 21 families under 10 orders. Family Cyprinidae is represents by a maximum of 12 numbers of species followed by Channidae (4), Mastacembelidae (3), Ambassidae (2), Bagridae (2) Claridae (2) and Osphronemidae (2). At the same time family Anabantidae, Aplocheilidae, Badidae, Belonidae, Cobitidae, Gobiidae, Mugilidae, Nandidae, Notopteridae, Ophichthidae, Schilbeidae, Siluridae, Synbranchidae, and Tetraodontidae are represents by single species each. Out of 41 indigenous ornamental fish species, 24 are rare, 12 are sporadic and rests 05 are common. From conservation point of view, the EKW is found to harbour 1 endangered species and 7 vulnerable, 12 Low Risk-near threatened and 12 Low Risk least concern ornamental fish species as per CAMP (1998) 'status' with 'report'.

Introduction:

Fish keeping in aquariums has emerged as a very popular practice and day by day people are getting attracted towards this hobby. India, having a large number of indigenous fishes of different ornamental attributes has great potential to earn a huge foreign exchange. West Bengal has emerged as a pioneer State in ornamental fish trade of India (Mukherjee *et al.* 2000; Ghosh *et al.* 2003; Singh and Ahmed, 2005). Among the wild catch fishes exported from the country, West Bengal and the North-Eastern states are the major contributors (Mahapatra *et al.* 2006; Mandal *et al.* 2007). The East Kolkata Wetlands (EKW) were designated a "Wetland of International Importance" under the Ramsar Convention on August 19, 2002. This wetland is popular for not only the food fishes but there are available a numbers of ornamental fishes. Although the ornamental fish diversity of West Bengal has been studied by some workers (Ghosh *et al.* 2002; Mahapatra and Lakra, 2012) but no such specific study on EKW has been made earlier by any workers

Study area:

The study area of EKW is a complex of natural and human-made wetlands which is a part of the mature delta of Ganges River where its tributaries eventually drain into the Bay of Bengal. The wetland lies at the east of Kolkata bordering the Salt Lake Township, West Bengal and is situated between 22°25' to 22°40' N and 88°20' to 88°35' E. The EKWs extend almost equally on both sides of a Dry Weather Flow Channel, which discharges into the Kulti Gang. Out of total 12741.30 ha area, total water area is about 5852.14 ha and include salt marshes and salt meadows, as well as sewage farms and settling ponds and covered mostly near about by 308 city-sewage-fed fisheries which is very rich in aquatic biodiversity. (www.ekwma.com)

Materials and method:

In the present study, random rapid field surveys were conducted during June, 2012- July, 2014 from the different ponds of EKW. Observation of different fish species was made at important fish assembling centres viz. Choubhaga (South), Bantala (South East), Jhagrasia (East), Mahisbathan (North) and Saheb Mara Bheri (West). The information regarding their occurrence was collected from local fishermen as well as from fish vendors. The ornamental fishes were categorised based on the criteria like colouration, body shapes, banding patterns, finnaes, suckers, transparent body and preying habits. The fish specimen was taken to the laboratory for identification and confirmation about the species. For identification Talwar & Jhingran (1991), Jayaram (1999), Vishwanath, Lakra and sarkar (2007) are followed. For nomenclature Fishbase (www.fishbase.org) and [\[my.org.catalogue\]\(http://my.org.catalogue\) were consulted. Their conservation status is ascertained with the help of IUCN Red data list \(\[www.iucnredlist.org\]\(http://www.iucnredlist.org\)\) and CAMP report 1998.](http://www.calacade-</p>
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Result and Discussion:

The study brings about a total of 41 numbers of fish species having ornamentally valuable. They are belonging to 21 families under 10 orders (Table 1).

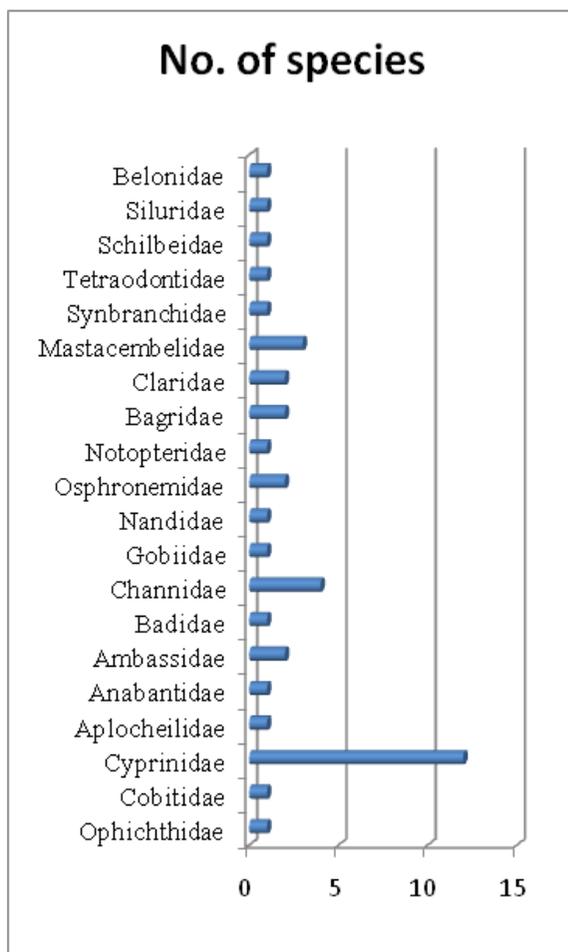
Table 1: List of ornamental fish from EKW

Order 1: Anguilliformes
Family 1: Ophichthidae <i>Pisodonophis boro</i> (Hamilton): Kucho
Order 2: Beloniformes
Family 2: Belonidae <i>Xenentodon cancila</i> (Hamilton): Bok Fish
Order 3: Cypriniformes
Family 3: Cobitidae <i>Lepidocephalus guntea</i> (Hamilton): Ghunte
Family 4: Cyprinidae <i>Amblypharyngodon mola</i> (Hamilton): Mourala <i>Danio rerio</i> (Hamilton): Zebra <i>Esomus danricus</i> (Hamilton): Dwarke <i>Labeo bata</i> (Hamilton): Bata <i>Labeo calbasu</i> (Hamilton): Kalbos <i>Laubuca laubuca</i> (Hamilton): Baro Dwarke <i>Puntius chola</i> (Hamilton): Punt <i>Puntius guganio</i> (Hamilton): Punt <i>Puntius sophore</i> (Hamilton): JatPunt <i>Puntius ticto</i> (Hamilton): TantPunt <i>Puntius conchoni</i> (Hamilton): KankonPunt <i>Salmostoma bacaila</i> (Hamilton): Chela
Order 4: Cyprinodontiformes
Family 5: Aplocheilidae <i>Aplocheilus panchax</i> (Hamilton): Techoka

Order 5: Mugiliformes
Family 6: Mugilidae <i>Rhinomugi lcorsula</i> (Hamilton):Khosla
Order 6: Perciformes
Family 7: Anabantidae <i>Anabas testudineus</i> (Bloch): Koi
Family 8: Ambassidae <i>Chanda nama</i> (Hamilton): Chanda <i>Parambassis ranga</i> (Hamilton): Ranga Chanda
Family 9: Badidae <i>Badis badis</i> (Hamilton): Bhada, Bot-koi
Family 10: Channidae <i>Channa punctatus</i> (Bloch): Lata <i>Channa gachua</i> (Hamilton): Cheng <i>Channa striatus</i> (Bloch): Sol <i>Channa marulius</i> (Hamilton): sal
Family 11: Gobiidae <i>Glossogobius giuris</i> (Hamilton): Bele
Family 12: Nandidae <i>Nandus nandus</i> (Hamilton): Nados
Family 13: Osphronemidae <i>Trichogaster fasciata</i> (Bloch & Schneider): Kholse <i>Trichogaster lalia</i> (Hamilton): Lal Kholse
Order 7: Osteoglossiformes
Family 14: Notopteridae <i>Notopterus notopterus</i> (Pallas): Folui
Order 8: Siluriformes
Family 15: Bagridae <i>Mystus vittatus</i> (Bloch): Tangra <i>Mystus gulio</i> (Hamilton): Nona Tangra
Family 16: Claridae <i>Clarias batrachus</i> (Linnaeus): Magur <i>Heteropneustes fossilis</i> (Bloch): Singhi
Family 17: Siluridae <i>Ompok pabda</i> (Hamilton): Pabda
Family 18: Schilbeidae <i>Pseudeutropius atherinoides</i> (Bloch): Batasi tangra
Order 9: Synbranchiformes
Family 19: Mastacembelidae <i>Mastacembelus armatus</i> (Lacepede): Ban <i>Macrognathus pancalus</i> (Hamilton): Pankal <i>Macrognathus aculeatus</i> (Bloch): Peacock Eel
Family 20: Synbranchidae <i>Ophisternon bengalense</i> (McClelland): Bero
Order 10: Tetraodontiformes
Family 21: Tetraodontidae <i>Tetraodon cutcutia</i> (Hamilton): Puffer

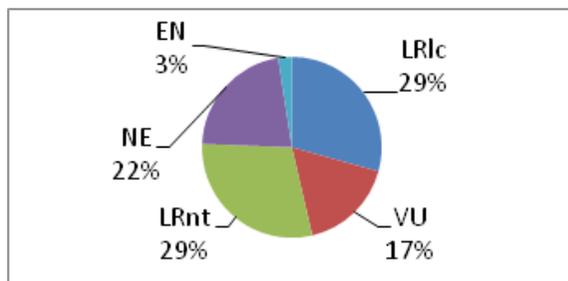
The family wise distribution of ornamental fish species is shown in form of bar diagram in figure 1.

Figure 1: Family wise distribution of the fish species number



Out of 41 indigenous ornamental fish species, 24 are rare, 12 is sporadic and rests 05 are common. The consultations with CAMP Report 1998 and IUCN Red list 2012 reveal that one endangered species *Ompok pabda* and 7 numbers of Vulnerable species (*Anabas testudineus*, *Clarias batrachus*, *Heteropneustes fossilis*, *Mystus vittatus*, *Puntius conchoniensis*, *Puntius chola* and *Rhinomugil corsula*) are recorded from the study area. The conservation status of the ornamental fishes are shown in figure 2.

Figure 2: Conservation status of the ornamental fishes:



[LRIc: Low Risk least concern; VU: Vulnerable; LRnt: Low Risk-near threatened; NE: Not Evaluated; EN: Endangered]

The India is blessed with ornamental fish diversity. It has a bright prospect in ornamental fish trade and can also contribute a lion's

share in Indian fish export. To boost up the local economy and for self-employment, these native ornamental fishes can play a key role. The value of the entire industry like indigenous germ-plasm resource of ornamental fish, ornamental plants and support activity in related supplies can help the backward downtrodden people to maintain their livelihood. To ensure fish welfare and environmental protection as well as sustainable growth of this industry, proper attention needs to be given. In this context, participatory involvement with proper co-ordination is needed from all concerned stakeholders. With proper education and technical guidance, local fisher folk can be organized and trained for eco-friendly collection techniques, thereby only the required ornamental fish species are collected and the by-catch are released back into the water body, and the ecosystem concerned is also not disturbed.

Conclusion:

The present study result suggests that the East Kolkata Wetlands is harbouring as many as 41 ornamental fish species are exploited for their food value alone. However, their ornamental value is yet to be realized and they can be sustainably used for ornamental trade. An organized trade of these fish species for aquarium purpose will fetch more economic profit for the dependents of the wetland.

Acknowledgement:

The authors are greatly indebted to the Director, CIFE, Mumbai for providing facilities to carry out the research work.

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