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INTERNATIONAL JOURNAL OF RESEARCHES IN BIOSCIENCES, AGRICULTURE AND TECHNOLOGY

MOLLUSCAN DIVERSITY OF GILBILI LAKE OF CHANDRAPUR DISTRICT (M.S.), INDIA

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ABSTRACT:

Molluscs are the environment indicators and play a very important role in maintaining aquatic ecosystem by recycling nutrients and surviving as nutrition for certain aquatic organisms. Also they are important source of food for other animals i.e. fishes, birds and mammals even for human being. In the age of global decline of biodiversity, it is necessary to study the present status of different biota and hence this attempt was made. The present paper deals with check list of diversity of molluscan fauna from Gilbili lake of Chandrapur district in the period February 2019 to January 2020. A total of 14 molluscan species were reported and identified in this paper. These listed species belonging to 02 classes, 03 orders, 07 families and 14 genera. Out of 14 molluscan species 11 species belonging to class Gastropoda and 03 species belonging to class Bivalvia.

Keywords :- Molluscs, Diversity, Gilbili Lake.

INTRODUCTION :

Molluscs (also known as molluscs) are the second-largest phylum of invertebrate animals after Arthropoda. They are smooth-bodied, bilaterally symmetrical, stratified, coelomate animals; usually shelled with a mantle, ventral foot, anterior head, and visceral dorsal mass. Molluscs also help increase the productivity of aquatic systems so that their abundance can be treated as an indirect measure of aquatic productivity (Waghmare and Kulkarni 2015; Padghane et al. 2017; Vaughn 2017). Molluscs are highly successful invertebrates in terms of ecology and adaptation and are found nearly in all habitats ranging from deepest ocean trenches to the intertidal zones, and freshwater to land occupying a wide range of habitats. Much of the molluscan diversity occurs in the tropical world. Despite this great diversity, very few studies on molluscs have been carried out in the tropical world.

Molluscs are one of the most important biotic elements in aquatic ecosystems and contribute to ecosystem functioning by intensive biofiltration, bioturbation, decreasing bottom current velocity, increasing microhabitat complexity and heterogeneity, decomposing litter, and serving as a major food source for fishes and birds (Bódis et al. 2014; Vaughn et al. 2008; Padghane et al. 2017). Molluscan populations are responsible for any changes in aquatic environments and are therefore considered ecosystem engineers (Gutiérrez et al. 2003; Lathlean and McQuaid 2017; Yan et al. 2020).

MATERIAL AND METHODS :

Study area

Gilbili lake is situated in Gilbili village which is 25 km from Chandrapur district place and at about 691 meter above the mean sea level and is at 19˚55' 37.22" N latitude and 79˚ 28' 44.27" E longitude. The area of this lake is spread over 19.768 acres. The water of this lake is primary used for washing, bathing, agriculture, fishing activities and other domestic purposes.

Collection, preservation and identification

Specimens were collected by hand picking method from selected sites during the study period. Collected Molluscan washed properly and preserved in 5% formalin first and then transferred in 70 % alcohol. Photographs of the specimens were taken by Nikon camera D7000 and lens 60 mm micro for documentation and identification purpose. The specimens are identified as per Subba Rao (1989) and Ramakrishna and Day, 2007.

OBSERVATION, RESULT AND DISCUSSION :

In the present investigation the molluscan diversity has been studied from Gilbili lake and given in the Table:-1. The molluscan representative mainly includes two classes namely Gastropoda and Pelecypoda (Bivalvia).

In present study, total 14 species molluscan were found out of which 11 species of gastropoda and 03 species of bivalvia were collected from Gilbili lake which belongs to family Vivipiridea, Thiaridae, Melonidea, Lymnaeidae, Planorbidae, Unionidae and Parresysiinea. During investigation *Pila globosa* was dominant as compared to other group of gastropods and bivalvia.

Number of workers conducted studies on molluscan diversity in 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.

Molluscans are the environment as well as bio-indicators and they play a very important role in maintaining aquatic ecosystem by recycling nutrients and surviving as nutrition for certain aquatic organisms. Freshwater molluscs play a significant role in aquatic ecosystem, and some of them are edible. Also, they serve an important source of food for other animals i.e. fishes, birds and mammals even for human being. In the age of global decline of biodiversity, it is necessary to study the present status of different biota. The taxonomic study of Indian fresh water molluscs has been done by Zoological Survey of India, Subba Rao (1989), Also in Maharashtra, freshwater Mollusca reported by Rao (1925), Tonapi and Mulherkar (1963), Tonapi ((1971), Subba Rao and Mitra (1975,1979), Surya *et al.* (2002), Patil and Talmale (2003,2005), Tripathy and Mukhpadhyay, (2015), Magare *et al.* (2016), Kambale, (2018), Kumar et al., (2019), Misar, SD *et al.*(2020).

The abundant amount of molluscan population in Gilbili lake is due to moderate amount of water, temperature and available micro and macro vegetation and decomposers. The abundance of molluscan fauna from present study area indicates the rich productivity. The species inhibiting bottom of lake plays an important role in converting organic matter together with the meiobenthos into a biomass, which in turn consumed by the fishes thus helps in the secondary productivity and form an important component in the food web of ecosystem.

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Table No. 1 Molluscan species with classification form Gilbili lake of Chandrapur district.

Phylum	Class	Order	Family	Species
Mollusca	Gastropoda	Mesogastropoda	Viviparidae	*Bellamya bengalensis*
				Pila globosa
			Thiaridae	*Thiara lineate*
				Thiara scabra
			Melonidae	*Melonoides tuberculata*
		Basommatophora	Lymnaeidae	*Succinela oblonga*
				Limnaea luteola
				Lymnea acuminata
			Planorbidae	*Gyraulus rotula*
				Perpolita hammonis
				Indoplahorbi exustus
	Pelycepoda (Bivalvia)	Unionoida	Unionidae	*Unio occuta*
				Lamellidens marginalls
			Parreysiinae	*Parreysia corruguta*