

Ichthyo-Diversity of Banisagar Dam at Chhatarpur, Madhya Pradesh, India

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Abstract

Adverse effect of environment, climatic changes, increasing water temperature (Parihar and Dubey,1995), declining water level (Dubey et al., 2011), tremendous use of pesticide and xenobiotic compound (Dubey,1995), routines dumping of city garbage and garlanding in the aquatic bodies affected the fisheries productivity hence decreasing the number of aquatic organism specially fish species in the aquatic ecosystem.

Fishes are not useful as source of food, medicine, and economic value but it also plays a crucial role in the second tropic level of the aquatic ecosystem.

Therefore, in the present investigation preliminary observations of fishes were carried out in the Banisagar Dam of Chhatarpur.

Thirty two fish species under eleven families were observed initially. It is conclude that the Dam have high Ichthyic-diversity with good economic potential. To conserve and maintain the Ichthyic-diversity, anthropogenic activities should be controlled and further need to assess the water quality of this dam.

Introduction

Chhatarpur is situated with Longitudes and Latitudes of 24°06 and 25°20 on North 78°59 to 80°26 on East respectively with approximate 182 meter above mean sea level experiencing an annual rain fall of 1000-1200 mm. Average temperature in cold 6-9° C, summer 46-48° C, and rain 28-37° C. Banisagar Dam is the most important Dam of Chhatarpur District. Besides being a source of water for irrigation and also the water of this Dam used for artificial breeding of Indian Major Carp in the Chinese Hatchery

is located here. Chinese Hatchery is established in 1985. The Dam harbors a wide variety of fish resources. The catchment area is 380 hectare.

The various scientists have been reported 23,000 fish species in the world out of these 2546 species are dwell in India Chakraborty (2004). The studies carried out by various researchers in concern of fish community Hora and Nair (1941), Karamchandani et al (1967), Rao et al (1991), Vyas et al (2007), Desai (1992), Singh (1995), Dubey (1994), Anon (1971), Bakawale and Kanhere (2006), Shrivastava (1968) and Shrivastava et al (1970) given an account about fish fauna of Ken River. No data appeared in literature concern Ichthyic-diversity of Chhatarpur District, Madhya Pradesh.

Therefore, in the present investigation preliminary observations of the fishes were carried out in the Banisagar Dam.

Materials and Methods

Fishes were caught for the present study from Banisagar Dam of Chhatarpur, by local fisherman by operating cast net and during Government operation using drag nets and gill net for its harvesting. A period of one year from September 2010 to August 2011. Fishes were identified using the standard keys of Day (1989), Mishra (1959), Jhingran (1991), Jayaram (1999) and Shrivastava (1998).

Result and Discussion

In the present investigation various species observed. Total 32 species were identified initially under eleven families in seven orders at Banisagar Dam. Family Cyprinidae is most dominant species in Banisagar Dam. Results are summarized in Table.

Table: Fishes Diversity of Banisagar Dam Chhatarpur (M.P.)

S.No.	Order	Family	Genus	Species	Local Name
1	Clupeiformes	Notopteridae	Notopterus	notopterus	Moh
2			Notopterus	chitala	Chital
3	Cypriniformes	Cyprinidae	Catla	catla	Katla
4			Cirrhinus	mrigala	Mrigal
5			Labeo	rohita	Rohu
6			Labeo	bata	Rohu
7			Labeo	calbasu	Kalabense
8			Oxygaster	bacaila	Chela
9			Puntius	sarana	Punti
10			Puntius	sophore	
11			Puntius	ticto	Pothia
12			Cyprinus	carpio	Common carp
13			Hypthalmichthys	molitrix	Silver carp
14			Ctenopharyngodon	idellus	Grass carp

15		Siluridae	Wallago	attu	Padhin
16			Ompok	bimaculatus	Pabda
17		Claridae	Clarias	batrachus	Magur
18		Saccobranchidae	Heteropneustes	fossilis	Singee
19		Schilbeidae	Clupisoma	garua	Bachua
20		Bagridae	Mystus	aor	Daryai
21			Mystus	seenngghala	Tengara
22			Mystus	vitatus	Katuwa
23			Mystus	cavasius	Singti
24	Ophiocephaliformes	Ophicephalidae	Channa	marulius	Padam Saur
25			Channa	punctatus	Sauri
26			Channa	gachua	
27			Channa	striatus	Saur/Kuddha
28	Mastacabeliformes	Mastacembelidae	Mastacembelus	armatus	Bam
29			Mastacembelus	pancalus	
30	Perciformes	Nandidae	Nandus	nandus	
31			Glossogobius	giuris	
32	Percimocuchia	Anabantidae	Anabas	testudineus	Kabai

Kong Kab Wai and Ali (2006) have reported fish composition through gill and cast netting with row and column in tropical reservoir in Malaysia. Similar pattern has been followed by Balogun (2005) in a case study of Kangimi Reservoir in Nigeria. In the present study netting used 10 mm to 50 mm mesh size of gill net. Hora and Nair (1941) reported 40 species of fish at Satpura rang, Hosangabad. Karamchandani et al (1967) have reported 77 species in River of Narmada, Rao et al (1991) reported 84 species of Narmada basin in the context of Indian Sagar Maheshwar, Omkareshwar and Sardar Sarover Reservoirs. Study of fish fauna Vyas et al (2007), Desai (1992), Singh (1995), Dubey (1994), Anon (1971) and Bakawale and Kanhere (2006) have also reported. Shrivastava et al (1970) had given an account about fish fauna of Ken River India. National Bureau of Fish Genetic Resources, Lucknow prepares a list of 637 Fish species from different River Basin of the country.

Adverse effect of environment, climatic changes, increasing water temperature

Parihar and Dubey (1995), declining water level Dubey et al (2011) tremendous use of pesticide and xenobiotic compound Dubey (1995) affected the fisheries productivity, hence decreasing the number of aquatic organism.

In the present investigation results reveal the occurrence of 32 species of fish belonging to seven orders, eleven families. The species of family cyprinidae were most dominant by nineteen species followed by bagridae and ophicephalidae with four species. Notopteridae, siluridae, mastacembelidae and nandidae each family containing two species and claridae, saccobianchidae, schlibidae and anabantidae family with one species each.

Out of thirty two species six species having high economic value these are Labeo rohita, Catla catla, Cirrhinus mrigala, Walago attu, Ompok bimaculatus and Channa

marulius, and others have moderate economic value. During this study we also found exotic species namely *Cyprinus carpio* (common carp), *Ctenopharyngodon idella* (grass carp), and *Hypophthalmichthys molitrix* (silver carp).

It is conclude that the Dam have high ichthyic diversity with good economic potential. To conserve and maintain the ichthyic diversity, further need to assess water quality, and anthropogenic activities to this dam should be controlled.

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