

ABSTRACT

Title of Ph.D. Thesis: Artificial Medium Diets and Non-Conventional Means of Control for some Coleopterous Fruit Tree Borers

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In Egypt, *Chlorophorus varius* (Cerambycidae), *Scolytus amygdali* and *Hypothenemus eruditus* (Scolytidae) are serious Coleopterous boring pests in fruit tree orchards. **The present study concluded the following:**

Part 1: Rearing some coleopterous borers: *C. varius* and *S. amygdali* were reared on artificial medium diets compared with rearing on their natural hosts. Rearing on artificial diets reduced more than $\frac{1}{2}$ of the larval durations and $\frac{2}{3}$ of the total life cycles than on natural hosts.

Part 2: Microbial control in the laboratory: Bacterial and fungal were evaluated for their efficiency on the different stages of *C. varius* and *S. amygdali*. Bacteria were more efficient than fungal, and the larval stage was more susceptible than other stages and the 1st instar larva was the most.

Part 3: Non-conventional means of control of some citrus tree borers: Environmentally safe 11 treatments (horticultural, mechanical local chemical and combinations of these treatments) were adequately efficient for their efficiency to control *C. varius* and *H. eruditus* borers in citrus orchards. Repeating these treatments for 2 successive years magnified the reduction of the borers' infestation.

Key word: *Chlorophorus varius*, *Scolytus amygdali*, *Hypothenemus eruditus*, Cerambycidae, Scolytidae, *Bacillus thuringiensis*, *Beauveria bassiana*, artificial medium diets, non-conventional control.