



Studies on the Molluscan Diversity of Govindgarh Lake in Rewa District (M.P.)

KEYWORDS

Govindgarh ,molluscans, gastropods.

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ABSTRACT The present investigation reveals monthly collection of molluscans in Govindgarh lake between May 2010 to April 2012. As many as 18 species of Molluscans comprising 13 species of gastropods and 5 that of bivalves were collected. The gastropods were grouped under 5 different families (Viviparidae, Lymnaeidae, Thiaridae, Planorbidae and Piliidae), while the bivalves belonged to 2 different families (Unionidae and Corbiculidae). Among the gastropods, the Thiarids were common and their number constituted about 38% of the total collection of the snails. Further the following species of snails, viz., *Thiara (Melanoides) tuberculata*, *Lymnaea auricularia* and *L. acuminata* have been found to carry larvae of trematode parasites.

Introduction :

Perusal of available literature reveals that several investigations have been undertaken on molluscan fauna of different areas of the country (Satyamurti 1960; Vasisth & Bhandal 1979; Metcalf & smart 1972; Dalatt & Pandya 1973; Subbarao 1989), while an intimate relationship between gastropod density and vegetation has been recorded by Kaul et al. (1980) and Sinha and Sinha (1993). Not only on the gastropods but also on the bivalve species density, a due attention has been given (Pennak 1978; Prasad and Manjula 1980; Burch 1984), Amanullah and Shahul (1996) undertook a study on the molluscan diversity in Kaveri river system, giving reference to the vector snails of trematode parasites. Pokhriyal et al. (1998 a) made a study on the occurrence of recognised helminthic vector snails viz. different habitats in DehraDoon Valley. In the same year Pokhriyal et al. (1998 b) collected as many as 18 species of molluscan from Asan river system in Doon valley.

Materials and methods :

Study site : Study was carried out at Govindgarh lake in Rewa District (M.P.), India. The Area is situated between latitude 24°18' and 25°12'N and Longitude 81°02' and 82°18'E. The big lake of this area Govindgarh lake.

Study material : A study on the molluscan fauna of the Govindgarh lake in Rewa district was carried out for a period of two year from May 2000 to April 2002. The molluscan were collected from by hand picking using gloves to prevent cercarial infection.

The collected snails were then transported to the laboratory in polythene bags along with weeds and water. The snails were kept alive separately in specimen tubes at room temperature for the emergence of cercaria larva up to 48 hours and after that they were fixed in Bouin's fluid for 24 hours.

The genera of the snails were identified in the laboratory with the help of the keys for identification of snails as given by Annadale (1925) and the fauna of British India (1915). To confirm the identification of the collected snail, the samples were sent to the Director, Zoological survey of India, Calcutta, Further studies were continued after getting the confirmation of the species.

Regular studies were made to examine the snails for larval trematods cercariae, redia and sporocyst. The live snails were also examined for larval trematods by squeezing their digestive gland under a dissecting microscope. Some of the cercariae were fixed in 10% formalin stained with eosin or methylene blue mounted in DPX and identified the type of cercariae on the basis of their diagnostic features.

Observations : Table – 1 shows the species of gastropods and bivalves of the Govindgarh lake in Rewa district. From this study, as many as 18 species of molluscan comprising 13 of gastropods and 5 species of bivalves were collected. The gastropods have been grouped under 5 different families, while the bivalves collected from Govindgarh lake, belonged to 2 different families viz., Unionidae and corbiculidae.

Table – 1 : Occurrence & Distribution of Gastropods and Bivalves at Govindgarh lake in Rewa district.

S.No.	Name of the Molluscan species	Maximum	Moderate	Low	Nil
1.	<i>Bellamya bengalensis</i>	-	-	-	✓
2.	<i>B. dissimilis</i>	-	-	✓	-
3.	<i>B. crassa</i>	-	-	✓	-
4.	<i>Thiara (Melanoides) tuberculata</i>	-	✓	-	-
5.	<i>T. (Mainwaringia) paludomoidea</i>	-	✓	-	-
6.	<i>L. (Pseudosuccinea) acuminata</i>	-	✓	-	-
7.	<i>L. (Radix) auricularia</i>	-	-	✓	-
8.	<i>L. luteola Lamark</i>	-	-	✓	-
9.	<i>Indoplanorbis exustus</i>	-	-	-	✓
10.	<i>Planorbis (P.) tangitarenis</i>	-	-	✓	-
11.	<i>Pila globosa</i>	-	✓	-	-
12.	<i>Gyraulus convexiusculus</i>	-	-	-	✓
13.	<i>G. rotula</i>	-	-	✓	-
14.	<i>Lamellidens consobrinus</i>	-	✓	-	-
15.	<i>L. corrianus</i>	-	-	✓	-
16.	<i>Parreysia favidens</i>	-	-	-	✓
17.	<i>Corbicula striatella</i>	-	-	✓	-
18.	<i>C. regularis</i>	-	-	✓	-

✓ = Present And - = Absent

Result and Discussion :

A number of workers have carried out their studies on different species of snails from various parts of the country. The present findings resemble with the observations made by Choubisa and Sharma (1983); Dhar et al. (1985) and Pokhriyal et al. (1998 a, b) with regard to occurrence of some species of snails but in different water bodies. Although, there is slight difference with regard to occurrence of species of the snail in the present findings with those of earlier studies. Our results further resemble with Amanullah and Hameed (1996), who recorded 13 species of molluscs including 5 species of bivalves. In fact our studies records the availability of the following species of snails viz., *B. bengalensis*, *B. crassa*, *T. (M.) tuberculata*, *P. Planorbis tangitarenensis*, *L. (P.) acuminata*, *L. (R.) auricularia* and *L. luteola* not recorded by Amanullah and Hameed (1996). The similarity is with regard to occurrence of *B. dissimilis*, *I. exustus* and *T. (M.) tuberculata*. Moreover with regard to occurrence of bivalves, *L. corrianus* was not recorded by Amanullah and Hameed (1996). Other species of bivalves as recorded by them exhibit close resemblance to the finding of present study.

Thiara (Melanoides) tuberculata, *T. (Mainwaringia) paludomoides*, *L. (Pseudosuccinea) acuminata*, *Pila globosa* and *Lamellidens consobrinus* were found to be at moderate level

and *B. dissimilis*, *B. crassa*, *L. (Radix) auricularia*, *L. luteola* Lamark, *Planorbis (P.) tangitarenensis*, *G. rotula*, *L. corrianus*, *Corbicula striatella* were minimum, While *Bellamya bengalensis*, *Indoplanorbis exustus*, *Gyraulus convexiusculus*, *Parreysia favidens* were totally absent.

Water temperature and other abiotic factor are found to be major factor control the distribution of different molluscan species. Agrawal 1983 pointed out that population of snails is inversely proportional to the temperature. However, Dhar et al. (1985) considered the temperature of 20 DC– 25 DC as optimum for growth and Because stenothermal species have very narrow range of distribution, While eurythermal species have wide range distribution. Feeding of snails in their natural habitat.

Because stenothermal species have very narrow range of distribution, While eurythermal species have wide range distribution.

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