

**Speaker:**

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**Date:** Monday, Oct. 11, 2021

**Time:** 4:00 pm - 4:50 pm

**Zoom:** 948 0131 1028

**Passcode:** 347039

**Title:**

“Evaluating the efficacy of Bti based larvicide treatments for control of invasive *Aedes* mosquitoes in ornamental bromeliad phytotelmata”

**Abstract:**

The urban populations of *Aedes aegypti* and *Aedes albopictus* in the USA have continued to expand despite a long history of surveillance and control campaigns. The presence of these important insect vectors facilitates future disease introductions, especially as increased globalization and a changing climate create novel epidemiological patterns. While phytotelmata, water-holding plant cavities, are well researched larval habitat for mosquitoes, ornamental bromeliads specifically may be playing a large role in the spread of *Aedes* in areas where they are common. In areas like southern California, vector control efforts use *Bacillus thuringiensis* var. *israelensis* (Bti) based products to control larval mosquito populations in urban areas, but their impact on these phytotelmal habitats is unknown. To test the efficacy of these products in bromeliads, plants were treated with Bti larvicides (Vectobac and Duplex-G) in the lab and field and then used in emergence assays of both *Aedes* species. The lab trials represent an idealized treatment scenario and should provide the upper limit of effectiveness and longevity of treatment. Plants treated in the field were placed in front of houses that received truck mounted ULV sprays, then recovered and brought into the lab to conduct emergence assays using *Ae. aegypti*. Lab treatment assays were repeated every two weeks until emergence was not significantly different from untreated plants, while field treated plants were tested once after collection, and again a month later. Ideal treatment conditions provide promising longevity of treatment but inconsistency in treatment effect and duration in field plants leaves more work to be done.