

## FISH FAUNA OF SWAT AND BUNAIR VALLEYS, N.W.F.P.

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**ABSTRACT:** - The river Swat originates from Swat Koliistaii and drains almost whole of the Swat valley. Its water is clear, shallow and torrential and supports fish fauna of High Asian and South Asian forms. The last report about fish fauna of Swat was presented by Mirza (1973). Since then many changes in distribution and species composition were anticipated. In present studies, twenty species of fresh water fishes are reported including two exotic species and seven new records.

**KEY WORDS:** Fish fauna, Systematic, Swat.

### INTRODUCTION:

The river Swat originates from Swat Kohistan and drains almost whole of the Swat valley along with many other streams joining the main branch. In its way, it receives the Punjkora River before joining the river Kabul in Mardan district. At its backwaters, the area possesses high altitude with ample vegetation cover receiving heavy snow. Consequently water is very cool, clear, shallow and torrential. This characteristic has imparted the river with a peculiar combination of fish fauna having High-Asian forms in the upper reaches and mainly South Asian component towards South.

A preliminary survey of Swat was conducted by Hussain and Shah (1960). They reported six species from this river viz., *Schizothorax curvifrons*, *S. esocinus*, *S. longipinnus*, *S. planifrons*, *S. progastus* and *S. nasus*. Subsequently, Ahmad & Mirza (1963), Ahmad (1969) and Mirza (1973) reported twelve other species from the area as *Schizothorax plagiostomus*, *S. labiatus*, *Glyptosternum reticulatum*, *Noemacheilus choprai*, *N. naseeri*, *N. alepidota*, *N. griffithi naziri*, *Barilius vagra*, *Puntius ticto*, *Crossocheilus latius*, *Channa gachua* and *Salmo trutta fario*. They however, did not report any of the six species recorded by Hussain and Shah (1968) from this river. In addition to this, there are few relevant reports on fishes of the neighboring areas by various ichthyologist like Ahmad (1965), Ahmad and Mirza (1963a), Ahmad and Mirza (1963b), Hussain (1965), Mirza (1968), Mirza (1975), Mirza and Hameed (1975).

The last report about the fish fauna of Swat in particular was presented by Mirza (1973), which also included the fishes of adjoining areas. Since then many ecological changes associated with the changes in fauna! distribution and species composition were anticipated. Moreover scientific names of many species reported from Swat e.i. *Barilius vagra*, *Noemacheilus choprai*, *N. naseeri*, *N. griffithi naziri*, *Schizothoraichthys labiatus*, *S. esocinus* have been changed since the publication of this report. Furthermore, some species viz., *Noemacheilus naseeri*, *N. alepidotus alepidotus*, *N. griffithi naziri*, and *N. stenurus choprai* were claimed endemic to Swat valley (Mirza, 1973). All these four species have now been recorded from various localities of Hazara division, Azad Kashmir and Northern areas. In addition to it, fish fauna of North-eastern part of Swat drained by the river Indus has never been explored and reported before.

Swat area, in its lower reaches, has been famous for the Mahaseer fisheries. This fish is excellently thriving in the area and is considered one of the major food and spa fish not only in this area but all over the world. This fish is a potential biological resource of the area and could be exploited for eco-tourism in future. The population of this fish is, however, declining in most parts of the country. The main reasons for its decline are the destruction of the breeding grounds due to pollution and other human activities and overexploitation. The snow carps are another resource that could also be utilized for enhancing the fish production in the area.

## **RESULTS AND SYSTEMATIC ACCOUNT :**

All the fish fauna of Swat belong to class Teleostomi, Subclass Actinopterygii, Infraclass Teleostei and Chort Euteleostei. Apart from already reported fish fauna, several new records from Swat viz., *Schizopyge esocinus*, *Garra gotyla*, *Puntius sophore*, *f. chola*, *Torputitora*, *Labeo dew* and *Mastacembelus armatus* and five from Bunair viz., *Schizothorax plagiostomus*, *Channa gachua*, *Crossocheilus latius*, *Schistura alepidota* and *Puntius sophore* have been reported during the present studies.

### **ORDER : SALMONIFORMES FAMILY : SALMONIDAE**

1. *Salmo trutta, fario*

This famous brown trout is an exotic fish and is artificially being propagated in upper parts of Swat valley.

2. *Oncorhynchus mykiss*

This rainbow trout is also an exotic one and is successfully breeding in hatcheries in the area.

### **ORDER : CYPRINIFORMES FAMILY : CYPRINIDAE**

3. *Barilius Pakistanicus*

This fish is widely distributed in lower parts of the river Swat up to Mingora, Ronyal and Fazagut.

4. *Labeo dero*

Various specimens of this fish were collected from a side stream of the river near fishing hut near Chakdara.

5. *Crossocheilus latius*

The fish is abundant in lower Swat area and in Bunair valley. It was collected from Mingora, Fazagut and Mangalore areas.

6. *Tor putitora*

This fish is also abundant in lower Swat and in Bunair valley. Its distribution has been recorded up to Mingora.

7. *Puntius ticto*

Various specimens of this fish were collected from Mingora.

8. *Puntius sophore*

Few specimens of this fish were collected from a side stream near Barikot.

9. *Puntius chola*

The fish was recorded from a side stream near fishing hut.

10. *Qarra gotyla*

A lot of specimens of this fish were collected from the river near Mingora bridge.

11. *Racoma labiata*

This fish is not much common in the Swat valley. Only a few specimens were collected from Mingora.

12. *Schizothorax plagiostomus*

This snow trout is very common in the river Swat and Daggar nullah in Bunair valley.

13. *Schizopyge esocinus*.

It is a very rare fish. A single specimen was collected upstream the Mingora bridge.

#### **FAMILY COBITIDAE**

14. *Triplophysa choprai*

This is a very common fish in snow fed cold waters of upper parts of the river Swat and was not recorded bellow Bahrain.

15. *Schistura naziri*

This fish was considered endemic to Swat valley but now is recorded from various other areas. Various specimens were collected from a small stream at Ronyal.

16. *Scliistura naseeri*

This fish is quiet common in the river Swat, Hazara and Azad Kashmir.

17. *Scliistura alepidota*

This hill stream loach is quiet common in the river Swat and adjoining area\*

**ORDER : SILURIFORMES**

**FAMILY : SISORIDAE**

18. *Glyptosternum reticulatum*

The fish is found in upper parts of the river Swat and a few specimens were collected from Behrain.

**ORDER : CHANNIFORMES**

**FAMILY : CHANNIDAE**

19. *Channel gachua*

The fish is distributed in lower parts of the river Swat. Few specimens were collected from Barikot area.

**ORDER : SYNBRANCHIFORMES**

**FAMILY : MASTACEMBELIDAE**

20. *Mastacembelus armatus*

The fish is found in lower Swat areas. Few specimens were collected from Barikot area.

**DISCUSSION:**

Among the fish fauna of Swat, two species are exotic, *Salmo trutta fario* and *Oncorhynchus mykiss*. The indigenous fauna can be divided in to two categories, i. e. resident fish fauna and migrant fish fauna. The migrant fish fauna is present in lower parts of the river in Mardan and Peshawar districts and during summer season, travel upstream to variable distances. These species include *labeo dew*, *Tor putitora*, *Puntius ticto*, *Puntius sophore*, *Puntius chola*, *Garra gotyla*, and *Mastacembelus armatus*. The resident fish fauna includes, *Salmo trutta fario*, *Oncorhynchus mykiss*, *Barilius pakistanicus*, *Crossocheilus latius*, *Racoma labiata*, *Schizopyge esocinus*, *Schizothorasx plagiostomus*, *Triplophysa choprai*, *Schistura naziri*, *Schistura nasseri*, *Schistura alepidota* and *Glypto sternum reticulatum*. All the migrant fish fauna found in Swat is South Asian in origin and has been intruded upstream to variable extent depending upon the individual species and the season. Among resident fish fauna only two species, *Barilius pakistanicus* and *Crossocheihus latius* are South Asian in origin while rest are High Asian and are distributed in high altitude waters.

Although all the species found in Swat valley are an integral part of the aquatic ecosystem, yet eight species viz., *Salmo trutta fario*, *Oncorhynchus mykiss*, *Schizothoras plagiostomus*, *Schizopyge esocinus*, *Racoma labiata*, *Top putitora*, *Labeo dero*, and *Mastacemebelus armatus* are economically important as food fishes. Among these, the first two species are being commercially exploited while the other species have potential for future exploitation. The migrant fishes migrate upstream mostly during the monsoon and this niche remains empty for most of the time of the year. This niche can be occupied by introducing common carp, *Cyprinus carpio*, in lower Swat area. This has a very wide range of temperature tolerance and is suitable to occupy the intermediate zone between cold water upstream and comparatively warm water downstream.

*Tor putitora*, mahaseer is an important game fish and is very well adapted in lower reaches of this river. Its population can be enhanced by protecting its breeding grounds and establishing rearing ponds for its fries collected from wild. Among the snow trouts, *Schizothorax plagiostomus* (Swati) is very common in whole of this river and is under high fishing pressure throughout the valley. Its fingerlings and fries are very common in small streams. The fish can be commercialized by establishing its rearing ponds along the river Swat where fish can be fattened by providing semi controlled conditions in the form of food. The other two snow trouts, *Racoma labiata* and *Schizopyge esocinus* are less common or rare in this river. The population of these species can be enhanced by rearing these species along with the *S. plagiostomus*.

The alpuri area in Swat is drained by various nullas which ultimately form a big stream that falls into the Indus at Besham. The water of this stream is also suitable for trout culture. Establishment of trout hatchery at Alpuri can be useful to utilize the potential of this water body and also manage the local snow trouts in this area.

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