A047 AGSC

Development, survival and reproduction of *Orius insidiosus* (Hemiptera: Anthocoridae)

Abstract

The minute pirate bug *Orius insidiosus* (Say) (Hemiptera: Anthocoridae) is an important biological control agent of soft-bodied arthropods like thrips, aphids, mites, and insect and mite eggs. It is a key predator of arthropod pests of a wide range of economically significant crops and ornamental plants. We investigated the development, survival, and reproduction of *O. insidiosus* in the laboratory using an environmental growth chamber at 25 ± 1 °C, 65 ± 10 % RH, and a 14:10 h light: dark photoperiod. *Orius insidiosus* adults and nymphs were reared using green beans and *Ephestia kuehniella* Zeller (Lepidoptera: Pyralidae) eggs. We collected the experimental insects/life stages from a colony of *O. insidiosus* initiated with field-collected and laboratory- reared *O. insidiosus* in clear plastic containers covered with fine-mesh lids. We collected *O. insidiosus* eggs by placing freshly picked green beans in the *Orius* colony for 24 h. After 24 h, we removed the green bean pods from the colony containers and counted the number of eggs in each pod. Each bean pod was placed individually in a glass Petri dish and provided with *E. kuehniella* eggs and water twice and once a week, respectively. The collected beans were monitored daily for egg hatch and subsequent nymph development and survival until adult eclosion. We paired the emerged adult males and females and monitored them for fecundity, fertility, and adult longevity. They were provided with food, water and green beans as described above. Green beans provide moisture for *O. insidiosus* nymphs and adults and act as an oviposition substrate for adult females. All green beans used in this study were grown in a greenhouse without pesticide applications. We discuss the *O. insidiosus* development, survival, and reproduction.

Keywords: Biological control, integrated pest management (IPM), insect predators

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