

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

Edition: September 2021

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 21st October 2021 at 11 a.m.

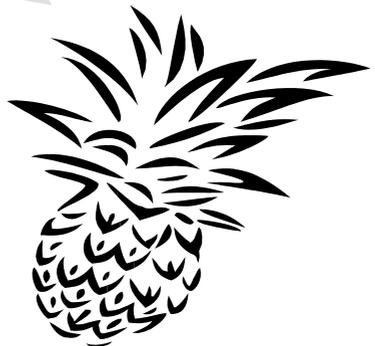
To be advised

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Meeting 19th August 2021

There was no meeting in August due to Covid-19 restrictions.
Take care, stay safe and well everybody in these difficult times.
Get vaccinated, it may be the key to our freedom.

General Business

Spring is in the air, the days are getting longer and warmer so it may be time to move any plants that require a bit more protection from the summer sun back under cover. This can be done in stages but don't leave it too late.

Any plants that have been grown under cover that were intended for a full all day sun position should've been moved out from under cover by now to begin the sun hardening process. It's still not too late but do it now.

As the days warm up so you should step up your watering program, keeping the humidity up in the shade house is important, dry plants are not happy plants.

Fertilising can be done now as many plants are beginning to show signs of their spring growth and inflorescence initiation. Those that are flowering now will appreciate that extra boost of food to help them along into pup production.

We're often asked about how to improve pup production, one way is of course fertilising, basically it's no feed no food (pups). If you don't feed a food crop you don't get food in return.

To get pups earlier one could drive a screwdriver or similar down into the centre of a plant destroying the meristem, the vegetative growing tip. This will stop the plant from growing and hopefully change it to pup production, put cinnamon on the damaged tissue area to help prevent fungus attack.

Another method which is a lot safer than stabbing your plant is to break/cut the emerging inflorescence spike off as early as possible it rises within the leaves. A lot of energy is being used by the plant to produce the inflorescence, this energy could best be used in pup production if seed is not a requisite.

However if bulk numbers of plants are required growing from seed is the option to consider, this is a much slower method of reproduction but greater numbers can be achieved. Some popular species e.g. Dyckia, Neoregelia, Aechmea can be grown from seed to flower in just a few years, whereas Vriesea, Alcantarea and Tillandsia can take from five to 25 plus years to flower. Fertilising can be a key factor to speed up growth, experiment with your feeding and light balance to help increase the growth rate of your little charges.

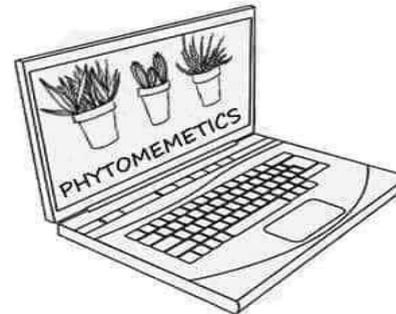
THINGS I DO IN MY SPARE TIME



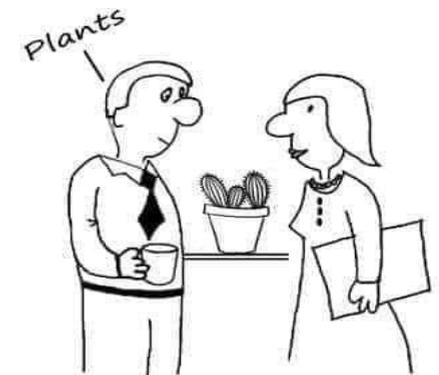
Water Plants



Buy Plants



Research Plants



Talk Plants

If your plants leaves are turning yellow, it might be because it has too much water, too much light, too little light, too much fertilizer, not enough fertilizer, or maybe your plant just doesn't like you and doesn't want you to be successful and happy.



Tillandsia bergeri Mez, Repert. Sp. Nov. 14: 254. 1916

A smallish species produced as a leafy stem (caulescent) that grows to around 180 mm long and forms clumps quite readily. The pale lilac petals are typified by their spiralling /twisting/ wavy habit with pale rose coloured bracts.

It is found in the Province of Buenos Aires, Argentina, growing on and among rocks (saxicolous) to about 75 m altitude. Being at a similar latitude to Sydney Australia, we should have little trouble growing and flowering this species here in our open gardens.



It has often been said that this species only flowers when temperatures drop below 5°C. However recent discussions indicate flowering may be triggered by daylight lengths, referred to as photoperiodism: the capacity to respond to alternating periods of darkness and light of varying lengths as they affect growth and maturity of an organism (The Biology of the Bromeliads, D.H. Benzing).



It may be that as Buenos Aires (like Sydney) has a greater variation in day length between summer and winter than in our locality, the required stimulus to flower may not be triggering the plant sufficiently to get greater flowering.

An interesting experiment may be to grow this species in different aspects of your growing area giving particular consideration to daylight lengths.

Grow plants in full all day sun. In late April, very early May move it to a east or west facing porch or somewhere similar where it gets bright light for half a day, and deep shade for the early or late hours – to simulate the shortening of the day.

In their flowering season see if these flower at the same ratio as the ones you've left in their usual growing position and record your results.

Compiled by Ross Little and Chris Larson

Bees Need a Drink Too

Summer is drawing nearer, this week, mid September saw our hottest day since last January which prompted Drew to send us this photo of honey bees drinking from a *Aechmea blanchetiana* cup. This was an event he had not seen before and thought it was worth sharing.



Should you leave water out for bees?

In the height of summer, when temperatures are soaring, it's important to remember that bees (and all wildlife) need access to safe drinking water. Honey bees need water but may drown while trying to collect it. Just keep the water line shallower than the container edges, place stone or similar so the bees have a place to land. It's equally important to make sure the dish of water you're putting out for thirsty bees hasn't been contaminated with pesticides. Be sure to clean the dish and filler rocks before adding water and leaving it out.

The Giants, The Serrated Beasts and Living Another Day.

by Mitch Jones 2021

Where does one start in a long journey of discovery, men's mental health and the never-ending ground hog day "COVID - 19".

I may as well flip everything up side down... like separating the serrated beasts or wrestling the giants out of there pots.

Study Groups and Societies are becoming ever more important in this age of COVID. Allowing the world to admire the botanical pleasures with the never-ending lockdowns in their fortresses, isolation, road blocks and seclusion of ourselves within our own minds, to the virtual reality.

Both play an extremely important part in life, not only for botanical conservation, knowledge sharing, but a prescription for sanity and overcoming adversity. Thus, allowing people to catch up in a safe place, learn, discover and find support through plants whilst meeting new friends in the new world.

In my darkest hours and days with nearly attempting the inevitable not long ago, if it wasn't for my dogs Ruby and Lucy looking at me and refusing to leave my side, the support of dear friends I have met through the bromeliad world in the region and online, I can't thank you enough. I also thank the Far North Coast Bromeliad Study Group NSW for opening its doors to me, allowing the end of seclusion for me, the mad hatter, to escape the confines of his own mind and meet fantastic people with great minds, importantly being in a safe place and learning.

This was the start of the self-healing process, accepting who I am, talking about my passions of the giants and serrated beasts. The oddbods of the Bromeliad world I guess. Most importantly rebuilding self-worth, confidence and the start of rebuilding life with botanical challenges and projects.

Study Groups and Societies instigate spending time outdoors, allows people in the concrete jungles of the high-rises to escape, for me it's taking time out of the everyday to surround myself with nature, my collections, the simple uncomplicated world of life and its beauty.



The euphoric sense it gives, that great feeling of joy, rush and pleasure when I step back absorb what I have achieved, the beauty of the colour palettes that nature has gifted us, new discoveries of inflorescences or offsets forming on the Alcantarea, Hohenbergia and xerophytes – Dyckia, Hectia, Puya etc.

When one discovers their first fertile seed pod's popping and harvest the 'first of the season' seed to start the new chapter and journey. Through the Study Groups and numerous conversations with my bromeliad friends this was the start of

the new challenges, believing in one self, and the course of a new journey in life.



The coloured threads used are noted in a hybrid record book for pollen parent reference.

Ahead lies the adventures of Alcantarea and Dyckia hybridising. The journey of watching the pollen being accepted by the pod parent, the new formation of life in its embryonic state, to the swelling of the seed and the emergence of the first leaf. Nurturing the new gifts to see what unfolds over the years to come.

It's simplicity at its finest and the uncomplicated life that we all take for granted.

Treat yourself with pride and dignity, sit back, take time out to care and nurture yourself. Listen to the inner child within, don't be harsh on yourself, you will make it and over come the adversity and barriers.

Embrace your Shangri-La and jungle to feel at one. It's just taking one step at a time, day by day. Be proud and accept yourself, don't be ashamed, everything in life is different for a reason. It's a slow journey, but worth it over time, be true, be you and reach out.



A Walk Around My Garden

photos and garden by Kayeleen Guthrie



A place to relax, sit and sip



The eclectic mix of garden adornments combined with the diversity of shapes, colours and patterns of Kayeleen's growing collection make a wonderful display.



Billbergia nutans - Selby 84-538 (aka minuta and/or minima)

Billbergia minuta was reduced to synonymy under *Billbergia nutans* in Smith & Downs.

Photos and notes
by Ross Little



Billbergia nutans Selby 84-538 is a quaint little species that regularly flowers for us here. It is a smaller form of the regular *Bill. nutans* that many of us have in our collections shown here



in a rather full 400 mm pot handed down to Helen from her father in the early 1990s which flowered for her in 1998 with 111 inflorescences, quite a spectacle.

They grow as epiphytes in forests, 700 - 1000 m alt in southern Brazil, Paraguay, Uruguay and northern Argentina.

Tillandsia guatemalensis

L. B. Smith, Contr. U. S. Natl. Herb. 29: 281. 1949.

Allardtia cyanea A. Dietrich, Allg. Gartenzeit. 20: 241. 1852.

Distribution: epiphytic in forest, 1100 - 2800 m alt, southern Mexico, Central America.

This specimen grown in the shade house here at Pinegrove Nursery under 70% black shade cloth is 1250 mm (4'1") tall including the inflorescence.



In 2018 when we travelled through the state of Chiapas, Mexico, *Tillandsia guatemalensis* was seen in abundance at 3700' altitude with red and plain green foliage. Trees heavily laden with this species and others such as *Till. eizii* was a real spectacle.



Photos and notes compiled by Ross Little

An Early Essay by Poeppig on "Epiphytism"

Wilhelm Weber, B.S.I. Journal, 1981, V31 (6), Translated by Harvey L. Kendall

Just as today the people in Latin American countries designate epiphytes in general as "parasitos," the botanists at the beginning of the last century also did not distinguish precisely between epiphytes and true parasites. In old descriptions we frequently find the expression "parasitica in arboribus" or possibly "pseudoparasitica."

Even though epiphytes do not take nutrition from the host trees, in recent years scientists have noted a negative, destructive influence; through epiphytic growth moisture is retained thus establishing conditions for an attack from fungi dangerous to wood. The German botanist Eduard Poeppig first reported on this process in a speech given on the 19th of April, 1833, before the botanical society FLORA in the hall known as the "Zwinger" (the "Keep") in Dresden (Saxony). The manuscript for this speech was found in the papers left in his estate and was printed in 1887 in the reports of the Geographical Society in Leipzig under the title: "On two of the most prominent traits of tropical vegetation — lianas and parasites." This report is still worth reading today and deserves to be brought back from the past. But let us first look briefly at Poeppig's biography.

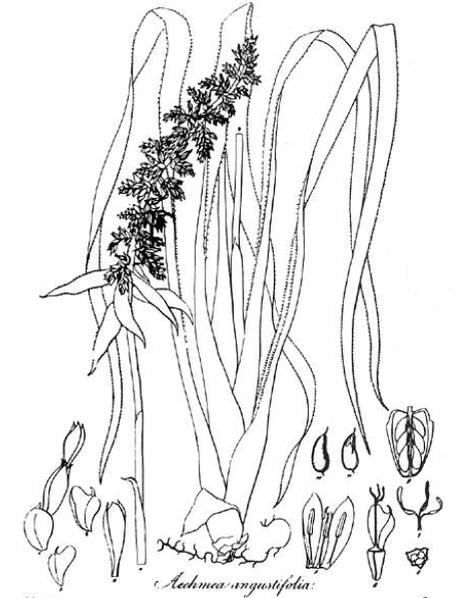
Eduard Poeppig is best known to us bromeliad lovers by *Streptocalyx poeppigii*, discovered by him and named after him. He was born on the 16th of July, 1798, in Plauen (Saxony). His father represented one-third of the most important calico printing industry of its time in Plauen. But English competition led to his bankruptcy in 1800; the father turned to drink, went insane, and died in 1817. Poeppig's mother took her children and returned to her parents in Leipzig. Eduard, who was destined to become a merchant, attended the famous Thomas School in Leipzig and later went to the state school at Grimma, which he completed, thanks to his talent, in five years instead of the normal six. But Poeppig was more interested in the natural sciences and at the University of Leipzig studied medicine and natural science. Influenced by Seume (famous for his well known "Stroll to Syracuse") he took long hikes through Europe and climbed the Grossglockner, for example. At the beginning of 1822 Poeppig concluded his studies and graduated with an M.D. and a Ph.D. Inspired by Humboldt he decided to undertake a long natural science trip into the tropics. Funding came in the form



The only known picture of Eduard Poeppig which appeared in 1868 at the time of his death

of an advance for herbaria, prepared animals, and other nature items, because his own savings were not sufficient for such an expedition. On the 9th of May, 1822, he boarded ship in Hamburg and on the 1st of July landed in Havana, Cuba. In Cuba he collected until May, 1824, and sent the material to Leipzig. On the 22nd of May, 1824, he then travelled on to Baltimore and collected in Pennsylvania until November, 1826. In the spring of 1825, for example, he sent 12,000 dried plants to Leipzig, which were sold in lots of 200 at 18 Talers each. But his stipends were soon expended and he even had to sell his equipment and hire himself out as a tutor. Not until September, 1825, did he receive from his Leipzig friends letters of credit, so that he was able to board ship in Baltimore on 27 November; after a trip around Cape Horn he arrived in Valparaiso, Chile, on the 14th of March, 1827. His modus operandi led him to stay for a long time in Valparaiso and its surroundings; later he was in Concon and in the upper Aconagua valley and on to the Argentine border. Accompanied only by one servant he lived quite modestly, often staying overnight out doors and was untiring in his research of nature and humankind. At the end of 1828 he travelled into the Cordillera of Antuco in the upper Laja Valley. For over a year Poeppig stayed in the vicinity of the Bio-Bio river and made splendid accomplishments in researching it. In Chile, for example, he discovered *Puya alpestris*, *Puya chilensis*, and *Puya coerulea*.

Then Poeppig traveled to Peru; at the end of May, 1829, he came into Callao and continued his trip on a mule to Cerro de Pasco and from there into the Huallager valley, where he remained from July, 1829, to February, 1830. His next goal was the tropical forests of the Amazonian lowlands. He travelled over Chicoplaya, Uchiza, and Tocache, where he stayed until the 25th of June, 1830, into the Maynas area, which is already a part of the tropical lowlands. There he found *Aechmea angustifolia*, *Bromelia poeppigii*, *Pitcairnia cassapensis*, *P. inermis*, and *P. straminea*. In the middle of October, 1830, Poeppig arrived in Yurimaguas, where he discovered the beautiful *Billbergia decora* and *Pitcairnia poeppigiana*. He stayed there until 31 July, 1831, and then continued his trip accompanied by four



The first picture (copper plate) of *Aechmea angustifolia* Poep. & Endl. drawn by Poeppig.

Cocamilla Indians on a raft on the Marañon-Amazon. On the 4th of September he reached the mouth of the Tefte river, which he traveled to Ega, where he again made a long stay and found *Streptocalyx poeppigii*. On the 12th of March, 1832, he embarked for Para, where he again spent some time until a Belgian sailing vessel brought him back to Europe. In October, 1832, he finally arrived in Leipzig again.

His plant collections from Peru and Brazil comprised 2,300 species. Poeppig's most complete herbaria were in Leipzig and Berlin. In the second world war the herbarium in Leipzig was completely destroyed, the one in Berlin was mostly destroyed by bombs!

In Leipzig Poeppig now began to classify his collected material. On the 18th of October, 1833, he was named Extraordinary Professor of Natural Sciences. His main works are his travel descriptions, "Travels in Chile, Peru, and on the Amazon during the years 1827-1832," two volumes published in 1835/36 in Leipzig; the scientific description of the botanical material appeared in 1835, 1837, and 1845 in the 3 volumes "*Nova Genera et Species Plantarum quas in Regno Chilensi, Peruviano et in Terra Amazonica annis 1827-1832 legit Eduardus Poeppig et cum Stephano Endlicher descripsit inconibusque illustravit.*" Poeppig taught and lived in Leipzig, where he died on the 4th of September, 1868, after long, severe suffering from stomach cancer.

After this biographical overview let us let Poeppig himself speak to us about the life cycle of organic material, about birth and death in the tropical forest:

"...Parasitic growth is prevalent in all tropical areas, even at some distance outside the tropics, but they increase the closer you get to the equator. It is especially in the very thick sub-alpine forests, in which they are present in an over abundance and where they even appear in a ratio of 1:11 to the remaining phanerogams....They are almost more interesting than the growth on the ground. Their multiplicity is so great that in Peru alone it would take a life time to look at the species and determine the laws that govern their growth. Mere description can never give an idea of the appearance of a bombax tree whose giant branches are so laden with hundreds of parasites that its white bark is not visible anywhere. The parasites often are so dense on the tree trunks that neighbouring plants prevent each other from spreading out, and so it happens that one layer of vegetation grows over the other even causing one parasite to seek root on top of another. It is a very one-sided viewpoint to consider parasitic plants as killers. There is no doubt, however, that a great many of the plants of this type can have a secondary effect on the destruction of a tree or even an entire forest. It is interesting for the lonely observer separated for many months from the world in the darkness of that forest observing nature and following its progress with ever

greater involvement. I present to you some findings resulting from observations made by me on the behaviour of parasitic vegetation.

"The first growth to establish itself on a tree trunk in the tropic forests never cause destruction and death, but are only the pioneers and predecessors of those plants whose role it is to destroy. The attack comes slowly, and we can say it comes with carefully conserved energy, because only after rot appears in the woody parts does the number of destructive plants increase. Thus the first generations of parasites are so constructed, so woody and so dry, that they must be satisfied to get their nutrition solely from the air. But it would not be appropriate to see the destruction of the tree as being so simplistic, because nature has so many aids that it can produce a great richness of growth, and on the other hand especially in the tropics it takes pleasure in keeping the activity of its workers entirely separate, precisely because thereby a far greater number can be put into action. The business of destroying the tree, while being undoubtedly what nature, as eternally reproductive as it is, has in mind, along with the other, eternal urge to provide for its own continuance, does not happen nearly as quickly as we usually assume. When its time comes, much beautiful growth must die before the ultimate purpose is reached. And there is hardly any plant which alone would be able to destroy woods that are so hard that only the hardened blade of an axe from Biscay's best factory can split it.

"Nature goes about the destruction of a tropical tree in approximately the following manner: No matter how smooth the surface of its trunk, soon slightly crust-like spots appear, then small, flat, reddish brown lichens followed by mosses, and the surface becomes uneven. Small tillandsias now root onto the surface and sit there for a long time without growing significantly, seemingly happy to have found a modest home. Gradually they form small turfs on which polypods and such soon begin to grow; the latter are much less modest as they send out their rooting stipites in all directions looking for a spot where they can divide and form a new colony. Then come the orchids and hanging cacti and form a veritable bed on which bromeliads and larger orchids can settle; they form thick protrusions with their mighty root masses and thus cause earth to collect. From the ground a large aroid has already been creeping stealthily upwards as the slick wood tries everywhere to reject it. It barely reaches the protrusions of the parasite group when it strikes root and impertinently sends out its broad leaves covering the work of the initial stages of destruction. Along with the aroid, invading loranth bore into the wood and send out their suckers in all directions. Then comes a woodpecker and makes a hole in the wood, which will perhaps be occupied later by a colourful ara bird, who will widen it with its stout beak into a comfortable nest. New groups of parasites arise close by until they join with the earlier ones and eventually a single, great mass arises, which completely covers

earlier ones and eventually a single, great mass arises, which completely covers the branch or surrounds the perpendicular stem like a ring. A lot of earth collects on it drawing moisture and probably storing rain water. Now rot seriously attacks the whole spot and numerous insects further the decay and in turn attract more legions of woodpeckers. Only now does nature begin to show its powers, for soon sapping bushes appear as do fungi and large ferns and especially termites, which now occupy this hanging garden as their great activity in constructing their houses and in fetching materials for their survival speeds up the decay.



"After a few years have passed the demolition has progressed greatly. Numerous vines rising from the ground have enveloped the victim and hang on it or pull on it with the tension of their ropes. Finally a blast of wind breaks off the weakest branches, and soon the stem follows as its whole gigantic length falls, which a few years ago could have resisted the best axe. Far and wide the fertile ruins cover the naked ground; vines, twining grasses, nettles, tradescantias all take it over, then in a few months a thick layer of brown humus covers the formerly unproductive ground, and nature has completed its benevolent work."

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.

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.