

Research Paper

**DIVERSITY OF FRESH WATER GASTROPODS IN RIVER WARDHA,
NEAR RAJURA BRIDGE, DISTRICT CHANDRAPUR, MAHARASHTRA**

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ABSTRACT

The quality of water affects species composition, abundance, productivity and physiological condition of aquatic communities. The bottom fauna play an important role in the mineralization and recycling of organic matter. They also serve as good indicators of water quality. Biomonitoring is an appropriate technology which makes use of existing, synthesized information already present in the form of animals and plants in an aquatic ecosystem.

KEYWORDS: *Gastropods, Wardha river, Rajura*

The present study deals with qualitative analysis of Gastropods in river Wardha, in district Chandrapur, Maharashtra. Bottom samples were collected during the year 2009-10 from the sampling site located near Rajura Bridge. Study reveals the presence of *Indoplanorbis* spp. in higher density among the other gastropod species.

INTRODUCTION

Gastropods are found on the submerged surfaces of any substratum in ponds, streams, lakes and rivers. Usually they are found in the water where calcium concentration is more (Tonapi, 1980). These bottom dwelling organisms play an important role in an aquatic community. They also make up an important component of the aquatic food web.

The diversity of gastropods has been extensively studied by many workers in India. (Jayaram, 1995; Arvind Kumar and Singh, 2002; Rajan, 2005; Khan, 2007; Dahegaonkar, 2011). The main objective of the present study is to observe the diversity of gastropods in river Wardha near Rajura Bridge in district Chandrapur, Maharashtra.

MATERIALS AND METHODS:

Benthic macro invertebrates were collected by Ekman-dredge. The samples were collected for one year during the year June-2009 to May- 2010 for qualitative estimation. Sampling site selected for the study is located near Rajura Bridge near Rajura. The collected bottom sediment were brought to laboratory as early as possible. The residue was transferred to an enamel tray. The benthic organisms were picked up with the help of forceps and preserved in 70% alcohol and identified using standard keys (Edmondson 1959; Tonapi, 1980 and Naidu, 2005).

RESULTS AND DISCUSSION:

Gastropods are principle constituents of aquatic invertebrate community particularly in lentic ecosystem. The snail distribution is dependent on such interacting environmental factors as substrate type depth, food supply inter species composition and physico chemical quality of water including the amount and types of pollutants present (Harman 1974, Krieger 1985).

Conservation of biological diversity is considered to be one of the major goals for sustainable management of freshwater renewable resources. The diversity of gastropods mainly depends on availability of suitable substrate, food supply and stress effect. Since the gastropods are important. It is necessary to conserve their diversity which at present is under intense anthropogenic pressure.

TABLE :1
Diversity of Gastropoda in river Wardha at Rajura bridge

Order : Ctenobranchiata	
Family : Ampullariidae	
	<i>Pila globosa</i>
Family : Viviparidae	
	<i>Vivipara bengalensis</i>
	<i>Vivipara dissimilis</i>
Family : Melaniidae	
	<i>Thiara tuberculata</i>
	<i>Thiara scabra</i>
	<i>Faunus ater</i>
Family : Amnicolidae	
	<i>Alocinma spp</i>
	<i>Digonoistoma spp</i>
Order : Aspidobranchiata	
Family : Lymnaoidea	
	<i>Lymnea accuminata</i>
Family : Planorbidae	
	<i>Indoplanorbis spp.</i>
	<i>Gyraulus spp.</i>

Gastropods can tolerate wide fluctuations of ecological parameters in the surroundings on account of presence of exoskeleton. In the present investigation, a total of 11 species belonging to 06 families and 09 genera of freshwater gastropods were recorded. Among which *Lymnea*, *Pila globosa* and *Indoplanorbis* species were recorded in shallow areas of the sampling site. Gupta (1978) observed that the snails were found in good number in shallow parts of the water body.

During the study, species recorded in higher density were *Indoplanorbis spp*, *Vivipara bengalensis* and *Gyraulus spp*. Vikramreddy and Rao (1997) also reported *Gyraulus orcula* and *Bellamia dissimilis* in Bhadrakali reservoir. Khan et al., (2007) observed *Bellamya* and *Lymnya spp* at moderately polluted zone in river Mouri, Khulna, Bangladesh. Gastropods contributes the major bulk of the bottom fauna (Oommachan 1988). Several authors reported that the gastropods are one of the

major groups of benthic animals during their studies Shrivatsava (1956), Krishnamoorthy (1966), Michael (1968) and Gupta (1976).

The molluscs are supposed to be helpful in the purification of water in their capacity as scavengers (Perston 1915). Harman (1974) has also pointed out that molluscs are the bio indicator of water pollution. Water polluted with industrial wastes is usually poorer in benthos as has been proved by studies of Czapik (1982) in Biala Prazemsza river. In the present investigation, presence of fairly good genera with higher density of *Indoplanorbis* spp at the sampling site indicates less pollution of the river at the sampling site.

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