Two parameters were important for predicting sex allocation: wasp transits and time for host paralysis. Wasp experience affected the extent but not the types of parameters that predict sex allocation. Second, we used host quality and memory models to show how female wasps are influenced more by recent than past host encounters in their assessment of host size for sex allocation. Third, we compared the offspring sex ratios of female wasps presented with different compositions of hosts. Presenting females with increasingly larger hosts over 1–2 days reduced mean sex ratio; however, females produced more male-biased sex ratios (similar to commercial units) if exposed continuously to only large hosts. Increasing host size over time has limited application for insectaries. Thus, we tested whether sex allocation could be modified by the availability and distribution of two different-sized hosts. We then compared the use of both small hosts and large hosts to only large hosts for simulated mass rearing of wasps over 8 weeks. Using both small hosts and large hosts produced similar numbers of wasps as using only large hosts, but reduced mean sex ratio of weekly cohorts from 66% male to 56% male. The two techniques produced females of similar size, but using both small hosts and large hosts produced slightly smaller males than using only large hosts. Finally, we compared control of agromyzid leafminers with releases of identical numbers and sex ratios of wasps produced by the two rearing technique. In trials simulating infestation of greenhouse chrysanthemums during an 11-week crop cycle, we found no significant differences between the levels of control obtained with wasps produced by either rearing technique. Adoption of our rearing technique by commercial insectaries could reduce implementation costs for not only *D. isaea* but also other parasitoids that show host-size-dependent sex allocation.

Chemical analysis of residues left by walking adults of *Nezara viridula* which induce arrestment behavior in the egg parasitoid *Trissolcus basalis*

Stefano Colazza[1], Gloria Aquila[1], Ezio Peri[1] and Jocelyn Millar[2]

[1]Department of S.En.Fi.Mi.Zo., Section of Acarology, Entomology and Zoology, Università di Palermo, Italy, colazza@unipa.it

[2]Department of Entomology, University of California – Riverside, USA

Chemical residues deposited by walking adults of the southern green stink bug (SGSB), *Nezara viridula* (L.) (Heteroptera: Pentatomidae), which play a role as contact kairomones inducing arrestment behavior in the egg parasitoid *Trissolcus basalis* (Wollaston), were investigated in laboratory experiments. Female wasps encountering an area contaminated by chemical residues from adult hosts showed an arrestment response characterized by prolonged periods of walking and turning, resulting in systematic return to the stimulus after encountering the treatment borders. When SGSB adults were dissected into separate body parts, extracts from legs and the dorsal laminar pronota of adult females elicited equal responses, whereas extracts of legs and dorsal laminar pronota of adult males elicited lower responses. These results corroborate previous results showing the wasp's preference for chemical residues from female hosts, and they suggest that contact kairomones are not confined to the legs, but are distributed over the adult cuticula. Hexane extracts of laminar pronotua and legs of SGSB adults induced stronger responses than methanol extracts. Silica gel chromatography of SGSB cuticular extracts indicated that the activity was associated with the fraction containing saturated and unsaturated hydrocarbons. The potential significance of these results to the host location behavior of *T. basalis* in the field is discussed.

Omnivory and spatial dynamics reduce adverse effect of intraguild predation on herbivore suppression

Moshe Coll[1], Sulochana Shakya[1] and Phyllis Weintraub[2]

[1]Department of Entomology, The Hebrew University of Jerusalem, Rehovot, Israel, coll@agri.huji.ac.il

[2]Entomology Unit, Gilat Research Center, Negev, Israel

Most terrestrial food webs include intraguild (IG) predators, which feed on herbivores as well as other predators in the system. In general, IG predators have been shown to suppress intermediate predator populations, allowing