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Fish Fauna of River Arunai Matta Swat, Khyber Pakhtunkhwa, Pakistan

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Abstract:

The current study was conducted from January to December 2013 in order to explore the fish fauna of river Arunai Matta Swat Khyber Pakhtunkhwa Pakistan. In this study total number of 20 fishes belonging to 3 orders and 4 families were recorded. These species were Barilius modestus, Barilius pakistanicus, Cirrhinus mrigala, Crossocheilus diplocheilus, crossocheilus latius, Cyprinus carpio, Garra gotyla, Glyptothorax armeniacus, Glyptothorax cavia, Glyptothorax punjabensis, Glyptothorax sufii, Labeo rohita, Mastacembelus armatus, Paraschistura sargadensis, Puntius sarana, Puntius sophore, Salmophasia bacaila, Salmophasia punjabensis, Schizothorax plagiostomus, Schizothorax progastus. The dominant family was family Cyprinidae. The current study reveals the richness of fish fauna in river Arunai Matta Swat Khyber Pakhtunkhwa Pakistan.

Key words: Fish Fauna, River Arunai, Matta Swat.

Introduction

Fishes show huge diversity in their morphology, in the habitats

they occupy and in their life. Unlike the other frequently documented vertebrates, fishes are a diverse group (Forese and Pauly 1998).

The active features of these lotic ecosystems are the result of changes in water levels due to difference in rainfall in the catchment areas (Thorp et al. 2008).

This dynamics brings about changes in fish community structure which are frequently bring about by ecological aspect within the fluvial environment (Taylor et al. 2006), food availability (Goulding et al. 1988), species connections (Winemiller 1989), and fish movements (Taylor 1997).

Fish comprises half of the total number of vertebrates in the world and live in almost all possible aquatic habitats. A total of 8,411 freshwater fish species have been reported throughout the world, out of these 930 species live in freshwater aquatic system of India. India is one of the extra-large biodiversity countries in the world and occupies the ninth position in terms of freshwater extra-large biodiversity (Shinde et al. 2009).

About 180 species of fish are reported in Pakistan freshwaters, including representatives from important groups such as Loaches, carps and catfish. There are 28 fish species listed as living in cold waters of Pakistan. Most of the snow trout are confined to the Trans-Himalayan Region of the Indus system. According to most recent and authentic information inhabitant fresh water fish fauna of Pakistan comprises 179 species belonging to 82 genera, 26 families, 10 orders, 5 super orders and 3 cohorts (Mirza and Bhatti 1999).

The famous game fish Mahaseer and Schizothoracines are becoming rare due to over-fishing and the vanishing of spawning grounds, inundated by reservoirs such as Tarbela and the Ghazi Barotha (Ali et al. 2010).

Floods cause a sudden remarkable change in all environmental parameters and all these changes influence the organisms inhabiting the reservoir ecosystem from

microorganisms to fish (Godlewska et al. 2003). Large numbers of young fish die or are even lost during normal cyclic flooding in systems where the timing of high flows coincides with delicate life stages (Nehring and Miller 1987). Very young fishes may be mainly susceptible to floods because of their poor swimming capacity and small size (Harvey 1987).

The highest flood ever recorded in the River Swat was the mighty flood of July, 2010. The water discharges of River Swat recorded were 355,000 cusecs. The whole Khyber Pakhtunkhwa was affected by the flood and most of the dry land of the study area was drowned in water.

It was the first attempt to explore the fish fauna of river Arunai Matta Swat. Current study was design to explore the fish fauna of the river Arunai Matta Swat.

Methods and materials

Current study was designed to explore the fish fauna of river Arunai Matta Swat in the period of January to December 2013. The materials used in the current study cast nets, dragon nets, hooks, automatic rods, gill nets and hand nets. Fishes after collection were euthanized kindly and were preserved in 10% formalin. Identification and classification of these fishes was done through different taxonomic and systemic keys.

Result and Discussion

Current study was carried out in river Arunai Matta Swat Khyber Pakhtoonkhwa Pakistan in the period of April to October 2013. In the current study total no of 20 fishes belonging to 3 orders and 4 families were recorded from the river Arunai Matta Swat. These species were *Barilius modestus, Barilius pakistanicus, Cirrhinus mrigala, Crossocheilus diplocheilus, crossocheilus latius, Cyprinus carpio, Garra gotyla, Glyptothorax armeniacus, Glyptothorax*

cavia, Glyptothorax punjabensis, Glyptothorax sufii, Labeo rohita, Mastacembelus armatus, Paraschistura sargadensis, Puntius sarana, Puntius sophore, Salmophasia bacaila, Salmophasia punjabensis, Schizothorax plagiostomus, Schizothorax progastus.

According to (Mirza 2007) 39 fish species were reported from lower portion of River Swat. A recent survey of ichthyofaunal diversity conducted by (Hasan et al. 2013) comprised of 35 fish species from lower part of River Swat. According to (Saeed et al. 2013) 11 species were recorded from river Barandu District Buner Khyber Pakhtunkhwa Pakistan.

According to (Khan et al. 2008) 20 different fish species were collected and identified. Overall catches revealed domination of Cyprinus carpio, Oreochromis aureus, Labeo rohita, Labeo gonius, Notopterus notopterus, Clupisoma garua, Rita rita, Hypopthalmichthys molitrix, Ctenopharyngodon idella, Carassius auratus; whereas Gibelion catla, Cirrhinus mrigala, Eutropiichthys vacha, Wallago attu, Sperata sarwari, and Mastacembelus armatus with minimum richness.

In the current study total no of 20 fishes belonging to 3 orders and 4 families were recorded the details are shown in table 1.1.

Order	**Family**	**Fish specie**
Cypriniformes	Cyprinidae	Barilius modestus
Cypriniformes	Cyprinidae	Barilius pakistanicus
Cypriniformes	Cyprinidae	Cirrhinus mrigala
Cypriniformes	Cyprinidae	Crossocheilus diplocheilus
Cypriniformes	Cyprinidae	Crossocheilus latius
Cypriniformes	Cyprinidae	Cyprinus carpio
Cypriniformes	Cyprinidae	Garra gotyla
Cypriniformes	Cyprinidae	Labeo rohita
Cypriniformes	Cyprinidae	Puntius sarana
Cypriniformes	Cyprinidae	Puntius sophore
Cypriniformes	Cyprinidae	Salmophasia bacaila
Cypriniformes	Cyprinidae	Salmophasia punjabensis
Cypriniformes	Cyprinidae	Schizothorax plagiostomus

Cypriniformes	Cyprinidae	Shizothorax progastus
Cypriniformes	Nemacheilidae	Paraschistura sargadensis
Synbranchiformes	Mastacembelidae	Mastacembelus armatus
Siluriformess	Sisoridaes	Glyptothorax armeniacus
Siluriformess	Sisoridaes	Glyptothorax cavia
Siluriformess	Sisoridaes	Glyptothorax punjabensis
Siluriformess	Sisoridaes	Glyptothorax sufii

Table 1.1: Table showing the fishes recorded during study

According to (Ross et al. 1985) the richest family reported was Cyprinidae and was represented by 20 species, Nemacheilidae by 4, Sisoridae by 6, Channidae and Schilbidae by 2, Mastacembelidae, Schilbidae, Belonidae and Chandidae by single species.

According to (Mirza et al. 2011) 1,154 fish specimens were collected belonged to 17 families, 39 genera and 51 species. The most abundant family was Cyprinidae represented by 67% of the total individual followed by Chandidae with 10%.

According to (Saeed et al. 2013) 11 species were reported from river barandu district buner Khyber pakhtoonkhwa Pakistan, belonging to 3 orders and 4 families. In current study 20 species were collected belonging to 3 orders and 4 families. The richest family was family Cyprinidae in which 14 species were recorded, followed by family Sisoridae in which 4 species were recorded and in family Nemacheilidae and Mastacembelidae 1 specie was recorded. The dominancy of families is shown in Table 1.2.

Family	**Frequency**	**Percentage**
Cyprinidae	14	70.00 %
Nemacheilidae	1	5.00 %
Mastacembelidae	1	5.00 %
Sisoridae	4	20.00 %

Table 1.2: Dominancy of fishes by family

Conclusion

In the present study a total number of 20 species were recorded

belonging to 3 orders and 4 families. The study reveals that the fauna of the river was rich. The available threats to fish fauna of the valley were the domestic savage.

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