



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

Saqib Younas
Department of Zoology,
Govt. Post Graduate College,
Karak, KPK, Pakistan

Faisal Junaid
Department of Zoology,
Govt. Post Graduate College,
Karak, KPK, Pakistan

Shafullah Gul
Department of Zoology,
Govt. Post Graduate College,
Karak, KPK, Pakistan

Hameed Ur Rehman
Department of Chemistry,
Kohat University of Science and
Technology- 26000, KPK,
Pakistan

Khalid Usman
Department of Zoology Garden
Campus, Hazara University,
Mansehra.

Waqar Ahmad
Department of Chemistry,
Islamia College University
Peshawar, KPK, Pakistan

Bakht Ullah Khan
Department of Zoology,
Hazara University, Mansehra.

Muhammad Ateeq
Department of Microbiology,
Kohat University of Science and
Technology- 26000, KPK,
Pakistan

Shehzad Zareen
Department of Zoology,
Kohat University of Science and
Technology- 26000, KPK,
Pakistan

Kausar Saeed
Department of Zoology,
Abdul Wali Khan University
Buner Campus Mardan.

Correspondence
Hameed Ur Rehman
Department of Chemistry,
Kohat University of Science and
Technology- 26000, KPK,
Pakistan

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

Saqib Younas, Faisal Junaid, Shafi Ullah Gul, Hameed Ur Rehman, Khalid Usman, Waqar Ahmad, Bakht Ullah Khan, Muhammad Ateeq, Shehzad Zareen and Kausar Saeed

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].

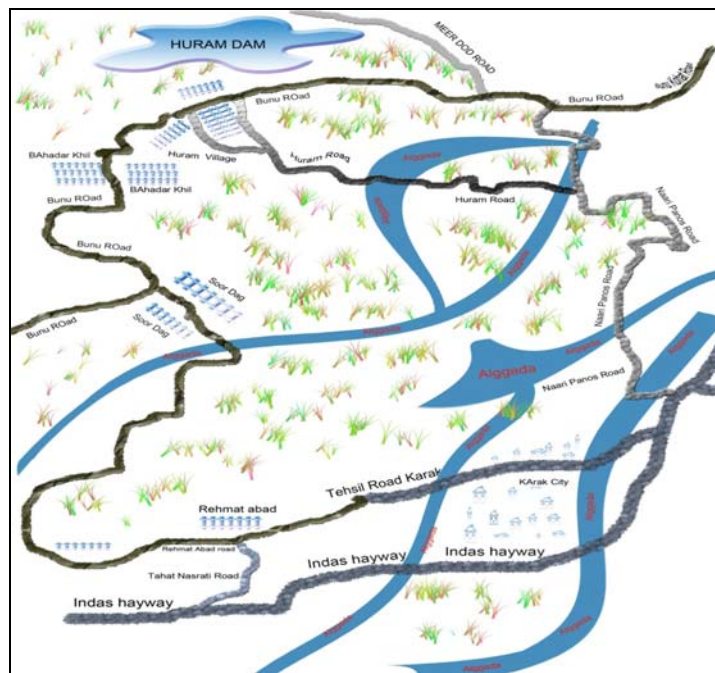
According to Jayaram, [6] (1999) out of the total 40,000 species of vertebrates, 21, 723 are fishes. Round about 173 fresh water species and 786 marine species have been described from Pakistan [7]. About 35 species of fishes from Peshawar district, and 5 species from Mardan district were reported in 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.

6. References

- Mace G, Masundire H, Baillie J, Ricketts T, Brooks T. Biodiversity. In: Hassan, R., Scholes, R., Ash, N. (Eds.), Ecosystems and Human Well-Being: Current State and Trends (Findings of the Condition and Trends Working Group). Island, 2005, 77-122.
- Hassan A, Ishaq M, Arshad M. Economics of trout farming in the northern areas of Pakistan, SJA, 2007; 23:2.
- WWF Pakistan, <http://pakistanwetlands.org>
- Berra TM. Freshwater fish distribution, San Diego, CA: Academic Press, 2001.
- Ashok K. Studies on ichthyofaunal diversity with special reference to monthly and seasonal variation of fish landing in glacial fed mountainous Goriganga river of Kumaun Himalaya, Uttarakhand, India, Res. J. Animal, veterinary and fishery Sci. 2014; 2(4):1-2
- Jayaram KC. Freshwater Fishes of the Indian Region. Narendra Publishing House, Delhi, India, 1999.
- Mirza MR, Alam SK. Ichthyo regions of Indus River, Sci. Int, Lahore 2000; 12(2):143-149.
- Ahmad N. Fishery Gazetteers of West Pakistan. Lahore, 1963, 1-122.
- Ahmad ND. Fresh water fauna of West species throughout the study period was indicating that Pakistan. Agric. Pakistan, 1963; 14:77-82.
- Butt JA. Fish and Fisheries of N. W. F. P, of Kohat district was more suitable for the growth and Pakistan. Biologia (Pak), special supplement, 1986; 27:21-34.
- Nisar M. Fish fauna of Tanda dam, Kohat, KPK. M.Sc Thesis report, library, Department of Zoology, University of Peshawar, Peshaw, Pakistan, 1998.
- Hussain KA, Shah SZA. Survey report of River Swat, Swat state with special reference totrotout culture. Agriculture Pakistan, 1960; 11:301-310.
- Shahjehan IA, Khan H. Ichthyofauna of Baran dam, district Bannu, KPK Pakistan. JSTUP, 2000; 22:39-43.
- Ahmad ND, Mirza MR. Loaches of genus Nemacheilus Hasselt from swat state, West Pakistan. PJS, 1963; 15:75-81
- Naveed A, Kausar S, Shahroz K. Fresh water record on fish fauna of River Barandu District Buner Khyber Pakhtunkhwa, Pakistan, JZS, 2014; 1(6):23-26.
- Asmat U, Hikmat U, Rehman A, Zubia M, Faiz-Ur-Rhman, Hameed-Ur-Rehman *et al.* The diversity of fish fauna in Baran dam of district Bannu, Khyber Pakhtunkhwa province (KPK), Pakistan. IJAR, 2014; 2(9):136-145.
- Khattak RH, Aziz F, Ejaz-Ur-Rahman, Zaidi F. Ichthyofauna of river Kabul at Nowshera, Khyber Pakhtunkhwa, Pakistan. IJBS, 2015; 2(2):57-61.
- Hasan Z, Khan MA, Ali Z, Zia Q, Zubia M, Khan W.

- Fish Diversity of SharkiDam, District Karak, Khyber Pakhtunkhwa, Pakistan. SURJ (Science Series), 2015; 47(1):167-170.
19. Nelson JS. Fishes of the World, 4th ed. John Wiley & Sons, Hoboken, New Jersey, 2006, 601.
 20. Mirza MR. Pakistan ketazapani, kemachlian, Urdu Science Board, Pakistan, 1990.
 21. Jayaram KC. The Fresh water Fishes of Indian region.
 22. Haseeb A, Azeem T, Masood Z, Mengal F. An Investigation on Freshwater Fish Fauna of Tanda Dam in Kohat District, Khyber Pakhtunkhwa Province of Pakistan, Global Veterinaria, 2015; 14(4):576-581.
 23. Hasan Z, Khan W, Rehman MA, Khan LJ, Sanauallah. Comparative Abundance of fish fauna of different stream of Bajaur, Agency Khyber Pakhtunkhwa Pakistan. Biologia (Pak), 2014; 60(1):159-163.
 24. Ilyas M, Dam Karak. Thesis, report library Department of Zoology University of Peshawar, Pakistan, 2004.
 25. Mirza MR, Ali I, Javid MN. A Contribution to the fishes of Kurram Agency Pakistan, Punjab Uni. J Zool. 1993; 8:37-40.
 26. Sarkar UK, Pathak AK, Sinha RK, Sivakumar K, Pandian AK, Pandey A *et al.* Freshwater fish biodiversity in the River Ganga (India): changing pattern, threats and conservation perspectives. RFBF, 2012; 22(1):251-272.
 27. Rehman HU. Biodiversity of Fish Fauna of Ghandiali Dam, District Kohat, Khyber Pakhtunkhwa, Pakistan, WASJ. 2015; 33(9):1511-1513.