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Fishes of Cyprinidae family in Gopi Krishna Sagar Dam, Guna, Madhya Pradesh

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Abstract

The present study deals with the study of Cyprinidae family fishes of Gopi Krishna Dam of Guna, Madhya Pradesh. This investigation was taken under the period of two year from 2018-2020. Fishes were collected monthly and records were maintained. Result of the present study showed that 44 species of fishes were identified out of which 22 belongs to family Cyprinidae. Among them dominant fishes were *Salmostoma bacaila*, *Catla catla*, *Labeo rohita*, *Cirrhinus mrigala*. Least was *Labeo boggut*, *Aspidoparia jaya* and *Tor tor*.

Water quality of Gopi Krishna Sagar dam is good for the development of Fishes of Cyprinidae family.

Keywords: Cyprinidae, fish diversity, Gopi Krishna Sagar dam, species, dominance

1. Introduction

Fishes are important components of aquatic ecosystem and also have a great economical importance. Fish constitutes almost half of the total number of vertebrates in the world. They live in almost all conceivable aquatic habitats. Fishes exhibit enormous diversity of size, shape. Dams and reservoirs are the major source inland fisheries resources in India. Human activities have a great impact on the decline of inland fish diversity. Fish diversity conservation is a very complex process and need a constant view on their status. Various scientific studies have been made on Ichthyofaunal diversity of various freshwater bodies in India during the last few decades (Jayaram 1981, Jhingran 1983, Dutta *et al.*, 2001, Mishra *et al.*, 2003) ^[9, 2, 11, 3]. Cyprinidae fishes are the most important group of vertebrates, it have a vast variety of fish species. Cyprinidae family forms the important form of diet in many area of our country (Rafique 2000) ^[4].

Hence in the present study an attempt has been made up to understand the current status and diversity of fishes belongs to Cyprinidae family in Gopi Krishna Sagar Dam, Guna (Madhya Pradesh).

2. Materials and Methods

Gopi Krishna Sagar Dam is constructed on river Chopan. It is situated near Rathyai village at 24.5478°N and 77.2320°E latitude and longitude in Guna district, Madhya Pradesh. Field work was conducted for two years from October 2018 to September 2020. Three stations for study were selected at Gopi Krishna Sagar Dam.

Station SI-Paanj (Centre line of dam) Station SII-Dhay

Station SIII-Bajrangarh.

Seasonal variation of water was noted which were correlated to diversity of fishes.

2.1 Collection of fishes

Fish samples collection was done with the help of local fisher man. Fish samples were collected during each month at all three stations Drag net, caste net and hooks were used in collecting sample. Fishes were preserved in 10 percent formaldehyde solution and labeled on the spot with specimen serial number, date, local name and name of the collected station. Photographs were taken. Specimens were identified on the basis of morphometric and merimetric characters (Jayaram 1999, Day 1958, Talwar and Jhingaran, 1991) ^[10, 1, 6].

3. Results and Discussions

In present investigation fishes were identified and 44 species were recorded during our study period of October 2018 to September 2020 at three stations. All species belonged to 14

families, 8 orders and 27 genera were identified. Twenty two species belonged to Cyprinidae family. The geographical conditions and physico-chemical parameters mostly are in favour of developing Cyprinidae family fishes.

Table 1: Geographical conditions and physico-chemical parameters mostly are in favour of developing Cyprinidae family fishes

S. No	Family name	Scientific name	Local name
1.	Cyprinidae	<i>Labeo rohita</i>	Rohu
2.	"	<i>Labeo gonius</i>	Goria, sarsi, Kursi
3.	"	<i>Labeo bata</i>	Batha
4.	"	<i>Labeo calbasu</i>	Kaloti
5.	"	<i>Labeo angra</i>	Chugna, Rava
6.	"	<i>Labeo pangusia</i>	Rewa, Loanee
7.	"	<i>Labeo boggut</i>	Boggut, Labeo
8.	"	<i>Catla catla</i>	Katla, Bhakur
9.	"	<i>Cirrhinus mrigala</i>	Naren
10.	"	<i>Osteobrama cotio</i>	Busi, Gurda
11.	"	<i>Garra lamta</i>	Pathorchata
12.	"	<i>Hypophthalmichthys molitrix</i>	Silver carp
13.	"	<i>Ctenopharyngodon idella</i>	Grass carp
14.	"	<i>Cyprinus carpio</i>	Komal carp
15.	"	<i>Puntius sarana</i>	Darahee, Sidhdhar, Olive barb
16.	"	<i>Puntius conchonius</i>	Sidhari
17.	"	<i>Puntius sophore</i>	Pool barb
18.	"	<i>Puntius ticto</i>	Ticto barb
19.	"	<i>Puntius titius</i>	Sidhari
20.	"	<i>Aspidoparia jaya</i>	Jaya
21.	"	<i>Salmostoma bacaila</i>	Chelhava, Chal
22.	"	<i>Tor tor</i>	Mahasheer

The results showed that the overall highest percentage of Cyprinidae family is 50%. It contains 22 fish species. Comparative studies of three stations reveals that station S2 Dhay have a maximum number of diversity. The maximum number of fishes found is *Salmostoma bacaila* followed by *Catla catla* > *Labeo gonius* > *Labeo calbasu* > *Labeo bata*. The least was *Labeo boggut* > *Aspidoparia jaya* and *Tor tor* were recorded. Cyprinidae has been described as the most specious containing family (Rafique 2000) [4]. Study on Barchar Dam, Sidhi (M.P.) revealed that Cyprinidae (carps) were the dominant fish and catla was a major contributor among carps (Bunkar and Tiwari 2017) [7]. Similarly in a study conducted on the Harsi reservoir shows that Cyprinidae was the most abundant family with 25 representative species (49.02%) occurring in the study site (Shrotriya 2015) [5].

4. Conclusion

Fish production plays a significant role in the human economy. India has vast potential for the development of inland fisheries. In the present study on Gopi Krishna Sagar Dam, it has been concluded that the Cyprinidae family (50%) was found to be most dominant among all groups. It contains 22 fish species. Water of the Gopi Krishna Sagar dam is suitable for the development of Cyprinidae family of fishes. Besides this illegal fishing during monsoon season was found. There should be rigorous implementation of the ban and heavy fines should be imposed on the defaulters.

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