

Fish Species Diversity with the River Narmada in Maheshwer Region of M.P.

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Abstract

The fishes are one of the most important vertebrate, provided rich protein sources for human and several animals and important element in the economy of many countries. Fish diversity of river essentially represents the fish faunal diversity. Rivers conserve a rich variety of fish species which supports the from the period August 2015 to July 2016. The aim of the study was to explore the fish fauna of Narmada River. In the course of investigation, Four sampling spot were selected Viz .

Omkareshwar, Mandleshwar, Maheshwar and Barwani of Narmada River. The total 43 fish species were recorded under four orders, nine families and 16 genera. 21 species of commercial fisheries. The country is rich in diversity of such important group of animals keeping in the view, the diversity of fish fauna of the Narmada River in Omkareshwar to Barwani, Madhya Pradesh, central India has been studied. Cypriniformes, three species of Ophiocephaliformes, two species. The Cyprinidae family is dominant and sub dominant family is of Perciformes and one species of Mastacembeliformes have been recorded. Ophiocephalidae. Recently, the Tor fish species commonly called 'Mahasheer' has been declared state of Madhya Pradesh. The over fishing and pollution are the major threat for fish diversity of the Narmada River.

Keywords: Fish Diversity, Fresh water fishes, Narmada River, Conservation

INTRODUCTION

Study of biodiversity of fish fauna and their identification is one of the interesting field of biological research, which gives us an idea about the morphological variation and population diversity of fauna in polluted and non polluted site of any particular habitat (Mukesh kumar Napit 2013). Rich biodiversity of any ecosystem is absolutely essential in order to maintain their stability for proper function of their food chains (Siddiqui *et.al.* 2014). The Narmada is a river in Central India and fifth largest river in subcontinent. It forms the traditional boundary between north India and south India. Narmada "the backbone of Madhya Pradesh" is the largest westward flowing river of India it is also referred as 'lifeline of Madhya Pradesh'. It is considered holy by Hindus. It originates from Maikal Hill, Amarkantak in Shahdol district of Madhya Pradesh. It is situated at longitude 72 32' and 81 45'E and latitude 21 20' and 23 45'N. Total length of River Narmada is 1312 km which after traveling through three states namely Madhya Pradesh, Maharashtra and Gujarat for a distance of 1,077 km, 74 km and 161 km, respectively joins the Gulf of Cambay, near the District of Bharuch, Gujarat. (Pathak T. *et.al.* 2014). Fishes are the important element in the economy of many nations as they have been as table in the diet of many people (Shukla Pallavi *et.al.* 2013). Ichthyofaunal documentation is important to analyze status

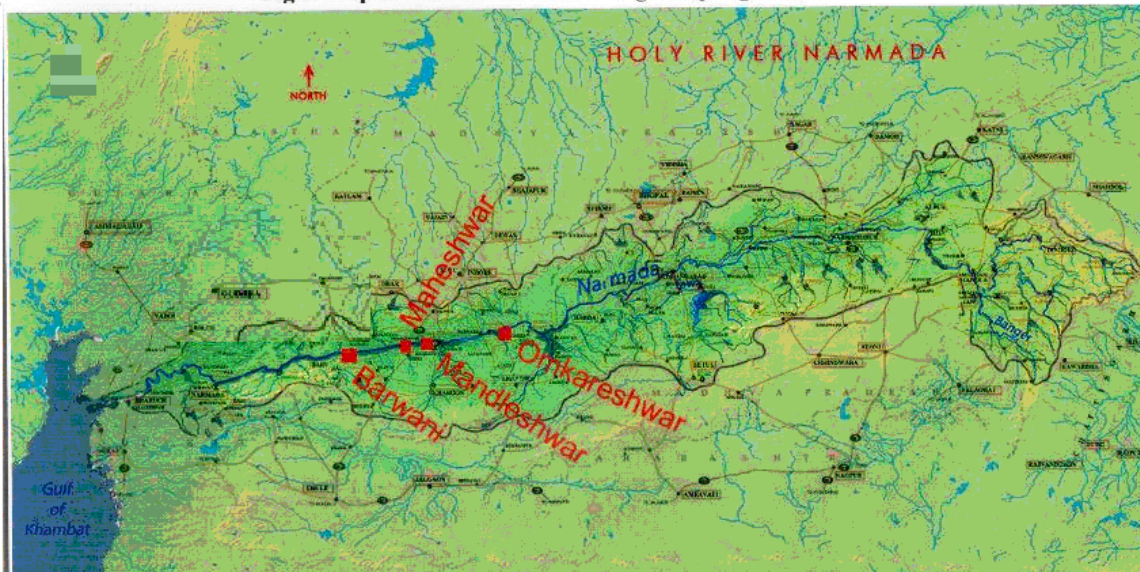
of fish species and also helps us for future planning to improve and conserve the biodiversity (Bose A.K. *et, et,al* 2013). Present study is based on the fish diversity of Narmada river at Nimar region.

MATERIAL AND METHOD

Description of study Area the narmada river is considered as the life line of Madhya Pradesh. The catchment area of the river exists in the States of Madhya Pradesh (86.18%),Gujrat (11.6%), Maharashtra(1.5%) and Chattisgarh (0.72%).During its course, the river drop from an elevation of 1051m to sea level, and flow through narrow gorges in the head reaches. The basin is bounded on the north by the Vindhya ranges, on the east by the Maikal range, on the south by the Satpura ranges and on the west by the Arabian Sea.Deep black soil covers the major portion of the basin .The river has 41 tributaries, of which 22 are on the left bank and 19 are on the right bank. The Barna, Tawa, Kolar and sukta dam have been constructed on the tributaries. The Bargi is constructed on the mainstream, while the Indirasagar, Omkareshwar, Maheshwar and Sardar Sarovar dams are under construction.

The fish samples were preserved in 5-10% formalin according to the size of the fishes. Smaller fishes were directly placed in the formalin solution, while larger fishes were given an incision on the abdomen before they were fixed. Plastic jar were used for the collection and preservation. Fishes were of taxonomic key, Days fauna (1994) and Talwar and JHhingran 1991 Fishes were of taxonomic keys.

Fig 1. Map of Narmada river showing Sampling Stations

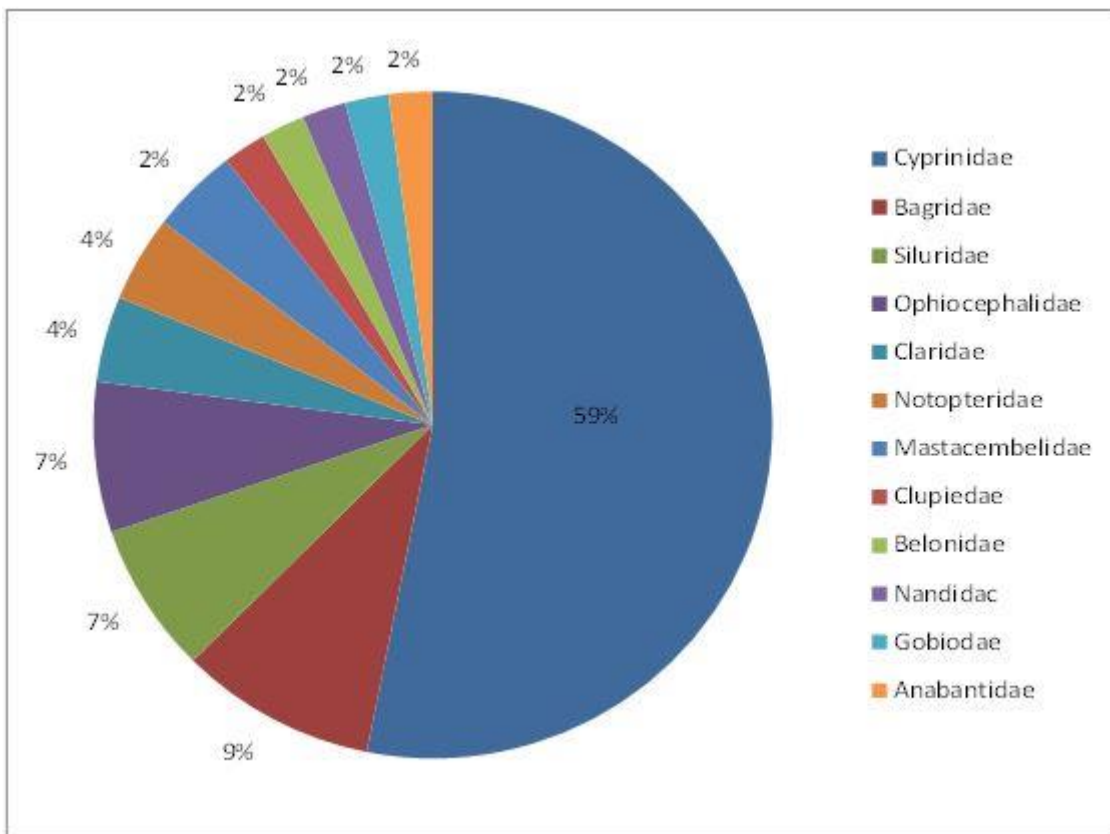


RESULTS AND DISCUSSION

A total 43 species of fishes recorded from selected sites of Narmada river at nimar region belonging to 7 orders and 14 families. Among species, family Cyprinidae was the most dominant with 24 species and the percentage composition is 59% of fishes followed by Bagridae 9% with 4 species, Siluridae and Ophiocephalidae 7% with 3 species, Claridae, Notopteridae and Mastacembellidae 4% with 2 species and Schielbeidae, Clupeidae, Belonidae, Centropomidae, Nandidae, Gobioidae and Anabantidae represented with single species of fish in each family with 2% of each. The diversity was low in pre monsoon probably due to the shrinkage of water. Information collected from fisherman communities displayed high decline of fish diversity. Deforestation, water scarcity, pollution,

introduction of exotic species and mining and excessive fishing are the biggest threats to fish population. Various workers have done work on Narmada river. Vishwakarma *et,al.* (2014), recorded 33 fish species belonging to 5 orders, 9 families and 21 genera. Kumar *et,al.* (2014) studied the fish species diversity of river Narmada In Khedighat, Warwaha, Madhya Pradesh, and recorded 21 species of fish belonging to 4 orders and 6 families. Family cypriniformes were dominated with 15 species of fish. Pathak *et,al.* (2014) recorded 58 species of fish from western region of Narmada river at nimar region. Vyas *et,al.* (2013) recorded 27 species of fish from Jamner river, a tributary of Narmada river. Siddiqui *et,al.*(2014) work done on Biodiversity of Ichthyofauna of Narmada river of Mandleshwar region, Madhya Pradesh, India and recorded 48 species of fish belonging to 7 orders and 17 families. Bose *at,al.* (2013) recorded 57 species, belonging to 35 genera , 13 families, and 6 orders from middle stretch of river Tawa. Bakawale *et, al.* (2013) worked on the fish Species diversity of the River Narmada in western zone, and recorded total 51 species of fish belonging to 7 orders and 15 families. In the present study 49 fish species,belonging to 7 orders and 14 families were recorded

% Composition of fish families in Narmada river during Aug. 2015 to July. 2016.



Cyprinidae (51%) > Bagridae (9%) > Siluridae(7%) > Ophiocephalidae(7%) > Claridae (4%) >Notopteridae (4%) > Mastacembelidae(4%) > Scheilbedae (2%) ,Clupiedae (2%), Belonidae(2%),Centropomidae (2%), Nandidae (2%), Gobiidae (2%), Anabantidae (2%)

Table 1 : List of fish species from Narmada river

Order	Family	species	
Cypriniformes	Cyprinidae	Labeo rohita	
		Catla catla	
		Cirrihinus cirrihosa	
		Cirrihinus reba	
		Labeo calbasu	
		Labeo fimbriatus	
		Labeo bata	
		Labeo gonius	
		Nemacheilus botia	
		Puntius chola	
		Puntius sarana	
		Puntius dorsalis	
		Tor tor	
		Ctenopharygdon idella	
		Hypothalmichthys molitrix	
		Cyprinus carpio	
		Puntius ticto	
Siluriformes	Claridae	Rasbora daniconius	
		Clarius batrachus	
		Heteropneustes fossilis	
		Hilsa hilsa	
	Siluridae	Ompok bimaculatus	
		Wallago attu	
		Mystus bleekeri	
		Mystus seenghala	
		Bagridae	Mystus cavasius
			Mystus aor
Cluiformes	Clupeidae	Mystus tangara	
		Mystus vittatis	
		Rita rita	
		Rita pavimentata	
		Notopterusnotopterus	
Beloniformes	Belonidae	Notopterus chitala	
		Xenentodon cancila	
Perciformes	Centropomidae	Chanda nama	
		Nandus nandus	
		Anabantidae	Anabas testudinus
		Ophiocephaliformes	Ophiocephalidae
Channa punctatus			
Channa striatus			
Channa gachua			
Mastacembeliformes	Mastacembelidae	Mastacembelus armatus	
		Mastacembelus pancalus	

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