

## ENTOMOLOGY

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### ABSTRACTS

***Papaipema nebris*, the Common Stalk Borer, a New Pest on the Bitter Gourd (*Momordica* sp.)** Grown in Indiana. JOSEPH T. CHOWATTUKUNNEL, Department of Biology, Indiana University at South Bend, South Bend, Indiana 46634 and R. BRUCE CUMMINGS, Indiana Department of Natural Resources, Indianapolis, Indiana. 46204.—The senior author has been growing the bitter gourd plants in his home garden since 1973. Until 1980, this plant was completely free from all insect pests. During the 1980 growing season, occasionally a plant was found to wilt and die from near its base. In 1981, more plants started to wilt and an examination showed that a borer was attacking the plants. During 1982 and 1983 there was a steady increase in the number of plants attacked. Since 1982, an occasional fruit also has come under attack. It appears that the bitter gourd plant has become a preferred and probably a new host of this insect pest.

**The Effects of Sevin XLR® on Nurse and Field Honey Bees.** GENE KRITSKY, Department of Biology, College of Mount St. Joseph, Mount St. Joseph, Ohio 45051, CYNTHIA K. BROWN, Hamilton High School, Hamilton, Indiana 46742 and PETER A. HIPPENSTEEL, Department of Biology, Tri-State University, Angola, Indiana 46703.—As honey bees age, their contributions to the colony change. Newly emerged bees act as nurse bees and take care of cleaning the colony and feeding the larvae. After 15 days, the bees become field bees and leave the colony to collect nectar and pollen. Because insecticides are sprayed in the field, field bees are the first to come in contact with them. To determine if field bees and nurse bees have different susceptibilities to Sevin XLR®, a LD<sub>50</sub> study was performed. The results indicate that field bees are more resistant to Sevin XLR®. The implications of this resistance to pest management programs that try to minimize bee kills suggest that applications made while field bees are foraging can effect the nurse bees in the hive.

**Rocky Mountain Spotted Fever Tick Testing Program in Indiana.** ROBERT R. PINGER, Ball State University, STUART T. WALKER, Ball State University, and HERALD A. DEMAREE, Indiana Department of Natural Resources. In 1982 and 1983, a tick testing program was carried out in Indiana to determine the prevalence and distribution of spotted fever group (SFG) rickettsiae in ticks in Indiana. Ticks were submitted by sanitarians, veterinarians, employees of Indiana Department of Natural Resources and other cooperating citizens for testing at Ball State University's Public Health Entomology Laboratory. Ticks were tested for the presence of SFG rickettsiae by the hemolymph test and by indirect immunofluorescence. In 1982, 1492 ticks were submitted for testing from 80 counties in Indiana and two other states. The total catch comprised seven species of ticks: *Amblyomma americanum*, *Dermacentor variabilis*, *Haemaphysalis leporispalustris*, *Ixodes cookei*, *I. dentatus*, and *Rhipicephalus sanguineus*. Of the 1492 ticks received, 804 (54%) arrived alive and were tested. *Dermacentor variabilis* made up 96% of all the ticks tested. Forty-seven (5.8%) of the ticks tested were positive for SFG rickettsiae; all 47 were *D. variabilis*. In 1983, 1877 ticks were received for

testing from 84 counties and eight other states. In addition to the seven species received in 1982, an eighth species was identified, *Amblyomma maculatum*. *Dermacentor variabilis* constituted 94% of the ticks submitted. Of the 1877 ticks received for testing, 1443 (77%) arrived alive and were tested. Fifty-six (3.9%) of the ticks tested were positive for SFG rickettsiae. The positive ticks were identified as *D. variabilis* (54), *I. cookei* (1) and *I. texanus* (1).

**Efficacy of Neem Extract Against Insects of Eggplant.** DAVID K. REED and GARY L. REED, Fruit and Vegetable Insects Research Laboratory, Agricultural Research Service, USDA, Vincennes, Indiana 47591 and Department of Entomology, Purdue University, West Lafayette, Indiana 47907.—Replicated experiments were conducted at the Southwest Purdue Agricultural Research Center where eggplants were treated with Neem Dust (20%), Neem Spray (0.2%) and cypermethrin (0.04 lb ai/A). Neem dust was relatively ineffective against Colorado Potato Beetle and Potato Flea Beetle. Neem spray was as effective as cypermethrin against both insects and both materials provided significantly greater control than the untreated. Neem, a derivative from the Neem tree, *Azadirachta indica*, may be useful in vegetable crop pest management.