

FLORIDA WEST COAST BROMELIAD SOCIETY

1954-2014

Celebrating 60 Years of Bromeliads



floridabromeliads.org

May 2014 Newsletter

NEXT MEETING

Date & Time:

Tuesday, May 6

Doors open at 7 pm; meeting starts at 7:30

Location:

Good Samaritan Church

6085 Park Boulevard

Pinellas Park, Florida 33781

2014 Annual Bromeliad Auction

Each year the May meeting is replaced by our Annual Bromeliad Auction. There will be **NO** business meeting, show and tell, member plant sales, or raffle. Instead it will be an evening of opportunities to acquire great and not-so-common bromeliads. You can help make this a great event in the following ways.

1. **DONATE** items to the auction. Donated items should be limited to bromeliads and bromeliad-related objects such as artwork, posters, ceramics, and books. Plants must be saleable quality, clean, disease- and pest-free, and clearly labeled.
2. **VOLUNTEER** to set up, arrange, and display auction items and to set up and clean up refreshments.
3. **BID** on auction items!

If you want to volunteer, have questions or need more information about the event, contact Franne Matwijczyk (franne@bgbamboo.com or fmmdesign@aol.com).

Refreshments

The refreshment table will be open for the length of the auction, and members are asked to bring food to share. A well-fed group is a happy group and likely to be more generous in their bidding efforts. The Society will provide beverages, plates, napkins and eating utensils.

LAST MEETING HIGHLIGHTS

Program

Barret Bassick spoke to us on the subject of *Bromeliads -- Why They Thrive On Neglect (Some Adapted Strategies of Bromeliaceae)*. Bromeliads are perhaps the most adaptable of all plants, and they occupy a vast array of habitats. They are usually found in temperate to tropical zones in habitats that include full shade to full sun, deserts, wetlands and rainforests, low altitude along sandy, dry beaches and high-altitude in misty settings. About 80 percent (%) are epiphytic, that is, they grow on other plants and on rocks. The remaining 20% are terrestrial and grow in soil. The four things bromeliads need to survive are air, water, light, and nutrients, and over eons they have adapted their form and function to efficiently obtain these.



Epiphytic bromeliads do not have well-developed root systems and rely on trichomes (scurf) in the form of scales or hairs on the leaves, to obtain moisture and nutrients from air, rain, and debris that accumulates in their leaves. Made up of long strands, trichomes comb moisture out of the air and pump it into the leaves

through leaf pores (stomata). To reduce moisture loss when the air is dry and to provide sun and heat protection, trichomes close the pores.

All bromeliads have trichomes including those that have 'tanks' or cups formed by tightly bound leaves in the center top of the plant where water accumulates. Trichomes on tank-type bromeliads, like Neoregelias, are located on the base of the leaves, while trichomes on non-tank type bromeliads, like Tillandsias, are more elaborate and cover more or all of the leaves.

Some bromeliads use crassulacean acid metabolism (CAM) photosynthesis to create sugars. CAM is a carbon fixation pathway that evolved in some plants as an adaptation to arid conditions. This adaptation allows bromeliads in hot or dry climates to open their stomata (pores) at night when humidity might be higher rather than during the day, to reduce water loss. These tend to be slow-growing plants.

Tank structures in bromeliads not only gather water and nutrients, they support other life such as lizards and amphibians (frogs). Even fish have been found in tanks of some bromeliads. While these creatures take advantage of the water in the tanks, their waste products provide nutrients to the bromeliads. Plant shape is a factor in water storage and uptake. Broad-leafed bromeliads such as Neoregelias can have large tanks that take in abundant rain. Tubular-shaped bromeliads like Aechmeas have smaller tanks and hold less water and some of these might have more prominent scurf.

Other adaptations bromeliads have made to accommodate diverse growing conditions are leaf type, thorns and roots. Leaf type can be an indication of light requirements. Thicker, and shorter, leaves can mean the plant will tolerate abundant or full sun while thinner, and longer, leaves can mean the plant requires less light and more shade. Thorns are an adaptation some bromeliads have developed as a protective measure against being eaten. In epiphytic bromeliads, roots are not just for holding fast to a surface; when in dirt they can take up nutrients and water.

Tillandsias exhibit the most advanced form of bromeliad epiphytism. Most have no leafy tanks, leaves or roots, and survive instead on moisture and nutrients extracted by trichomes. Stripped down to essential parts, *Tillandsia usneoides* (Spanish moss) is a good example of these highly evolved plants, and are the most widespread of bromeliads in the world, even found in Tierra del Fuego.

Show and Tell

Reported by Helga Tarver

Steve Littlefield	<i>Tillandsia xerographica</i>
Linda Sheetz	<i>Ursulaea tuitensis</i> ; <i>Aechmea comata</i> (variegated form); <i>Vriesea fosteriana</i> x <i>pardalina</i> (Chester Skotak hybrid); <i>Quesnelia edmundoi</i> var. <i>rubrobracteata</i>
Susan Sousa	<i>Quesnelia liboniana</i>
Helga Tarver	<i>Tillandsia</i> 'Curly Slim' (<i>Til. intermedia</i> x <i>streptophylla</i>)

Below are pictures of Show and Tell plants.



Vriesea fosteriana x *pardalina*



Tillandsia 'Curly Slim'



Quesnelia liboniana



Aechmea comata (variegated)



Quesnelia edmundoi var. *rubrobracteata*



Also shown was *Ursulaea tuitensis* (on left), which is one of only two species in the genus *Ursulaea*. The other species, *U. macvaughii* (on right), has a similar, though pendulant, inflorescence and is about three times the size of *U. tuitensis*.



THIS AND THAT

Variegations Found in Bromeliad Leaves

By Dudley Reynolds, East London Bromeliad Society South Africa Newsletter, February 2014

The word 'variegate' comes from the Latin word *variegates*, meaning variable colouration with patches of different colours. Variegated bromeliads refer to plants with two colours in the leaf, for example, *Vriesea hieroglyphica* (below), which has dark and light green markings on the leaves. We are going to discuss bromeliads with longitudinal stripes in the leaves, mainly white, yellow, green and red. There are variegated plants throughout the plant kingdom. Variegation is very strong within the Bromeliad family especially in the sub-family *Bromelioideae*.

Plants where the top of the leaf is green and the underside is maroon such as *Aechmea* 'Shining Light' (below), are referred to as a plant with discolour leaves and are not classified as variegated. The red on the undersides of the leaves is thought to act as a mirror, reflecting light back into the leaf, increasing photosynthesis and growth in the shaded conditions that these plants usually prefer to grow in.

We perceive white or yellow variegation as a desirable trait which adds to the visual beauty of a plant such as *Neoregelia imperfection* (below). The reduction of chlorophyll (which forms the green part of the leaf) reduces the plants vigour and makes it grow slower and might result in the plants requiring more exacting growing conditions and attention.



Vriesea hieroglyphica



Aechmea 'Shining Light'



Neoregelia imperfection

What causes variegation?

- It is agreed by botanists that variegation is caused by a virus infection. Viruses may attack a plants meristem or main vascular system. Bromeliads mostly have parallel veins running lengthwise along the leaves.
- There are a number of other factors which could cause variegation. For example, chemical substances, micro-climate conditions, temperature, humidity and light all influence variegation to some degree.
- Biological stresses such as prolonged dehydration or poor nutrition is said to bring on variegation.
- Ecological disturbances such as fire, flooding and freezing may also bring on variegation.
- To sum it up, variegation may be caused by genetic mutation or by virus infection but it seems probable that a number of different causes contribute to bring on a variegated effect.

The term **variegata** refers generically to any form of white or yellow variegation (stripes) in a leaf.

The term **marginata** refers to a leaf with a stripe around the sides of a leaf. The white margins are referred to as **albo marginated**. The yellow margins are referred to as **flavo marginated**.



Aechmea coelestis var. *albomarginata*



Aechmea nudicaulis var. *albomarginata*



Aechmea 'Alvarez' variegated (left) and *Aechmea* 'Mend' (right) have albomarginated variegation, tinged pink in this example.

Variegata is the term used for a stripe down the centre of a leaf.

Striata is a multitude of stripes going the length of a leaf.

Lineata is a multitude of fine or thin stripes running the length of a leaf.

Medio Picta means a painted centre band in the leaf.



Nidularium 'Ruby Lee' striated



Nidularium innocentii lineatum



Cryptanthus 'Rainbow Star'



Aechmea 'Medio Picta' cv *orlandiana*

Tricolour is a leaf with three colours, usually green, cream and rose.

Bivittatus means double stripes running the lengthwise, two central bands of cream or pink on a green leaf. Reddish brown stripes or bands are found in several hybrids such as *Aechmea* 'Red Ribbon' and *Neoregelia* 'Amazing Grace' (below).



Cryptanthus bivittatus 'Ruby'



Neoregelia 'Amazing Grace'



Aechmea 'Red Ribbon'

You will notice that the type of variegation is often used in the botanical name of a bromeliad.

Propagation of variegates

As a rule, variegated bromeliads are usually harder to grow than the plain green-leaved varieties. Some are definitely slower growing. Vrieseas and Guzmanias are slower to take root. Therefore it is advisable to leave the pup on the mother until it is at least half the size of the mother, before separating it. To encourage the development of the best variegated pups you could identify the better variegated leaf on the plant and tilt the mother plant to that side to maximize the light on that area of the mother plant to encourage it to produce a pup with the strongest variegation.

Once the variegated pup is seen developing one can cut away the leaves only on the side obstructing the pup, to maximize light to the pup.

Variegated hybrid bromeliads do sometimes send out non-variegated pups. If you are intent on only wanting a pup identical to the mother, you could remove a developing non-variegated pup prematurely and discard it in the hopes that the mother will send out another pup which will be variegated. The mother will put all its energy into the desired pup.

A well marked variegated plant is always pleasing on the eye and tempting to acquire for your collection.

New Member

Please welcome Kathy Klein-Sullivan who joined our society at the last meeting.

Plants Blooming in April



Cryptmea 'Magenta Star'



Neoregelia 'Lila Candy Stripe' (cultivar)



Ananas comosus var. *bracteatus*



Hohenbergia stellata

UPCOMING EVENTS, 2014

May 9-11, Annual Mothers Day Show and Sale

Bromeliad Society of Central Florida, Orlando Fashion Square Mall

September 8-14, 21st World Bromeliad Conference, *Bromeliads in Paradise*

Honolulu, Hawaii, USA (www.bsi.org/new/wbc-2014-registration-and-info)

August 9, Bromeliad Sale

University of South Florida Botanical Gardens, Tampa, FL (cas.usf.edu/garden)

August 16-17, Seminole Bromeliad and Tropical Plant Society Sale

The Garden Club of Sanford, Sanford, FL

October 3-4, Tropiflora Fall Festival

Tropiflora Nursery, 3530 Tallavast Road, Sarasota, 941-351-2267 (tropiflora.com)

October 11-12, USF Botanical Gardens Fall Plant Sale

University of South Florida, Tampa, FL (cas.usf.edu/garden)

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