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## Ichthyofauna of Dandy dam North Waziristan Agency of FATA, KPK, Pakistan

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#### Abstract

A study was conducted in Dandy dam North Waziristan from July 2010 to June 2011. During the present study about five species were identified which are *Cyprinus carpio*, *Hypophthalmichthys molitrix*, *Ctenopharyngodon idella*, *Cirrhinus cirrhosus* and *Tor tor*. From the above study it may be concluded that Dandy dam environment is favourable for cyprinidae species.

**Keywords:** Dandy dam North Waziristan, Fishes.

#### Introduction

Fishes are Poikilothermic, aquatic chordate with appendages developed as fins, whose chief respiratory organs are gills and whose body is usually covered with scales<sup>[1]</sup>. Fishes have become an important item of human diet from time immemorial and their diet provides proteins, fat and vitamins A and D, phosphorous and other elements etc. having a good taste and is easily digestible<sup>[2]</sup>. Fish exhibit vast diversity in their morphology, in the habitats they occupy and in their biology<sup>[3]</sup>. Study of aquatic biodiversity is a very important phenomenon; because it gives vital information regarding about the whole living beings that are found in the water bodies. Studying fishes of a specific area is the first effort to understand the aquatic ecosystem of that area. Another importance of studying the fish diversity is that, it can generate ideas to identify new productive species for culture practices and their use in human consumption<sup>[4]</sup>. Fish display the greatest biodiversity of the vertebrates (animals with backbones) with over 22,000 species<sup>[4]</sup>. Out of these, about 58 percent are marine, 41 percent are freshwater species, and 1 percent move is rakish. As expected, marine fishes are the most diverse because saltwater covers 70 percent of the earth. Only 1 percent of the earth is covered by freshwater. This small area is home to 8,000 species of freshwater fishes<sup>[5]</sup>. In Pakistan, there are about 193 species of fresh water fishes which belongs to 13 orders, 30 families and 86 genera<sup>[5]</sup>. Economically important fish fauna are about 30 species are *Labeo rohita*, *Hypophthalmichthys molitrix*, *Catla Catla*, *Cirrhinus mrigala*, *Cirrhinus reba*, *Ctenopharyngodon idella*, *Channa straita*, *Channa marulius*, *Sperata sarwari*, *Wallago attu*, *Bagarius bagarius*, *Tenulosailisha*, etc.<sup>[6]</sup>. Many researchers had important contributions to the fish fauna of the Khyber Pakhtunkhwa. Butt<sup>[7]</sup> had reported 94 species of fishes from the whole province of Khyber Pakhtunkhwa. Hussain and Shah<sup>[8]</sup> have identified 6 species from river Swat; Haseeb *et al.*<sup>[9]</sup> have explored 11 species of fish fauna of Tanda Dam Kohat; Shahjehan and Khan<sup>[10]</sup> have 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<sup>[11]</sup> who identified 8 species of fish from Swat, including two new loaches; Naveed *et al.*<sup>[12]</sup> have recorded fish fauna of Barandu of District Buner; Asmat *et al.*<sup>[13]</sup> have studied the diversity of fish fauna in Baran dam of district Bannu. Lately, Khattak *et al.*<sup>[14]</sup> have identified 24 species of fishes in River Kabul at Nowshera district and Hasan *et al.*<sup>[15]</sup> have reported 10 fish species from the Sharki Dam of District Karak. Dandy Dam is small earth filled dam in North Waziristan Agency of FATA, Pakistan. Waziristan is divided into two "agencies", North Waziristan and South Waziristan, with estimated populations (as of 1998) of 361,246 and 429,841 respectively. North Waziristan, abbreviated as NWA, is the northern part of Waziristan, a mountainous region of northwest Pakistan. Dandy Dam is small earth filled dam in North Waziristan Agency of FATA, Pakistan. The dam has a height of 101 feet, covered a length of around 1764 feet, with actual storage capacity of water 2907 acre feet. The dam

Irrigates around 2000 acres of area. The dam has a height of 101 feet, covered a length of around 1764 feet, with actual storage capacity of water 2907 acre feet. The dam irrigates around 2000 acres of area an earth fill dam of 84 ft. height

with gross storage capacity of 4780 AF has been constructed with the following benefits: Agricultural benefits from the command area of 688 acres Fisheries benefits etc. [16].



**Map:** Showing Dandy Dam North Waziristan Agency of FATA.

**Materials and Methods**

Fish samples were collected from the different regions of Dandy Dam North Waziristan Agency of FATA, i.e., middle, southern, eastern and western sides of the dam by using small meshed cast nets, hooks and scoop nets. Samples were collected during the month of July 2010 to June 2011.

**Fish Identification and Preservation:** After collection, samples were preserved and then transfer to the Laboratory for proper identification. Fishes were properly identified in

laboratory by using keys of fish identification. All the samples were preserved for long term preservation in separate plastic jar while using 10% formalin solution [17, 18].

**Results and Discussion**

During the Survey of Dandy Dam North Waziristan Agency of FATA about five species were collected and identified properly, which were belongs to same orders, same families,

**Table 1:** Taxonomic classification of fishes of Dam North Waziristan Agency of FATA.

Name	Order	Family	Genus	Species
Common Carp	Cypriniformes	Cyprinidae	Cyprinus	<i>C. carpio</i>
Silver Carp	Cypriniformes	Cyprinidae	Hypophthalmichthys	<i>H. molitrix</i>
Grass Carp	Cypriniformes	Cyprinidae	<i>Ctenopharyngodon</i>	<i>C. idella</i>
Mori	Cypriniformes	Cyprinidae	Cirrhinus	<i>C. cirrhosus</i>
Mahseer	Cypriniformes	Cyprinidae	Tor	<i>T. tor</i>

Five genus and five species. Among them all the five species were belongs to family cyprinidae. (Tables 1). These five species of family cyprinidae were, *Cyprinus carpio*, *Hypophthalmichthys molitrix*, *Ctenopharyngodon idella*, *Cirrhinus cirrhosus* and *Tortor* were belonging from kingdom Animalia, phylum chordate, class actinopterygii and order cypriniforms. The result of the present study revealed that all of the species in Dandy Dam North Waziristan Agency of FATA were belongs to a single family cyprinidae. In list displayed by IUCN *Cyprinus carpio* was considered as vulnerable species [19]. Climatic factor such as droughts could also effect on the distribution of cyprinid fishes as described by Lachner and Jenkins [20]. Thus, the abundance cyprinid species throughout the study period was indicates that the habitats and environmental conditions of Dandy Dam of was more suitable for the growth and reproductive success of these cyprinid species that might be because like many other fishes, cyprinid fishes have more ability to adapt themselves

according to the changing in the environmental conditions in which they lived.

**Conclusion**

From the above study it may be concluded that Dandy dam North Waziristan Agency of FATA is having rich fauna of cyprinidae species.

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