

**[1185] ECOLOGICAL AND EVOLUTINARY CORRELATIONS AMONG ACCEPTABILITY, OVIPOSITION PREFERENCE AND PERFORMANCE IN *ZABROTES SUBFASCIATUS* (COLEOPTERA, BRUCHIDAE)**

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*Phaseolus vulgaris* is considered the usual host to the *Zabrotes subfasciatus* eggs. The immature are limited to oviposition place, eating only this host. As *Z. subfasciatus*, most insects have restricted diet. The ecological and economic importance of these species is unquestionable and there have been many discussions about the ecological and evolutionary aspects that influenced this condition. This work has as objective to study several factors related with the oviposition behavior and performance in different hosts and to understand how these behavior and performance develop and change throughout generations. Five hosts were used: 2 varieties of the usual host (A1 e A2) and 3 unusual hosts: *Cicer arietinum* (B), *Glycine max* (C) and *Lens culinaris* (D). For each host were done tests to measure acceptability (egg average), oviposition preference (egg % in each host, 1x1) and performance (adults emergency, number of offspring eggs and their emerging adults). The directional experiments to performance were done by observing each generation, when a newborn couple was placed to oviposit on same host that it developed (10 generations). The artificial selection was done to increase the oviposition on the less chosen host. In each generation newborn females from this host were placed to oviposit between the two hosts used. The experiments were developed between A1 and A2 and between A2 and B. The acceptability results showed the following rank: the biggest was on A1, followed by A2, C, D and B. One preference hierarchy was revealed: 1-A1, 2-A2, 3-C, 4-D and 5-B. The performance was better in A1, followed by A2 and relatively good in B; in C and D there were no adult emergencies. The artificial selection of performance showed a notable increase in A1, A2 and B in only 7 generations. In only 5 generations, 70% of eggs already oviposited in A2 (initially, the less oviposited variety). However, between A2 and B there was any increase in B. These results suggest that descendent performance didn't influence directly the acceptability and preference. In this case, behavioral as physiological factors contributed to diet restriction. The performance showed a fast fitness increase in each host tested throughout generations. The selection of preference showed that when 2 usual hosts varieties were used, this behavior had enough variability to permit a positive answer to selection that resulted in a preference inversion, which didn't occur when the host was the unusual, showing the behavior importance in size diet determination.

Index terms: Artificial selection, Fitness, hosts, behavior variation, hierarchy

**[1186] POPULATIONAL FLUCTUATION OF *PANTHERODES PARDALARIA* (LEPIDOPTERA: GEOMETRIDAE) IN RIO GRANDE DO SUL STATE, BRAZIL**

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Geometrid moths are characterized by their relatively small and fragile body with quite developed wings. These characteristics do makes them with that, among the macrolepidopterans, the ones with smaller dispersion capacity, what turns them particularly adapted for relationships with the environmental conditions of small areas. *Pantherodes pardalaria* is a common species in Rio Grande do Sul State and of easy identification due so its predominant yellow coloration with grayish circular stains which external borders and central areas darker. Its larvae feeds on plants of the genus *Tecoma* (Bignoniaceae), *Urera* and *Boehmeria* (Urticaceae), being considerate plagues of the ramie crop (*Boehmeria nivea*). Objectifying to verify the influence of different places and times, monthly collections were accomplished in 10 places (districts) of the State, from January to December 1998, with two black-light traps model "Pennsylvania", with lamps F15 T12 LN, in each place. In Iraí there were 1,860 sampled specimens; in São Pedro da Serra 824; in Lagoa Vermelha 195; in Camaquã 94; in Cachoeira do Sul 77; in Santana do Livramento 23; in Vila Maria 21; in Pelotas 5; in Piratini 5 and Mostardas 3. The multivariate analysis of variance indicate significant differences between the places and months. This significance, according to the places, highlighted Iraí, followed by São Pedro da Serra. In relationship to the months, it indicated differences with peak populational in August in the three places with larger abundance. In Iraí the peak was repeated in October, but the population stayed quite elevated during the three months. In relation to the presence in the samplings, this was constant in São Pedro da Serra (87.5%), Iraí (83.3%) and Camaquã (54.2%), accessory in Vila Maria (45.8%), Cachoeira do Sul (25.0%) and accidental in the other places, varying from 4.2% to 16.7%. In the areas where the collections were accomplished, it was observed the presence of *Urera* spp., which development begins in the end of the winter, being vulnerable to the conditions of extreme heat. The distribution and phenology of these plants determinate the abundance and constancy values of this moth on different places, being that some representatives can be found during the whole year in forests.

Index terms: Ecology, Ennominae, Population dynamic

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**[1188] INSECTS ASSOCIATED TO THE LONG PEPPER IN THE STATE OF ACRE, BRAZIL**

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The long pepper (*Piper hispidinervum*) is an arbustive plant, that occur naturally in fallow areas in the State of Acre, Brazil, mainly in Acre River Valley. This plant has being studied for obtaining essential oils that contain substances used in the production of biodegradable insecticides and fragrances. However, the process of domestication of this species, with the cultivation in commercial scale, can be a factor that leads to the appearance of pests. This research had the objective to determinate the main insects associated to the long pepper. The insects were collected, fortnightly, from May/98 to May/99, with an entomological net in 150 plants of an 0.5 ha experimental area at Embrapa Acre. Insects present in the inflorescence were observed in 20 plants of the germoplasm bank, during the rain season (October/98 to February/99), by walking around each plant during 4-5 minutes. This insects were collected using a mouth aspirator. After one year of insects sampling, using entomological net, 190 species were collected, but only 10 of them were collected frequently. The diversity and the amount of insects increased with the development of the plants. However, during the months of July, August and September (dry season) the population of insects was low, turning to increase in October (beginning of the rains). In the end of January the plants were cut for oil extraction, so the samplings started again only in March. The main insects collected were natural enemies such as lacewings (Chrysopidae), ladybugs (Coccinellidae) and wasps (Vespidae). The main phytopagous insects collected were cysomelids and cicadellids. The insects collected with entomological net and identified, at least, until genera were: *Cerotoma tingomarianus*, *Diabrotica speciosa*, *Mormidea maculata*, *Cycloneda sanguinea*, *Homophoeta aeguinoetialis*, *Zulia entrerriana*, *Doru lineare*, *Molomea* sp., *Polybia* sp., *Lebia* sp., *Maecolaspis* sp. In the inflorescence of long pepper were collected mainly hymenopterous belonging to families Apidae (subfamily Meliponinae) and Halictidae. It was not detected any insect species that could be considered a pest of this crop and, probably, most of these insects come from crops surrounding the long pepper and use this plant as a shelter or alimentary supplementation.

Index terms: *Piper hispidinervum*, Coccinellidae, Apidae, insect diversity