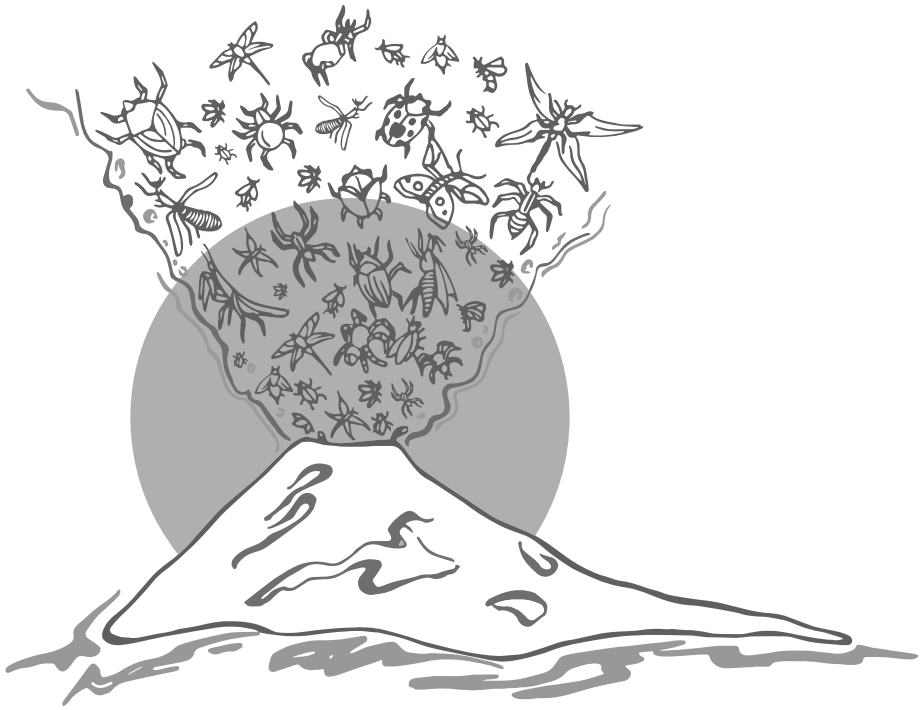
ECE 2018

XI EUROPEAN CONGRESS OF ENTOMOLOGY

2-6 JULY 2018, NAPOLI



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BOOK OF ABSTRACTS

damages were dramatically increased by the spread of the oriental chestnut gall wasp, *Dryocosmus kuriphilus* Yasumatsu (Hymenoptera, Cynipidae), and to adverse climatic conditions. Chemical control of these carpophagous species is unsuitable due to the hazardous side effects that could occur in a complex ecosystem like a chestnut grove, particularly on beneficial insects. Among the alternative control strategies, sex pheromone-based control techniques are considered the most promising ones. During the last decade, and following the identification of the main components of the pheromone blends of these species, in a research program partially funded by the Plant Protection Service of the Campania Region, and with the technical support of Isagro for the development of the most efficient synthetic pheromone delivery system, the efficacy of 2 low-doses pheromone dispensers was compared. Both types of dispenser tested (Ecodian, Ecodian CT) were made of Mater-Bi, a completely biodegradable and compostable bioplastic. Ecodian is a hook-shaped dispenser, Ecodian CT is a wire made up of a cellulose core covered by Mater-Bi; 2,200 Ecodian dispensers, 600 or 900 meters of Ecodian CT (hanging 6 meters wire sections to the chestnut plants, at least 1.5 meters from the ground) per hectare were distributed, containing 45.0, 15.0 and 22.5 g of active ingredients, respectively. Field tests were conducted in 3 chestnut areas of the Campania Region (Montella, Roccadaspide, Roccamonfina); in each area, the 3 treatments (2 hectares per treatment) and an untreated control (2 hectares) were set up in chestnut groves of 8 hectares. Damage recorded in all pheromone-treated areas was significantly lower compared to the untreated control. The highest efficiency was provided by 900 meters of Ecodian CT and the damage was significantly reduced up to 83%.

Keywords: Lepidoptera, Tortricidae, Chestnut fruit, sex pheromones, biodegradable dispensers

CO114

HOST FEEDING AS A TOOL TO IMPROVE BIOLOGICAL CONTROL OF THE ASIAN CITRUS PSYLLID BY TAMARIXIA RADIATA?

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The parasitoid *Tamarixia radiata* (Waterston) (Hymenoptera: Eulophidae) is being used world-wide for the biological control the Asian citrus psyllid (ACP), *Diaphorina citri* Kuwayama (Hemiptera: Liviidae). The parasitoid is strongly synovigenic, as it is born with very few mature eggs. Synovigenic insects need to feed on host haemolymph to mature additional eggs, and are able to resorb mature eggs to allocate resources toward maintenance. We investigated the effect of host feeding on parasitism behavior, longevity and egg load dynamics, and estimated egg maturation and resorption rates. We showed that, whilst host feeding does not increase survival or longevity, it results in increased parasitization rates when parasitoids are seven days old (the age at which they are usually released in California), that a single host meal leads to an average gain of three eggs and accelerates the egg maturation rate. We argue that the host feeding gains could be exploited at the mass rearing level to improve the nutritional status of mass reared *T. radiata* females upon release. We modeled parameters gathered by laboratory experiments to predict the effect of pre-release host feeding on the foraging and parasitization behavior of *T. radiata* in the field, and performed field cage experiments to test the model. We will discuss the effect of host feeding on the efficacy of augmentative biological control of ACP from a theoretical and practical perspective.

Keywords: Citrus, *Diaphorina citri*, mass rearing, synovigeny

CO115

ALEUROCANTHUS SPINIFERUS, AN ALIEN INVASIVE THREAT TO EUROPE. ASSOCIATED BACTERIAL COMMUNITY AND NATURAL ENEMIES

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Aleurocanthus spiniferus also known as orange spiny whitefly (OSW), is a pest native to tropical Asia that in the last century has spread throughout Asia, reaching Africa, Australia, and Pacific islands. In 2008 the first European OSW population was recorded in Apulia region (South East Italy) and allowed EPPO to add the species as a quarantine threat to Europe now in the A2 list. In the following years OSW spread and invaded new territories of Italy, Croatia and Montenegro. Although OSW polyphagy is already well-known, new associations with autochthonous and allochthonous plants have been reported showing its host-shifting ability. To counteract an upcoming pan-Mediterranean invasion updated bio-ethological information of the pest and the role of possible natural enemies are essential to implement a correct IPM strategy. Field samplings have been aimed at the identification of natural enemies and the evaluation of their efficacy. Furthermore, through insect small-RNA sequencing and by Denaturing Gradient Gel Electrophoresis (DGGE) technique coupled with 16S-rRNA gene sequencing, the primary symbiotic bacteria of OSW have been identified. Sampling on natural enemies highlighted the presence of predatory species belonging to the Coccinellidae family. Besides to the almost ineffective populations of *Oenopia conglobata* and *Clithostetus arcuatus*, new findings detected scattered *Delphastus sp.* populations along the western coast of Italy. Both adult and larvae of this ladybird species preyed OSW developmental stages. The evaluation of the role of *Delphastus sp.* as biocontrol agent is underway. The first study on OSW microbiota allowed to find symbiotic bacteria commonly associated with the genus Aleurocanthus: *Portiera sp.*, *Serratia sp.*, *Wolbachia sp.*, *Rickettsia sp.* and, although sporadically, other species. Further studies will target the functional role of these symbionts to develop an effective IPM tailored for Countries at risk.

Keywords: *Ailanthus altissima*, Aleyrodidae, Citrus, Endosymbiotic, endocytobiotic bacteria Hemiptera

CO116

INTEGRATED PEST MANAGEMENT OF THE NEW INVASIVE CITRUS PEST *DELOTTOCOCCUS ABERIAE* (HEMIPTERA: PSEUDOCOCCIDAE)

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