

Control of the Fig Longihorne Beetle, *Hesperophanes griseus* (Fabricius) (Coleoptera: Cerambycidae) on the Fig Trees, *Ficus carica* L

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ABSTRACT

The long-horned beetle (LHB), *Hesperophanes griseus* (Fabricius) (Coleoptera: Cerambycidae) is one of the most destructive pests of fig trees (*Ficus carica* L.) in Egypt. Some safe control measures were experimented for controlling LHB in fig orchards at El- Twayle village, Arish city, North Sinai Governorate, Egypt, using extracts of Antholyza, (*Antholyza ringens*) ; Hawthorn, (*Crataegus sinaica*) and Chey-laurel (*Prunus laurocerasus*) as well as mechanical treatments including pruning of infested fig trees branches, worming existed larvae inside their tunnels or both treatments. All above mentioned treatments significantly suppressed the population of the pest. *A. ringens* extract at the rate of 5% was the most effective treatment (82.09% reduction). Practicing both pruning and worming together magnified their role in controlling the pest, whereas the level of infestation was reduced by 55.38%. Mechanical control followed by applications of the plant extracts was advocated for reducing the population of *H. griseus* larvae to its minimum level in fig orchards.

Key words: *Hesperophanes griseus*, fig, pruning, worming, plant extracts, control

INTRODUCTION

Ficus carica L. has been cultivated for a long time in various places worldwide for its edible fruit. Remnants of figs has been found in excavations of sites dating as far back as at least 5,000 B.C. *F. carica* presumed to originate from Western Asia and spread to the Mediterranean by humans. It is an important world fruit crop today.

Fig trees are infested with several insect pests mainly stem borers, scale insects, mealy bugs, and fruit flies, (Ismail and Abdalla, 2001). The long-horned beetle, *Hesperophanes griseus* (F.) (Coleoptera: Cerambycidae) is considered a serious borer on fig trees (*Ficus carica*), (Özdikmen and Şahin, 2006). Newly hatched larvae boring and feeding just beneath the bark. As the larvae grow older, deeply excavate longitudinal cylindrical tunnels were found parallel to the axes of the stems. In case of severe infestation, the trees undergo stress weakness which hardly affected the yield of fig.

Trials to control this pest were directed only towards chemical treatments with insecticides in vineyards and in fig orchards (Kinawy 1981 and Tadros, 1982).

Previous trial for *H. griseus* control was processed with conventional chemical pesticides causing many hazardous and pollution to the environment. Therefore, the present study aimed to investigate some safe alternatives such as natural plant extracts and agricultural practices to reduce the level of *H. griseus* infestation in fig orchards. This may offer a reliable role in exploring integrated pest

control program in fig orchards.

MATERIALS AND METHODS

Field experiments were conducted in three localities in three infested fig orchards at El- Twayle village, Arish city, North Sinai Governorate, Egypt. The three localities were designated to test the effect of the plant extracts from Antholyza, (*Antholyza ringens*); Hawthorn, (*Crataegus sinaica*) and Chey-laurel (*Prunus laurocerasus*), agriculture practices (pruning and worming) and integration of both on *H. griseus* infestation.

The fig trees in each locality were (8-10) years old and about 2.5 m in height. The 1st experiment was divided into 10 randomized plots, each containing 10 trees. Nine plots were treated with the tested extracts (one plot/ extract /concentration), whereas, the 10th plot was left untreated for check.

The tested plant extracts at each proposed concentration were inserted into the active larval tunnels – indicating the existence of alive larvae.

Injection was accomplished with a syringe (20 ml). Evaluation of treatments was carried out 15 days after application by counting the numbers of active larvae in tunnels containing the alive larvae in treated and untreated trees, (Salama and Ismail, 2007).

Plant materials:

Antholyza, Hawthorn and Chey-laurel were collected from El-Arish area, North Sinai. The plants were kindly identified by Prof. Dr. M. El-Gebali,