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A checklist of the ornamental fishes of Himachal Pradesh, the western Himalaya, India

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Abstract: Fifty-eight ornamental fish species belonging to five orders, 13 families and 36 genera occur in Himachal Pradesh. The dominant family is Cyprinidae (46.55%) followed by Nemacheilidae (15.51%); Sisoridae, Poeciliidae, Osphronemidae (9.89%); Cobitidae (5.17%); Amblycipitidae, Ambassidae, Badidae, Gobiidae, Helostomatidae, Cichlidae and Characidae (1.72%). Of the 58 species, 27.58% are exotic and have been mainly imported for aquarium keeping. The exotic species are being introduced in the region without any regulation, subsequently turning invasive and threatening the indigenous fauna. Thus, there is a need for developing scientific guidelines and regulatory mechanisms for importing exotic aquarium fishes. On the other hand, the breeding and culture of indigenous fishes can be a profitable venture, provided there is an availability of a standardized breeding technology. Such an enterprise will go a long way in conservation of native fishes, improving livelihoods as well as raising the socio-economic status of local communities.

Keywords: Aquarium trade, conservation, enterprise, socio-economic.

Aquarium fish keeping is one of the oldest hobbies in the world and next only to photography in popularity (Das et al. 2005; Singh & Ahmed 2005). The high demand for ornamental fishes has made them an important component of the world fish trade (Andrews 1990; Singh & Ahmed 2005; Tlusty et al. 2013); however, the aquarium industry is sighted as both positively (socio-economic and livelihood benefits) and negatively (over-harvest, habitat destruction, alien species invasions) influential (Watson & Moreau 2006).

Himachal Pradesh is located in the western Himalaya between 30.36667–30.2 ^{0}N and 75.78333–79.06667 ^{0}E and altitudes ranging from 320–7,000 m. It has four physiographic zones (i) Shiwalik, (ii) Lower Himalayan, (iii) Higher Himalayan, and (iv) Trans Himalayan zone. The state has enormous potential for fishery in terms of aquatic resources with approximately 300km of perennial rivers, 775km of seasonal rivers (Satluj, Beas, Ravi, Chenab and Yamuna), 60,000ha reservoirs and 2,000ha, lakes and ponds including two Ramsar Sites, Pong Dam and Renuka Wetland.

A review of literature reveals that although much work has been undertaken on the general fish resources of Himachal Pradesh (Day 1875–1878; Hora 1937; Menon 1962, 1987, 1999; Bhatnagar 1973; Seghal 1974; Tilak & Hussain 1977; Sharma & Tandon 1990; Johal et al. 2002, 2003; Dhanze & Dhanze 2004; Mehta & Uniyal 2005; Mehta & Sharma 2008; Sharma 2014), no information is available on the potential aquarium fishes. For the first time, an attempt has been made to produce a comprehensive list of ornamental fishes recorded from the waters of Himachal Pradesh.

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Material and Methods

Fishes were collected from the Beas, Yamuna, Satluj, Ravi and Chandra Bhaga rivers in Himachal Pradesh and their tributaries using a combination of gears including cast net, scoop net and hand net. Fish specimens were preserved in 4% formalin solution and deposited in the High Altitude Regional Centre, Zoological Survey of India (ZSI), Solan, and identified using standard literature (Talwar & Jhingran 1991; Jayaram 2010). Conservation status of the fish species is based on the IUCN Red List of Threatened Species (2017) and nomenclature is as per Eschmeyer et al. (2016). Six fish species *viz. Barilius modestus* Day, 1872, *B. sacra* Hamilton, 1822, *Raiamas bola* (Hamilton, 1822), *Schistura himachalensis* Menon, 1987, *Paraschistura punjabensis* (Hora, 1923) and *Triplophysa microps* (Steindachner, 1866) which were not collected in the present study have been included based on records in published literature (Tilak & Hussain, 1977; Dhanze & Dhanze, 2004; Mehta & Uniyal 2005; Sharma 2014).

Results and Discussion

A systematic list of 58 ornamental fish species belonging to five orders, 13 families and 36 genera from various ecosystem of the state is summarized in Tables 1 and 2, of which 42 are native and 16 imported for the aquarium trade (Figs. 1 & 2; Images 1–27) . Besides, two exotic species, *Cyprinus carpio* var. *communis* and *Cyprinus carpio* var. *specularis* are also used for aquaculture practices in the state. Cyprinidae is the most dominant family of native ichthyofauna with 22 species, followed by Nemacheilidae with nine species, Sisoridae with four species, Cobitidae with three species and Amblycipitidae, Ambassidae, Badidae & Gobiidae represented by one species each. The exotic fauna comprises five species of Cyprinidae, four species of Poeciliidae and Osphronemidae and one species each under Helostomatidae, Cichlidae and Characidae. As per the criteria of Ghosh et al. (2003), all fish species come under classified Aquarium fishes (CA) except three exotic varieties of *Cyprinus* species (*Cyprinus carpio var. communis*, *Cyprinus carpio* var. *specularis*, *Cyprinus carpio* var. *nudus*) and two *Carassius* species (*Carassius auratus* and *carrasius carassius*) which are non-classified aquarium (NCA) fishes. The exotic *Cyprinus* spp. has commercial value but due to its hardy nature, beautiful colour and disease resistance are used as aquarium fishes till they reach their fingerling stage. These exotic fishes have also entered the various natural water bodies (streams of Beas and Satluj River) of the region and are well established in the Pong dam, Govind Sagar Reservoir and Pandoh Dam.

Native fishes recorded as ornamental (Table 1) are hillstream species that are threatened by various anthropogenic stresses, viz., over exploitation, illegal fishing, invasive species, habitat loss and destruction due to channelization of water, and upcoming hydroelectric projects. Breeding and farming of these ornamental fish species can help in the restoration and conservation of indigenous fish fauna. Further, it will be a promising alternate livelihood for the farmers of the region. Thus the ornamental fish trade will go a long way to provide employment in the region.

The conservation status following the IUCN Red List of Threatened Species (2017) has revealed that among the 42 native fish species, 30 species (71.4%) come under the 'Least Concern' (LC) category; two species (4.8%) under 'Data Deficient' (DD) category and 10 species (23.8%) under 'Not Evaluated' (NE) category.

About 90% of the freshwater ornamental fish exported from India are wild caught indigenous species (Silas et al. 2011). Raghavan et al. (2013) stated that more than 1. 5 million freshwater fish belonging to 30 threatened species were exported from India to Europe, US and other Asian countries from 2005 to 2012. Without any focus on conservation and sustainable use, freshwater fishes are collected from nature as an open access resource for the

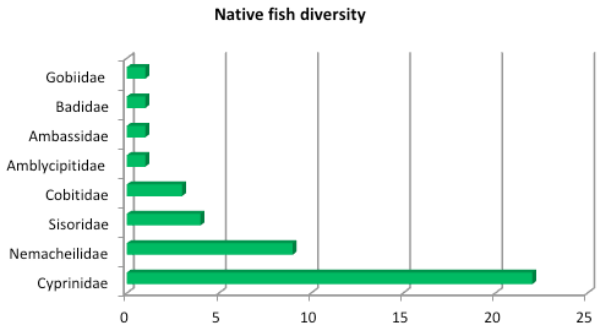

Figure 1. Family wise distribution of native ornamental fishes in Himachal Pradesh

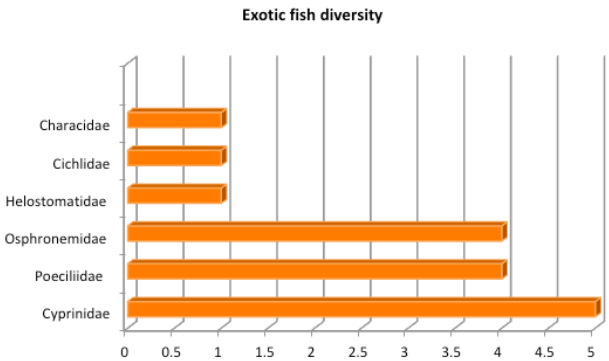

Figure 2. Family wise distribution of exotic ornamental fishes in Himachal Pradesh

Table 1. A systematic list of indigenous ornamental freshwater fishes of Himachal Pradesh along with their distribution and conservation status

	Species name	Common name	Distribution	IUCN status	Records	Voucher No.
Order: Cypriniformes Family: Cyprinidae Subfamily: Cyprininae						
1	*Pethia ticto* (Hamilton, 1822)	Ticto Barb	Beas: Kangra, Mandi, Kullu, Hamirpur Satluj: Bilaspur, Shimla, Una Yamuna: Solan, Sirmour Ravi: Chamba	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	F-870 (ZSI Solan)
2	*Pethia conchonius* (Hamilton, 1822)	Rosy Barb	Beas: Kangra, Mandi, Hamirpur Satluj: Bilaspur Yamuna: Solan, Sirmour Ravi: Chamba	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	F-245 (ZSI Solan)
3	*Puntius sophore* (Hamilton, 1822)	Stigma Barb	Beas: Kangra, Mandi, Kullu, Hamirpur Satluj: Bilaspur, Una Yamuna: Solan, Sirmour Ravi: Chamba,	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	F-730 (ZSI Solan)
4	*Puntius chola* (Hamilton, 1822)	Chola Barb	Beas: Kangra Satluj: Bilaspur, Una Yamuna: Solan, Sirmour	NE	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	F-178 (ZSI Solan)
5	*Systomus sarana* (Hamilton, 1822)	Olive Barb	Beas: Kangra Satluj: Bilaspur Yamuna: Solan, Sirmour	LC	Tilak & Hussain 1977; Mehta & Uniyal (2005); Sharma (2014)	Observed in aquarium at H.P. State Fisheries Department
6	*Osteobrama cotio* (Hamilton, 1822)	Cotio	Satluj: Bilaspur Yamuna: Sirmour	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	Observed in aquarium at H.P. State Fisheries Department
7	*Salmostoma bacaila* (Hamilton, 1822)	Large Minnow	Yamuna: Sirmour	LC	Tilak & Hussain, 1977; Mehta & Uniyal (2005)	F-345 (ZSI Solan)
8	*Barilius bendelisis* (Hamilton, 1807)	Hamilton's Barila	Beas: Kangra, Mandi, Kullu, Hamirpur Satluj: Bilaspur, Shimla, Una Yamuna: Solan, Sirmour Ravi: Chamba	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	F-867 (ZSI Solan)
9	*Barilius barila* (Hamilton, 1822)	Barred Barila	Beas: Kangra, Mandi, Hamirpur Satluj: Bilaspur, Yamuna: Solan, Shimla	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	F-868 (ZSI Solan)
10	*Barilius vagra* (Hamilton, 1822)	Vagra Barila	Beas: Kangra, Mandi Satluj: Bilaspur, Shimla Yamuna: Sirmour Ravi: Chamba	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	F-807 (ZSI Solan)
11	*Barilius barna* (Hamilton, 1822)	Barna Baril	Beas: Kangra Yamuna: Sirmour	LC	Tilak & Hussain 1977; Mehta & Uniyal (2005); Sharma (2014)	F-865 (ZSI Solan)
12	*Barilius modestus* Day, 1872	Indus Baril	Satluj: Bilaspur	NE	Tilak&Hussain 1977; Mehta &Uniyal (2005)	Recorded from literature
13	*Barilius shacra* (Hamilton, 1822)	Shacra Baril	Yamuna: Sirmour, Solan	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005)	Recorded from literature
14	*Raiamas bola* (Hamilton, 1822)	Indian Trout	Yamuna: Sirmour	LC	Tilak & Hussain 1977; Mehta & Uniyal (2005)	Recorded from literature
15	*Danio rerio* (Hamilton, 1822)	Zebra Fish	Beas: Kangra Satluj: Bilaspur Yamuna: Solan, Sirmour	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	F-764 (ZSI Solan)
16	*Devario devario* (Hamilton, 1822)	Devario Danio	Beas: Kangra, Hamirpur, Una Yamuna: Solan, Sirmour	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	Observed in aquarium at H. P. State Fisheries Department
17	*Esomus danrica* (Hamilton, 1822)	Flying Barb	Beas: Kangra Satluj: Una Yamuna: Sirmour	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta &Uniyal (2005); Sharma (2014)	F-319 (ZSI Solan)
18	*Rasbora daniconius* (Hamilton, 1822)	Blackline Rasbora	Beas: Kangra, Hamirpur Satluj: Bilaspur Yamuna: Sirmour, Solan	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	F-627 (ZSI Solan)
19	*Tariqilabeo latius* (Hamilton, 1822)	Gangetic Latia	Beas: Kangra, Mandi, Hamirpur Satluj: Bilaspur, Una Yamuna: Solan, Sirmour Ravi: Chamba	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	F-871 (ZSI Solan)

	Species name	Common name	Distribution	IUCN status	Records	Voucher No.
20	*Tariqilabeo diplochilus* (Heckel, 1838)	Kashmir Latia	Beas: Mandi Satluj: Bilaspur Yamuna: Sirmour Ravi: Chamba	NE	Tilak & Hussain 1977; Mehta & Uniyal (2005)	F-233 (ZSI Solan)
21	*Garra gotyla* (Gray, 1830)	Gotyla	Beas: Kangra, Mandi, Kullu, Hamirpur Yamuna: Sirmour, Solan Ravi: Chamba	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	F-771 (ZSI Solan)
22	*Garra lamta* (Hamilton, 1822)	Lamta Garra	Beas: Mandi, Yamuna: Sirmour, Solan	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	F-234 (ZSI Solan)
Family: Nemacheilidae						
23	*Paracanthocobitis botia* (Hamilton, 1822)	Mottled Loach	Beas: Kangra, Mandi Yamuna: Solan, Sirmour	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	F-866 (ZSI Solan)
24	*Paraschistura punjabensis* (Hora, 1923)	-	Satluj: Bilaspur	NE	Tilak & Hussain 1977; Mehta & Uniyal (2005)	Recorded from literature
25	*Schistura denisoni* (Day, 1867)	-	Yamuna: Sirmour	NE	Tilak & Hussain 1977	F-639 (ZSI Solan)
26	*Schistura rupecula* (McClelland, 1838)	Hill Loach	Beas: Kullu Satluj: Shimla Yamuna: Solan, Sirmour	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	F-804 (ZSI Solan)
27	*Schistura montana* (McClelland, 1838)	Mountain Loach	Beas: Kangra Satluj: Shimla Yamuna: Solan, Sirmour	NE	Tilak & Hussain 1977; Mehta & Uniyal (2005); Sharma (2014)	F-813 (ZSI Solan)
28	*Schistura horai* (Menon, 1952)	Horai Loach	Beas: Kangra Yamuna: Solan, Sirmour	NE	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	F-795 (ZSI Solan)
29	*Schistura himachalensis* (Menon, 1987)	-	Beas: Kangra	NE	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	Recorded from literature
30	*Triplophysa stoliczkae* (Steindachner, 1866)	Stoliczkae Triplophysa-Loach	Chanderbhaga: Lahaul & Spiti	NE	Tilak & Hussain 1977; Mehta & Uniyal (2005)	F-756 (ZSI Solan)
31	*Triplophysa microps* (Steindachner, 1866)	Leh Triplophysa-Loach	Chanderbhaga: Lahaul & Spiti	LC	Sharma (2014)	Recorded from Literature
Family: Cobitidae						
31	*Lepidocephalichthys guntea* (Hamilton, 1822)	Guntea Loach	Beas: Kangra, Ravi: Chamba Yamuna Sirmour	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	F-780 (ZSI Solan)
32	*Botia dario* (Hamilton, 1822)	Necktie Loach	Yamuna: Sirmour	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	Observed in Aquarium at H. P. State Fisheries Department
33	*Botia birdi* Chaudhuri, 1909	Birdi Loach	Satluj: Bilaspur	NE	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014) .	Observed in Aquarium at H. P. State Fisheries Department
Order: Siluriformes **Family: Amblycipitidae**						
34	*Amblyceps mangois* (Hamilton, 1822)	India Torrent Catfish	Beas: Kangra, Mandi	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	F-409 (ZSI Solan)
Family: Sisoridae						
35	*Glyptothorax brevipinnis* Hora, 1923	Mountain Catfish	Yamuna: Sirmour	DD	Tilak & Hussain 1977	F-594 (ZSI Solan)
36	*Glyptothorax conirostris* (Steindachner, 1867)	Mountain Catfish	Beas: Kangra, Mandi Satluj: Bilaspur, Shimla Yamuna: Solan, Sirmour	DD	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	F-862 (ZSI Solan)
37	*Glyptothorax pectinopterus* (McClelland, 1842)	Mountain Catfish	Beas: Kangra Satluj: Bilaspur Yamuna: Solan, Sirmour Ravi: Chamba	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	Observed in Aquarium at ChaudharySarwan Kumar H.P. Agricultural University Farm, Palampur, district Kangra (H.P.)

	Species name	Common name	Distribution	IUCN status	Records	Voucher No.
38	*Glyptothorax stoliczkae* (Steindachner, 1867)	-	Ravi: Chamba Beas: Kangra Yamuna: Sirmour, Solan	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta &Uniyal (2005); Sharma (2014)	Recorded from Literature
Order: Perciformes Family: Ambassidae						
39	*Parambassis baculis* (Hamilton, 1822)	Himalayan Glassy Perchlet	Satluj: Bilaspur Yamuna: Sirmour, Solan	LC	Tilak & Hussain 1977; Mehta & Uniyal (2005)	Observed in Aquarium at H. P. State Fisheries Department
Family: Badidae						
40	*Badis badis* (Hamilton, 1822)	Dwarf Chameleon Fish	Yamuna: Solan, Sirmour	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta &Uniyal (2005); Sharma (2014)	Observed in Aquarium at H. P. State Fisheries Department
Family: Gobiidae						
41	*Glossogobius giuris* (Hamilton, 1822)	Tank Goby	Beas: Kangra Yamuna: Sirmour	LC	Tilak & Hussain 1977; Dhanze & Dhanze (2004); Mehta & Uniyal (2005); Sharma (2014)	Observed in Aquarium at H. P. State Fisheries Department

aquarium trade (Raghavan et al. 2013), resulting in their population decline and general decline of the state of freshwater biodiversity (Allen et al. 2010; Molur et al. 2011). Marine Products Export Development Authority of India has developed a document on green certification, which is the first of its kind in the freshwater ornamental fish sector (Ramachandran 2012) with the intention to maintain socio-economic sustainability. This approach stresses on reducing the dependence on wild stocks and ensures that the fish collection is managed as per access and benefit sharing practices. Iyer et al. (2016) stated that there are 101 valid fish species under the green certification guide lines and suggested the development of captive breeding technology for the potential export species.

Currently, there is neither a domestic ornamental fish market nor documentation of export of ornamental fish in Himachal Pradesh. Ornamental fish trade can be a lucrative business for local communities to improve their livelihood but requires the development and standardization of captive breeding techniques. Besides, the economic upliftment related to freshwater ornamental fish trade, proper emphasis must also be given to the sustainable maintenance of critical ecosystems and conservation of endemic fish diversity. Further, the import of exotic ornamental fishes to the state is increasing day by day as a result of growing popularity of aquarium fish keeping, but without any regulations, which may lead to negative impacts on native fish fauna. Captive breeding of indigenous fishes should be attempted for export and no wild caught fish should be used for the aquarium trade.

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Table 2. Introduced fishes used for aquarium purpose

	Order, Family & Species name	Common name	Distribution	IUCN status	Voucher No.
Order: Cypriniformes Family: Cyprinidae Subfamily: Cyprininae					
1.	*Carassius auratus* (Linnaeus, 1758)	Goldfish	Beas: Kangra, Mandi, Kullu, Hamirpur Satluj: Bilaspur, Shimla, Una Yamuna: Solan, Sirmour Ravi: Chamba		Observed in aquarium at Chaudhary Sarwan Kumar H. P. Agricultural University Farm, Palampur, district Kangra (H. P.)
2.	*Carassius carassius* (Linnaeus, 1758)	Crucian Carp	Beas: Kangra, Mandi, Kullu, Hamirpur Satluj: Shimla, Una, Yamuna: Solan, Sirmour Ravi: Chamba		Observed in aquarium at Chaudhary Sarwan Kumar H. P. Agricultural University Farm, Palampur, district Kangra (H. P.)
3.	*Cyprinus carpio* var. *communis* (Linnaeus, 1758)	Scale Carp	Beas: Kangra, Mandi, Kullu, Hamirpur Satluj: Bilaspur, Una, Shimla, Yamuna: Solan, Sirmour Ravi: Chamba		F-788
4.	*Cyprinus carpio* var. *specularis* Lacepède, 1803)	Mirror Carp	Beas: Kangra, Mandi, Kullu, Hamirpur Satluj: Bilaspur, Una, Shimla Yamuna: Solan, Sirmour Ravi: Chamba		F-789
5.	*Cyprinus carpio* var. *nudus* Bloch, 1784	Leather Carp	Beas: Kangra, Mandi, Kullu, Hamirpur Satluj: Bilaspur, Una, Shimla, Solan Yamuna: Sirmour Ravi: Chamba		Observed in aquarium at Chaudhary Sarwan Kumar H. P. Agricultural University Farm, Palampur, district Kangra (H. P.)
Order: Cyprnidontiformes Family: Poeciliidae					
6.	*Poecilia sphenops* Valenciennes, 1846	Black Molly	Only in aquarium	NE	Observed in aquarium at H. P. State Fisheries Department
7.	*Poecilia reticulata* Peters, 1859	Guppy	Only in aquarium	NE	Observed in aquarium at H. P. State Fisheries Department
8.	*Gambusia holbrooki* Girard, 1859	Eastern Fish	Only in aquarium	LC	Observed in aquarium at H. P. State Fisheries Department
9	*Xiphophorus hellerii* Heckel, 1848	Green Sword Tail	Only in aquarium	NE	Observed in aquarium at H. P. State Fisheries Department
Order: Perciformes Family: Osphronemidae					
10.	*Betta splendens* Regan, 1910	Siamese Fighting Fish	Only in aquarium	VU	Observed in aquarium at H. P. State Fisheries Department
11.	*Macropodus opercularis* (Linnaeus, 1758)	Paradise Fish	Only in aquarium	LC	Observed in aquarium at H. P. State Fisheries Department
12.	*Trichopodus trichopterus* (Pallas, 1770)	Three Spot Gourami	Only in aquarium	LC	Observed in aquarium at H. P. State Fisheries Department
13.	*Trichogaster fasciata* Bloch & Schneider, 1801	Banded Gourami	Yamuna: Sirmour	LC	Observed in aquarium at H. P. State Fisheries Department
Family: Helostomatidae					
14.	*Helostoma temminckii* Cuvier, 1829	Kissing Gourami	Only in aquarium	LC	Observed in Aquarium at H. P. State Fisheries Department
Order: Perciformes Family: Cichlidae					
15.	*Pterophyllum scalare* (Schultze, 1823)	Angel Fish	Only in aquarium	NE	Observed in aquarium at H. P. State Fisheries Department
Order: Characiformes Family: Characidae					
16.	*Gymnocorymbus ternetzi* (Boulenger, 1895)	Black Tetra	Only in aquarium	NE	Observed in aquarium at H. P. State Fisheries Department

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Image 1. *Pethia ticto* (Hamilton, 1822)

Image 2. *Puntius sophore* (Hamilton, 1822)

Image 3. *Pethia conchonius* (Hamilton, 1822)

Image 4. *Puntius chola* (Hamilton, 1822)

Image 5. *Salmostoma bacaila* (Hamilton, 1822)

Image 6. *Barilius bendelisis* (Hamilton, 1807)

Image 7. *Barilius barila* (Hamilton, 1822)

Image 8. *Barilius vagra* (Hamilton, 1822)

Image 9. *Barilius barna* (Hamilton, 1822)

Image 10. *Danio rerio* (Hamilton, 1822)

Image 11. *Esomus danrica* (Hamilton, 1822)

Image 12. *Rasbora daniconius* (Hamilton, 1822)

Image 13. *Tariqilabeo latius* (Hamilton, 1822)

Image 14. *Garra gotyla* (Gray, 1830)

Image 15. *Paracanthocobitis botia* (Hamilton, 1822)

Image 16. *Schistura montana* McClelland, 1838

Image 17. *Lepidocephalichthys guntea* (Hamilton, 1822)

Image 18. *Botia dario* (Hamilton, 1822)

Image 19. *Botia birdi* Chaudhuri, 1909

Image 20. *Glyptothorax conirostris* (Steindachner, 1867)

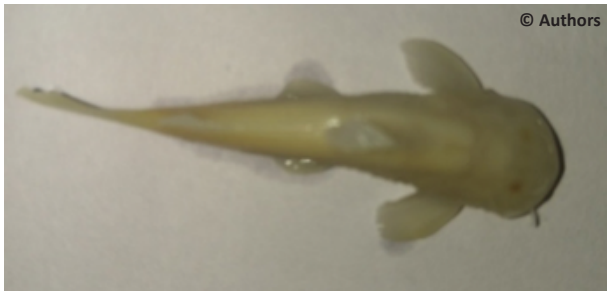

Image 21. *Glyptothorax brevipinnis* Hora, 1923

Image 22. *Parambassis baculis* (Hamilton, 1822)

Image 23. *Badis badis* (Hamilton, 1822)

Image 24. *Carassius auratus* (Linnaeus, 1758) *& Carassius carassius* (Linnaeus, 1758)

Image 25. *Cyprinus carpio* var. *communis* (Linnaeus, 1758)

Image 26. *Cyprinus carpio* var. *specularis* (Lacepède, 1803)

Image 27. *Trichogaster fasciata* Bloch & Schneider, 1801

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