

# ***Journal of The Bromeliad Society***



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# Journal of the Bromeliad Society

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**Editor:** Chet Blackburn, 720 Millertown Road, Auburn, California 95603.

Telephone and Fax: 530-885-0201, E-mail: blackburn@newworld.net

**Editorial Advisory Board:** David H. Benzing, Gregory K. Brown, Pamela Koide, Thomas U. Lineham, Jr., Harry E. Luther, Robert W. Read, Walter Till.

**Cover photographs.** **Front:** *Vriesea fosteriana* 'Red Chestnut' Text begins on page 261. Photo by Marcel LeCoufle. **Back:** *Alcantarea imperialis* at Longwood Gardens. Photograph by Bill Soerries.

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**Please address all membership and subscription correspondence to Membership Secretary** Carolyn Schoenau, P.O. Box 12981, Gainesville, FL 32604. Telephone 352-372-6589. E-mail: BSI@nervm.nerdc.ufl.edu

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## *Pitcairnia heterophylla*: A Master of Disguise

Virginia Guess and Robert Guess

Photographs by Robert Guess

By defying the rules that apply to most other members of the family Bromeliaceae, *Pitcairnia heterophylla* (Lindley) Beer can be easily overlooked as a bromeliad. This often occurs when one focuses on a specific genus, in our case, the tillandsias of highland Chiapas. Acquiring our first *P. heterophylla* through serendipity, we recognized the species only after a year of casual observation. It arrived at our door in San Cristóbal de Las Casas, Chiapas, Mexico, at the beginning of the dry season, nestled in the bottom of a large, hemp sack carried on the back of a Maya woman selling native plants from door to door.

From her wide selection, we chose several blooming orchids and paid her the asking price. Preferring not to part with any of her own pesos for change, she instead reached deep into her sack, pulled out a clump of spiny, leafless plants, and offered it to us. Smiling at our puzzled expressions, she assured us the cluster of prickly spines was indeed living and would soon flower. We graciously accepted the plants, placed them in a pot on a rock wall in the back of our garden, and then left Mexico. When we returned five months later at the start of the rainy season in early June, we noted they had sprouted numerous long, thin, grass-like leaves that were visibly scaled. In addition to the green leaves, some of which were nearly 50 centimeters long, castaneous spines still encircled the bodies of the plants along with remnants of withered floral scapes.

By December the green, arching leaves were gone and a vivid rose-colored inflorescence, approximately 15 centimeters high, had emerged. This metamorphosis led us to the identification of *P. heterophylla*, the species name referring to the plant's different forms of leaves. Once familiar with this changing appearance, we subsequently spotted clusters growing in several highland areas. Among other locations, the species flourishes in Cañon del Sumidero, 25 kilometers from Tuxtla Gutiérrez, the state capital of Chiapas, along a shady, rock face of limestone near Mirador La Roblar at 1250 meters; and in a damp crevice of an outcropping southwest of Teopisca, 5 kilometers off the Pan-American Highway (MEXICO 190) at 1650 meters.

According to Utley and Utley (1994:94), *P. heterophylla* is terrestrial, saxicolous, and occasionally epiphytic, with a wide distribution from Mexico to Venezuela and Peru at altitudes of 100 to 2500 meters. The species, one of over twenty pitcairnia known to grow in Chiapas, is typical of the vast variation that distinguishes this genus from other genera of Bromeliaceae. A member of the subfamily Pitcairnioideae, it illustrates several of the nonconforming features that Blackburn (1997:24-25) describes for the "unruly Pitcairnia." *P. heterophylla* produces both spiny and spineless leaves. It is deciduous, loses its green leaves during the dry season, and often thrives in damp-shaded conditions. With its brief flowering stage, sharp spines, and foliage easily hidden in surrounding vegetation, local inhabitants place little value on this bromeliad for either decoration or for sale.





Figure 1. After losing most of its green leaves, the spiny, bulbous base of *P. heterophylla* appears nearly lifeless.



Figure 2. Lacking tank rosettes to capture water, *P. heterophylla* grows in large clusters and depends on a damp environment for moisture.



Figure 3. Grass-like, arching leaves appear during the rainy season. As they fall off, spiny leaves emerge in advance of the inflorescence.



Figure 4. *P. heterophylla*, growing in Highland Chiapas, Mexico, develops an inflorescence during the dry season after dropping its green leaves but retaining the spiny ones.

Even the orchid vendor who gathers plants in the mountains rarely considers it worthy of a price. Now, however, when she knocks at our door, we eagerly peer into her bag trying to see what other gems she reserves specifically "for change."

## REFERENCES

Blackburn, Chet. 1997 The Unruly Pitcairnia. J. Bromeliad Soc. 47(1):24-25.

Utle, J.F. and K. Burt-Utle 1994 Pitcairnia. In Flora Mesoamericana, Volumen 6, Alismataceae a Cyperaceae, edited by Gerrit Davidse, Mario Sousa A., and Arthur O. Chater. México, Universidad Nacional Autónoma de México, p.91-98.

*Santa Barbara, California*

## Tribute to Lyman B. Smith

A single issue of the Harvard Papers in Botany has been published as a tribute to Lyman B. Smith, famed bromeliad botanist, and principal author of the 3 volume set on bromeliad taxonomy for Flora Neotropica. It remains today the most comprehensive monograph series on Bromeliaceae. Though he was probably best known for the monograph series, he published hundreds of other works on bromeliads, including numerous articles in the *Journal of the Bromeliad Society*. His impact on bromeliad research and on bromeliad taxonomy in particular, cannot be understated.

The tribute consists of papers submitted by many of his contemporaries and includes a number of photographs of Dr. Smith throughout his long career. Jason Grant, who is a frequent contributor to the Journal himself, is the editor of the tribute.

In view of his popularity and reputation, a limited number of extra copies of this issue (*Harvard Papers in Botany* 4(1), September 1999, have been printed and are available for sale.

To order *Harvard Papers in Botany* 4(1) September 1999 which include the tribute to Lyman B. Smith, please send check or money order for U.S. \$90 per issue to:

Helen Flagg  
Manager of Financial Operations  
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Harvard University  
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617-495-0736  
hflagg@oeb.harvard.edu

## Preparing a Plant for photography

John Catlan

Over the years I think my "slide nights" with Barney taught me more than I realized. The slides always looked great to me when they first returned from film processing, but not to Barney. We would go through them and eliminate the obvious rejects, then go through them again and again, each time culling more from the stack as Barney pointed out what was not quite perfect with each slide and selecting only those slides that passed his scrutiny and were deemed acceptable.

When it came to photography Barney had an efficient procedure for doing everything. When he photographed weddings, which required a lot of photographs, he would have a spare battery and kept one with him and one at home. The procedure was that while he was running down one battery, another was being recharged simultaneously at home. But one time his kids had need for the electrical outlet and pulled out his plug to insert theirs. Naturally they forgot to plug the charger back in when they had finished. Barney came up with a solution. He moved the operation into his bedroom away from the kids. When he returned home at 1 a.m. after photographing a wedding one evening, he replaced the drained battery pack with the newly charged battery pack and fired off a few test flashes to check that all was working well. A foolproof system one would think, but unfortunately, not so.

Mrs. Barney happened to attend the Parents and Citizens Association Meeting the following day and the neighbors across the road buttonholed her and wanted to know why Barney was taking flash photographs in their bedroom at 1:25 in the morning. Mrs. Barney was not amused.

Select the plant you are going to immortalize (and that is the correct word) and clean it thoroughly. You will probably be viewing the plant side on, so the side you intend to photograph must be perfect. If the best side has a damaged leaf, remove it. If it looks too obvious that a leaf would be missing, remove the damaged part but leave room on its base to detach a similar leaf from another side of the plant, or from another plant and attach it to the leaf stub with Gaff's tape. It is a very sticky silver cloth tape sold by K Mart. Just make sure that none of this will be obvious in the camera shot.

If a scape leans in a direction you don't want it to, sometimes a wad of crumpled up newspaper or a piece of Styrofoam down the throat of the plant will adjust the lean. If you are shooting on a black background a piece of black cotton tied to the scape and something else outside of camera range will do the trick. If the scape has a slight lean and that lean is directly towards the camera it will look straight and since the inflorescence is closer to the camera it will look bigger in relation to the plant.



Just before the shot, use damp rags and big artist's brushes to clean the leaves and scissors to trim them. Don't worry about spiders and other wild life, they will add interest. (Scale insects would be an exception, of course).

I use a fluffy black two-way stretch material (used to make women's stretch pants). This absorbs light and there is no reflection (a shiny material will shine/reflect). I prefer this material over black velvet not only because it is cheaper, but because after being folded for transporting it is easier to get all the fluff standing straight up, as this is the best position to absorb light. A lack of room is always a problem as photography becomes more technical and complicated and this style of background allows the subject to be placed closer to the background. It has a seam at the top that a curtain rail goes through and a seam at the bottom that a heavy piece of water pipe goes through. When hanging, the weight of the pipe stretches the material and takes out any creases. Before you start taking photographs however, stop to clean the backdrop. I use duct tape, wrap it backwards on the roll with the sticky side up, and wipe it over the cloth. This cleans off the lint, hair, and white bits of fluff. Keep going until it is perfectly clean.

Place the plant in front of the black backdrop but well clear of it. If you are shooting outdoors the black backdrop has to be in shade. This might require the use of an umbrella angled in such a way that the sunlight does not fall onto the cloth, although the plant you are photographing may itself be in the sunlight. An umbrella is handy to darken any background.

Another problem you may encounter is that the closer you get to the bromeliad with the sun behind you, the greater problem you will have with interference from your own shadow. If you wait until midday you will not have that problem but the plant itself will cast deep shadows and these shadows will obscure detail.

From the point you focus on, one third in front will be in sharp focus and two thirds behind will be in sharp focus. This rule changes a bit as you get real close but it is close enough. My eyes aren't the best and I need glasses that have about 2.5 magnification to see clearly within one meter and I wear them when I focus within this range. I use a manual focus so that I can pick the exact spot I want to focus on. I use a piece of white card about 6 cm by 1 cm with a thin black line (0.4 mm) drawn down the center. I put this card on the exact spot I want to focus on. I have about a dozen different pieces of these white cards made up for different situations. When I get down to focus on just stamens or a pistil I use a one to three cm round thread out of woven black shade cloth lay these across the exact spot of the flower I wish to focus on. The thread is black, self-supporting and the flowers are yellow so it shows up well. When you get the opportunity to cut these pieces of thread make about one hundred and keep them in a small white plastic pill bottle, because you will need that many. Remember to remove all these focusing aids before you take the photo, or you will be

caught. Some lighting situations make it difficult focusing with a small aperture so get everything set up using the maximum aperture then step down to what you intend using and recheck.

Because the camera I use is old and does not have any electronics except for the light meter and synchronized flash, it is not expensive for me to pick up bits and pieces of equipment to see how they work. For close up work I use extension tubes. They come in sets of three, all different lengths, and can be used singularly or any combination. They are put between the lens and the camera body. The further the lens is away from the camera body the more the subject is magnified. Because they are hollow (no lenses involved) the only reduction in light intensity when using the flash is from the extra distance the reflected light has to travel through the extension tubes to the film surface.

When taking close-ups of bromeliad flowers, the normal depth of field obtained when photographing broms is considerably reduced. The smaller the aperture you use the greater the depth of field, meaning the more light is required. This leads to slower shutter speed to get the light or higher ISO numbered film, or more likely, both. You will end up having to get a good camera tripod and by good I mean very solid. The slower the shutter speed the more chance of camera shake. The slowest speed I can handle is 1/30 of a second for a hand-held camera and even then I need to be fresh and can do it for just a couple of shots. I would use a post, back of chair, or anything to steady my hand and thus the camera. The next bit of equipment that is invaluable is a cable release for depressing the button to take the photo. It will also help to avoid camera shake.

Fancy lenses can cost an arm and a leg. An average 28 mm lens second hand could cost from \$150.00 to \$300.00 with really good quality second hand lens from \$300.00 to \$800.00 if you can find one. An opportunity presented itself and I picked up a damaged lens (scratch on glass) for \$20.00. This gave me the opportunity to try this type of lens. As it turns out the scratch on the lens surface did not show on the photos so I am pleased, but the initial plan was to see how useful such a lens could be at a low cost. With cameras, it is not the camera that breaks you but the toys (accessories) that go with them, and more often than not you will find that you hardly ever use them. Still, they are nice to have. The beauty of a 28 mm lens is that you get a much better depth of field than with the 50 mm lens. The down side is there is a distortion of the subject, but even when you know what to look for you can't see it with broms. The secret is that the more obvious distortion is with straight lines that are parallel with the edges of the photo. With a bromeliad the plant is centered so there are no straight lines along the edges. The longer the focal length of the lens, the shallower the depth of field. The larger the aperture the shallower the depth of field.

Always use a u-v filter such as 1A or 1B for lens protection. A filter for each lens always in place cost around \$20.00. They will protect the front

element of the lens from dust, scratches and impact damage. It is much easier to clean a filter than a lens and much cheaper to replace a damaged filter. Everyone who has a lens not protected by a filter is just asking for trouble. The photographic use of a u-v filter is to reduce the amount of u-v light from entering the lens as the film emulsion is often sensitive to light outside the visible spectrum, and sees u-v light as blue. This affects the color balance of the image on the film which then won't represent the subject as we see it.

I have been using Ektacolor Gold 400 film. This is supposed to give very natural flesh tones when photographing people and I reason that as bromeliad bracts are mostly red, this is what I need. When this pack is used up I will try something else. I use an ISO 400 film because I am always chasing more light and most of my photographic problems are from lack of light. I am down to f22 to get depth of field and I need the ISO 400 film's ability to gather enough light. I know they recommend ISO 100 for a clear sharp image but I sometimes wonder whether it's snob value when you take into consideration the photos and what they want to do with them.

We are Looking for people to become interested in broms to join our Bromeliad Societies. We have to compete for their time and interest, therefore we have to portray Broms at their best in displays, shows and photographs. For example, the proliferation of web sites on the internet are going to require a diet of good photos and information. I don't want anyone telling me that Broms should be displayed *a la natural*. This is just a non-event when it comes to advertising and advertising means a good photograph.

God may like Broms *a la natural* but show judges and the general public do not.

*Jacobs Well, Victoria, Australia*

*Reprinted in abridged form from the newsletter of the Bromeliad Society of Victoria 16(4), August 1999.*

## Reminder: Dues to Increase January 1, 2000

For reasons stated in the last Journal, it has been necessary to raise the membership dues by \$5 in all categories beginning January 1, 2000. There will be no change in postage rates. There is still time to renew or begin your subscription under the old rates until December 31. New rates are:

\$30.00 US\$	Single
\$35.00 US\$	Dual
\$30.00 US\$	Society
\$30.00US\$	Institution
\$60.00 US\$	Commercial
\$45.00 US\$	Fellowship
\$800.00 US\$	Life Member

## Affiliates in Action

### Gene Schmidt

The Bromeliad Society of Japan had many things to celebrate this summer, having had their one-year anniversary on July 11. President Hiroyuki Takizawa presented a slide show and donated many plants to the auction. Their society became affiliated with the BSI after the Annual Directors' Meeting recently held in Pennsylvania. Other officers are Secretary Hideo Shimizu, and Directors Hitoshi Fuji, Fumio Fujikawa, Jun Matsuzono, Kazuhiro Watanabe, and Eiko Watanabe.

The Greater New Orleans Bromeliad Society spent a lazy summer afternoon at the home of Jeanne Garman. No business, just lots of fun and food. There were so many plants on the raffle table that everyone became tired of winning. Those world-famous chefs from New Orleans had better watch out - this local society will give them a run for their money! (*From Carol Hertz, President of GNOBS*)

Gerry Stansfield rejoined the Bromeliad Society of New Zealand after some 30 year's absence. He will take over the New Zealand Society seedbank from Andrew Flower, past editor of the *New Zealand Society Journal* and founder of the seedbank in 1994. The time-honored practice of raising bromeliads from seed in New Zealand started with Muriel Waterman many years ago, and her legacy lives on in many fine crosses grown today. Good luck to Gerry and welcome back to the New Zealand Society. The society also reports that the number of members joining the society seems to be ever increasing and this is reflected in the record number of people attending the monthly meetings. Sixty-five people were present for the April meeting. Please note that Peters Waters, Treasurer and Scientific Officer of the society, has recently been appointed as a Director of the Bromeliad Society International. Peter is the first New Zealander to become a Director. Congratulations! (*The Bromeliad Society of New Zealand Journal, Vol. 39, No. 3 & 5*)

The Sarasota Bromeliad Society held their latest party/auction at the home of their President, Terri Bert, on July 11th. The thirty people who attended had a terrific time. The only plants one could find at Terri's were bromeliads, and lots of them. With many beautiful plants to bid on, the auction raised money for the Evil Weevil fund. The Sarasota Bromeliad Society also hosted the latest Florida Council of Bromeliad Societies meeting; which produced a sample petition regarding the Evil Weevil fund. Hopefully in the near future members will be asked to have this petition at upcoming shows and sales. Sample letters were also distributed to the representatives asking that they individually send letters to the State Legislature. It was reported that the Florida Council Web Site is now one year old and has had over 11,000 visitors to the page. Their web site once again is <http://fcbs.org/> (*The Sarasota Bromeliad Society Newsletter, Vol. 4, Issue 38*)

The Bromeliad Society of South Florida approved a donation in the amount of \$1,000 to the Library of Florida International University, to be spent on bromeliad related publications. Member Ergo Gonzalez was thanked for initiating the special relationship with the university. An auction to benefit the Evil Weevil fund also was held, thanks to donations from Nat DeLeon, Jo Deville, and Karl Green. Auctioneer Bill Frazel got the maximum dollars from the members attending. (*The Bromeliadvisory*, Vol. 42, No. 8)

Bill Frazel was also mentioned in the Caloosahatchee (FL) Bromeliad Society *Meristem*. Bill and wife Maureen have been good friends of the CBS for years. The theme of the July meeting was "Starting with Basics." Bill presented a course on "How to Build a Bromeliad Collection," of interest not only to the beginners, he grabbed the attention of "old-timers" with slides of how it used to be in the Florida Everglades along with stories about bromeliad folks still remembered. The CBS appreciate everything Bill and Maureen Frazel have done for the bromeliad world. (*The Meristem*, August, 1999)

Thanks to several affiliated societies for their support of the 14th World Bromeliad Conference to be held in San Francisco, CA. The Bromeliad Society of South Florida, the Sarasota Bromeliad Society, and the Imperial Polk Bromeliad Society made donations recently. They join the San Francisco Bromeliad Society, the Florida West Coast Bromeliad Society, the Sacramento Bromeliad Society, and the Bromeliad Guild of Tampa Bay as societies who have contributed. Your generosity and thoughtfulness are appreciated by the BSI World Conference Committee.

Correction: The comments regarding the recent startup of the Cryptanthus Society *Journal* in the BSI *Journal*, Vol. 49, No. 3 should have been attributed to the *Newsletter*, February, 1999, of the Sarasota Bromeliad Society.

Duluth, Minnesota

## World-wide Show and Tell

The "World-wide Show and Tell" has been a popular feature of recent world conferences and certainly every effort should be made to make the upcoming one at the BSI's big 50<sup>th</sup> anniversary celebration the best yet. Do you have slides or photographs of exceptional plants – either winners at judged shows or simply from your collection or someone else's collection? Do you have slides of an exceptional nursery in your area, or interesting slides of bromeliads in habitat? Do you have slides from the BSI's past of people, plants or places that would be of interest to others? All these and more are welcome at the show and tell. Here's what to do. Bring your material – slides, photos, or other items – to the hospitality desk at the hotel. Number them and leave your name, room number and the name of the person who will provide the commentary on them (if it is not you.). Don't wait till the last minute. Start looking for materials now and avoid that last minute rush. If you have any questions as to what might, or might not be appropriate to include, please contact Dee Dee Bundy at 978-526-1952, or by e-mail at bundee@ici.net.

## Cultivar Nomenclature

Derek Butcher

At one time all plants were covered by the same code that is now known as the AICBN (International Code of Botanical Nomenclature). In 1953 we saw the introduction of the ICNCP (International Code of Nomenclature of Cultivated Plants) and each succeeding review saw it move further and further away from the ICBN rules. The latest in 1995 shows quite radical differences!

In 1998 we saw the issue of a monumental work by Don Beadle, namely the Bromeliad Cultivar Registry, where Don followed the 1995 ICNCP rules.

As far as I can trace, the new approach to writing the names of cultivars has not been formally advised to bromeliad growers. From what I have seen in various affiliate society's newsletters, and information on web sites, these changes have gone unnoticed even though they have the Bromeliad Cultivar Registry at hand.

This is a plea for a standard approach so that bromeliad growers, especially newcomers are not too confused. So, if you follow what Don Beadle has done in the Bromeliad Cultivar Registry this is how you would be writing cultivar (and hybrid!) names.

The genus or nothogenus (bigeneric combinations – or beyond) name is written exactly the same as it has been done. The cultivar name is written in single quotes with a capital letter starting each word.

### Thus - *Neoregelia* 'Charm'

The use of the multiplication sign is OUT even for Latinized cultivar names.

### Thus - *Billbergia* 'Windii'

(If anyone worried about this, please check article 17.8 of the ICNCP).

The use of grex is also OUT and is replaced by cultivar groups that contain similar looking plants irrespective of their parentage. (Note that grex will persist in the orchid world AND is the only exception in the whole of the plant kingdom!). So cultivar groups must be in our planning for the future. For example there is currently no way to answer a request for a neoregelia that has a bluish centre and looks like a *Neoregelia concentrica*. But currently if you wanted a white rose that had a scent and only grew one metre high you can easily be told "Try this, or this, or this!"

Choosing cultivars to be named is a very difficult task as advised in the notes supplied with the official registration form. I would like to expand on the comments made because it is important how we look at cultivar names. In the early years of this society most hybrids were F1 - that is species crossed with

species. An F1 generation would result in similar looking plants in a grex, for example, *Billbergia* 'Catherine Wilson', and I have no worries of accepting this as a cultivar name, but as soon as we get into F2 generation grexes (plural of grex!), hybrid crossed species or even F3 generations (hybrid crossed hybrid) the problem starts. Because there is usually much variation, individual plants will need names. Therefore ruthless culling is necessary. Perhaps I should mention here that it is proposed to call these plants "Culton" in place of the wild "Taxon" so perhaps horticultural taxonomists will now be called "Cultonomists"!

This explosion of variability at F2 level can be controlled by selection which is why the likes of Cornelius Bak can produce thousands of *Vriesea* hybrids under one cultivar name from seed! The same applies to that packet of flower seed for Annuals with the glossy picture on the front! These plants are not clones and neither are they all F1 hybrids but they look very similar indeed.

Cultivar names should be able to stand alone. *Aechmea lueddemanniana* 'Mend' is not necessary because it would be preferable to be writing *Aechmea* 'Mend'. This will restrict the usage of "variegata" etc because for obvious reasons it does not convey much on its own. If you want to use "variegata" then you will have to follow the ICBN code, learn Latin and write up a description! It is much easier to use an "Anglicised" name such as *Billbergia* 'Kyoto'

It may be said by some that they want to know if their plant is a hybrid or a variation on a natural species. The more you write on the label the more chance of error and IF you are really serious you can refer to the Bromeliad Cultivar Registry for the answer. What you will never know is whether the hybridizer used the correct names in the parentage in the first place!

There is just one area in the Bromeliad Cultivar Registry that I am uneasy with. It is the inclusion of natural hybrids such as *Tillandsia* x *rectifolia*, *Tillandsia* x *smalliana* etc. I am fully aware that non-horticultural taxonomists are not particularly interested in these but there are many so called natural species so described which are certainly natural hybrids but no one has acted to correct the names. Secondly they come under the ICBN rules.

Finally, what do we do when plants have been found in the wild and botanists have been too slow in giving them a Latinized name? While I would prefer them to have a collection number and who collected it, it is better that they be given a cultivar name because they can at least be identified. This is preferable to blatant misidentification with an existing taxon. So we have *Neoregelia* 'Fireball' and *Neoregelia* 'Robert Read', clearly species plants but with botanists unwilling to name them "properly" because of lack of collection data. On the other hand we have the likes of *Aechmea callichroma* very widespread in cultivation but not yet found in the wild!

Remember that if the plant is of garden origin the ICNCP rules apply but if wild then the ICBN. Isn't it a pity there is a grey area in between?

*Fulham, South Australia, Australia*

## Book Reviews

Jason R. Grant

**Catalogue of the Vascular Plants of Ecuador. Monographs in Systematic Botany from the Missouri Botanical Garden, Volume 75.** Peter Møller Jorgensen & Susana León-Yáñez, eds., 30 July 1999. 28 cm, 1181 pages, hard cover, ISBN 0-915297-60-6, ISSN 0161-1542. Order from: Department Eleven, Missouri Botanical Garden, P.O. Box 299, St. Louis, MO 63166-0299 USA; fax: (314) 577-9594; email: dept11@mobot.org; web site: <http://www.mobot.org>.

This catalogue lists 15,901 species of pteridophytes, gymnosperms, and angiosperms, 4,173 of which are endemic to Ecuador. It is the first comprehensive checklist for the country, and the total number of species is comparable to that of the entire flora of North America.

The Bromeliaceae (pages 337-361) authored by Harry Luther consist of 17 genera and 440 species, 151 of which are endemic. The genera include: *Aechmea* (40 species; 8 endemic), *Ananas* (4 species), *Billbergia* (3 species), *Bromelia* (3 species), *Catopsis* (3 species), *Greigia* (5 species; 2 endemic), *Guzmania* (103 species; 41 endemic), *Mezobromelia* (6 species; 2 endemic), *Neoregelia* (6 species; 1 endemic), *Pepinia* (9 species; 6 endemic), *Pitcairnia* (51 species; 23 endemic), *Puya* (23 species; 15 endemic), *Racinaea* (36 species; 10 endemic), *Ronnbergia* (5 species; 1 endemic), *Tillandsia* (102 species; 27 endemic), *Vriesea* (30 species; 12 endemic), and *Werauhia* (11 species; 3 endemic). The "18th" genus *Pseudananas* was based on misidentified material.

For each species there are synonyms, bibliographic references, habitat data, the distribution within the provinces in Ecuador, and a single voucher listed. This is an extremely useful catalogue, indispensable and recommended for anyone interested in the flora of northern South America.

**Bromélias da Reserva Rio das Pedras.** Rosa Lima, text; Andrea Costa, Scientific review, January 1996. 22 cm, 68 pages, soft cover, bilingual Portuguese/English. It may be possible to order this book from the Sociedade Brasileira de Bromélias, Caixa Postal 71034, Rio de Janeiro, RJ, Brazil, cep. 21015-970. It can also be purchased at the bookstore of the Jardim Botânico do Rio de Janeiro, Rio de Janeiro, Brazil.

This is a field guide to the bromeliads of a small forest reserve in the municipality of Mangaratiba, west of Rio de Janeiro. The 1,361 hectare sized ecological reserve protects some of the remaining stands of the rapidly vanishing Atlantic coastal rainforest. There are short descriptions of 25 species, each of which is illustrated by a color photograph. These species include: *Aechmea nudicaulis*, *Ae. pectinata*, *Ae. weilbachii*, *Alcantarea edmundoi*, *Billbergia*



*amoena*, *B. pyramidalis*, *Canistrum lindenii*, *Hohenbergia augusta*, *Neoregelia johannis*, *Nidularium angraensis*, *N. billbergioides*, *N. meeanum*, *Pitcairnia flammea*, *Quesnelia quesneliana*, *Tillandsia gardneri*, *T. geminiflora*, *T. stricta*, *T. tenuifolia*, *T. usneoides*, *Vriesea erythrodactylon*, *V. gradata*, *V. hieroglyphica*, *V. neoglutinosa*, *V. paupperima*, and *Wittrockia superba*. This may be more of a novelty item for collectors, and for those particularly interested in Brazilian bromeliads.

**Guía de bromelias de Costa Rica.** J. Francisco Morales; illustrations by Anita W. Cooper, 1999. 18 cm, 180 pages, soft cover, ISBN 9968-702-14-5, bilingual Spanish/English. Order from Departamento de Publicaciones (director, Maria Lourdes Gonzalez: mlourdes@inbio.ac.cr). Instituto Nacional de Biodiversidad, Apto 22-3100, Santo Domingo de Heredia, Costa Rica. Tel.: 506-244-0690, Fax.: 506-244-2816, web site <http://www.inbio.ac.cr>.

This popular field guide to the bromeliads of Costa Rica will serve as a welcome introduction to the family for travelers and botanists alike to Costa Rica. It will also serve equally well in Panama or Nicaragua. Eighty species are described, each depicted with a beautiful watercolor illustration by Anita W. Cooper. The text for each species includes a brief description of the key diagnostic characters, the habitat, and its distribution within Costa Rica and in the world.

The following genera are portrayed: *Aechmea* (6 species), *Araeococcus* (1 species), *Bromelia* (2 species), *Catopsis* (4 species), *Guzmania* (11 species), *Pitcairnia* (5 species), *Puya* (1 species), *Racinaea* (4 species), *Tillandsia* (19 species), and *Vriesea* (27 species). The guide is most interesting for its large representation of species of *Vriesea* now recognised within the genus *Werauhia*. Many of these species have never been pictured before, and this guide will serve as a useful reference for them.

The only downfall is that there is no index, necessary for a guide with this number of species arranged in a non-alphabetic sequence. Despite this oversight, the guide is well-received, and should be on every bromeliad enthusiasts bookshelf.

Laboratoire de phanérogamie, Institut de botanique  
Université de Neuchâtel, ch. de Chantemerle 18  
2007 Neuchâtel, Switzerland

(+41) (0)32 718 2344 - telephone Fontaine-André 30 (residence)

(+41) (0)32 718 3001 - facsimile 2000 Neuchâtel, Switzerland

(+41) (0)32 718 2330 - secretary (+41) (0)32 725 3241 - tel/fax

email: [jason.grant@bota.unine.ch](mailto:jason.grant@bota.unine.ch) email: [jasonrgrant@hotmail.com](mailto:jasonrgrant@hotmail.com)

## Cultivar Corner

### Chet Blackburn

*Aechmea nudicaulis* 'La Tigra' (figure 5) was collected in Costa Rica and registered by Wally Berg in 1996. The cultivar was named after the La Tigra River flowing near the collection site. The plant is about 18 inches (7.2 cm) tall with an open, flaring form. The entire plant is reddish-orange with silvery banding with an inflorescence consisting of a red scape and scape bracts, and yellow flowers with light green sepals.

*Tillandsia* 'Amigo' (figure 6) is a cross made by John Arden between *T. jalisco-monticola* and *T. rothii*. The plant forms a large rosette over 2 feet in diameter with long, tapered greyish-green leaves. The leaves take on a reddish hue near the scape. The compound terminal inflorescence reaches 2 feet in height and consists of inflated floral bracts subtending pale flowers. The floral bracts are red toward the base of the spike but becomes yellow with wine margins as they approach the tip. The cultivar was registered in 1996.

*Tillandsia* 'El Primo' (figure 7) is another Arden cross, this one between *Tillandsia secunda* and *T. lampropoda*. The rosette is up to 2.5 feet (12 cm) in diameter with a bright red inflorescence that reaches a height of 4.5 feet (21.6 cm). The foliage is basically green with small maroon spots. The plant was also registered in 1996.

Sam Smith originated the bigeneric hybrid, x *Androlaechmea* 'Sampson' (figure 8) which first flowered in 1989. It is a cross between the Amazonian *Aechmea tessmannii* and the Central American *Androlepis skinneri*. In form it most resembles *Androlepis*, but with a larger, more colorful, pink-bracted inflorescence. As the cultivar name implies, it is a large plant having a diameter of 4 to 5 feet (19-24 cm) and an inflorescence reaching 3 to 4 feet (14.4 cm to 19.2 cm).

Auburn, California



Figure 5. *Aechmea nudicaulis*  
'La Tigra'

Photograph by Dorothy Berg



Figure 6. *Tillandsia* 'Amigo'

Photograph by Pamela Koide



Figure 7. *Tillandsia* 'El Primo'

Photograph by Pamela Koide

Figure 8. *x Androlaechmea*  
'Sampson'



Photograph by Sam Smith

## Call For Nominations for the Office of Director Thomas W. Wolfe

### THIS IS THE CALL FOR NOMINATIONS FOR THE 2001-2003 TERM

Based upon membership figures as of September, 1999, only the following region has a vacancy for the three-year term beginning in 2000:

California

1 director

**Who may nominate?** Any voting member of the society who resides in a region for which there is an opening may nominate a candidate for an opening in that region.

**Who may be nominated?** A nominee must: (1) be a voting member of the society and have been a voting member for the three consecutive years prior to nomination; (2) reside in the region for which he/she has been nominated; (3) not have served two consecutive terms as a director immediately preceding nomination; (4) agree to being nominated; (5) agree to serve as a director if elected.

**Procedure for nominating:** (1) obtain the consent of the prospective nominee and verify compliance with the qualification criteria; (2) mail nominations to the chairman of the Nominations Committee between 1 January 2000 and 18 March 2000, inclusive. (Nominations must reach the chairman of the Nominations Committee by 20 March 2000.) Nominations by telephone will be accepted through 15 March but must be confirmed in writing; (3) supply with each nomination the full name, address and telephone number of the nominee, the position for which the nomination is being made, the local society affiliation, and a brief biography of the nominee.

#### Mail nominations to:

Dan Kinnard  
BSI Nominations Chairman  
6901 Kellyn Lane  
Vista, CA 92084  
(760) 414-9636  
E-mail DKINNARD@exo.com

## *Vriesea fosteriana*

Chet Blackburn

Preparing the fifty-year index to the *Journal of the Bromeliad Society* has brought forth a few surprises. The surprises usually related to the diversity of plants and topics that have been covered over the years and the number of photographs that exist of seldom seen species. One of the biggest surprises however, concerns a plant that has not been covered at all. It seems astonishing that a plant as spectacular and as common in cultivation as *Vriesea fosteriana* has never been the subject of an article in the Journal. Furthermore, only two small black and white photographs have ever appeared (although there is also a color photograph of the bottom half of a plant in a 1987 article on plant pupping).

*Vriesea fosteriana* is from southern Brazil. The type species was collected in full sun at about 1,000 meters (3,300 feet) at Morro Do Sal in the state of Espírito Santo Brazil in 1940. It has been widely grown in cultivation ever since.

There are many growers who, by design or by necessity, limit their bromeliad collections to small to medium-sized plants. Yet nearly everyone makes an exception for this handsome plant in spite of its size. On mature specimens, individual leaves can reach up to 1 meter (3.3 feet) and the inflorescence can attain a height of 2 meters (6.6 feet). No one grows the plant for its inflorescence, however. The symmetrical nature of the plant would give it a pleasing appearance even without colorful leaf markings, but it is the green to reddish reticular mottling on otherwise light green to whitish leaf blades that draws everyone's attention.

In *Vriesia fosteriana* var. *seideliana* Reitz, the white portions of the leaf are much more prominent than in the typical form.

The best known cultivar, *Vriesea fosteriana* 'Red Chestnut' (cover photo) is a cultivar of this variety according to the Bromeliad Cultivar Registry. In this cultivar, the red markings are quite prominent, hence the cultivar name. Another cultivar, 'Rubra Broadleaf', has even more red in its markings and has an overall maroon appearance. It grows larger than 'Red Chestnut'. *Vriesea fosteriana* 'Vista' differs from other *Vriesea fosteriana* cultivars in having nearly white foliage with finer striations of a reddish-chocolate color. I have also seen plants similar to 'Vista' in which striations are dull green with very little red. This green and white form resembles *Guzmania lindenii* but is much easier to grow. As the photographs attest, the species is very variable.

The inflorescence extends well above the rosette, the flowers are greenish-white, produce quantities of nectar, and open at night; all traits commonly associated with plants pollinated by nectar-feeding bats.

Auburn, California





Figure 9. Inflorescence of *Vriesea fosteriana* 'Red Chestnut'

Photograph by Marcel Lecoufle

Figure 10. A form of *Vriesea fosteriana* in which white is the predominate color.



Photograph by Chet Blackburn



Photograph by Chet Blackburn

Figure 11. A variant form of *Vriesea fosteriana* in which the markings are less uniform and have a pink flush in the center at Kent's Nursery in Vista, California. The pink color became less distinct as the plant grew.



Figure 12 Another variant form from the same seed batch. This one lacks most of the hieroglyphic patterns on the leaf and shows no red or pink flush.

Photograph by Chet Blackburn

## Seminars at WBC to Cover a Wide Range of Topics

There should be something for everyone at the seminars to be presented at the World Bromeliad Conference (June 26 through July 5, 2000) in San Francisco. Starting off will be a taxonomic seminar hosted by Harry Luther on Friday, June 30. Although this seminar will be open to the public, it will be of a more technical nature and not geared toward the average collector or grower.

Their interests will be served by the general seminars that will begin on the following day, Saturday, July 1 and will run through mid-Monday, July 3.

Sylvia Méluzin will provide an ethnobotanical viewpoint in her talk on religious uses of bromeliads by Indians from the mountainous regions of Honduras.

Hybridizing and breeding will receive attention from John Arden (*vrieseas*) and Jeff Kent (*guzmanias*). Other horticultural topics and/or specific genera will be covered in talks to be provided by John Anderson (*aechmeas*), Don Beadle (*billbergias*), David Fell (bromeliad cultivation in Hawaii), Herb Plevier (experiments with ethylene tablets), Tom Koerber (unusual mountings) and Dennis Cathcart.

Robert Kopfstein will present a program on judging bromeliads. Jason Grant's seminar will be on a South American research expedition.

Views on bromeliads in habitat will be provided by Pierre Ibisich from Bolivia, Elton Leme from Peru, Ivón Ramirez from Mexico, Dutch Vandervort on Venezuela, and Bruce Holst, Curator of the Herbarium at Marie Selby Botanical Gardens. Hiroyuki Takizawa, President of the newly affiliated Bromeliad Society of Japan will speak on highlights of recent trips to Mexico, Honduras, Ecuador and Costa Rica.

Times, locations, and additional details for all seminars will be provided in the information packet registrants will receive upon arrival at the registration desk at the conference.

Admission to the seminars is included in the registration fee. However, for the benefit of individuals who are not registered for the conference but who would still like to attend seminars, a daily fee of \$35 has been established to allow entrance to all seminars scheduled on a given day, as well as entrance to the show and plant sales area for one day. A separate \$5 daily fee has also been established that will allow entrance to the show and sales area ONLY for one day.

- CHB

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## Guzmanias

### Glenys Guild

Guzmanias are among the most beautiful and colorful bromeliads in cultivation. The genus *Guzmania* was established in 1802 and named after a Spanish pharmacist named Guzman. Most guzmanias originate from northwestern South America where they occur in the tropical rainforest belt of the Andes in Colombia, Ecuador, and northern Peru. The family distribution however, extends from southern Florida (with a single species, *Guzmania monostachia*) through Central America and the West Indies, down to western Brazil and Bolivia.

Guzmanias are not as numerous as tillandsias or vrieseas, to which they are closely related. They belong to the subfamily Tillandsioideae and have entire (spineless) leaves. Most guzmanias grow in moist, cool, shady habitats in the lower echelons of the jungle where they are found growing on trees and bushes, although larger species grow as terrestrials and in leaf mould. Guzmanias grow at altitudes between sea-level and 3000 meters (9,900 feet).

They need to be snugly potted, with the pot just a little larger than the root area, allowing for about a year's growth before potting onto the next size pot and fresh compost. A major factor for successful culture is an open potting mix that provides a continually acid environment. A *Cymbidium* orchid mix is suitable, or one which contains peat moss. A mix that allows excess water to drain away is critical as guzmanias hate wet feet. Water quality is very important as they are intolerant of hard, alkaline or salty water. Alkaline water causes burning in the central leaves of the cup. The ideal situation is to use rainwater where possible. Being a green leafed plant, they can be fed with diluted foliar food or slow release fertilizer added to the potting mix.

Guzmanias can be grown outside successfully in Auckland in a shady, sheltered place out of the frost. However, they make ideal houseplants and are grown extensively in the United States for this purpose.

Most of the propagation is done through tissue culture in Europe (Belgium, Germany and the Netherlands), from where they are sent to the United States and other countries to be grown on for the houseplant trade.

There is a wide variety of shapes in the inflorescence (flowers, sepals, primary bracts, flower bracts), from a straight spear-like structure to a globular shaped one. Most typical is the inflorescence that comes up and spreads out to a large head, some up to 26cm across. One exception is *Guzmania sanguinea* (figure 13), of which there are two varieties, a large form and a small one. *Guzmania sanguinea* has flowers that come up from the center of the cup where



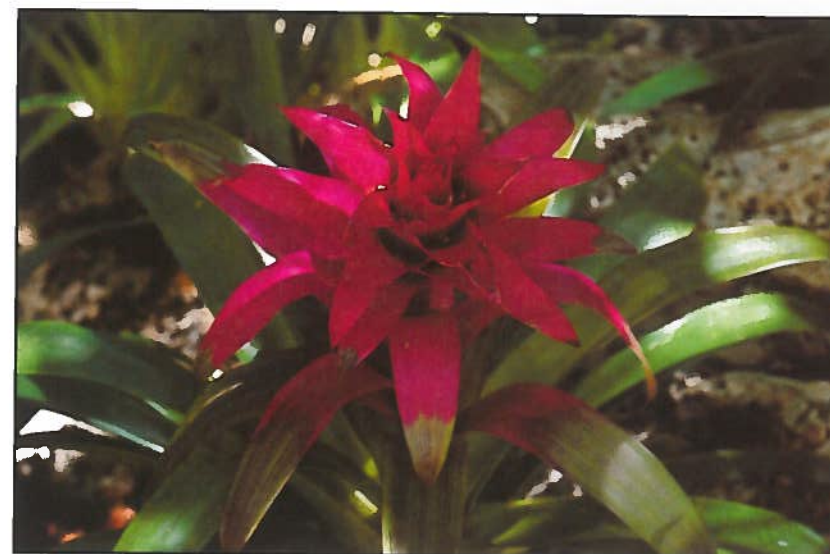
Photograph by Robert Monteith

Figure 13. A spectacular specimen of *Guzmania sanguinea* exhibited by Frank Hayen at the 1994 World Bromeliad Conference in San Diego.



Photograph by Chet Blackburn

Figure 14. An as yet unnamed hybrid resulting from a cross between *Guzmania zahnii* and *G. squarrosa* ("Lita type") at the Kent Bromeliad Nursery in Vista.



Photograph by Chet Blackburn

Figure 15 *Guzmania* 'Neon', another spectacular hybrid of unknown parentage produced by Kent Nurseries.



Photograph by Chet Blackburn

Figure 16. *Guzmania* 'Jubilee Variegata' an unregistered cultivar of merit.

the leaves have turned bright red and/or yellow, and having an appearance more like a neoregelia than a guzmania. They are not prolific puppers, producing one or two at most, which grow right at the top of the plant and are very difficult to remove. They are best left on the parent as long as possible because to get at them requires stripping the leaves and almost destroying the plant.

Currently there are 183 species but only a few are readily available commercially. Hybrids are more plentiful on the market. The available species in New Zealand are *G. lingulata* (the first available here) *G. musaica*, *G. sanguinea*, *G. zahnii*, *G. monostachia*, *G. patula*, *G. wittmackii* and *G. squarrosa*. There are now many fine hybrids that are stronger growers than the species, and with brilliant coloring that lasts far many months. Truly, *Guzmania* is a genus to be coveted and included in the collection of any fancier.

Swanson Waitakere City, New Zealand

Reprinted in abridged form from the Bulletin of the Bromeliad Society of New Zealand, Inc. 39(3), May 1999.

## Looking for the Perfect Christmas Gift?

How about a gift membership to the BSI? In addition to other benefits it includes a subscription to the Journal of the Bromeliad Society; a publication that no serious collector should be without. For details on cost and membership subscription information, see the inside cover of this issue (page 242).

If the gift recipient already is a member, does he or she have all the available back issues? While not all back issues are still available, most are, and they represent hours of pleasurable reading and valuable information. For information on back issues see page 283 of this issue.

The brand new commemorative pin is now available in time for Christmas. See a color depiction of the pin and cost information on page 281.

Something unique would be the CD-Rom of never-before published photos of tillandsias available on *Tillandsia – the airplant mystic*. There are limited quantities and the CD is only available through the BSI. See the ad on page 284.

Two other publications no serious bromeliad grower should be without are *An Alphabetical List of Bromeliad Binomials* and *The Bromeliad Cultivar Registry*. The BSI also has a number of other publications available in a wide range of prices. See the ad on page 283.

The ultimate gift for the person who has everything but enough bromeliads? How about registration to the World Bromeliad Conference in San Francisco?

## Some Tips on Preparing Plants for Show

### Olive Trevor

Start now to select and groom your plants for the next show. Always select fairly mature plants with good shape, color and markings. Select more than you intend to exhibit. You can reject those that don't reach a certain standard by the time the show arrives. Perhaps the rejects could be used for display plants.

Start by elevating those selected plants on upturned pots, bricks or other suitable stands above the other plants on the benches. They will get maximum light and will not be touched or shaded by other plants on the bench. In this position you can watch them closely. It will be easy for you to give them a quarter turn every few days to help them improve their shape or conformation. Examine the pot and repot in a similar size if it is marked or scruffy. Sometimes a different colored pot can blend or contrast with the color of the plant to some advantage. Pot into a larger pot if the plant is top heavy or out of proportion with the pot. Never do this at the last minute or your plant could be unstable. While you are repotting the plant, remove any bottom leaves that are yellowing or marked. Sometimes the plant can be buried a little deeper to cover part of the stem or trunk, after you have removed leaves. Even if you are not repotting, but just removing old leaves, a "top up" to cover the stem may be beneficial to the appearance of the plant.

Trim the leaves if you wish, but this will have to be done again at the last minute to remove dead edges of the trim. Always copy the shape of one of the good leaves. A pair of very sharp scissors will be needed to do a good job. I have been told that *Aloe vera* rubbed on the cut will stop it from drying and leaving those tell-tale edges.

Last but not least is cleaning the plant. So many beautiful plants lose points because they are dirty. A good flushing from a hose to remove debris and grime is a start, but a soft brush will be needed to clean high water marks and markings from salts that collect in the plant's cup. You must be very careful, especially if your plant has a lot of silvery trichomes or scales. Clean your plants well in advance by all means, but a last minute cleaning on the day of the show will always be necessary. Make sure all water is emptied from the cups and dry them out with tissues or other soft material.

Finally, you must prepare the plant for transporting. Be careful when packing as damage in transit can ruin any show plant. Turn a box upside-down and cut a hole in the base. This makes a good stand to carry a plant. Space plants so they do not touch while travelling to prevent leaf damage. Make sure you have extra labels, in case you lose some in transit and, of course, don't forget your entry forms and schedule.

Ferny Grove, Queensland, Australia

Reprinted in part from *Bromeliaceae*, 27(3), *Journal of the Bromeliad Society of Queensland Inc.*



## 1999 Board of Directors Meeting: Longwood Gardens

The 1999 meeting of the BSI Board of Directors was held at Longwood Gardens in Kennett Square, Philadelphia on June 12, 1999. The meeting was hosted by Rolfe Smith, BSI Conservation Chair, who has charge of the Tropical Cascade Garden along with other conservatory exhibits at Longwood.

Longwood Gardens is one of America's largest and most beautiful botanical gardens. Situated on 1,050 acres of land, the gardens are located 30 miles west of Philadelphia, Pennsylvania and 12 miles north of Wilmington, Delaware.

In 1992, famed Brazilian architect Roberto Burle Marx along with Conrad Hamerman designed the Tropical Cascade Gardens exhibit that features many bromeliads in both individual and mass displays. Among his many other talents, Roberto Burle Marx was an enthusiastic collector of bromeliads and an Honorary Trustee of the Bromeliad Society International.

On the day following the Board of Directors meeting, a "behind the scenes" tour of the gardens, and particularly of the conservatories, was led by Rolfe Smith for the 11 board members and their families who were still on site.



Photograph by Carol Wolfe

Officers and Directors of the BSI tour Longwood Gardens along with host Rolfe Smith.

SEATED, L to R: Doris D. Bundy, Peggy Bailey, Hattie Lou Smith.  
STANDING, L. to R.: Harvey Beltz, Rick Richtmeyer, Clyde Jackson, Jack Reilly, Chet Blackburn, Joyce Brehm, Bill Soerries, Tom Wolfe, and host Rolfe Smith.

## Highlights of 1999 BSI Board of Directors Meeting at Longwood Gardens

The following is a summary of actions discussed and/or taken at the Bromeliad Society International Board of Director's meeting held at Longwood Gardens in Kennett Square, Pennsylvania on June 12, 1999.

The annual meeting of the Board of Directors of the Bromeliad Society International Inc, was called to order by the President, Thomas Wolfe at 09:32AM. The following officers, directors, and committee chairmen were in attendance.

John Anderson	Clyde Jackson	Rolfe Smith
Peggy Bailey	Dan Kinnard	Hattie Lou Smith
Harvey Beltz	Thelma O'Reilly	Bill Soerries
Chet Blackburn	John (Jack) Reilly	Thomas (Tom) Wolfe
Joyce Brehm	Allan (Rick) Richtmeyer	
Doris (D.D.) Bundy	Carolyn Schoenau	

Karen Andreas, John Atlee, Don Beadle, Luiz Felipe Carvalho, Keith Golinski, Jerry Raack, were excused by the President.

1. The name has officially been changed to The Bromeliad Society International, a California non-profit corporation. The Secretary has received from the Secretary of the State of California the change to the articles of incorporation for the BSI name change.
2. Karen Andreas was appointed to replace Hattie Lou Smith as director from Florida when she resigned to assume the Vice President's position. Allyn Pearlman resigned as director from Texas and Allan (Rick) Richtmeyer was appointed as his replacement. Don Beadle of Florida resigned a few days before the board meeting (Terri Bert has subsequently been appointed to fill his remaining term).
3. Membership directories have been distributed at a cost of \$2922.00 saving \$1078.00 of the allocated budget.
4. A letter was sent to the Honorary Trustees and Life Members, soliciting comments regarding the BSI and the dwindling membership. There were comments regarding the cost of a foreign membership, which does not include postage, but most comments were complimentary.
5. Currently 1,739 members (including dual members), are listed in the membership directory. Only about 50% of new members from our recent membership drive renewed membership.
6. A request for donations and a suggestion for gift memberships is being included with all notifications for membership renewal.
7. The extra copies of the membership directory will be offered for sale to BSI members at \$6.00 per directory, including postage.
8. The postage increase had little impact because the cost for the second ounce. Actually decreased. The price of a membership still does not cover the cost of printing and distribution of the *Journal*.

9. A draft of the 50- year index was passed among the members present for comment.
10. The cost of Plaques given to affiliates for BSI sanctioned plant shows was \$448.00, the materials sold \$355.60, which included medallions and tags. The medallions cost \$5.15 each and sell for \$6.00. There is a total inventory value of \$1525.73. Societies who award the plaques also use at least one level of the medallions.
11. Requests for documentation of the affiliate's BSI charter have been slow in coming. Three new societies are in preparation for affiliation. Illawarra Bromeliad Society of Australia; The Bromeliad Enthusiasts Group of the Netherlands and The Bromeliad Society of Japan. Plans are underway to award \$100.00 to the best affiliate society display at WBC2000.
12. Rolfe Smith noted that an ethnobotanist from the New York Botanic Garden had presented a program at Longwood demonstrating how native peoples could make more money by saving the habitat and collecting the plant materials for medicinal purposes than by clear cutting for lumber or grazing. This ethnobotanist is working with the government to promote this plan. Brazil is making some headway in this area. They are trying to stop the collection of species including those for sale in local markets.
13. The Judges handbook revisions are underway and should be published in the *Journal*; Ms. Prevatt would like the revisions to consist of 3 sections. The New Orleans district has lost judges, only 3 remain and this number is not enough to be a separate district. Certificates and awards are increasing in prices. Contact with the Australian judges will be made this year to assess their plans and progress. Betty Ann would like to find out how many affiliates that stage accredited shows use medallions; they are not used much in Florida.
14. Purchase of Tillandsia CD ROMs was approved and acquired from Hiroyuki Takizawa to be sold exclusively by the BSI.
15. BSI Publications for sale will be listed on the BSI web page along with the ability to use a credit card to order.
16. Tom Wolfe would like to have an order form made up to insert into the *Journal* so people don't have to destroy their *Journal* to order. Because of the cost of postage, Chet Blackburn suggests we only do this for one *Journal* a year unless the results indicate the income gained exceeds the cost of additional postage. The form could solicit donations as well, which could be on the back of the order form making only a one-page insert. We should emphasize that all donations are tax deductible due to our non-profit status. Dan will work on a form to put on the web site that will match the order/donation form.
17. Total receipts from the seed fund in 1998 was \$1,408.02. BSI profits from this were \$704.01. Harvey Beltz seeks species seeds from all members, but don't send whole *Aechmea* berries. He gets some seeds from Venezuela. Alvim Seidel sends seeds almost every month. Pedro Glucksman used to send *Navia* seeds and other unusual species has stopped doing this. There are seeds at Selby if someone could harvest them. The rarity of the seed does not matter as long as they are species seeds.

18. Slide programs were rented 7 times from June 1998 to May 1999. The slide library is outdated. Chris Krumrey, Slide Program Chairman wants to develop CD ROMs and duplicate programs from other society members. Joyce Brehm made a motion and seconded by Carolyn Schoenau that Chris take the responsibility and make the decision to retire the slides as he thinks is necessary. This motion carried unanimously. John Anderson and Rick Richtmeyer will help upgrading the programs.
19. The following persons were nominated as Directors, and since there was only one candidate for each office, were accepted for the terms running from 2000 to 2002: Keith Golinski, International (Australia, second term); Dan Kinnard, California (second term); John (Jack) Reilly, Central (second term); Dennis Cathcart, Moyna Prince, William Frazel, Florida; Stuart Strutin, Northeast; Bill Soerries, Southern, (second term); John Atlee, Western; Luiz Felipe Carvalho (Brazil) and Peter Waters, (New Zealand) International.
20. John (Rusty) Luthe, (Hawaii) was elected as the new recording secretary. Joyce Brehm will contact him to pass along the information for this position.
21. There were 189,298 successful requests to the web page from 93 countries. The web page handled 550 messages among Round Robin subscribers and forwarded 200 messages to the board members. The WBC-2000 information was posted and 175 questions were received and answered. The membership list has been maintained for board members to download. Cost of the site was \$480 for the year. This does not included the purchase of computer equipment and data recovery which Dan required to maintain the site.
22. There were 133 paid identifications and 756 institutional gratis identifications at the Bromeliad Identification Center. A number of new species have been discovered and are covered in the *Journal*, *Selbyana*, and *Bromelia*. The report notes an income of endowment interest. (*BSI President, Mr. Tom Wolfe, spoke to Mr. Luther regarding this fund. This is an endowment that Mulford and Racine Foster's Estate left the BIC*). The report is a part of Selby Garden's financial report that Mr. Luther submits. John Anderson noted that a good share of the BSI funds have gone into improving the Herbarium and this strengthens our position at Selby.
23. World Conference notes: Letters of invitation were sent to 18 plant vendors. Keith Anderson, Vendor Sales Chair, has a bar code system in mind but the purchase has not yet been accomplished. John Anderson wanted to know how to bring plants across the California border inspection points. Joyce Brehm will find out if a phytosanitary certificate from Texas will suffice. Tom Koerber, Oakland, CA entomologist is in charge of plant inspections. This information should be in the literature to all the registrants. The registration packet was shown and approved. 128 people have registered with \$12,340.00 submitted to the treasurer.

Speakers are being invited for both the regular seminars and the taxonomic seminars with Harry Luther as host. Tom will take charge of inviting and presenting the Past Presidents. The drawing of the BSI 50th anniversary pin was shown. One full set of all of the past WBC posters will be available for sale.

24. Betty Ann Prevatt, JCC Committee Chair, asked for approval that the Judges Handbook be done in 3 sections as outlined in her report. The old covers will be used to reduce expense. Sections will be clarified; and the requirements for a BSI sanctioned show will be explained. Suggestions will also be included so those who have not chaired a show previously will know exactly what to do. Comments from the Board are requested as well as from judges. Approval was granted.

25. More than half of the Bromeliad Societies that have an accredited show use medallions. Some of the Florida societies do not. Many societies re-cycle medallions. Joyce Brehm moved that we continue use of the medallions but not demand their use. Hattie Lou Smith seconded this motion and it was carried by majority vote.

26. A discussion to discontinue or change the size the Foster and Hobbs plaques to save money took place. We must be sure that Societies receiving plaques are truly affiliated. The show schedule and requests for plaques should be received early so they can be sent 3rd class to save money.

27. There are only 3 judges left in New Orleans. The New Orleans judges with the Louisiana judges would be sufficient in number to form a separate district. Jack Reilly made a motion that the board approves Betty Ann Prevatt's recommendations. Hattie Lou seconded this motion and this motion carried unanimously.

28. Standing Rule 3, Section 7e. This standing rule currently states a draft of the meeting minutes will be provided to the board for additions and corrections within 15 days after the meeting. Peggy Bailey moved and Carolyn Schoenau seconded that this standing rule be changed to lengthen the amount of time to provide a draft to 30 days and the amount of time for a response from the board be changed to 45 days from 30 days. This motion carried.

29. An agenda item had proposed restoration of the Membership Secretary's allowance back to the higher 1997 level. Carolyn requested that compensation not be changed at this time. Chet Blackburn suggested that we tie this somehow to membership figures. Dan Kinnard suggested that the cost of the *Journal* and the membership should be connected to decide the membership secretary's compensation. After discussion, Tom will appoint a committee to look into this proposition. This motion was tabled.

30. Two years ago the board decided to revisit the increase in annual membership dues unless we brought the membership up to a level that would support the publication of the *Journal*. We currently are short of this level of membership by almost 200 members. After a long discussion regarding potential loss of members, the cost of paper, printing and mailing and perceived lack of benefits the BSI offers its members, the board approved a \$5.00 increase in dues to be effective January 1, 2000. The Membership Dues structure was amended and approved as follows:

\$30.00 US\$	Single
\$35.00 US\$	Dual
\$30.00 US\$	Society
\$30.00US\$	Institution

\$60.00 US\$	Commercial
\$45.00 US\$	Fellowship
\$800.00 US\$	Life Member

There will be no change in the postage structure.

\$8.00 US\$	International Surface
\$10.00 US\$	Domestic First Class (Air)
\$18.00 US\$	International Air Mail

31. The length of multi-year memberships offered was discussed. Members are currently able to pay dues for 1, 2 or 3 years and this has been very successful. A cost analysis will be conducted prior to increasing the membership subscription length to 5 years.

32. Rolfe Smith suggested we advertise the possibility of leaving some part of an individual's estate to the Bromeliad Society. This should be added to the form we discussed previously and put into the web page.

33. Keith Golinski had suggested that we consider a class of membership that costs less but does not include of the *Journal*. After discussion it could not be determined what benefit this would provide to the member. It was decided that if 50 requests for this type of membership were received we would revisit this issue.

34. John Anderson moved and Dan Kinnard seconded the motion that the state of Missouri be added to the central region. This motion carried without discussion.

35. Standing rule 6 on page 6, under special committees B states that the Board shall appoint a member to be the chair of the nominating committee and the president shall appoint at least 4 other members. The standing rule does not state when this should take place. It was determined the appointments will take place at the annual meeting and that the by-laws not be changed. John Anderson suggested we pass this position around so that the person chairing the nominations committee is not in a position to bias the board.

36. Dan Kinnard states that regional discussions with members leads one to believe that members do not understand what the BSI does as a whole and for individual members. A video/slide show describing "what the BSI does" would be beneficial. Information promoting the BSI could be shown at society meetings and other garden clubs and at the time the slide programs are rented. This be done in different formats to facilitate all society audiovisual equipment. It would take about a year to do this. The Orchid Society and the Rose Society have such a program. Rolfe Smith offered to look into this to see what they have that would be useful to the Bromeliad Society in preparing something similar. Hattie Lou Smith suggests that two slides should be put in front of all rented slides. Rolfe will have a report of his findings by the next board meeting.

37. Currently all standing committee chairs take office in January following their election. There has been discussion about this being changed to immediately following the board meeting. The length of time was put at January to facilitate a smooth change over and to have all committees and directors begin



at the same time. Tom is going to appoint another committee to look into having all of Officers, Committees and Directors starting at the same time and how Roberts Rules might effect this. After a long discussion this was tabled.

38. Ann and Gill Collings are interested in establishing a bromeliad image bank. Ann has over 10,000 slides of previous shows and of bromeliads. Gill has done research on how to reproduce slides in a quality way. Gill would be willing to buy a scanner and begin to produce slides for us if the board would approve a committee to provide this function. We need space to establish an archive to contain this type of information. The BSI needs to come up with some method of funding as well as space to house these types of materials. Chet suggests we appoint someone to look at this for location, costs, and possibility of inclusion on the web site. Gill will help fund this and turn the information over to the BSI as well as for the Collings own use. Rick Richtmeyer volunteered to chair a committee and work with Gill Collings to look into this and have a report for the board by next year. When more definition is given, this may be established as a standing committee.
39. Gene Mackenzie has been appointed as BSI Historian with special committee status by the president. This position to be reviewed for elevation to a standing committee after the WBC2000.
40. Dan Kinnard had looked into a proposal to provide BSI liability insurance and gave a detailed report. Some affiliated societies would like to have the BSI covered so that they could use the umbrella for their own shows. It appears that some affiliates, especially in Texas, do not need this type of insurance. Discussion regarding needs for WBC-2000, the possibility of covering the officers and other requirements followed. Chet suggested a written proposal of what is to be covered. Other plant societies are covered by some liability plan. Typically a policy costs about the same whether for a one time show or for coverage of the affiliates. Rolf will check with other non-profit organizations regarding their liability insurance and pass this information on to Tom. Chet will check with the CA Native Plant Society. Tom agreed to write a proposal of BSI needs, get at least two proposals from a non-profit insurance company and proceed. If purchased the BSI could offer umbrella coverage as a service to all Affiliated Societies at a reasonable cost.
41. Clyde mentioned that the purpose of this society is to educate, and do a lot of other things but no money was spent in grants last year or to date this year. Chet would like to see the Binomial list, the Cultivar List and the Bromeliad Journal Index all on the BSI web page. This type of donation would facilitate the report of activities for non-profit organizations which Clyde must submit each year. John Anderson suggests we reapply our efforts to getting the membership increased again. We were successful with this effort previously and everyone should be encouraged to exert these efforts again.

The meeting was adjourned at 4:30 p.m. The next annual board meeting will be on June 28, 2000 at the Hyatt Regency Hotel in San Francisco at the 2000 World Conference.

## FINANCIAL REPORTS

Balance sheet as of 12-31-97

CURRENT ASSETS	1997	1998
Cash – Gen Fund Spec	47,550.14	50,776.23
Cash – Life Membership Spec	12,923.04	12,814.84
Cash – Padilla Endowment	5,326.55	6,820.22
Cash – Dayton State Bank No. 1	9,128.88	33,070.33
Cash – Dayton State Bank No. 2	-----	10,070.00
Cash – WBC Funds	-----	2,500.00
Total Cash	74,928.61	116,051.62
ADVANCES		
WBC – Houston 1998	2,500.00	-----
Total Advances	2,500.00	0
FIXED ASSETS		
Equipment – Editor	411.89	411.89
Equipment – Member Secty.	210.94	210.94
Library & Equipment	-----	-
(Less) Depreciation	-----	-
Library	3,477.00	3,595.00
Total Depreciated Assets	4,099.83	4,217.83
OTHER ASSETS		
Investments – USTN	14,665.65	14,665.65
Credit Card Receivables	1,251.95	3,972.00
Inventory – Awards	4,006.00	2,288.00
Inventory – Publications	17,941.00	9,782.00
Inventory – Membershp Sec.	360.00	651.00
Inventory – Editor	4,676.00	3,384.00
Total Other Assets	42,900.60	34,742.65
TOTAL ASSETS	124,429.04	155,012.10
LIABILITIES		
BSI – Memorial fund general	125.00	125.00
Accruals	753.90	5,800.00
WBC Credit Card Reserves	328.95	-----
BIC Donations	-----	1,440.50
Total Liabilities	1,207.85	7,365.50
NET WORTH	123,221.19	147,646.60

NOTE: The decrease in Inventory is not shown in income in any manner except on balance sheet.

# TRANSFERS – INCOME/EXP

BIC	1,440.50
Library	- 80.00
Interest- Spec. Accts.	- 4,683.77
Charges – Spec. Accts.	78.21
Accruals – Current Year	5,800.00
Accruals – Past Year	- 753.90
<u>Credit Card Receivable</u>	<u>- 3,049.00</u>
Total Inc./Exp. Transfer	- 1,253.96

Checking acct. balance – start	9,128.88
Receipts	105,408.50
Disbursements	(70,143.09)
Transfers – Inc./Exp	(1,253.96)
Checking acct. balance – end	43,140.33

Total Gain/Loss period 35,265.41

## *Income Statement for 1997 combined with 1999 budget*

	1998	1999	2000
RECEIPTS	Actual	Budget	Budget
Advertising – Journal	2,557.00	3,000.00	2,500.00
Advertising – Roster	350.00		
Back Issues	-----	100.00	-----
Color fund	9,985.50	4,000.00	5,000.00
Cultural sheets	160.50	120.00	120.00
Donations – BSI	7,182.72	3,000.00	4,000.00
Interest – General	3,713.64	3,200.00	3,500.00
Interest – Endowment	1,499.53	1,500.00	1,500.00
Judges certification	-----	100.00	100.00
Judges cert. pins	142.50	200.00	100.00
Medallions – Trophies	1,000.00	1,200.00	1,200.00
Memberships	39,665.00	40,000.00	42,675.00
Memberships – Life	-----	1,000.00	750.00
Postage prepaid	5,393.75	4,000.00	5,000.00
Publications	6,744.70	8,500.00	7,000.00
Seed fund	754.51	300.00	700.00
Slide programs	250.00	200.00	200.00
WBC 2000 Income	11,115.00	30,000.00	50,000.00
<u>WBC 1998 Income</u>	<u>14,893.75</u>	<u>-----</u>	<u>-----</u>
<b>Totals Receipts</b>	<b>105,408.50</b>	<b>100,420.00</b>	<b>124,345.00</b>

DISTRIBUTION	1998 Actual	1998 Budget	1999 Budget
Affiliated Societies	-----	200.00	200.00
Bank charges	80.21	75.00	75.00
Credit card expenses	573.59	500.00	600.00
Cultural sheets	520.00	520.00	520.00
Director/BSI meetings	711.08	600.00	600.00
Grants	-----	2,000.00	2,000.00
Journal – allowance	2,500.00	3,000.00	3,000.00
Journal – mail service	8,727.59	9,000.00	9,000.00
Journal – miscellaneous	518.06	1,000.00	1,000.00
Journal – printing & photos	34,083.87	33,000.00	33,500.00
Journal – envelopes	-----	1,500.00	-----
Journal – Index	-----	-----	3,000.00
Judges certification – expenses	414.78	200.00	200.00
Judges Cert. – Handbook	-----	800.00	800.00
Medallions – trophies	-----	4,500.00	-----
Membership – contract	4,800.00	4,800.00	4,800.00
Membership – expenses	2,779.63	4,500.00	4,500.00
Nominations committee	-----	100.00	100.00
President Expenses	-----	-----	100.00
Publications	5,729.57	1,900.00	6,000.00
Roster	-----	3,892.00	-----
Secretary expense	181.06	300.00	300.00
Slide program	-----	300.00	200.00
Treasurer expenses	142.45	100.00	150.00
Glossary	-----	1,000.00	-----
Web site	120.00	1,200.00	1,200.00
Contingency fund	138.86	-----	-----
<u>WBC 2000</u>	<u>8,122.34</u>	<u>25,433.00</u>	<u>52,500.00</u>
<b>Total Expenditures</b>	<b>70,143.09</b>	<b>100,420.00</b>	<b>124,345.00</b>

Advertising space in the *Journal of the Bromeliad Society* is available at the following rates:

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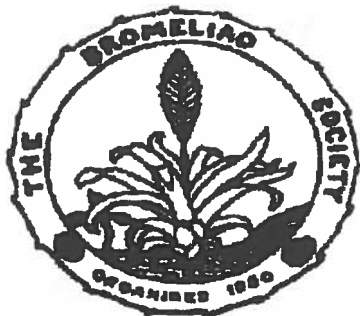


The picture on the pin denotes a neoregelia spanned by the Golden Gate Bridge, in whose shadow the 50th anniversary celebration is being held. The five flowers each represent ten years of the BSI. The margin is that of the BSI logo. There is a tack back to the pin, making it usable as either a pin or tie tack

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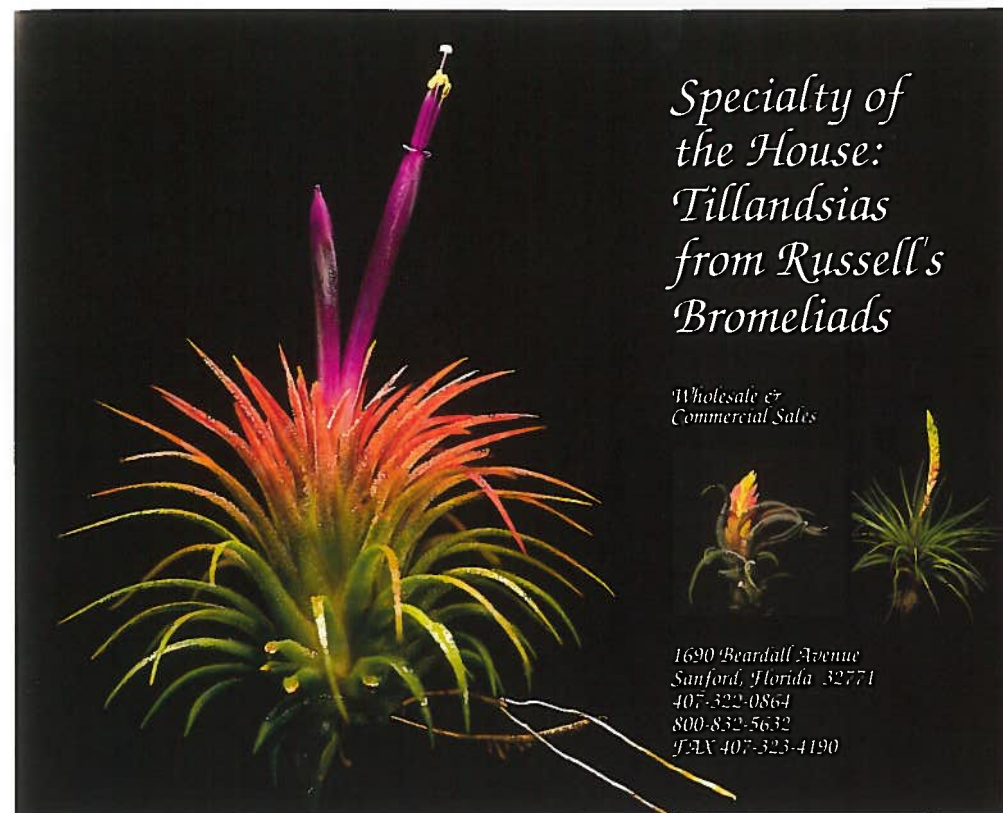


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## Bromeliad Society Journal 50 Year Index

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## The Bromeliad Society International

The purpose of this nonprofit corporation is to promote and maintain public and scientific interest in the research, development, preservation, and distribution of bromeliads, both natural and hybrid, throughout the world. You are invited to join.

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Affiliated Societies: Gene Schmidt, 9228 Vinland, Duluth, MN 55810

Conservation: Rolfe W. Smith, Longwood Gardens, P.O. Box 501, Kennett Square, PA 19348.

Cultivar Registration: Don Beadle, First Dirt Road, Venice FL 34292.

Finance & Audit: Don Garrison, 1119 Lisa Lane, Kingwood, TX 77339.

Judges Certification: Betty Prevatt, 2902 2nd St., Ft. Myers, FL 33916

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Mulford B. Foster Bromeliad Identification center: Send specimens and contributions to Harry E. Luther, at the Center, The Marie Selby Botanical Gardens, 811 South Palm Ave., Sarasota, FL 34236. FAX: 941-951-1474.

Publication Sales: Pamela Koide, 6523 El Camino Real, Carlsbad, CA

Research Grant: David H. Benzing, Dept of Biology, Oberlin, OH 44074.

Seed Fund: Harvey C. Beltz, 6327 South Inwood Road, Shreveport, LA 71119-7260.

Slide Library: Christopher Krumrey, 5206 Robinsdale Lane, Austin, TX 78723

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Photograph by Bill Soerries

*Alcantarea imperialis* flowering at Longwood Botanical Gardens. This robust species from the Organ Mountains of Brazil produces a huge inflorescence but may take up to 20 years to bloom. In suitable climates, the plant makes a spectacular landscape plant even out of bloom, possessing leathery leaves about 6 inches wide and up to 5 feet long, often with a reddish tinge in good light.

## Calendar

26 Jun –5 Jul

The Bromeliad Society International will commemorate its 50<sup>th</sup> anniversary at the World Bromeliad Conference to be held at the Hyatt Regency Hotel in San Francisco, California. Tours, seminars conducted by leading bromeliad authorities from around the world, competitive show, sales of plants and other items, banquet, rare plant auction, social gatherings, and educational displays. Registration form and cost details located on page 282 of this issue.