BROMELIAD SOCIETY OF SAN FRANCISCO

July 2004

NEWSLETTER

Our next meeting will be held on **Thursday, July 15, 2004** at 7:30 PM
Recreation Room, San Francisco County Fair Building, 9th Avenue at Lincoln Way, Golden Gate Park, San Francisco

July Program

Exploring Venezuela with a Digital Camera

This month **Chet Blackburn** from the Sacramento area will be our speaker. Chet, has been involved with bromeliads for many years and has spoken to our society on many interesting topics. I believe that Chet visited Venezuela last year and this will be a show covering these adventures. Wonder if he made up onto the tapuiis? Come to the meeting and find out.

July Refreshments

Stacey Michaels and **Brian Ransom** signed up for refreshments this month.

Here is *Billbergia rosea* from Venezuela. This plant used to be called *B. venezueliana*. Photo is by Harvey Kendall and is courtesy of the Florida Council of Bromeliad Societies.

June Meeting

Barret Bassick shared with us the result of his research on the role that color plays in helping bromeliads adapt to their environment. He provided a hefty handout with material gleaned from textbooks and the Internet. He also showed us sample plants that he is growing in extremely high light conditions to bring out the maximum color in the foliage. Barret's talk was interesting and he did a great job of summarizing the technical material he provided in his handout.

June Bromeliad Plant Sale

Our combined plant sale with the San Francisco Succulent and Cactus Society was not as good as we had hoped. There was much less traffic through the sales area than usual and there was not even a line of people waiting for the doors to open on Saturday. We filled 15 tables will sale plants and three tables with a fine display of show-quality bromeliads. We had excellent participation from our membership helping to sell the plants and educate the public.

At this time, we do not know how well our society did at the sale because we don't have the rental expenses, etc. from the San Francisco Succulent and Cactus Society. We will have the totals for each of you who sold plants available as soon as possible.

Our society wishes to thank each of you for your participation in helping on this sale.

Take Time to Smell the Bromeliads

This article by is taken from the November 2002 Caloosahatchee Meristem, newsletter of the Caloosahatchee Bromeliad Society.

Some of the bromeliads make sure that you know they have a fragrance; others are more subtle. There are those whose aroma is stronger in the daytime – sometimes choosing AM or PM hours – others who prefer to tantalize you in the evening hours. Color of flowers does not seem to be a factor; they can be yellow, white, green or blue.

Tillandsia usneoides has a pale green flower that can be difficult to distinguish among the foliage, but if you are anywhere in the area around the middle of the day, your nose can lead you unerringly to the source. *T. cyanea* has clones with large cerulean flowers that emit a delightful spicy aroma [plants we sold at the June sale do have the spicy fragrance – Ed.]. It is not a potent odor and you miss it if you don't check with your nose. I have found that not all clones have a fragrance, or else it was so faint that I couldn't detect it.

T. crocata has small yellow flowers that remind me of an expensive perfume. If it is grown in an enclosed area, a few flowers will perfume the air. *T. aureobrunnea* (not a listed name) is very similar.

T. mallemontii is amazing! This tiny plant should be allowed to become a clump and the aromatic blue flowers will seem to appear almost throughout the year. The fragrance is much stronger in the late afternoon.

T. caerulea and *T. humilis* must not be forgotten – they won't allow it. They are both delightful. *T. nuptialis* and *T. monadelpha* have white flowers. Their fragrance is only slight, but is more noticeable in the early evening.

T. cacticola is very perverse (I used to think that if there is no fragrance, that was one of the identifying features). There are only random clones with a fragrance. I have five clones and only one has ever had an aroma.

All the *T. xiphioides* I have seen have had white flowers; however in Flora Neotropica, Monograph No 14, Lyman Smith and Robert Downs, it states the flowers can be either white or violet. This is a great plant. The silvery foliage is pretty and the beautiful white flowers with an aroma are a welcome bonus. This one beckons with its odor from some distance.

T. streptocarpa and *T. duratii* could never be ignored. Their fragrance is strongest during the

day, but they will emit an odor in the evening. Their lavender flowers even seem to retain some of the odor after they have wilted.

Billbergia horrida is one of the elite. It does not have an outstanding aroma – not offensive, but rather bland. Some have compared it to the odor of Ivory Soap.

Some of the vrieseas with white flowers that usually flower at night have a fragrance. I haven't found one that really intrigued me, but I would guess it is Mother Nature's way of notifying the proper pollinators that the flower is ready for pollinating.

There is a small catopsis with a yellow flower that has one of the most captivating fragrances I have found. It has absolutely no odor during the day, but it is delightful in the evening. I suspect there may be other catopsis with a fragrance, but I just haven't caught them at the right time.

Neoregelias from Seed to Seed

Arla Rutledge and Harvey Kendall wrote this article that is reprinted from October 1995 Bromeliad Blade, newsletter of the San Diego Bromeliad Society.

Neoregelias are probably the most commonly cultivated bromeliad, yet only a relatively small number of growers will bother to attempt to grow these lovely plants from seed. The problem undoubtedly stems not from the growing of the seed, but from the scarcity of harvested seed. Neoregelias seem quite reluctant to display and distribute their seed; it develops deep in the cup and has to be sought. Furthermore, unless certain precautions are met, the seed will not develop at all. Fortunately, the steps necessary to obtain seed in neos are not complicated; the method lies easily within the reach of all of us.

POLLINATING

Let us begin at the point where a neoregelia begins to bloom. The actual flower, which may be overlooked since it is small, appears in the cup, and is frequently outshone by a lavish display of color in the leaves. It will be any shade of blue or purple or may be plain white. Some of the flowers are also a blend of two shades of blue. The petals are usually flared at the peak of bloom; some will lie quite flat, while others allow only a narrow peep into their insides. They remain open for only a few hours, beginning at about three hours after sunrise, and ending sometime in the mid- or late afternoon. The intensity of the sun plays a role in this flowering period. The flowers open early on sunny mornings. On cloudy days, the flowers may not open fully. Also dependent on the sun is the ripening of the pollen. It, too, does not perform well on cloudy days. Also, high humidity may retard the ripening of the pollen. In southern California, we have noticed that a year in which the summer is more humid than others yields little neoregelia seed. However, if the humidity is accompanied by a lot of air movement, its negative effect is diminished.

In the native habitats, myriad insects pollinate the neos. In cultivation we cannot rely on this method. Although neos often set seed with no help from us humans, we can increase the probability of seed production greatly by lending a hand. First of all, as the plant begins to bloom, remove all the water from the center of the plant, and keep the center dry until the seed is harvested. When these plants are growing in their native habitats, this dry center is achieved wither through drought or through a unique device from Mother Nature; the plant becomes weak-kneed and leans over, dumping any water that might lead to rot or premature germination in the seed. During these months, while you are keeping the center dry, you should not neglect to water the potting medium. Although the roots do not transmit much nutrition to the rest of the plant, they do provide water. The only tool needed to hand pollinate is a small artist's brush.

The flower is receptive to pollination only during the time that the pistil emits a tiny droplet of nectar at the tip. Unless you use a strong magnifying glass, you probably will not be able to see the nectar at all. It appears sometime after the flower opens and lasts only a short time – perhaps no more than 15 minutes. This period is usually sometime between 9:00 and 11:00 A.M. Therefore, if you are intent on achieving seed set, you should work on the flower several times during the morning hours. The process involves

only inserting the brush into the flower and dabbing it around a few times. This tactic should transfer pollen from the stamens to the pistil. If the pollen is ripe, you will see it as a whitish or bright yellow powder on your brush. The pollen remains ripe for a much longer period than does the pistil, so do not think that you can stop as soon as you see pollen on your brush. You will need to have your mornings free. If not, and if you are a genuine plant lover, you will carry plant and brush with you to the office!

HYBRIDIZING

It certainly is a great thrill to develop a distinctly new plant. This achievement is within the reach of anyone who has two different neoregelias in bloom at the same time.

A neoregelia flower announces its opening on the evening before the grand performance. The petals, still tightly closed, will rise above their neighboring buds. One glance at the center of the plant will tell you which flowers will be open the next day. If you want to cross two species, you must assure that the pollen of the flower does not reach its own pistil before you introduce the pollen of the other plant. To achieve this trick, it is necessary to lop off the pollen pads before they ripen, i.e., on the evening before bloom. Pry open the petals, bend them back and snip them off as low as possible. Then use your magnifying glass to locate the stamens and the pistil. When you are sure which is which, cut off the stamens. Be ruthless! Let not even one survive.

On the next day, when the pistil is receptive and the pollen of the other plant is ripe, use your brush to transfer pollen from one plant to the lone pistil of the other. Ideally, this process should be repeated for every flower as the plant progresses through the bloom period. If you are able to perform the operation for only one or a few flowers, then you will want to remove completely all the other flowers that appear. If the cross has been successful, you will get seeds in about six months.

HARVESTING

When the last flower has faded (they appear first at the outer edges and last in the very center of the flower head), you can relax or turn your energy to other pursuits. You need to water the plant's soil only until the seed is ready to harvest. By the end of five months or perhaps a little sooner, you will be able to ascertain whether your efforts were successful. If the seed is on its way, the defunct flower will show a fat, berry-like ovary immediately below the place where the petals were. The berry will be nearly white. In some bromeliad genera, Aechmea for instance, the berry will show a definite color change when the seed is ripe. No so, in the neoregelias. But maturity is nevertheless easily determined. If the berry detaches from its pedicel quite easily at the slightest tug, it is ripe. Do not attempt to harvest the seed before it is fully ripe, for you will most probably not have viable seed.

The contents of the ripe berry will be a gelatinous substance around many dark brown seeds about the size of the seeds of a strawberry. For easy handling, you will want to rid the seed of their sticky jelly. Squeeze them into a closeable jar. Add an inch or two of water and one drop of liquid detergent. Clos the lid tightly and shake the contents. Leave the seeds in the jar for 24 hours and shake them as many times as you find convenient during this time. After 24 hours, strain the contents through a very fine mesh. Most tea strainers are not fine enough to catch the seed. A good strainer can be made from a section of nylon hose stretched over a jar or pan. You may want to run clear water over the seeds to remove any suds that may be present. Then spread the seeds out on a paper towel. Let them dry for at least a day, and then they can be raked easily from the paper into an envelope or other suitable container. Do not store bromeliad seed in a tightly closed glass or plastic container, because they might perish from fungus or premature germination. A paper envelope allows enough air circulation to prevent these problems.

A neoregelia such as *N. carolinae* can produce as many as 2000 seeds. Not many of us can accommodate that many plants. You can share your bounty with other BSI members by sending your surplus to the BSI Seed Fund*.

PLANTING

A variety of containers can be used as starter beds for seedlings – plastic pots, margarine tubs, etc. The container should be deep enough to hold at least an inch of soil and leave another inch or more at the top. It is also essential that the container have bottom holes for watering. Seeds must be watered from the bottom until they have germinated. Since constant moisture and high humidity are necessary to germinate the seed, the container should also be enclosed. You may want to use a plastic bag around the whole container tied at the top. Some growers set several seed pots in an empty glass aquarium and cover it with a pane of glass. A very handy setup is to use a clear plastic drinking glass as the pot and cover it with a Petri dish.

The medium for sowing the seed must be of a fine texture. Do not use loose, coarse mix that you might use for adult bromeliads. A good commercial house plant mix containing fine humus and sand is fine. Wet it with only the purest water – bottled spring water or rain water, never softened water. To prevent damping off, you should use a fungicide in the water, such as Benlate, Benomyl, or Physan. Tamp the soil firmly and sow the seed on the surface. Do not cover the seed with soil. The seed can be sown rather dense, so that the plantlets help in providing humidity for each other as they develop. However, as long as you are able to maintain a high humidity, a wider spacing is OK. With a wider spacing, you can postpone transplanting until the seedlings are more mature. After the seeds are sown, cover the container, and mark it with a permanent tag showing the parent plant(s) and date.

Set the container in a warm place, at least 65º. Use a soil heating cable – or the top of your refrigerator. Neo seed, with a good temperature, germinates in about 10-14 days. At about the time of germination, be alert to the possible growth of fungus, moss, or algae on the soil. If you encounter this problem, try to quell it with a fungicide spray in a solution of pure water. Sometimes it is necessary to pick off this fungus/algae mat to allow movement of air and water through the soil.

About two weeks after the seeds germinate, begin to use a very weak solution of fertilizer in the water or misting. Continue this care until the plants' second set of leaves is well formed. This is the earliest possible time to consider moving the seedlings from their seed bed.

*Harvey Beltz, Seed Fund Chairman
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Welcome, New Member!

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This is *Tillandsia humilis*, one of the many fragrant bromeliads. This tillandsia has clones with yellow, brown, and brown mottled flowers, but all are fragrant. Picture is taken by Herb Plever and is courtesy of the Florida Council of Bromeliad Societies.

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 $12. To join the BSSF, mail your name(s), address, telephone number, and check made payable to the BSSF to:
Harold Charns, BSSF Treasurer, 255 States Street, San Francisco, CA 94114-1405.

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