

# FLORIDA WEST COAST BROMELIAD SOCIETY

## 1954-2018

*Celebrating over 64 Years in Bromeliads*

*fwcbs.org*



## May 2018 Newsletter

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### NEXT MEETING

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**Date & Time:** Tuesday, May 1, 2018; 7:30 pm  
**Location:** Good Samaritan Church  
6085 Park Boulevard  
Pinellas Park, Florida 33781

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### PROGRAM

#### Annual Bromeliad Auction

Our Annual Bromeliad Auction is always one of our premiere events. Here are some things to know about the auction.

- There will be **no** business meeting, show and tell, or member plant sales.
- Auction items will consist only of bromeliads and bromeliad-related items such as artwork, posters, ceramics, and books.
- One of the premium items in this year's auction will be Helga Tarver's collection of BSI Journals that cover the years 1980 through 2016, plus a few from the 1950s and 1970s. The collection has a total of 221 issues of the Journal in 20 binders (two years per binder).
- Plants donated for the auction should be of special interest, distinctive quality, and/or particularly fine or rare specimens.
- Plants must be saleable quality, clean, disease- and pest-free, and clearly labeled.
- There are two parts to the auction, a Live Auction and a Silent Auction.
- The refreshment table will be open for the length of the auction and we ask members to be generous with their food donations. Bidders will need good and abundant food to keep their auctioning energy up. As usual, the Society will provide beverages, paper products and utensils.

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### LAST MEETING HIGHLIGHTS

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#### LAST MONTH'S PROGRAM

**Dr. Teresa Cooper**, founder of the Save Florida's Bromeliads Conservation Project (SFBCP), gave us a summary of past and current efforts to deal with the invasive weevil *Metamasius callizona* (common name: Mexican bromeliad weevil) that is killing Florida native



bromeliads. Teresa is an entomologist and conservationist from the University of Florida, first as a graduate student then as a Research Scientist. Prior to 2015, Teresa and her colleagues tried classical bio-control to stop the weevil but that proved ineffective. In 2015 she founded the SFBCP to develop alternative methods to control the weevil and conservation efforts to save our native bromeliads.

### Weevil Background

The bromeliad weevil is native to southern Mexico, Guatemala, and Belize. It was first discovered in South Florida in 1989 and since then has spread to almost all counties in central and southern Florida. All life stages of the weevil may be present in a single plant, where females chew slices at the base of the leaves and lay individual eggs. The life cycle goes through these stages: adult egg larva pupa pupal cocoon adult. Larvae that emerge from the eggs begin to eat through the outer layer of leaf tissue and mine the meristem tissue of the bromeliad, killing the plant. In the two preceding decades Dr. Howard Frank and others investigated a classical biological control—a predator—to combat the weevil. They imported a fly from Belize that in the maggot stage eats the weevil larvae. Many were released in the wild in selected locations but had little impact on weevil populations.

### Impact on Florida's Native Bromeliads

There are 16 native bromeliad species and two natural hybrids in Florida. Twelve of the species and both hybrids have been attacked by the weevil. The weevil commonly attacks larger bromeliads and do not appear to attack those that have stem systems too small to support weevil larval growth. Four species with small stems that have not been attacked are *T. bartramii*, *recurvata*, *setacea*, and *usneoides* (Spanish Moss).

There is a real danger that some of Florida's native bromeliads will succumb to the weevil and be lost forever. *Tillandsia simulata* (common name: Florida's Airplant) grows in Florida habitats and nowhere else and once lost, will be gone forever. *Catopsis nutans* and *Cat. floribunda* are already rare in Florida, and it would not take much die off to extinguish these from the natural habitats.

Teresa presented examples of population reductions for four species.

- *Guzmania monostachia* in the Fakahatchee Strand: A February 2015 survey showed an estimated population loss of 80% compared to previous numbers and a December 2015 recount revised that number to 87%.
- *Til. balbisiana* (common name: Coke Bottle Airplant) in the Loxahatchee Wildlife Refuge: Monitoring conducted from April 2002 to February 2005 showed a 5% population loss during that period.
- *Til. fasciculata* (common name: Cardinal Airplant) in the Loxahatchee Wildlife Refuge: Monitoring conducted from April 2002 to February 2005 noted that the beginning population of 94 was reduced by 40% over the survey time period.
- *Til. utriculata* (common name: Giant Airplant) in the Enchanted Forest Sanctuary in Brevard County: A recent survey conducted over a 26-month period showed the starting population of 46,552 fell to 1,134 over that time period. *Til. utriculata* is a slow-growing, large, tank bromeliad with large soft stems and leaves. It is monocarpic, that is, it reproduces by seed only and then dies. It is preferred by the weevil due to its large size

and can host many weevils; 26 weevils were found in one plant. By attacking the large, mature *Til. utriculata* that are in their reproductive stage, the weevil severely diminishes seed production. This species previously occurred in a wide range of dense populations throughout central and southern Florida. Currently it is fairly rare, found only in sparse populations, and is in danger of extinction.

#### Impact on Tank Aquatic Habitat, Biodiversity and Ecosystem

Not only are we losing the native bromeliads, we are also losing the aquatic biota they support in the water they hold in their tanks. Seven of the native bromeliad species targeted by the weevil are tank bromeliads and when these are drastically reduced in number or disappear, so are the biota that depend on them. For example, for the population of *Til. utriculata* in the Enchanted Forest that dropped from a population of 46,552 to 1,134 in a 26-month period, it is estimated that the quantity of water held in those numbers of tanks was reduced from 16,758 liters (4,427 gallons) to 408 liters (108 gallons).

The tank ecosystem is complex and involves many creatures.

- Arthropods such as insects, spiders, and crustaceans are known to live in the tank water. The insects include two native mosquitoes in the genus *Wyeomyia*; these are not known to carry diseases.
- Lizards and frogs find refuge in tanks and eat insects found there.
- Certain birds use the tanks as a source of drinking water in the tree tops where the bromeliads grow, and as hunting grounds for insects and small animals, for nesting materials, nest sites, and nest cover.

#### Control and Conservation Efforts

Teresa and a group of volunteers, scientists, and land managers have been working in the Enchanted Forest Sanctuary in Brevard County to develop alternative methods to control the weevil and conserve the population of *Til. utriculata* that once thrived there. The methods include the following.

- Make a resistant bromeliad such as the one from Belize that is not destroyed by the weevil.
- Application of a repellent: neem oil
- Biocontrol using fungi: Three fungi have been tested, two of which were not effective. The third one, *Beauveria bassiana*, resulted in a 53% weevil mortality rate when applied in a Petri dish and is being tested in the field in the Enchanted Forest.
- Conservation and research to preserve *Til. utriculata* plants so that they can grow safely to seed-production age. The plants are protected at the smaller size and at medium size are moved into the garden where they are placed into cages with appropriate screening to keep out weevils. There they can grow to seed production maturity.

#### Mosquitoes and Bromeliads

Both native and exotic bromeliads can host the two native mosquitoes in the genus *Wyeomyia*, but these are not known to carry diseases. Two non-native mosquitoes that do carry diseases, *Aedes aegypti* and *Culex quinquefasciatus*, are not found in native bromeliads and so far, *Neoregelia* is the only genus among the exotic bromeliads that is known to support them, although not in significant numbers.

- *Wyeomyia* keep the number of *Aedes* at an insignificant level because they out compete them for nutrients in the tank water.
- *Wyeomyia* can last a long period of time without eating while *Aedes* cannot.
- *Wyeomyia* are attracted to the color and shape of bromeliads and prefer clean, non-nutrient-rich water like that found in most bromeliads. *Aedes* and *Culex* are attracted to dark-colored water containers and dirty, i.e., nutrient-rich, water.
- *Neoregelia* can support *Aedes* and *Culex* larvae when they contain nutrient-rich water due to accumulation of grass cuttings and other plant debris such as leaves that fall into the tanks and the flowers that grow there and then decompose in the tank center.

To reduce/eliminate *Aedes* and *Culex* larvae in *Neoregelia* tanks, it is best to wash out the nutrient-rich water with a pressure hose. Do NOT spray with an insecticide. While insecticide would kill both *Aedes* and *Culex* larvae, it would also kill the native *Wyeomyia* and other biota that live in tanks.

For more information about the work Teresa and her group are doing to preserve native bromeliads, go to the SFBCP website [www.savebromeliads.com](http://www.savebromeliads.com), or you can contact Teresa at [SFBCP@SaveBromeliads.com](mailto:SFBCP@SaveBromeliads.com).

### MEMBERS WANT TO KNOW ...

This section presents questions regarding bromeliad cultivation that members submitted in writing to the Program Chairman to be read at the meeting. The questions are followed by answers or comments from the group at the meeting.

Question: We experienced a heavy freeze with sprinklers running (was out of town) and now many plants show no life. How long should we wait to see if these brown plants will hopefully send up pups?

Answer: Fertilize them, give them time, and hope for the best. If they survive and produce pups, the first generation might not be normal but the second generation should be fine.

Question: My big potted *Aechmea blanchetiana* has developed a brown ring in the cup (picture on right). Is this a result of the cold or drought or some other cause?

Answer: It is the result of cold temperatures that froze the water in the cup during one of our recent cold spells. The rings of damaged leaf cells become noticeable as the leaves grow out.



### SHOW AND TELL

Dick Dailey

*Cryptanthus* 'Elaine'  
*Aechmea blanchetiana* red form

Alton Lee

*Vriesea* 'Rosita' (picture below)

Franne Matwiczzyk

*Portea* 'Helga Tarver'  
*Vriesea* 'Fortuna', Chester Skotak hybrid and a copy of Skotak's book *Searching for Miss Fortuna*

Richard Poole

*Hohenbergia brachycephala* (picture below)  
*Neoregelia johannis* 'De Rolf'

### SHOW AND TELL PLANTS



*Vriesea* 'Rosita'



*Hohenbergia brachycephala*  
with Richard for scale



### UPCOMING EVENTS, 2018

May 1<sup>st</sup>, FWCBS Annual Bromeliad Auction

Good Samaritan Church, 6085 Park Boulevard, Pinellas Park FL, 7:30 pm

May 11-13, Bromeliad Society of Central Florida Mother's Day Sale

Orlando Fashion Square Mall 3201 E. Colonial Drive, Orlando, FL (Karen Steinberg; steinberg.km@gmail.com)

June 22-23, Tropiflora Nursery Annual Summer Sale

Tropiflora Nursery, 3530 Tallavast Road, Sarasota, 941-351-2267 (tropiflora.com)

June 23-24, USF Botanical Gardens Summer Plant Sale

University of South Florida, Tampa, FL (cas.usf.edu/garden)

May 29-June 3, 23<sup>rd</sup> World Bromeliad Conference, San Diego, CA

(<http://www.bsi.org/new/conference-corner/>)

October 13-14, USF Botanical Gardens Fall Plant Sale

University of South Florida, Tampa, FL (cas.usf.edu/garden)

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