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**P Hembrom**

Department of Zoology, S.P.  
College, Dumka, Jharkhand,  
India

**P Bodra**

University Department of  
Botany, SKMU, Dumka,  
Jharkhand, India

## Study of fish diversity in dumka block, dumka, Jharkhand

**P Hembrom and P Bodra**

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### Abstract

Dumka is the sub-capital of Jharkhand, which is rich in fishery resources. The status of fish diversity was not known from all the water bodies from this area. A study of fish diversity was undertaken in Dumka Block (Latitude 23°47' and 24°38' East Longitude 86°28' and 87°15') of Jharkhand during 2018 to 2020. Fish sample were collected from different freshwater sources using local contraption and modern nets. 31 species of fishes belonging to 17 families have been described in total. Fishes of cyprinidae family have been found to be dominant followed by Chanidae. Small indigenous fishes have decreased. Some awareness measures need to be taken to conserve the fish species.

**Keywords:** dumka, freshwater fish fauna

### Introduction

Jharkhand became the 28th state of India after being bifurcated from Bihar state on 15th November 2000. Ranchi is the capital and Dumka its sub capital of Jharkhand. The name Jharkhand denotes the land of forest inhabited by 32 tribes namely Santhal, Munda, Oroan, Ho, Kharia etc.

Dumka the largest district of Santhal Pargana Commissionery is located in the North –Easter part of the Jharkhand state. It lies between North Latitude 23°47' and 24°38' and East Longitude 86°28' and 86°42'. The district is drained by the Brahmani, The Basio and The Mayurakshi on Moor river and its numerous tributaries (Kujur 2013) [4]. It comprise of 43% Schedule Tribe of total population of Dumka district of Jharkhand (Census 2011). The santal tribe are predominant.

Jharkhand is very rich in natural resources. The fish diversity within the freshwater ecosystem is very important in term of livelihood and the socio- economic development of the country. Dumka block is a small town slowly awakening to urbanization by village life in still prevailing. Santhal tribe are the prominent and have indigenous life pattern. The tribe mostly settled in close proximity of river and procure fish from freshwater for livelihood. Various anthropogenic activities are dismissing the small indigenous species.

The objective of the study was (1) To collect recent data regarding fish diversity aiming to contribute a better knowledge of fish diversity. (2) To examine the future prospect of fish farming in these area. (3) To suggest policy for encouraging pisciculture and to save the small indigenous fishes.

### Material and Method

The study was carried in Dumka Block, Jharkhand. Among 25 panchayat 10 panchayat of Dumka block was selected as study site Asansol, Bartalli, Bhurkunda, Murbanga, Parsimla, Darbarpur, Golpur, Kairabani, Malbhandaro, and Rajband. The study was carried between 2018 to 2019. The data was collected from primary sources. The fish sample were collected from various site and valuable information was collected from local fisherman and resident. Fishing was carried out with help of local fishers using fishing net. Some fishes were purchased from market. Collection of fish were mostly done early morning and late evening. The sample were photographed immediately prior to preservation.

The fish thus collected were preserved in Formalin of 37 to 41% strength (Jayaram 2020) [2]. the sample were identified based on keys Talwar and Jhingran (1991) [5], Jhingran (1991) [3] Fundamental of fish taxonomy Jayaram (2020) [2]

**Corresponding Author:**

**P Hembrom**

Department of Zoology, S.P.  
College, Dumka, Jharkhand,  
India

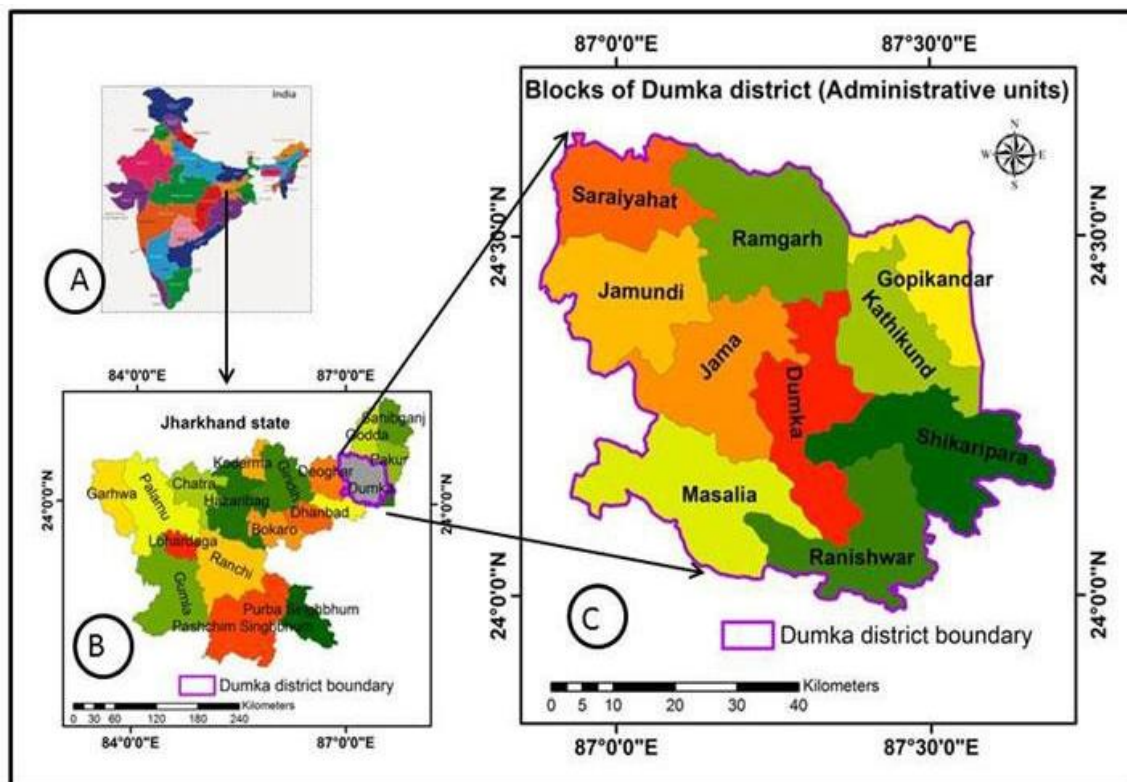
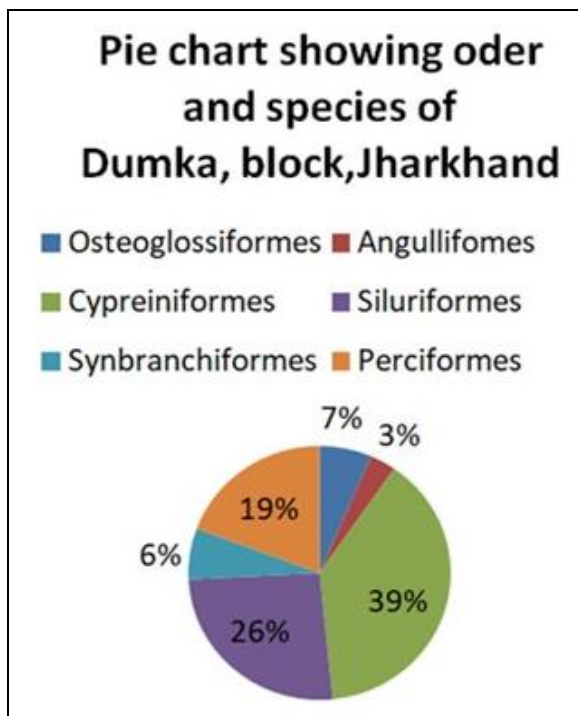


Fig 1: Study area: A-India B-Jharkhand State and C-Dumka district

## Observation

Table 1: Fish species and local name

Order	Family	Scientific name	Local name		
1. Osteoglossiformes	Notopteridae	<i>Notopterus notopterus</i> (Pallas,1769)	Pholui,Patola		
	Notopteridae	<i>Notopters chitala</i> (Ham,1822)	Chithal,Moya		
2. Anguilliformes	Anguillidae	<i>Anguilla bengalensis</i> (Gray,1831)	Bao,baim		
3.Cypreiniformes	Cyprinoidae	<i>Salmostoma bacaila</i> (Ham,1822)	Chela,Chalhawa		
		<i>Barilius bendelisis</i> (Ham,1807)	Calha		
		<i>Laubuka laubuca</i> (Ham,1822)	Dankena		
		<i>Esomus danricus</i> (Ham,1822)	Darika		
		<i>Catla catla</i> (Ham,1822)	Katla		
		<i>Cirrihinus mrigala</i> (Ham,1822)	Mrigal		
		<i>Garra lamta</i> (Ham,1822)	Chaoksi		
		<i>Labeo bata</i> (Ham,1822)	Bata		
		<i>Labeo calbasu</i> (Ham,1822)	Kalbasu		
		<i>Labeo rohita</i> (Ham,1822)	Rohu,Ruee		
		<i>Puntius stigma</i> (Val,1844)	Puthi		
			Cobitidae	<i>Lepidocephalichthys guntea</i> (Ham,1822)	Gutum,Nakati
		Siluriformes	Bargridae	<i>Mystus tengra</i> (Ham,1822)	Tengara
<i>Mystus vittatus</i> (Bloch,1794)	Tengara				
Siluridae	<i>Wallago attu</i> (Bloch and Scheider,1801)		Koyali,Boal		
Pangasiidae	<i>Pangasius pangasius</i> (Ham,1822)		Pangas		
Amblycipitidae	<i>Amblyceps mangois</i> (Ham,1822)		Billi		
Sisoridae	<i>Glyptothorax telchitta</i> (Ham,1822)		Telchitta		
Clariidae	<i>Clarias batrachus</i> (Linnaeus,1758)		Magur		
	Heteropneustidae	<i>Heteropneustes fossilis</i> (Bloch,1794)	Singee,Singhi		
Synbranchiformes	Synbranchidae	<i>Monopterusuchia</i> (Ham,1822)	Kuchia		
	Mastacembelidae	<i>Macrognathus albus</i>	Bomboie		
Perciformes	Gobiidae	<i>Glossogobius giuris</i> (Ham,1822)	Balia		
	Anabantidae	<i>Anabas testdineus</i> (Bloch,1792)	Koi		
	Channidae	<i>Channa marulius</i> (Ham,1822)	Sol		
		<i>Channa puntatus</i> (Bloch,1793)	Girai		
		<i>Channa striatus</i> (Bloch,1793)	Shol		
		<i>Channa gachua</i> (Ham,1822)	Chanaga		



Order	Family Nos.	Genera Nos.	Species Nos.
1. Osteoglossiformes	2	2	2
2. Anguilliformes	1	1	1
3. Cypriniformes	2	10	12
4. Siluriformes	7	7	8
5. Synbranchiformes	2	2	2
6. Perciformes	3	3	6
Total=06	17	25	31



Fig 2: *Glossogobius giuris* (Balia)



Fig 3: *Notopterus chitala* (Chital);



Fig 4: *Puntius stigma* (Puthi)



Fig 5: *Salmostoma bacaila* (Chela)



Fig 6: *Macrognathus albus* (Bomboie);



Fig 7: *Channa marulius* (Sol)



Fig 8: *Labeo bata* (Bata)



Fig 9: *Anguilla bengalensis* (Baim)



Fig 10: *Channa striatus* (Shol)





**Fig 11:** *Anguilla bengalensis* (Baim)



**Fig 12:** *Mystus tengra* (Tengra)



**Fig 13, 14:** *Channa punctatus* (Girai);



**Fig 15:** *Catla catla* (Katla)



**Fig 16:** *Labeo rohita* (Rohu)



**Fig 17:** *Anabas testdineus*(Koi)



**Fig 18:** *Esomus danricus*(Darika)

### Result and Discussion

Fish is one of the main foods of wide people. It is a major source of protein and also contain fat, inorganic substance and vitamins. Population whose staple food is rice, fish is very valuable as food. Fish also help in earning money and employment to people.

The fish diversity of Dumka block constitute a valuable natural resource in term of economic, scientific and education. The resource is largely untapped. From above study 31 species of fishes were identified belonging to 17 families. Fishes of family cyprinidae was found too most abundant. Information obtained from local people and fishermen in the area shows that small indigenous fishes are declining.

The topography of Dumka block is with high ridges, valley bounded by mountains and rivers. It has various size of water reservoir medium to large, but still its annual fish demand depends on other state like West Bengal and Andhra Pradesh. The farmer has poor socio-economic condition ,they lack capital/credit for fish culture. There are some suggestion to encourage fish farming. (1) Renovation of old pond with adequate supply of water. (2) Proper training to fishermen about new technique. (3) Fish festival should be encouraging. Making people aware of and encouraging the protection of fish species is very important.

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