Identification of the Sex Pheromone of *Isoceras sibirica* Alpheraky (Lepidoptera, Cossidae)

Jintong Zhang[a], Hongxia Liu[a], Wenmei Zhao[b], Jinlong Liu[a], and Shixiang Zong[c,*]

[a] Institute of Chemical Ecology, Shanxi Agricultural University, Shanxi, 030801, China
[b] Agriculture Bureau, Wenxi County, Shanxi, 043800, China
[c] The Key Laboratory for Silviculture and Conservation of Ministry of Education, Beijing Forestry University, Beijing, 100083, China. E-mail: zongsx@126.com

* Author for correspondence and reprint requests

Z. Naturforsch. **66 c**, 527–533 (2011); received December 30, 2010/April 12, 2011

We discovered that extracts of the female sex pheromone gland of the carpenterworm moth *Isoceras sibirica* Alpheraky, a pest of *Asparagus officinalis* Linn., contained (*Z*)-7-tetradecen-1-ol (Z7–14:OH), (*Z*)-9-tetradecen-1-ol (Z9–14:OH), (*Z*)-7-tetradecenyl acetate (Z7–14:Ac), (*Z*)-9-tetradecenyl acetate (Z9–14:Ac), and (*Z*)-9-hexadecadecenyl acetate (Z9–16:Ac). The average levels of the chemicals in a single sex pheromone gland of a calling moth were (0.71 ± 0.24) ng, (1.42 ± 0.44) ng, (4.36 ± 0.32) ng, (8.71 ± 0.26) ng, and (0.82 ± 0.38) ng, respectively. The electroantennography (EAG) analysis of these chemicals and their analogues demonstrated that Z9–14:Ac triggered significantly the male EAG response. Traps with rubber septa lure impregnated with Z9–14:Ac (500 εg/septum), Z7–14:Ac (250 μg/septum), and Z9–16:Ac (50 μg/septum) were more effective in catching male moths than traps with other baits or virgin females. Addition of Z7–14:OH and Z9–14:OH to rubber septa did not enhance the efficiency of the trap.

Key words: Isoceras sibirica, (*Z*)-9-Tetradecenyl Acetate, (*Z*)-7-Tetradecenyl Acetate