

MATING BEHAVIOUR AND OVIPOSITION OF *DIACRISIA OBLIQUA* WLK. (LEPIDOPTERA: ARCTIIDAE)

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Mating behaviour and oviposition of Jute hairy caterpillar, *Diacrisia obliqua* were studied in the laboratory at $28 \pm 1^\circ$ and $60 \pm 5\%$ relative humidity with 14 hr of darkness and 10 hr of fluorescent tube light. Mating was mostly observed in the late hours of night. The female showed excitement to attract the attention of the male prior to mating. The female preferred the lower surface of the leaves for oviposition.

INTRODUCTION

The sporadic occurrence and dispersal of insect pest species mainly depends upon the mating potential of the male and oviposition ability of the female. It is, therefore, necessary for all practical purposes to develop a thorough understanding of the mating behaviour and oviposition of the pest species concerned. The present investigations were carried out to study the mating behaviour and oviposition of *Diacrisia obliqua* in the laboratory.

MATERIALS AND METHODS

The culture of *D.obliqua* was maintained in the laboratory at $28 \pm 1^\circ$ and $65 \pm 5\%$ relative humidity with 14 hr of darkness and 10 hr light from fluorescent tubes. To proceed with these investigations, ten pairs of adult moths of *D.obliqua* were individually confined in glass chimneys to observe mating behaviour and oviposition. For precopulatory behaviour and duration of coitus the individual pairs were checked after 15 min interval throughout the day and night. It was observed for three consecutive nights, for each pair, with the help of torch light. The pair in precopulation was continuously observed till copulation completed i.e. when the mates heads were facing opposite direction. The mated female was allowed to oviposit on fresh cotton leaves.

RESULTS AND DISCUSSION

Copulation. The copulation was mostly observed in the late hours of night. Before mating, the female showed excitement to attract the male with rapid movement of the wings. Usually no sign of wooing or courtship before mating was observed. The female was approached by male for copulation and he came closer to her for this purpose. He mounted either from the sides or more usually from the rear and the female was held by the legs. The moment, male had adjusted itself properly on her back, he extended his

body, posteriorly along with that of the female. Ultimately the male pressed the tip of the abdomen underneath that of the female, held the genital organ with the tuft of hairs, inserted the aedeagus in the opening of her receptaculum seminis and the coitus started. Soon after this the male left the back of the female, got down from the side from which he mounted and lies at an angle to her body or mostly in opposite direction to her. The mating pair could not fly because of the peculiar position assumed by the mates, when in coitus. When the mating ended, the mates separated and took their own way.

Similar copulatory behaviour has been reported in *Diatraea grandiosella* where males were attracted to unmated females and 87% mating occurred between 23.00 and 02.00 hours [1]. But it was reverse in *Chilo suppressalis* Wlk., where the mating started 20–30 min just after sunset. The mating began with active searching for a female and characteristic flight of the male performing a mating dance [2].

Oviposition. The female started egg laying one or two days after mating. Oviposition was mostly observed on the lower surface of the leaves. The eggs were laid in batches of different sizes and one female laid 300 to 1250 eggs with an average of 650.75 eggs per female.

It was observed that the males of *D.obliqua* were polyandrous and females were monogamous. Similar results have been reported on *Diabrotica vergifera* Lecon [3], *Chilo partellus* (Swin.) [4] and *Glossina pallidipes* Austen [5].

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