



Tropentag, September 17-19, 2013, Stuttgart-Hohenheim  
“Agricultural development within the rural-urban continuum”

## Mass-Trapping of the Xylophagous Moth Species, *Zeuzera pyrina* by UV-Light-Pheromone Sticky Trap

ESMAT HEGAZI<sup>1</sup>, WEDAD E. KHAFAGI<sup>2</sup>, FREDRIK SCHLYTER<sup>3</sup>, M.A. KONSTANTOPOULOU<sup>4</sup>, A.  
ATWA ATWA<sup>5</sup>, ESSAM AGAMY<sup>6</sup>

<sup>1</sup>Alexanadria University, Entomology, Egypt

<sup>2</sup>Ministry of Agriculture, Biological Control, Egypt

<sup>3</sup>Swedish University of Agriculture Sciences, Chemical Ecology, Sweden

<sup>4</sup>Chemical Ecology and Natural Products Laboratory, N.C.S.R. Demokritos, Greece

<sup>5</sup>King Abdulaziz University, Deanship of Scientific Research, Saudi Arabia

<sup>6</sup>Cairo University, Fac. of Agriculture, Egypt

### Abstract

The leopard moth, *Zeuzera pyrina* L. (ZP) (Lepidoptera: Cossidae), is a xylophagous species that has become a serious pest in the olive orchards in Egypt. It attacks a variety of trees and shrubs. More than 150 plant species of up to 20 taxonomic genera, such as apple, pear, plum, olive, apricot, chestnut, and vines, are attacked. Current control practices include either manual killing of larvae inside their galleries, which is time-consuming, labor-intensive and therefore costly procedure, or wide-spectrum insecticide applications against adults. Both chemical and biological control have scored poorly against this pest and additional methods are needed. A simple, durable, but efficient UV-light sticky trap (“Hegazi model”) was devised. The binary blend of the pheromone components, (E,Z)-2,13-octadecenyl acetate and (E,Z)-3,13-octadecenyl acetate (95:5) was combined with the light trap for ZP mass trapping. Combination of light and sex pheromone was optimally attractive to ZP population in olive orchards. Greater reduction in total counts of active galleries was observed in mass-trapping plot compared with those recorded in the control field, where chemical sprays and manual killing were performed. In mass-trapping plot, the seasonal captures and active galleries diminished from one year to the next which may indicate the effectiveness of the method. The study strongly recommends the use of mass-trapping method instead of pesticides against the ZP moths, not only to control them but also to mass-trapping in the same time other olive pests, *e.g.*, the olive (*Prays oleae* Bern) and jasmine (*Palpita unionalis* Hub.) moths. Yield from trees in mass-trapping field was significantly increased in comparison to control trees.

**Keywords:** Leopard moth, light trap, mass trapping, sex pheromone