



## BromeliAdvisory

**January 2010  
BSSF Officers 2010**

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<http://www.bssf-miami.org/>

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Sales Table	Antonio Arbelaez

**FEBRUARY 2, 2010, 7:30 PM**

**SPEAKER:** – Bruce McAlpin “More Basic Horticultural and Cultural Tips.”

**RAFFLE TABLE:** Will be there

**FOOD:** Joy Von Wald, Patty Gonzalez, Lori Weyrick, Joy Parrish, Barbara Sparling, and Betty McQuale.



**Bruce McAlpin**

Former biology Professor Bruce McAlpin returns to South Florida to again reveal some of the trade secrets he has amassed for nearly 50 years (been a plant enthusiast since elementary school age). This is a discussion which is less esoteric and more practical to your daily/weekly/monthly plant care.

Come to say hello to a long time friend of the BSSF.

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## In Case You Missed It

by Robert Meyer

Literally only days prior to the first South Florida freeze of the 21<sup>st</sup> century, Tom Wolfe delivered us to a garden of Pennsylvania fame: Longwood Gardens.

Parts of that northerly exposed garden belie southern influences – mainly the architectural gardening of Roberto Burle Marx (August 4, 1909, São Paulo - June 4, 1994, Rio de Janeiro) and Wolf walked us through this amazing landscaper's life – most particularly of bromeliads.

Marx, whose wavy lined landscapes are all over his homeland of Brazil, even touches our hometown with urban hardscaping on the shores of downtown Miami – a wonderous wavy sidewalk on Biscayne Boulevard..



Slides of the 1000-acre Marx Biscayne Boulevard motif Longwood Gardens and Marx's Brazilian home – now a public garden kept for public appreciation of his horticultural and artistic loves – show the impressive resource this man of natural resources is.

Numerous bromeliads discovered or named after this man were displayed by Wolf. These included namesake Aechmea, Dyckia, Hohenbergia, Neoregelia, Orthophytum and more. Photos of many follow in this issue.

Between the talents of Marx and the photography of the husband/wife team of Mr and Mrs. Tom Wolfe, the presentation was delivered well and received with great favor.

### T-Shirts Still For Sale

Sandy Roth has shirts to sell to the masses – contact her at the next meeting

## The Types of Types

by Alan Herndon

Plant taxonomy is the study of variation in plants with the goal of determining how to distinguish and recognize species (and other natural groups, such as genera, families, etc.) In simplified terms, a taxonomist recognizes a plant (or better, a population of plants) that differs in some important way from all other recognized species. This new species is described in a

formal manner according to internationally recognized rules. One part of the description is the designation of a type specimen.

Types play a crucial role in plant taxonomy because they represent the best record of the plant being described. No matter how detailed a description is

written by the taxonomist (or how detailed a drawing of the species is provided), it is never complete. In fact, in any description of a new species it is very hard to avoid emphasizing how the new species differs from known existing species. This unavoidably leads to emphasis of some characters at the expense of others.

In some cases, the characters used in a description are found to be inadequate or even misleading on further study. In other cases, as new species are discovered in a genus, the differential characteristics used in earlier descriptions become ambiguous and need reinterpretation. In a few cases, the original description does not match the type specimen because some characters are interpreted incorrectly. In all cases, whenever a conflict between the original description and the type specimen arises, the type specimen prevails.

A holotype is a single specimen that a new species is based on; it is identified by the original describer as part of the formal

description. In practice, a holotype is a dried herbarium specimen (for large plants, a single specimen may cover several herbarium sheets). It may seem that a living plant would survive much better than a fragile dried specimen (especially if you consider a plant as imposing and durable as a tree), but this turned out to not be the case. Many plants during the 19<sup>th</sup> century were described based on living plants, but even in institutions such as Kew Gardens, the plants died or labels were lost over the years. The humble dried specimens, in contrast, survived.

Since the holotype is specified by the original describer, it can be accepted without reservation as representative of the plant being described. It is also irrevocably attached to the name proposed in the original description. For instance, *Aechmea orlandiana* was described by Lyman B. Smith in 1941. Smith designated a specimen collected by Mulford and Racine Foster (their number 165) deposited in the Gray Herbarium at Harvard University as the type. (In this case, two specimens were actually cited in the original publication without designation of a holotype, but 165 was later so designated). This specimen can be viewed on the internet



*Aechmea orlandiana*

An isotype is a specimen that was, by definition, a duplicate of the holotype. It is easy to see how this would be accomplished with a tree or shrub by making specimens from different flowering/fruitletting branches collected from the same plant. Most bromeliads form clumps in favorable conditions, so collections of several rosettes within a clump will usually yield isotypes. If these conditions are met, an isotype will be just as useful as a holotype in defining a species. However, there are some unusual circumstances where an 'isotype' may not represent the intentions of the original describer. Within clumps of bromeliads, you may have 2 or more genetically different plants intermingling. These might represent 2 very similar, but distinct, species. For these reasons, isotypes require more careful scrutiny before being accepted as faithful representations of the original describers

intent.

Many bromeliad species have been described from cultivated plants. In many cases, type specimens are made from clones that continue in cultivation. Thus you can grow plants that are genetically identical to the type specimens. (For instance, if you grow *Neoregelia wilsoniana*, you are likely growing the clone introduced by Robert Wilson that provided the type specimen.) However, all parts of a specimen have to be prepared at the same time to be recognized as valid. A composite specimen with a flowering plant dried in one month and a fruiting plant added the next month cannot be used as a type. Now, if you propagated a clone until you had dozens of blooming plants, then produced dried specimens from these plants to support publication as a new species, you would have produced a single holotype and a potentially unlimited number of isotypes. If, on the other hand, you make dried specimens from the same clone on different dates than the holotype, they receive no recognition in the International Code of Botanical Nomenclature.

Despite the lack of recognition, these specimens (and the living plants) are informally referred to as clonotypes. Of course, in addition to the potential problems with isotypes listed above, clonotypes carry the additional uncertainty that labels could become mixed at some point, so the plants being grown as clonotypes no longer have any



*Hohenbergia burle-marxii*

Photo by Elton Leme  
Courtesy of FCBS and  
Bromelia

connection to the holotype. Again, careful scrutiny is required before accepting these plants as true representatives of types. Still, clones of the type plants can be particularly important in the study of bromeliads. For instance, pups of an *Orthophytum* may have a radically different appearance from the mother plant. This clearly confuses the task of finding characters to separate

different species. By growing clones of the types over several generations, you can better learn what characters consistently define a species.

Two other types of types have to be considered (there are more, but they are encountered very infrequently.) These are paratypes (specimens other than holotypes and isotypes designated by the original describer as conforming to the new species) and topotypes.

Designation of paratypes means these specimens were studied during the description of the new species and had some influence on the description. However, as noted above, it is the holotype, not the description, that fixes the identity of the species. In cases where the holotype is destroyed or otherwise missing, a new type specimen (lectotype) must be selected. If any isotypes are available, the lectotype is selected from among those specimens. If there are no available isotypes and there are existing paratypes, the lectotype is selected from the paratypes.

Of course, there is always a possibility that some of the paratypes were incorrectly assigned to the species (i.e., belong to a different species than the holotype), so the selection process must be very painstaking. Topotypes are even further removed from revealing the original intent of the describer. This is an informal name with no standing in the rules of plant nomenclature that refers to specimens collected in the same locality as the original type specimen (usually many years after the original collection). The idea is that they are likely to represent the population of plants seen by the original collector. In many cases, this is true.

However, it is necessary to carefully compare such a collection with a holotype before giving it any credence as an authentic representative of the species. Otherwise the original population may have disappeared from the original collection site, or, in the worst case, it may have been replaced by a different, but similar, species that more-or-less fits the original description.

If you have any interest in understanding bromeliad species, nothing beats having as many type clones in your collection as possible. You might, of course, find clones from any of the types of types. Just remember, before you start paying premium prices, that all type clones are not equally valuable. Given a choice, put your

money into clones of types that most nearly reflect the intent of the original describer.

## Round One to Mother Nature

by Alan Herndon

Winter took a long time to creep into southern Florida, but, when it arrived, it was with overwhelming force. At the nursery, we had two nights with temperatures near, but not quite freezing, and two nights with temperatures below freezing. There was also a distinct lack of warm days between the two sets of particularly cold days.

In the nursery, our cold protection consists of a curtain system and water. The curtain system runs along the north side of the sales shadehouse and limits the cold north wind through the sales shadehouse. When the temperature threatens to drop below freezing, we turn on the water and leave it on until the sun comes out and warms up the air again.

Most of our bromeliads survived quite well. Among commercial crops inside the shadehouse, *Neoregelia* 'Morado' and *Neoregelia* 'Super Fireball' suffered the greatest amount of cold damage, although many of the full grown plants in both came through without apparent damage. *Aechmea chantinii* was another crop that showed susceptibility to cold damage, although only 20% of the full grown plants were actually damaged. *Neoregelia* 'Paula' proved unexpectedly sensitive to cold. For all other plants, cold damage was spotty.

Two external factors have a major effect on the susceptibility to cold damage. The most important factor is the history of plant growth when the cold hits. If the plant has been growing rapidly right up to the onslaught of cold, it is much more likely to be burned. In other words, the pups that were planted in fall, and growing rapidly in our unseasonably warm



*Pitcairnia burlemarxii*

Photo by Derek Butcher

Courtesy of FCBS

December were the plants that suffered the most damage. This was most apparent in our crop of 5" *Alcantarea imperialis*. Two groups of these plants showed considerable cold damage at the tips of the longest leaves. Plants within each of these two groups were moved up to 5" from smaller pots within a few days of each other, but the groups were moved up months apart. Several other groups, each moved up at a different time, showed little, if any, cold damage. The damaged groups were side-by-side on the bench, but there were both older groups (with larger plants) and younger groups (with smaller plants) on the same bench, presumably experiencing the same conditions, that did not show significant damage.

Another external factor is cover. The majority of our plants are grown under shade screen. This screen does not help if you are dealing with radiative cooling (a problem when there is no air movement), but, when you have winds during the coldest nights (as was the case this at the nursery month), the shade cloth can slow down convective cooling. The best example in our shadehouse was *Aechmea chantinii*.

As mentioned above, cold damage was apparent on some of the blooming size *Aechmea chantinii*, those that were growing under 50% shade. Elsewhere in the same house, smaller plants under 70% shade show no cold damage. These smaller plants are (we hope) growing more rapidly than the plants that showed cold damage. Amazingly, a few pots of seedlings (mostly under 2" tall) that were repotted into 4" pots as small clumps no more than 1 month before the cold weather, and are still as tender as you would expect a seedling to be, also showed no cold damage. Another example is the large plants of *Androlepis skinneri* and *Aechmea* 'Little Harve' that we grow at the edges of the shadehouse. These plants are exposed to the open sky (and the full brunt of any wind), and all had considerable burning among the tips of the taller leaves.



*Neoglaziovia burle-marxii*  
Photo by Tropiflora  
Courtesy of FCBS

Among the noncommercial collection, there was

the expectable degree of devastation. Plants of *Aechmea fulgens* were all badly burned. Some probably won't survive. The closely related *Aechmea farinosa*, in contrast, showed little damage. Some of the wide-leaved *Araecoccus* species were also badly burned. Most *Orthophytum* species showed no aftereffects from the cold, but *Orthophytum maracasense* and *Orthophytum disjunctum*, especially the latter, were badly burned. *Cryptanthus* seemed to suffer less than its reputation would suggest. None of the species came through ready for the show table, but, with a few apparently random exceptions, the damage was confined to burned leaf edges and tips.

Most of the *Neoregelia* showed no signs of damage. The same can be said of most *Aechmea* species. *Nidularium* species, of course, acted as if there had not been any cold at all. Most *Vriesea* species, likewise, showed no response to the cold. Plants that were flowering before the freeze continued in bloom afterwards.

If your nurtured plants for entry in our annual show are showing signs of cold damage, you may be feeling a deep despair. After all, cold damage typically affects the most exposed the most visible leaves, and portions of leaves, in the rosette. However, all is not lost even if you have cold damage. The hard fact is that cold damage, while it never disappears, does not look as bad 3 months after it occurs as it does 3 weeks after. In other words, keep tending to those show plants. Three months from now, what presently looks like overwhelming damage may look like two or three lower leaves with some damage.

Also keep in mind that most plants went through the freeze, and only a few weren't affected to some degree. You might want to look around for plants without cold damage that could be entered in the upcoming show (cold damage can take a week or more to manifest itself, but all damage should be apparent by now). Perhaps plants that you overlooked earlier will now be easier to find.

Whatever you do, don't give up. It is only Round One. We still have a few months, and more Rounds to go before the show.

## What's in Bloom - January 2010

by Alan Herndon

Winter blooming plants are finally showing up in some numbers. *Aechmea fosteriana* and *Ae orlandiana*, *Ae carvalhoi*, the *Ortgiesia* group of *Aechmea* and the species of *Billbergia* are prime examples. *Fosterella micrantha* is just the vanguard for this genus. Several other species of *Fosterella* are now in bud, and will show up in the list soon (if they aren't frozen in the meantime).

A few caveats are necessary to the list this month. *Guzmania sanguinea* Tricolor does not have a protracted blooming season, but separate rosettes in a small clump have come into bloom at different times. The same is true of *Aechmea weilbachii viridisepala*.

*Aechmea* (***abbreviata***, *angustifolia*, *araneosa*, *blanchetiana*, *bromeliifolia*, ***carvalhoi***, *chantinii*, *contracta*, ***dealbata***, *dealbata* Coral Bracts, *fendleri*, ***fosteriana***, *gurkeniana*, *kerteziae*, ***kleinii***, Little Harv, ***murcae***, ***nudicaulis*** (a few different clones), ***orlandiana***, ***roberto-anselmoi***, Victoria, *weilbachii viridisepala*)

*Billbergia* (*amoena*, ***iridifolia concolor***, ***lymanii angustifolia***, ***nutans***)

***Bromelia humilis***

*Canistrum lanigerum*

*Cryptanthus* (*bahianus*, *warren-loosei*)

***Deuterocohnia lorentziana***

***Fosterella micrantha***

*Guzmania* (*sanguinea* Tricolor)

*Hohenbergia* (*distans*)

*Neoregelia* (**Bob Read**, *dungsiana*, Fireball, *myrmecophila*, Sheba, Ultima)

*Nidularium* (*angustifolium*, *procerum*)

*Orthophytum* (*disjuncta*, *harleyi*, ***lymaniana***, *ophiuroides*, *vagans*)

*Pitcairnia* (***paniculata***, ***smithiorum***)

*Portea* *alatisepala*, ***grandiflora***, ***kermesina***, *petropolitana* var. *petropolitana*

***Ronnbergia brasiliensis***

*Tillandsia* (*ionantha*, *fasciculata*, *fasciculata clavispica*, *festucoides*)

*Vriesea* (*carinata*, *colnagoi*, *eltoniana*, *ensiformis*, ***erythrodactylon***, *fluminensis*, *Mariae*, *sucrei*)

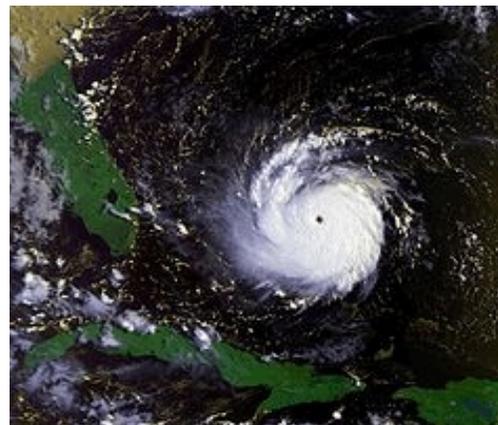
## President's Message

As you receive this issue, you will wonder how could it be that 35 days have passed since Christmas? Time accelerates with age. So many events of the seemingly recent past are not so recent – it has been almost 4.5 years since Katrina and Wilma, and this year marks the 18<sup>th</sup> anniversary of Hurricane Andrew.

And, just as time behind us extends at rapid rates, impending deadlines and events arrive in seemingly quicker fashion. And, the most important deadline at present for the BSSF is the show.

If we could get just a few of you to gather steam and join the ranks in handling the simplest little aspect of the Spring Show – great.

Get involved and call Alan Herndon to become part of the event.



PHOTOS – ANYONE HAVE A COPY?

If anyone has information regarding the location of the show photos prior to the time Lynne and Michael began documenting the shows, please contact Barbara Partagas.



BROMELIAD SOCIETY OF SOUTH FLORIDA  
2010 MEMBERSHIP RENEWAL

(PLEASE PRINT)

NAME(S) \_\_\_\_\_  
(Couples - please include BOTH names)

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Include email address in the roster?  Yes  No

Email BromeliAdvisory?  Yes  No (If yes, you will not receive a hard copy)

IF ANY OF THE ABOVE INFORMATION IS DIFFERENT FROM LAST YEAR, PLEASE **HIGHLIGHT** OR UNDERLINE

Please renew my(our) membership in the *BROMELIAD SOCIETY OF SOUTH FLORIDA* for the period of March 1, 2010 to February 28, 2011.

Check the category:

- |                          |                   |         |
|--------------------------|-------------------|---------|
| <input type="checkbox"/> | SINGLE MEMBERSHIP | \$20.00 |
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Dual members enjoy all the privileges of active membership, but receive only one copy of the Advisory.

Do you want to join the Bromeliad Society International? If so, add \$30/single, \$35/dual, to your BSSF dues and we will do the rest for you. Membership includes the **BSI Journal**, issued bimonthly. Check Yes \_\_\_\_\_ if you do. (NOTE: New memberships only)

Make check payable to BSSF

IN ORDER FOR YOU TO BE INCLUDED IN THE 2009 ROSTER, DUES MUST BE RECEIVED BY MARCH 1, 2010

Please mail completed form and check to:  
Alan Herndon  
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Miami, Fla. 33177-4216