



S.F.V.B.S.

SAN FERNANDO VALLEY BROMELIAD SOCIETY

OCTOBER 2019

P.O. BOX 16561, ENCINO, CA 91416-6561

sfvbromeliad.homestead.com

sanfernandovalleybs@groups.facebook.com

Twitter is: sfvbromsociety

Instagram is: sfvbromeliadsociety

Elected OFFICERS & Volunteers

Pres: **Bryan Chan** V.P.: **Joyce Schumann** Sec: **Leni Koska** Treas: **Mary Chan** Membership: **Steffanie Delgado**
Advisors/Directors: **Steve Ball, Richard Kaz -fp, & Carole Scott-fp,** Sunshine Chair: **Georgia Roiz** Refreshments: **vacant**
Web & Editor: **Mike Wisnev** Snail Mail: **Nancy P-Hapke** Instagram & Twitter & Face Book: **Felipe Delgado**

next meeting: Saturday October 5, 2019 @ 11:00 am

Mary and Bryan Chan's Home

Fun PICNIC Food

Bryan and Mary Chan will host our annual Potluck Picnic again this year. The Club will provide the main dish. Members will provide the side dishes. In addition to eating and visiting, we will hold our Raffle and Show & Tell events.

Date: Saturday, October 5, 2019

Time: Doors open at 11:00 AM. We eat at Noon. Hangout from 1:00 PM till ??

Please RSVP to bcbrome@aol.com or call them at 818.366.1858 if you are planning on coming to the picnic. We need a head count, as well as the side dish you will be bringing. Bryan and Mary will provide the address and directions when you RSVP.

Announcements

- **Membership increase** - If you weren't at the Sept. meeting, please note the Club approved a modest increase in dues. Starting for 2020, annual dues are now \$15 (\$20 if you receive the Newsletter by snail-mail instead of email). You can pay at the picnic or future meetings.
 - **Taxonomic Tidbits** is a section written by Mike Wisnev each month for this newsletter's e-mail edition. Don't forget the older articles on sfvbromeliad.homestead.com where the files go back several years. After Mike joined SFVBS he started researching the plants, and as he did, he began sharing his findings with the group each month. His articles are now being republished in several other bromeliad club newsletters across the country, even in Australia. The articles include great color photos and sometimes take up 15 pages, therefore making that edition much too expensive to print and do snail-mail. Members without email could probably ask a neighbor or family member to let them read the articles on their computer once a month
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Please pay your 2020 Membership Dues

NEED TO RENEW ?.....

Pay at the picnic or future meetings to: Membership Chair –Steffanie Delgado or Treasurer - Mary Chan or Mail to: SFVBS membership, P.O. Box 16561 - Encino, CA 91416-6561

Yearly Membership Dues - \$15 for monthly e-mail newsletters or \$20 for snail mail

Please Put These Dates on Your Calendar

Here is our 2019 Calendar. Rarely does our schedule change..... however, please review our website and email notices before making your plans for these dates. Your attendance is important to us

Saturday October 5	Picnic at Chans, at 11am
Saturday November 2	STBA
Saturday December 7	Holiday Party

STBA = Speaker To Be Announced

Speakers Let us know if you have any ideas for Speakers about Bromeliads or any similar topics?

We are always looking for an interesting speaker. If you hear of someone, please notify **Joyce Schumann** at 818-416-5585 or ropojo@pacbell.net

*This section is open for any
Member-contributions of photos or articles....*

Great Billbergia photos on the last pages submitted by Bryan Chan.

Taxonomic Tidbits:

Billbergia subgenera and flowers

By Mike Wisnev, SFVBS Editor (mwisnev@gmail.com)

San Fernando Valley Bromeliad Society Newsletter –October 2019

Photos by Wisnev unless noted otherwise.

If *Billbergia* flowers lasted longer, we would probably all have a lot more of them. They are tank-top bromeliads in the Bromelioideae subfamily that are generally characterized by long tubular rosettes, though some open up a bit. Probably over half of them are from eastern Brazil, but they grow in other parts of S America as well as Central America.

The first article I wrote, about inflorescences, featured a *Billbergia*. Their inflorescences are stunning, with large showy bracts that are typically red or pink or sometimes orange. Some of the inflorescences are pendant, which means they droop over, while others are erect. But the inflorescence only lasts a few days, and rarely more than a week. Even without an inflorescence they are usually pretty easy to identify due to the tubular rosette. With an inflorescence they are even easier.

Like Neos, they can be striped, spotted or neither. They have been hybridized extensively, though not nearly as much as Neos. But then nothing in the Bromeliad world has been hybridized like Neos. I am not sure why they haven't been hybridized more given their beauty. After all, Neos have small flowers buried in the throat of the plant – they can't compete with *Billbergia* on this basis. Perhaps the results have been less rewarding than Neos. One possibility is that Neo flowers last a long time, so hybridizers have plenty of time to cross various Neos. It is a lot more difficult with *Billbergia* since the flowers are only available a few days. The leading *Billbergia* hybridizer was Don Beadle who only recently passed away.

You can see some of the variation in *Billbergia* in the picture below. Two of them are even in flower. For comparison, there is an *Aechmea* (at least I think it is an *Aechmea* – it hasn't bloomed and isn't labeled) on the left. While it looks fairly similar to the *Billbergia* next to it, look at the bottom of each plant. You can see how the *Billbergia* has a tight rosette, while the *Aechmea* is much broader at its base. Some *Aechmea*, however, might be more easily confused with *Billbergia*.



The plant on the far right is *Quesnelia marmorata*. Absent an inflorescence, it certainly looks like a *Billbergia*. In fact, it was originally published as a *Billbergia*, and later as an *Aechmea*. When you look at the key in Smith and Downs, *Quesnelia* show up 3 times, and in each case, it is right next to *Billbergia*. In each case, *Aechmea* is just one branch away. According to the key, the primary difference with *Quesnelia* and *Billbergia* relates to their pollen and the shape of the petals. In particular, *Billbergia* flowers usually have petals that are recurved and/or not entirely symmetric.

Robert Read, in an article in the Bromeliad Journal in 1965, moved this plant to *Quesnelia*. Read also compared some characters of these genera. Generally, unlike *Aechmea* and *Quesnelia*, *Billbergia* have longer styles than sepals, and a ribbed or grooved berry like fruit. In contrast, the other two genera have smooth fruits and styles about as long as the stamens. Like *Quesnelia*, the floral bracts and sepals typically are not sharp.



There is a meandering story here.

Here is a picture of an unlabeled *Billbergia* I got from a cactus club before I even collected bromeliads. It was on the freebie table – usually the table has some rather prolific plants that folks bring in when they clean out their garden. Being prolific, they tend to be fairly common. This one has very long leaves, over 2 feet long – you can see them in the right in the photo. As noted above, the inflorescence is pendant, and the large pink peduncle bracts are stunning.

I knew it was a bromeliad, but that is all. It bloomed about a year later, and the inflorescence reminded me of the only *Billbergia* I had. After looking at Google, I felt pretty confident this new one was a *Billbergia*, and even thought I found the species name, which in retrospect was completely laughable and I refuse to divulge.

A few years later I joined our club. I was trying to learn more, and heard the main treatise was Smith & Downs. I was lucky and found an inexpensive copy on the web. Within a few days I had read the introduction, which had lots of good information. Then, I flipped through the rest - dense technical text, black and white drawings and no pictures. It was definitely a serious reference book. When I put it on the shelf, I wondered if I would ever look at it again!

Well, a few months later my plant bloomed again. Now I knew for sure it was *Billbergia*. But I laughed when I checked my earlier species ID – its flowers were nothing like mine. Perhaps I made the earlier ID without a flower – I don't remember. Lesson #1 – it is hard to ID plants, and perhaps almost impossible if you aren't familiar with the genus or family. I didn't know what features to look at, and really didn't discern the more critical differences.

So, I posted a picture on a forum. I figured it was a common one, and would be easy for them to ID. Well, it wasn't. Lesson #2 - they told me there are tons of unnamed hybrids out there.

Being a bit persistent, I looked through some pictures of *Billbergia* species. I was drawn to the lepidote bluish peduncle and the blue green furrowed structure at the bottom of the flower. I found *B pallidiflora* was close in this respect, though different in others, and asked about it on the forum.

Well, the flowers of the two were very different – I still hadn't learned Lesson #1 above. Lisa Vinzant, the well-known Neo hybridizer, sent me a long email explaining that there are two subgenera of *Billbergia* and how they differed by virtue of their flowers. My plant's flowers were more consistent with subgenus *Billbergia* – the petals are fairly straight and recurve a bit. In contrast, *B pallidiflora* is in subgenus *Helicoidea* – their petals are tightly rolled back. I asked her some more questions and she patiently sent another email answering them, and provided more information.

I was pretty intrigued by her information. Not being aware of these differences, I had totally overlooked them. I had seen the tightly wound flowers on the *B pallidiflora* picture I found, but so what – I didn't give it any more thought. After all, flowers develop over time – maybe mine would wind up later or maybe it meant nothing.

Then I took out Smith and Downs for the first time since I put away. It has more features of these two subgenera. And a key for all the *Billbergia* species, another one distinguishing the three Bromeliad subfamilies, and another key for each subfamily. And when I looked at the *Billbergia* drawings, I learned the bluish structure at the bottom of the flower was the outside of the ovary.

Smith and Downs don't stay on the bookshelf very long now. It wasn't long before I wrote the first article for the Newsletter – about *Billbergia* inflorescences. I had planned to write this article next, but didn't have some pictures I wanted so I waited.

So, this article in particular is certainly due to the fact Lisa took the time to help an almost complete stranger. I guess that is really the most important lesson! In fact, I might not even be writing these Taxonomic Tidbits had it not been for her. So, I again thank her for kindling my fascination about bromeliad taxonomy and classification.

Note - a few years later, I found a very similar *Billbergia* at the Huntington, and with Derek Butcher's assistance, we think both are likely *B. 'Thelma Darling Hodge.'*

Before continuing with this discussion, I'd like to show how *Billbergia* flowers differ from *Aechmea* and *Quesnelia* flowers. Below is a plant identified as *B Hoelscheriana'*,



Note the flower at the upper right. It has one recurved petal (that means curled downward), and the other two more or less erect. This demonstrates two features of *Billbergia* flowers generally. They generally have recurved petals and/or slightly **zygomorphic** flowers. In contrast, the other two genera usually have **regular** (or actinomorphic) flowers with generally erect petal.

A **regular** flower is radially symmetric – you could cut the flower in half through any of the

any of the three petals and each side of the flower would be the same. Zygomorphic means only two sides are symmetric. Note the spacing of the three petals – the recurved petal is relatively far away from the other two, which are close together. If you cut the flower in half through the recurved petal, each half would be symmetrical. But if you cut it in half through one of the other petals, the two halves wouldn't be symmetric – one side would have an erect petal close to the half petal and the other side would have a recurved petal further away.

Perhaps an easier way to think of it is comparing a starfish and human. Any way you cut the starfish; the two halves are the same. For humans – well, your left side is a mirror image of your right side but your top half is nothing like your bottom half. So, you are zygomorphic! For that matter, if the arms of the starfish differed in size or some were closer together than other, the starfish would also be zygomorphic, though perhaps only slightly.

Now let's return to the two subgenera. One is subgenus *Billbergia* and the other *Helicoidea*. *B. Hoehlscheriana* (above) is a cross of two species of the subgenus *Billbergia*. I was waiting to get a *Helicoidea* flower on one of my *Billbergia*, but that for many years that never happened. In fact, when I Googled *Billbergia* flowers I didn't see a good example, so I gather they aren't commonly cultivated.



B. brasiliensis, which is a *Helicoidea* member. There are lots of differences between this species and *B.*

'Hoelscheriana'. One has green leaves and the other has heavily spotted leaves. One has pink bracts and the other bright red ones. While these might help identify the species, they aren't relevant here.

Instead, we will focus on the flowers. Most important is the petals. In the next photo, look how they are tightly wound up, or helicoid, for *B. brasiliensis* – this is why this subgenus is named *Helicoidea*. In contrast, the petals of *B. 'Hoelscheriana'* (shown earlier) are only slightly recurved.

Sometimes petals in a subgenus *Billbergia* species are rolled back in a loose circle, but not tightly like *Helicoidea*.



In the above picture of *B. brasiliensis*, you can see how tightly the petals are rolled back.

Below is a list of differences between the two subgenera. If you go through it, you can see how they correspond to the pictures above.

The B 'Hoelscheriana' petals are striking – green with a heavy blue margin. The flower has a green stamen and the inflorescence is compound and not very heavily marked. In contrast, *B brasiliensis* has a simple inflorescence with a sort of whitish coating on the peduncle (this is called farinose), and a one colored satiny helicoid petal with a long purple stamen.

	<i>Helicoidea</i>	<i>Billbergia</i>
Petals	Tightly wound	Recurved a bit, or rolled but not tightly
	Satiny and concolorous (all one color)	Usually not satiny. Concolorous or two toned.
Stamens	Very long, often purple	Almost never purple, short
Anthers	Very thin, like filament	Much thicker
Pollen	White or pale yellow	Yellow or orange
Stigma	Linear, revolute	S or C shaped appendages
Inflorescence	“always simple, densely farinose”	“often compound, their apex often glabrous”



Now look at the picture to the left. It is *B nutans*, perhaps the most commonly cultivated *Billbergia*. It is in the *Billbergia* subgenus and is one of the parents of B ‘Hoelscheriana’. First note the petals are two colors and are all recurved. You can also see the pollen is golden yellow. They cover the anthers, which are relatively thick. At the very bottom you can see the oddly shaped green stigma – these are actually the three stigma lobes. The stigma sticks out beyond the anthers – this is another feature of *Billbergia* generally, as compared to *Aechmea* and *Quesnelia*.

Some species in subgenus *Billbergia* have rather plain green petals (though more have some blue in them), and are thus “concolorous” like *Helicoidea*. But they have the other features of subgenus *Billbergia*.

Compare the *B nutans* flower above with the following picture of an unlabeled plant identified as B ‘Windii’ or B ‘Theodore L. Mead’ which is very similar. (Sometimes you can’t find an ID on your plant; in other cases, you find a good match, but learn there is more than hybrid, often with the same parents, that matches yours). *B windii* is a cross of *B nutans* (subgenus *Billbergia*) and *B decora* (subgenus *Helicoidea*).

Billbergia 'Windii' or 'Theodore L Mead'



While the petals are two tones and the stamens green, like *B nutans*, the other features come from *B decora* and show the *Helicoidea* influence. The anthers are extremely thin and covered with whitish pollen. And the turquoise stigma looks very different; it is like a group of lines revolving around each other.

For reasons unknown to me, subg *Helicoidea* species are not very common in cultivation, and there do not seem to be many hybrids of them relative to subg. *Billbergia*.

Let's return now to the first pictured inflorescence above. You can now see it clearly has aspects of subg. *Billbergia* flowers. The leaves aren't satiny or heliocoid. It has golden pollen and the stigma has the odd shape like *B nutans*. The petals are concolorous, not two colors, but that doesn't matter since lots of species in subgenus have concolorous petals. On the other hand, the simple and lepidote inflorescence is characteristic of *Helicoidea*. It turns out the B 'Thelma Darling Hodge' is a hybrid of B speciosa (subg *Billbergia*) and *B porteana* (subg *Helicoidea*), and aspects of both are seen in the inflorescence. .

I am not aware of any DNA studies that focused on *Billbergia*. A study on *Aechmea* (included 9 species) of *Billbergia*. This isn't a large enough group to draw any conclusions, but 7 of the 9 were grouped together. Of these 7, they weren't grouped by the above subgenera. More studies are needed to see if the *Billbergia* genus and subgenera remain valid.

Below is another subg. *Helicoidea* species, *B rosea*. The tubular striped rosette is just to the left of the inflorescence, which is lying on top of a clump of *B* 'Hallelujah'.



Billbergia rosea

Below is an enlargement of the inflorescence.



Billbergia rosea

Here is an enlargement of the inflorescence.

Finally, last month Bryan Chan brought in a lovely
Billbergia porteana in bloom.
Here is a picture I took at that SFVBS meeting on 9/7/19.



Below are two pictures Bryan took and sent me two days later to show how much the inflorescence had grown.

Bill. porteana, photo by Bryan Chan

