Journal of Entomology and Zoology Studies

Available online at www.entomoljournal.com

J E Z S Journal of Entomology and Zoology Studies

E-ISSN: 2320-7078
P-ISSN: 2349-6800
JEZS 2016; 4(5): 608-610

Received: 26-07-2016
Accepted: 27-08-2016

Abdul Haseeb
Department of Zoology, Kohat University of Science and Technology-26000, KPK, Pakistan

Yaseen
Department of Zoology, GPGC Dargai Malakand, Pakistan

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

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

Sumbal Haleem
Department of Zoology, Kohat University of Science and Technology-26000, KPK, Pakistan

Haidar Ali Khan
Department of Zoology, Abdul Wali Khan University Mardan (Buner Campus), Pakistan

Adil Khan
Department of Zoology, Abdul Wali Khan University Mardan (Buner Campus), Pakistan

Raqeebullah
Department of Zoology, Abdul Wali Khan University Mardan, Pakistan

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

Kausar Saeed
Department of Zoology, Abdul Wali Khan University Mardan (Buner Campus), Pakistan

Feroz Khan
Department of Zoology, Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi

Naseem Rafiq
Department of Zoology, Abdul Wali Khan University Mardan, Pakistan

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

Ichthyo-diversity of Naryab dam district Hangu Khyber pakhtunkhwa Pakistan

Abdul Haseeb, Yaseen, Hameed Ur Rehman, Shehzad Zareen, Sumbal Haleem, Haidar Ali Khan, Adil Khan, Raqeebullah, Waqar Ahmad, Kausar Saeed, Feroz Khan and Naseem Rafiq

Abstract
The objective of the research work was to find out the diversity of fish fauna of Naryab dam located in district Hangu, K.P.K, Pakistan. In the present study seven species were identified *Labeo rohita*, *Hypophthalmichthys molitrix*, *Hypophthalmichthys nobilis*, *Catla catla, Tor khudree, Anguilla anguilla, Ompok pabda*. The first five species belong from family Cyprinidae, while *Anguilla anguilla* from family Anguillidae and *Ompok pabda* belongs to family Siluridae. So from the present study it may be concluded that Naryab dam is favorable for fish survival and hatchery. Hence, our study will provide useful information about the diversity of fish fauna of Naryab dam that could be later valuable in systematic, fisheries management and conservation.

Keywords: Fishes, Naryab dam, Hangu

Introduction
Fish are cold blooded aquatic vertebrates with backbone, gills for breathing and fins for swimming and are primarily dependent on water for respiration, food, shelter, and reproduction [1]. Fishery and fishing are important means in Pakistan's economy and is considered to be a source of livelihood for the coastal areas. A part from marine fisheries, inland fisheries (based in rivers, lakes, ponds, dams etc.) is also very important activity throughout the country. The fisheries sector although small, is an important economic sub sector of agriculture which contributes about 1.0 percent to the country's Gross Domestic Product (GDP) equivalent to 3.7 percent of agriculture sector. During 2015-16, total marine and inland fish production was estimated 501,000MT out of which 368,000 m. tons was marine production and the remaining catch came from inland waters. A total of 91,965 m. tons of fish and fish preparations was exported during 2015-16 [2].

Fish is an excellent substitute for red meat and an excellent source of protein. Fish flesh contains all the essential amino acid and minerals viz., iodine, phosphorus, potassium, iron, copper and vitamin A and D in desirable concentrations. It serves as valuable ingredient to a healthy diet because of its low carbohydrate and unsaturated fat contents. It is often recommended by doctors to heart patients since it is an excellent source of Omega 3 Poly unsaturated fatty acids. So the inclusion of fish in our diet can make a valuable contribution to any diet that contain mainly of cereals, starchy roots and sugar for the healthy growth [3].

Fish exhibit the greatest biodiversity of the vertebrates (animals with backbones) with over 22,000 species. Of these, about 58 percent are marine, 41 percent are freshwater species, and 1 percent move back and forth between salt- and freshwater. 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 [4].

In Pakistan, there are about 193 species of fresh water fishes which belongs to 13 orders, 30 families and 86 genera. Economically important fish fauna are about 30 species are *Labeo rohita, Hypophthalmichthys Molitrix, catla catla, Cirrhinus mrigala, Cirrhinus reba, Channa straita, Channa marulius, Sperata sarwari, Wallago attu, Bagarius bagarius, Tenualosa ilisha,* etc [5].

Fig 1: Naryab Dam Overview District Hangu KP, Pakistan.

Study Area

District Hangu is situated along the FATA region and is spread over an area of 4763 sq km.

It is bounded by Kurram Agency to its west, Orakazai Agency to its north, North Waziristan to its south and Kohat &Karak to its east. The District takes its name from the town of Hangu. Hangu was a tehsil of Kohat District but was declared as an independent District in 1998. It is situated in the south of Peshawar; and lies about 40 Km from Kohat District in the west. Naryab dam is a Small dam, located in Naryab, Hangu District of Khyber-Pakhtunkhwa. This dam is most often used for irrigation, drinking, as well as fisheries purpose, constructed by KPK Government on Naryab River.

Materials and Methods

Fish Sampling

Fish samples were collected randomly from the different regions of Naryab dam with the help of local fisherman using different types of nets namely hand nets, cast nets and hooks during the period from January 2016 to July 2016. Immediately photographs were taken prior to preservation with 10% formalin.

Fish Preservation and Identification

After collection and photography, all samples were preserved and transferred into the laboratory of Chemistry department, Kohat University of Science and Technology (KUST), district Kohat. In the laboratory, each fish sample was identified up to species level and identification of the species was done mainly on the basis of the color pattern, specific spots or marks on the surface of the body, shape of the body, structure of various fins etc. by using different systemic and identification keys.

Result and Discussion

A Survey was conducted on Naryab dam from January 2016 to July 2016 situated in district Hangu, KPK, Pakistan. During the survey 7 species were identified through different identification keys, which shown in table 1.In these identified species five belong from order Cypriniformes and family Cyprinidae, while one belong from family Anguillidae and Siluridae respectively. Hence, the members of the family Cyprinidae were found to be highly abundant in Naryab dam of district Hangu. Such wide distribution might be related to substrate of the dam that could provide suitable environment for nest building and breading. For the first time fish diversity survey was conducted on Naryab dam. The current study shows that Naryab dam is favourable for cyprinidae species.

Table 1: Fish species found in Naryab dam along with their local and scientific names.

S\No	Order	Family	Genus	Species	Common Name (English)	Local Name
1	Cypriniformes	Cyprinidae	*Labeo*	*Labeo rohita*	Rohu	Rohu
2	Cypriniformes	Cyprinidae	*Hypophthalmichthys*	*Hypophthalmichthys molitrix*	Silver carp	Silver
3	Cypriniformes	Cyprinidae	*Hypophthalmichthys*	*Hypophthalmichthys nobilis*	Big head carp	Big head or katasarye
4	Cypriniformes	Cyprinidae	*Catla*	*Catla catla*	Catla	Thailamachli
5	Cypriniformes	*Cyprinidae*	*Tor*	*Tor khudree*	Maha Seer	Maha Sheer
6	Anguilliformes	Anguillidae	*Anguilla*	*Anguilla anguilla*	Eel fish	Baam or Marmai
7	Siluriformes	Siluridae	*Ompok*	*Ompok pabda*	Pabdah catfish	Papta

According to Abdul Haseeb *et al,* [6] eleven fish species were identified, from Tanda dam, district Kohat, Khyber Pakhtunkhwa in 2015, which were belonging to four orders, five families and eleven genera. Among them, seven species were belonging to family Cyprinidae, while the remaining four species were belonging to families Anguillidae, Belonidae, Cobitidae and Siluridae, respectively. Hameed *et al*, [7] recorded six species from Ghandiali Dam, District Kohat in 2015, which were belonging to two orders, two families, five genus and six species. Among them five species were belonging to family cyprinidae and only one species belong from Hypophthalmidae. A descriptive study was taken by Hameed *et al*, [8] on Darwazai Dam Tehsil Lachi District Kohat, in which they reported seven species, in these seven species five belonged to family Cyprinidae, order Cypriniformes while one species belong from order Anguilliformes family Anguillidae and one species belong with order Siluriformes and family Siluridae. For the first time a study was conducted on Ghurzandi Dam Tehsil Lachi District Kohat, by Hameed *et al,* [9] during the study about five species were identified, 3 were belonging from Cyprinidae family order Cypriniformes, one belong from order Anguilliformes family Anguillidae and one belong with order Siluriformes and family Siluridae. Hameed *et al*, [10] recorded seven species from Darmalak Dam, District Kohat in 2015, which were belonging to three orders, four families and seven genera. Among them, four species were belonging to family Cyprinidae, while the remaining three species were belonging to families Anguillidae, Cobitidae and Siluridae.

For the second time a study was conducted on Tanda Dam District Kohat, in 2016 with new records by Abdul Haseeb *et al,* [11] during the study thirteen species were identified, which belonging to 4 orders and 5 families. The richest family was family Cyprinidae in which 9 species were recorded and the rest of four species belonging to the families Cobitidae, Anguillidae, Siluridae, and Belonidae respectively.

By Abdul Haseeb *et al*, [12] for the first timea fish diversity survey was conducted on Kandar dam District Kohat in

2016. During the survey 5 species were identified. In the identified species all were belong from single order Cypriniformes and family Cyprinidae. Hence, the members of the family Cyprinidae were found to be highly abundant in Kandar dam of district Kohat.

Conclusion

From the present study it may be concluded that Naryab dam is rich in cyprinidae species. Thus we also concluded that the environmental condition were also favorable for cyprinidae species in all dams of Kohat District.

References

1. Goldman KJ. Regulation of body temperature in the white shark, *Carcharodon carcharias,* Journal of Comparative Physiology, Biochemical Systemic and Environmental Physiology. 1997; 167(6):423-429. Retrieved 12 October 2011.
2. Pakistan Economic Survey 2015-16 agriculture, published in: Economy &Finance on Jun 2, 2016.Source www.finance.gov.pk/survey/chapters_15/02_Agricultre.pdf.
3. Salim M. Role of fish as food to human nutrition. International conference on" *Solving problems of Freshwater Fish Farming in Pakistan* 2006. UVAS, Lahore.20. 2006, 27-28.
4. Helfrich LA, Neves R J. Sustaining America's Aquatic Biodiversity Freshwater Fish Biodiversity and Conservation. *Virginia cooperative extension publication* 2009, 420-525.
5. Peter T. Coldwater fish and fisheries in Pakistan. FAO Fisheries, Rome. *Technical Paper*. 1999; 385:122-137.
6. Haseeb A, Azeem T, Masood Z, Mengal F, Rehman HU, Fayyaz A *et al.* An Investigation on Freshwater Fish Fauna of Tanda Dam in Kohat District, Khyber Pakhtunkhwa Province of Pakistan, Global Veterinaria, 2015; 14(4):576-581.
7. Rehman HU, Ullah A, Rehman FU, Khattak B, Ullah S, Atlas A *et al.* Biodiversity of Fish Fauna of Ghandiali Dam, District Kohat, Khyber Pakhtunkhwa, Pakistan. World Applied Sciences Journal. 2015; 33(9):1511-1513.
8. Rehman HU, Khan IU, Ahmad I, Awais S, Rehman A, Ahmad K *et al.* Ichthyological Survey of Darwazai Dam Tehsil Lachi District Kohat, KPK, Pakistan. World Applied Sciences Journal. 2015; 33(11):1764-1766.
9. Rehman HU, Haseeb A, Azeem T. Ghurzandi Dam fish biodiversity Tehsil Lachi District KohatKPK, Pakistan. International Journal of Basic Medical Sciences and Pharmacy (IJBMSP) 2015; 5(2). ISSN: 2049-4963.
10. Rehman HU, Akbar NU, Saad F, Bibi S, Maryam SU, Akhtar Z *et al*. Biodiversity of Fish Fauna of Darmalak Dam, Tehsil Lachi, District Kohat, KPK Pakistan. Global Veterinaria. 2015; 15(1): ISSN 1992-6197
11. Haseeb A, Rehman HU, Haleem S, Atlas A, Zarin K. Diversity of Tanda Dam fishes with new records from district Kohat, KPK, Pakistan. Journal of Entomology and Zoology Studies. 2016; 4(1):332-334.
12. Haseeb A, Rehman HU, Yaseen, Khan Q, Mufti GR, Saeed K *et al*. Diversity of Kandar dam fishes district Kohat, Khyber Pakhtunkhwa, Pakistan. Journal of Entomology and Zoology Studies. 2016; 4(5):94-96