

Research Article

SPECIES DIVERSITY OF MOLLUSCAN FAUNA OF MADHAV NATIONAL PARK, MADHYA PRADESH, INDIA

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ABSTRACT

The present study is based on the Molluscs samples present in National Zoological collection of Central Zone Regional centre, Zoological Survey of India, Jabalpur and the available Literatures. The Samples were collected back in the year from 1970 to 2017 by different tour parties surveying Madhav National Park and its vicinity over the years. The current study reveals the occurrence of 21 species of freshwater and Land mollusks belonging to 18 genera, 10 families, 7 orders of 2 classes of Phylum Mollusca. This is the first report of the mollusks species from this area which will help in evaluate the mollusks diversity of Madhav NP, Shivpuri.

Keywords: Molluscs, Gastropod, Bivalve, Madhav NP, Malcofauna Diversity, Madhya Pradesh.

INTRODUCTION

Molluscs are one of the diverse group and reliable bio indicator. Phylum Mollusca is the second largest phylum followed by Arthropods. It is the most diverse group which inhabits various habitats ranging from deepest ocean trenches to intertidal zones and freshwater to land. The Indian freshwater molluscs fauna represented by Class Gastropoda and class Bivalvia harbour a rich diversity in India, which comprising 217 species of freshwater molluscs (150-Gastropods, 67-Bivalves) are distributed across the country including Islands (Mukhopadhyay *et al.*, 2017). The work on the Malcofaunal diversity of Central India was significantly contributed by Agarwal *et al* (1976, 1977a,b,c and 1995), Patil & Talmale (2011) have reported 72 species belonging to 38 genera, under 24 families of freshwater and land mollusca from Madhya Pradesh including Chattisgarh. The work reported herein was undertaken to study the Malcofaunal specimen present in National Zoological Collection, Central Zone Regional Centre, ZSI, Jabalpur which was collected from different localities of Madhav NP, Shivpuri, Madhya Pradesh. A total of 21 species of freshwater and Land mollusks belonging to 18 genera, 10 families, 7 orders of 2 classes of Phylum Mollusca has been examined and reported in the present study. The present study was conducted in Different sites of Madhav National Park which were

collected over years from 1970 to 2017 by different tour parties and were deposited in NZC, CZRC, ZSI. Madhav National Park (25.28°N 77.45°E) is situated in Shivpuri District of Gwarior Division in Northwest Madhya Pradesh, India which is spread over the area of 354 km². Ramsar Wetland site Sakhya Sagar, which is a man-made wetland is also present inside the Park, which was designated as a Ramsar site on 7th January, 2022.

MATERIALS AND METHOD

The present paper deals with the data collected from the available molluscan specimens present in the National Zoological Collection of Central Zone Regional Centre, ZSI, Jabalpur. The samples were collected from different freshwater bodies by different tour parties of CZRC and Live specimens were preserved in 75% alcohol and the dead dry specimens were preserved in dry condition only. The samples were sorted out from the backlog collection of NZC, CZRC, ZSI, Jabalpur and was identified by using Rescholar microscope. The Identification is done using the Taxonomic key based on Ramakrishna and Dey (2007) and Mitra, Dey and Ramakrishna (2005). Identified species are sorted and stored in dry condition with cotton in suitable containers, labelled and preserved in National Zoological

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Collection at Central Zone Regional Centre, Zoological Survey of India, Jabalpur.

RESULT AND DISCUSSION

The present study revealed the occurrence of 21 species of Freshwater and Land mollusc belonging to 18 genera, 10 families, 7 orders and 2 classes. The Complete list of the collected molluscan species from Madhav National Park,

shivpuri along with its taxonomic details and its population status is depicted in Table 1. In the present study a total of 21 species of Freshwater and Land Molluscs are reported belonging to 18 genera, 10 families, 7 orders and 2 classes. The complete List of Molluscs species reported from Madhav National Park is given in Table 2. (Based on the Material presented at NZC, CZRC, ZSI and Literature review)

Table1. List of Molluscs identified which are collected by different parties is listed below along with their Class, Order, Family and Population Status at Madhav National Park (Based on the sample collected).

Class	Order	Family	Sl. No.	Name of the Species	Population Status (Based on the collected Sample)
Gastropoda	Architaenioglossa	Viviparidae	01	<i>Filopaludina bengalensis</i> (Lamark,1822)	A
			02	<i>Idiopoma dissimilis</i> (O.F.Mueller,1774)	R
	Hygrophilla	Lymnaeidae	03	<i>Radix rufescens</i> (Gray,1822)	A
			04	<i>Racesina luteola</i> (Lamark,1822)	C
	05		<i>Indoplanorbis exustus</i> (Deshayes,1834)	M	
	Littorinimorpha	Bullinidae	06	<i>Bithynia (Digoniostoma)</i> <i>pulchella</i> (Benson,1836)	M
		Bithynidae			
	Caenogastropoda	Thiaridae	07	<i>Melanoides tuberculata</i> (O.F.Mueller,1774)	C
			08	<i>Mieniplotia scabra</i> (O.F.Mueller,1774)	R
	09		<i>Tarebia lineate</i> (Gray,1828)	M	
Bivalvia	Stylommatophora	Ariophantidae	10	<i>Tarebia granifera</i> (Lamark, 1822)	R
			11	<i>Macrochlamys indica (Godwin- Austein)</i>	R
			12	<i>Rachis punctatus</i> (Anton, 1838)	R
	Trigonoida	Cerastidae	13	<i>Lamellidens marginalis</i> (Lamark,1822)	M
		Unionidae	14	<i>Parreysia favidens</i> (Benson,1836)	M
	Veneroida	Corbiculidae	15	<i>Indonaia occata</i> (Lea,1834)	R
			13	<i>Corbicula striatella</i> (Deshayes,1834)	C

{Population status has been given on the basis of molluscs species collected. No of specimen (N) <4= Rare (R), N <10= Moderate(M), N< 30= Common (C) and N> 50= Aboundant (A)}

Distribution of Gastropoda and Bivalvia species

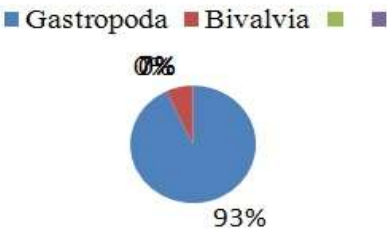


Figure 1. Pie chart showing Distribution percentage of Gastropoda and Bivalvia molluscs specimen studied from the samples of NZC, CZRC, ZSI, Jabalpur.

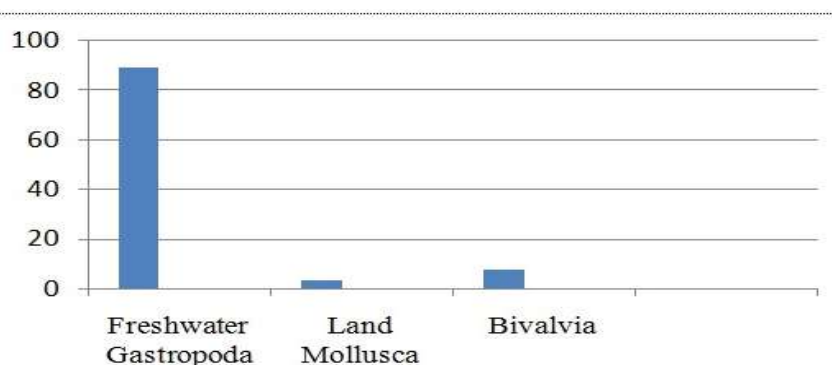


Figure 2. Chart showing distribution of Freshwater Gastropoda, Land Molluscs and Bivalvia (studied from the samples of NZC, CZRC, ZSI, Jabalpur. Aberrations: NZC- National Zoological Collection, CZRC- Central Zone Regional Centre, ZSI- Zoological Survey of India.

Table 2. List of Molluscs species reported from Madhav National Park (Based on the Material presented at NZC, CZRC, ZSI and Literature review).

Sl. No	Species	Source
01	<i>Filopaludina bengalensis</i> (Lamarck,1822)	Material examined from the collection of Molluscs sample.
02	<i>Idiopoma dissimilis</i> (O.F.Mueller,1774)	Material examined from the collection of Molluscs sample.
03	<i>Radix rufescens</i> (Gray,1822)	Material examined from the collection of Molluscs sample.
04	<i>Racesina luteola</i> (Lamarck,1822)	Material examined from the collection of Molluscs sample.
05	<i>Indoplanorbis exustus</i> (Deshayes,1834)	Material examined from the collection of Molluscs sample.
06	<i>Melanoides tuberculata</i> (O.F.Mueller,1774)	Material examined from the collection of Molluscs sample.
07	<i>Mieniplotia scabra</i> (O.F.Mueller,1774)	Material examined from the collection of Molluscs sample.
08	<i>Tarebia lineate</i> (Gray,1828)	Material examined from the collection of Molluscs sample.
09	<i>Tarebia granifera</i> (Lamarck, 1822)	Material examined from the collection of Molluscs sample.
10	<i>Bithynia (Digoniostoma) pulchella</i> (Benson,1836)	Material examined from the collection of Molluscs sample.
11	<i>Gabbia orcula</i> (Frauenfeld, 1862)	Reviewed from Literature (Ref no.13)
12	<i>Zootecus insularis</i> (Ehrenberg, 1831)	Reviewed from Literature (Ref no.13)
13	<i>Zootecus chion</i> (Pfeffer, 1857)	Reviewed from Literature (Ref no.13)
14	<i>Lamellaxis (Allopeas) gracile</i> (Hutton)	Reviewed from Literature (Ref no.13)
15	<i>Tanychlamys vesicula</i> (Benson, 1838) *Reported as <i>Macrochlamys vesicular</i> (Benson, 1838) in the available Literature.	Reviewed from Literature (Ref no.13)
16	<i>Macrochlamys indica</i> (Godwin-Austin, 1883)	Material examined from the collection of Molluscs sample.
17	<i>Rachis punctata</i> (Anton, 1838)	Material examined from the collection of Molluscs sample.
18	<i>Lamellidens marginalis</i> (Lamarck,1822)	Material examined from the collection of Molluscs sample.
19	<i>Parreysia favidens</i> (Benson,1836)	Material examined from the collection of Molluscs sample.
20	<i>Indonaia occata</i> (Lea,1834)	Material examined from the collection of Molluscs sample.
21	<i>Corbicula striatella</i> (Deshayes,1834)	Material examined from the collection of Molluscs sample.

CONCLUSION

The present study reveals 21 species of Freshwater and Land mollusc belonging to 18 genera, 10 families, 7 orders and 2 classes. Given data is based on the unidentified collection of National Zoological Collection, Central Zone Regional Centre, Zoological Survey of India, Jabalpur, which were collected over the years by different tour parties and the available literature. Furthermore studies of

mollusks in this region will help to access the exact diversity of this region.

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