BROMELIAD SOCIETY OF SAN FRANCISCO

SEPTEMBER 2011

NEWSLETTER

Our next meeting will be held on **Thursday, September 15, 2011** at 7:30 PM
Recreation Room, San Francisco County Fair Building, 9th Avenue at Lincoln Way, Golden Gate Park, San Francisco

September Program

Bromeliads of Central Mexico

This month **Dan Arcos**, one of our own members, will be our speaker. Dan will give us a brief tour of the greenhouses at San Francisco State University. The director of the Greenhouses, Martin Grantham, has been there 8 years and works with undergraduates and graduate students with their research. The Greenhouses contain numerous tropical plants along with an outdoor growing area of various genera of unusual plants not commonly seen in the nursery trade.

Here is Dan modeling one of his custom shirts. Photo is courtesy of Dan Arcos.

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September Refreshments

Dan Arcos, Jon Dixon, and Nick Soumie signed up for refreshments this month**.**

August Meeting

Your editor did not attend last month's meeting, but heard that there was a great turnout for **Kelly Griffin** and many of the members took home new bromeliads that he was selling

Next Month's Speaker

Next month, we again are sharing the speaker with the San Francisco Succulent and Cactus Society. **Andy Siekkinen** who is president of the Bromeliad Society of San Diego will provide a two-part presentation of the Hechtia genus. He will start the presentation on Tuesday, **18 October** in the same room and same time as we meet. He will complete his talk on Thursday, 20 October.

The Hechtia genus is the only one in the bromeliad family that has male and female flowers on separate plants. This genus is only found in the United States and Central America. Little work has been published on revision of Hechtias since the Smith and Downs monograph from the 1974. Some botanists in Mexico are currently working on the Hechtia genus. So Andy's presentation next month should be interesting and hopefully bring us up to date on the work being done.

Hunting *Tillandsia cyanea, Part 2*

This article by Clarence Horich is reprinted from the October 1996 newsletter of the Saddleback Valley Bromeliad Society. It originally appeared in the January/February 1956 Bromeliad Society Bulletin. Part 1 of this article was in last month's meeting.

There was nothing we could do but grab machete, pistol and walk several hours into the jungle which is rather dense here and there with open, path-like stretches in between. Housing the trees here are Catasetum, *Cattleya maxima* orchids and the stunning *Tillandsia cyanea* which grows locally by the hundreds. We returned with a good thousand plants, although the car still lies broken down on some odd track in northern Guayas.

This story gives you some idea of the difficulties in obtaining bromeliads and it may justify a good price. Take my word that this is not exaggerated.

Now – to the plant itself. *Tillandsia cyanea* always grows in the tops of the trees or shrubs where it receives plenty of light, partly, even, the full sun-blast of the equatorial sky. Those plants which have fallen down from the branches thrive by rooting in the layer of dead foliage of the forest floor, but unfortunately are often attacked by an insect larva and so perish. Also, down here they rarely ever carry flowers.

The root system of arboreal plants is poor. In most instances a few roots attach the plant to the stem, after which the growing rhizome literally winds around the supporting branch or stem, finally resembling the spring of a watch.

The heat in the district is absolutely suffocating, although the Pacific lies hardly six kilometers distant. Oddly enough the climatic seasons here are entirely reversed to the rest of Ecuador; January to June are the dry months while July to December the heavy rains pour down making all traffic and communications, which, even during the dry season are so utterly poor, become completely impossible.

I have seen this bromeliad, *Tillandsia cyanea*, cultivated in the garden of Mr. Charles Lankester of Cartago, Costa Rica at a relatively high altitude and low temperature. (The altitude of its native place in Ecuador lies at about 300 meters with temperature maximums as high as 112º Fahrenheit, which would suggest a rather warm cultural treatment.)

I am still an orchid hunter, but thought readers of the Bromeliad Bulletin might be interested to learn about the native haunts of *Tillandsia cyanea*.

What is a Bromeliad?

This article by Bob Reilly is reprinted from the May 2005 Bromeliana, newsletter of the New York Bromeliad Society. The article originally appeared in the March/April 2005 journal of the Bromeliad Society of Australia.

The term "bromeliad" is a simplification of the scientific name Bromeliaceae, which covers any member of the pineapple family. Lyman Smith states we do not know who first used the term; it

was probably a botanist or grower who was tired of the cumbersome phrase "species of *Bromeliaceae*". Other, less commonly used terms include "bromels", "broms" or "brommies".

Bromeliaceae was derived by combining the genus name *Bromelia* with the ending "ceae". This action was taken by the French botanist, Jaume St. Hilaire, in 1805. In turn, the genus *Bromelia* was formally established by Dr. Carl von Linne (the Latin, and more commonly known form of his name is Linnaeus) in 1754. (The original idea to have a genus similar to this name came from Charles Plumier, an early French explorer of the West Indies.) The genus name honors Olaf Bromel, a Swedish botanist who was well known in Europe at that time.

With practice, it is usually easy to distinguish most bromeliads from other plants. Harry Luther has offered this advice: *"...There is a combination of characters, some of which are easy to see, some of which are very hard to see. If the plant has strap shaped leaves arranged in a rosette and those leaves have some type of scale or scurf on them, if the flowers are [also] arranged in threes and if the flowers have dissimilar sepals and petals* [then the plant is almost certainly a bromeliad]…" **[All bromeliad flowers have 3 petals, 3 sepals, 3 floral bracts, 2 whorls of stamens consisting of 3 each and a 3-celled ovary. Ed.]**

Over time, it became necessary to divide the *Bromeliaceae* family into three sub-families. They are *Pitcairnioideae*, *Bromelioideae*, and *Tillandsioideae*. According to the Bromelia Society International's website… the most recent listing of genera in each sub-family is

- ***Pitcairnioideae***: *Ayensua, Brewcaria, Brochinia, Connellia, Deuterocohnia, Dyckia, Encholirium, Fosterella, Hechtia, Lindmania, Navia, Pepinia, Pitcairnia, Puya, Steyerbromelia*

- ***Tillandsioideae***: *Alcantarea, Catopsis, Glomeropitcairnia, Guzmania, Mezobromelia, Racinaea, Tillandsia, Vriesea, Werauhia*

- ***Bromelioideae***: *Acanthostachys, Aechmea, Ananas, Androlepis, Araeococcus, Billbergia, Bromelia, Canistropsis, Canistrum, Cryptanthus, Deinacanthon, Disteganthus, Edmundoa, Fascicularia, Fernseea, Greigia, Hohenbergia, Hohenbergiopsis, Lymania, Neoglaziovia, Neoregelia, Ochagavia, Orthophytum, Portea, Pseudaechmea, Pseudananas, Quesnelia, Ronnbergia, Ursulaea, Wittrockia*

This list will change over time. For example, the creation of new genera in *Aechmea* and *Tillandsia* [and *Neoregelia*, Ed] appears likely, while most botanists consider *Pepinia* should be combined with *Pitcairnia* (from where it originally came). Many bromeliad genera have been named to honor famous botanists or horticulturists.. Examples: *Billbergia*: Gustave Johannes Billberg, a Swedish botanist; *Cottendorfia*: Baron Cotta von Cottendorf, German botanist; *Fosterella*: Mulford B. Foster, United States bromeliad explorer and naturalist; *Guzmania*: A. Guzman, Spanish naturalist; *Lymania*: Lyman B. Smith, United States bromeliad taxonomist; *Neoglaziovia*: A. Glasiou, collector of Brazilian bromeliads; *Neoregelia*: Edouard von Regel, director of the St. Petersburg (Leningrad) Botanic Gardens in Russia; *Tillandsia*: Elias Tillands, Finish botanist; *Vriesea*: Dr. de Vriese, Dutch botanist; and *Wittrockia*: V. Bracher Wittrock, Swedish botanist.

The names of other genera are largely derived from classical Latin or Greek… Examples are *Nidularium*: nest bearer, referring to the cluster of "leaves" around the flowers; *Canistrum*: little basket, referring to the inflorescence in a basket of bracts; and *Aechmea*: spike or spear, referring to the long spines on the sepals of *Aechmea paniculata*, the first species described in the genus.

The *Pitcairnioideae* sub-family probably contains the most ancient bromeliads. Most are terrestrial…and rely on an extensive root system (as opposed to their leaves) to obtain water and nutrients.

The *Bromelioideae* sub-family's representatives all have berry-like fruit with seeds immersed in the fruit's "pulp"…Nearly all of them have leaves edged with spines…The majority of the commonly grown species are epiphytic (obtain most of their water and nutrients through their leaves rather than their roots)…many also terrestrial. Many species have rosette-like shapes, which often form a water-hold tank in the plant's center.

The *Tillandsioideae* sub-family has more species than either of the other sub-families. Most species are epiphytes, and all have spineless leaves. All of

their seeds have a plumose appendage (which looks like a dandelion flower's "hairs") attached to them. Many of the species with grey leaves can survive in very dry (xeric) conditions..

Harry Luther, from the Marie Selby Gardens in the United States [formerly Ed.], has compiled a list of the species in each genus. [An Alphabetical List of Bromeliad Binomials by Harry Luther. This volume is usually updated every two years. The 2004 list enumerates 3010 species of bromeliads among 56 genera and two nothogenera. It can be accessed on the Selby Botanical Gardens' website at: www.selby.org, or purchased for $12 ppd. From BSI Publications by mail: c/o Robert Kopfstein, 6903 Kellyn Lane, Vista, CA 92084, USA or on-line at: www.publications@bsi.org Ed.]

With the exception of hybrids, bromeliads are usually botanically "defined" or named by a combination of their genus and species name. An example of this "binomial" combination is *Tillandsia* (genus) *usneoides* (species). Where there are botanically significant differences within a species, the species "epithet" is combined with (in descending order of botanical variation) sub-species (abbreviated "ssp."), variety ("var"), and forms ("forma"). As examples, one has *Tillandsia fuchsii* var. *fuchsii* forma *gracilis* and *Tillandsia landbeckii* ssp. *andina* var. *rigidor*. All such variations which have been generally accepted by botanists are listed in Luther (2004).

Differences between plants which are essentially only of horticultural significance can be given a cultivar name. Cultivar names are shown at the end of the botanical description. An example is *Billbergia pyramidalis* 'Kyoto' which is a variegated form of *Billbergia pyramidalis*. The choice of the cultivar name is determined by a set of rules, which should be followed if you wish to name a cultivar. The cultivar name should also be registered with the Bromeliad Society International, which is the registration authority for all bromeliad cultivars. The naming of hybrids, of which there are many thousands, is a separate topic in itself, and is not covered in this article. I thank Derek Butcher for his help in preparing this article.

Is *Neoregelia correia-araujoi* Pereira & Penna, a Natural Hybrid?

This article by Derek Butcher is reprinted in part from the July 2005 newsletter of the Bromeliad Society of South Florida.

First, I must point out there is no stigma attached to a plant being called a natural hybrid – it was just that some settled down to become treated by taxonomists as a species. There are many plants currently described as species which are most likely recent hybrids! But this should not stop us discussing odd happenings. Elton Leme is strongly of the opinion that this taxon is not a hybrid. This is what he had to say while showing photographic slides in the Report of Proceedings at the Bromeliad Conference New Zealand 2003:

Elton Leme:
"On the contrary, *Neoregelia johannis* grows in an area covered by forest close to the ocean. You can see it here in the south part of Rio de Janeiro, some rock formation and you can see when *N. johannis* grows on the rocks very close to the salt water. You can see here the level of the high tide and it is very adapted to the salt conditions. You can select all kinds of shapes and colors and I saw here and in many other places, different plants supposed to be hybrids or supposed to be cultivars but they are just selections of the typical populations. Here are some examples of different populations just two kilometers apart. You can also find variegated ones sometimes but these are a different category in terms of taxonomy and you can use a cultivar name.

"Another problem is *N. correia-araujoi*, you can see that it has spotted leaves that never occur in the typical johannis. People used to say that *correia-araujoi* may be a natural hybrid between *cruenta* and *marmorata* but the populations of *cruenta* and *marmorata* are never in contact in the environment. *N. cruenta* grows up north of Rio de Janeiro and *johannis* grows to the south. *N. marmorata* grows in Sao Paulo state far away. Here is *correia-araujoi* in shade conditions and you can see it is keeping the spots on the leaves.

"This is the typical N. marmorata from Sao Paulo, a smaller plant compared to correia-araujoi and johannis, with narrow leaves and a very peculiar kind of ornamentation. In the cruenta, the petals are blue and in johannis, white. Here we have some white petals with tips of lilac, and also some shades of green in the lower part of the petals."

Here is one of the many forms of *Neoregelia correia-araujoi*. Photo is by Lisa Vinzant and is courtesy of the Florida Council of Bromeliad Societies.

Neoregelia ×correia-araujoi

Here is one of the many forms of *Neoregelia correia-araujoi*. Photo is by Bromeliario Imperialis and is courtesy of the Florida Council of Bromeliad Societies.

Neoregelia xcorreia-araujoi Shown by Butch & Quyless Force
2004 Mothers Day Show, BSCF

Here is one of the many forms of *Neoregelia correia-araujoi*. Photo is by Michael Andreas 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 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:
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Dan Arcos will show us San Francisco greenhouses this month!