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Identification of fish fauna in River Kunhar at Kaghan site Khyber Pakhtunkhwa, Pakistan

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Abstract
The main purpose of the present survey was to evaluate Ichthyofauna of River Kunhar at Kaghan site located in Mansehra Khyber Pakhtunkhwa, Pakistan. This site was selected due to heavy tourism load. Collection of Ichthyofauna was done by caste net, hoke net and local fisherman. The identified Ichthyofauna belong to 2 Orders, 3 Families, 4 Genera's and 5 species respectively. In the current research conducted on River Kunhar at Kaghan site Cyprinidae was the largest Family which was represented by 3 Species while Nemacheilidae and Sisoridae were represented by only one species of each.
From the current investigation, it can be concluded that River Kunhar at Kaghan site was found favorable for fish fauna. The current research will be very helpful in future for taxonomic and conservation point of view.

Keywords: Water, Kaghan, Rivers, Fish, Family, identification, anthropogenic

1. Introduction
Ichthyofauna is a field which rely on human properties. Henceforth, it is important to keep up their domesticated animals appropriately. The biodiversity demonstrates variety in the structure, environment and their method of life. In spite of the other efficient vertebrates, Fish is having extraordinary differences [1]. Fishes can be just found in make due in water supply [2]. Everlastingly Decline and conveyance of some fish species may be associated with variety in the earth and reaping. The decrease of fish species not surprisingly because of blending of corresponded and increment differing qualities of new presenting species [3-5]. Ichthyo-assorted qualities influences the limit of biotic to react to changes in the earth, under agonies environment works and gives the biological community merchandise and ventures that is bolster people, and in addition having characteristic esteem biodiversity has a tasteful esteem large portions of us have respected the lovely hues and distinctive shapes on coral reefs and beach front living spaces [6].

Fig 1: Map of River Kunhar at Kaghan site KP, Pakistan.

2. Materials and Methods
2.1 Fish Collection
Fishes were collected from the various sites of River Kunhar at Kaghan with the help of a local fishermans using various types of catch-up instrument like hand nets, cast nets and hooks from

March 2013-Febuary, 2017. After collection proper photographs were taken from different angles for proper identification and then preservation with 10% formalin, since formalin decolorizes the fish color on long preservation.

2.2 Fish Preservation and Identification

Collected fishes were preserved and after the preservation these fishes were brought to the Research laboratory for proper identification. Fishes were properly identified in the laboratory by using keys of fish's identification Jayaram [7], Mirza and Sadhu [8] and Mirza [9]. All the fishes were preserved for longer time off period in a kettle jar by using 10% of formalin solution.

3. Results and discussion

The identified Ichthyofauna belong to 2 Orders, 3 Families, 4 Genera's and 5 species respectively. In the current research conducted on River Kunhar at Kaghan site Cyprinidae was the largest Family which was represented by 3 Species while Nemacheilidae and Sisoridae were represented by only one species of each. The identified fish fauna was *Schizothorax plagiostomus, S. labiatus, Garagotyla gotyla, Triplophysa kashmirensis* and *Glyptothorax punjabensis* respectively. A work was done by Ahmad and Mirza (1963) on Kaghan Valley Mansehra Khyber Pakhtunkhwa Pakistan and recognized three more species which containing the Cyprinidae family predominant [10]. Another survey was directed by Mirza (2006) on Allai Khoar Khyber Pakhtunkhwa, Pakistan amid Summer. Three fish species were recorded which were *Schizothorax plagiostomus, Schistura naseeri* and *Glyptosternum reticulatum* respectively [11].

Akhtar (1991) recorded twenty five-types of freshwater fish from the Northern Areas of Pakistan. These 25 distinguished fish species has a place with different requests, Families and Genus however the Cyprinidae family was discovered wealth one over every one of the families [12]. Another overview was led by WAPDA (not Dated) on Downstream of Tarbela Khyber Pakhtunkhwa Pakistan and recorded 12 fishes [13]. In the present study 5 species were identified up to the species level with the help of keys. The results of the both studies show that there are a great variation among the previous studies and present study. In the previous studied various number of fish fauna was recorded which was different from the present results. The reason may be that the current area under research was short i.e. was focused on a single. Besides all these variation factors climatic factors also play a very important role in fish diversity.

Table 1: Diversity of Fish fauna in River Kunhar at Kaghan site KP, Pakistan

S. No	Order	Family	Genus	Species
1	Cypriniformes	Cyprinidae	*Schizothorax*	*Plagiostomus*
2	Cypriniformes	Cyprinidae	*Schizothorax*	*Labiatus*
3	Cypriniformes	Cyprinidae	*Garagotyla*	*Gotyla*
4	Cypriniformes	Nemacheilidae	*Triplophysa*	*Kashmirensis*
5	Siluriformes	Sisoridae	*Glyptothorax*	*Punjabensis*
	Orders 02	Families 03	Genera 04	Species 05

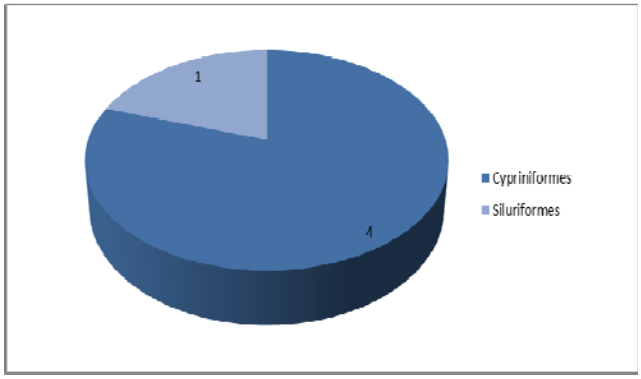

Fig 2: Orders wise distribution of Ichthyofauna in River Kunhar at Kaghan site KP, Pkistan.

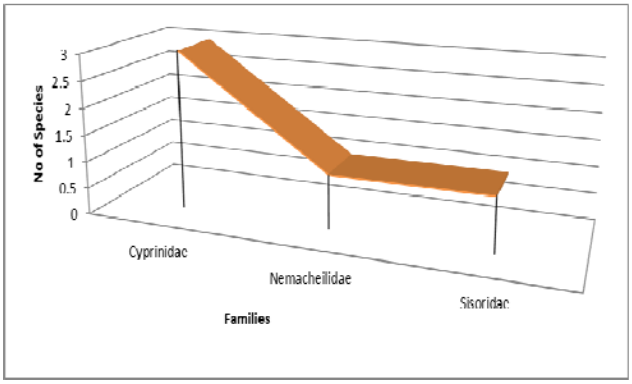

Fig 3: Families wise distribution of Ichthyofauna in River Kunhar at Kaghan site KP, Pkistan.

4. Conclusion

From the current it was concluded that increase in the anthropogenic activities, illegal fishing and tourism industry in River Kunhar at Kaghan is threatening the fish fauna to become declined. If the necessary fish conservation steps are not taken to save the fish fauna, it will result in the endangering of fish fauna in the river Kunhar at Kaghan site.

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