'tar Pradesh J. Zool. 36(2) :113-116, 2016 ISSN 0256-971X

ICTHYOFAUNAL DIVERSITY OF A WETLAND ECOSYSTEM

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odiversity is the variability among living organism of all ecosystem, which is essential for osystem stability. The health of the environment decides the diversity and productivity of the stem. Wetlands are the most productive ecosystem in the world. This paper documents the versity of fishes in a wetland ecosystem. The icthyofauna is represented by 21 Species belongs 7 orders and 13 families and 15 genera. The family Cyprinidae showed maximum individual versity followed by the order Perciforms with 5 families, each orders Siluriforms, Beloniforms, ugiliforms. Scorpaeniformes and Tetraodoniformes with 1 family were noted during the study. owever the unscientific fishing, overexploitation, habitat modification, reclamation of paddy lds, domestic wastes and human activities, now the fish fauna of this wetland is under threat. ierefore sustainable management and careful monitoring are to be ensured for the conservation the rich biodiversity of these wetland ecosystem.

:y **words:** Diversity, Icthyofauna, Cyprinidae, Siluriforms, Beloniforms, Mugiliforms, orpaeniformes, Tetraodoniformes,

INTRODUCTION

etlands are among the most productive ecosystem in the world. Kerala abounds with iny wetlands including lakes, rivers, canals, ponds, paddy fields etc. In Kerala 210 ecies of fresh water fishes have been identified, of which more than 26 species are nsidered endemic (Nair & Shaji, 2003). Fish plays an important role, as it is not only eful for food but also be used in recreation and biological control. Most of the fishes : characterized by attractive colours and shades. Some fishes are of ornamental rieties having high potential in domestic and international markets (Radhakrishnan & irup, 2002). The basic objective of the present study is made to document the fish ina of Polachira wetland ecosystem. Hardly no reports on the study of the fish fauna of lachira wetland ecosystem is available, the present attempt is expected to be the first empt. The main scope of the wetland is irrigation, paddy cultivation and fishing rpose.

MATERIALS AND METHODS

The present study was carried out at Polachira, one of the important wetlands of rala Coast, located in the Southern part of Kollam district. It spreads over 600 hectares sprawling land at depth of 1m below ground level. A large number of birds have been hted at Polachira as a result of the biodiversity and abundance of fish. For the present 'estigation fishes were collected randomly from five stations. Samples were collected nonthly during the period of one year from October 2012 to September 2013.

Fishes were collected either personally or with the help of fishermen using indigenous fishing methods or were purchased from the fishermen on the spot. All the specimens collected were preserved in 10% formaldehyde and brought to the laboratory for further studies. Identification was done with the help of standard references viz. Fishes of India (Day, 1889; Talwar & Jhingran, 1991), The fresh water fishes of Indian region (Jayaram, 1999). The species were categorized into Data deficient, Least concern, Vulnerable and Harmless based on the IUCN status.

RESULTS AND DISCUSSION

A total 21 species belongs to 7 orders and 13 families and 15 genera were collected from the Polachira wetland ecosystem during the present study. The family Cyprinidae showed maximum individual diversity followed by the order Perciforms with 5 families, each orders Siluriforms, Beloniforms, Mugiliforms, Scorpaeniformes and Tetraodoniformes with 01 family were noted during the study. A classified list of species along with their IUCN status is given in Table I.

In the present study Order Cypriniforms was dominant with 10 speccies belongs to 3 families. Family Cyprinidae with sevan species *Puntius amphibious, P.filamentosus, p.sarana, p.vittatus, p.ticto, Danio malabaricus, Rasbora daniconius*; family Cobitidae with one species *Dayella malabaricus*; family Aplocheilus with two species *Aplocheilus lineatus* and *A.werneri.*

The Order perciforms represented by 6 species belongs to 5 families. Family Ambasidae with one species *Ambasis interrupta.* Family Channidae with species *Channa striatus*. Family Cichilidae with two species *Etroplus maculates* and *E.suratensis*. Family Gobiidae with one species *Oxyurichthys tentacularis* and family Anabantidae with one species *Anabas testudineus*.

Order Siluriformes consisted of single family Bagridae with species *Mystus oculatus*, Order Beloniformes with one family Belonidae with one species *Xenentodon cancila*, Order Mugiliformes with one family Mugilidae represented by one species *Mugil cephalus*, Order Scorpaeniformes consist of one family Scorpaenidae with one species *Synaptura orientalis* and the order Tetraodoniformes represented with single family Tetraodontidae with one species *Carinotetraodon travancoricus*.
According to IUCN status Oxyurichthys tentacularis come under Harmless category. *Carinotetraodon travancoricus* and *Synaptura orientalis* vulnerable category. This species is considered to be facing a high risk of extinction in the wild. *Puntius filamentosus, P. sarana, P. vittatus, P. ticto, Danio malabaricus, Rasbora daniconius, Dayella malabaricus, Aplocheilus lineatus, A. werneri, Mystus oculatus, Xenentodon cancila, Ambasis interrupta, Channa striatus, Etroplus maculates, E. suratensis* and *Mugil cephalus* are considered to be least concern. They are wide spread and abundant taxa which doesnot qualify for critically endangered, vulnerable or near threatened. *Puntius amphibious* and *Anabas testudineus* are well studied and their biology is well known. But appropriate data on abundance and distribution are lacking. So they are presently kept under data deficient category.

During the period of study *Puntius* species were most common. Similar observations were made by Devi Prasad *et al.* (2009) from major wetlands of Mysore district. But they

Table I : The Ichthyofaunal Diversity Of Polachira Wetland Ecosystem In Kerala during the period from October 2012 to September 2013.

S. No.	Order	Family	Scientific Name
1	Cyprinifniforms	Cyprinidae	*Puntius amphibius* (Valenciennes) [1]
			Puntius filamentosus (Valenciennes) [2]
			Puntius sarana (Hamilton)[2]
			Puntius vittatus (Day)[2]
			Puntius ticto (Hamilton)[2]
			Danio malabaricus (Jerdon) [2]
			Rasbora daniconius (Hamilton) [2]
		Cobitidae	*Dayella malabarica* (Day) [2]
		Aplocheilidae	*Aplocheilus lineatus* (Valenciennes) [2]
			Aplocheilus werneri (Meinken)[4]
2	Siluriformes	Bagridae	*Mystus oculatus* (Valenciennes)[2]
3	Beloniformes	Belonidae	*Xenentodon cancila* (Hamilton)[2]
4	Perciformes	Ambassidae	*Ambassis interrupta* (Bleeker)[2]
		Channidae	*Channa striatus* (Bloch)[3]
		Cichlidae	*Etroplus maculates* (Bloch)[2]
			Etroplus suratensis (Bloch) [2]
		Gobiidae	*Oxyuricthys tentacularis* (Valenciennes)[4]
		Anabantidae	*Anabas testudineus* (Bloch) [1]
5	Mugiliformes	Mugilidae	*Mugil cephalus* (Linnaeus) [2]
6	Scorpaeniformes	Scorpaenidae	*Synaptura orientalis* (Schneider & Bloch)[3]
7	Tetraodontiformes	Tetraodontidae	*Carinotetraodon travancoricus* (Hora& Nair) [3]

IUCN (2013) status : [1] Data deficient; [2] Least concern; [3] Vulnerable; [4] Harmless.

observed that the fish diversity was decreasing mainly due to manifold human activities. The present study revealed that Polachira rich in the diversity of fish species. However the unscientific fishing, overexploitation, habitat modification, reclamation of paddy fields, domestic wastes and human activities, now the fish fauna of this wetland is under threat. Therefore sustainable management and careful monitoring are to be ensured for the conservation of the biodiversity of these wetland ecosystem.

ACKNOWLEDGEMENT

The authors are thankful to the Principal, Sree Narayana College, Kollam for the facilities provided. The first author is also grateful to the University of Kerala for providing as financical assistance JRF to carry out the present work.

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(Manuscript Received : June 2016)