



S.F.V.B.S.

SAN FERNANDO VALLEY BROMELIAD SOCIETY

MARCH 2018

P.O. Box 16561, Encino, CA 91416-6561

sfvbromeliad.homestead.com

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Elected OFFICERS & Volunteers

Pres: **Bryan Chan & Carole Scott** V.P.: **John Martinez** Sec: **Leni Koska** Treas: **Mary Chan** Membership: **Joyce Schumann**
Advisors/Directors: **Steve Ball, Richard Kaz -fp, Mary K., Mike Wisnev -fp** Sunshine Chair: **Georgia Roiz,**
Refreshments: **vacant** Web: **Mike Wisnev,** Editors: **Mike Wisnev & Mary K.,** Snail Mail: **Nancy P-Hapke**

next meeting: **Saturday March 3, 2018 @ 10:00 am**

Sepulveda Garden Center 16633 Magnolia Blvd. Encino, California 91316

AGENDA

9:30 – SET UP & SOCIALIZE

10:00 - Door Prize – one member who arrives before 10:00 gets a Bromeliad

10:05 -Welcome Visitors and New Members. Make announcements and Introduce Speaker

10:15 –Speaker – Marquita Ellias

🕒 Botanical Names Decoded

Are you one of those people that get confounded or even embarrassed about using the botanical name of a plant? Do those botanical names have any meaning? Do you say to yourself “it’s all Greek or Latin to me” and have no idea how to remember them or even pronounce them? Please join us for a delightful morning of decoding botanical names and learning why we have them and what in the heck do they mean. You’ll find that it’s a fascinating journey. I think you’ll cry out that it’s really “elementary” my dear Watson.

Marquita is the vice-president of the newly formed Conejo Cactus and Succulent Society. Marquita is a member of CSSA and a member of LACSS for six years. As a California native, born in Anaheim, she received her degree in Civil Engineering from Loyola Marymount University and also attended Scripps Institute of Oceanography. She worked as a Registered Civil Engineer for over 20 years with a portion of that time spent underwater as a hardhat diver. She spends her time helping with their family construction business,

hiking, mountain biking and tending her collection of aeoniums and adeniums. A presentation you’re sure to enjoy, and won’t want to miss.

11:15 - Refreshment Break and Show and Tell:

Will the following members please provide refreshments this month: *Nancy Pyne-Hapke, Chris Rogers, Georgia Roiz, Steve Rudolph, Joyce Schumann and anyone else who has a snack they would like to share.* If you can’t contribute this month don’t stay away.... just bring a snack next time you come.

Feed The Kitty

If you don’t contribute to the refreshment table, please make a small donation to ([feed the kitty jar](#)) on the table; this helps fund the coffee breaks.

11:30 - Show and Tell is our educational part of the meeting – Members are encouraged to please **bring one or more plants**. You may not have a pristine plant but you certainly have one that needs a name or is sick and you have a question.

11:45 – Mini Auction: members can donate plants for auction, or can get 75% of proceeds, with the remainder to the Club

12:00 – Raffle: Please bring plants to donate and/or buy tickets. Almost everyone goes home with new treasures!

12:15 - Pick Up around your area

12:30 –/ Meeting is over—Drive safely <>

Happy St. Patrick’s Day

President's Message

A garden hop style arrangement has been made to visit the growing area of John Martinez in Somis on **Saturday, April 21st**. 3 other growers also share the area which includes John Matthews, who has just joined our club. The second stop will be the home of Duke and Kaz Benadom in Simi Valley. Both stops will give you ideas on growing techniques and a chance to acquire new plants for your collection or garden. I am hoping to arrange the stop times in the morning hours so that everyone can go on with their day afterwards.

I would like to get commitments to this event so that we can see if there will be enough interest to make this happen. Somis is not that far from the San Fernando Valley but, you may want to think about carpooling. To ask questions or to let us know that you will be interested in going I can be reached at home (818) 366-1858 or by e-mail bcbrome@aol.com.

Best Regards,
Bryan Chan

At the February meeting, John Matthews and Pat Olsen joined; please make them feel welcome. Bryan Chan gave a very interesting presentation covering local shows, his plants and more.

Announcements

Adrienne Jaffe is not well; she is currently receiving chemo treatments. Please send your good thoughts and prayers her way.

Happy March Birthday to: - Kaz Benadom March 7 and Barbara Wynn.

March 9th - 11th - International Orchid Show in Santa Barbara at the Earl Warren Showgrounds, 3400 Calle Real, Santa Barbara, CA 93105. This event also showcases products like cut flowers, trees & shrubs, and fruit & vegetables, garden, floral art & camellias, winter flowers etc. in the Horticulture & Floriculture industry. You can expect to see up to 500 vendors and 5,000 visitors each year.

March 24, 2018 - The South Bay Bromeliad Associates, one day **Bromeliad Spring Sale** at Live Arts Plantscapes, inc, new location in Gardena. Sales will be from member's collections, and commercial sellers from **10 AM to 3 PM**. 1323 & 1329 W. 130th Street, Gardena, CA. Free parking is provided on site and on the street.

Member Name Badges - If you have misplaced your badge now would be a good time to order a replacement. See Joyce at the meeting to order.

Participation Rewards System – This is a reminder that you will be rewarded for participation. Bring a Show-N-Tell plant, raffle plants, and/or Refreshments and you will be rewarded with a Raffle ticket for each category. We realize not everyone has pristine show plants but each of us certainly have unidentified plants that can be brought in. Each member, please bring one plant

Please pay your 2018 Membership Dues

NEED TO RENEW ?.....

Pay at the meeting to: Membership Chair – Joyce Schumann or Treasurer - Mary Chan
or Mail to: SFVBS membership, P.O. Box 16561 - Encino, CA 91416-6561

Yearly Membership Dues - \$10 for monthly e-mail newsletters or \$15 for snail mail

Please Put These Dates on Your Calendar

Here is our 2018 Calendar. Rarely does our schedule change but
 please review our website and email notices before making your plans for these dates. your attendance is important.

Saturday February 3, 2018	<i>Bryan Chan</i>
Saturday March 3, 2018	<i>Marquita Ellias -</i>
Saturday April 7, 2018	<i>Cristy Brenner - Brazil</i>
Saturday May 5, 2018	<i>STBA</i>
Saturday & Sunday June 8 & 9	<i>SFVBS Bromeliad Show & Sale</i>
Saturday July 7, 2018	<i>STBA</i>
Saturday August 4, 2018	<i>STBA</i>
Saturday September 1, 2018	<i>STBA</i>
Saturday October 6, 2018	<i>STBA</i>
Saturday November 3, 2018	<i>STBA</i>
Saturday December 1, 2018	<i>Holiday Party</i>

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 [John Martinez johnwm6425@gmail.com](mailto:johnwm6425@gmail.com) or [Bryan Chan bcbrome@aol.com](mailto:bcbrome@aol.com) <>

Member photos:



Mike's first picture shows an unlabeled one from Bill Baker's collection when I got it, and wasn't even sure what genus it was. It turned out to be a *Billbergia*, probably with *Bill. amoena* as one parent based on the inflorescence. Let me know if you have ideas what it is



Taxonomic Tidbits –

Cryptanthus and related genera – Part 1

By Mike Wisnev (mwisnev@gmail.com)

San Fernando Valley Bromeliad Society Newsletter –March 2018

Probably due to our dry climate, most of us grow only a few, if any, *Cryptanthus*, commonly known as earth stars. However, they are an exceedingly popular genus, especially in the southern U.S. You might be surprised to learn that there were 1234 *Cryptanthus* cultivars listed on the BCR as of January 22, 2018. *Neoregelia* is probably the only genus with more registered cultivars. As far as I know, *Cryptanthus* is the only genus of bromeliads that has its own society and published newsletter.



This *Cryptanthus bivittatus* cultivar is unlabeled, but looks like it is *Crypt.* Ruby. Photo by Wisnev. For good reasons, *Cryptanthus bivittatus* cultivars are among the most well-known *Cryptanthus*, at least here in Southern California. The flowers aren't much, but the leaves are spectacular. These are often sold at local cactus and succulent shows among other venues. I may have even seen them at Home Depot.



Labeled as ***Cryptanthus pickelii***, photo by Wisnev.

Based on the pictures in Derek Butcher's folders and mine didn't look righthwarren-loosei. Another article that confirms that most plants labelled *Crypt. pickelii* are actually *warren-loosei*! This species is interesting since it has a short stem, unlike most *Cryptanthus* which are stemless.

As noted in numerous Newsletters before, recent DNA studies showed groups of *Cryptanthus* were intermingled with groups of *Orthophytum*. The most comprehensive was Louzada, R.B., Schulte, K., Wanderley, M.L., Silvestro, D., Zizka, G., Barfuss, M.H.J., Palma-Silva, C., Molecular phylogeny of the Brazilian endemic genus *Orthophytum* (Bromelioideae, Bromeliaceae) and its implications on morphological character evolution, *Molecular Phylogenetics and Evolution* (2014). Another study confirmed this conclusion. New circumscription of *Cryptanthus* and new Cryptanthoid genera and subgenera (Bromeliaceae: Bromelioideae) based on neglected morphological traits and molecular phylogeny. Leme, E., Heller, S., Zizka, G., and Halbritter, H. *Phytotaxa* 318 (1): 001–088 (2017) (the "Article"). As a result, the authors of this Article revised this genus extensively.

Last month we discussed the Article vis a vis *Orthophytum*, while this month covers *Cryptanthus*. In many respects the two groups (along with *Sincoraea* and the small *Lapanthus* genus (discussed in Part 2 of the *Orthophytum* series) are similar. "They form the so called "Cryptanthoid complex", sharing ecological, geographical and morphological characteristics such as endemic occurrence in southeastern and northeastern Brazil, terrestrial or saxicolous habit, leaf rosettes without water-holding capacity, sessile flowers usually arranged in subsessile fascicles and fruits without noticeable mucilaginous substance." Id at 3. Most species of these groups have white or greenish flowers, though there are exceptions.



Cryptanthus bivittatus

Cryptanthus bivittatus was first described in 1861 as *Billbergia bivittata*! Above is the 1861 illustration in Curtis's Botanical Magazine, Vol XVII, 3d Series, pl. 5270. Image from the Biodiversity Heritage Library. Digitized by Missouri Botanical Garden Peter H. Raven Library www.biodiversitylibrary.org". As you can see, it had green leaves with white stripes. Apparently this green form no longer exists in the wild, and all? forms in cultivation are var. *atropurpureus*, with reddish leaves. A former more robust variety *luddemannii* is now referred to *Cryptanthus marginatus*, which not surprisingly looks much like *C bivittatus*, but has a unique sepal among other minor differences.

Orthophytum and *Cryptanthus* have some clear differences, however, especially regarding various flower parts. With a few exceptions, *Orthophytum* have free sepals and petals, while *Cryptanthus* have connate petals (that means they are joined together at the base) and connate sepals. *Cryptanthus* also don't usually have petal appendages, while *Orthophytum* (other than two species) do. *Orthophytum* generally grow more inland, often in somewhat drier locations. Most *Cryptanthus* also have a very small flower tube compared to *Orthophytum*. These differences will be discussed in considerable detail later.



Cryptanthus giganteus
see J Brom Soc 58(1); 15. 2008
Photo by Leme.

This species has leaves up to 60 cm (2 ft) long.

On the whole, *Orthophytum* may look more like *Dyckia* than *Cryptanthus* do. However, after looking at lots of pictures -out of flower, it isn't so easy to distinguish many *Cryptanthus* and *Orthophytum*. While many, like the cultivars above and *Cryptanthus giganteus* to the left are easy, there is considerable variation in each genus and some look much

The first *Cryptanthus*, *Crypt. Bromeliads*, was described in 1836 by Otto and Dietrich. The genus is named after its hidden flowers in the base of the plant. As was often the case back then, there was no illustration, which led to some confusion over its identity. In 1998, Professor Ramirez (who currently studies *Hechtia* and did her PhD on *Cryptanthus*) provided a neotype, which Luther later noted was different from many specimens in cultivation, which he thought were actually *Cryptanthus osiris*.



Cryptanthus bromelioides in habitat, Barra de Tijuca, Rio de Janeiro, Brazil. Photo by David Benzing.

This photo appeared in the *Cryptanthus Society Journal* Vol.XV #3-4. It provides a sense of the lush habitat (the Atlantic Forest in eastern Brazil) in which many *Cryptanthus* grow.

Like *Orthophytum*, the number of species has increased dramatically over the years, and now declined a bit due to DNA testing. Smith & Downs recognized 20 in 1979. (Interestingly, their key to the genus focused quite a bit on the leaves rather than flowers.) In 1998, Professor Ramirez recognized 45 species, while the number had grown to about 81 in 2017. Looking at a list of current *Cryptanthus* and related genera, it appears Leme has described about half of them, sometimes with other authors.



https://commons.wikimedia.org/wiki/File:Zebra_Plant.

One of the more spectacular species is *Cryptanthus zonatus*. It is quite similar to *Cryptanthus fosterianus* and *Cryptanthus burle-marxii*, all of which were placed in the same section by Ramirez, who wondered if the three were perhaps an extremely variable single species. It also doesn't look all that different than *Orthophytum gurkenii*, shown last month. A recent 2013 study by Versieux, Magalhaes and Calvente found 7 populations of *Cryptanthus zonatus*; they found it was variable in color (some banded like above, some plain green or maroon), with the same population often having different colored clones.

Mez recognized a second subgenus of *Cryptanthus*, called subg *Hoplocryptanthus*." Id at 3. Smith & Downs did not recognize this subgenus. Professor Ramirez recognized both subgenera and broke them into about nine sections based on morphological features. It appears the new molecular data in the Article did not support these sections.

An unusual species due to its spotted leaves that have long petioles. According to Smith and Downs, this species is known only in cultivation though first described in 1885.

According to Prof Ramirez, the two subgenera differed as follows.

Subgenus *Cryptanthus* ...

is defined by the presence of andromonoecious plants, simple erect stigmas (with lobes spreading and fimbriate margins), flowers with tendency to be odorless, petals oblong or narrow elliptic, and usually curved outward exposing anthers and stigma, pollen with reticulate surface and few seeds per fruit (ca. 8). Members occur from 0 to 700 m, in wet forests, restingas (scrub vegetation along the coast), and caatingas (sclerophyllous vegetation), in the states of Rio de Janeiro, Espirito Santo, Minas Gerais, Bahia, Sergipe,

Pernambuco, Paraiba, and Goias. Leaves of these species possess a succulent central section attributable to a many-layered hypodermis.

Subgenus *Hoplocryptanthus* ... is defined by hermaphrodite plants, with simple erect stigmas (with lobes very short and almost connate, forming a truncate stigmatic surface), flowers tend to be fragrant, campanulate or almost flat, petals are orbicular or wide elliptic, anthers and stigma usually included, pollen with a smooth or finely reticulate surface, and numerous seeds per fruit, in some species (*C. schwackeanus* Mez) up to 40 per fruit. Members inhabit wet forests from 700 m up to "campos rupestres" (high altitude grasslands on rocky outcrops) at 2000 m, in the states of Minas Gerais and especially Espirito Santo. A systematic Revision of *Cryptanthus*: Major results. Ivon M. Ramirez. M. 48(2) BSJ 55 (1998).





Cryptanthus regius
see J Brom Soc 57(6); 262. 2007

As discussed at length last month, the Article creates five subgenera of *Orthophytum*. These are separate from the newly created *Sincoraea* genus discussed in part 3 of the *Orthophytum* series. In addition, the Article breaks *Cryptanthus* into four genera – in addition to *Cryptanthus*, there is now *Haplocryptanthus*, *Rokautskyia* and *Forzzaea*. Perhaps the most interesting distinction among them is that *Cryptanthus* generally have odorless flowers (like *Cryptanthus*), while the other three have fragrant ones.

This species is now

Haplocryptanthus regius. Note the relatively round flowers compared to those of *Cryptanthus*. The leaf margins are also relatively straight compared to the undulating ones of *Cryptanthus*. This genus has 8 flowers.

One big surprise in the molecular testing (also shown in Louzada's work) is that the subgenus *Haplocryptanthus* species form two separate groups that are not all that closely related. These are now the *Haplocryptanthus* and *Rokautskyia* genera, with a combined 22 species. *Lapanthus*, discussed in part 2 of the *Orthophytum* series, remains a good genus but with two species, not three as before. The third former member is now a *Haplocryptanthus*.

Now ***Rokautskyia latifolius***.
Photo by Bromeliario Imperialis.

Leme described this species in 1991 noting that it different from all other *Cryptanthus* due its very wide leaves and a few other reasons. It is now a member of the new *Rokautskyia* genus, with 14 species. Most of the species in this new genus have relatively non-succulent leaves compared to the other genera.



Cryptanthus latifolius

2006 © BROMELIARIO IMPERIALIS



Now *Forzzaea Leopoldo-horstii*,

one of three species in that new genus, all of which have fairly thick leaves. Photo courtesy of *Cryptanthus* Society Journal. This species was described in 1988 by Professor Werner Rauh.

There was another earlier extensive study of *Cryptanthus* species that appeared online in 2016. Geyner A.S. Cruz, Georg Zizka, Daniele Silvestro, Elton M.C. Leme, Katharina Schulte, Ana M. Benko-Iseppon. Molecular phylogeny, character evolution and historical biogeography of *Cryptanthus* Otto & A. Dietr. (Bromeliaceae). *Molecular Phylogenetics and Evolution* 107 (2017) 152-165. Perhaps because its authors concluded more studies were needed, this study wasn't referenced in the Article, even though Leme and Zizka were co-authors of both.



Another *Cryptanthus bivittatus* cultivar. While unlabelled, it looks a lot like *Cryptanthus* Pink Starlite. That cultivar took 11 years to select. Photo by Wisnev. I was surprised as of January 22, 2018, there are only 19 cultivars (out of the 1234 *Cryptanthus* cultivars listed on the BCR) with *Cryptanthus bivittatus* listed as a parent. Of course, some of these *Cryptanthus bivittatus* cultivars might be parents of others. There were over 100 with *Cryptanthus fosterianus* as a parent, and almost as many with *Cryptanthus. zonatus*.

This prior study is interesting in a number of ways. It included 109 plants consisting of 48 *Cryptanthus* species and five *Orthophytum* species. Thus, many species had multiple representatives tested. Its results were generally consistent with those in the Article, showing four different clades of then *Cryptanthus* that correspond with the new genera. However, unlike the Article, weren't separated by the two *Orthophytum* in the study now considered *Sincoraea*. There are a number of possible reasons, including that relatively few *Orthophytum* were sampled, or this earlier study based its analysis on what is referred to as amplified fragment length polymorphism, rather than specified nuclear and plastid markers.

Another strange result is that in a number of cases, the multiple accessions of the same putative species showed up in different clades. From what I can gather, DNA testing hasn't been used all that much to distinguish individual species per se as opposed to grouping them into clades. I have seen one article on two related cactus species that used testing to determine if various populations were one or two species, and don't know how commonly this is done. It seems that techniques are used to determine the similarity of the genome of various clones; while clones of the same species show some minimal variation, clones of different related species show considerably more variation.

I suspect that more work will be done in the future attempting to determine if different populations of the same species are really a single species, or if closely related different species are actually one species.

Another very attractive species, *Cryptanthus diana* Photo by Butcher.

Perhaps not surprisingly, the Article showed this species on the same clade as *Cryptanthus zonatus* (shown earlier) and *C. burle-marxii*.

One question not addressed in the Article is the placement of the Cryptanthoid complex in the Bromelioideae sub-family. More work is needed to clarify the relationships of the many various genera in this sub-family. However, the studies so far indicate that a number of fairly uncommon genera, like *Bromelia*, *Ochagavia* and *Ananas* (the pineapple) are in different clades at the base of the phylogeny. The Cryptanthoid complex is the next clade, which is sister to a huge clade of most of the commonly collected genera, like *Aechmea*, *Billbergia*, *Neoregelia* etc.



***Cryptanthus* 'Racinae'**,
a hybrid of *Cryptanthus bivittatus* and
Cryptanthus fosterianus.

Next month's article will discuss the new genera and their characteristics.