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Short Communication

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Taxonomic record and distribution pattern of the banded pond snail, *Bellamya bengalensis* (Lamarck) (Gastropoda : Mesogastropoda) from pond water habitat of Rajshahi

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Abstract

The study was conducted on the taxonomic record and distribution pattern of the banded pond snail, *Bellamya bengalensis* (Lamarck) from the water body of Rajshahi University Campus during the period of January 1995 to December 1996. Eleven generic and 18 species names were recorded including the valid name, *Bellamya bengalensis* (Lamarck, 1882). The shell of *B. bengalensis* is more or less oval and acuminate with variable and irregular dark bands. The snail was usually found in the littoral zone of the ponds or tanks. This snail was located in the soft or clayey bottom of the pond.

Keywords: Taxonomic record; Distribution; *Bellamya bengalensis*; Rajshahi University Campus; Shell; Littoral zone.

Introduction

Freshwater gastropods, which constitute the bulk of littoral fauna of tanks, ponds, beels, reservoir and rivers, play an important role in the dynamics of aquatic ecosystems. Sufficient works have been done in abroad on population dynamics, growth, reproduction, life cycle and bioenergetics of a number of gastropods (DeWitt, 1955; Duncan, 1959; McCraw, 1961; Russel- Hunter, 1961; Eisenberg, 1966; Gillespie, 1969; Clampit, 1970; Eckblad, 1973; McMohan, 1975; Hunter, 1975 and Browne, 1978).

The genus *Bellamya* is distributed throughout the world except Neotropical region (Preston, 1915).

But in Bangladesh, there is a general lack of detailed information on any gastropod species. Only Ali and Chakraborty (1992) and Jahan (1993) mentioned the taxonomic record, distribution and some ecological notes of a few gastropods found in the country. So, this was an attempt to note the taxonomic record and distribution of *B. bengalensis* from Rajshahi water.

Material and methods

Surveys were made at fortnight intervals throughout the tenure (January 1995 to December 1996) based on the observations conducted in selected fish ponds, ditches and irrigated paddy fields of Rajshahi University Campus (Fig.1) to find out the distribution of the pond snail, *B. bengalensis*.

Results and discussion

1. Taxonomic record

1.1 Identity

Valid name: *Bellamya bengalensis* (Lamarck, 1822).

1.2 Synonymy

Generic names

- 1810 *Vivipara*, deMontfort, *Conch. Syst.*, ii, p.247.
1851 *Viviparus*, Dupuy, *Hist. nat. des. Moll.....*quivalent en France, p.534.
1886 *Bellamya*, Jousseume, *Bull. Soc. Zool. France*, 11: 478.
1915 *Paludina*, Preston, *Faun. Brit. India Moll.*, p.83.
1928 *Bellamya*, Prashad, *Mem. Indian Mus.*, 8.
1965 *Viviparus*, Cockrum & McCauley, *Zoology*, p.215.
1967 *Viviparus*, Hyman, *The Invertebrates vi, Mollusca*, p.157.
1968 *Viviparus*, Morton, *Molluscs*, Hutchinson University Library, London, p.98.
1972 *Viviparus* (*Paludina*), Storer et al., *General Zoology*, McGraw- Hill Book Company, N.Y., p.505.
1974 *Viviparus*, Barnes, *Invertebrate Zoology*, p.336.
1989 *Bellamya*, Subba Rao, *Handbook: Freshw. Moll. India*, p.44.

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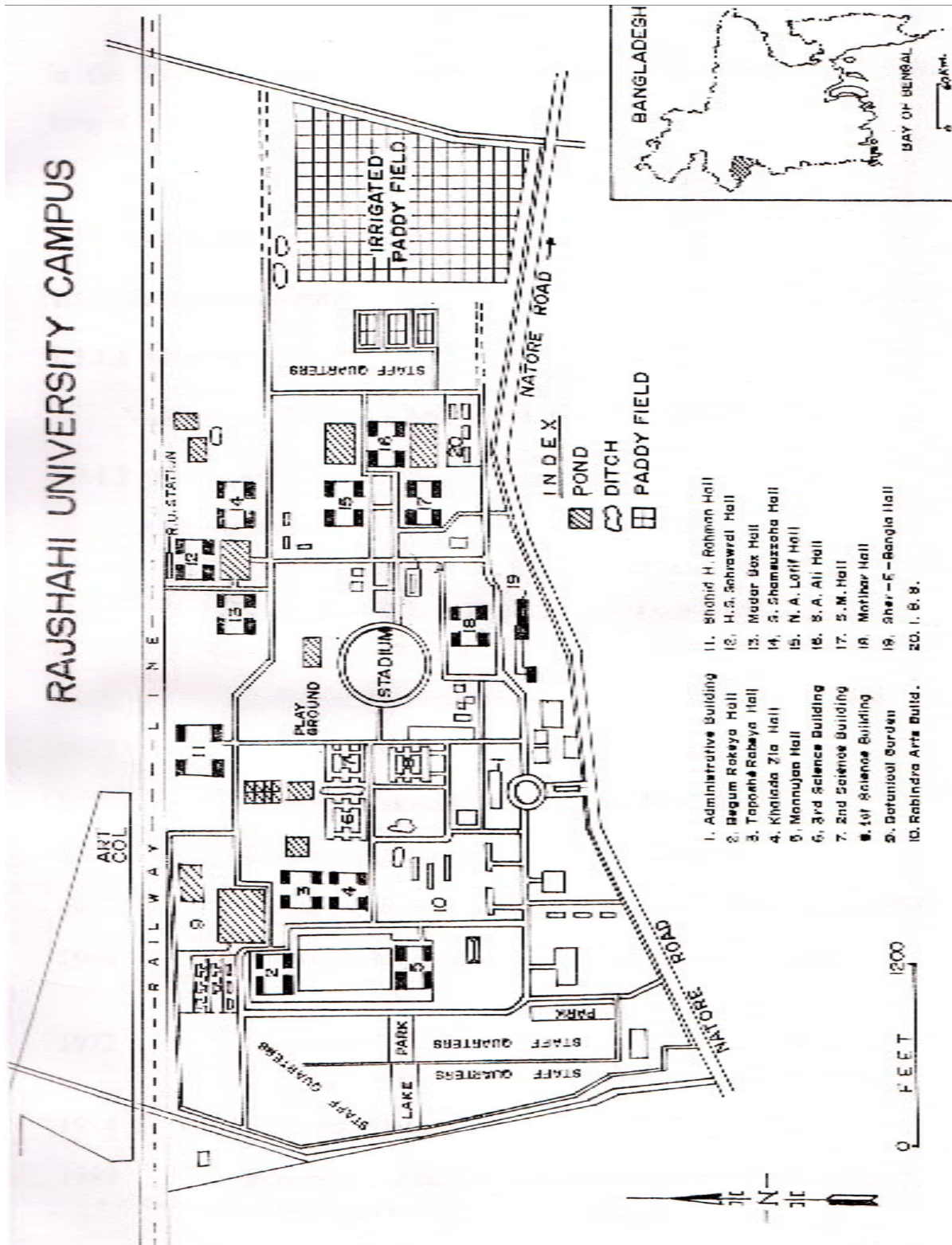


Fig. 1. Rajshahi University Campus showing sampling stations

Species name

- 1882 *P. bengalensis*, Lamarck, *Hist. nat. Anim. Sans. Vert.*, 6(2) :174.
- 1882 *B. bengalensis*, Lamarck, in Handbook : *Freshw. Moll. India*, Subba Rao, p. 45.
- 1915 *V. bengalensis*, Preston, *Faun. Brit. India Moll.*, p.83.
- 1920 *V. bengalensis*, Annandale, *Rec. Indian Mus.*xix, p.113.
- 1921 *V.bengalensis*, Annandale & Sewell, *Rec.Indian Mus.*,22:267, pl.1, figs.1-3.
- 1928 *B. bengalensis*, Prashad, in Handbook : *Freshw. Moll. India*, Subba Rao, p.45.
- 1928 *B. bengalensis*, Prashad, *Mem. Indian Mus.*, 8.
- 1928 *V. bengalensis*, Prashad, *Mem.Indian Mus.*,8,p.190.
- 1929 *V. bengalensis*, Srivastava Rao, *Rec. Indian Mus.* xxxi,p.274.
- 1958 *V. bengalensis*, Ramamoorthi, *J. zool. Soc. India*, 10(11), p.35.
- 1968 *V. bengalensis*, Biswas & Ghose, *J. Zool. Lond.*, 156: p.325.
- 1977 *V. bengalensis*, Sengupta, *Acta. Zool.*, 58(3), , p.123.
- 1980 *V. bengalensis*, Raut, *Bull. zool.Surv. India*, Calcutta, 3(1&2).
- 1981 *V. bengalensis*, Raut, *Proc. Symp. Ecol. Anim. Popul. Zool. Surv. India*, pt.2, p.163.
- 1981 *V. bengalensis*, Raut, *Bull. zool. Surv. India*, 4(1), p.13.
- 1986 *B. bengalensis*, Raut & Bhattacharya, *Environ. Ecol.*, 4, No. 2.
- 1989 *B. bengalensis*, Subba Rao, Handbook : *Freshw. Moll. India*, p.45.
- 1996 *B. bengalensis*, Jahan & Zaman, *4th Int.Cong. Med. Appl. Malac.*.

The name of *B. bengalensis* has been used by different authors such as Subba Rao and Mitra (1980), Khan & Chaudhuri (1984), Raut (1986), Subba Rao (1989) and Jahan (1993).

Systematic position

Kingdom	Animalia
Phylum	Mollusca
Subphylum	Conchifera
Class	Gastropoda
Subclass	Prosobranchia
Order	Mesogastropoda

Family
Subfamily
Genus
Species

Viviparidae
Bellamyinae
Bellamya
B. bengalensis

Diagnostic characters

The shell of *B. bengalensis* is more or less oval in shape and acuminate. The upper part of the shell is slightly conoidal rather than conical. The body whorl is evenly convex in profile. The aperture is sub-circular and has a narrow black margin. It is slightly oblique. The umbilicus is narrow. The colouration varies considerably but it is never brilliant. The ground colour is greenish and opaque. The dark bands are variable and irregular. The operculum is moderately thin and of a deep brownish complexion. The external surface is convex, the outer margin strongly curved, the inner margin slightly sinuate and the posterior extremity bluntly pointed. This snail gives birth to a large number (001-114) of fully developed youngs (Fig. 2).



Fig. 2. Apertural (a) and abapertural (b) views of *B. bengalensis*

Distribution

Bellamya bengalensis generally occurs in permanent stagnant waterbodies such as ponds, tanks, beels etc. in Bangladesh. This snail is normally found in the littoral zone of the ponds or tanks situated in Rajshahi University Campus. In the monsoon, this snail was dispersed in the irrigated paddy fields and ditches in large numbers. The soft or clayey bottom contained this snail while sandy bottom generally contained no such snail. During the dry season

(December to June), only the empty shells were observed in the irrigated paddy fields, ditches and canals. The present observation also supports the description of Subba Rao (1989) that the young ones of *B. bengalensis* keep themselves attached to the floating sticks and weeds but adults are usually confined to the muddy bottom of ponds, ditches and other habitats.

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