



E-ISSN: 2320-7078  
P-ISSN: 2349-6800  
JEZS 2016; 4(6): 240-243  
© 2016 JEZS  
Received: 01-09-2016  
Accepted: 02-10-2016

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## Ichthyofauna of Khuram dam located in district Karak K.P.K, Pakistan

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### Abstract

The main objective of the research work was to find out the diversity of ichthyofauna of Khuram dam located in district Karak K.P.K, Pakistan. In the present study six species were identified, the five species belongs to single family Cyprinidae i.e. *Cyprinus Carpio*, *Crossocheilus diplochilus*, *Ctenopharyngodon idella*, *Salmophasia bacaila*, *Aspidoparia morar* and one species belong to family Siluridae i.e. *Ompok Pabda*. So from the present study, it may be concluded that Khuram dam is favorable for fish survival and hatchery. Hence, our study will provide useful information about the diversity of fish fauna of Khuram dam that could be later valuable in systematic, fisheries management and conservation.

**Keywords:** Khuram dam, ichthyofauna, cyprinidae, siluridae

### 1. Introduction

Biodiversity refers to the extent, diversity and distribution across biological scales ranging through genetics and life forms of populations, species, communities and ecosystems [1]. Fisheries is a major foreign currency earner and a chief occupation for the coast line habitants of Pakistan [2]. In 2006, Imports of fish were negligible while exports were in the amount of 196 million USD in Pakistan [3]. Fishes are Poikilothermic, aquatic chordate with appendages developed as fins, respire through the gills and their body is usually covered with scales [4]. Due to dietary contents proteins, fats, vitamin a, d, phosphorous and other compound/element presence in ichthyofauna has been used as a diet of human since immemorially. It also enhances the economic level [5].

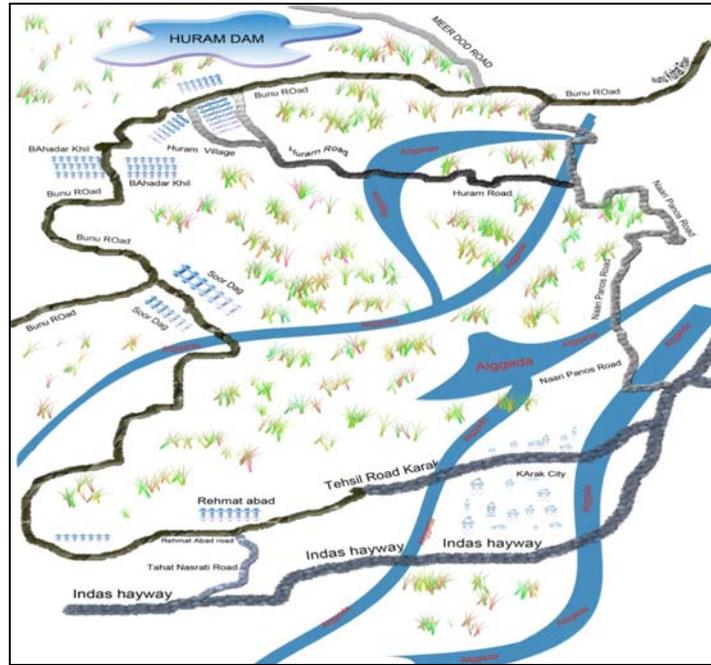
According to Jayaram, [6] (1999) out of the total 40,000 species of vertebrates, 21, 723 are fishes. Round about 173 fresh water species and 786 marine species have been described from Pakistan [7]. About 35 species of fishes from Peshawar district, and 5 species from Mardan district were reported in a survey in 1963 [8]. In Pakistan, first work on the fish fauna was done by Ahmad [9] in which fish fauna of the West Pakistan were identified. Many researchers had also made an important contribution to the fish fauna of the Pakhtunkhwa. Butt identified 94 species of fish fauna from the whole province of Khyber Pakhtunkhwa [10]. Nisar [11] explored 23 species of fish fauna of Tanda Dam Kohat; Hussain and Shah [12] recorded 6 species from river Swat; Shahjehan and Khan [13] reported 26 fishes belonging to 8 families from Baran Dam, Bannu. The first contribution to explore the fish fauna of River Swat was done by Ahmad and Mirza [14] were the first who identified 8 species of fish from Swat, including two new approaches; Naveed *et al.* [15] describes the fish fauna of Barandu of District Buner; Asmat *et al.* [16] studied the diversity of fish fauna in Baran dam of district Bannu. After latter, Khattak *et al.* [17] also describe 24 species of fish in the River Kabul at Nowshera district and Hasan *et al.* [18] were identified 10 fish species from the Sharki Dam of District Karak. The objective of the research work was to find out the Ichthyofauna of Khuram Dam Located in District Karak K.P, Pakistan.

### 2. Study area

Karak a scar drinking water are located in the Northern districts of K.P (Pakistan) located some 150 km from Peshawar on Indus highway (from Karachi to Peshawar). It is found to be located at 33°7'12 North latitude 71°5'41 East latitude. Karak is the most literate and richest city of plenty deposits of oil, gas, uranium and salt in Pakistan which have a vital role in the economy of the country.

Khuram dam is located in the Northern area of the Karak district. The dam was constructed by the K.P.K Government of Pakistan in 2010. It is located at a distance of 35 kilometers from district through Nari Panos Road and at a distance of 47

kilometers through Bhadarkhel road. The length of the dam is about 600 meters and width 30 to 35 meters. The depth of the dam varies from 40 to 50 feet.



### 3. Materials and Methods

The fish sample was collected from the different site of the khuram dam with the help of local fisherman using different types of catch nets which are followed, hand nets, cast nets, and different size of hooks with regular intervals. The collection was made from the different sites of the dam to prevent the missing of species during the period from August 2016 to September 2016. After the collection immediately photographs were taken and then immediately the same species were preserved with 10% formalin, and 10% alcohol in bottle with respect to the size of the species. To avoid the

bacterial infection, since formalin decolorizes the fish color on long preservation. After that, all samples were taken in the laboratory of the Department of Zoology of Government post graduate college of Karak. In laboratory each species were identified upto species level and the reorganization of the species was made mainly on the basis of the color pattern, specific spots or marks on the surface of the body, shape of the body, the structure of various fins etc, by using different books hints and different systemic and identification keys [19, 20, 21].



Fig 1: Khuram dam view.

### 4. Results and Discussion

The results of Fish fauna of Khuram dam of the District Karak KPK, with scientific name and common name and their taxonomic position upto species level are given. Studying fish fauna of an area is a very important task as it provides baseline information about the species used for human consumption. Most people depend only on a few important species as food; hence studies could identify actual food and market potential of an area or a water body. This type of study

also provides information about the availability, abundance, population dynamics and conservation status of fish species of an area. Strategies can be developed on the basis of these studies to conserve and to culture a species from certain environment. This survey of fish fauna confirms the presence of 6 species of two order Cypriniformes and Siluriformes and two families such as Cyprinidae and Siluridae. More than 32 samples of the species were collected from different sites of the Khuram dam and were identified properly as 6 species.

Detail of the following species was given in below table, 1. The five species belong to one family Cyprinidae, *Cyprinus carpio*, *Crossocheilus diplochilus*, *Ctenopharyngodon idella*,

*Salmophasia bacaila*, *Aspidoparia* Morar and one belong to family Siluridae *Ompok pabda*.

**Table 1:** Taxonomic position of Khuram dam fishes.

S.N	Class	Order	Family	Genus	Species
01	Actinopterygii	Cypriniformes	Cyprinidae	Ctenopharyngodon	<i>C. idella</i>
02	Actinopterygii	Cypriniformes	Cyprinidae	Crossocheilus	<i>C. diplochilus</i>
03	Actinopterygii	Cypriniformes	Cyprinidae	Cyprinus	<i>C. carpio</i>
04	Actinopterygii	Cypriniformes	Cyprinidae	Aspidoparia	<i>A. morar</i>
05	Actinopterygii	Cypriniformes	Cyprinidae	Salmophasia	<i>S. bacala</i>
06	Actinopterygii	Siluriformes	Siluridae	Ompok	<i>O. pabda</i>

Thus the results of the present study revealed that most fish species recorded in the Khuram dam are belong to the family Cyprinidae. Hence the members of the family Cyprinidae were found to be highly abundant in Khuram dam of Karak district as compared to the other families. Our result was also in agreements with Haseeb *et al.* [22], Hasan *et al.* [23] who have also reported family Cyprinidae the richest family represented by great number of species found in freshwater reservoirs of various districts in Khyber Pakhtunkwa province of Pakistan. Another good efforts were done on the Zebi dam, of District Karak was done by Ilyas [24] who reported about cyprinidae species which are following *Cyprinus carpio*, *Barilius vagra*, *Labeo rohita*, *Carassius auratus*, *Catla catla*, *Cirrhinus mrigala*, *Ctenopharyngodon idella*, *Puntius ticto*, *Puntius sophore*, *Hypophthalmichthys molitrix*, respectively. Our present collection of fish fauna sample also contains six species from the above mentioned species.

Butt describes 94 species of fishes from the whole province of K.P.K [10]. Similarly Mirza *et al.* identified 13 species of fishes from river Kurram [25]. Nisar worked on the fishes of Tanda Dam Kohat and reported 23 species among which 7 species of *Cyprinus carpio*, *Barilius vagra*, *Labeo rohita*, *Barilius Pakistanicus*, *Hypophthalmichthys molitrix*, *Crossocheilus latius* and *Mastacembelus armatus* [11] some of the species were identified during present survey. According to the Sarkar *et al.* [26], a major decline in the distribution of some fish species might be as a result of pollution, habitat loss, changes in environmental conditions, illegal fishing and over harvesting as food fish, ornamental trade. Hameed *et al.* [27] have described six species from Ghandiali Dam, District Kohat in 2015, which were belong to two orders, two families, five genus and six species. Among them five species were belonging to family cyprinidae and only one specie belongs to Hypophthalmidae. As a result, the distribution ranges of some species have shrunk tremendously over the last decades and restricted only to localized areas.

## 5. Conclusion

To conclude, it can be said that the Ichthyofauna of this region is not so rich due to the introduced species and rain filled lentic habitats. The water bodies of district Karak are located in the hilly area and far away from the access of people, so the water body is still safe from heavy pollution and other human activities. This water body can support a greater number of fish species if proper stocking and care is done. It is also observed that during the rainy season a large number of fries, fingerling and adult fishes are swept away with overflowing water. Government should pay due attention for the fisheries development in the reservoir. The fingerlings of new fish species should be introduced in the dam to enhance the fish production in the region to provide cheap and best quality proteins to the people of the area.

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