

BROMELIAD SOCIETY OF SAN FRANCISCO



March 2013

NEWSLETTER

Our next meeting will be held on **Thursday, March 21** at 7:30 PM
Recreation Room , San Francisco County Fair Building, 9th Avenue at Lincoln Way, Golden Gate Park, San Francisco

March Program

Peru Part II

In January we had **Carl Carter's** show on Peru where he and **Peter Wan** visited on one of Guillermo Rivera's guided tours. This month Peter will take off where Carl stopped.

Peter's presentation will be a *Come Along* experience to take a 10 hour boat ride, meandering around huge sunken logs, encountering countless birds and seeing a variety of monkeys. The destination is the upper tributary river system of the Amazon River. This area is very remote with macaws at their clay lick, a family of giant river otters hunting for fish early in the morning and a memorable night time platform boat (very small) trip looking for caiman. If you come to the show, Peter will tell you about the taste of different piranhas.

March Refreshments

No one signed up for refreshments this month. Hopefully, someone will pitch in and help.



Here is **Peter Wan** trying to get some dinner for the night. Each person on the tour was required to provide his own food. Photo is courtesy of Carl Carter.

Dues are Due

A new year has begun and dues are due: \$15 for a single membership and \$20 for a family. Pay Harold at the meeting or mail to Harold. See back page for details. **THIS IS YOUR LAST NEWSLETTER IF YOU HAVE NOT RENEWED.**

February Meeting

Last month, **Dan Arcos** gave us an overview slide show of the plants around the grounds and in the greenhouses at Selby Botanical Gardens. Dan and **Nick Soumie** spent a good portion of one day there after the BSI conference last year and Bruce Holst opened up some of the greenhouses for viewing rare bromeliads and undescribed bromeliads. We got to see many of the plants that can be grown outdoors year round in Sarasota, Florida – both in the trees and in the ground. We saw quite a few plants that we do not grow here in California as well as many flowering species in the indoor display area. Dan is a true fan of the neoregelia species and hybrids so these were featured in many of his slides. Thanks Dan for an entertaining show.

We were quite successful in selling some of the leftover plants from the POE sale. Thanks to **Marilyn Moyer** for donating a wonderful *Guzmania* as a silent auction plant.

Carl Carter and **Roger Lane** wish to thank the society for surprising us with delicious birthday cakes at the meeting. Umm – good!

Mesophytic versus Atmospheric Tillandsias

This article by James Dawley is reprinted from the April 1982 newsletter of the Bromeliad Study Group of Northern California

In my contact with Bromeliad enthusiasts, I have found that many novices and some collectors believe that all tillandsias are adapted to living in xerophytic conditions, i.e. an environment where moisture is very scarce. This opinion has probably been engendered by the popularization of tillandsia plant sculptures and the advice ‘just mist them occasionally and they will grow.’ What they are talking about is the atmospheric tillandsias, so-called because they need little else than condensation from the atmosphere to live. They occur in many geographic locations and take many forms. They are characterized by narrow, channeled leaves covered with trichomes or scales, minute mushroom shaped appendages that act to trap moisture and absorb it, thus making it available to the live plant tissue. They must have evolved from more primitive

mesophytic (adapted to moderate moisture conditions) form which lived in a region of adequate rainfall and moist conditions. Long term and gradual changes from a wet climate to a dry one was the evolutionary driver in encouraging mutations and natural hybridization to produce genotypes that incorporated a degree of drought resistance. A second reason for the development of atmospheric tillandsias might have been excessive crowding of the lower branches of the trees in the primitive moderate moisture forest leading to colonization of the upper and top branches. Higher winds and more sun near the tree tops caused faster evaporation, leading to the evolutionary changes required for drought resistance.

The development of larger cups or tanks in the tillandsias to store more water might have been tried but the small high branches would twist and sway, spilling water and doom this experimental type. Drought resistance was achieved by proliferation of trichomes and reduction of evaporative leaf surface. Higher light intensifies favored reduction in plant size, and the nearly 100% leaf coverage by trichomes acted as a light filter to reduce the high light intensities. The leaves became narrower and they became channeled to increase moisture absorption without increasing solar absorption area, and the plant abandoned the central cup. Once having achieved this physical form, and developed a special form of photosynthesis called CAM (crassulacean acid metabolism), that results in less water loss from the leaves, the tillandsias were adapted for a very dry environment. Tillandsias’ wind borne seeds could travel for miles and with the extreme atmospheric adaptation they could colonize desert areas. It is not hard to see why these plants adapt so readily to mounting, to misting as their only moisture, and to relatively high light tolerance.

The mesophytic tillandsias are descended by a different route from the primitive original. Although many have evolved large sophisticated inflorescences, they have retained their cup or tank, their sparsely trichomed leaves, and their adaptation to medium and high moisture locations where there is abundant shade. Many have found their niche in the mountain cloud forests of the tropics where they receive constant misting from the clouds passing through the semi-shade to deep shade forests where they live at elevations above 5000 feet, temperatures infrequently go above 80 degrees F and below 50 degrees F. In cultivation

most mesophytic tillandsias have wide thin leaves, usually require bright light, but no sun, 60 degrees relative humidity, temperatures 80 degrees to 45 degrees F, and frequent misting. A partial list of the mesophytics includes *Tillandsia ponderosa*, *T. prodigiosa*, *T. lucida*, *T. guatemalensis*, *T. wagneriana*, *T. lapropoda*, *T. makoyana*, *T. parryi*, *T. violacea*, etc.

Both types of tillandsias are fascinating to grow and most will reward you with a beautiful (or at least interesting) inflorescence. Try these recommended growing conditions for better tillandsias.



This photo by Dr. Gösta Clausner shows three of the mesophytic tillandsias: *T. guatemalensis*, *T. eizii*, and *T. prodigiosa*. Photo is courtesy of the Florida Council of Bromeliad Societies.

Interesting Neoregelia Species

This article by Kathy Dorr is reprinted from the April 1982 newsletter of the Bromeliad Study Group of Northern California

Undoubtedly, some of the most beautiful foliage found in bromeliads can be found in the genus *Neoregelia*. Along with this can be found other rather unusual happenings.

Neoregelia caroliniae v. *meyendorffii* (I have found no reference to this as a recognized species although it seems to be a recognized name.) is so variable in its markings that you can never be sure what your offshoots will be. From one plant, you can produce variegated, striated and marginated pups. As a BIG surprise you may come out with a plain green plant! These kinds of surprises, we could do without.

There are at least two of the neoregelias that have a rather peculiar growth habit. *Neoregelia abendrothae* and *N. wilsoniana* are stoloniferous

plants, sending out offshoots that almost appear to be seedlings at first sight. The immature plant is formed with ten to fifteen very narrow 'whiplike' leaves: six to eight inches on *N. abendrothae* and twelve to eighteen inches in length on *N. wilsoniana*. As the plant matures, the inner leaves begin to widen from the base out, however, still retaining the pointed ends. When the plant is ready to flower, it will still have the very narrow leaves surrounding the beautifully colored wider leaves in the center. It makes a most striking sight.

N. wilsoniana is the larger of the two plants. When mature, the leaves are yellow-green with dark brown, almost black markings. *N. abendrothae* is pale green with almost purple coloring from the base of the leaves up about three-quarters of the way, ending with a deep reddish pink in the very tip of the rounded leaves.

Possibly one of the more difficult of the neoregelias to grow, at least in the southern California area, is *Neoregelia ossifragil* [this is not found in the BSI binomial register and may be misnamed or a hybrid. Ed.] It seems to prefer to grow on the dry side. It is a quite attractive stoloniferous neoregelia, even though it does not seem to pick up any color in its foliage. It stays a deep rick green, or if grown in very bright light, will turn more to the yellow green. Any of these neoregelias are an attractive addition to a collection.

Some neoregelias that might be added to the above list would be

Neoregelia kautskyii is a most attractive plant. When grown in sufficient light (strong), the leaves are almost yellow with dark reddish markings. This neoregelia has one of the prettiest flowers I have seen in neos. It is a large flower – an inch or more across – pure white with a beautiful edging of dark royal blue.

Speaking of flowers, *N. wilsoniana* also has a very large flower for a neoregelia. It is pure white.

Nearly any of the many clones of *Neoregelia concentrica* are a welcome addition to your collection. This plant seems to vary a great deal but I have yet to see one that was not attractive.

If you are looking for small attractive neoregelias, you can't miss with any of the 'Nana' hybrids. They are all beautifully colored. There are a number of these available.

For color in the foliage, the Y hybrids are hard to beat. These are Mr. Yamamoto's hybrids and at least one or two should grace every collection.



Here is a large clump of *Neoregelia abendrothae* photographed by Derek Butcher. Photo is courtesy of the Florida Council of Bromeliad Societies..



This is *Neoregelia wilsoniana* photographed by Derek Butcher. Photo is courtesy of the Florida Council of Bromeliad Societies.

Mounting Bromeliads

This article by Carol Johnson is reprinted from the July 1987 newsletter of the South Bay Bromeliad Associates

Before being collected, potted, hybridized, or whatever, most bromeliads begin life as a mounted specimen. The seeds blow in the wind or are dropped by birds and cling to the bark of trees, rock crevices or merely on the leaves of the parent plant. There they sprout and fasten their roots tightly against the wind and another mounted specimen begins the life cycle.

It has become so much easier to pot the plants that most growers look upon the mounting process as a big mystery and extremely difficult. This is not so if certain cardinal rules are observed:

1. Never, never mount a blooming plant. When a bromeliad comes into bloom its roots cease to grow and the declining plant's remaining vigor is confined to producing seed and offsets.
2. Select a very young plant with root growth in progress. In the wild, the roots act as hold-fast mechanisms (anchors) and transmit little, if any, food to the plant. Root function is a whole field of discussion in itself and I will not proceed with it here.
3. Terrestrial bromeliads should not be mounted. These include *Cryptanthus*, *Dyckia*, *Hechtia*, *Pitcairnia*, *Deuterocohnia* and a few other obscure genera. *Cryptanthus* is subjected to the most abuse and can be seen at most any bromeliad show slowly but surely dying on driftwood. *Cryptanthus* is a bog plant in the wild and the roots should not be allowed to dry.
4. Use wood for mounting if at all possible. Some of the bromeliads are saxicolous and will survive on rocks, but be sure to do some research before proceeding. Rough strips of cypress, cork bark, tree fern slabs, pine, cedar, or driftwood – all are fine. Beware of treated lumber. Salt water driftwood seems to have no adverse effect on bromeliads.
5. Fasten the young roots securely to the mounting material so the roots do not lose progress every time the wind blows. With a young small plant there will be less difficulty in keeping the roots secure since a heavy plant increases the burden on the roots. Turn the roots towards the wood and glue them on if you wish. Glue does not damage the roots, but remember, in using hot glue – if it burns your fingers it will also burn the roots. It will be necessary to use additional binding such as coated wire, since much of the time the glue will not hold the plant securely and you will be picking the plant off the ground. Elmer's Glue takes too long to dry. My preference is Duco cement, but when I last purchased a tube I had to sign

for it at the drug prescription counter.
Sniff, sniff.

6. If you are mounting a plant which has been growing in potting soil, protect the newly mounted roots with wet sphagnum, tightly packed and tied on, until such time as the roots can adapt to the new environment.
7. If you keep your mounted plants under cover in a greenhouse, remember to foliar feed them regularly, especially the Tillandsioideae.
8. Mounted bromeliads are more compact and colorful than those grown in pots. They also utilize overhead space that would otherwise be wasted. Caution: use solid, sound mounting material, something that will last the lifetime of the plant.
9. Every plant mounts a little differently than any other. Just remember what you are trying to accomplish. Proceed in your own fashion and you will not go wrong. An electric drill is a very useful tool.

New Tillandsia Book

There is a new book on tillandsias coming out of Czechoslovakia entitled, "World of Tillandsias". It is 96 pages with more than 430 pictures/photos. The book covers 160 species. It is bilingual in English and Czech. Each plant has a short description, photo, and how to grow it. For more information, please see www.tillandsia.cz.

Our society is planning on getting one for the library but if you are interested in your own copy, there will be a handout sheet at the meeting. If you are unable to attend meeting and are interested, please notify our President, Carl Carter. The cost of the book is \$74 plus postage.

POE Bromeliad Sale

Our society wants to thank everyone who volunteered at the POE sale and helped to make this event a big success. There is not enough space left in the newsletter to individually credit each of you, but you know who you are and we thank you all!

BROMELIAD SOCIETY OF SAN FRANCISCO (BSSF)

The BSSF is a non-profit educational organization promoting the study and cultivation of bromeliads. The BSSF meets monthly on the 3rd Thursday at 7:30 PM in the Recreation room of the San Francisco County Fair Building, 9th Avenue at Lincoln Way, Golden Gate Park, San Francisco. Meetings feature educational lectures and displays of plants. Go to the affiliate section of the BSI webpage for information about our meetings.

The BSSF publishes a monthly newsletter that comes with the membership. Annual dues are single (\$15), dual (\$20). To join the BSSF, mail your name(s), address, telephone number, e-mail address, and check made payable to the BSSF to:

Harold Charms, BSSF Treasurer, 255 States Street, San Francisco, CA 94114-1405.

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This month Peter Wan takes us to the Amazon in Peru!

