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Ichthyofaunal and Macrophyte Diversity of Godavari River at Rampuri BK, Ta. Parbhani District Parbhani

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Abstract

The term "ichthyofauna" describes fish assemblages in a body of water or zoogeographic area. The collective group of fishes that live on Earth at any given time is referred to as the ichthyofauna in a more general sense. The noticeable plants that predominate in wetlands, small lakes, and streams are called macrophytes. Aquatic angiosperms (flowering plants), pteridophytes (ferns), and bryophytes (mosses, hornworts, and liverworts) are all examples of macroflora. An aquatic plant is one that is typically seen growing in close proximity to a body of water that is at or above the soil's surface. Ponds, small lakes, marshes, ditches, reservoirs, swamps, bogs, canals, and sewage lagoons are examples of places where there is standing water. Although less frequently, aquatic plants can also be found in moving water, such as streams, rivers, and springs. The present investigation was conducted during the period of June 2022 to March 2023. During the present studies total 25 fish species and 09 species of macrophyte recorded in Godavari river at Rampuri BK Ta. Manwath Dist Parbhani. Cypriniformes was most recorded as most diversified family of pisces whereas all the four types of macrophytes namely submerged, emergent, floating leafed and free-floating macrophytes were recorded at the lake site. Details have been discussed in full length paper.

Keywords: Ichthyofauna, macrophyte, Godavari River

Introduction

Biodiversity describes the richness and variety of life on earth. It is the most complex and important feature of our planet without biodiversity, life would not sustain. It also reflects the organization organisms at different levels. It holds ecological and economic significance. Therefore it is very important to have a good knowledge of biodiversity for a sustainable live hood.

The reservoirs form one of the most important sources of large number of living aquatic animals, which are economically important for nature as well as for human being for their use as food. Cyprinid fishes are one of the most important groups of vertebrates for man and influencing his life. The nutritive and medicinal value of fish has been recognized from ancient time to recent era. Maharashtra is rich in freshwater (Rivers, irrigation canals, dams, and lakes) reservoirs for fish diversity. Fish diversity is declining rapidly each day due to unending anthropogenic stress. This diversity is not only the wealth of our state or our country and the world but also has serious implications on fishery. Thus there is an urgent need for proper investigation and documentation of this fish diversity in order to develop a fresh water fish diversity information system (Pawara *et al.*, 2014) [7].

Aquatic macrophytes are key components of waterscape because they provide food, affect nutrient cycles and mainly because they increase the habitat complexity. Aquatic macrophytes play a prominent role in water ecosystems by providing food in direct or indirect way, shelter and habitat for a large number of aquatic organisms. Macrophytes play a significant role in maintaining the growth of fauna in water bodies (Jadhao & Kshirsagar, 2018) [5]. Hence an attempt has been made to estimate the ichthyofaunal and macrophyte diversity of Godavari River at Rampuri (BK) Ta. Manwath Dist Parbhani, which may be consider as fundamental data about fish fauna and aquatic macrophyte of selected aquatic habitat.

Materials and Methods

Godavari River is one of the major Rivers of Marathwada that flows through Parbhani District in most of the villages. Ichthyofaunal and macrophyte diversity of Godavari River was carryout from June 2022 to March 2023 at a village i.e., Rampuri (BK), Ta Manwath Dist Parbhani on fortnightly basis. Fish fauna was identified and taxonomical arranged with the help of standard keys and monographs given by Talwar & Jhingran (1991) [12] whereas the macrophytes were

collected by hand picking and also with the help of local fishermen. The collected weeds were then brought to laboratory and identified using standard literature on weeds of

Subramanyam (1962) [11], Cook (1996) [2] and Gupta (2001) [3].



Fig 1: Satellite image of Rampuri BK Ta. Manwath Dist. Parbhani showing Godavari River

Results and Discussion

The present investigation on ichthyofauna and macrophyte was carried out on the Godavari River of Rampuri Bk Tq. Manwath Dist. Parbhani from June 2022 to March 2023. A total 25 fish species and 09 macrophyte species were recorded during the period of study as mentioned in observation table 1 to 4.

The Present study revealed the existence of total 25 fish species belonging to 4 orders and 6 families (Table 1 & 2). Out of total 4 orders, first position was occupied by Cypriniformes with 11 species, followed by Perciformes (07 Species), Siluriformes (05 Species) and Synbranchiformes (02 Species). Regarding the families Cyprinidae was recorded most diversified family with 11 species, followed by

Channidae with 4 species, Cichlidae & Bagridae with 3 species and Siluridae & Mastacembelidae with 02 species. The dominance of Cyprinidae family was also recorded by many investigators in their investigation viz., Hiware (2005) [4], Rankhamb S V (2011) [9], Tasneem S (2011) [13], Pawar (2014) [8] and Balkhande & Kulkarni (2015) [1] from various aquatic habitats of Marathawada region of Maharashtra.

The 09 Species of macrophyte were identified belongs to 7 families. Out of 9 species, 04 are recorded as free floating, two are recorded as submerged & rooted floating where as one as emergent. Sitre *et al.*, (2014) [10] and Kadam (2016) [6] noted the presence of 16 aquatic weed in a freshwater pond in Chandrapur District and Bhogaon Reservoir in Parbhani District, Maharashtra respectively.

Table 1: Ichthyofaunal Diversity in Godavari River at Rampuri (BK) Ta. Manwath Dist Parbhani

S. No.	Order	Family	Scientific Name	Local Name
1.	Cypriniformes	Cyprinidae	<i>Catla catla</i>	Katla
			<i>Cirrhinus Mrigala</i>	Mrigal
			<i>Ct Pharyngodon Idella</i>	Gavtya
			<i>Cyprinus Carpio</i>	Supernus
			<i>Labeo Boga</i>	Boga
			<i>Labeo Calbasu</i>	Kaloshi
			<i>Labeo Rohita</i>	Rohu
			<i>Puntius sarana</i>	Potah,Darai
			<i>Puntius sophore</i>	Khavli/pothi
			<i>Puntius ticto</i>	Dhevari
			<i>Thynnichthys Sandkhol</i>	Sandkhol
2.	Perciformes	Channidae	<i>Channa gachua</i>	Dhokda
			<i>Channa marulius</i>	Maral
			<i>Channa punctatus</i>	Dhokda/maral

		Cichlidae	<i>Channa striatus</i>	Maral
			<i>Etroplus Suratensis</i>	Paplet
			<i>Oreochromis mossambicus</i>	Tilapi
			<i>Oreochromis niloticus</i>	Tilapi
3.	Siluriformes	Bagridae	<i>Mystus Aor</i>	Katna
			<i>Mystus Bleekeri</i>	Tengara
			<i>Mystus Seenghala</i>	Shengat
		Siluridae	<i>Ompok Bimaculatus</i>	Puffa
			<i>Wallago attu</i>	Balu
4.	Synbranchiformes	Mastacembelidae	<i>Mastacembelusarmatus</i>	Wam
			<i>Macrognathus Pancalus</i>	Wam

Table 2: Family and Order wise Distribution of Ichthyofauna in Godavari River at Rampuri (BK) Ta. Manwath Dist Parbhani

Sr. No	Order	Family	No. of Species
1.	Cypriniformes	Cyprinidae	11
2.	Perciformes	Channidae	4
		Cichlidae	3
3.	Siluriformes	Siluridae	2
		Bagridae	3
4.	Synbranchiformes	Mastacembelidae	2
Total	04	06	25

Table 3: Macrophyte Diversity in Godavari River at Rampuri (BK) Ta. Manwath Dist Parbhani

Sr. No.	Family	Common name	Scientific name	Types
1.	Hydrocharitaceae	1. Waterhyne	<i>Hydrillaverticillata</i>	Submerged
		2. Eelgrass/Grass	<i>Vallisneria spiralis</i>	Submerged
2.	Pontederiaceae	Water hyacinth	<i>Eichhornia crassipes</i>	Free floating
3.	Araceae	1. Bayroot	<i>Lemna minor</i>	Free Floating
		2. Jalkumbhi	<i>Pistia stratiotes</i>	
4.	Typhaceae	Cumbungi	<i>Typha domingensis</i>	Emergent
5.	Nymphaeaceae	Water lilies	<i>Nymphaeanouchali</i>	Rooted floating
6.	Cladophoraceae	Green algae	<i>Cladophora Sp</i>	Free floating
7.	Salviniaceae	Kariba weed	<i>Salvinia Molesta</i>	Free floating

Table 4: Category wise Macrophytes in Godavari River at Rampuri (BK) Ta. Manwath Dist Parbhani

Type	Free Floating	Submerged	Rooted Floating	Emergent	Total
Number of species	4	2	2	1	9

Summary and Conclusion

During the present, total 25 fish species were recorded at Rampuri (BK) Ta. Manwath Dist Parbhani with cyprinidae as most diversified order with 11 species whereas macrophyte diversity was represented by 9 species with all possible types of aquatic weeds viz., free floating, submerged, rooted floating and emergent. No doubt these aquatic weeds are suitable for fish fauna as they hold nutrients, provide oxygen and are primary producers of aquatic habitat but for proper growth and development of fish fauna aquatic habitat the diversity and density of macrophytes should be in controlled manner (Kadam, 2016)^[6].

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