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Fish Diversity of Godavari River at Rajamahendravaram, Andhra Pradesh, India

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ABSTRACT

The fish community of the Godavari River at Rajamahendravaram region was studied by monthly sample taken from Aug. 2020 to Oct. 2021. Godavari River is the largest Westward flowing river of India. It is also referred as the life line of Andhra Pradesh. Present study was aimed to generate information on the fishes of Rajamahendravaram region of river Godavari. The present study has been conducted to assess the fish biodiversity in a stretch of Godavari River in Andhra Pradesh. We tried to document fish biodiversity composition, physical habitats characteristics as well as identification of Carps, Eels, Catfishes, Loaches, Mahaseer, Murrules species in the river. Study assess of this study are divided in two district (East Godavari and west Godavari) a total of 50 species belonging to 30 Genera and 13 Families and 6 orders were recorded.

Keywords

Fish diversity, Godavari River,Rajamahendravaram, Andhra Pradesh,

Introduction

The **Godavari** River second longest river t in India, drains about 10% of India's total geographical area. Its source is in Triambakeshwar, Nashik, Maharashtra. It flows east for 1,465 kilometers (910 mi), draining the states of Maharashtra (48.6%), Telangana (18.8%), Andhra Pradesh (4.5%), Chhattisgarh (10.9%) and Odisha (5.7%).It is commonly known as the life line Andhra Pradesh and largest South flowing river of the country which originates from Nashik in Maharashtrastate. The Study of biodiversity of fish fauna and their identification is one of the interesting fields of biological research, which gives us an idea about the morphological variations 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**). Fishes are the important element in the economy of many nations as they have been a stable 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, al. 2013**). Present study is based on the fish diversity of Godavari river at Rajamahendravaram.

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Material and Method

Present study conducted in selected sites of Godavari River at Rajamahendravaram. Rajamahendravaram is located at Latitude 17° 0' 15.8148" N and Longitude 81° 46' 59.9700" E. The River Godavari is by far the most significant water resources of the state of Andhra Pradesh. The River is the most important ecological hub for aquatic biodiversity in central India and has therefore been the epicenter of the biodiversity studies. 5 sites were selected from Godavari River at East Godavari district.The study has been carried out over a period of Aug. 2020toOct.2021.Thesamplingwascarriedoutseasonallycovering pre-monsoon,monsoon,post-monsoon and winter season. Experimental fishing was carried out with the help of local fishers. After obtaining the fish from the site photographs were taken. The specimens were taken to the laboratory for identification. Morphometric measurements were taken and meristic characters were observed and the fin formula was completed. 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 was used for the collection and preservation. Fishes were labeled based on the serial number, common name, scientific name, locality and date of collection. Fishes were identified with the help of taxonomic key, **Day's fauna** (**1994)** and **Talwar and Jhingran (1991)**. Fish Base website was also referred for various aspects of fish fauna (**www.fishbase.org**). Specific identifying characters on the body was observed andnoted.

Results and Discussion

A total 50 species of fishes recorded from selected sites of Godavari river at Rajamahendravaram belonging to 6 orders and 13 families. Among species, family Cyprinidae was the most dominant with 28 species and the percentage composition is 53% of fishes followed by Bagridae 8% with 4 species, Cobitidae and Ophiocephalidae 6% with

3 species, Siluridae, Ambassidae, and Mastacembelidae 5% with 2 species, Notopteridae, Schilbeidae, Clariidae, Saccobranchidae, Gobiidae, Belonidae 2% of each. The species diversity peak in post monsoon, coinciding with favorable conditions such as sufficient water and ample food resources. 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, sand mining and excessive fishing are the biggest threats to fishpopulation.

Various workers have done work on Godavari 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 Godavari In Andhra 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 Eastern region of Godavari river at narasapur. **Vyas et, al. (2013)** recorded 27 species of fish from the river, a tributary of Godavari river. **Siddiqui et, al. (2014)** work done on Biodiversity of Ichthyofauna of Godavari river of East coast region, Andhra Pradesh, India and recorded 48 species of fish belonging to 7 orders and 17

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families. **Bose et, 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 ineastern 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. Present investigation revealed that river is a healthy water body providing a habitat for freshwater fishes of diverse type. However, there is constant threat to fish population due to eutrophication and illegal fishing activities. The illegal fishing activities should be banned to prevent depletion of fresh water fish resources and further studies should be conducted to generate more details regarding seasonal production and ecology of fishes. In situ conservation is one of the several prominent and suggestive measures for the conservation of fish biodiversity.

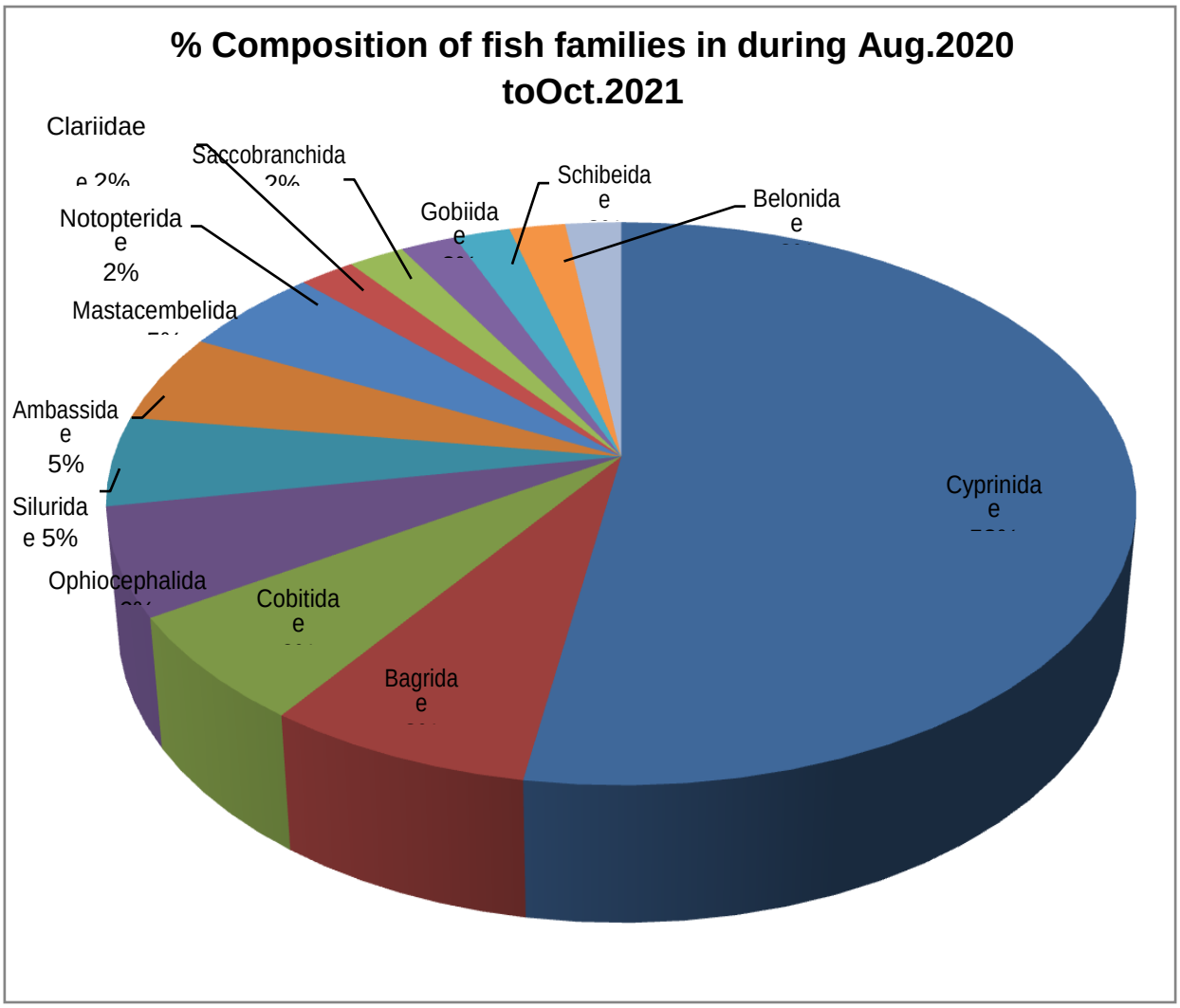

Figure 1.% Composition of fish families in during Aug.2020 toOct.2021

Cyprinidae (53%) > Bagridae (8%) >Cobitidae (6%) >Ophiocephalidae (6%) > Siluridae (5%) >Ambassidae (5%) >Mastacembelidae (5%) > Notopteridae (2%), Clariidae (2%) Saccobranchidae (2%), Gobiodae (2%), Belonidae (2%),Schilbeidae(2%).

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S.No.	Order	Family	Species
1	Cypriniformes	Cyprinidae	Amblypharyngodon mola
2			Barilius barila
3			Barilius bendelisis
4			Cirrhinus mrigala
5			Catla catla
6			Chela laubuca
7			Crossocheilis latius
8.			Cyprinus carpio
9.			Danio devario
10.			Garra gotyla
11.			Oxygaster bacaila
12.			Oxygaster gora
13.			Oxygaster clupeoides
14.			Osteobrama cotio
15.			Puntius ticto
16.			Puntius conchonius
17.			Puntius sophore
18.			Puntius sarana
19.			Ctenopharyngodon idella
20.			Tor tor
21.			Labeo rohita
22.			Labeo calbasu
23.			Labeo bata
24.			Labeo gonius
25.			Labeo dyocheilus
26.			Labeo fimbriatus
27.			Labeo angra
28.			Rasbora daniconius
29.		Bagridae	Mystus bleekeri
30.			Mystus cavasius
31.			Mystus aor
32.			Mystus seenghala
33.		Siluridae	Ompok bimaculatus
34.			Wallago attu
35.		Schilbeidae	Clupisoma garusa
36.		Clariidae	Clarias batrachus
37.		Saccobranchidae	Heteropneustes fossilis
38.		Cobitidae	Lepidocephalichthys guntea
39.			Nemacheilus botia
40.			Nemacheilus evezardi
41.	Clupeiformes	Notopteridae	Notopterus notopterus
42.	Ophiocephaliformes	Ophiocephalidae	Channa gachua
43.			Channa marulius
44.			Channa striatus
45.	Persiformes	Gobiidae	Glossogobius giuris
46.		Ambassidae	Chnda nama

47.			Chanda ranga
48.	Mastacembeliformes	Mastacembelidae	Mastacembelus armatus
49.			Mastacembelus pancalus
50.	Beloniformes	Belonidae	Xenetodon Cancila

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