

Roles of α -Farnesene in the Behaviors of Codling Moth Females

Fengming Yan^{a*}, Marie Bengtsson^b, György Makranczy^c, and Jan Löfqvist^b

^a College of Life Sciences, Peking University, Beijing 100871, P. R. China.

Fax: +86-10-62751526. Email: fmyan@pku.edu.cn

^b Chemical Ecology Lab, Department of Crop Sciences, Swedish University of Agricultural Sciences, Box 44, S-23053 Alnarp, Sweden

^c 66 Egyetem Sgt., H-4032 Debrecen, Hungary

* Author for correspondence and reprints requests

Z. Naturforsch **58c**, 113–118 (2003); received March 26/August 20, 2002

Reproduction and olfactory behavioral responses of codling moth, *Cydia pomonella* (L.), females to synthetic α -farnesene were observed in the laboratory as well as their reproduction behaviors in an apple orchard. Calling levels were lifted and ovipositional peaks were advanced in codling moth females at presence of 1 μ g and 0.1 μ g of α -farnesene, respectively. Mated females of codling moth more actively responded to 0.01 μ g α -farnesene with walking and wing-fanning while walking than to other doses (0.001, 0.1, 1, 10 μ g) and control. The results show that α -farnesene plays important roles in the behaviors of codling moth females. However, the differences between responses to α -farnesene and those to apple volatiles by codling moth females indicate that components other than α -farnesene in apple volatiles also have biological activities.

Key words: Reproduction, Olfactory Responses, *Cydia pomonella*