

INSTITUTE TO STUDIES OF THE PARASITIC HYMENOPTERA AT THE BRAZILIAN SOUTHEASTERN REGION – HYMPAR

Angélica Maria Pentead-Dias

Center for Biological Sciences and Health / Federal University of São Carlos (UFSCar)



Figure 1. New *Metopius* sp (Hymenoptera, Ichneumonidae, Metopiinae). General view of an adult male (digital imaging)

Currently, in the Brazilian Southeastern region, only some areas of native forest and savannah in São Paulo State has been sampled in a systematic way through inventories of the fauna of *Hymenoptera parasitoids*. Little is known of the taxonomy and biology of the communities of Hymenoptera parasitoids associated with agroecosystems and in areas of forest fragments. Although so abundant, little is known of bionomy of many species of parasitoids Hymenoptera, including their hosts. The study of tritrophic interactions involving plants, phytophagous and parasitoids (or hyperparasitoids) or predators should provide subsidies to the understanding of the groups phylogeny and evolution. The possibility to know the identity of *Hymenoptera parasitoids*, enemies of certain agricultural pests allow the use of techniques of insects mass rearing that will put the Brazilian agriculture in the context of biological control of agricultural pests. The financial resources will enable the expansion of our collections by possibility of sampling in new areas of natural ecosystems and in agroecosystem.

SUMMARY OF RESULTS TO DATE AND PERSPECTIVES

The project, still in data collection phase, has the objective to promote the establishment of solid foundations for the hymenopterous parasitoids biodiversity knowledge. We have installed 95 sampling points georeferenced in about 30 counties in the Brazilian Southeastern, in 30 native areas in the States of São Paulo, Rio de Janeiro, Minas Gerais and Espírito Santo with monthly collections using Malaise traps, since May 2009.

Braconidae, Ichneumonidae and Chalcidoidea families have been sorted and identified. Some genera were determined so far. Four of them have not been registered in Brazil yet, namely:

Diglyphomorpha, *Hemiptarsenus*, *Platyplectrus* (Eulophidae), *Erixestus* (Pteromalidae), *Andesipolis*, *Paphanus*, *Syntretus*, *Topaldios*, (Braconidae). About 12 000 specimens of Ichneumonoidea were

mounted on entomological pins, properly preserved in dehumidified room. More than 120 Malaise samples are awaiting for sorting. Around 420 specimens of Hymenoptera were identified in Minas Gerais and São Paulo States coffee area plantations using water pan traps in 19 samples. In different Brazilian regions, collections of live and mummified aphids on

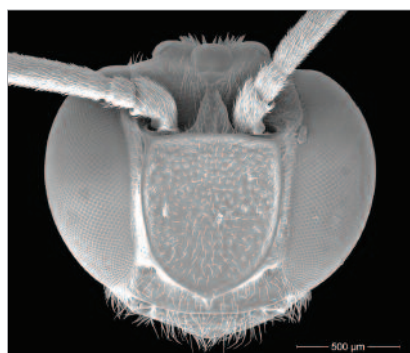


Figura 2. *Metopius* sp nova (Hymenoptera, Ichneumonidae, Metopiinae). Head in frontal view (scanning electron microscope image)

different host plants were made. Larvae of Lepidoptera defoliators, from which have emerged adult specimens of *Lepidoptera*, *Hymenoptera* and *Diptera* parasitoids were collected. Species of Lepidoptera Geometridae, Noctuidae and Arctiidae were identified. Behavioral studies, including parasitism data on some species of spiders were also made. We have also been studying biology, ecology and parasitoids of Chrysomelidae (Coleoptera). This involves the study of tritrophic interactions between beetles, their plants hosts and their parasitoids, including studies of the life cycle, behavior, population dynamics and species habits. Many new species have been described in national and international journals. Several training courses in technical studies of the *Hymenoptera* parasitoids in field and laboratory, and their use for biological control and conservation of natural ecosystems, were also conducted. Transfer of *Hymenoptera* parasitoids biology basic knowledge was carried out to the community through educational exhibitions, assembly and use of educational videos.

MAIN PUBLICATIONS

Sobczak JF, Loffredo APS, Pentead-Dias AM, Gonzaga MO. 2009. Two new species of *Hymenoepimecis* (Hymenoptera: Ichneumonidae, Pimplinae) with notes on their spider hosts and behaviour manipulation. *Journal of Natural History*. **43**: 2691-2699.

Angélica Maria Pentead-Dias

Centro de Ciências Biológicas e da Saúde
Universidade Federal de São Carlos (UFSCar)
Departamento de Ecologia e Biologia Evolutiva
Rodovia Washington Luiz, km 235
CEP 13565-905 – São Carlos, SP – Brasil

+55-16-3351-8279
angelica@ufscar.br