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Manju Sonule
Assistant Professor (CHB), Shivaji College, Parbhani, Maharashtra, India

Yasmeen Shaikh
Assistant Professor (CHB), School of life Sciences, Swami Ramanand Teerth Marathwada University, Nanded, Maharashtra, India

Mulani Ramjan
Director of Distance Education and Ex-Professor of School of Life Sciences, Swami Ramanand Teerth Marathwada University, Nanded, Maharashtra, India

Corresponding Author:
Yasmeen Shaikh
Assistant Professor (CHB), School of life Sciences, Swami Ramanand Teerth Marathwada University, Nanded, Maharashtra, India

Diversity of molluscs from Purna River at Parbhani district Maharashtra, India

Manju Sonule, Yasmeen Shaikh and Mulani Ramjan

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Abstract
The present work had been carried out in order to determine the diversity of freshwater mollusca of Purna river is the sub basin of Godavari river. In this research study total 18 taxa of Bivalve and Gastropoda were recorded from three sites of Purna river i.e. Yeldari, Kivi and Bamni. Out of from three sites maximum Bivalve was recorded from kivi as compare to Yeldari and Bamni. Total 06 taxa of Bivalve and 12 of Gastropods were recorded from three sites. In this research survey species were recorded *viz. Lamillidens marginalis, Angulus sinuate, Unio zelebori, Lamllidense jenkinsianus, Lampsilis siliquoidea, Novaculina gangetica, Bellamya dissimilis, Lymnaea acuminata, Pomacea canaliculata, Melanoides tuberculata, Gabia orcula, Pila ampullaceal, Indoplanorbis exustus, Bellamya micron, Lymnaea luteola, Melanoides lineatu, Bellamya bengalensis,* and *Mandiensis, Taberia lineate*.

Keywords: Bivalve, Yeldari, Bamni, Kivi.

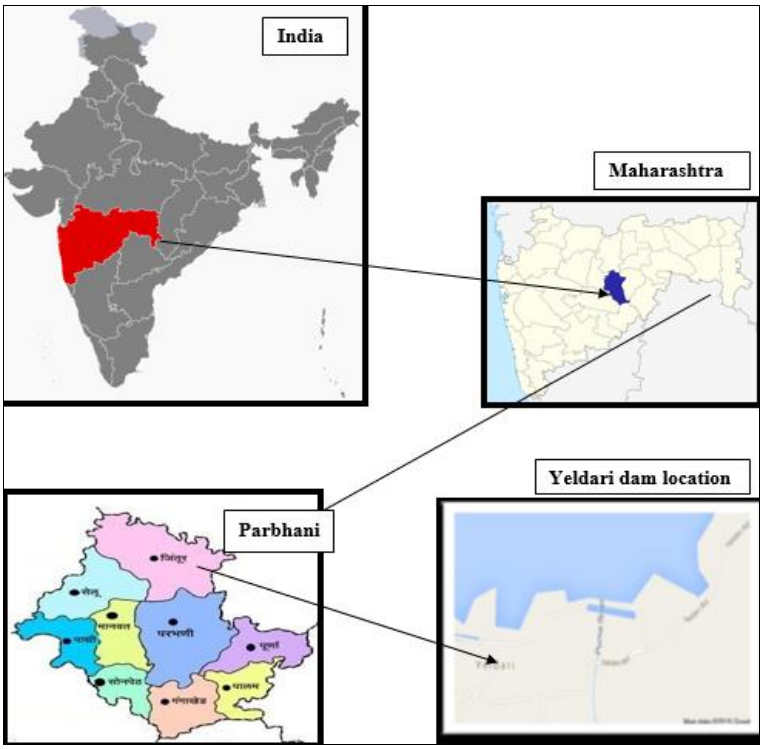
Introduction
The phylum Mollusca is second most diverse group of animals in the world terms of described species richness. It consists of approximately 100,000 freshwater, marine and terrestrial species including mussels, snails, octopus, squid as well as several other less familiar groups (Erika T. Machtinger, 2007) [7]. Mollusca are derived from Latin word *mollis* or *molluscs* which mean soft bodied. The mollusks are characterized by having as a rule, a protective exoskeleton in the form of shell. Shell is usually external, sometimes internal. Histologically, shell is composed of three layers. The outer most pigment layer called periostracum made up of organic substance, conchiolin. It is secreted by edge of mantle. The outer layer is followed by mantle edge. The inner layer is called Nacreour or pearly. It is made of conchiolin and calcarious plates running alternately and longitudinally.

Unio and *Lamellidens* are the common fresh water mussels, found in the Indian lakes and rivers. Most familiar members of this class are mussels, clams, oysters and scallops. Economically they are very useful. They are mainly used for food, bait, money, ornamentation, dyes and ink, buttons and pearls, art and medicine, in literature and in animal's inventions (Kotpal, 2012) [8].

The Yeldari reservoir having 6272 hector water spread area constructed on river Purna in 1968. It has 10 number of flood gates. It is situated 55 km away from Parbhani near Jintur taluka in Maharashtra. There are many villages are came under the construction of dam i.e. Bamani, Sawangi, Kolapa, Wazar, Kawi, Yeldari, Amberwadi etc. towards the upperside of Yeldari dam.

The Yeldari dam is surrounded by human habitat and all around agricultural land of rice, turmeric, sugarcane, jawar and different types of vegetables and more amount onion were cultivated from this area. Here crop is cultivated throughout year because of water availability in all season and all land is under the water body of dam. This investigation is a humble effort to know the species diversity and richness of algal flora of a Yeldari dam in India.

Study area: Yeldari dam constructed on Purna River at Yeldari village in Jintur taluka Parbhani district Maharashtra state, India. The river Purna is the tributary of Godavari river. This dam is very beneficial to Parbhani district for the irrigation, pisciculture and for the drinking purpose as well as it is good hydro power station in Parbhani district. This dam is located on river Purna. The dam situated at GPS Latitude N 190 43' 12.4" Longitude E 760 43' 55". (www.gps.coordinators.net).



Materials and Methods

The Molluscan's shells were collected by hand picking using gloves. The Mollusca shells were collected and brought to laboratory in clean polythene bag. The shells were washed with water to remove sand and mud without damaging or altering the color of the shells which were then dried. Once dried shells were separated and kept in the separate plastic bags. The collected Mollusca specimen's were identified by observing the morphological characters and special features with reference to available keys for identification of molluscs. The bivalves were mainly identified based on the shell morphology, hinge, interlocking dentition etc., and the gastropods on the shape, size, spire length and shape, with referred to standard literature available (Subha Rao 1989, Vannucci M. 2002, Mac Donald 1980, Apte D. 1992, Rajgopal *et al*, 1998) [1, 3, 4, 5, 6].

Result

The total 18 mollusc's species were collected from Yeldari, Kiwi and Bamni area. In which 6 Bivalve species and 12 gastropod species were recorded. The Photo plate I show the bivalve species of three different locations. In the photo plate II shows the gastropods species in the three different locations. The kivi sites have the Percentage of bivalve and gastropods is high as compared with Yeldari and Bamni sites. In this study we found *Lamillidens marginalis, Angulus sinuate, Unio zelebori, Lamllidense jenkinsianus, Lampsilis siliquoidea, Novaculina gangetica, Bellamya dissimilis, Lymnaea acuminata, Pomacea canaliculata, Melanoides tuberculata, Gabia orcula, Pila ampullaceal, Indoplanorbis exustus, Bellamya micron, Lymnaea luteola, Melanoides lineatu, Bellamya bengalensis,* and *Mandiensis, Taberia lineate.*

Bivalves

Plate 1: Shows the dorsal and ventral positions of bivalves

Plate 2: Shows the dorsal and ventral positions of gastropods

Table 1: Shows Diversity of Molluscan species occurred at study localities

Sr.no.	Taxa	Class	Yeldari	Bamni	Kivi
1	*Unio zelebori*	Bivalve	+++	+++	+++
2	*Lamillidens marginalis*		++	++	+++
3	*Angulus sinuate*		-	++	+++
4	*Lamllidens jenkinsianus*		-	++	+++
5	*Novaculina gangetica*		-	++	+++
6	*Lampsilis siliquoidea*		-	-	+++
7	*Lymnaea acuminata*	Gastropoda	++	++	+++
8	*Pomacea canaliculata*		++	++	+++
9	*Melanoides tuberculata*		+	+	+
10	*Melanoides sp.*		+	+	+
11	*Pila ampullaceal*		+++	+++	+++
12	*Indoplanorbis exustus*		+++	+++	+++
13	*Amnicola limosa*		++	+	++
14	*Lymnaea luteola*		+++	+++	+++
15	*Bellamya bengalensis*		++	++	++
16	*Bellamya dissimilis*		+++	+++	+++
17	*Taberia lineate*		+++	+++	+++
18	*Bellamya micron*		+++	+++	+++

+++: Abundant population, ++: Moderate population. +: Low population and – absent.

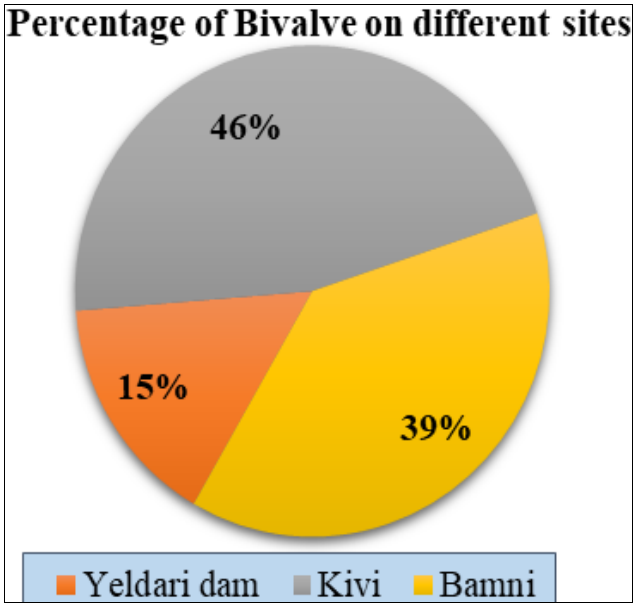


Fig 1: Shows the % of bivalve in the different sites

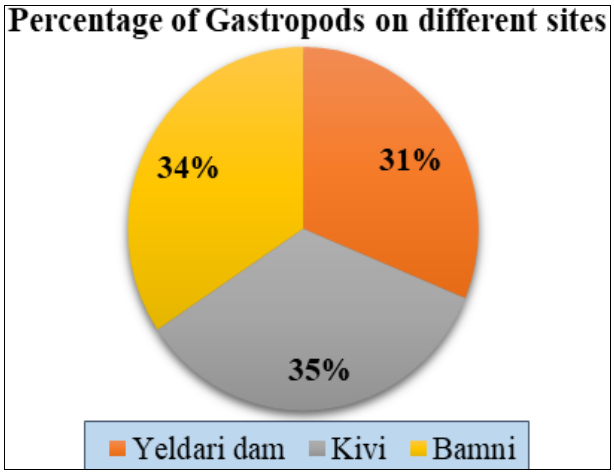


Fig 2: Shows the % of gastropods in the different sites

Conclusion

The study concluded that a Kivi site has high biodiversity as compared to Bamni and yaldari in both mollusc's *viz*. Bivalve and gastropods.

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