



S.F.V.B.S.

SAN FERNANDO VALLEY BROMELIAD SOCIETY

JANUARY 2017

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

sfvbromeliad.homestead.com

sanfernandovalleybs@groups.facebook.com

Elected OFFICERS & Volunteers

Pres: Mike Wisnev V.P.: John Martinez Secretary: Leni Koska Treasurer: Mary Chan Membership: Joyce Schumann
Advisors/Directors: Steve Ball, Bryan Chan, Richard Kaz –fp, Mary K. Carroll Sunshine Chair: Georgja Roiz,
Refreshments: Gisela Miller, Web: Mike Wisnev, FaceBook: Roger Cohen Editors: Mike Wisnev & Mary K., Snail Mail: Nancy P-Hapke

next meeting: Saturday Jan. 7, 2016 @ 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: Ray VanVeen

Program: “Mysteries - Bromeliads”

on’t miss this meeting! <>

TIME TO RENEW ?

11:15 - Refreshment Break and Show and Tell:

Will the following members please provide refreshments this month: **Tom Lucero, John Martinez, Michael and Terral Matsumoto, Kathleen Misko Gretchen Moore and Bill and Susan Novickas and anyone else who has a snack they would like to share.** If you can’t

Taking a look back at last monthEveryone seemed to have a great time at the holiday party. Special thanks to Adrienne Jaffe, who coordinated the event, Gisele and her guest, Pat and Susan Novickas and everyone else who helped out. Bob Wright, Bryan Chan and John Martinez contributed to the

contribute this month don’t stay away.... just bring a snack next time you come.

Questions about refreshments? Call Mary K. (818-705-4728) Leave message - she will call back.

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 comes home with new treasures!

12:15 - Pick Up around your area

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

Show-N-Tell. And once again, Bryan was in charge of the holiday party plants – many thanks to him for that effort.

Announcements

We didn't vote on new officers at the party, and will do that instead at the January meeting. Below are the nominees.

• **Nominations for 2017 Officers are:**

- President:** Bryan , Carole
- V-President:** John Martinez
- Secretary:** Leni, Carole, Gisela
- Treasurer:** Mary Chan
- Membership:** Joyce Schumann
- Advisor/Directors:** Bryan, Richard,
Nels & Steve

We are pleased with volunteer suggestions

- Editor is:** M. Wisnev
w/ Nancy P-Hapke to continue snail mail
- Raffle:**
- Refreshments:** Susan Novickas
- Sunshine Chair:** Georgia Roiz
- Facebook :**
- Webmaster :** Mike Wisnev
- Librarian:** Joyce Schumann

Participation Rewards System

– This is a reminder that you will be rewarded for participation. Bring a Show-N- Tell plant, raffle plants, and 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 2017 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 \$10.00 for a single or couple

Please Put These Dates on Your Calendar

Here is our 2016 Calendar. As our schedule is always subject to change due to, please review our website and email notices before making your plans for these dates.

Saturday Jan 7, 2017	Speaker – Ray VanVeen
Saturday Feb 4, 2017	Speaker – Tom Glavich
Saturday March 4	STBA
Saturday April 1	STBA
Saturday May 6	
Saturday June 3	
Sat & Sun - June 11&12,	SFVBS Bromeliad Show & Sale
Saturday July 1	
Saturday August 5	
Saturday September 2	
Saturday October 7	
Saturday November 4	
Saturday December 2	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 John Martinez johnwm6425@gmail.com <>

I brought in *Neomea Mars* in November, but it hadn't quite flowered. Here they are



Tillandsioideae Revisions – Part 2

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

San Fernando Valley Bromeliad Society Newsletter –January 2017

The last two months discussed some of the new Tillandsioideae revisions based on DNA testing. In a very lengthy article, the genera *Tillandsia* and *Vriesea* have been revised significantly. Barfuss, M.H.J.; Till, W.; Leme, E.J.C.; Pinzón, J.P.; Manzanares, J.M.; Halbritter, H.; Samuel, R. & Brown, G.K. (2016) *Taxonomic revision of Bromeliaceae subfam. Tillandsioideae based on a multi-locus DNA sequence phylogeny and morphology. Phytotaxa* 279 (1): 001–097. From here on, this will be called the 2016 Study.

Last month discussed the non-core Tillandsioideae (*Catopsis* and *Glomeropitcairnia*) as well as tribe Vrieseae. This month discusses the last tribe, tribe Tillandsieae.

2016 Study.

The new study recognized six of the nine “already widely accepted genera (*Alcantarea*, *Catopsis*, *Glomeropitcairnia*, *Guzmania*, *Racinaea*, and *Werauhia*) and [split] three existing genera (*Mezobromelia*, *Tillandsia*, and *Vriesea*) into smaller groups.” Id at 31.

The Tillandsioideae family has two major branches. The first branch is called the non-core Tillandsioideae group. It consists of two genera – *Catopsis* and *Glomeropitcairnia*. Not surprisingly, the other branch is called the core Tillandsioideae group, which consists of what used to be seven different genera.

The core Tillandsioideae group has two branches, which correspond to the Vrieseae tribe (discussed last month) and the Tillandsieae tribe, discussed below. Besides the fact that *Tillandsia* and *Vriesea* are not monophyletic, perhaps the most surprising part, to me, is that *Guzmania* fell on the Tillandsieae clade.

A bit of history. The two major genera in the new Tillandsieae Tribe are *Tillandsia* and *Guzmania*, both long standing genera. There have been no changes in the latter genus since the last major monograph of the bromeliad family by Smith and Downs.

As to *Tillandsia*, not all that much has changed until the 2016 Study. In 1977, there had been seven *Tillandsia* subgenera. While it was recognized that these were unlikely to survive DNA studies, six remained. In 1993, Michael A. Spencer & Lyman B. Smith created a new genus, called *Racinaea*, for one of the subgenera of *Tillandsia*. *Phytologia*

(February 1993) 74(2):151-160. They briefly discussed the history of these plants, and then stated:

During the course of revisionary work on the genera of Bromeliaceae, we have come to the conclusion that taxa treated under subgenus *Pseudocatopsis* are sufficiently distinct from other tillandsioid species to warrant generic segregation. We therefore establish the new genus *Racinaea* to accommodate them. The unique set of characters that readily distinguish *Racinaea* from other tillandsioid genera are distichous, small and inconspicuous flowers; asymmetric sepals which are broadest towards the apex and free or nearly so; stamens and pistil that are included in the corolla; and a short and stout style. Id at pp 151-2.

While earlier DNA studies about a decade ago recognized that the other six subgenera were unlikely to survive intact, no changes had been made pending more studies.

There have been two other proposals regarding *Tillandsia* that met with varying amounts of disagreement. Jason Grant, who had proposed the *Alcantarea* and *Werauhia* genera (both of which were accepted by the 2016 Study), also proposed that 26 xeric *Vriesea* be transferred to *Tillandsia*. *True tillandsias misplaced in Vriesea (Bromeliaceae: Tillandsioideae)*. *Phytologia* 75: 170-175 (1993). Drawing on the prior study, Grant also noted that other genera, like *Puya*, have some species with ligules and some without them. He concluded that if ligules were not considered in distinguishing *Tillandsia* and *Vriesea*, these 26 species, including *Vespinosae*, would be *Tillandsia*. He stated:

“With the exception to petal appendages, the twenty-six taxa here removed from *Vriesea* share all the characters for which *Tillandsia* subgenus *Tillandsia* was circumscribed in Smith & Downs (1977) and Gardner (1989). These characters especially include stamens and pistil that equal or are exerted from the corolla, petal blades that are narrow, spatulate or ligulate-shaped, and leaves which are often linear-triangular in outline and densely covered in trichomes . ”

Another proposal by Espejo to move six *Tillandsia* species with dark green petals into a new genus called *Viridantha* has not been generally accepted.

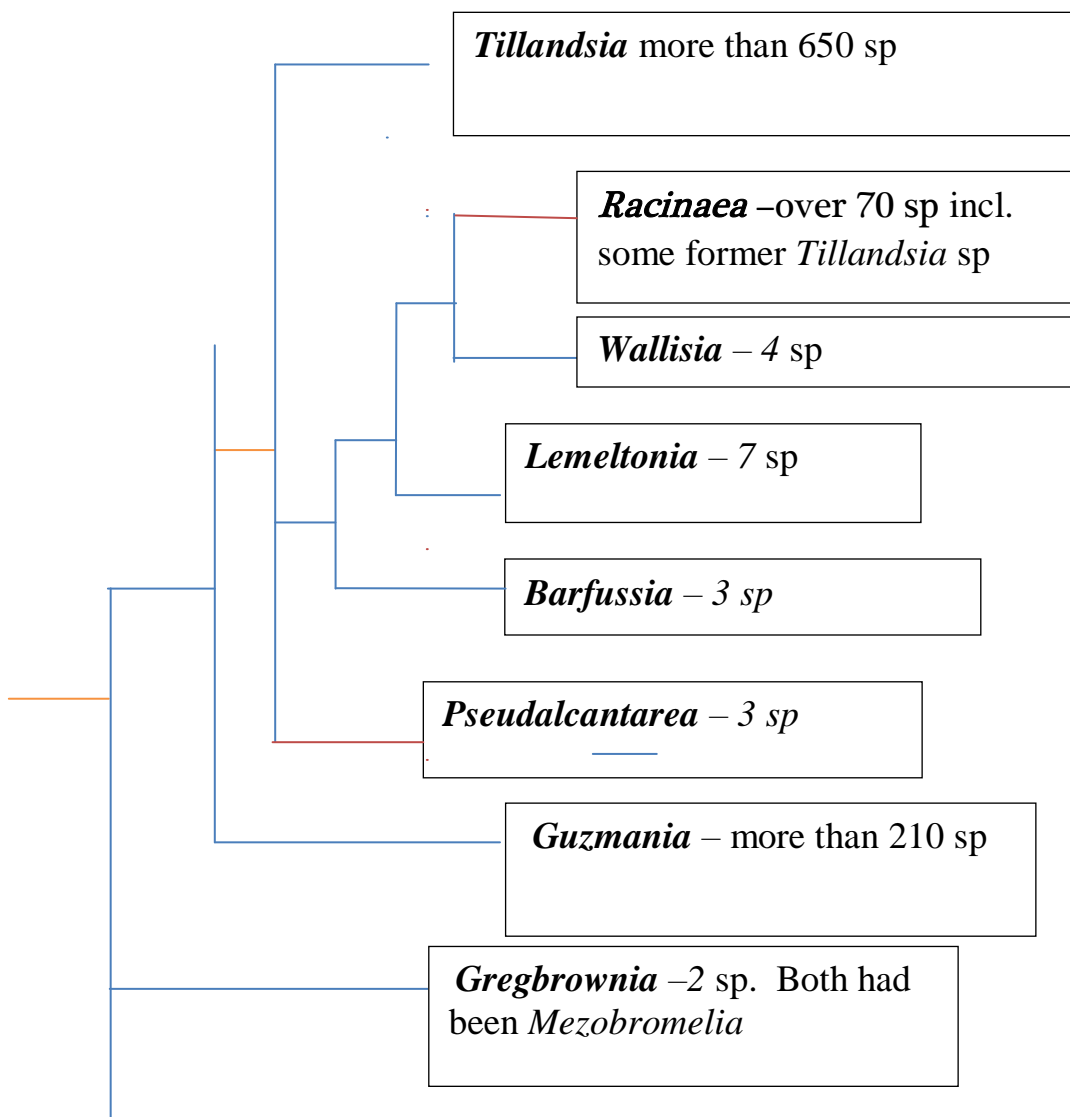
Tribe Tillandsieae.

As to the Tillandsieae tribe, the 2016 Study states:

“The first non-core Tillandsieae clade that branches at the earliest node within the clade containing most Tillandsieae species consists of *Mezobromelia hutchisonii* and *M. fulgens* ... The second clade ... splits into two lineages, one being exclusively composed of *Guzmania* species ...and the other displaying mostly the species-rich genus *Tillandsia* in the sense of Smith & Downs ..., but containing also the genus *Racinaea* and all xeromorphic Andean and two mesomorphic Central American/Mexican *Vriesea* species. “ Id. at 19.

Guzmania remains unchanged as a genus. *Racinaea* also remains a good genus, but it now has some former *Tillandsia* species. Four of the other new genera consist solely of former *Tillandsia* species, while one is former *Mezobromelia* species. Finally, the *Tillandsia* genus is a bit different than before due to the transfer of some species to the above genera, as well as the transfer of some species to the Vrieseinae tribe, but now includes some former *Vriesea* species.

Below is an overview of the Tillandsieae tribe



The Tillandsieae tribe splits into two branches, one containing only two species that were sampled. It is part of the non-core Tillandsiaea group.

1. **Genus *Gregbrownia***. Named for Prof. Brown, who has done the laboring oar regarding stigma morphology in the bromeliad family, The first branch contained two former members of the *Mezobromelia* genus. – *M fulgens* and *M hutchisonii*. Two other members are former *M. brownii* and *lyman-smithii*. These species have laxly flowered inflorescence, unlike other *Mezobromelia* species with densely flowered spikes that fell in the Vrieseae tribe, specifically the *Cipuropsis* – *Mezobromelia* complex.

One question is why this group was treated as a new genus instead of the other group. The ICN rules provide that the genus name goes with the type plant, which is *M. bicolor*. That species fell into the above-noted complex, and thus the name is kept there as a general rule (unless another genus in the group pre-dates it).

This new genus is characterized by petals that the joined more than half their length into a tube (like *Guzmania*), but have petal appendages unlike *Guzmania*). *Gregbrownia* have the followed features, as compared with *Mezobromelia*: laxly and usually distichously (vs. densely and usually spirally) flowered, usually twice (vs usually once) compound inflorescence, crenulated (vs. linear entire) basal appendages, conduplicate spiral (vs. simple-erect) stigma, anthers versatile, which means they move easily (vs. united into a tube), and exserted (vs. included) style and stamens). They grow in the Andes of Peru and Ecuador.

Compare the two pictures below – first, the lax flowers of *G. fulgens* with the densely flowered *Mezobromelia capituligera*, now in the *Cipuropsis*-*Mezobromelia* complex in tribe Vrieseae.



Gregbrownii (formerly *Mezobromelia*)

fulgens. Photo by Rich Hoyer. Below is *Mezobromelia capituligera*. Photo by P. Ibsch,



All the other members fell on the other branch, which in turn had two sub-branches. The first sub-branch contained *Guzmania*. The second sub-branch, known now as the core Tillandsieae group has three lineages.

2. *Guzmania*. It appears this genus remains completely intact under the various DNA studies. Not only is it a valid genus, but it appears no species moved into or out of the genus. The species, like *Mezobromelia*, is known for their petals which are joined together, usually called connate or conglutinated. These petals don't have ligules, so that feature still is relevant to some degree. Flowers are usually but not always spirally arranged. They can have four different stigma types, the most common being convolute blade I (all *Vriesea* have convoluted blade II). Interestingly, the difference between the convolute blade I and II is the *Guzmania* have free stigma lobes, while those of *Vriesea* are fused (just the opposite of their petals. Some species have different kinds of simple stigma first identified in the 2016 Study. They grow in the Andes and central America but extend to neighboring area including the Antilles and eastern Brazil.



Guzmania flagellata
photo in J Brom Soc 52(1): 5. 2002

Photo by Pierce.

The core Tillandsieae group has three lineages, described below. The first is *Pseudalcantarea*, the second is a group consisting of *Barfussia*, *Lemeltonia*, *Wallisia* and *Racinaea*, and the third is the *Tillandsia* genus..

3. New genus *Pseudalcantarea*. The first clade is a small single genus that consists of 3 former members of subgenus *Pseudalcantarea* – *P viridiflora*, *macropetala* and

grandis. The three other former members of subgenus *Pseudalcantarea* are moved elsewhere.



Pseudalcantarea grandis. Photo by *Dunstan*.

Like genus *Alcantarea*, *Pseudalcantarea* species have linear petals and long exserted stamens and style, as well as conduplicate-patent or conduplicate-erect stigmas. Their petals are spiraled, unlike *Alcantarea*. Unlike the members of subgenus *Viridantha* that have relatively small dark green flowers, this genus has light green large flowers. They also have a green stigma. They grow from Mexico to Nicaragua.

The second lineage has two clades. One is the new genus *Barfussia* and the second consists of *Racinaea* and three new genera noted below. All species in this group, other than most *Racinaea*, were former members of *Tillandsia* subg. *Phytarrhiza*.

4. **Genus *Racinaea***. This genus was recognized in 1993 and then consisted of former *Tillandsia* subg. *Pseudocatopsis* members. The 2016 Study confirmed its status, but found that some additional prior *Tillandsia* species in subg *Phytarrhiza* belong to *Racinaea*. These include *T. venusta*, *hamaleana* and *dyeriana*, all former members of subg. *Phytarrhiza*..



Racinaea (formerly *Tillandsia*) *hamaleana*. Photo by Wisnev.



Racinaea pseudotetrantha. Photo by

Colgen

The genus is distinguished by its asymmetric sepals. Most species have relatively small flowers like the ones shown above, but some, including the new former *Tillandsia* members, have large ones (like the one on the prior page). They grow mainly in Ecuador but extent to neighboring area including the Antilles and Brazil.

5. New genus ***Barfussia*** | Named in honor of Michael Barfuss, the primary author of the 2016 Study, this is a new small genus with three species that were former members of *Tillandsia* subg. *Phytarrhiza*. One was pictured in the November 2015 Newsletter. These are all relatively large species with lovely inflorescences. They have an unusual stigma type, identified in the 2016 Study, called convolute-obconic, the only species identified with this type so far.



Barfussia laxissima. Photo

by Herb Hill.

6. New genus *Lemeltonia*. Named in honor of the well-known Elton Leme, this small genus of seven species has narrow triangular leaves and white (sometimes yellow) flowers. Along with some *Racinaea* species, they have a very unusual stigma type, called coralliform. Filaments are joined for much of their length. They grow from Central America to Peru, extending to east Venezuela. I am not sure any are commonly cultivated.

Tillandsia monadelpha

photo by Bruce Dunstan



Lemeltonia monadelpha,
photo by Bruce Dunstan.

7. **New genus *Wallisia*.** This genus name first showed up in 1870 but was not accepted. Now that this group is monophyletic, it has been resurrected. The group of four species includes the very well known *W. cyanea*. They have an unusual stigma type, identified in the 2016 Study, called conduplicate-pinnatisect, the only species identified with this type so far. They grow in primarily Ecuador and Peru with *Wanceps* growing in other areas.



Wallissia cyanea. Photo by Wisnev.

8. The last lineage in the Tillandsieae group is the genus *Tillandsia*. In general, this genus is pretty much the same, but there are some changes. Already noted is that some *Tillandsia* have been moved to the Vrieseae tribe. *Tillandsia amicorum* and *schimperiana* now fall in the *Cipuropsis-Mezobromelia* complex and that *Josemania* consists of five former *Tillandsia* species. Similarly some *Tillandsia* have been moved to all of the genera discussed above, other than *Guzmania* and *Gregbrownia*. Finally, some *Vriesea* have moved into the genus *Tillandsia*, which is discussed in detail next month.