

# HOST PLANTS AND FLIGHT PHENOLOGY OF *ZEUZERA PYRINA* L.

## AND *COSSUS COSSUS* L. IN HUNGARY

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In Hungarian orchards damages caused by the xylophagous European goat moth *Cossus cossus* and the leopard moth *Zeuzera pyrina* (Lep. Cossidae) are frequently observed. Both of these species are polyphagous, the larvae of *C. cossus* live inside the xylem of trunks of trees. *Z. pyrina* caterpillars damage mostly in branches of trees and bushes. The developmental cycle of both species spans over 2 years. A prerequisite for the development of environmentally harmless control technologies is the accurate description of the flight phenology of the two pests.

The objective of our studies were to study the occurrence of the two species in different orchard cultures. Observations on *C. cossus* were conducted in apple, cherry (young and old), apricot, peach and walnut orchards. In case of *Z. pyrina* tests were conducted in apple orchards and walnut nurseries.



*Cossus cossus*



*Zeuzera pyrina*



Damage of *C. cossus* on sour cherry tree



Resin and faeces fillings indicate the presence of larvae of *C. cossus*



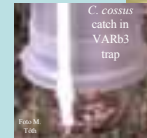
Adult moth of *C. cossus*

CSALOMON® VARB3 funnel traps (baited with their respective pheromones) were especially suitable for the trapping of both *C. cossus* and *Z. pyrina*.

According to literature, pheromone baits for *C. cossus* consisted of (Z)-3-decenyl acetate and (Z)-5-dodecenyl acetate (Capizzi et al., J. Chem. Ecol. 9:191, 1983), while those for *Z. pyrina* contained (E,Z)-2,13-, (E,Z)-3,13- and (Z,Z)-2,13-octadecadienyl acetates (Frérot et al., C.R.Acad.Sc. 302D:413, 1986).



CSALOMON® VARB3 funnel trap baited with pheromone of *C. cossus*



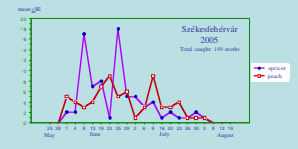
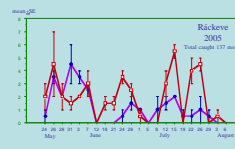
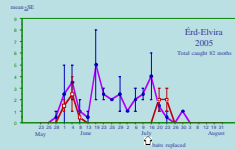
*C. cossus* catch in VARB3 trap

Foto: M. Tóth

Foto: E. Voigt

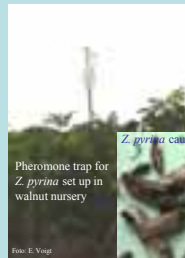
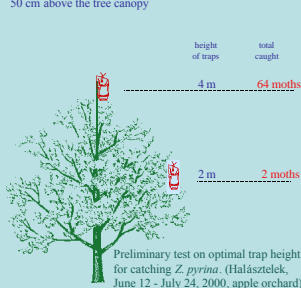
### Results on *C. cossus*

Good numbers of *C. cossus* moths were caught in the traps at all sites, suggesting that the species was present in all plant cultures studied. First catches were recorded on May 24 - 25, last catches were observed on August 10, so the moth was showing continuous flight for ca. 10 weeks during the season.



### Results on *Z. pyrina*

In *Z. pyrina*, according to the flight patterns recorded, the first adults appeared in the traps in the beginning of June (June 6 to 14, according to site), and catches continued until the end of August (August 26 to 30). In walnut nurseries traps set up at the height of 2 m were catching moths during all the flight only in the plot with 2-years old trees. On the plot with 3-years old trees catches declined after the height of the growing trees exceeded 2 m (the height of the traps). This underlines the importance of positioning of the traps in the successful pheromone trapping of *Z. pyrina*: our observations support previous data from Italy and elsewhere, that sizeable catches can be expected only from traps placed at a height of ca. 40 - 50 cm above the tree canopy



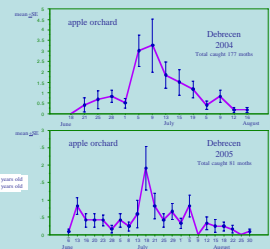
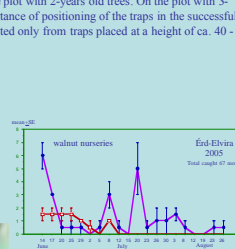
Pheromone trap for *Z. pyrina* set up in walnut nursery

Foto: E. Voigt



*Z. pyrina* caught in pheromone traps

Foto: E.Z. Nagy



Our results show that *C. cossus* apparently has a wide host plant circle, its presence was detected and its flight pattern could be monitored in apricots, apples, walnuts, cherries and peaches. Its presence was not restricted to old, diseased orchards, but it also occurred in young plantations. *Z. pyrina* was clearly present in both apple orchards and walnut nurseries (2-3 year old).

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