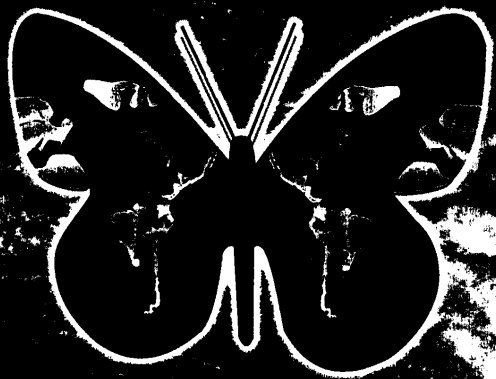


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DAVID F. WILLIAMS

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ABSTRACTS

The Congress of Entomology is a joint promotion of:



BOOK I

[1593] A SURVEY OF LACEWINGS (NEUROPTERA: CHRYSOPIDAE), IN COFFEE AGROECOSSYSTEM, IN LAVRAS, MG, BRAZIL

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The Chrysopidae are important polyphagous predators found in several crops of economic importance with a great influence in the biological control of phytophagous arthropods. Lacewings like other beneficial insects stand out by being voracious, having high search ability and a broad number of prey species. In coffee crop, they are important in controlling secondary pests such as scales and aphids. Larvae of lacewings were observed preying eggs and adults of *Oligonychus ilicis* and larvae of *Perileuoptera coffeella*. Sampling was carried out at 15-day intervals in a coffee field at the Federal University of Lavras. Egg, larva, pupa and adult lacewings collected were placed in plastic bags and brought to the Department of Entomology for observation. Adults were collected using an entomological net. Immature forms were reared to the adult stage, which were mounted, labeled and sent to specialists for identification. A total of 64 adults, 4 larvae and 41 eggs were collected from September 1998 to August 1999. The species found were: *Chrysoperla externa*, *Ceraeochrysa cincta* and *C. claveri*.
index terms: *chrysoperla externa*, *ceraeochrysa cincta*, *ceraeochrysa claveri*, predator, chrysopid.

[1595] EVALUATION OF THE PARASITISM OF *TELENOMUS PODISI* ON *PIEZODORUS GUILDINII* (HETEROPTERA: PENTATOMIDAE) EGGS, IN SOYBEAN CROP IN RORAIMA, BRAZIL

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The mortality of at the egg stage *Piezodorus guildinii*, main soybean crop pest, was studied under field condition in Roraima, during the years of 1997, 1998 and 1999. The experiments were carried out in Boa Vista, Roraima, Brazil, during the soybean crop season. Egg masses found in the field were observed daily in laboratory to check the total number of viable eggs and those parasitized. Two species of egg parasitoids were recovered: *Telenomus podisi* Ashmead and *Trissolcus urich* Crawford. The incidence of parasitism in eggs of *P. guildinii* was 53% in 1997, 66% in 1998 and 70% in 1999. In Roraima conditions, *T. podisi*, was considered the most important and frequent species of *P. guildinii* parasitoid eggs due to its high occurrence and parasitism level.

[1594] BIOLOGY, THERMAL REQUIREMENTS AND PARASITIZATION OF *TRICHOGRAMMA PRETIOSUM* STRAINS ON *HELICOVERPA ZEA* EGGS

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The research is part of a program of Integrated Pest Management of tomato crop in the Northeast region of Brazil using *Trichogramma pretiosum* to control the corn earworm (tomato fruitworm), *Helicoverpa zea* and the moth *Tuta absoluta*. The research was developed in laboratory at the Insect Biology Laboratory, at the Department of Entomology, Plant Pathology and Agricultural Zoology, Escola Superior de Agricultura "Luiz de Queiroz" (ESALQ), University of São Paulo (USP), in Piracicaba, State of São Paulo - Brazil, in order to study biological aspects and thermal requirements of *T. pretiosum* strains the factitious hosts *Anagasta kuehniella* and *Sitotroga cerealella* and the eggs parasitization on *H. zea* under 18, 20, 22, 25, 30 and 32° C. The *T. pretiosum* strains were from Petrolina-Pernambuco-Brazil (lat.S 9° 24' 42" and long.W Greenwich: 40° 29' 55") and from Piracicaba-São Paulo-Brazil (lat.S 22° 43' 31" and long.W Greenwich: 47° 38' 55"). The origin of the *T. pretiosum* strain affected the biological development of the parasitoid and its parasitization capacity. The thermal requirements were also dependent on the origin of the strain, ranging from 152 to 163 degree days for Petrolina and Piracicaba strain, respectively.

Index terms: biological control, temperature, corn earworm

[1596] CLASSICAL BIOLOGICAL CONTROL OF IMPORTED FIRE ANTS BY PARASITOID FLIES

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Phorid flies in the genus *Pseudacteon* are solitary parasitoids of ants. Development occurs inside the head capsule of the host worker, killing the ant in the process. *Pseudacteon* flies may also have relatively large indirect effects on colony-level foraging and interspecific competition, as the presence of a single phorid can modify the behavior of hundreds of workers. Two *Solenopsis* fire ant species, *S. invicta* and *S. richteri*, have been introduced into the United States from South America and are serious pests in their introduced range. The high population densities of these two exotic ants may be due in part to an escape from natural enemies. *Pseudacteon* phorid flies from South America have the potential to be used as classical biological control agents of imported fire ants in North America. Laboratory studies of one *Pseudacteon* species, *P. tricuspis*, and its interactions with *S. invicta*, revealed that the presence of this phorid decreased food retrieval by as much as 50%. The primary mechanism of this effect was a significant decrease in worker activity when phorids were present. The presence of phorids did not significantly affect interspecific interactions between *S. invicta* and its close congener, *S. geminata*. The overall effect of introduced *Pseudacteon* phorids on imported *Solenopsis* fire ants in the United States will be evaluated from field releases of the flies and monitoring of target ant and associated arthropod communities. We have exported select *Pseudacteon* species from the Brazilian Quarantine Laboratory at Embrapa Environment, Jaguariúna, São Paulo State, Brazil to the United States for laboratory evaluation and field release, as part of a cooperative program between Embrapa and the USDA-ARS. In northern Florida, we had established 5 field populations of *Pseudacteon tricuspis* by the end of 1999. One population has been in existence since October 1997. The introduced populations are increasing in abundance and expanding in size, with the largest population covering an area of almost 100 square kilometers. Adult *P. tricuspis* were found to be active in the release areas in every month of the year. Long term monitoring of release and control sites should elucidate the magnitude of the effect of these parasitoids on target fire ant and associated arthropod populations. *Pseudacteon* flies and other natural enemies will not eradicate imported fire ants in North America, but could reduce fire ant populations to lower densities.

Index terms: *Pseudacteon tricuspis*, *Solenopsis invicta*, parasite, Phoridae