

A note on Molluscan diversity and density of some fish ponds of Lalapatti Village Development Committee (VDC), Saptari district, Nepal

Bharat Raj Subba, Prakash Kumar and Shaligram Adhikaree

Department of Zoology, Post Graduate Campus, Tribhuvan University, Biratnagar, Nepal

E-mail: shaligram_adhikaree@yahoo.com

Abstract

Molluscan diversity of six fish ponds and a river of Lalapatti VDC, Saptari district was studied. In total, ten species of freshwater molluscs belonging to seven families and eight genera were recorded. Among them nine species were found in ponds and five species were recorded in the river samples. Maximum average density was recorded of *Bellamya bengalensis* (30.38/m²) and minimum for *Corbicula alata* (0.084/m²)

Key words: Molluscan diversity, density, fish ponds, Saptari district.

Introduction

The fish ponds of Lalapatti VDC, Saptari district are man made although they are seen to be too old. Bamboo trees, on the banks and cultivation of makana have made fish ponds unproductive. A perusal of literature concerning with molluscan diversity of Saptari district reveals that no study has been carried on molluscan diversity yet. However, fragmentary report on molluscs from different parts of Nepal are available, Godwin-Ansten (1910), Subba and Ghosh (2000, 2001, 2008), Subba (2003) Subba and Pandey (2005), Pfeiffer *et al.* (1999), Subba Rao (1989), Tonapi (1980).

The present paper attempts to give information of molluscan diversity and density of some water bodies of Lalapatti VDC, Saptari. Six fish ponds *viz.*, Shiva pokhari (26°26'48"N, 86°44'48"E), Lavki pokhari (26°26'49.5"N, 86°44'55"E), Lali pokhari (26°26'53"N, 86°44'51"E), Purni pokhari (26°26'43"N, 86°44'48"E), Buduwahi pokhari (26°26'45"N, 86°44'52"E), and Budhu pokhari (26°26'43"N, 86°45'02"E) and a river *i.e.*, Khando river (26°26'54.5"N, 86°45'11.3"E) were selected for the study.

Materials and Methods

The collection of the mollusc was done randomly in selected sites. Molluscs were collected with the help of a bin sampler. Live molluscs were preserved in 5% formaldehyde and dry shells were properly washed in clean water using tooth brush, followed by sun drying before packing them in containers with cotton so as to prevent breaking. GPS was used to make records of each pond location (and elevation). The collected molluscs were brought to the laboratory of Zoology Department, Post Graduate Campus, Biratnagar. Molluscs samples were identified with the help of standard books of Tonapi (1980), Subba Rao (1989) and Kerney (1999). The identified specimens were counted site-wise, and preserved in separate container safely.

Results and Discussion

Ten species of molluscs belonging to seven families and eight genera were recorded. Among them nine species were recorded from the samples of the ponds five species were recorded in the samples collected from the river. Maximum average density was recorded for *Bellamya bengalensis* (30.38/m²) and minimum for *Corbicula alata* (0.084/m²) (Table 1). The population of the collected molluscs was estimated and found that the macrophyte rich fish ponds contained more density than those having fewer amounts of macrophyte and unsuitable substrates like mud and sand. As this report imparts information of only winter season (2011), for detailed information further study is recommended.

Table 1. Estimated mean density (per m²) of molluscs (mean \pm standard error). - indicates absence of species of molluscs in the sites.

Molluscs	Locality							Average
	Budhu	Khando	Lali	Budhuahi	Shiva	Lavaki	Purni	
<i>Bellamya bengalensis</i>	22.55 ± 1.795	-	42.19 ± 1.96	22.01 ± 1.48	20.01 ± 1.35	46.1 ± 2.05	23.32 ± 1.71	30.38 ± 0.73
<i>Indoplanorbis exurtus</i>	0.68 ± 0.31	-	-	83.24 ± 2.89	83.94 ± 2.76	3.91 ± 0.60	13.75 ± 1.31	31.98 ± 0.75
<i>Lymnaea sp.</i>	-	-	-	0.48 ± 0.22	0.43 ± 0.20	NO	-	0.17 ± 0.05
<i>Pila globosa</i>	0.68 ± 0.31	-	-	0.96 ± 0.31	0.87 ± 0.28	0.87 ± 0.28	-	0.59 ± 0.10
<i>Parreysia sp.</i>	6.83 ± 0.99	114.82 ± 10.72	-	-	-	0.87 ± 0.28	-	3.02 ± 0.23
<i>P. flaviden</i>	1.37 ± 0.44	52.62 ± 7.25	-	-	-	-	-	1.09 ± 0.14
<i>Thiara scruba</i>	17.09 ± 1.56	133.95 ± 11.57	-	-	-	-	-	4.45 ± 0.28
<i>T. tuberculata</i>	2.73 ± 0.62	38.27 ± 6.19	-	-	-	-	-	1.01 ± 0.13
<i>Corbicula alata</i>	0.68 ± 0.31	-	-	-	-	-	-	0.08 ± 0.04
<i>Lammelidens marginalis</i>	-	4.78 ± 2.19	-	-	-	-	-	0.084 ± 0.04
Total molluscs	52.62 ± 2.74	344.45 ± 18.56	42.19 ± 1.96	106.68 ± 3.27	105.25 ± 3.09	51.75 ± 2.17	30.01 ± 1.94	72.85 ± 1.13

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