



# orlandiana

Newsletter of the  
Bromeliad Society of Central Florida

Volume no. 44, Issue no. 06

## July 2017

**Next meeting:** Wednesday, July 19, 2017

**Where:** Leu Gardens, 1920 N. Forest Avenue, Orlando, FL 32803

**6:30–7:00** is pre-meeting time for purchasing plants from the guest speaker

**Meeting begins at 7:00 pm**

**No Member Market in July**

**Please bring snack, raffle, and show and tell plants to the meeting.**

## This Month's Speaker

Charlie Birdsong will be the speaker at the Bromeliad Society of Central Florida on July 19, 2017.

Charlie will be speaking about his trip to Australia and he'll be bringing plants to sell.

There will be NO MEMBER MARKET but please bring plants for the door prize table and the raffle table.

See you at Leu Gardens on July 19th between 6:30 and 7:00.

## About This Month's Guest Speaker, Charlie Birdsong

I developed my interest in Bromeliads from my parents in the late 1960's in New Orleans. I moved away from the plants to Baton Rouge in 1963 to attend LSU and have lived there ever since. After college I started my collection with Mulford Foster plants my parents and I had been given by Erik Knoblock. I brought my small collection to Baton Rouge and moved them in and out when the cold weather came.

In 1975 we started the Bromeliad Society of Baton Rouge. As a charter member I have served in every office over the years and still serve the Society today as President. I serve as the Vice-president of the Southwest Bromeliad Guild. I also joined the BSI in 1975 and have attended many World Conferences and have chaired the auction at four Conferences and serve as the Chairman of the BSI Affiliate Shows Committee.



I co-chaired the Southwest Guild and Cryptanthus show in Baton Rouge. I am serving the BSI as the Affiliate Shows Chairman since in January 2010 and am a past BSI Director for the Central District.

After years of trying to get a judging school in New Orleans, I joined the school in Houston. I am now a Master Judge and have judged over 100 Shows since accreditation in 1996. I serve the BSI on the Judges Handbook revision committee through the Judges Certification Committee from our District.

I have had many opportunities to speak about my favorite plants at local Garden Societies and other plant groups and Bromeliad Societies throughout Louisiana, Texas, Florida and even Australia.

I have also had articles in the BSI Journal and Local Society Plant bulletins. I have contributed a number of short articles for the Greater New Orleans Bromeliad Society bulletin *Potpourri*.

I grow many Genera and although Billbergias are favorites, most of my over four thousand five hundred plants are Neoregelias. I am fortunate to have daughters living in Florida. Under the excuse of a Grandpa visit I have been able to make many trips to see Society Shows and visit vendors every year and should continue in the future.

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## The President's Message

A marvelous July to all,

I hope everyone is having a great July so far, and staying cool. Please remember to join us on Wednesday, July 19 for our next meeting and our great speaker, Charlie Birdsong. There will NO member market as Charlie will have plants for sale. So plan to come early, by 6:30 pm, for some great bromeliads.

Just a reminder about the 2017 Extravaganza next month and to register soon. Or at least come over on that Saturday and shop for new additions to your garden.

At our June meeting, we passed a standing rule that only bromeliads will be allowed at our member market held during monthly meetings. The issue was raised about items being donated for door prizes, raffles and auctions. We are going to have two proposals for your consideration and will have both of them on a single ballot for voting after discussion during the meeting.

Our great Vice President, Marilyn is proposing the following:

**At Society meetings only bromeliads will be allowed for donation as door prizes, raffles and auctions. Members can bring non-bromeliad plants and items for sharing with members.**

And since I believe that all plants should be available as donations as door prizes and raffles. Free plants are great. So my proposal is:

**At Society meetings bromeliads, non-bromeliad plants and plant related items will be allowed for donation as door prizes and raffles. Only bromeliads will be allowed for auctions (silent or public).**

So come to the meeting to vote for the proposal you think is best for our Society and membership.

In June we had our third sale at the Central Florida Orchid Society Show and Sale. We made a little money and certainly got our name out to many potential new members. I would like to thank Georgia Orser for being our plant sale chair and her husband, Will, for helping out with sales on Saturday. A big thanks to Marilyn for organizing the membership table and along with Karen for manning the table. Great looking pineapple tablecloth Marilyn. Many thanks to Georgia Orser, Marty Folk and Mike McMahon for supplying and selling the fantastic bromeliads we had for sale. And thanks to Leanne and Betsy for helping out during the sale.

Our next sale will be GROWvember, Friday and Saturday, November 3 & 4 at Mead Gardens. All members are welcome to thin out their collection by selling bromeliads, or by increasing their collection by buying bromeliads.

See you on the 19<sup>th</sup>,

Mike

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## Monthly Meeting Minutes

### Bromeliad Society of Central Florida — 21 June, 2017

The meeting was opened at 7:00 pm by VP Marilyn Howser who introduced Carol Richtmyer, our guest speaker. Carol swore that she was not an expert, just a lover of cryptanthus who was enthusiastic and liked to share her tips! *The Earth Stars* was a wonderful presentation, full of guidance for successfully growing the terrestrial plants. Carol included many photos to show the diversity of the genus, including some of beautiful hybrids that she has created. Her photos of cryptanthus plants growing in habitat in Brazil were also a real treat. We were left thinking that maybe she was being a bit humble on her claim of not being an expert!

### The meeting was called to order at 8:00 pm by President Mike Saunders.

Mike thanked everyone that participated in the Central Florida Orchid Society Show and Sale, *Out of This World Orchids*, and mentioned that he felt that it went very well.

#### Welcome!

June Guests: Karen Bible, Paul Morris, Jay & Calandra Thurrott, and Raul Romero's granddaughter Isabella.

#### Meeting minutes approved:

19 April 2017

17 May 2017 was approved with an addition: the gift card amount for Steven Wagner (\$100.) will need to be added to the minutes.

## New Business

At last month's meeting it was brought up that we should consider not allowing non-bromeliad plants to be sold at Member Markets. The Society officers discussed options at a board meeting on May 27th, the minutes were in the June *Orlandiana* newsletter. Here are the guidelines discussed at the board meeting:

### No more than a total of 15 plant/materials /supplies per member

### Within the total of 15 plants, no more than 5 should be non-bromeliad plants

Marilyn motioned that the suggested guidelines for quantities of plants or materials (bromeliads, non-bromeliad plants, and materials) be passed, Greg Spak seconded the motion.

Eloise Beach spoke on her desire to get back more to the roots of the BSCF, about bringing the focus of the Society back to its origins and original ideals. She made a motion to amend the the original motion, striking non-bromeliad plants and materials from Member Market sales. John Boardman seconded the motion. The amendment passed by majority vote: 15 bromeliads per member for Member Market sales.

Raffle table, door prizes, and auction plants to be covered in next month's newsletter and discussed at the July meeting.

## **Treasurer's Report**

Betsy gave the treasurer's report and will file the report for audit. She will have the final report on the Mother's Day Show and Sale next month, she is still waiting for some bills to come in. The Central Florida Orchid Society Show, *Out of This World Orchids*, made a bit of money on top of covering expenses...not too bad for our first time at their show! Vendor checks will be going out in the next few days.

## **Old or Unfinished Business**

### **GROWvember**

Betsy has been in touch with the Mead Gardens event folks. The GROWvember event at Mead Gardens in November. It is \$75. for the sale space; they do not supply tables. Mead Gardens is changing the schedule a bit from last year: set-up is now 8:00 Friday am. The sale is starting on Friday at 1:00 pm and lasts through the Preview Party. 1:00 pm–6:00 pm Friday for sales. 8:00 am–4:00 pm for Saturday sales. Let Mike know if you would like to sell plants at the event.

### **Florida Council of Bromeliad Societies Extravaganza Program ad**

Karen mentioned that a full page ad is a cost effective \$50 so she brought both ½ page and full page ad options. Karen made a motion to go with the full page size, the motion was seconded by Greg Spak and Betsy McCrory. The motion was passed by general consent. We are going to add a mention of the Leu Gardens sale to the ad. Betsy will proofread the ad once the addition is made and Karen will deliver to Marilyn Byram at FCBS by July 1.

### **Florida Council of Bromeliad Societies Extravaganza**

The Extravaganza is coming up quickly, it is August 4–6. Remember that you can go to the plant sale on Saturday even if not attending the Extravaganza. But consider attending the event – the speakers and garden tours should be really wonderful!

## **Vice President Marilyn Howser made announcements:**

- Our guest speaker for the July meeting, Charlie Birdsong, is speaking about his trip to Australia.
- The GROWvember event at Mead Gardens in November. Would anyone like to do a pre-event field trip to check out the space? It is a lovely garden, quite different from Leu Gardens and a slightly different group of people visit the gardens regularly. Marilyn will send out an email to inquire about field trip desire.
- Thanks was given to both of the Richtmyers, they made a great presentation team. Do consider joining the Crypthus Society!

Show and Tell plants were brought in by Mike McMahon, John Boardman, and Leanne Burton. Thanks for sharing your beautiful plants!

Door prizes and raffle table tickets were drawn.

Pam Flesher won the auction of Aechmea 'Bert'!

The meeting concluded at 9:00 pm.

Minutes respectfully submitted by Karen Steinberg.

## Upcoming Events

### August 4–6, 2017

Florida Council of Bromeliad Societies' Extravaganza: Bromeliads by the Bay hosted by the Bromeliad Guild of Tampa Bay and the FCBS

<http://www.fcbs.org/>

<http://www.fcbs.org/2017-Extrava-Flyer-Clarion.pdf>

### November 3–4, 2017

Mead Gardens GROWvember Fall Plant Sale

Mead Botanical Gardens

1500 S. Denning Dr., Winter Park, FL 32789

BSCF will have a booth at the event for Plant sales.

### May 29–June 3, 2018

BSI World Conference in San Diego, California

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

**The next World Bromeliad Conference will be held in San Diego, California. It will be held May 29–June 3, 2018. Now is a great time to join the Bromeliad Society International as we are offering 25 discount to new memberships! [www.bsi.org](http://www.bsi.org)**



## Our Meeting Next Month: Wednesday, August 16, 2017

The Bromeliad Society of Central Florida meetings are held the 3<sup>rd</sup> Wednesday of every month from 7–9 PM at Leu Gardens, 1920 N. Forest Avenue, Orlando, FL 32803. You'll enjoy informative programs, Show & Tell, plant sales, refreshments & door prizes. Members also receive a monthly newsletter—all for only \$15 per member, plus \$5 per additional family member (no charge for full-time students). Visitors are always welcome.

BSCF is a nonprofit Florida corporation recognized by the IRS as a 501(c)(3) organization. Donations to this society are tax deductible in accordance with IRS regulations.

BSCF is an affiliate of the Bromeliad Society International, Inc. and a member of the Florida Council of Bromeliad Societies, Inc. and the Cryptanthus Society.

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# MOSQUITOES IN BROMELIADS - What's the Real Story?



**The Zika scare** has added an element of hysteria to a problem that has been with Florida since people first inhabited the state. Face it; mosquitoes are a fact of life in Florida (and most inhabited areas of the Earth). Historically there have been few mosquito vectored diseases affecting humans in Florida with some outstanding exceptions: Yellow Fever, Malaria, Dengue to name some, with Yellow Fever having been eradicated from our hemisphere and Malaria and Dengue very rare in Florida. Enter Zika with its associated birth defects in humans, add sensational publicity and you have a wave of hysteria that leads to many irrational decisions on the part of the public as well as our political leaders.

A complex problem rarely has simple causes or solutions. The fact that mosquitoes breed in standing water and that many bromeliads retain water between their leaves has led to a over simplistic 1+1=2 logic. To make any sense of the issue, one must have some facts. The facts are that only some mosquitoes breed in bromeliads and only some of these can potentially vector human diseases. The incident of success of these disease vectoring mosquitoes in completing their lifecycle in a bromeliad is a big factor. Knowing how mosquitoes breed and their requirements to survive is all important to understanding the potential role that bromeliads might play in the spread of mosquito borne diseases.

The article below, written by Dr. J Howard Frank, Professor Emeritus, University of Florida, one of the world's leading experts in the biology of mosquitoes in bromeliads and author of many papers on the mosquito-bromeliad connection, is a short but concise overview of the Zika (and other mosquito borne diseases) scare related to bromeliads. Understanding the life cycle of the types of mosquitoes that inhabit bromeliads in Florida and those that can carry diseases is of critical importance and concern for making decisions in this hot-button issue. (Dennis Cathcart, Tropiflora, LLC, Sarasota, FL)

## An Ecology-Based View of Mosquitoes in Bromeliads

Dr. J Howard Frank, Professor Emeritus, University of Florida

**In nature in Florida:** A few native epiphytic bromeliad species impound rainwater in their leaf axils. The northern limit of their distribution is a line roughly between Volusia County and Hillsborough County. Immature stages of two species of the mosquito genus *Wyeomyia* often inhabit these water-filled leaf axils. The life cycle of all mosquitoes is ADULT-EGG-LARVA (4 larval growth stages [sizes])-PUPA-ADULT. Adult females of these mosquitoes will bite people and rabbits, but do not transmit any disease to people. They bite in daylight hours, peaking in late afternoon, not at night. You may encounter *Wyeomyia* mosquitoes in many state parks, and perhaps also in your own yard. Occasionally an interloping mosquito, *Toxorhynchites rutilus*, lays eggs into these leaf axils, but it normally inhabits dark water-filled rot-holes in trees. Unlike other mosquitoes, its adult females do not bite; instead its larvae gain their protein by feeding on pest mosquito larvae!

**How do *Wyeomyia* mosquitoes live?** Adult females take blood; males and females drink plant nectars. Eggs and pupae do not feed. Dead leaves and twigs and seeds from the tree above fall into the leaf axils, especially during hard rain which adds leachates from the tree canopy and, on breakdown by minute bacteria and fungi, provides food to the bromeliad and to mosquito larvae. Larvae filter-feed on these resources. Typically the water is very clear because the *Wyeomyia* larvae and bromeliad remove nutrients – so clear that it was used for drinking water by early explorers (it would hurt nobody to drink water with some mosquito larvae). Very many *Wyeomyia* mosquito larvae die due to competition with each other for food (shown by University of Florida laboratory experiments).

**Now we grow exotic bromeliads in Florida, so what is the difference?** In 1978-1979, a University of Florida survey was conducted in four urban areas of Florida, of mosquito immatures in exotic bromeliads planted in the ground. The reason was the spread of Dengue fever types II, III, and IV, transmitted by the mosquito *Aedes aegypti* in the Caribbean, a threat to Florida. The question was: what is the prevalence of *Aedes aegypti* in exotic bromeliads? To answer the question, the apparently commonest bromeliad in urban areas, *Billbergia pyramidalis*, was surveyed. Cities surveyed included the Daytona Beach area, Tampa, Vero Beach, and Miami, in collaboration with local Mosquito Control Districts. The result was that 98.8% of all the mosquito immatures were *Wyeomyia*, which do not transmit any diseases to humans; less than half of 1% were *Aedes aegypti*, and about 0.7% *Culex quinquefasciatus*, both of which were interlopers in a bromeliad habitat that had been taken

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over by native *Wyeomyia* mosquitoes. This suggested that *Aedes aegypti* were but a trivial component of mosquitoes in *Billbergia pyramidalis* bromeliads. Furthermore, the numbers of immature mosquitoes present do not show the **outcome** of extreme competition among mosquito larvae – which is shown only by numbers of mosquito pupae (or emergent adults). The numbers of *Aedes aegypti* surviving to the pupal and adult stage in bromeliad leaf axils is effectively zero (0%).

**Hysteria due to the presence of Zika virus in Florida.** Belatedly in 2016, some people have realized that mosquito larvae occur in bromeliad leaf axils in Miami. Apparently they do not realize that studies on the subject were performed in 1978-1979, much less the results of that study. Their whistle-blowing is inappropriate except in the special circumstance that people have allowed the pollution of the water in bromeliad leaf axils. What pollution?

A) do not allow grass clippings from a lawnmower to get into the bromeliads. These clippings rot and enrich the water, making it appropriate for *Aedes* and *Culex* mosquitoes.

B) do not allow the flowers of *Neoregelia* bromeliads to decompose in the water for the same reason. For ease of maintenance, it is best not to grow masses of close-packed *Neoregelia*.

C) do not use the insect growth regulator methoprene (sold as brand name Altosid) nor the bacterium *Bacillus thuringiensis serovar israelensis* (sold under at least two brand names) because it kills all mosquito larvae, including the beneficial *Wyeomyia* as well as the bad ones such as *Aedes* and *Culex* mosquitoes and the dead bodies of the mosquito larvae they kill will rot and eventually will provide nutrient to living *Aedes* and *Culex* mosquitoes.

**Summary: *Wyeomyia* mosquito females prefer to lay their eggs in pale green bromeliads and their immature stages represent 98.8% of all mosquitoes in a typical bromeliad in urban habitats in southern Florida. *Aedes aegypti* females (vectors of dengue, Chikungunya, Zika, and yellow fever) prefer to lay their eggs in black containers of water (think scrap tires and saucers under plant pots). *Wyeomyia* are highly adapted to life in water in bromeliad axils: under conditions of intense competition with *Wyeomyia* in bromeliads, *Aedes aegypti* larvae die. If you think you need to reduce numbers of mosquito larvae in your bromeliads, prefer to use pressure from a garden hose with a suitable nozzle to wash out nutrients (thus starving the mosquito larvae even more) and maybe wash out some of the mosquitoes themselves. Keep the water in your bromeliad leaf axils so clean that you would be prepared to drink it.**

#### **A short selection of pertinent publications on mosquitoes by Dr. J.H. Frank:**

Frank, J.H., Curtis, G.A. 1977. On the bionomics of bromeliad-inhabiting mosquitoes. III. The probably strategy of larval feeding in *Wyeomyia vanduzeei* and *Wy. medioalbipes*. *Mosquito News* 37:200-206.

Frank, J.H., Curtis, G.A. 1982. Bionomics of the bromeliad-inhabiting mosquito *Wyeomyia vanduzeei* and its nursery plant *Tillandsia utriculata*. *Florida Entomologist* 64: 291-506

Frank, J.H., Lynn, H.C., Goff, J.M. 1985. Diurnal oviposition by *Wyeomyia mitchellii* and *W. vanduzeei* (Diptera: Culicidae). *Florida entomologist* 68: 493-496.

Frank, J.H. 1986. Bromeliads as ovipositional sites for *Wyeomyia* mosquitoes: form and color influence behavior. *Florida Entomologist* 69: 728-742.

Frank, J.H., Stewart, J.P., Watson, D.A. 1988. Mosquito larvae in axils of the imported bromeliad *Billbergia pyramidalis* in southern Florida. *Florida Entomologist* 71: 33-43.

Gettman, A.D., Frank, J.H. 1989. A method to reduce *Wyeomyia mitchellii* eggs in *Billbergia pyramidalis* bromeliads. *J. Florida Anti-Mosquito Assoc.* 60:7-8

**Electronic (WWW)publications.** Note that all those on University of Florida servers have been updated since their original publication (and some of the updates have been considerable) so that they may be thought of as works in progress.

Frank, J.H. 1996. A bibliography of the aquatic biota in bromeliads phytotelmata. Published on WWW at <http://entnem.ifas.ufl.edu/frank/BromeliadBiota/bromfit.htm>

Frank, J.H. 1996. Bromeliad-inhabiting mosquitoes in Florida. Published on WWW at <http://entnem.ifas.ufl.edu/frank/BromeliadBiota/mosbrom.htm>

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