

# **Florida Council of Bromeliad Societies, Inc.**



**In This Issue:**

**2007 Shows and Sales  
Cold Hardy Bromeliads List**

**Vol. 27 Issue 1**

**February 2007**

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**(Continued on the inside back cover.)**

**2007 Bromeliad Extravaganza**  
Presented by  
**Florida Council of Bromeliad Societies**  
Hosted by the  
**Bromeliad Society of Broward County**

**Saturday, September 29, 2007**

at the

Hilton Ft. Lauderdale Airport Hotel

1870 Griffin Rd.

Dania Beach, FL 33004

954-920-3300

954-920-3348 (fax)

Room rates: Single or double \$89.00

Rates in effect until September 14, 2007

Sale, Banquet, Raffle and Rare Plant Auction  
will take place at the same location.

This Extravaganza and others which may follow will  
be the only major Bromeliad events  
in the Continental US as the  
2008 World Conference will take place in Australia.

There will be an audio-visual presentation  
on the upcoming  
2008 World Bromeliad Conference  
June 24-30, 2008, Cairns, Queensland, Australia  
(See page 19 for WBC information)

More Extravaganza information on pages 7, 18

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## Catching Up ... Staying Even



It's exciting to belong to such an active and vibrant community – it's difficult to find people busier than bromeliad lovers! In this issue you will find an impressive list of events for 2007 – our affiliated societies are busy indeed.

In addition to the activities in our state, there is another significant event this summer – the International Cryptanthus Show in Texas, held in conjunction with the Southwest Bromeliad Guild Show (see page 6). This fall, Bromeliad Society of Broward County hosts the Bromeliad Extravaganza and you will find plenty of information in this issue.. Be sure to check on page 19 for information about the 18<sup>th</sup> World Bromeliad Conference, Down Under!

The Council had a productive meeting last month. One of the topics of conversation was how to attract young people to bromeliad societies, a challenge facing many affiliates. Suggestions included doing programs at elementary and middle schools; having a juried art show at middle school level along with bromeliad shows, which brings out families; partnering with other groups; contacting local colleges that have horticultural programs; checking with the agriculture extension service. If you have ideas, please let your Council representative know or feel free to email me at [karen@fcbs.org](mailto:karen@fcbs.org).

Many people contribute to each issue of this newsletter, and it's time to offer a thank you to everyone for their continuing support. I couldn't – and wouldn't – do it without you all and especially without Betsy McCrory, Sudi Hipsley, Jay Thurrott and Michael Andreas. They are an editor's dream team and I say, Thank you!

## **2007 Bromeliad Society Shows and Sales**



### **March 15-18**

Florida East Coast Bromeliad Society  
Everybody's Flower Show  
Ocean Center  
101 N. Atlantic Ave. (A1A), Daytona Beach

### **March 18**

Bromeliad and Tropical Plant Society/Blossom World Gardens  
Bromeliad Bonanza  
Blossom World Gardens, 4225 Bloom Lane, Sanford 32773  
9 AM to 4 PM  
Plant displays, plant sales; admission is free; open to the  
general public. Contact: 321-363-7351

### **March 24-25**

Bromeliad Society of Central Florida  
Leu Gardens Annual Plant Sale  
1920 North Forest Avenue, Orlando 32803, 9:00-5:00

### **March 24-25**

Gainesville Bromeliad Society  
Spring Garden Festival  
Kanapaha Botanical Gardens  
4700 SW Archer Road (SR 24) 1 mile west of Interstate 75,  
exit 384  
352-372-4981 <http://www.kanapaha.org>  
Saturday 9:00-6:00; Sunday 10:00-5:00

### **March 31**

Florida East Coast Bromeliad Society  
Master Gardeners Sale  
Volusia County Fairgrounds, 3100 East New York Ave,

Deland (Just off I-4 in the south side at the Deland exit) 8:00 AM - Noon

**April 14-15**

Seminole Bromeliad and Tropical Plant Society Spring Plant Sale

Garden Club of Sanford, 200 Fairmont at Fairmont & Hwy. 17 -92, Sanford,

9 AM to 4 PM both days

Plant displays and plant sales; admission is free; open to the general public. Contact: 321-363-7351

**April 14-15**

Bromeliad Society of Broward County 11th Biennial Show and Sale

"Everything's Coming Up Bromeliads"

Trinity Lutheran Church Hall, 11 SW 11th ST, Ft. Lauderdale

Show Chairman: Ann Schandelmayer, 5520 SW 5th St., Plantation

**April 21-22**

Sarasota Bromeliad Society 26th Annual Show and Sale

"Pirated Bromeliads"

Marie Selby Botanic Gardens, 811 S. Palm Ave., Sarasota  
10:00-4:00

Show Chairman: Dr. Theresa Bert 941-795-6012 or co-chairman Rob Branch 941-358-4953. Plant sale only on April 20th. Show and sale April 21st and 22nd. Show and sale included in general admission \$12. Rare Plant Auction to be held Saturday night.

**April 21-22**

Bromeliad Society of South Florida Show and Sale

Fairchild Tropical Botanic Garden

10901 Old Cutler Rd., Miami 33156, (305) 667-1651

Show and Sales dates continue on the next page.

**May 1**

Florida West Coast Bromeliad Society Annual Auction  
Hope Presbyterian Church, 1698 S. Belcher, Clearwater  
Doors open at 7:00

**May 11-13**

Bromeliad Society of Central Florida Annual Mothers Day  
Show and Sale  
Orlando Fashion Square, 3201 E. Colonial Drive (S.R. 50),  
Orlando  
Contact: Betsy McCrory, 407-348-2139,  
betsymccrory@aol.com

**August 18-19**

Seminole Bromeliad and Tropical Plant Society/Florida East  
Coast Bromeliad Society Show and Sale  
The Garden Club of Sanford  
17-92 and Fairmont Drive, Sanford 32773  
9 AM to 4 PM both days. Contact: 321-363-7351  
A standard judged plant show to include bromeliads and other  
tropical plants.

**August 31- September 1 and 2 (tentative)**

10<sup>th</sup> International Cryptanthus Show  
Held in conjunction with the Southwest Bromeliad Guild  
Show  
Beaumont, Texas  
Contact Larry Giroux at DrLarry@comcast.net or 239-  
997-2237 or Cynthia Johnson at 409-753-3652 or  
JRJ111648@peoplepc.com for additional information.

**September 29**

2007 Bromeliad Extravaganza  
Hosted by Bromeliad Society of Broward County  
Hilton Ft. Lauderdale Airport Hotel, Dania Beach  
Contact: Jose Donayre at 954-925-5112 or  
jcadonayre@bellsouth.net.



**November 30, December 1-2**

Caloosahatchee Bromeliad Society Sale and Show  
Terry Park, 3410 Palm Beach Blvd (SR80), Fort Myers  
Judged Shows - Friday, November 30 with Show and  
Sale open to the public Saturday and Sunday,  
December 1 and 2

Contact: Steve Hoppin at [Steveandlarry@comcast.net](mailto:Steveandlarry@comcast.net)/239-997-2237



**Be One of Our Sponsors for the  
2007 Bromeliad Extravaganza!  
September 29, 2007**

**Bromeliad Society of Broward County is  
looking for sponsors to fund a distinguished  
guest speaker, underwrite the banquet dinner  
and other activities for the 2007 Bromeliad  
Extravaganza.**

**Among the benefits of sponsorship: continuous  
advertising during the Extravaganza, a display  
booth, acknowledgement in the Council  
newsletter and on the Council web site.**

**For more information on the benefits of  
sponsorship and the different sponsorship  
levels available, contact Jose Donayre at 954-  
925-5112 or at [jcadonayre@bellsouth.net](mailto:jcadonayre@bellsouth.net).**

## News from FCBS Affiliate Societies



For more information about shows and sales mentioned below, see pages 4-7.

### **Florida East Coast Bromeliad Society**

Members of Florida East Coast will be participating in Everybody's Flower Show in Daytona Beach March 15-18. In addition to being a judged horticultural show, this event is also a top floral arranging show. FEC members will be entering bromeliads for judging and also competing against garden clubs for the most ribbons. There are no bromeliad sales at this event. FEC also will be at the Master Gardeners Sale (March 31) which started out as a minor event and now is quite a popular half-day sale. There is one vendor for each category of plants; FEC has the bromeliad concession.

### **Bromeliad Society of Broward County**

BSCF holds its annual elections in May. Their show, April 14-15, is in a new location this year, at Trinity Lutheran Church Hall. BSBC members are busy on this year's Extravaganza. Look for information on pages 1, 7, 18.

### **Bromeliad Society of South Florida**

BSSF holds its annual show and sale April 21-22 at Fairchild Tropical Gardens. Dale Chihuly, the master glass artist, is installing another exhibit at Fairchild so come to the bromeliad show and enjoy the stunning glass as well. In February, Rick Cohen of the Native Plant Society is conducting a tour of the Deering Estate natural hardwood hammock which is generally off limits to the public. Parts of the original Old Cutler Road run through this unique 150 acre hammock. Also on the time table at a later date, a visit to the famous Bullis Bromeliads nursery in Princeton.

### **Gainesville Bromeliad Society**

GBS will be participating once again in the Kanapaha Botanical Gardens Spring Garden Festival, March 24-25. There will be more than 200 vendors present, seminars, auctions, children's activities and more. GBS passed its first set of bylaws and is getting organized.

### **Bromeliad Society of Central Florida**

Among its activities this year, BSCF is planning yard tours; there's great interest in what everyone is growing. Members of the society have been invited to participate in an upcoming sale in Mount Dora. This spring, two major sales are coming up: Leu Gardens and the annual Mothers Day Show and Sale.

### **Caloosahatchee Bromeliad Society**

CBS had a successful plant show in November. CBS's annual party is held in December. Member Betsy Burkette hosted the party at her gorgeous home. New officers were installed at the Christmas party.

### **Seminole Bromeliad and Tropical Plant Society**

Seminole members had a Christmas luncheon in December and twenty people enjoyed the afternoon together. They had a trip to the Central Florida Zoo in Sanford in November and a tour, guided by staff horticulturalist Steve DeCresie. Steve, by the way, took over the bromeliad seed growing project from John Russell. The seedlings now grow at the zoo.

### **Florida West Coast Bromeliad Society**

Twenty-five FWC members were thrilled by their trip to Grant and Magali Groves' nursery where they shopped among the glorious bromeliads and enjoyed lunch. Their annual auction is May 1 and is a fun event, well-known for its great bromeliads and food! In February, Howard Frank will be giving a program on the weevil; in March, Al Muzzell will speak about cold protection methods.



## Culture Tips

### It's Winter...no, it's Spring...no, it's Sprinter

by Jay Thurrott



This is shaping up to be one of those winters when Mother Nature just can't decide if it should be cold, warm, wet, or dry. For those of us who live in parts of Florida subject to so-called "Arctic Clippers" that can suddenly drop temperatures below freezing (and, every once in a while, well below freezing) this is making us nervous wrecks! I really don't care what meteorological explanations are being offered for this year's unseasonably warm temperatures. Whether we are seeing the effects of human-induced global warming, El Nino, cyclical climate change or just the usual vagueries of Florida's weather – it's all immaterial. I'm just concerned that this warm weather is spurring some of my plants to grow at a time when they usually are fast asleep and that this is going to make them especially susceptible to cold damage. This is probably why I have already seen some cold damage to my albomarginated *Ae. fulgens* discolor. Sometimes I wonder why I even bother with this plant. Every summer it sends out new pups and they look great. The colors are crisp and clear, the leaves totally unblemished – a head table plant if ever I saw one! Then comes winter... At the first hint of cold weather this plant develops a rash of brown pin-pricks on the leaves that only worsens as the winter drags on, and by springtime it looks like someone sat on it. I'm about ready to pitch it into the compost pile, but then, summer comes along, the plant blooms, there's a batch of new offsets – and you know, they look great – head table plants for sure! It's enough to make you want to consider some other hobby.

I've also seen a fair amount of cold damage on my young pineapple plants already this year – *Ananas comosus*, *Ananas lucidus* and even *Ananas nanas*. This is the first time in years that I've had any damage showing on these plants and I can only surmise that it is

because we have been seeing these wide swings in temperature from 80 ° F down to 40 ° F and then back again. Ordinarily, pineapples in my yard can shrug off 40 ° F and much lower with no damage at all, but that has always been after a gradual change in temperature with some cooling in the fall followed by prolonged cold weather in winter. I would be interested in hearing anyone's explanation of just what biological changes take place in bromeliads when they go through this "hardening-off" process, and I assume that it is accompanied by a slow-down in photosynthesis due to the shorter periods of daylight in the winter months. In any event, any hardening-off benefit we may gotten from this fall is being lost as warm and wet weather encourages new growth.

So what should we be doing in light of this unusual weather?

1. Watch for sun burn on leaves. No matter what the thermometer says, this is winter. Many of the trees, shrubs, and vines have dropped their leaves and those bromeliads that were so carefully placed in their filtered shade are now in some pretty bright light. Granted, the angle of the winter sun is much lower than what we'll be seeing in a few more months and the days are still quite short, but as your plants begin reacting to the warm temperatures by showing new growth, they are liable to be sensitive to damage from the sun's rays. Keep a close eye on them and be prepared to move those plants or provide some shade until the tree canopy fills back in.
2. Pay even closer attention to the weather forecasts than you would ordinarily. There will usually be a few days advance warning if it looks like cold weather is on its way. Take advantage of that time to either move plants or cover them up.
3. Enjoy the warm weather – take a day or two off from work and just kick your shoes off and relax! It won't be long before summer is again upon us and it's either too hot to work in the garden or the rainy season has begun. It's still a little early to officially declare this as a mild winter, but if we can just make it through February without a freeze....



# Cold Sensitivity of Some Bromeliads

by Tom Wolfe and Eileen Kahl



Many variables factor into cold hardiness, including the condition and location of the plants along with the climatic conditions of a particular cold event.

Wind velocity can dissipate radiational heat from the ground; no wind (calm conditions) can allow frost under 38°F. Some plants will tolerate temperatures below freezing for a short period but be severely injured by frost.

Additional factors in cold tolerance include the duration of the cold; location of plants (in ground, under trees, in pots, in hanging baskets, or in tree branches which make these elevated bromeliads more vulnerable when surrounded by cold air); and cold following unseasonable warmth.

Prior to a hard freeze, we recommend that you water your bromeliads. The water in the cups may insulate the caudex so that the caudex will survive and the plant can pup. While the mother plants may die, pups will survive.

Be aware of the climate conditions in your own yard. Conditions can vary widely from area to area, depending on such factors as wind, cloud cover, canopy or the proximity of water. Your yard could be in a cold pocket or a warm pocket. You are your own best weatherman; you should rely as much on your own experience as you do on any list. Don't forget that your local bromeliad society is also a tremendous resource for information on cold tolerant bromeliads for your area.

The following list is compiled as a guide for many bromeliad species and some hybrids.

16<sup>0</sup> - 21<sup>0</sup> F

**Aechmea**

apocalyptica  
aquilega  
blumenavii  
calyculata  
caudata  
comata  
cylindrata  
distichantha  
(all varieties)  
gamosepala  
kertesziae  
ornata  
var. nationalis  
recurvata  
(all its varieties)  
triangularis  
winkleri  
wittmackiana

**Billbergia**

distachia  
horrida  
nutans  
(and its hybrids)  
pyramidalis  
(including 'Striata'  
and 'Kyoto')  
sanderiana  
saundersii  
(formerly  
chlorosticta)  
'Theodore L. Mead'

**Bromelia**

flemingii  
serra

**Deuterocohnia**

meziana  
schreiteri

**Dyckia**

All species  
except  
marnier-lapostollei

**Fascicularia**

bicolor  
bicolor ssp.  
canaliculata  
(formerly  
pitcairnifolia)

**Hechtia**

marnier-lapostollei  
stenopetala  
texensis

**xNeophytum**

'Ralph Davis'

**Neoregelia**

'Marcon'  
macwilliamsii  
spectabilis

**Nidularium**

fulgens  
procerum  
rutilans  
(formerly  
regeloides)

**Puya**

most species

**Quesnelia**

arvensis  
quesneliana  
testudo

**Tillandsia**

baileyi  
ionantha  
recurvata  
usneoides

**Vriesea**

atra  
barilletii  
carinata  
corcovadensis  
ensiformis  
flammea  
friburgensis  
(all varieties)  
gigantea

(Continued on next page)

**Vriesea** (cont)

incurvata  
 lubbersii  
 ‘Mariae’  
 phillipo-coburgii  
 platynema  
 rodigasiana  
 scalaris  
 schwackeana  
 simplex  
 vagans

**22<sup>0</sup> - 27<sup>0</sup> F****Aechmea**

‘Burgundy’  
 eurycorymbus  
 ‘Foster’s Favorite’  
 nudicaulis  
 ramosa  
 var. festiva  
 rubens

**Billbergia**

amoena  
 var. stolonifera  
 ‘Catherine Wilson’  
 ‘Muriel Waterman’  
 (severely damaged  
 by frost)

**Vriesea**

bituminosa  
 guttata

**Canistrum**

aurantiacum

**Edmundoa**

lindenii  
 (formerly  
 Canistrum)

**Hechtia**

argentea  
 glomerata  
 montana

**xNeomea**

‘Strawberry’

**Neoregelia**

‘Catherine Wilson’  
 compacta  
 cruenta

**Vriesea**

erythrodactylon

**28<sup>0</sup> - 32<sup>0</sup> F****Acanthostachys**

strobilacea

**Aechmea**

‘Bert’  
 blanchetiana  
 (frost sensitive)  
 bracteata  
 (frost sensitive)

bromeliifolia  
 (frost sensitive)  
 chlorophylla

dactylina  
 fasciata  
 fendleri  
 filicaulis  
 fosteriana

(frost sensitive)  
 fulgens  
 lamarchei  
 lingulata

lueddemanniana

mariae-reginae

miniata  
 mulfordii

nudicaulis  
 orlandiana  
 pectinata  
 pimenti-velosoi  
 pineliana

(also var. minuta)  
 pubscens  
 triticina  
 weilbachii

**Alcantarea**

skinneri

**Billbergia**

amoena  
 (all varieties)  
 leptopoda  
 meyeri  
 morelii



rosea  
speciosa  
vittata  
zebrina

### **Bromelia**

balansae

### **Canistropsis**

burchelii  
(formerly  
Nid. burchelii)

### **Deuteroconia**

brevifolia  
brevispicata  
longipetala

### **Guzmania**

berteroniana  
lingulata  
lindenii  
monostachia

### **Hechtia**

mexicana

### **xNeophytum**

‘Galactic Warrior’

### **Neoregelia**

ampullacea  
‘Avalon’  
burle-marxii  
carolinae  
(all forms)

‘Dexter’s Pride’  
‘Fosperior’  
johannis  
johannis rubra  
kautskyi

laevis  
macrosepala  
melanodonta  
‘Morrisoniana’  
(Foster hybrid)  
pineliana  
‘Rien’s Pride’  
sarmentosa  
‘Sheba’

### **Nidularium**

amazonicum  
ferdinando-coburgii  
innocentii  
procerum  
rutilans  
(formerly  
regeloides)

### **Pitcairnia**

most species

### **Portea**

kermesina  
leptantha  
petropolitana  
(all varieties)  
silveirae

### **Quesnelia**

edmundoi  
humilis  
marmorata

### **Tillandsia**

bartramii  
fasciculata  
xfloridana  
paucifolia  
setacea  
simulata  
tricolor  
utriculata

### **Vriesea**

bituminosa  
fosteriana  
gigantea  
glutinosa  
‘Lucille’  
‘Mon Petit’  
‘Purple Cockatoo’  
‘Rex’  
‘Rosa Morena’  
saundersii  
‘Seminole Chief’

## **32° - 40° F**

There are a multitude of bromeliad species and hybrids that will survive temperatures between 32° - 40° F, though there are some that will be damaged or killed by temperatures in the 40s.

Some information was gleaned from lists compiled in prior years by Karen Andreas, Dale H. Jenkins, Al Muzzell, and Tom Wolfe.

*Editor's note:* If you know of bromeliads that survive any of these temperature ranges – and do not appear on this list – please email Karen Andreas at karen@fcbs.org. This list will be posted on the Council website and updated as new information is available.



## **New Book Features**

### **Brocchinia and Catopsis Species**

Review by Karen Andreas

I have to report that I am thrilled to find considerable information about three rarely cultivated and little-known bromeliads in Pitcher Plants of the Americas by Steward McPherson. While this book mainly discusses conventionally recognized pitcher plants, Mr. McPherson makes his case that three bromeliads, by virtue of their physical structures and their abilities to lure and trap insects, deserve consideration and inclusion in discussions of carnivorous plants.

The introduction to this book is followed by a discussion of carnivorous plants and their taxonomy as well as evolution. This book is written in layman's terms and is easily accessible in the way its information is presented. The book is further divided into chapters devoted to each genus of pitcher plant, and the first two deal with bromeliads. The book concludes with discussions of "Habitat Loss and Extinction", "Cultivation and Horticulture", a glossary, bibliography and index. Regardless of whether your interest is in bromeliads or in pitcher plants, the photographs in this

book are wonderful.

When was the last time you read a description of *Brocchinia hechtiodes*, *Brocchinia reducta*, and *Catopsis berteroniana* as well as a discussion of their habitats, their symbiotic relationships with their environments, methods of attracting and trapping insects, and detailed information about their distribution? Eighteen pages are devoted to the *Brocchinia* and twelve to the *Catopsis*. The eighteen habitat pictures (including one that fills two pages) in the two chapters are outstanding (more bromeliad pictures are elsewhere in the book). Maps of the ranges of these bromeliads as well as botanical drawings of their anatomical structures are also included. The photographs illustrate the discussion of habitat so that you can see and understand exactly the communities and growing conditions of these bromeliads. In one of the concluding chapters of the book is a cogent discussion of habitat loss, with mention of the Mexican bromeliad weevil and its threat to *Catopsis berteroniana* in south Florida.

In all likelihood, *Brocchinia hechtiodes*, *Brocchinia reducta*, and *Catopsis berteroniana* depend on the natural decomposition of the insects trapped within as well as the assistance of symbiotic partners such as frogs to extract the nutrients from its victims, although the complete absence of enzymes and bacteria such as conventional pitcher plants employ have yet to be completely ruled out. Whether or not you question if *Brocchinia hechtiodes*, *Brocchinia reducta* and *Catopsis berteroniana* should be included in a book about pitcher plants, Pitcher Plants of the Americas offers enough concise information, habitat pictures and descriptions about the three species to make it a book to include in any serious bromeliad library.

Pitcher Plants of the Americas by Stewart McPherson, 2007, 328 pages, 227 full-color pictures, 12 black and white figures. Softcover (0-939923-74-2) \$34.95; hardcover (0-939923-75-0) \$44.95, plus shipping and handling. McDonald & Woodward Publishing Company, 431\_B East College Street, Granville, OH 43023, 1-800-233-8787, [www.mwpubco.com](http://www.mwpubco.com)

Proceeds from this book support the efforts of Meadowview Biological Station to protect critical habitat. More information

## **2007 Bromeliad Extravaganza**

Presented by the Florida Council  
of Bromeliad Societies

Hosted by the Bromeliad Society of Broward County  
by Jose Donayre



The Bromeliad Society of Broward County has taken the challenge of organizing the 2007 Extravaganza after the very successful one hosted by our sister society, the Bromeliad Society of South Florida. It follows other annual Extravaganzas organized by the Sarasota Bromeliad Society in 2005 and the West Coast Bromeliad Society in 2004, among the recent ones.

Since the 2008 World Bromeliad Conference will take place in Cairns, Australia, this one and other Extravaganzas to come will be the only major bromeliad events in the United States until 2010.

The hotel selected for the event is the recently renovated Hilton Fort Lauderdale Airport Hotel located outside (immediately south) of the Fort Lauderdale-Hollywood Airport at the intersection of Griffin Road and I-95, making it extremely accessible whether you come by air or land. The event will take most of the second floor of this luxury hotel, with ample facilities for the sales, lectures, banquet and rare plant auction in the program. There will be convenient areas to ensure for relaxed conversation and group encounters.

For those venturing to visit the many Fort Lauderdale and Hollywood attractions, museums, beaches, shopping, casinos and entertaining complexes, restaurants and the like, the hotel provided services will be helpful.

The very special room rates will be available until September 14. When making reservations it will be necessary to mention that guests are attending the 2007 Bromeliad Extravaganza. We have reserved a block of rooms for September 28 and 29, 2007, at the rate of \$89.00 for a single or double room. Plan to take advantage of the event to spend a long weekend in the area and enjoy the same special rate for up to a six nights stay.

To make reservations, call the hotel at 954-920-3300 or fax your request to 954-920-3348. Reservations can be cancelled up to 72 hours before arrival to avoid any charges.

More details will be provided in the next issue of the FCBS newsletter. For additional information, contact Jose Donayre at 954-925-5112 or at [jcadonayre@bellsouth.net](mailto:jcadonayre@bellsouth.net).



**18<sup>th</sup> World Bromeliad Conference  
Bromeliads Down Under  
June 24-30, 2008  
Cairns, Queensland, Australia**

**Among the events scheduled for this conference are the judged show, banquet, rare plant auction, local garden tours, reef and rainforest tours, seminars.**

**Registrations paid by April 30, 2007 fully refundable  
Pay online with a credit card or print out registration form at <http://bsi.org>**

**More information is available at  
<http://www.bromeliadsdownunder.com/>**

**Mexican Bromeliad Weevil  
Biological Control Report  
January 13, 2007**

by Ronald D. Cave, J. Howard Frank,  
and Alonso Suazo

The colony at the Pan-American School of Agriculture continues to be strong and produce a large number of *Lixadmontia franki* puparia. The funding cycle for maintaining the colony terminated on October 31, 2006. A new one-year budget was negotiated for the amount of \$13,030, which covers workers' salaries, use of vehicle, gasoline and vehicle maintenance, and supplies. Nine thousand dollars are being provided by the FCBS Weevil Fund and \$4,030 from Ronald Cave's research funds.

Research at the Biological Control Research and Containment Laboratory in Ft. Pierce has emphasized establishment of a *L. franki* colony. We received seven shipments containing a total of 564 puparia from the rearing facility in Honduras. Emergence of adults from puparia was good (75%) to excellent (95%). However, adult fly mortality was initially very high; most flies died in less than six days. We suspected food, humidity, sunlight intensity, treated wood, and disease to be causes until it was discovered that metal screen constituting the cages was the lethal factor. After using cloth and plastic cages and removing all metal screen from wooden frame cages, mortality improved significantly so that flies are now surviving three-five weeks. After solving this problem, our caged fly population grew to well over 150 active individuals. However, this population has begun going down due to no shipments from Honduras during the holiday period. Shipments of puparia resumed on January 15.

Multiple quantities of Mexican bromeliad weevil larvae have been exposed to flies in various ways. Most larvae were

exposed individually in a portion of pineapple core or *Tillandsia utriculata* stem placed in a plastic cup. Two new methods were tested and proved successful. Method 1 consisted of placing three-six weevil larvae in a pineapple top with the leaves cut very short. This “artichoke” method resulted in parasitized larvae but two problems were detected. The “artichoke” was so attractive to flies that multiple fly larvae in a single host (=superparasitism) resulted in many host larvae dying prematurely before fly maggots completed their development. In the surviving hosts, fly larva development was quite variable, from two to four weeks.

A second method used an artificial diet for weevil larvae based on Spanish moss (*Tillandsia usneoides*), a readily available resource. Spanish moss leaves are washed and finely chopped then compacted into a plastic cup or mixed with agar then dispensed into a plastic cup. Weevil larvae in Spanish moss alone grew very well and reached the pupal stage in six weeks, comparable to development in pineapple. Development in Spanish moss plus agar was slower (seven weeks). In December, cups with larvae in these two media and in pineapple cores were exposed to flies. No larvae in Spanish moss alone were parasitized but 80% of the larvae in Spanish moss+agar were parasitized; only one larva in a pineapple core was parasitized. These results indicated that the Spanish moss+agar medium is highly attractive to the flies and is appropriate for obtaining parasitized larvae. This experiment is being conducted, in part, with a high school student from St. Lucie County, who will use the results in a science fair project.

The type of adult food appears to be an influential factor in the parasitism of weevil larvae. Twenty-five flies were released in each of three tent-like cages; one cage had shading and hummingbird food, a second cage had no shading with hummingbird food, and a third cage had shading with honey as a food source. Weevil larvae were parasitized only in the cage with honey, no parasitism was detected in the cages with

hummingbird food. Given these results, we now supply honey and hummingbird food to flies in the parasitism cages.

Research during the January-March trimester will look at:

1. Development time of the fly larva in hosts feeding on different foods (Spanish moss+agar, pineapple, *Tillandsia*);
2. Optimal stage of the weevil larva (3<sup>rd</sup>, 4<sup>th</sup> or 5<sup>th</sup> instar) to expose to flies;
3. Optimal exposure time of weevil larvae to flies that results in a high rate of parasitism but minimizes excessive super parasitism that results in premature death of the host;
4. Rates of parasitism in pineapple versus Spanish moss+agar; and
5. Basic biology of the fly.

Additional data for non-target testing with *Metamasius mosieri* are needed for publication of results. Redevelopment of the *M. mosieri* colony is progressing very well such that testing may be able to proceed in February.

In search of insect parasitoids that could serve as additional biocontrol agents for *M. callizona*, Howard Frank, Dennis Giardina, and Tim Andrus explored in Guatemala for eight days in November 2006. Their search was concentrated in and around a coffee farm called Los Tarrales owned by Andy Bunge, a lifetime BSI member. This farm is on the Pacific slope, south of Volcan Atitlan. Epiphytic bromeliads grow on forest trees and trees that are conserved to shade the coffee plants. *Metamasius dimidiatipennis* adults, *M. nudiventris* pupae, and about 50 *Metamasius* weevil larvae especially in *Tillandsia flabellata* and *T. polystachya* were collected. All living specimens were shipped from Guatemala via Miami to Ft Pierce under USDA-APHIS permit. Ron Cave received them in quarantine and checked them for any evidence of parasitoids. Unfortunately, no parasitoid insects emerged from any of them.

A proposal for release of *L. franki* from quarantine was submitted to a University of Florida IFAS committee and the



Dean of Research for consideration and approved. The field release proposal has now been submitted to the Florida Department of Agriculture and Consumer Services, and simultaneously to the US Fish and Wildlife Service, and Florida Department of Environmental Protection. As required, the USDA Animal and Plant Health Inspection Service has been informed of this submission.

A talk on the bromeliad weevil was presented at the Marine Resources Council in Melbourne.

Publications:

Suazo, A., D. Pú Pacheco, R.D. Cave, and J.H. Frank. 2006. Longevity and fecundity of *Metamasius quadrilineatus* (Coleoptera: Dryophthoridae) females on a natural bromeliad host in the laboratory. *Coleopterists Bulletin* 60: 264-270.

Cave, R.D., P.S. Duetting, O.R. Creel & C.L. Branch. 2006. Biology of *Metamasius mosieri* (Coleoptera: Dryophthoridae), with a description of the larval and pupal stages. *Annals of the Entomological Society of America* 99: 1146-1153.

Ronald D. Cave and Alonso Suazo are at the Indian River Research and Education Center in Fort Pierce, Florida.

J. Howard Frank is at the Entomology and Nematology Department, University of Florida, Gainesville.



## **Attention Affiliates!**

### **Dues and Rosters Are Due by April 1!**

Dues are \$10.00 a year plus a newsletter assessment of \$3.00 per address (not per member). The societies' membership rosters are due at the same time; transmit rosters electronically to the treasurer or the webmaster (contact information is below). Paper copies or scans of rosters cannot be accepted. Contact the webmaster for help with format issues.

Keep your society's affiliated membership current so your members will continue to receive the newsletters and enjoy the other benefits of the Council. Mail dues to:

Sudi Hipsley  
6616 Tuscawilla Drive, Leesburg 34748-9190  
352-728-5002/352-504-6162

Email the rosters to:

sudii@earthlink.net or webmaster@fcbs.org

Rosters on disk may be snail mailed in lieu of email either to the treasurer or to Mike Andreas, 617 Fifth Street, Merritt Island 32953.



## **Next Florida Council Meeting**

April 14, 2007

Hosted by Bromeliad Society of South Florida

See your Council representative  
for more information.

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