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## Freshwater fish fauna of Khaisari (Ghundi Shahbaz Khan) dam located in district Karak K.P. Pakistan

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### Abstract

The objective of the present research work was to find out the diversity of fish fauna of Khaisari (Ghundi Shahbaz Khan) located in district Karak K.P. Pakistan. The fishes were caught with Hooks, container and different kind of nets. After that same specimen were preserved in 70% Alcohol and some in 10% Formalin solution in bottles. In the present study four species were identified *Labeo rohita*, *Hypophthalmichthys molitrix*, *Cirrhinus cirrhosus*, *Cyprinus carpio* upto species level, all these four species belong family cyprinidae. So from the present study it may be concluded that Khaisari (Ghundi Shahbaz Khan) is favorable for fish Cyprinidae family. Hence, the present study will provide useful information about the diversity of fish fauna of Khaisari (Ghundi Shahbaz Khan) dam that could be later valuable in systematic, fisheries management and conservation

**Keywords:** Khaisari (Ghundi Shahbaz Khan) dam, Biodiversity, Karak

### 1. Introduction

Ichthyo-diversity refers to the variety of fish species; depending on the background and scale, it could refer to alleles or genotypes within the fish population to species of life forms within a fish society and to species or life forms across aqua regimes [1]. Fish are cold blooded aquatic vertebrates typically with backbone, gills and fins and are primarily dependent on water is a medium in which they live. There are a number of fish species differing in size, shape and habitats. Some have become parasitic, while the other lives in caves. They are found from the arctic to the Antarctic and some species carry out great migration [1]. Some fish remain constantly in one environment other move from one place to another during their lifetime as they grow to maturity, or migrate seasonally [2]. Fishes are the aquatic poikilotherms vertebrates (chordate) with appendages' in the form of fins which arises from the skin [1-2]. Many researchers conducted research on fish biodiversity in Pakistan. Abdul Haseeb *et al* in 2015, conducted study an investigation on the freshwater fish fauna of Tanda Dam in Kohat district, Khyber Pakhtunkhwa province of Pakistan and reported 11 species [3]. Asim *et al* in 2016, conducted Ichthyofaunal diversity on Muzaffargarh and Taunsa Punjab (TP) link canals, Punjab, Pakistan and reported 7 species [4]. Asmat *et al* in 2014 studied the diversity of fish fauna in the Baran dam of district Bannu, Khyber Pakhtunkhwa province (KPK), and reported 15 species [5]. Hameed *et al* in 2016, examine the Ichthyofauna of dandy dam north Waziristan agency of FATA, KPK, Pakistan and documented 5 species [6]. Hameed *et al* 2016, conducted studies on Dargai dam and reported 5 species [7]. Hameed *et al* 2016 study the current status of fish diversity of Barganat dam and documented 10 species [8]. Hameed *et al* 2015, conducted survey on the biodiversity of Ghandiali dam fishes and reported 6 species [9]. Hameed *et al* in 2015 reported 7 species from Darwazai dam as well as reported 13 species from Gomal zam dam, 7 species reported from Talai dam 7 and 5 from Darmalak dam and Shnebaye stream respectively [9-14]. Haseeb *et al* reported 13 species from Tanda dam with new recorded and Zubia *et al* documented 5 species from Damai stream [14-15]. Hameed *et al*, recorded 6 species from Zebi dam district karak as well as Hameed *et al* again explore 4 species from Sarki Lawaghar dam and Tahir *et al* reported 6 species from Ghole dam Bahadar khel district Karak [17-19]. The present research was undertaken to find out the diversity of fish fauna of Khaisari (Ghundi Shahbaz Khan) district Karak K.P. Pakistan.

### 2. Materials and Methods

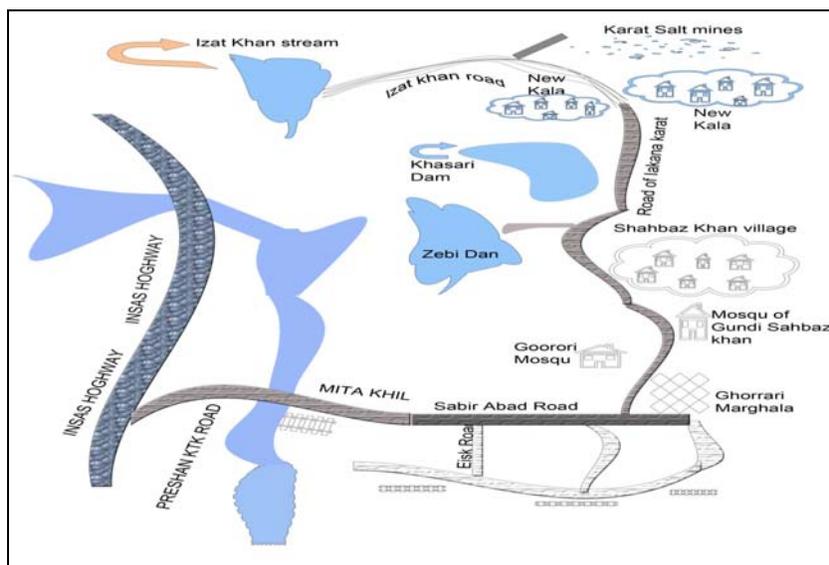
Ichthyofauna (fishes) was caught for collection from different local water bodies of Karat. Region Tehsil and district Karak at various times of the study period with the facilitation of

local fisherman. The collection was carried out from April to September (2016). The fish fauna were collected from different sites of individual dam (start, mid and from end) to avoid the species missing. The fishes were caught with Hooks, container and different kind of nets. After that same specimen were preserved in 70% alcohol and some in 10% formalin solution in bottles with respect to their size while the large sized fishes were injected with formalin in their abdomen to avoid the Bacterial infection (contamination) and place in the lab for further study and identification. The meristics were noted to count and shape/size wise characters were studied. By using various books hints and fish/standard keys of [13] and [14] fishes were identified up to the species level.

**2.1 Study area**

Karak is a dry drinking water area located in Northern Districts of K.P (Pakistan) located some 150 km from

Peshawar at Indus highway (from Karachi to Peshawar). It is located at 33°7'12 North latitude 71°5'41 East latitude. Topographically Karak consist of broken hills and some 600–1400 meter above the sea level. It lies in the division Kohat, 1stly 1940–1982. It was a part of District Kohat but in July 01, 1982 became independent District along with 03 Tehsils. 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. Khaisari dam the dam lies in Ghundi Shahbaz Khan located some 24km from main city Karak on Preshan Khattak road, just some 18 Km (east from Indus highway). Khaisari dam was built by the joint soil conservation department and fishery department Karak in 2006. It covers about 90–110 acres and having a depth of 35–40 feet's ranging from the water storage capacity of about 3, 20,000 litter. This dam is wholly dependent on rain water.



**Fig 1:** Location of sampling sites: Khaisaridam (Ghundi Shahbaz Khan).



**Fig 2:** An overview of Khaisari dam.

**3. Result and Discussion**

The present survey was done to find out the ichthyofauna of Khaisari dam. There was no related work present in the ichthyofauna of the region and is the first effort to find and

identified there ichthyofauna. During the survey 4 species were recorded up to species level. Cyprinid fishes are the major fauna influences the human life in various ways and comprises about 90% of the total fishes.

**Table 1:** Fishes collected from Khaisari dam.

S. No	Class	Order	Family	Species	No of catch
1	Actinopterygii	Cypriniformes	Cyprinidae	<i>L. rohita</i>	213
2	Actinopterygii	Cypriniformes	Cyprinidae	<i>C. cirrhosus</i>	172
3	Actinopterygii	Cypriniformes	Cyprinidae	<i>H. molitrix</i>	204
4	Actinopterygii	Cypriniformes	Cyprinidae	<i>C. carpio</i>	344

Among all these 4 species *C. carpio* was the enrich one which were found in the study area. The khaisari dam have relatively (50 to 55%) of more ichthyofauna than Izatt khan stream so these fishes provide a great food stuff and influence human life in various manners. Amjad *et al*, 2016 conducted a study on Chambai dam located in District Karak K.P.K, Pakistan. Fish of the Chambai dam were collected from the different region of Chambai Dam with the help of dam contractor using various types of nets like hand nets, cast nets and hooks from August 2016 to September 2016. In the present study three species were identified *Labeo rohita*, *Hypophthalmichthys molitrix*, *Catla catla* belonging to order Cypriniformes and family Cyprinidae [20]. Faisal *et al* 2016, conducted a survey Muhabbatkhel dam (Lake Kana) located at district Karak Khyber Pakhtunkhwa, Pakistan. During our survey 04 different species were identified naming *Labeo rohita*, *Hypophthalmichthys molitrix*, *Cyprinus carpio*, *Cirrhinus cirrhosus* belonging to order Cypriniformes and species Cyprinidae [21]. From the present research it can be concluded that Chambai dam will be best for the fish Cyprinidae family. Absence of river in District Karak compelled the ichthyofauna to live at rain filled dams and water bodies yet no detailed study of fresh water fishes are achieved but some researchers take their contribution e. From present study *Labeo rohita*, *Hypophthalmichthys molitrix* and *Cyprinus carpio* were likely to be the dominant species and were abundantly found in province relatively to the other species. The most dominant species was *Cyprinus carpio* which was found to enrich during study period. It clearly showed that the ichthyofauna can tolerate a wide range of temperature (as low and high both) while the absence may cause due to some environmental condition/factor and may any one not try to cultivate/introduce the fingerling of other species in water bodies or dams.

#### 4. Conclusion

From the present study it may concluded that these water bodies have the ability to support a Cyprinidae species. At heavily raining a greater number of fingerlings and adult are swept out due to over flowing if the Government provides great facilitation and give much attention the fishes should developed better and enormously increase their number. The fisheries department should introduce fingerling of various species in to the water bodies/reservoir which enhance the fish production and provide cheap and best source of meat and proteins to nearby population.

#### 5. Acknowledgement

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