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Program Book

Ants associated with *Diaphorina citri* and their role in its biological control in South Florida

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Exhibit Hall A, Floor One (Knoxville Convention Center)

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As a vector of citrus greening, *Diaphorina citri* is considered the major insect problem for the citrus industry in Florida. Two specific parasitoids of this pest has been introduced, but the parasitism rates are beyond satisfactory. One of the reasons of this lack of control could be the interaction of the parasitoids with other arthropods present in the system. Ants (Hymenoptera: Formicidae) have been found already interfering with parasitoids with other Hemipteran pests. In this research we identified and observed the behavior of ants present in *Murraya paniculata* infested flushes with *D. citri* during a 24 h period and we conducted two experiments of ant exclusion using Tanglefoot as a physical ant barrier in both orange jasmine and in Persian lime. The results show at least four species of ants are tending *D. citri* in South Florida. These species are: *Brachymirmex patagonicus*, *B. obscurior*, *Pheidole megacephala* and *Solenopsis invicta*. These ants are active day and night and were seen feeding on the sugar excretions of *D. citri* nymphs. The results of the ant exclusion experiment show that the percentage of parasitism by *Tamarixia radiata* was significantly higher in the flushes where ants were excluded. We discuss if ant exclusion would be a technique that citrus growers can use as a tactic to increase parasitism of *D. citri*.



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