Far North Coast Bromeliad Study Group N.S.W.

Edition: June 2020

Agenda: General Discussion

Venue: PineGrove Bromeliad Nursery
114 Pine Street Wardell 2477

Phone (02) 6683 4188

Study Group meets the third Thursday of each month

Next meeting 16th July 2020 at 11 a.m.
To be advised

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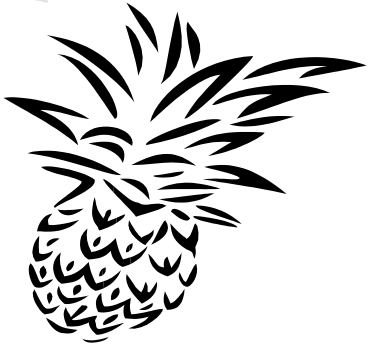

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Meeting 21st May 2020

There was no meeting in May due to corona virus Covid-19.

Take care, stay safe and well everybody in these dire times.

The temperatures are cooling now so be mindful of frosts and keep tender plants covered. It is also a good time to start hardening off any plants you wish to grow in full sun.

When should we start our meetings again ??

Our last meeting was in February 2020, it seems a lot longer than four months since this corona virus upset our daily lives. However this means we should see some very good quality plants grace our **Popular Vote** tables when meetings do resume as there has been lots of isolation time to have given your plants special attention. Over the last few months I have had a few identification queries sent to me so hopefully our next **Show, Tell and Ask!** will be a very full segment. I bet some of you have found a few plants that you are not sure of their identity, so when we get a resume date don't forget to bring them along for discussion.

As several of our members are from Queensland a start date for our meetings depends on when the borders are opened again. At the moment it is understood that the decision is being reviewed at the end of June 2020. As soon as that decision is made I will contact all members to discuss a start date.

Even though we are a small Group and our meetings are held in an undercover open air area we should still consider covid-19 safe practices protocol:


If you're not feeling well - stay at home.


Face masks are optional.


Wash your hands regularly.


Chocolate cake **allowed!**


Hand sanitizer to be provided.

Social distancing - space tables and seating further apart.


Greetings - **NO** handshaking and sorry ladies **NO** cuddles!


Let's keep ourselves safe and enjoy our meetings again.

(Liquid) Nail Them On

by Herb Plever

Reprinted from: BSI Journal 1986 Vol. 36, No. 3

Those of us who grow tillandsias indoors or in the greenhouse have long been preoccupied with devising safe and effective methods of mounting them. It is pretty clear that there is something in the *Tillandsia* personality that makes them want and need to be held fast. They are not happy if they are loosely mounted and can jiggle around. Outdoors in the humid South or in the moist Pacific breezes of the California coast, tillandsias have no trouble putting out lots of roots to grab onto the tree or plaque they are tied to. With proper humidity and watering in the greenhouse, good rooting is also generally easy to obtain. But this is more difficult to achieve indoors unless you do a lot of soaking.

Outdoors or indoors we still have the problem of how to stabilize the plants before they make new roots. We are constantly experimenting with new products to use for mounting, and we have recently come across a new one that, finally, may be the near perfect material to mount tillandsias indoors, outside, or in the greenhouse. We have made this statement in the past, however, and a review of that history gives us pause to moderate our claims.

When I first started playing with the strange, fuzzy things some 20 years ago, we used to tie them onto cork or tree fern slabs with strips cut from nylon stockings. Then we heard that people in Florida were gluing tillandsias onto tree branches with model airplane dope, so we tried that. Our indoor-grown tillandsias didn't like the airplane glue at all. We figured that in Florida whatever toxic material there was in the dope maybe got dissipated in the fresh air outside.

Then we tried to use other glues. Silicone rubber cement was even deadlier than the model dope. Duco Cement didn't kill the plants but they really hated it. When a tillandsia would send out roots, they would arch up in the air an inch above the Duco to get past it before touching down onto the plain cork. We used Elmer's glue to mount tillandsias without ill-effect, but the stuff seems to be water soluble and breaks down after awhile. It works fine if your plants will rapidly put out a root system before that happens.

So we went back to tying the plants, but instead of using nylon strips, which tend to stretch out and loosen too soon, we used plastic ties. We drilled or punched a hole through the cork on both sides of the base of the plant and inserted a plastic "twist-em" around the base and tied it tightly on the back side of the cork. However, the plastic ties also tended to stretch and loosen and had to be tightened periodically. Large plants needed to be interlaced with several ties to be firmly stabilized.

Then we started using insulated telephone wire instead of plastic ties because it did not stretch so easily and could be tied tighter without breaking. This material worked well for many plants, but it could not be used for very small or tender plants, and even the wire needed occasional tightening.

When we heard about hot glue, it seemed to be the answer we had been searching for. It was easy to use and would permanently and firmly bond our tillandsias to the cork - or so we thought. I bought a glue gun and began mounting and remounting my Tillandsia collection. For some time most of my plants seemed to have accepted the new mounting technique without apparent injury. A few suffered damage to their bases because I had pushed them into the glue while it was still too hot. After awhile, some more plants seemed to have succumbed. Others became shaky because their outer leaves had died and dried off from the hot glue.

So I went back to the more tedious but safer method of tying the tillandsias to the cork. This time I tried using a heavy-duty staple gun to bind criss-crossed telephone wire over the bases of the plants. Then came the news of a new product.

At a meeting of the New York Bromeliad Society last spring, Phyllis Harrison reported that she had been mounting her tillandsias with "Liquid Nails All-Purpose Adhesive" for about six months with great success. She stated that there had been absolutely no adverse reactions to the adhesive and that once it set, it permanently bonded the plants to the cork no matter how large or heavy they were. Phyllis grows fine bromeliads in her greenhouse and she showed us a *Tillandsia capitata* she had mounted with Liquid Nails. The plant was a crisp, robust, perfectly grown specimen with many roots running onto and all over the adhesive.

I have been using the stuff for four months and can confirm that so far it has had no deleterious effect at all and it strongly bonds the plants to the cork. I mounted a close-to-mature *Tillandsia xerographica* on a small cork plaque with Liquid Nails and it is hanging onto it without any other support.

The squeeze tube has a well-fitting screw cap so that it doesn't dry out and stick between applications. The caulking gun cartridge is more economical, but you will have to take care to cover the nozzle with plastic wrap tightly tied with a rubber band to prevent the material at the tip from hardening. The instructions recommend waiting five to eight minutes after applying the adhesive before fixing the material to the surface. I have found that it doesn't get good and tacky until 15 to 20 minutes (depending on the size of the glob) and then it really grabs the plant when you press it into the stuff.

For a heavy plant like *T. xerographica* it is a good idea to tie it temporarily to the plaque while the adhesive sets and to keep the plant horizontal on top of the cork for 18 to 24 hours before hanging it vertically. Liquid Nails is especially useful in mounting tiny, tender plants which can't be tied down. It is pale brown in color and blends nicely with the cork.

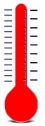
We have been finding and then discarding the "perfect" mounting material for many years, but maybe - just maybe - this is it.

Pitcairnia staminea Loddiges, Bot. Cab. 8: pl. 722. 1823. by T. Wendt in Selbyana 15 (2): 66-78. 1994
Distribution: Saxicolous, ca 300 m alt, Bahia to Rio de Janeiro, Brazil.

Pitcairnia staminea is a relatively easy plant to care for requiring a shady, moist position with regular watering and fertilising. It flowers up to 60 - 140 cm tall.

We had this plant for a long time with no name. This is its first time flowering for us and with those recurved red petals made it more easily identifiable. It is a homo-morphic species meaning it does not have those menacing spiny leaves at its base noticeable when dividing and repotting.

Photos and notes by Ross Little

SEVEN STEPS To ensure your bromeliad stays healthy! 	**Light** Good, solid light, but never direct, hot sunlight. 	**Watering** Water directly into the stem base, allowing the water to soak in. Provide proper drainage. 	**Temperature** Bromeliad plants are happiest when temperatures are between 13°- 30°C 
Potting Mix To have adequate drainage, use a loose, coarse soil mix. 	**Humidity** Bromeliads prefer a climate with humidity levels around: 60%	**Blooming** Bromeliads bloom only once in their lifetime. To produce more, use their pups to propagate more plants. 	**Pups** Once a bromeliad plant flowers, it will produce pups, which can be transplanted to create new bromeliad plants. 

***Aechmea* 'Ensign'**

The species *Aechmea orlandiana* was found and collected by Mulford Foster in the state of Espirito Santo, Brazil, 7 July 1939. Since then it has been used to create many hybrids, one of note is *Aechmea* 'Bert' - *orlandiana* x *fosteriana.* An outstanding albomarginated seedling was also created: *Aechmea* 'Ensign.'

AECHMEA ORLANDIANA var. ENSIGN
by Ervin J. Wurthmann Tampa Florida
Bromeliad Society Bulletin 20(4): 96. 1970

Aechmea 'Ensign'
photographed and grown by Ross Little

Aechmea orlandiana var. Ensign is one of the more strikingly beautiful bromeliads to enter horticulture in recent times. The variegated longitudinal banding on the margin of the leaves is a clean white with pink mottling when grown in good light.

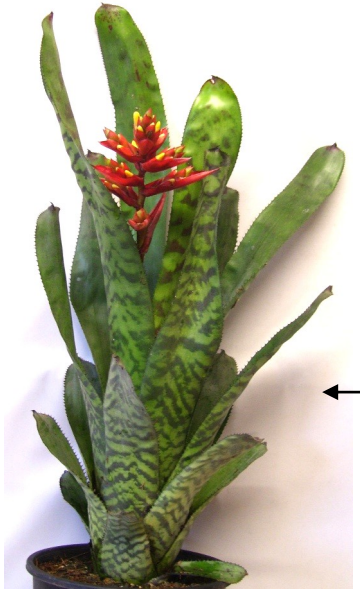
This Aechmea had its origin in the greenhouse of E. W. Ensign of Orlando, Florida. A single variegated plant and three albino plants were first observed in a flat of *Aechmea orlandiana* seedlings in May,1960. The albino plants subsequently perished. Growth of the variegated plant was slow and the first flowering was in 1966. This new addition to horticulture will remain rare for some time, as propagations are not possible from seed, only from offsets. It is not as generous in offsetting as its non variegated counterpart. Culture is essentially the same as for *Aechmea orlandiana*, requiring very good light but protection from intense midday sun.

***Aechmea* 'Bert'** created by M.B. Foster 1945

From the BCR: Open upright vase shape with 10-15 matte-green leaves to 16" long and 3" wide - marked with irregular purplish-brown cross banding and edged with heavy dark spines - inflorescence is arching w/a dense panicle of red bracts and yellow petals - happiest as epiphyte.
Named after Bert Foster, the breeder's son.

Photo from the Butcher files

The influence of both Aechmea parents *fosteriana* and *orlandiana* can be seen in the inflorescence of *Aechmea* 'Bert'



A large colony of *Aechmea* 'Bert' growing as an epiphyte in a jacaranda tree at PineGrove Nursery.

Pot grown specimens of *Aechmea* 'Bert' require bright light to maintain good shape and colour.

notes and photos compiled by Ross Little

***Tillandsia* 'Samantha'**

It is often said that patience is a virtue, well I have been very patient with this plant having bought it and others on first release in Australia about 9yrs ago. I do have another that has still not flowered yet, hmm... if this is my reward I can wait !!

What has been most frustrating over the years is seeing those 'others' that were sold to collectors, flower and pup then those pups flower also, while mine just grew. Thinking it may have been location, it has been moved from shade house to shade house, given bright light with no change so moved to a shadier location. It has sat on the floor of the shade house and finally it was hung closer to the roof two years ago. Maybe it was our extremely hot, dry summer that finally triggered it to flower.

This plant measures from its base to tip of the inflorescence: 1030 mm, yes just over a metre. The leaves are quite broad and strong, recurving over the pot just touching the table, from table to tip it is: 1245 mm tall.

A lot of the 'others' that flowered earlier mostly had around 5 to 8 branches, this one has 14. It has been grown in a 200 mm pot and well fed with 'Powerfeed' and lots of 9 mth slow release Nutricote.

A truly magnificent reward. Grown and photo by Ross Little.

Tillandsia malzinei (E. Morren) Baker, Rep. Kew Gard. "1878": 59. 1879.

Previously as *Vriesea malzinei* E. Morren, Belg. Hortic. 24: 313, *pl.* 14. 1874. This name change in **Tillandioideae** by Barfuss et al in 2016 was based on a multi-locus DNA sequence phylogeny and morphology.

The main goals of these changes is: "to provide a stable classification based on monophyletic established genera, and new taxa (genera and subgenera) using new synapomorphic combinations of diagnostic morphological characters, provide a key for generic identification, and a comprehensive nomenclature for the accepted genera..."

A monophyletic genus is a group of species which form a clade of plants that have a recent common ancestor and all its descendants.

Synapomorphic characters are traits that the species in a DNA clade have in common which distinguish the clade from other clades.) The data from the DNA sequencing shows when and which species have a common ancestor.

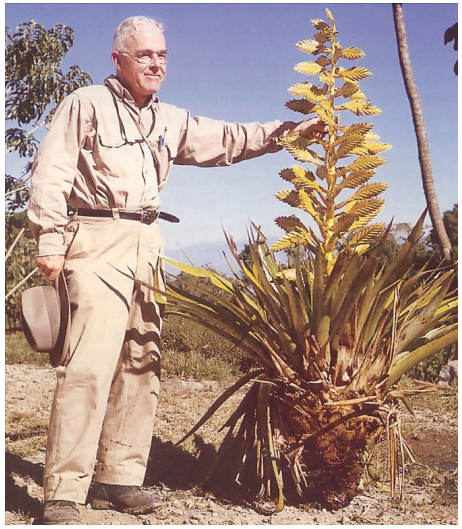
The genera Mezobromelia, Tillandsia and Vriesea were polyphyletic - they had common characters, but descended from two or more ancestors, the authors propose to reclassify them to create new monophyletic genera. The authors have succeeded in attaining those stated goals. There is a new, workable key to the genera of subfamily Tillandsioideae with many physical characters listed to define each genus. The key will be refined and amended as data from on-going research becomes available. By creating new sub-tribes, genera and sub-genera and reclassifying species anomalies, a more or less stable classification "based on monophyletic established genera" has been created.

Information above reprinted in part from: Bromeliana published by The New York Bromeliad Society, January 2017, Vol. 54, No.1

The plant pictured was grown and photographed by Ross Little. The discoloured leaves (green on top, dark red below) indicates it prefers shade, the floral bracts can be either red-brown or pale green with a dark-green border.

Tillandsia oerstediana L. B. Smith, Phytologia 13: *141, pl. 6, fig.* 5. 1966.
Type: *Oersted s n* (holotype C, US photo), "Oriri" (Orosi), Cartago, Costa Rica.
Distribution: Epiphytic in forest, 1140-1200 m alt, Costa Rica, Panama.

The 62-year-old Dr. Lyman B. Smith on 10th March 1966 in Costa Rica standing next to *Tillandsia oerstediana*, which he described that year.
Photograph by Hollings Andrews.
BSI Journal 1994 Vol.44 No.6



Tillandsia oerstediana, one of the giants of Costa Rican bromeliads is abundant in one restricted area. In flower, it may reach 2 mtrs in height. Its laxly bipinnate inflorescence is a rich yellow. The sight of these plants in flower in a tree is spectacular.

They are majestic but very mortal monocarpic bromeliads. Monocarpic plants are those that flower, set seeds and then die, the term was first used by Alphonse de Candolle. This appears to be true of other large *Tillandsia* species in Costa Rica.

A Costa Rican Experience 2016 by Ross Little

With *Tillandsia oerstediana* and many others on our "to see" list we set off with our four week travel plan fairly full, taking us from Mexico's Yucatan Peninsula into Belize, Guatemala, Honduras, Nicaragua plus three islands and finish in Costa Rica. This is where we wanted to spend some extra time having read so much about Bromeliads in Costa Rica and it is home to one the worlds leading hybridisers, Chester Skotak. A visit was arranged but that is another story.

An early morning view of Arenal volcano from our cloud forest room at Vista Verde Lodge.

Costa Rica borders Nicaragua to its north and Panama at its southern border. The Caribbean Sea is to the east and the Pacific Ocean is its west coast. There are six active volcanos and many dormant or extinct ones. Our plans to travel around Costa Rica included taking in the sights around some of the volcanos and the National Parks.

We arrived late afternoon by bus to our hotel in San José and said our good byes to our travel companions as we were to collect our hire car the following morning and head off on another adventure. For seven days we drove ourselves around Costa Rica only getting lost a couple of times and driving up the wrong side of the road once each. Getting lost searching for Bromeliads is quite enjoyable as we made a few unexpected fantastic discoveries that we may not have seen if we stayed on main roads while looking out for *Tillandsia oerstediana*.

Our first destination leaving San José was to head south through Cartago and Orosí and then on to Tipantí National Park. As we travelled we saw an abundance of epiphytes adorning the trees, there were Aechmea, Catopsis, Guzmania, Racinaea, Tillandsia, Vriesea and Werauhia and we also saw terrestrial Pitcairnias.

With an annual precipitation rate of 7000 mm we expected rain often and taking photos would be difficult at times. With ponchos and compact travel umbrellas in our backpacks we set off on foot to explore some of Tapantí National Park. We walked a loop trail down to the river and back marvelling at the sights of many Bromeliads - luckily the rain held off.

Werauhia sp ??

Pitcairnia brittoniana

The living fence posts make the perfect host for many epiphytes at an easy height for taking photographs. Every tree/post had several of the different genera and species growing on them.

It started to rain quite heavily as we headed back to our hotel but our spirits weren't dampened when we crossed the Orosi River, turned left and saw this majestic sight of *Tillandsia oerstediana* in full bloom. With camera in one hand, balancing an umbrella in the other, photos were taken - soggy smiles all round.

Photos by Lesley Baylis and Ross Little

Bromeliaceae – A Layman's Guide Part 9

Compiled by Drew Maywald

Navioideae Genera

Pronounced nav-ee-oy'dee-aye, Navioideae is a sub family of Bromeliaceae about which little has been documented. It contains 5 genera.
The seeds of Navioideae are winged.

Brewcaria: pronounced brew-car-e'a, this genus is named for Charles Brewer-Carias, Venezuelan explorer and naturalist. As of November 2019, the genus contains 6 known species, all native to Colombia and Venezuela.

Cottendorfia: pronounced cot'en-dorf'ea, this is a small little-known genus, mostly indigenous to the Guyana highlands and Brazil. *Cottendorfia* were named by Schultes in 1830 for the German botanist and patron of the sciences, Johann Georg Cotta von Cottendorf (1796 – 1863). As of November 2019, there is only one species in the genus, *Cottendorfia florida* endemic to north eastern Brazil. A terrestrial species, growing in open rocky country, it is rarely found in cultivation. Most of the species in the genus were recently reclassified as Lindmania.

Navia: pronounced nav'vea this is a genus from the 'lost world and was named in 1830 by Martius and Schultes to honour Bernard S von Nau. One of the most primitive genera of the Bromeliaceae, *Navia* was discovered in Amazonian Colombia. In 1820, the famous German botanist-explorer, Karl F. P. von Martins, penetrated the unknown regions of the Caqueta or Japura River as far as the great Falls of Araracuara. On the quartzitic mountains at Araracuara and at Cupati (now known as La Pedrera), he collected two species and one variety of Navia.

Navia are commonly cultivated for their colourful foliage and inflorescence. Dr. Smith described the corolla of Navia having the "petals high-connate in a slender tube." All the species are native to northern South America (Guyana, Suriname, Venezuela, Colombia and Northern Brazil).

As of November 2019, there are 94 species that make up the genus and these are mainly xerophytic (adapted to dry or drought conditions).

They grow on moist ledges as well as dry cliffs and vary greatly in size from very small to 600 mm in diameter. Two species, *Navia splendens* and *Navia arida*, have been grown successfully in cultivation. In habitat they are terrestrial or saxicolous and often form large clumps. The inflorescence is sessile (the flower rests directly on the stem), in the centre of the rosette, formed by the leaves which bear spines along the margins.

Sequencia: pronounced see-quen-see'a, the sole species of this genus is *Sequencia serrata,* endemic to the Vaupes region of Columbia.

Steyerbromelia: pronounced stayer-brom-eel'ya, this genus is named for named for Julian A. Steyermark, American plant collector, author, and editor. As of November 2019, there are nine species in the genus all of which are endemic to southern Venezuela. Few collections have been made for the genus, and the large size of the plants makes herbarium studies difficult.

References:
Butcher, Derek, "Bromeliaceae and its eight sub Families"

Bromeliaceae – A Layman's Guide Part 10
Additional Sub Families and Genera

Compiled by Drew Maywald

Bromelioideae Genera: there are a number of relatively new Bromelioideae genera about which very little data is available. These genera and the number of species and cultivars in each one are listed below. Many of the species of these genera have been reclassified from other genera, and many are not common in cultivation.

Forzzaea: pronounced for-zz-a'ea. Three species and no cultivars. Species previously classified a Cryptanthus.

Hoplocryptanthus: pronounced hoplo-cript-anth'us. Eight species and no cultivars. Species previously classified as Cryptanthus or Lapanthus.

Lapanthus: pronounced lap-an-thus. Two species and no cultivars.

Rokautskyia: pronounced rock-aut-ski'ea. Fourteen species and no cultivars. Species previously classified as Cryptanthus.

xHohenmea: pronounced x-hohen-me'a. One species and 32 cultivars. The only species, *xHohenmea itaipuana* is a natural hybrid of *Aechmea ramosa* x *Hohenbergia augusta.*

Tillandsioideae Genera: similar to Bromelioideae, there are a number of relatively new Tillandsioideae genera about which very little data is available. These genera and the number of species and cultivars in each one are listed below. Many of the species of these genera have been reclassified from other genera, and many are not common in cultivation.

Barfussia: pronounced bar-fuss'ea. Three species and no cultivars. A couple of the species have been reclassified from Tillandsia.

Cipuropsis: pronounced sip-u-rop-sis. Three species and no cultivars.

Goudea: pronounced goud'ea. Two species and 4 cultivars. All species previously classified as Vriesea.

Gregbrownia: pronounced greg-brown'ea. Four species and no cultivars. All species previously classified as Mezobromelia.

Jagrantia: pronounced jag-rint'ea. One species and no cultivars. Previously classified as Vriesea.

Josemania: pronounced jo-zay-man'ia. Five species and no cultivars.

All species previously classified as Tillandsia.

Lemeltonia: pronounced lem-el-ton'ea. Seven species and no cultivars. All species previously classified as Tillandsia.

Lutheria: pronounced luth-er'ea. Four species and no cultivars. All species previously classified as Vriesea.

Pseudalcantarea: pronounced sood-al-cant-ar-ree'a. Three species and no cultivars. All species previously classified as Tillandsia.

Stigmatodon: pronounced stig-mat-o-don. Eighteen species and no cultivars. All species previously classified as Vriesea.

Waltillia: pronounced wal-till'ea. One species and no cultivars. Previously classified as Vriesea.

Zizkaea: pronounced ziz-kay'ea. One species and no cultivars. Previously classified as Vriesea.

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This is the final part of Drew's compilation of Bromeliaceae - A Layman's Guide. We would like to thank Drew for all the effort he has gone to in gathering all of the recent name changes and classifications and compiling them into one format for us for a single easy reference point.

For those who would prefer a hard copy of this compilation of works don't forget it is now available as an illustrated book which includes 70 coloured photographs and illustrations.

To order a copy e-mail Drew at drewmaywald@gmail.com

For additional information refer: FNCBSG NSW Newsletter April 2020, p.12.

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Web Links for Checking Correct Identification and Spelling

Bromeliad Cultivar Register (BCR): http://registry.bsi.org/
Refer to this site for correct identification and spelling of your hybrid or cultivar.

New Bromeliad Taxon List: http://bromeliad.nl/taxonlist
Refer to this site for latest species name changes and correct spelling.

Bromeliads in Australia (BinA): http://bromeliad.org.au/
Refer to this site for its Photo Index, Club Newsletters, Detective Derek Articles.

Keep these web sites set as desktop icons for quick reference access.

Where to Find Bromeliad Groups & Societies Meeting Dates

www.bromeliad.org.au then click "Diary".
Check this site for regular updates of times, dates and addresses of meetings and shows in your area and around the country.