IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

A Study On Ichthyofaunal Diversity Of Raviryala Pedda Cheruvu In Rangareddy District, Telangana.

Koppu Vishnu, AV.Rajashekhar and K.Ramesh

Dept of Zoology, Osmania **University, Hyderabad, India.**

Abstract:

Lake fish diversity is crucial for maintaining healthy ecosystems and supporting human well-being. It contributes to ecosystem stability, provides a valuable food source, and offers insights into environmental health. Preserving fish diversity ensures the continued functioning of aquatic ecosystems and the benefits they provide. The study was conducted to evaluate the Ichthyofaunal diversity of Raviryala Pedda Cheruvu. Population of fishes in our aquatic system plays a significant role in the livelihood of fishermen and their socio-economic development. Raviryala Pedda Cheruvu (RANGAREDDY) has huge potential for development of fresh water fisheries and aquaculture in the Rangareddy region some of the agricultural farmers and fish farmers with the help of HMDA are constructing fish ponds in the natural habitats and aquaculture farms.The present survey study focuses on diversity of fish fauna in (RANGAREDDY region during 2022-2024. About 30 different cultivable and edible fin species were recorded during the study.

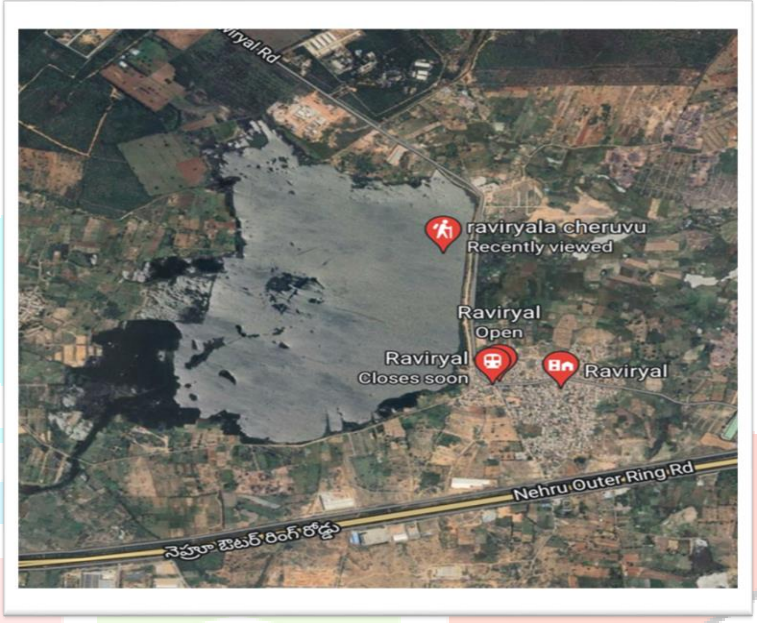
Keywords: Rangareddy region, Ichthyofaunal diversity, Primary Fishermen societies, Paper Mills and agricultural fields and, socio-economic development.

INTRODUCTION:

An ichthyofaunal study of a lake ecosystem focuses on the fish species present and their distribution within that specific aquatic environment. It examines the diversity, abundance, and community structure of fish, relating it to the lake's physical, chemical, and biological characteristics. Such studies are crucial for understanding the health and ecological integrity of the lake, as well as for informing conservation efforts. Fishes are the important vertebrate group of animal kingdom in the world contributing to the biodiversity of fauna. Primarily fishes are used as a food source for majority communities. Many vital vitamins and fatty

acids are found in fishes so less often it is referred by doctors as a source of nutrient food. The study is focus on evaluating the overall health and functioning of the lake ecosystem based on the fish community structure and other ecological indicators.Rangareddy district in Telangana exhibits rich freshwater fish diversity, with numerous species found in its water bodies, including reservoirs and tanks. The region is part of the Deccan Plateau and falls within the Krishna River basin, which is known for its diverse fish fauna.

STUDY AREA: RAVIRYALA PEDDA CHERUVU



1. MORPHOMETRIC AND HYDROLOGICAL CHARACTERISTICS OF THE RAVIRYALA PEDDA CHERUVU:

Lake Description.	Raviryala Pedda Cheruvu
State	Telangana
Nearest City	Hyderabad
District.	Ranga Reddy
Latitude/Longitude	17° 25' 17.0004‘’N 78° 33' 16.3800" E
Tank area upto FTL.	855.20 Acres
Purpose	Irrigation
Full Tank Level	Perimeter 10217.923m
Bund length.	1600m
Full tank level (FTL)	+571.614m
HMDA Lake ID:	2404

Fishes Collection Methods:

Collection of Fishess: Take the photos with the help of local fishermen

Identification: with the help of fish identification tools

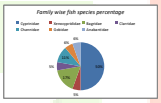
Results: 2.Fish Fauna of Raviryala Pedda Cheruvu

Orders	Families	Genus Names	Species Names	Local Names
1.Cypriniformes	*Cyprinidae*	Labeo	**1.**Labeo Catla (F.Hamilton,1822)	Krishna Botchu
			2.Labeo calbasu (F.hamilton,1822)	Kurcha
			3. Labeo rohita (F.Hamilton- 1822)	Rohu
			4..Labeo gonius (F.Hamilton,1822)	*Kuriha*
		Cirrhinus	**5**.Cirrhinus cirrhosus (Bloch,1795)	Ray Finned-Fish
		Cyprinus	*6. Cyprinus carpio (Linnaeus-1758)*	*Bangaarutheega*
			7.Cyprinus rubrofuscus(Lacepede-1803)	*Amur Carp*
		Punctius	*8. Punctius titius (F.Hamilton-,1822)*	*chola*
			9.Punctius sarana (Hamilton,1822)	*Gundu parka*
		Hypophthalmichthys	*10.Hypophthalmichthys molitrix (Valenciennes, 1844)*	*Silver carp*
	Xenocyprididae	*Mystus*	*11. Mystus bleeker (Day,1877)*	*NarJella*
2.Siluriformes	*Bagridae*	*Mystus Clarius*	***12.*** *Mystus cavasius (Hamilton,1822)*	*Jella*
			13. *Mystus vittatus (Bloch,1822)*	*Erra Jella*
			14.Clarius magur (Linnaeus,1758)	*Korramatta*
	Clarridae	*Channa*	*15.Channa punctatus (Bloch,Day-1878)*	*Mottapilla*
	Channidae	*Channa Glosogobius*	*16.Channa striatus(1793)*	*Korramatta/Murrel*
3.Channiformes			*16.Channa striatus(1793) 17..Glosobius giuris giuris (Hamilton,1822)*	*Korramatta/Murrel Ushkedhanthi*
4.Perciformes	*Gobidae*	*Anabas*	*18..Anabas testudineus (Bloch,1792)*	*Burka*

	Anabantidae			

3. Fish species in Raviryala Pedda Cheruvu:

S.NO.	**Families**	**Fishes**	**Percentage**
1	Cyprinidae	9	50
2	Xenocyprididae	1	6
3	Bagridae	3	17
4	Clarridae	1	6
5	Channidae	2	11
6	Gobidae	1	6
7	Anabantidae	1	6
Total		18	100



4.Order wise fish species in Raviryala Peddacheruvu

S.NO	**Order**	**Fish Species**	**%**
1	Cypriniformes	10	56
2	Siluriformes	4	22
3	Channiforme	2	11
4	Perciformes	2	11
Total	**6**	**18**	**100**

Fishes of Raviryala Cheruvu:

1.Labeo rohitha

2.**Catla catla**

3.Channa striata

4. Nile Tilapia (Oreochromis niloticus)

6.Cirrhinus

5. Cyprinus carpio

7. **Anabas** 8.**Mystus bleekeri**


09.Channa punctata **10. Puntius sarana**



11.Labeo Gonius

Discussion:

The present study identified 18 species of fishes with 11 genera 7 families and 4 orders from Raviryala Pedda Cheruvu. Out of these Cypriniformes (10), Siluriformes (4), Channiformes (2) and Perciformes(2)species .The percentage composition of fish species in order i.e. Cypriniformes (56%), Siluroformes (22%), Perciformes (11%), Channiformes (11%).Cypriniformes was more dominant largely due to their ecological adaptability, diverse feeding habits. Lakes in India support a rich variety of fish species, which interns support the commercial exploitation of the fisheries' potential (Krishna M and Piska RS-2006).Various efforts were made

by different researchers to enumerate the fish species in freshwater bodies across the Telangana State 25 species of fish were reported from Pocharam Reservoir by (Rao CAN., et al.2011). As per the current study, Raviryala Pedda Cheruvu also provides shelter for 18 species of fish.

Significance of this Study:

Fish diversity Raviryala Pedda Cheruvu lake ecosystem is crucial for its overall health and stability, as well as for the benefits it provides to humans. A diverse fish population of this lake contributed to a balanced ecosystem by regulating nutrient cycles, maintaining water quality, and controlling the populations of other organisms. It also provided a valuable food source and supports livelihoods for local village communities.

1. Ecological Importance: A diverse fish community of this lake ensured a balanced ecosystem with various species occupying different ecological niches.

2. Nutrient Cycling: Fishes of this lake consumed algae, zooplankton, and other organisms, redistributing nutrients through their waste and contributing to the overall health of lake.

3. Water Quality: Fishes maintained water quality by consuming algae and other organic matter..

4. Food Web Dynamics: Fish are an integral part of the aquatic food web, serving as both predators and prey. A diversified fish community of this lake ensured a more complex and stable food web, supporting the health of other organisms in the lake and its surrounding environment.

Conclusion: The present ichthyofaunal study of this lake tried an attempt to protect the diversity of the Ichtyofouna of the lake and try to explain the community societies who are dependent on Fish hunting by observing fishing holiday for about three months during the breeding season From July to September in order to allow the proper growth of fishes. We have also educated them to regulate the mesh size. Creating mass awareness is needed to protection of threatened fish fauna and the diverse fish resources. Adoption of appropriate measures is necessary to conserve these resources *vis-a-vis* the livelihood of marginal and subsistent families of fishermen community. On the order of High Court Officials of HMDA (Metropolitan Development Authority) and Minor Irrigation department to surveyed the area under Raviryala Pedda tank in Maheshwaram mandal of Ranga Reddy district and constitued lake protection committee for protection and restoration of lake ecological balance.

Acknowledgements: The present study was supported by Raviryala Village Administration; Authors are indebted and thankful to Head ,BOS and Faculty of zoology, Osmania University, Hyderabad for their support during this study.

References:

1. Sakare.V.B., and Joshi,P.K., (2003). Water quality of Migni (pangaon) reservior and it's significance to fisheries. ABN- 008N Nat. conf. Recent trends Aquat. Bio l. 56.

10. Kante Krishna Prasad, Mohammad Younus, and Chelmala Srinivasulu,. 2020. Ichthyofaunal diversity of Manjeera Reservoir, Manjeera Wildlife Sanctuary, Telangana, India. 12 (10), Pp: 16357–16367.

2. Srinivas, M. and Aruna, M., (2018), Diversity of phytoplankton and assessment of water in two lakes of Telangana state, India. International Journal of Scientific Research in Science and Technology. Vol. 4, Issue.10. ISSN NO: 2395-602X

3. Srinivas.Ch., (2005). Impact of river Moosi pollution on the fisheries Edulabad reservoir Rnagareddy district A.P.India. Ph.D. thesis, Osmania University, Hyderabad.

4. Sukumaran P.K., and Das A.K., (2001). Distribution of fisheries reservior of karnataka. J.Inland Fish. Soc. India, 33(2)-29-36.

5. Suresh,V.R., (2003). Status of laktak lake fisheries and approch for their sustainable development. Fishing chimes 23(3):42-44.

6. Jayaram, K.C. 1999. The Freshwater Fishes of the Jhingran, A.G. and Pathak. 1987. Ecology.

7. Jayaram, K.C. 2010. The freshwater fishes of the Indian region. Narendra Publishing House, Delhi, 614.

8. Jayaram K.C., 2011. The Freshwater Fishes of Indian Region Narendra Publication House, New Delhi, 2nd Edition.

9. Laxmappa B, S. Jithender Kumar Naik and S. Vamshi. 2014. Ichthyofaunal diversity of Koilsagar reservoir in Mahbubnagar district, Telangana, India International Journal of Fisheries and Aquatic Studies, 2(3): 23-30.

10.Rao CAN., et al. "Comparative account on the ichthyofauna of Pocharam and Wyra lakes of Andhra Pradesh, India". Journal ofThreatened Taxa 3.2 (2011).

11. Krishna M and Piska RS. "Ichthyofaunal biodiversity in Secret Lake Durgamcheruvu, Ranga Reddy Distt; Andhra Pradesh, India". International Journal of Aquatic Biology 21.1 (2006): 77-79.