



## Fish Fauna of river Godavari near Gangakhed, Maharashtra

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### Abstract

A systematic investigation was conducted over a period of one year (from June 2024 to May 2025) to study the fish fauna of the River Godavari near Gangakhed, Maharashtra. The study recorded the presence of 27 fish species belonging to 9 orders and 12 families. The order Cypriniformes was the most dominant, represented by 10 species, followed by Siluriformes with 6 species, Cichliformes with 3 species, and Synbranchiformes and Anabantiformes with 2 species each. The orders Osteoglossiformes, Gobiiformes, Beloniformes, and Mugiliformes were represented by one species each. The fish fauna of the River Godavari at Gangakhed is under considerable stress due to the introduction of exotic species such as common carp (*Cyprinus carpio*) and tilapias (*Oreochromis mossambicus* and *Oreochromis niloticus*).

**Keywords:** Fish fauna, river Godavari, Gangakhed, Maharashtra

### Introduction

The River Godavari holds immense religious, cultural, and ecological significance in India. It is considered one of the most sacred rivers and is popularly known as *Dakshin Ganga* or the “Ganga of the South.” The famous Kumbh Mela is organized on its banks at Nashik every twelve years, attracting millions of devotees. Godavari is the second-longest river in India after the Ganges and is unique in flowing from west to east across the Indian peninsula.

The river originates in the Western Ghats near Trimbakeshwar in Nashik district of Maharashtra and flows eastward for about 1,465 km before draining into the Bay of Bengal in Andhra Pradesh. It traverses diverse geo-climatic regions, supporting rich aquatic biodiversity, particularly fish fauna, which forms an important ecological and economic resource.

Several studies have documented fish diversity in Indian rivers flowing through different geographical regions. However, systematic studies on fish fauna of the Godavari River in the Marathwada region, particularly in Parbhani district, remain limited. Therefore, the present investigation was undertaken to document the ichthyofaunal diversity of the River Godavari near Gangakhed in Parbhani district of Maharashtra.

Earlier studies include Shahnawaz *et al.* (2010) [16], who recorded 56 fish species from the Bhadra River, with Cyprinidae as the dominant family. Dahanukar *et al.* (2012) [7] documented 57 species from the Indrayani River, highlighting threats from exotic species and anthropogenic pressures. Similar diversity-oriented studies were conducted by Arunkumar and Manimekalan (2018) [2], ICAR-CIFRI (2019), Chandran *et al.* (2019) [5], Prakash *et al.* (2020) [13], Gupta and Dutta (2021) [10], Bhoi-Kamble and Kumbhar (2023) [4], Kuralkar and Wagh (2025) [12], and Tiwari and Singh (2025) [20], emphasizing the dominance of Cypriniformes in most Indian river systems.

### Materials and Methods

Fish specimens for the present study were collected with the assistance of local fishermen and by purchasing samples

from fish market. Sampling was carried out at three randomly selected sites along the River Godavari near Gangakhed. The collected specimens were immediately transported to the laboratory, where their fresh coloration and morphological features were recorded prior to preservation.

Specimens were preserved in 5% formalin solution for further examination. Identification of fish species was carried out using standard taxonomic keys and reference literature, including Day (1878) [8], Jayaram (1981) [11], Talwar and Jhingran (1991) [19], and Sakhare *et al.* (2021) [15].

### Results and Discussion

The River Godavari supports a diverse assemblage of freshwater fish species, reflecting a rich ichthyofaunal composition. Previous studies from different stretches of the Godavari, including those by Sakhare and Bidkar (2001) [14], Shillewar and Nanware (2008) [18], Balkhande and Kulkarni (2015) [3], Totawar (2018) [21], and Deore and Vasait (2024) [9], have also reported varying levels of fish diversity.

During the present investigation, a total of 27 fish species belonging to 9 orders and 12 families were recorded (Table 1). The order Cypriniformes was the most dominant, contributing 10 species, followed by Siluriformes (6 species), Cichliformes (3 species), Synbranchiformes and Anabantiformes (2 species each). The orders Osteoglossiformes, Gobiiformes, Beloniformes, and Mugiliformes were represented by a single species each.

Among Cypriniformes, the family Cyprinidae was the most dominant, contributing 36.67% of the total fish diversity. This family included *Catla catla*, *Cirrhinus mrigala*, *Cyprinus carpio*, *Labeo boga*, *Labeo calbasu*, *Labeo rohita*, *Osteobrama cotio cotio*, *Puntius chola*, *Puntius sophore* and *Amblypharyngodon mola*. The order Cypriniformes was the most dominant, represented by 10 species (37.05%), followed by Siluriformes with 6 species (22.22%), Cichliformes with 3 species (11.11%), and Synbranchiformes (7.41%) and Anabantiformes (7.41%)

with 2 species each. The orders Osteoglossiformes (3.70%), Gobiiformes (3.70%), Beloniformes (3.70%), and Mugiliformes (3.70%) were represented by one species each. The fish fauna of the River Godavari at Gangakhed is under considerable stress due to the introduction of exotic species such as common carp (*Cyprinus carpio*) and tilapias (*Oreochromis mossambicus* and *Oreochromis niloticus*).

The present findings show close resemblance to studies by Ansari and Chavan (2021)<sup>[1]</sup> and Shaikh (2025)<sup>[17]</sup>. Shaikh (2025)<sup>[17]</sup> reported 30 fish species from the Asna River, near Nanded, with Cypriniformes as the dominant order, followed by Siluriformes and Cichliformes, which aligns well with the observations of the present study.

The occurrence of exotic species such as *Cyprinus carpio* and *Oreochromis mossambicus* indicates potential ecological threats to native fish populations, warranting immediate conservation and management measures.

Thus, it can be concluded that the River Godavari near Gangakhed supports a moderate level of fish diversity, predominantly represented by the order Cypriniformes. However, the increasing presence of exotic species along with various anthropogenic pressures poses significant threats to the native ichthyofauna. Therefore, regular monitoring and the implementation of sustainable management and conservation strategies are essential to preserve and maintain fish diversity in this region.

**Table 1:** Fish Fauna of River Godavari near Gangakhed, Maharashtra

Order	Family	Species
Osteoglossiformes	Notopteridae	<i>Notopterus notopterus</i> (Pallas)
Cypriniformes	Cyprinidae	<i>Catla catla</i> (Hamilton-Buchanan)
		<i>Cirrhinus mrigala</i> (Hamilton-Buchanan)
		<i>Cyprinus carpio</i> (Linnaeus)
		<i>Labeo boga</i> (Hamilton-Buchanan)
		<i>Labeo calbasu</i> (Hamilton-Buchanan)
		<i>Labeo rohita</i> (Hamilton-Buchanan)
		<i>Osteobrama cotio cotio</i> (Hamilton-Buchanan)
		<i>Puntius chola</i> (Hamilton-Buchanan)
		<i>Puntius sophore</i> (Hamilton-Buchanan)
		<i>Amblypharyngodon mola</i> (Hamilton-Buchanan)
Siluriformes	Bagridae	<i>Aorichthys aor</i> (Hamilton-Buchanan)
		<i>Aorichthys seenghala</i> (Sykes)
		<i>Mystus bleekeri</i> (Day)
		<i>Mystus cavasius</i> (Hamilton-Buchanan)
	Siluridae	<i>Wallago attu</i> (Schneider)
	Clariidae	<i>Clarias batrachus</i>
Gobiiformes	Gobiidae	<i>Glossogobius giuris</i> (Hamilton-Buchanan)
Synbranchiformes	Mastacembelidae	<i>Macrornathus pancalus</i> (Hamilton-Buchanan)
Anabantiformes	Channidae	<i>Mastacembelus armatus</i> (Lacepede)
		<i>Channa marulius</i> (Hamilton-Buchanan)
Cichliformes	Ambassidae	<i>Channa striatus</i> (Bloch)
		<i>Etroplus suratensis</i> (Bloch,1790)
		<i>Oreochromis mossambicus</i> (Peters)
Beloniformes	Cichlidae	<i>Oreochromis niloticus</i> (Linnaeus)
		<i>Xenentodon cancila</i> (Hamilton-Buchanan)
Mugiliformes	Mugilidae	<i>Rhinomugil corsula</i> (Hamilton-Buchanan)

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