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

Edition: July 2024

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 August 15th 2024 at 11 a.m.

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Debbie Smith, Shirley Smith
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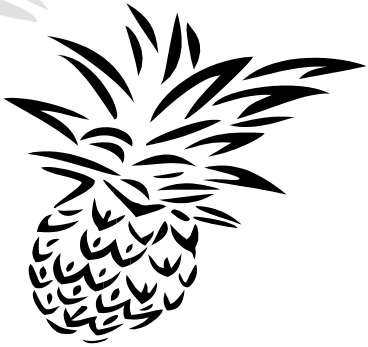


## Meeting 20th June 2024

The meeting was opened at approximately 11.00 am
The 10 members and one visitor were welcomed.
Two apologies were received.

## General Business

Our June meeting was held at Kayelene's home in Wyrallah near Lismore. Unfortunately Helen had fallen ill and had a short stay in hospital, therefore was unable to attend. She is on the mend now thanks to the staff at Ballina hospital.

Shirley is still in hospital, we all hope she gets well and back on her feet soon.

Donna, our visitor was welcomed to the Group, hopefully she found the topics of discussion interesting and informative and we will see her continue to join us each month.

Michelle has asked if we could include a 'Mini Neoregelia' section in our Popular Vote competition. It was suggested that if everybody agrees we'll have a couple of trial runs over the coming months. Due to limited space we should finish the Decorative section at the end of the year first and replace it completely with a 'Mini Neoregelia' section from January.

Our August 15th meeting may be held at Michelle's home in Casino, yet to be confirmed, perhaps we could have our first 'Mini Neoregelia' trial run then.

## Show, Tell and Ask!

Growing Tillandsias in pots and what is a preferred potting mix was discussed. Plant them in a coarse seasoned pine bark mix or similar with a good amount of slow release fertilizer to the mix. Regardless of the type of potting mix one uses it should be free draining.

About fertilizing, our plants grow and flower at different times of the year, this is often followed by producing offsets which means many of our plants are in continual growth. It's important to observe the growing cycle of your plants and fertilize accordingly. Weakly, weekly is a good recommendation.

With the onset of the cooler weather some growers have been experiencing cold burn to some of their plants. If the plants are in the garden one could try using frost cloth to protect the plants from frosts or old bed sheets work just fine. Have your watering system sprinklers come on in the early hours of the morning every half hour for a few minutes till just after sunrise keeps the frost off them. Taking plants inside at night helps but they need good air movement so don't keep them inside all winter, give them a spell outside under cover every few days.



Rotting plants has also been blamed on the cooler winter weather. Rot isn't immediate, look back a few months to what other changes in weather or even within your growing area that may have affected the plants. Phytophthora or a virus were suggested causes.

## What is Phytophthora cinnamomi?

*Phytophthora cinnamomi* (*phytophthora* root rot) is an introduced plant pathogen (disease causing organism) that can cause disease and plant death in native vegetation.

*Phytophthora cinnamomi* belongs to a group of micro-organisms known as water moulds. Water moulds were once included in the fungi kingdom and, as a result, *Phytophthora* root rot has been called a fungus in earlier interpretation literature. Water moulds have a motile or animal-like stage which fungi do not. As the name water mould suggests, it requires moist conditions to thrive. Its food source is the root and basal stem tissue of living plants. Phytophthora root rot grows as microscopic sized filaments (mycelium) within susceptible host plants. It consumes the host plant causing lesions (areas that appear rotten). This weakens or kills the plants by reducing or stopping the movement of water and nutrients within the plant.

**Caution:**
Remove all rotted areas of the plant back to clean tissue, treat with a fungicide or food grade cinnamon powder and allow to dry.
Sterilise any implements used to trim infected plants with boiling water to avoid contaminating other plants.

The following taken in part from: **Root Rot and Heart Rot** by Peter Peroz
The Bromeliad Society of Queensland's Journal
Bromeliaceae Vol. XLI, No.4, July / August 2007

"A quick test for phytophthora is to gently wriggle one of the centre leaves. Worst case, the leaf is easily removed. The infection is readily identified, as it has a foul odour, and the leaves show a characteristic blue/black line marking the advance of the infection in the white tissue.

Another test is to take any immature bromeliad leaf with about 20 mm of white basal tissue is satisfactory. Fill a glass jar to about 100 mm with the water to be tested and place the test leaf in the water so that about 25 mm of the leaf is submerged. Use a thin skewer or wire to pin the leaf at the required depth. Allow to stand for 10 days. Phytophthora is indicated by the development on the white tissue of a blue/black line of attack and a foul smell. A less invasive organism, Pythium, is indicated by a cotton wool like growth around the leaf."

## Open Popular Vote

| | | |
|---|---|---|
| 1st | Mitch Jones | x*Sincoregelia* 'Galactic Warrior' |
| 2nd | Michelle Hartwell | *Neoregelia* 'Tantilizer' |
| 2nd | Shane Fitzgerald | *Nidularium* 'Bahia Variegated' |
| 3rd | Keryn Simpson | *Billbergia* 'Moon Tiger' unreg. |

## Tillandsioideae

| | | |
|---|---|---|
| 1st | Mitch Jones | *Tillandsia ionantha* |
| 2nd | Gary McAteer | *Tillandsia bulbosa* |
| 3rd | Shane Fitzgerald | *Guzmania musaica* |
| 3rd | Keryn Simpson | *Tillandsia riohondoensis* |

## Decorative

| | | |
|---|---|---|
| 1st | Coral McAteer | 'Winter Moss Begins' |

## Judges Choice

| | | |
|---|---|---|
| 1st | Mitch Jones | *Tillandsia ionantha* |

## 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.

Bromeliad Species Database (BSD): www.bsi.org/members/?bsd
Refer to this site for species identification, photos, descriptions and more.

New Bromeliad Taxon List : https://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 many with Table of Contents Index and there's Detective Derek Articles.

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

## Where do I Find the 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.



Ed: If the issue is a virus it would be transmissible, to check - scrape the affected area of your plant and transfer it by scratching it into a leaf of a healthy plant, if you have a few spares of course. If the healthy plant gets sick Mitch suggests to bin them or send a sample to the DPI for testing. Easier to bin and replace the plant and don't forget to treat the growing area with Algaecide or chlorine.

Our June meeting held at Kayelene's home was a great success.

There was a good mix of genera with some very well grown plants tabled for our Popular Vote competition.

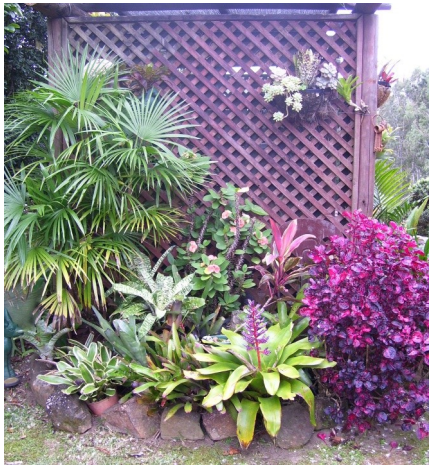
Ross showed the effects of a recent hail storm. The damage is linear so the leaves will continue to feed the plants and they will recover, albeit slowly.

Kayelene's *Alcantarea glaziouana* needed the offsets removed.

Ross is explaining how best to cut the offsets off - cut in a downward motion and slightly in toward the parent plant.

It is also possible to hold the offset at its very base and ease it back and forth and sideways, they often come away easily and with some roots attached.

## A stroll around Kayelene's garden





My husband Clive has always obliged by assisting me in the garden e.g. this works in progress, watering is also one of those jobs.

I had gone away with my daughter and we were travelling back in the car. We had Clive on speaker phone - who was home and had been asked to water my plants whilst we were away.


We were having a general conversation and of course, I had to give him my usual Kayelene reminder to water the plants (he hadn't forgotten). There was a slight silence - then a very calm comment….

"I hate your mother's plants"!!

We all couldn't stop laughing.

So…. my daughter designed a shirt and had it made with those words applied.

I must say - "hate" is a very strong word - but it was the way he said it that was so funny.

Interestingly, now I have bromeliads - the frequency of the watering of my plants has declined… but he still helps. The latest "hate" are the prickly bromeliads and bleeding arms!!

Can't have everything eh - at least he still helps in the garden.

The day was finished with our raffle and congratulations to Kayelene…. and Clive for having us in their wonderful garden.

x*Sincoregelia* 'Galactic Warrior'
1st Open Mitch Jones

*Tillandsia ionantha*
1st Tillandsioideae and Judges Choice
Mitch Jones

'Winter Moss Begins' 1st Decorative Coral McAteer



*Neoregelia* 'Tantilizer'
grown by Michelle Hartwell

*Neoregelia* 'Lorena Lector'
grown by Kayelene Guthrie

*Nidularium* 'Bahia Variegated'
grown by Shane Fitzgerald

*Tillandsia filifolia*
grown by Michelle Hartwell

*Tillandsia riohondoensis*
grown by Keryn Simpson

*Tillandsia bulbosa*
grown by Coral McAteer and Gary McAteer

*Billbergia* 'Moon Tiger'
grown by Keryn Simpson

*Tillandsia* 'Fuego'
grown by Kayelene Guthrie



## ***Guzmania musaica***

Found by Gustav Wallis in December 1867 and described as *Tillandsia musaica* by the Belgian botanist Jean Linden in 1873. *Guzmania musaica* was described by the German botanist Carl Mez in 1896 where Gustav Wallis' *Tillandsia musaica* was placed as a synonym.

In its native habitats in Colombia, Costa Rica, Ecuador, Panama and Venezuela it can be found growing as an epiphyte in moist, shady situations from sea level up to 1650 metres altitude.

*Guzmania musaica*

grown by

Shane Fitzgerald

His third attempt in 10 years at growing this species.

Was it worth the effort, absolutely!

"This successful attempt was of an offset obtained in 2022 taken from a locally seed grown plant. Plants grown from seed tend to acclimatize better when in a not so ideal environment, I say it's not so ideal as my winter climate can drop to 8°C to 10°C on many nights. This is not similar to *Guzmania musaica*'s natural habitat of wet tropical Central America. This latest attempt has rewarded me with an amazing inflorescence of bright rose floral bracts combined with yellowish sepals and white petals. I have kept it potted in a free draining mix made up of 50% bark and fines. It's relatively well watered, except in winter when I reduce watering to a minimum. I've grown it in moderately low light on a bench within 3 metres of the 70% black shade cloth". Shane Fitzgerald

Michelle brought along an *Aechmea* ‘Makoyana’ with creamy yellow leaves, at first she thought it had lost its variegatuion and was now an ‘albino’. No, not an albino as it has enough chlorophyll in the leaves to say it’s not white/albino. When Michelle was doing her autumn cleaning she noticed this ‘albino’ still had its variegation stripes albeit on the abaxial - underside of the leaves only.

The conundrum now for Michelle is to destroy this oddity or get offsets from it and hope they are the same as their parent plant, stabilize them and give them a name.

Previously known as:
*Aechmea comata* var. *makoyana*
that was described from a plant grown in cultivation as having leaf blades with variegation.

“Botanists generally don’t acknowledge variegation when describing a plant, the current interpretation is that it should be treated as a cultivar. This is confirmed in The World Checklist of Selected Plant Families. As such this Culton appears in the Bromeliad Cultivar Register (BCR) as: *Aechmea* 'Makoyana'.” Derek Butcher

The offsets of this cultivar stand out from the parent when small as they are quite orange, changing colour as they mature.



## Genetics, Species, Varieties, Hybrids and Evolution - Part 4/4

by Frederick H. Gerber - Reprinted from BSI Journal Vol.11, No.5, No.6 and Vol.12, No.1

One has only to look at the unlabeled hybrid Billbergias and the Neoregelias in this country to appreciate the developing confusion in this field of study. Perhaps in another generation it will be too late, if it is not already.

The garden variety hobbiest can derive a great deal of pleasure and can add considerably to horticulture by the selfing of such hybrid forms as he has (if they are not sterile) and in raising the seedlings — perhaps there will be some individuals representing extremes in the segregation that might resemble some recognized species sufficiently to justify at least tentative definition of the parents. After thought and study of results the inferior plants can be culled. There should be no reluctance to cull out inferior types; it is for the betterment of all bromeliad horticulture.

The keeping of records and the publishing of these records in just such a recognized paper as our *Bromeliad Society Bulletin* is an important part of this investigation. The records of plants should in some way make note of the source of the plant material. Regrettable through it may be, some of our sources of supply are not so reliable as others from a nomenclature standpoint. This is not necessarily an intentional failing. However, I recall an interview with a nurseryman who had a number of unidentified bromeliads as part of his stock. I volunteered to label those that I felt confident about but was cut short with the observation that his customers didn't care what the names were . . . "if they were bromel fanciers they would know what they were and if they weren't they didn't care." The limitations in this outlook is not of necessity parallel with the infrequency of the viewpoint. A notation of a name with a question mark, where uncertainty exists, is quite desirable and can help in the clarity of our plant records. The question mark is an honourable designation just as negative results in experimentation are as important as positive and are equally as worthy of publication. One need only refer to some of the recent commentaries in our *Bulletin* to observe what we can accumulate in this business of nomenclature. Attention is also drawn to the many plants in cultivation under the name of *Neoregelia carolinae* or *Neoregelia carolinae* hybrid. But hybrids with what? One may ask often this question when there are other traits than *Neoregelia carolinae* observable in these plants, and we might detect what we think is the influence of *Neoregelia fosteriana, pineliana* or *marmorata*, or *farinosa* but if our labelling has not been kept in some orderly fashion we can never be certain. And, is it not often the case that the "hybrid" label indicates simply a crossing between two selected *Neoregelia carolinae* plants? If this occurred in the wild (as it surely does, and the progeny were the result of the crossing of two different plants of *Neoregelia carolinae* we would not think to label the natural

progeny hybrids. Then why do we do it horticulturally? Would we not be better off giving some varietal status to particular clones that were shown to be horticulturally superior just as the orchid growers do? There is nothing out of order in recognizing superior horticultural forms or selections, but to confuse the botanical status does not appear to be the desirable means of this recognition. One would not think of calling the progeny from two *Cattleya mossiae* plants a hybrid *mossiae.* The species *Cattleya mossiae* is just that. A species is by definition an array of inbreeding forms. The segregation of forms into arrays which are prevented (for whatever reason) from inbreeding in nature does not of necessity mean that the individuals are incompatible.

The collector who wants to add *Billbergia amoena* to his collection after seeing a plant so labeled at a flower show wants to know what he is getting, but unless he is aware of the variations in the species he may be quite disappointed by what his supplier calls *Billbergia amoena.* Recognized are varieties *B. amoena, B. minor* and *B. viridis*, and Mr. Foster pointed out some years ago in one of his many articles that the species varies widely throughout its range. *Billbergia amoena* is separated from the species *B. bucholtzii* in Dr. Smith's key to the Billbergias in Bromeliaceae of Brazil by the coloration of the petals; all other diagnostic characters being the same from the standpoint of the botanical keys.

I have often wondered looking at our planting of several dozens of Mr. Foster's hybrid cross named *Aechmea* × 'Foster's Favorite' whether or not they are supposed to be parts of a single named clone or if they are instead many progeny of a named cross. In the orchids all progeny from a cross between, for instance, *Phalaenopsis* 'Grace Palm' and *Phalaenopsis* 'Chieftain', are the hybrid named *Phalaenopsis* 'Arcadia', and this hybrid name gives no indication as to the quality or characteristics of any particular plant bearing that hybrid tag. On the other hand the patented roses used widely by commercial rose growers, 'Better Times', have all been derived from a single sport and from a botanical standpoint all 'Better Times' roses are genetically the same, being parts of one individual. Among our *Aechmea* × 'Foster's Favorite' we have wide leaved forms and narrow leaved forms we have some with a strong suffusion of green with only a moderate trace of red or bronze coloration while others are brilliant mahogany red throughout. The question arises, too, that perhaps these plants that have come to us under this name may not, by some chance, be F2 seedlings and these representing genetic segregations. In the light of the genetic problems involved each of these considerations merits attention.

Hybrids are always of great interest botanically as they tend to show affinities, genealogically, among or between plants.



Interesting botanical situations exist where overlapping species have a moderate degree of cross breeding between adjacent individuals but which show complete sterility between individuals selected from the extremes of the populations where overlapping does not occur. The accumulation of genetic differences has been such over the range where there has been no interchange of genic materials that isolation is complete. If the overlapping populations were destroyed in some way, then the terminal groups would have complete genetic isolation. If the overlapping population of different species interbreed and the progeny are intermediate and fertile, then the terminal populations, inasmuch as there would be a complete gradation between one extreme and the other and these, would probably be reduced to varietal status of one species rather than the two species at the onset. This sort of observable condition would tend to point out that the evolutionary process into divergent forms is not by definition an irreversible process.

We have come a long way since the initial records of bromeliads in horticulture in the early eighteen hundreds, and we have well confounded the genetic state of this, our favorite, plant group. We have crossed and re-crossed, and by so doing we have proved a common origin by genetic compatibility between species, between genera but at the same time we find ourselves at this point in our horticultural history in the Bromeliaceae in a morass of confusion resulting from what might appear almost wanton hybridization and the release of hybrid forms without proper pedigree, and if our cherished pets arrived with pedigree then we have foolishly trusted to the human memory rather than the written word for our record keeping. It would appear that each serious bromeliad collector and hobbyist is behooved to reconsider his stand on nomenclature, the bringing up to date of labels when greater clarity is presented in the light of more applied botanical study (and this has certainly been stressed by our Bulletin in the series on nomenclature clarifications), and when the botany of our own particular plants is secure (or at least improved considerably) further hybridization, selection, culling, and back crossing, selection and further culling for truly fine, rather than just novel, hybrid forms. And at all times we should be particular with our labeling of both species as well as hybrid forms. Interesting observations should be published, negative information such as failures in genetic compatibility, inferior progeny, etc., should also be made a matter of common record, and photographic records of segregations in backcrosses with notes as to source of materials can much improve the understanding of the questionable plants in cultivation today.

A rapid survey of so many different considerations all interrelated is of necessity over-simplified, and the serious student will regret the abridgements and the

omission of the function of univalents in such studies as hybrid sterility, or the subjects of auto- and allo- polyploidy; but in such cases the reader is referred to the many fine texts in the fields of ecology, genetics, plant physiology, cytology and morphology that are available. Particular attention is drawn to:
Lester W. Sharps, *Introduction to Cytology*, McGraw Hill 1934.
Stanley A. Cain, *Foundations of Plant Geography*, Harpers Brothers 1944.
Theodosius Dobzhansky's *Genetics and the Origen of Species*, Columbia University Press, 1937.
W. B. McDougalls's, *Plant Ecology*, Lea and Febiger, 1941

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## For Begginers Only . . . . .

There are many factors which enter into the successful growing of Bromeliads (e.g. humidity, light, temperature etc.) any of which would take many pages to cover adequately. However, the newcomer to the field need not concern themselves too deeply at first with each and every aspect of every factor if they will pay heed only to a few simple rules.

**1.** It matters not what compost is used (hapuu, pine bark, pumice, leaf mold etc.), so long as it permits good drainage and can be easily leached. It should be material that will not readily break down or be a host to insects, fungi etc. It should be a compost that can be controlled by feeding nutrients.

**2.** Watering is very important - be sure the water drains quickly through the pot and do this 2 or 3 times each watering, so as to eliminate soluble salts from the compost. Bromeliads can not accept soggy compost.

**3.** Ventilation, or a nice breeze at all times is desirable, in fact, many growers insist this is essential to successful Bromeliad culture.

**4.** Fertilizers should be supplied at weak strength at regular intervals. As to the brand, most of them seem to do very well.

**5.** Give your plants all the light you can without burning the leaves. Most plants need light to flower.

**6.** Bromeliads seem to do rather well in a considerable range of temperature. The higher the day temperature the greater the humidity and water requirements A minimum of 40°F (4.4°C) and a maximum of 90°F (32.2°C) should produce good results.

**7.** Keep your growing areas clean and use any of the standard insecticides for control. This is the time of year to give your house a good thorough cleaning and fumigation.

**8.** Learn to understand the needs of your plants, it will be fun and give you wonderful returns.