



Short Communication

Studies on Some Molluscs in the Kolhapur District (Maharashtra, India) with Reference to their Mating Behaviour

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ABSTRACT

Keywords

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The present investigation was aimed to study the behaviour with respect to mating has been carried out in *Stylommatophoran molluscs Semperula maculata* and *L.alte* in the laboratory conditions. The observations showed *Semperula maculata* were crawling in a clockwise direction with the mouth of one animal pressed against the hind end of the other. In *L. alte* two slugs twist around one another suspended by a thick mucous thread, with penis everted and intertwined to form a tight spiral. Both secreted heavy and thick linings of mucous. Both the slugs were very sensitive to touch. The observations highlighted mating behaviour in the two terrestrial slugs and can be discussed with available literature. There is no work on the mating behaviour of these slugs therefore the present work was undertaken to know the mating behaviour of *S. maculata* and *L. alte*.

Introduction

Pulmonates are hermaphrodite. In copulation there is a reciprocal exchange of spermatozoa, and since the spermatozoa usually mature before the eggs, self fertilization is prevented to a very large extent. Two partners are necessary for copulation and each inseminates the other. Five phases can be distinguished in the reproductive cycle of terrestrial gastropods: courtship, copulation, nest-building, egg laying and embryonic development followed by hatching of the young from the egg. Reproductive behaviour begins only when the humidity is high. An information of reproduction process in mollusca is provided by Runham and Hunter (1970).

Material and Methods

The Stylommatophoran land slugs, *Semperula maculata* and *L. alte* the major molluscan pests in Kolhapur District were selected to study their mating behaviour in the laboratory conditions. Healthy slugs were brought to the laboratory and acclimated for a week and then after 10 to 12 slugs kept in two separate troughs containing sufficient moist soil and were fed with plant material once in a day. The mating behaviour of animals was observed for a month. The experiments were repeated for three times (From June to October, 2013) and confirmed results in 2014. These observations were made daily at 6.00 a.m., 12.00 noon and 6.00 p.m.

Though the slugs are nocturnal, their behaviour was also noted in the night at 11.00 p.m. and 5.00 a.m.

Results and Discussion

In the laboratory condition, in the troughs both the slugs showed remarkable mating behavior in the dark and between the same age groups. In *S. maculata* few slugs remained quite.

Few were continuously crawled. It has been observed that in the crawled slugs mating was taking place. Speedy crawling was continuous for first average 4.2 min and then they slowly crawled for 7.4 min in a clockwise direction with the mouth of one animal pressed against the hind end of the other. Both the partners secreted heavy and thick linings of mucous and then became silent.

The mating behavior in *L. alte* is particularly interesting. In it two slugs twist around one another suspended by a thick mucous thread, with penis everted and intertwined to form a tight spiral. They remained in such state for 3.9 min. Both the partners secreted heavy and thick linings of mucous.

The mating behavior of *L. maximus* was studied by Karlin and Bacon (1961) and Langlois (1965). They pointed out that in mating of *L. maximus* two slugs twist around one another and form a tight spiral. Tomiyama (1994) observed the courtship behaviour of *Achatina fulica* in Japan under field condition exclusively during night time.

Raut and Ghose (1984) reported mating in *Achatina fulica* of the same age groups. Different durations of mating have been reported by many authors. Weel (1948) reported it as 6–8 hours in *A. fulica*. Raut

and Ghose (1984) reported mating in *Achatina fulica* as 6–8 and 1/2 hours.

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