

Winners of abstract awards (2019)

Abstract Awards, 2019

Kelsey Cline (MS student)

Title: Systematics of *Podothrombium* (Parasitengona: Podothrombiidae), a surprisingly common velvet mite in North American forests

Institution: University of Arkansas, Department of Entomology.

Coauthors: Ashley Dowling (University of Arkansas, Department of Entomology) and Ray Fisher (University of Arkansas, Department of Entomology).

Abstract: Velvet mites of the genus *Podothrombium* Berlese, 1910 are found worldwide with only two described species known from North America, both occurring on the west coast. The present study describes new species from Arkansas and Oregon, from both larval and post-larval stages. Species hypotheses are supported with morphology and analysis of mitochondrial (barcoding region of COI) and nuclear genes (D2-3 expansion regions of 28S rDNA). Specimens are incorporated from the Barcode of Life Data Systems (BOLD), allowing our dataset to span most of North America. Therefore, we were able to raise the number of *Podothrombium* in North America from two species to more than ten. Natural history of Arkansas species will also be discussed.

Emilie Demard (PhD student)

Title: Diversity and abundance predacious mites in Citrus Under Protective Screen (CUPS)

Institution: University of Florida/IFAS, Entomology and Nematology Department, Indian River Research and Education Center.

Coauthor: Jawwad A. Qureshi (University of Florida, Entomology and Nematology Department)

Abstract: Citrus Under Protective Screen (CUPS) allow the production of Huanglongbing (HLB) free citrus by excluding the vector Asian citrus psyllid (ACP), *Diaphorina citri* Kuwayama. While large predators are excluded, small arthropods such as predatory mites can enter through the mesh used to build CUPS. Predatory mites attack several small pests, especially phytophagous mites, which can be of economic importance in CUPS. An investigation was undertaken of the species assemblage, abundance and distribution of Phytoseiidae (Acari: Mesostigmata) on 'Ray Ruby' grapefruit (*Citrus paradisi*) grown in CUPS and open-air (control). Canopies of 20 randomly selected trees were sampled from each of the four CUPS and control during 2018-2019. Phytoseiids were more abundant in CUPS (1.7 ± 0.34 per tap sample) than in control (1.0 ± 0.22 per tap sample). A significant population peak was observed in February 2019 in CUPS and control (12 ± 2.08 and 6.5 ± 1.30 per tap samples, respectively). Preliminary results show that in both CUPS and open-air plantings, *Amblyseius tamatavensis* Blommers was the most abundant species (68% of the specimens collected), followed by *Typhlodromalus peregrinus* (Muma) (27%). *Amblyseius tamatavensis* was present at higher densities in CUPS (76%) than in control (52%) while *T. peregrinus* was more abundant in control (41%) compared to CUPS (21%). *Proprioseiopsis mexicanus* (Garman) and *Typhlodromips dentilis* (DeLeon) were also found in CUPS and control, respectively, but at lower abundance compared with *A. tamatavensis* and *T. dentilis*.

Austin N. Fife (PhD student)

Title: *Amblyseius swirskii* attraction to volatiles produced from roses infected with Rose Rosette Virus.

Institution: University of Florida, North Florida Research and Education Center

Coauthors: Mathews Paret (University of Florida, North Florida Research and Education Center) and Xavier Martini (University of Florida, North Florida Research and Education Center).

Abstract: The Eriophyid mite *Phyllocoptes fructiphilus* Keifer is a vector of Rose Rosette Virus (RRV) an emaravirus. RRV creates witches' brooms, rosetting, deformed flowers, increased prickly density, elongated shoots, reddening of plant tissues, plant dieback and eventual plant

death. We are interested in integrated pest management strategies to combat *P. fructiphilus* and RRV. The predatory mite *Amblyseius swirskii* Athias-Henriot (Mesostigmata: Phytoseiidae) is being investigated as a biocontrol agent for management of *P. fructiphilus*. Preliminary data suggest that *A. swirskii* orients themselves towards volatiles of RRV infected roses. We intend to investigate the attraction of *A. swirskii* to various volatiles from RRV-infected and uninfected Double Knock Out® roses to better understand this behavior. The results will help inform future assays involving *A. swirskii* and *P. fructiphilus*-seeking behaviors in relation to rose RRV-infection status.

Information about the awards: Each awardee will receive \$400 at the annual business meeting (November 17) to help with the expenses of presenting in Saint Louis. The ASA abstract awards are merit-based awards given to student members of ASA. Judgements are made based on abstracts and supplementary material. Funds are promised to the awardees on the condition that the associated talks are given at one of the official symposia of ASA. [Click on this link for more information about the award scheme.](#)