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A trend of ornamental fish business in Barisal division, Bangladesh

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Abstract

Ornamental fish trade is rapidly expanding and there is a growing recreational demand for aquarium fishes in the domestic and international market. This research paper tries to provide the initial assessment results regarding the ornamental fish resources and its trading status in Barisal division, Bangladesh. A total of 19 aquarium shops were found to be working with new promise in this region. It was found that 29 varieties of ornamental fishes including both exotic and indigenous were traded in Barisal division of which the representatives from the fish order Cypriniformes are dominant. Price of aquarium fishes varied due to size of each species ranged from BDT 30 to BDT 800 per pair. Most of the ornamental fishes were imported by trader. Then they were supplied to district level suppliers. Aquarium accessories such as feed, medicine, artificial light also were traded in aquarium shops in this area.

Keywords: Ornamental fish, trade, Cypriniformes, Barisal division

1. Introduction

Traditionally, the people of Bangladesh are pleasure seeker in nature and it has a great potential for ornamental fish domestication not only through indigenous species but also to furnish with exotics varieties. Globally ornamental fish keeping treats as an industry due to its high market demand and profitability as well as it is a hobby that has been rated as second most popular and most popular type of pet in industrialized country [1]. Ornamental fish keeping is a multi-dollar industry comprising the harvest, sale and displaying live fish in aquarium and garden pond and lakes. Although some reported that some aquatic plants and some other aquatic animal such as snails and turtle also involved in this sector with associate aquarium fishes. It was projected that 150 million ornamental fish both marine and freshwater were sold each year worldwide and the trade and its associated aquarium accessories was worth over US\$7 billion annually, in the late 1980s [2]. After that this trend was increased by approximately 14% per year [3]. More recently, it was estimated that 1,471 marine ornamental fish [4] and more than 4,000 species of ornamental freshwater fish were trade globally each year [5]. In spite of the availability of limited data are available about the status of ornamental fish business in Bangladesh, it can be said that it become a profitable business in the capital as well as in some other big cities. By talking with the aquarium trader, it can be easily said that katabon pet animal market in Dhaka is a pioneer of this trade. In this context, we try to be documented present status of ornamental fish business in Barisal division by targeting the several outputs as to know available ornamental fish, traders, marketing channel and business condition.

2. Materials and Methods

2.1 Time and area of the study

The study was conducted during January, 2013 to December, 2013 in Barisal division. The Barisal city and different district towns of this division were main focus of the study.

2.2 Sources of data and collection of information

Physical visit was performed in different aquarium shops of different cities and towns of Barisal division for collecting data through the above mentioned year round. Selected and famous aquarium shops were visited in every month of year for getting the more reliable and

useful information. Before visiting, a questionnaire was prepared and all primary data was documented on it when interviewing each aquarium shop owner. All relevant secondary data also collected from the various sources. We also spoke with some aquarium fish keeper.

2.3 Data analysis and presentation

Every collected data were tabulated in Excel sheet of Microsoft office software. After analysis, findings and observation were presented in graphical and tabular form.

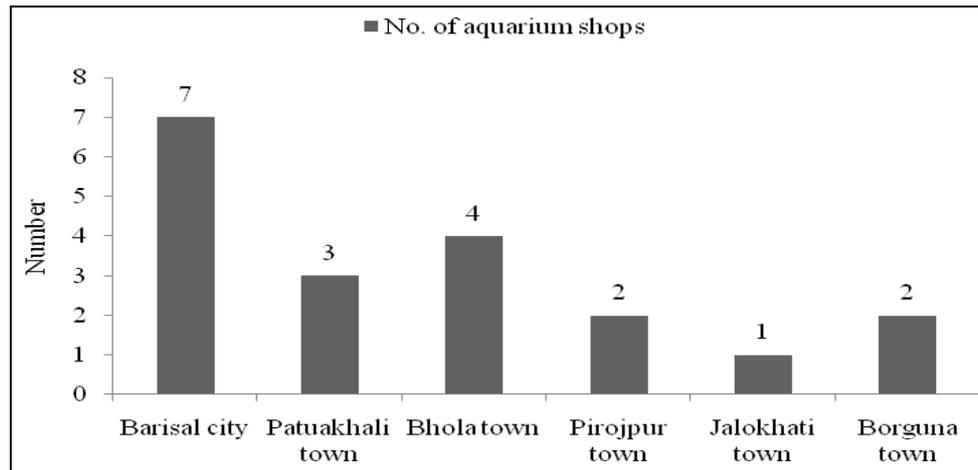


Fig 1: Available aquarium shops in the Barisal division

3.2 Available ornamental fishes

The total numbers of 29 varieties were recorded during our study period from the aquarium shops of Barisal division (Table 1 & 2). Among them 20 varieties were identified as exotic and rest of them were indigenous. It was also found that the order Cypriniformes emerge as most dominant groups about 54% among this diverse colored fish community (Fig. 2). All varieties of ornamental fishes exhibit great intraspecific variability in color and in certain morphological features. The

3. Result and Discussion

The findings of the research study are sequentially furnished below with discussing.

3.1 Status of aquarium shops

Nineteen aquarium shops were operating in the Barisal division during the study period. Among 7 shops were found in the Barisal city. There were 3; 4; 2; 1 and 2 aquarium shops in Patuakhali town; Bhola town; Pirojpur town; Jalokhati town and Borguna town, consequently. Galib *et al.*,^[6] had documented three shops in the Jessore town. This information also supported our study by showing that overall situation of aquarium trade is more or less similar in southern Bangladesh.

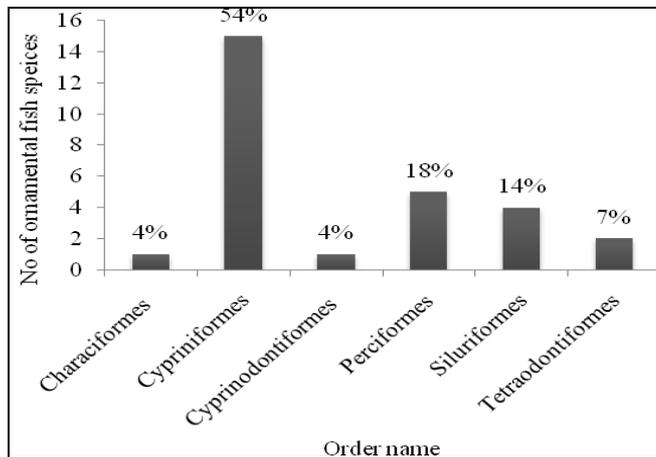
author is aware of the difficulties of field identification of the species and its separation from closely allied form. Galib *et al.*,^[7, 8]; Mohsin *et al.*,^[9] reported that Cypriniformes are the most common and dominant fish order in Bangladesh which support our findings. Kangkon^[10] had documented 31 potential indigenous ornamental fish and non-fish species and 79 exotic ornamental fish varieties were in Bangladesh where as we only found 29 varieties in the study area. It indicated that species diversity was not satisfactory in the study area.

Table 1: List of ornamental fish species (exotic) documented from the study sites of Barisal division.

Sl. No.	Scientific name	English/ Common Name	Order	Family
01	<i>Carassius auratus</i>	Common gold fish	Cypriniformes	Cyprinidae
02	<i>Carassius auratus</i>	Comet	Cypriniformes	Cyprinidae
03	<i>Carassius auratus</i>	Oranda	Cypriniformes	Cyprinidae
04	<i>Carassius auratus</i>	Red carp	Cypriniformes	Cyprinidae
05	<i>Carassius auratus</i>	Black moor	Cypriniformes	Cyprinidae
06	<i>Cyprinus carpio</i>	Tiger koi carp	Cypriniformes	Cyprinidae
07	<i>Puntigrus tetrazona</i>	Tiger barb	Cypriniformes	Cyprinidae
08	<i>Balanticeilos melanoterus</i>	Silver shark	Cypriniformes	Cyprinidae
09	<i>Epalzeorhynchus frenatus</i>	Rainbow shark	Cypriniformes	Cyprinidae
10	<i>Metynnis hypsauchen</i>	Silver dollar	Characiformes	Serrasalmidae
11	<i>Cichasoma citrinellum</i>	Red parrot		
12	<i>Poecilia reticulata</i>	Guppy	Cyprinodontiformes	Poeciliidae
13	<i>Trichogaster trichopterus</i>	Blue gourami	Perciformes	Osphronemidae
14	<i>Holacanthus bermudensis</i>	Blue angle fish	Perciformes	Pomacanthidae
15	<i>Pomacanthus asfur</i>	Arabian angelfish	Perciformes	Pomacanthidae
16	<i>Pterophyllum scalare</i>	Black angle	Perciformes	Cichlidae
17	Albino corydores	Albino catfish	Siluriformes	Callichthyidae
18	<i>Pangasius hypophthalmus</i>	Tiger shark	Siluriformes	Pangasiidae
19	<i>Pangasius hypophthalmus</i>	Albino tiger shark	Siluriformes	Pangasiidae
20	<i>Hypostomus plecostomus</i>	Sucker mouth catfish	Siluriformes	Loricariidae

Table 2: List of ornamental fish species (indigenous) documented from the study sites of Barisal division.

Sl. No.	Scientific name	English/ Common Name	Order
01	<i>Botio dorio</i>	Queen loach, Rani fish	Cypriniformes
02	<i>Puntius conchoniis</i>	Rosy barb	Cypriniformes
03	<i>Brachydanio rerio</i>	Zebra fish	Cypriniformes
04	<i>Botio dorio</i>	Queen loach, Rani fish	Cypriniformes
05	<i>Puntius ticto</i>	Ticto barb	Cypriniformes
06	<i>Puntius guganio</i>	Glass-barb	Cypriniformes
07	<i>Monodactylus argenteus</i>	Chanda	Perciformes
08	<i>Tetraodon cutcutia</i>	Puffer fish	Tetraodontiformes
09	<i>Chelanodon patoca</i>	Patoka	Tetraodontiformes

**Fig 2:** Diversity of Order of different ornamental fish species of aquarium shops in Barisal division.

3.3 Market price of ornamental fish

Size of fish is an important indicator for pricing of ornamental fishes. The market value was varied due to size variation. Small size fish carried lesser price value than larger one of specific varieties (Table 3.). Five to six inches size Oranda was found as high valued and sold at the rate BDT 600 per pair. Indigenous fish Rosy barb was sold at least price in aquarium market during observation.

Table 3: Price variation of ornamental fishes in the market of Barisal division

Name of ornamental fish	Size	Rate/pair in BDT
Gold fish	1-6 inches	100-300
Black molly	1-2 inches	250-300
Angel fish	1-3 inches	120-150
Guppy	0.25-1.5 inches	40-50
Oranda	1-6 inches	80-600
Sucker mouth catfish	2-8 inches	80-200
Comet	1-6 inches	80-600
Red cap	1-6 inches	100-300
Black moor	1-3 inches	120-150
Zebra fish	1-2 inches	30-50
Silver dollar	1-3 inches	100-150
Tiger carp	1-6 inches	50-100
Rosy barb	1-3 inches	30-50
Black molly	1-3 inches	50-100

3.4 Marketing channel of aquarium fish business

By conversation with the aquarium shop keeper, we concluded that most ornamental fish were imported by the importer of katabon pet animal market, Dhaka. Some indigenous species were caught from the haor, baor, beel, river, sudarban and Bay of Bengal. Although, some breeders tried to bred and produced small amount ornamental fish. But

that is not enough. Trader of Barisal city were collected ornamental fish from katabon, Dhaka then supplied to district level aquarium shopkeeper.

3.5 Aquarium accessories, feed and medicine

Different shape and size air stone aerator, colorful stone, artificial aquatic plant and light were existed in the market which is essential part of aquarium. Feed is essential component for rearing ornamental fishes. There are several types of feed in the market. During the study period, Osaka 60-100g, Nova 50-100g, Sefy 65-100g and Optimum 100g were sold at rate BDT 40-50/kg. Medicine and different chemical are also required for maintaining sound health of fish and controlling proper water quality. Water care-antibiotic, Star gold 100-water cleaner, Renamycin-animal formula tablets, Star aqua spot- preventive for fungus were available in the aquarium shops.

4. Conclusion

The ornamental fish sector is a widespread and global component of international trade, fisheries, aquaculture and development. However, the scope of this sector is vast in our country, but we cannot go ahead because of unconsciousness, lack of knowledge, lack of care of government and no government institutions. This sector should be given priority with extra care because it may a lot of foreign exchange every year by exporting the native ornamental fishes that remain unused in our country.

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6. References

- Olivier K. The ornamental fish market. FAO/Globefish Research Programme, United Nations Food and Agriculture Organization, Rome, Italy. 2001, 67.
- Andrews C. The ornamental fish trade and fish conservation. Journal of Fish Biology, 1990; 37(2):53-59.
- Bartley D. Responsible Ornamental Fisheries. FAO Aquaculture Newsletter, 2000; 24:10.
- Wabnitz C, Taylor M, Green E, Razak T. From Ocean to Aquarium. UNEP-WCMC, Cambridge, UK, 2003.
- Whittington RJJ, Chong R. Global trade in ornamental fish from an Australian perspective: The case for revised import risk analysis and management strategies. Preventive Veterinary Medicine. 2007; 81(1-3):92-116.
- Galib SM, Naser SMA, Mohsin ABM, Chaki N, Fahad MFH. Fish diversity of the river Choto Jamuna, Bangladesh: Present status and conservation needs. Int. J

- Biodivers. Conserv. 2013; 5(6):389-395.
7. Galib SM, Imam MA, Rahman MA, Mohsin A, Fahad MFH. A study on aquarium fish business in Jessore district, Bangladesh. Trends in Fisheries research, 2013; 2:7.
 8. Galib SM, Samad MA, Mohsin ABM, Flowra FA, Alam MT. Present Status of Fishes in the Chalan Beel- the Largest Beel (Wetland) of Bangladesh. Int. J. Ani. Fish. Sci., 2009; 2(3):214-218.
 9. Mohsin ABM, Galib SM. Handbook on exotic ornamental fishes of Bangladesh: an identifying tool. Bangladesh Fisheries Information Share Home, Rajshahi, Bangladesh. 2013, 44.
 10. Kangkon RH. Past and present status and prospect of ornamental fishes in Bangladesh.
<http://en.bdfish.org/2013/01/past-present-status-prospects-ornamental-fishes-bangladesh/> [05 Nov.2014].