



# THE CALOOSAHATCHEE BROMELIAD SOCIETY'S CALOOSAHATCHEE MERISTEM

*May-June 2011*



# CALOOSAHATCHEE BROMELIAD SOCIETY OFFICERS

## EXECUTIVE COMMITTEE

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**SECRETARY**—MaryLynn Murphy (MaryLynn100@me.com)

**TREASURER**—Betty Ann Prevatt (bprevattpcc@aol.com)

**PAST-PRESIDENT**—Eleanor Kinzie (bprevattpcc@aol.com)

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**FALL SALES CHAIRS**—Geri & Dave Prall (PalmTreeGardens@hotmail.com);

Brian Weber (brianweber1b@aol.com)

**PROGRAM CHAIRPERSON**—Bruce McAlpin

**WORKSHOP CHAIRPERSON**—Catherine Petersen (cpeters3606@yahoo.com)

**SPECIAL PROJECTS**—Gail Daneman (bob@fesq.net)

**CBS FCBS Rep.**—Vicky Chirnside (vickychir@aol.com)

**CBS FCBS Rep.**—Position available

## OTHER COMMITTEES

**AUDIO/VISUAL SETUP**—Bob Lura, Terri Lazar, Vicky Chirnside

**DOOR PRIZE**—Terri Lazar (terriLML@earthlink.net)

**HOSPITALITY**—Mary McKenzie; Sue Gordon

**SPECIAL HOSPITALITY**—Betsy Burdette (betsy@burdetteinc.com)

**RAFFLE TICKETS**—Greeter/Membership table volunteers—Dolly Dalton, Luli Westra

**RAFFLE COMMENTARY**—Larry Giroux

**GREETERS/ATTENDANCE**—Betty Ann Prevatt; Dolly Dalton (dollyd@comcast.net), Luli Westra

**SHOW & TELL**—Dale Kammerlohr (dzdase@embarqmail.com)

**FM-LEE GARDEN COUNCIL**—Mary McKenzie

**LIBRARIAN**—Kay Janssen

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# THE CALOOSAHATCHEE BROMELIAD SOCIETY

## WE ARE MOVING OUR MEETING LOCATION IN MAY (May 15th)

We are moving to

### Covenant Presbyterian Church

The church facility is located near downtown Fort Myers, Florida, at 2439 McGregor Blvd., just one block south of the Edison Home parking lot and about 1 1/2 miles north of our previous meeting location— St. John the Apostle Church. The facility is approximately 2.5 miles north of the intersection of Colonial Blvd. and McGregor Blvd. It is spacious and will nicely accommodate all our needs at a much reduced rent.

Doors open at 12:30PM for setup, Workshop starts at 1:15PM.

Everything stays the same...Bring food, raffle items, Friendship table items, Show and Tell plants.

Membership Sales are not allowed at this meeting, since Dennis Cathcart from Tropiflora will be bringing plants.

Confused? Any questions? Contact Betty Ann Prevatt for answers.

The Caloosahatchee Bromeliad Society is an active Affiliate of:



Cryptanthus Society



BSI



FCBS



FM/LC GC

## **May Program & Speaker**

Dr. Teresa Cooper will be presenting a program on the Evil Weevil that attacks bromeliads in Florida. For over 2 decades this imported weevil has been attacking both native species of bromeliads and cultivated varieties.

Dr. Cooper's Masters and PhD research at the University of Florida has focused on this weevil, also known as the Mexican Bromeliad Weevil. She specializes in biological control and the conservation of natural lands. She has won awards for her presentations at the annual meetings of the Florida Entomological Society.

## **May Workshop**

We have been very fortunate to have had Dale Kammerlohr as a member of CBS for the past 22 years. During that time he has educated us on many topics related to bromeliads at Workshops and during Show and Tell sessions. At our May workshop Dale will draw upon his many years as a hybridizer both as a hobbyist and professional to show us his method of hybridizing bromeliads and sowing the resultant seeds.

Included in this issue of the Meristem, I have presented an article about the anatomy of bromeliad flowers. Hopefully this will give you some advance knowledge to help you with a better understanding of Dale's program.

## **June Program & Speaker**

All but the most novice of bromeliad enthusiasts should know Dennis and Linda Cathcart, owners and operators of the largest retail bromeliad nursery in Florida. Dennis has been a good friend of CBS and has given many interesting and educational programs to the CBS membership.

For the last couple years, Tropiflora has been exporting thousands of bromeliads to Singapore to help with the creation of a botanical garden. Finally we are going to see some of the results of this process.

Dennis' photographs and program of Singapore's Gardens by the Sea should be very enjoyable.

## **June Workshop**

CBS member Faye Hunt of Naples has volunteered to discuss and demonstrate the mounting of bromeliads at our June Workshop. With the summer months approaching with their rains, now is the time to mount your epiphytic bromeliads and produce horticultural displays for our December Show. You entrepreneurs out there, mounted plants sell very well at our Sales. There are several members in our Society who sell driftwood, hopefully they will sell some at our June membership sales to coincide with this Workshop.

## **March Auction**

We should all be proud of ourselves for the overwhelming success of our Annual Auction. Kudos go to the organizers, auctioneer, record keepers, cashiers, runners, holding area people, those that did a quick job of setting up and assisting donors and a special thank you to all the donors and winners of the exceptional items. Through everyone's efforts and generosity, we raised nearly \$1000 for the Florida Council of Bromeliad Societies for them to continue their projects as well as a \$1000 to help the CBS pay our rent and host our upcoming Bromeliad Show and Sale in December.

## **April Birthday Celebration**

We couldn't have asked for a nicer day to gather on the Orange River and enjoy the company of friends and CBS members. Again our hosts Betsy and Bill Burdette were great; the food was excellent; the raffle items were never ending; we had fun with games and the contests. Thanks to all who made this event another enjoyable CBS celebration.

Don't miss all the pictures from the party in the electronic version of this newsletter. Sorry I can't show pictures of everyone who was there, but we're glad you came.



**Chuck Puttcamp**

I have recently received the report of the passing of Chuck Puttcamp. Chuck joined the CBS in 1982 and was a regular attendee of our meetings and events. I believe he was a contractor but he worked for many years as a landscaper. He used in-ground and mounted bromeliad extensively in his designs. Chuck presented several workshops and programs during the many years he was active with the Society. Join me in wishing his family our regrets at his passing.

## **Bromeliad Expose' By Larry Giroux**

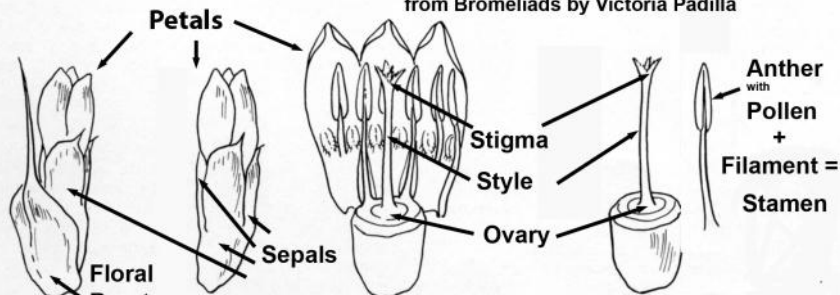
### **The Making of Bromeliad Seeds.**

With the upcoming workshops discussing the procreation of bromeliads by sexual means, I thought I would present a quick review of the anatomy of the Bromeliad sexual organs, as they might be referred to, and the process that leads to seed production after hybridizers, be them birds, insects or man, have their way with them.

On our front cover are seen the spent and full bloom flowers of a mini-neoregelia; while on the back cover is a canistropsis inflorescent, which is undergoing an unusual division. Although quite different at first glance, they both demonstrate the characteristics of bromeliad flowers. Although not always

A bromeliad flower sketched by Anne Ophelia Dowden

from *Bromeliads* by Victoria Padilla

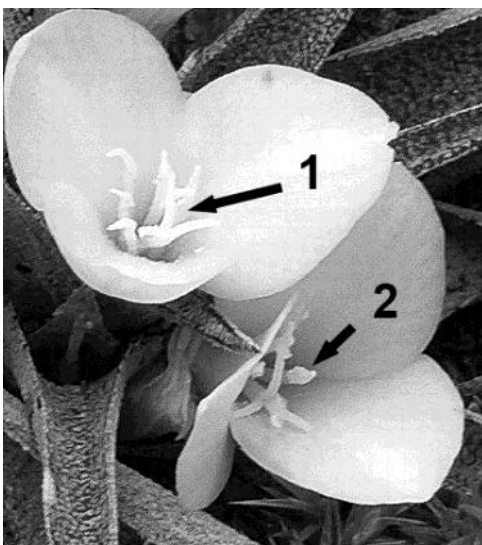


Captions by Larry Giroux

obvious, all bromeliads will have flowers as far as I can recall. Not all bromeliads, however, will have offsets as indicative of asexual reproduction. *Tillandsia utriculata* is an example of this. (As a side note, this is a major reason why we are so concerned in Florida about the loss of this tillandsia and other native bromeliads due to the effects of the “evil weevil”. If the weevil devours the meristem before the plant has a chance to set seed, offset reproduction is not an alternative.) Even though all bromeliads are capable of producing flowers to accommodate sexual procreation, many factors such as intensity and duration of sunlight, seasonal changes, temperature variation and others, must occur in the life cycle of the Bromeliad to bring about inflorescence production and setting of seed.

These reproductive parts may not always be obvious to the eye, as with neoregelias or aechmeas whose stigmas and anthers are deep within the well of the flower or enclosed by the petals. There are many other bromeliads such as tillandsias, where these parts are openly exposed. Fortunately, evolution has adapted to these variations by providing various creatures that bring about fertilization and ultimately seed production in their natural habitat.

Certain species are dioecious that is the male and female flowers are found on different individual plants such as the species:



*Androlepis skinneri*. The genus *Cryptanthus* has imperfect flowers with only stamens and perfect

This picture shows two perfect flowers of a *Cryptanthus*. (1) is pointing to the 3 armed stigma, which receives the pollen. (2) indicates one anther laden with pollen. As with most bromeliads, this *Cryptanthus* can not self-fertilize itself. Photo by E. Leme









### **Bromeliad Inflorescences**

(1) *Acanthostachys strobilacea*

(2) *Aechmea weilbachii*

(3) *Aechmea bromelifolia*

(4) *Aechmea* 'Bert'

(5a,b) 2 stages of dyckia inflor.

(6) *Encholirium spectabile*

(7) *Guzmania* inflorescent

(8) *Guzmania sanguinea*

(9) *Orthophytum* inflorescence

All photographs by Larry Giroux

flowers with both stamens and the pistil found in the same flower. Most bromeliads, however, have perfect flowers.

Bromeliad flowers have evolved to allow for the transfer of pollen by very specific transmitters. These include birds, insects and other carriers that in most cases accidentally transfer pollen from the anthers, which sit atop of the stalks called filaments (the filament and anther with its pollen is called the stamen) to the stigma, which is a very specialized structure at the superior aspect of the style (the ovary, style and stigma constitute the pistil). If you magnify the inside of a flower during its receptive time, you will see tiny sticky hairs to which pollen will adhere to the three arms of the stigma. Wave like motions will direct the pollen toward the center of the stigma and eventually down the style into the ovary where the ova are fertilized.

In the close quarters between the petals, self-fertilization would be inevitable except for a safeguard imposed by nature. There



**In the top portion of the picture to the left, you can see the numerous split capsules of this tillandsia. These are the first type of seeds mentioned in the article. The seeds of true epiphytes such as tillandsias, vrieseas and guzmanias spring from their capsule and are carried to surfaces such as tree limbs. In the shadehouse, months after the seeds have been released, you will find seedlings starting on screens, walls**

**and other plants. I was taught by a tillandsia hybridizer that you should tie a paper bag around the inflorescent of this type of bromeliad when the capsule is about to break open. Thereby, you are able to collect the seeds more efficiently. Photo by Larry Giroux**



10



11



12



13

**(10) *Nidularium* inflorescence**

**(11) *Tillandsia bulbosa***

**(12) *Pitcairnia* inflorescence**

**(13) *Quesnelia testudo***



These are the fingers of Jim Irvin, who was well known for his hybridizing skills. He is squeezing the numerous small seeds out from the ovary of a neoregelia. Note that the seeds are clumping together; this is due to the gelatin type material that has been providing nutrition to the developing seeds within the ovary. Birds and other creatures will eat these “berries” containing the seed, probably because of this sweet material. The seeds are indigestible and will pass through the creature and be



deposited on a surface that hopefully will permit the sprouting of the seedlings. In cultivation it is best to wash the mash of seeds in a weak chlorine solution and spray the media with an anti-fungal spray to prevent fungus from developing and destroying the seeds or seedlings as they sprout. Photo by Jim Irvin.

are very few bromeliads that have flowers that can self-fertilize. This safeguard is called “self-incompatibility”, which is the property to identify self and non-self parts of the male and female structures. This has obvious advantages in the genetic makeup of plants just as our laws prohibiting incest in humans do. These include the prevention of the expression of recessive and dominant genes, which may result in diseases and weakening of the genetic line.

There are three types of bromeliad seeds, which are more or less specific to their Bromeliad sub-family.

The *Tillandsioideae* subfamily which includes the vrieseas, guzmanias and tillandsias since they are true epiphytes have

seeds which are very light which enabled them to float on the air currents and fasten tightly onto their final destinations such as tree trunks, branches and rocks. They have hair like protrusions which allow them to be propelled by the wind. The seeds also have the distinction of taking a long time to germinate.

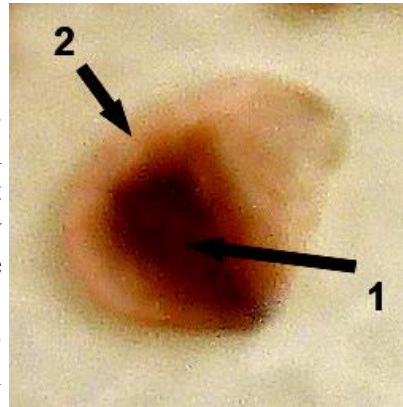
Plants of the sub-family *Bromelioideae*, notably aechmeas, billbergias, cryptanthus, neoregelias, nidulariums and others develop berries containing ovoid or spherical seeds, often covered with mucous or sweet pulp. In nature the seeds in these fruits are spread by animals and other creatures that may eat



**Pitcairnias, hechtias and dyckias also have specialized seeds as do most of the terrestrials. The above picture shows mature capsules of a dyckia. The ovary has developed into three capsules. To the left in the photo, I have opened a capsule to show how the flat seeds are stacked like coins. The blown up view of an individual dyckia seed on page 14 demonstrates how the portion of the seed, which will eventually germinate (1) is surrounded by a thin wing-like structure (2). In some of the other terrestrials this wing may only be present on a portion of the circumference. These wings allow the seeds to be dispersed by the wind. Their flat, wedge shape also permits seeds to fall into crevices easier than plumper seeds. This also benefits the seed in allowing it to germinate quicker and avoid drying up and dying. Photos by Larry Giroux.**

them or carry them away.

Lastly, pitcairnias, hechtias, dyckias and others of the sub-family *Pitcairnioideae*, which are terrestrials, have seeds that are specialized to be carried by the wind by wing-like appendages or other attachments. Also out of necessity this group tends to germinate quickly when they land on a suitable surface.



On a trip to Brazil several years ago, I was able to catch the progression of the blooming of the inflorescence of *Encholirium spectabile*. Photo 1 on the left shows the emergence of the spike; (2) spent and blooming flowers along the inflorescence and (3) dried seed capsules releasing seeds. Note the old



**mother plant in the background of the 3rd photo. All photos by Larry Giroux.**



There are no minutes for either the March meeting, which was the Annual Auction or for the April Birthday Celebration. Thought I'd mention that we had several visitors attending the Auction in March; they included Len & Inez Dolatowski, from Sarasota, Bryan Windham from New Orleans, Brenda McKenzie, Vic Medore, Paul Newport and Holly Schwartz. If you see any of them around town, please encourage them to come back to our other meetings and persuade them to join our Society.

## **Calendar of Bromeliad Events**

### **April 29th– 30th 2011**

**Sarasota Bromeliad Society Show and Sale.** Selby Gardens, Sarasota. Friday– Judged Show, Plant Sale and evening Auction; Saturday Plant Sale and Show open to public. Info. Call 941-795-6012

**May 1st 2011** Book Signing of Jack Kramer's new book and Plant Sale at the Edison Estates. Sellers arrive at 12 noon, Sale and Signing from 1 PM- 4 PM

### **November 4th—5th, 2011**

**2011 Bromeliad Extravaganza & The 12th Biennial International Cryptanthus Show.** A judged Show will be held on the 4th, with Sales, Seminars, Banquet, Rare Plant Auction. The Plaza Resort and Spa, Dayton Beach, Florida.

### **December 2nd-4th, 2011**

**The CBS Bromeliad Show and Sale.** Terry Park. Entries and Judging Friday, Show and Sale open to the public - Saturday 9AM-5PM and Sunday 10AM-4PM

### **Read the Expanded Newsletter**

I have been asking members who have e-mail, if they can start receiving the Meristem exclusively by e-mail and I have gotten a good response from the membership. I want to remind the members that even if they can not receive the e-mail version, because they have dial-up internet service, they can still go to [www.fcbs.org](http://www.fcbs.org) and read the expanded Meristem directly online. Go to [www.fcbs.org](http://www.fcbs.org) to view this expanded electronic issue, if you are not already opting to receive it or let me know if you want me to send it to you. Editor

# The Sarasota Bromeliad Society

Presents Its  
**2011 Show and Sale**

## Bromeliad Gems

Fabulous  
Show Plants  
to View

Beautiful  
Bromeliads  
for Sale

**MARIE SELBY BOTANICAL GARDENS**  
811 South Palm Avenue  
Sarasota, Florida  
(off US 41, downtown Sarasota, by the Bay)

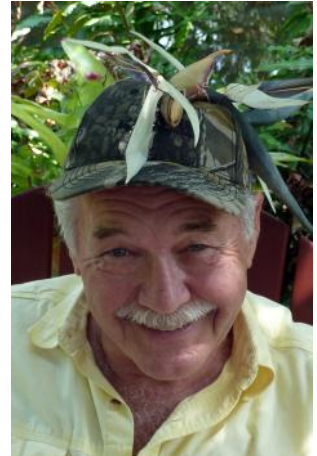
Fri. April 29	<u>Plant Sale</u>	10 AM – 5 PM
Fri. April 29	<u>Bromeliae Auction</u>	8:00 PM – 11 PM
Sat. April 30	<u>Plant Sale and Show</u>	10 AM – 4 PM

Need more information? Call 941/795-6012

# 2011 CBS Birthday Celebration













**This is your May/ June  
Newsletter**



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**CBS IS MOVING MAY 15TH  
See page 3 for details**