BIOLOGY,BEHAVIOUR AND CONTROL OF *Epilachna viginctioctopunctata* (Coleoptera: Coccinellidae)

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A RESEARCH REPORT SUBMITTED FOR THE PARTIAL FULFILLMENT OF THE
SPECIAL DEGREE COURSE

IN
ZOOLOGY

FACULTY OF SCIENCE
EASTERN UNIVERSITY
SRI LANKA

1996

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ABSTRACT

This laboratory based study provides more information on *Epilachna* sp., is a pest of brinjal. The main objectives are to identify the species, to study ther biology, behaviour and control of this pest.

The species was identified as *Epilachna vigintioctopunctata.* Their life cycle completed within 24-26 days (30 ± 3°c & RH 73 ± 3 %). The mean egg incubation period is 4-5 days. The percentage of egg masses laid as vertically on ventral and dorsal surface of the leaf, glass surface, gauze surface and flower petiole are 40.6%, 15.9%; 15.1%, 21.8% and 6.6% respectively. The average percentage (± SE) of the eggs hatched are 65.016±1.56 and 78.57±1.46 on the dorsal and ventral surface respectively. Larval development and pupation are completed within 14-16 and 4-5 days respectively. Damage is caused both by larva and adult.

There is a peak of egg laying at the first day and declined by the following days. It ceased at the 8th day. The (mean ± SE) eggs laid by the female is 204.9±5.57. Average oviposition was 7-8 batches of egg masses /female.

Host range study indicated that although *E.vigintioctopunctata* arrived to alternate hosts such as *Capsicum annuum, Momordica charantia, Trichosanthes anguina, Luffa acutangula, luffa cylindrica, Cucurbita maxima, Eleusine coracana, Andopogon sorghum, Zea mays, Oriza sativa, Phaseolus vulgaris, Vigna ungiculata,Tephrosia, Cleome viscosa* they did not feed on them. They fed negligible amount of *Vigna mungo* and *Leucas* compared to natural host. They died eventually due to starvation. So this does not explain how they survive during the absence of host. It could be suggested that it is a monophagous pest.

Host preference study indicated (using Olfactometer) that, *E.vigintioctopunctata* preferred *S.melongena* to *M.charantia* and *E.septima* preferred *M.charantia* to *S.melogena.* The arrival was increased when odour of the respective host was increased (p=0.05). Thus, these two species are host specific and are largely dependant on olfactory cues.

Mean larval consumption rate (cm^2/larva/day) increased after each moulting. At the final instar it is zero. Consumption rate is higher after 3rd instar. Consumption rate of female was significantly higher than male.Therefore,control measures should be applied before they reach 3rd instar.

The effectiveness of insecticides-Tamaron, laybacid-and the botanical neem oil were tested against *E.vigintioctopunctata.* Larval and adult survival is the parameter used in assesing the efficacy. Tamaron effectively controlled the larva and adult of *E.vigintioctopunctat.* followed by Laybacid and neem oil (p=0.0001).

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