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Molluscan Diversity in and Around Sakharwahi Lake Near Chandrapur Maharashtra India

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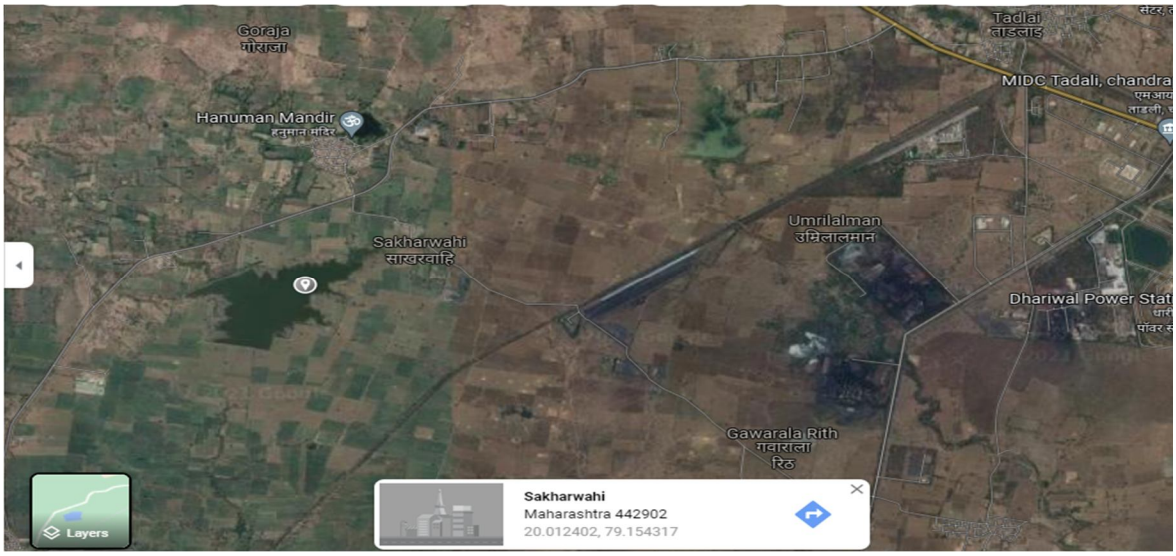
Abstract: ***The present study was conducted on the molluscan diversity in and around Sakharwahi lake of Chandrapur district, which harbors a variety of flora as well as fauna in the submerged as well as floating state, due to availability of ample of food and suitable condition. During the study total 19 species molluscs were found out of which 16 species of Gastropoda and 3 species of Bivalvia were collected from Sakharwahi lake which belongs to family Vivipiridea, Thiaridae, Melonidea, Lymnaeidae, Planorbidae, Valloniidae, Unionidae, Parresysiinea.***
Keywords: Mollusca, Sakharwahi, Gastropods, Bivalvia, Ecosystem.

I. INTRODUCTION

Molluscs are common fauna of bottom dwelling communities in aquatic ecosystem. They are also found attached with floating vegetation in fresh water bodies and their role in the dynamics of the aquatic ecosystem and their contribution to biomass production is little known. Freshwater gastropods are either herbivorous or detrivore or they may passively consume small invertebrates associated with periphyton (Tyagi, 2015). Many species spent their entire lives in few square meters of habitat; making them extremely vulnerable to localised environmental habitat degradation. Although most species prefer clean stable and bottoms, some prefer soft substrates more common to ponds and lakes. beside this a few wide-ranging Snail species can easily survive in polluted habitat our knowledge on Indian freshwater mollusc is based on contributions made by several earlier workers in the monograph "Freshwater molluscs of India" mention in brief about the general aspects of Habitat distribution zoogeography significance importance of malacological studies their role in medical, veterinary, public health, aquaculture etc. (Ramakrishna and Day ,2007)
Some considerable work on faunal diversity freshwater molluscs was carried out Maharashtra in past (Patil et al 2005 and Misar et al 2020), it is evident from the available literature, that almost no more work has been carried out on faunal diversity of molluscs in eastern Vidarbha region of Maharashtra, so the present work on molluscan diversity of the area adds the additional information in the previous work.

A. Study Area

Sakharwahi lake is 22 KM towards west from District headquarters Chandrapur in Sakharwahi village in Chandrapur District, which is located at the latitude 20.01 and longitude 79.16 are the geocoordinate of the Sakharwahi at an elevation 194 meters above sea level.



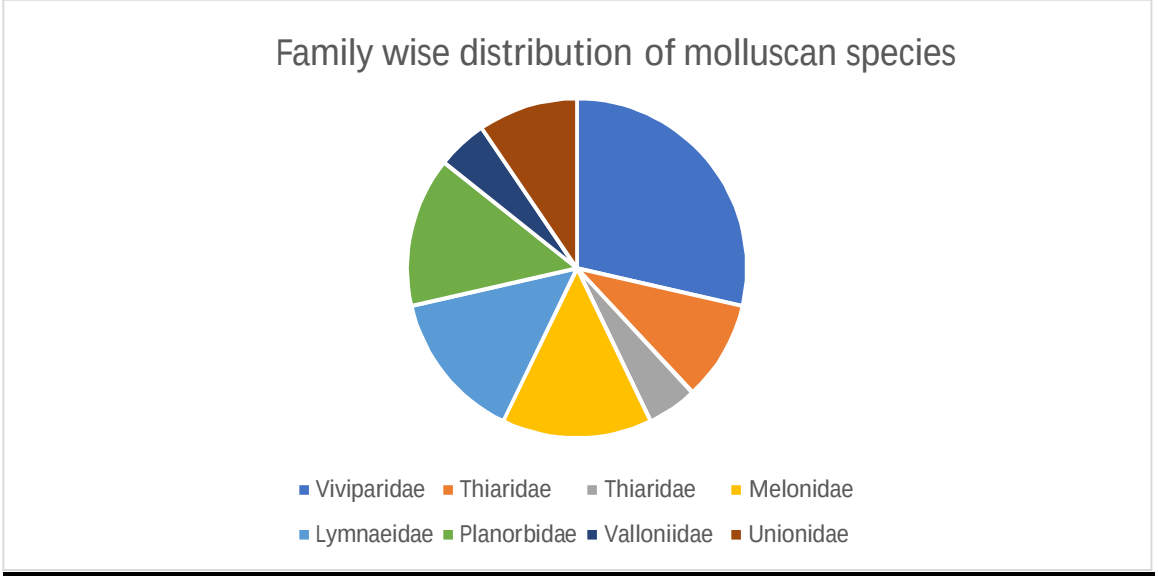
Map Shows the location of Sakharwahi lake in Chandrapur district Maharashtra (Google images).

II. MATERIAL AND METHODS

The present work was carried out from October to March 2021 in Sakharwahi lake. The samples from littoral zone have been collected by hand pick up and net. the samples have been washed in tap water and preserved in 70% alcohol. Photographs were taken by Nikon D-3400 camera and species were identified from the book of Indian Fresh water Mollusca by Mitra et al ,2004., Ramakrishna and Day, 2007.

Observation Table 1. PHYLUM-MOLLUSCA

Class	Order	Family	Taxa
Gastropoda	Mesogastropoda	Viviparidae	*1.Pila globosa* *2.Bellamya Crassa* *3.Ballamya ebornea 4.Bellamya bengalensis* *5.Gabbia orelua* *6.Galba truncatula*
		Thiaridae	*1.Thiara scabra* *2.Thiara lineate*
		Melonidae	*1.Thiara tuberculate*
	Basommatophora	Lymnaeidae	*1.Lymnea acuminata* *2.Limnaea luteola* *3.Succinela oblonga*
		Planorbidae	*1.Perpolita hammonis* *2.Gyraulus rotula 3.Indoplahorbi exustus*
		Valloniidae	*1.Vellomoa dissimilis*
Bivalvia	Unionoida	Unionidae	*1.Lamellidens marginalls* *2.Unio occuta*
		Parresysiinea.	*1.Parreysia Carrugata*



Pie Chart shows the family wise distribution of Molluscan species in Sakharwahi lake

III. DISCUSSION

The Sakharwahi lake harbors a variety of planktons and aquatic weeds in the submerged as well as floating state (Wahane et al ,2017) on which thrive a large number of organisms, due to abundant food available throughout the year in the form of aquatic crustaceans, insects and molluscs etc.

In present study, total 19 species of molluscs were recorded out of which 16 species of gastropods and 3 species of bivalvia were reported from Sakharwahi lake which belongs to family Vivipiridea, Thiaridae, Melonidea, Lymnaeidae, Planorbidae, Valloniidae, Unionidae,Parresysiinea.

The quantitative analysis of molluscs was not done but it was observed that the *Bellamya* Species and *Pila globosa* was the dominant than other because the shells these species were seen scattered throughout the margin of lake compared to other species.

There are a number of workers who conducted studies on molluscan faunal diversity from different parts of India, the freshwater ecosystem in India harbors a rich diversity of molluscs representing 212 species belonging to 21 families out of these 164 species recorded from river and streams (Subbarao ,1989).

A study on the molluscan diversity of Saipung Wildlife Sanctuary, Meghalaya revealed 13 species of molluscs, out of which 12 species were identified as gastropods and 1 species of Bivalve. The freshwater gastropod species comprises *Bellamya bengalensis, f. annadalei, Pila theobaldi, Thiara (lareba) lineata, Brotia (Antimelania) costula, Paludomus (Paludomus) conica,P. (P.) regulata, P. (P.) stephanus and Indoplanorbis exustus.*As per the findings from above data the generic as well as species diversity seen in freshwater aquatic ecosystem in different region , mentioned that there is avariation in molluscan diversity in different fresh water bodies, as earlier studied by different researchers which was not due either a single factor alone but a combination of factors is responsible for such variation. Tyagi, (2015).

Malhotra et.al. (1996) reported the maximum molluscs during summer month in pond could be related to some ecological important phenomenon's, maximum abundance of decomposers settled organic matter and macrophytes on bottom of water body and also increase water temperature activating the process of decomposition of organic sediments.

Seldon et. al (1998), observed that the abundant amount water and vegetation is the important for breeding and feeding of the Mollusca. Considering above factors as reported by Malhotra et.al. (1996) and perusal of available literature the abundant amount of molluscs population in Sakharwahi lake is due to moderate amount of water, temperature ,available micro and macro vegetation ,which plays an important role in converting organic matter into a biomass, which in turn consumed by the fishes and other aquatic organism thus helps in the secondary productivity and which form an important component in the food web of ecosystem.

IV. ACKNOWLEDGMENT

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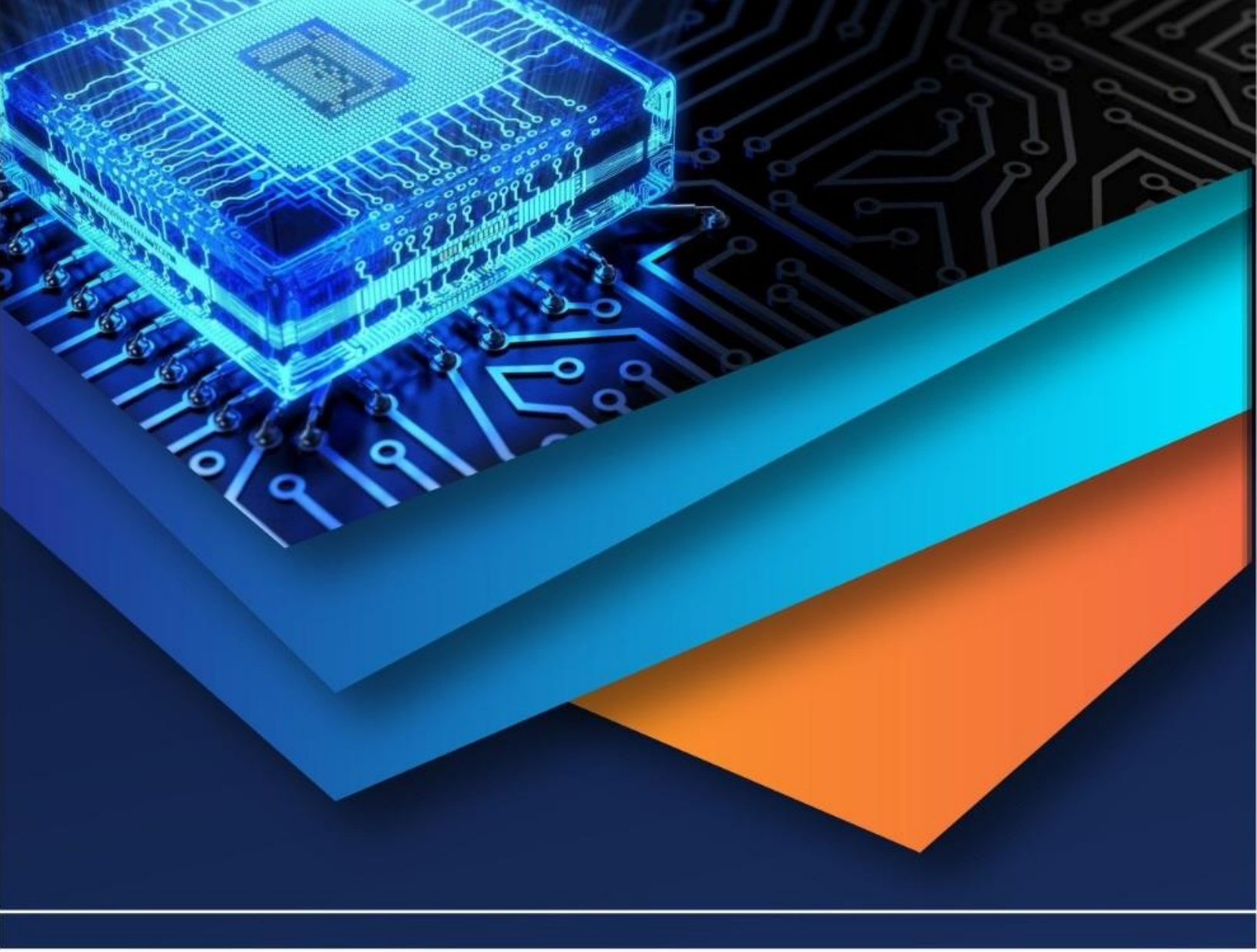

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