A STUDY ON THE ICTHYOFAUNA OF AYMANAM PANCHAYATH, IN VEMBANAD WETLAND, KERALA

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Abstract

A study on the icthyofauna of Aymanam Panchayath was carried out. A total of 37 species of fishes belonging to 18 families and nine orders were recorded. Order Perciformes showed maximum family diversity. The highest number of species belonged to family Cyprinidae. Nine of the 34 freshwater species recorded are threatened. One exotic species Poecilia reticulata *was also noted.*

Keywords

Aymanam Panchayath, catalogue, ichthyofauna, India, Kerala, threatened, Vembanad

There are 41 west flowing and three east flowing rivers originating from the Western Ghats of Kerala having a total length of 32,000km. Kerala abounds with many wetlands including lakes, canals, ponds, paddy fields etc. Two-hundred-and-ten species of freshwater fishes have been identified from Kerala, of which more than 26 species are considered endemic (Shaji & Nair, 2003). Most of the fishes are characterized by vibrant attractive colours and shades. Some fishes are of ornamental varieties having high potential in domestic and international markets (Radhakrishnan & Kurup, 2002).

The study area is the Aymanam Panchayath. The study was conducted in the monsoon and post monsoon periods of 2003 and 2004. Aymanam Panchayath is located between the two main branches of Meenachil river namely Pennar in the north and Kavanar in the south. There are several canals crisscrossing the Panchayath with Arpookkara Panchayath in the east and Vembanad estuary on the west. Vembanad-Kol wetland was designated as a Ramsar site in November 2002. Organically rich sedimentary substratum of the inshore regions of the estuary is a highly preferred habitat for fish and shrimp breeding (Sreekumar, 2003). The western part of the panchayath lies below the mean sea level.

Methodology

The Ayamanam Panchayath was surveyed for fishes during two seasons. Twelve sampling sites were fixed in different locations all through the panchayath. Samples were collected by using hook and line method, cast net, gill net and from local fishermen. The specimens that could be identified on site were examined and released. Unidentified fishes caught during the survey were labelled along with the vernacular names, preserved and brought to the laboratory for further study. Identification was done with the help of standard references.

Results and Discussion

A total of 34 species of freshwater fishes and three species of estuarine fishes belonging to 18 families and nine orders were identified (Table 1). In the present study family Cyprinidae was represented by 10 species, showed maximum diversity (29.41%). An exotic species *Poecilia reticulata* was collected from small ditches, which may have been introduced for controlling mosquito larvae (Daniels, 2002). Of the 37 species *Ompok malabaricus* (Goan Catfish) and *Hyporhampus xanthopterus* (Vembanad Halfbeak) are Critically Endangered (CR), *Labeo dussumieri, Horabagrus brachysoma, Tetradon travancoricus* are endangered (EN) and *Puntius vittatus, Anabas testudineus, Mystus vittatus, Pristolepis marginatus* and *Heteropneutes fossilis* come under vulnerable (VU) category. *Parluciosoma daniconius, Puntius sophore, Nandus nandus* and *Xenentodon cancila* etc. come under lower risk-near threatened (LR-nt) category (Molur & Walker, 1998; Anon., 1999). 50% of the fishes reported from the area are currently considered as non-threatened species (Fig. 1). Five Western Ghats endemic species including two Kerala endemic species were identified in which *Pristolepis marginatus* was considered as endemic to Kerala, but it has been collected from Tamil Nadu and Karnataka also (Rema Devi *et al.*, 2000). The occurrence of these species in Kerala has been reported by Ramesh *et al.* (2003). Of the 37 species of fishes identified, 89.18% (33 species) have ornamental value (Daniels, 2002; Mercy *et al.*, 2002; Radhakrishnan & Kurup, 2002; Sekharan *et al.*, 2002).

All, except *Aplocheilus blockii, A. lineatus, Poecilia reticulata, Chelenodon* sp. and *Tetraodon travancoricus* are used as food. Among the fishes used as food, *Etroplus suratensis* is highly priced. As per the report of the locals *Tetraodon travancoricus* and *Chelenodon* sp. are not even used as poultry feed, as they are poisonous due to the presence of bacteria living inside (Mathai, pers. comm. 2003) and poisonous secretions in the bare spines (M. Krishnan, pers. comm.). However, detailed study is needed to confirm their poisonous nature.

Conclusion

The salt-water barrage built at Thannermukkom appeares to have played a significant role in the fluctuation of physicochemical parameters of the southern portion of the lake (Padmakumar *et al*., 2002). The unscientific fishing (poisoning) and the increased pollution of the Vembanad lake due to tourist boats and hotels also have a role in the decline of the fish diversity of the area, as the wetland waters here are closely connected with Vembanad lake. The fish disease, Epizootic Ulcerative Syndrome has constantly affected the fishes of this region. Once the presence of mangrove plants and swamps favoured the egg laying activity of fishes, but because of the

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Table 1. List of fishes of Aymanam Panchayath with vernacular names, categories and economic importance

Scientific Name	Common Name	Vernacular Name	Endemism	IUCNStatus	Economic Importance
Order: Cypriniformes					
Family: Aplocheilidae					
Aplocheilus lineatus (Valenciennes)	Tiger Panchax	Poonjan	Southern India		Poultry feed, Aquarium species
Aplocheilus blockii (Arnold)	Little Panchax	Poonjan	Western Ghats		Poultry feed, Aquarium species
Family: Cyprinidae					
Danio malabaricus (Jerdon)	Giant Danio	Vayampu, Paral			Edible, Aquarium species
Rasbora daniconius (Hamilton-Buchanan)	Blackline Rasbora	Thuppalukothi, Thuppalumathi		LRnt	Edible, Aquarium species
Puntius amphibius (Valenciennes)	Scarletbanded Barb	Urulanparal			Edible, Aquarium species
Puntius filamentosus (Valenciennes)	Blackspot Barb	Kotichipparal, Poovalipparal			Edible, Aquarium species
Puntius sarana subnasutus (Valenciennes)	Peninsular Olive Barb	Kuruva	Southern India		Edible, Aquarium species
Puntius sophore (Hamilton)	Softfin Barb	Paral		LRnt	Edible, Aquarium species
Puntius vittatus (Day)	Kooli Barb	Vattakkali,Kaippa		VU	Poultry feed, Aquarium species and edible
Labeo dussumieri (Valenciennes)	Kerala Labeo	Pullan		EN	Edible, Cultivable
Garra mullya (Sykes)	Brown Algae Eater	Kallemutti, Kallelokkan	India		Edible, Aquarium species
Amblypharyngodon melettinus (Valenciennes)	Attentive Carplet	Vayampu			Edible, Aquarium species, Poultry feed
Family: Poecilidae					
Poecilia reticulata (Peters)	Guppy				Aquarium species
Order: Siluriformes					
Family: Bagridae					
Horabagrus brachysoma (Day)	Yellow Catfish	Manjakkori	Western Ghats	EN	Edible, Cultivable and Aquarium species
Mystus gulio (Hamilton-Buchanan)	Longwhiskered Catfish	Vellakkori			Aquarium species, Edible
Mystus vittatus (Bloch)	Striped Dwarf Catfish	Chillan		VU	Aquarium species, Edible
Family: Heteropneustidae					
Heteropneustes fossilis (Bloch)	Stinging Catfish	Kaari		VU	Aquarium species, Edible
Family: Siluridae					
Ompok malabaricus (Valenciennes)	Goan Catfish	Thlappan	Western Ghats	CR	Eatable
Wallago attu (Schneider)	Boal	Valah		LRnt	Aquarium species, Edible
Order: Mugiliformes					
Family: Mugilidae					
Mugil cephalus (Linneaus)	Mullet	Kanampu			Edible and Cultivable
Order: Beloniforemes					
Family: Belonidae					
Xenentodon cancila (Hamilton-Buchanan)	Freshwater Garfish	Kola, Kolan		LRnt	Edible, Aquarium species
Family: Hemirhmphidae					
Hyporhampus xanthopterus (Valenciennes)	Vembanad Halfbeak	Morasu	Kerala	CR	Edible, Aquarium species
Order: Synbranchiformes					
Family: Mastacemelidae					
Mastacembelus armatus (Lacepede)	Tyre-trackspiny Eel	Aarakan			Aquarium species, Edible
Order: Perciformes					
Family: Anabantidae					
Anabas testudineus (Bloch)	Climbing Perch	Kallada		VU	Edible, Aquarium species
Family: Belonntidae					
Macropodus cupanus (Valenciennes)	Indian Paradise fish	Karimkana			Aquarium species, Poultry feed
Macropodus cupanus dayi (Day)	Day's Paradises fish	Karimkanna	Kerala		Aquarium species, Poultry feed
Family: Channidae					
Channa striatus (Bloch)	Banded Snakehead	Varal		LRlc	Edible, Aquarium species
Channa marulius (Hamilton-Buchanan)	Giant Snakehead	Cherumeen		LRnt	Edible, Aquarium species
Family: Cichlidae					
Etroplus suratensis (Bloch)	Banded Pearl Spot	Karimeen,Kariyamplachi			Edible, Aquarium species

Scientific Name	Common Name	Vernacular Name	Endemism	IUCNStatus	Economic Importance
Etroplus maculatus (Bloch)	Orange Chromide	Pallathiv			Edible, Aquarium species
Family: Gobiidae					
Glossogobius giuris (Hamilton-Buchanan)	Tank Goby	Poolan			Aquarium species, Edible
Awaous sp.		Pukalappoolan			Aquarium species, Edible
Family: Nandidae					
Nandus nandus (Hamilton-Buchanan)	Mottled Leaf fish	Muthuvala		LRnt	Edible, Aquarium species
Pristolepis marginatus (Jerdon)	Malabar Catopra	Pannakarimeen	Western Ghats	VU	Aquarium species, Edible

WG - Endemc to Western Ghats; SI - Endemic to South India; LRnt - Lower risk near threatened; K - Endemic to Kerala; EN - Endangered; LRlc - Lower risk least concern; I - Enndemic to India; VU - Vulnerable; EXO - Exotic

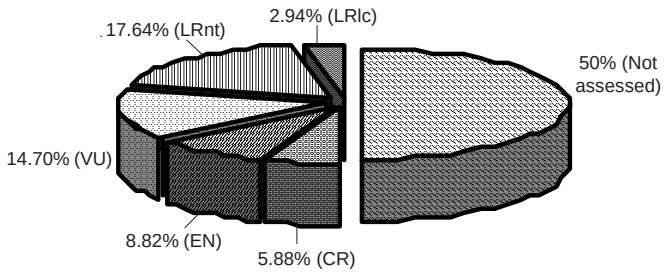

Figure 1. Status of fishes in the study area

destruction of mangrove vegetation, habitat destruction and pollution load, now the fish fauna of this wetland is under threat.

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