

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

Edition: February 2024

Agenda: General Discussion

Venue: PineGrove Bromeliad Nursery
114 Pine Street Wardell 2477
Phone (02) 6683 4188

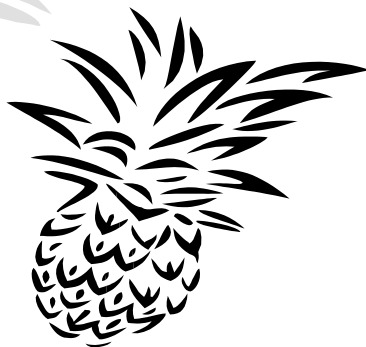
Study Group meets the third Thursday of each month
Next meeting March 21st 2024 at 11 a.m.

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Meeting 18th January 2023

The meeting was opened at approximately 11.00 am
The 9 members were welcomed.
Three apologies were received.

General Business

Helen requested that we should consider what positions within the Group we would like to help with - election of officers will be in February e.g. Treasurer, Library, Newsletter Editor (it's worth a try to pass it on!), Group Coordinator etc.

It was good to see Pam back on her feet after a health issue.

A brief review of our January Newsletter was had, we discussed the sad passing of Derek Butcher and his many achievements to the Bromeliad World.

Show, Tell and Ask!

Over our Christmas / New Year break some members were able to give more time to their beloved plants only to find some plant health issues - rotting. This opened a discussion during the month as to why. The first suggestion was to look at your potting mix and read John Catlan's 'Functions of Your Potting Mix' article which we reprinted last month for them to help answer that query.

Further discussions about the subject at our January meeting revealed that the Member's house roof had been sprayed, a new shade structure had been recently erected and painted. How many plants had been affected by rot - one ? So were these recent events the cause - probably not otherwise there probably would've been more casualties.

Many factors were discussed, one suggestion was to look whether there are worms in your potting mix as these guys can break down a mix to the point where they affect drainage. Worms are not good in small pots placed on the ground because in a good clean inert mix there was nothing for the worms to eat other than the fresh roots of your plant. However if one was using a very humus rich mix worms will hopefully eat the decaying humus matter and not the roots of our valued plants. The worms are fine in very large pots where they help create drainage etc. Basically it depends on the size of the pot whether worms are of value or not, also if you are repotting regularly it is not an issue.

It has been suggested in the past to use a solution of Phosphoric acid and water to help rid your mix of worms. However it is definitely safer to use soapy water and flush the pots with fresh clean water afterwards.

Les Higgins FNCBSG NSW Newsletter Sept 2015 p.14

Earth Worms and Gastropods: Copper is a fungicide that kills earth worms, slugs, snails and **Bromeliads**. Soak the plant house floor with copper oxychloride or copper sulphate or Bordeaux mix. Mesurool 75 Slug and Snail killer is a recommended foliar spray (also kills mealy bug).

Les Higgins FNCBSG NSW Newsletter Oct 2018 p. 2

Earth worms invade pots placed on the plant house floor. Like slugs and snails they too are hermaphrodites. Worms deconstruct potting mix. The plant's roots die as a result of deprivation of air movement. Worm presence is revealed by worm casts extruding from the drainage holes and through the holes in net pots. Stop worms invading a plant house by soaking the floor with a strong solution of copper sulphate (Bulk \$5/kg). Copper oxychloride would be better but it costs six times the price of copper sulphate. Be careful not to allow this chemical solution to splash onto Bromeliads. Worms usually gain access to a bulk potting mix through a contaminated ingredient. Commercial steam sterilization at 1800F for 20 minutes followed by rapid cooling eradicates harmful bacteria and it also kills worms and their eggs. A primitive method that Les uses is to make the potting mix in an old metal shower base. (ex-Local Tip). Extra water is added and a fire made underneath the container. Worms quickly emerge and eggs don't hatch!

Earthworms Kill Potted Plants

For a long time, I have suspected that earthworms kill potted plants by feeding on their roots. Whenever I cleaned out such pots, I found earthworms in them. Ever since Charles Darwin wrote of the earthworm in 1881, "It may be doubted whether there are many other animals which have played so important a part in the history of the world, as have these lowly organised creatures", few have dared to say anything nasty about earthworms, so I kept my suspicions to myself while trying to figure how I could prove my case. As a scientist I am aware that to prove cause and effect, I would have to set up a comparison between two potted plants in which everything would have to be identical except that one pot would contain worms while the other would have no worms. However, with just two pots for comparison, the results could be muddled up by unknown variations despite efforts to ensure absolute uniformity. It would be better to enlarge the comparison to say 20 pots per treatment. Comparing 20 pots against 20 would be statistically more robust than one against one. I still had to figure out how to measure plant performance and for how long to run the experiment. Things got so complicated in my mind that the experiment never got done.

Last year, I raised half a dozen seedlings of the rare endemic Malayan witch hazel, *Maingaya malayana*, in individual pots. The seedlings grew at different

rates, which was to be expected since they were raised from seeds and could be expected to be genetically different from each other. I had also not taken the trouble to ensure that the soil was exactly the same in all the pots. Also the pots were in different parts of the garden, under different environments. However, one plant was particularly stunted. I thought this was a genetic dwarf because it did not respond to any of my efforts to get it to grow beyond its first few leaves. Finally when it was clear that the plant was about to die, I tipped the plant out of the pot and found earthworms wriggling in the soil. I threw out the earthworms and repotted the plant. It recovered immediately and produced new leaves. The recovery was so striking that I have no doubt the worms were the cause of the stunting and slow decline of the plant. For those who still doubt, I can now suggest an easy test. Add earthworms to a pot containing a healthy plant. Watch the plant decline over the next few months, then repot the plant after removing the worms, and see if the plant recovers.

Reprinted from: Tropical Gardening, Posted by Dr Francis Ng, Sunday, February 06, 2011

Can Excessive Rain Cause Rot ?

Q: When it rains heavily does anyone empty their Bromeliads so the base leaves aren't full of water or do you leave them ?

A: Some growers are concerned about rot problems so their answer was **yes**.

A: If in pots with a good quality, free draining potting mix they should be fine.

A: Good house keeping: keep plants clean, remove dead basal leaves regularly and they'll be fine.

A: Maintaining good air circulation by not over crowding they should be ok.

A: It is not the rain that creates rot, poor drainage in the pot rots the roots. If your mix has gone quite muddy then that often harbours pathogens that will create rot on bottom leaves. Centre/Crown rot is not caused by water, the rot is caused in general by one of two things, either in very hot weather the water in the centre gets too hot and then the tissue collapses and rots, so to prevent that you have to water plants enough to cool the plants water in the centre. Centre/Crown rot could also be caused by the fungal rot 'Phytophthora cinnamomi' which is a very virulent rot, it is an air borne, water borne and soil borne rot. Heavy rain on the plants is cleansing and beneficial, especially on Vrieseas.

Foliar Spraying Fly Speck Scale Insects

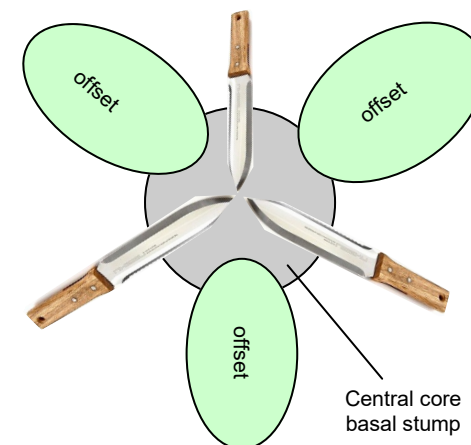
Q: When spraying my plants for scale insects, how much chemical mixture do I spray on the plants.

A: Follow the directions on the label for mixing ratio. Spray the foliage until wet all over and some residue is running down each leaf. No need to over do it. Repeat in two week intervals as required or as per directions on the label.

Keryn brought along her *Guzmania sanguinea* that flowered last season and has grown three offsets for her. She asked how best to divide them.



Remove all the foliage from the parent plant if any are still attached. This will allow clearer visibility to the central core/basal stump of the old parent plant. Using a sharp knife make a cut between each offset into the basal stump, cutting down toward the root base. Each of the three cuts should be approximately half way in toward the centre of the basal stump until the three offsets sections can be gently pried apart. Allow the cut sections to heal before potting.



Another plant Keryn had brought in for **Show, Tell and Ask!** was referred to as *Aechmea* 'Morgana'. Keryn's plant is a spineless form of *Ae. fasciata* therefore can't be 'Morgana' which has spines.

Probably best to refer to the BCR, read the *Ae.* 'Morgana' doc and look toward: *Aechmea* 'Smoothie'

or
Aechmea 'Sister Smoothie P'.

Kayelene had a mystery plant on the Popular Vote table at our January meeting with no tag. It was identified as being a *Nidularium* by having spines on the leaves, the leaves being thin to subcoriaceous (somewhat leathery in texture). The inflorescence has a central cluster of flowers and also has flower fascicles (clusters of flowers) concealed in the lower primary bracts.

Neoregelia was ruled out because they have a single central flower head sunk in the centre of the rosette with many separate flowers, as opposed to *Nidularium* having a small central cluster and fascicles of flowers among the primary bracts.

A search of the Bromeliad Cultivar Register (BCR) and Bromeliads in Australia (BinA) Photo Index was unable to show a match to Kayelene's plant.

However a scroll through *Nidularium* (cult) in the 'Butcher Files' has a reasonable match, albeit unregistered, named *Nidularium* 'Catlans Pink'.



***Nidularium* 'Catlans Pink'**

by Derek Butcher 1998

Some of us are aware that Isaac Newton needed an apple to fall on his head to get inspiration and one wonders how many mangoes need to fall on John Catlan's head! I do know he does venture out from under that tree to post me a parcel now and then. Recently a large box did arrive but inevitably the leaves were bent. This makes me ponder why Queenslanders feed their plants because I always seem to get plants with bent leaves. The other reason may be because they only grow small cardboard boxes up there.



Anyway, this plant was in flower and there was sufficient plant material for me to cut and dissect. My worksheet was completed and the exciting time of "mix and match" was upon us. Nothing exactly matched but I got very close to *Nidularium innocentii* with concolorous leaves, except the petals were blush pink (#36 on Isley's chart). The primary bracts were rose (#38) not the soft pink as seen through John's eyes.



Vriesea 'Kent's Sunset'
grown by
Michelle Hartwell



Vriesea hybrid unreg.
grown by Michelle Hartwell

Way back in '64 (I assume John means 1964 not 1864!) Bromeliads in Australia were in their infancy. Few actual plants were imported but seed was actively sought. Regrettably, plants grown from seed can easily be hybrids whether natural or man-made. So here we had a plant I had originally thought just had to be a species was probably a hybrid. An apt name may have been "John the Innocent" but I decided 'Catlans Pink' might be best especially if you want a large round *Nidularium* that is cuddly.



Neoregelia 'Atomic Blast'
grown by Keryn Simpson





Aechmea 'Supreme' unreg.
1st Open Helen Clewett

Aechmea chantinii (variegated)
1st Open and Judges Choice
Shane Fitzgerald



'Lets Have a Cracker 2024' 1st Decorative Keryn Simpson



Tillandsia 'Redken'
grown by
Keryn Simpson



Tillandsia capitata 'Scarlet'
= 1st Tillandsioideae Gary McAteer



Catopsis 'Emily' = 1st Tillandsioideae Shane Fitzgerald

Shane brought along a nicely variegated plant tagged only as *Aechmea chantinii* variegated. (additional photo p. 8)

Its origins are unknown but we were assured it is not *Aechmea* 'Samurai' which tends to be a little unstable in its variegation, whereas this particular variegated *Ae. chantinii* is reportedly very stable.

This had me thinking of a variegated chantinii we investigated quite a few years ago now registered as *Aechmea* 'Prinslers Link'. Could this be a link to Shane's plant.

If you know how/who imported this variegated *Ae. chantinii* into Australia please let us know.



***Aechmea chantinii* variegated 'German Clone'** by Ross Little 2015

Recently there has been discussion regards the variegated and albomarginated group of *Aechmea chantinii* cultivars again with the suggestion of a variegated 'German clone'. Was this variegated clone a select clone of *Ae.* 'Samurai' being grown in Germany, if not where did it originate ? I had to know.

I followed my usual line of questioning everybody I came in contact with who I thought may know of this variegated clones history. We know *Ae.* 'Samurai' is from Japanese tissue culture in the 1980s and *Ae.* 'Shogun' is its reverse. BCR note: Mr. Isao Yamamoto of Japan advises that 'Shogun' did not originate in Japan but seems to have been a sport at some later time somewhere!

All leads seemed fruitless until I spoke with Bob Larnach of Bromeliads Australia who suggested a possible connection with the Gulz Nursery in Europe. I sent an e-mail off to Peter Bak in Europe for help and was well rewarded suggesting I contact Hermann Prinsler in Germany.

Hermann's response was prompt and precise informing me that he acquired an *Aechmea chantinii* with variegated foliage from a German Bromeliad nursery. This nursery owned by a Mr Link cultivated a lot of *Ae. chantinii* between 1970 and 1980 and was visited by Hermann several times. It was during one of his visits between 1972 and 1974 that he saw in amongst many hundreds of *Ae. chantinii* seedlings a variegated one which Mr. Link sold to him.



In Hermann's own nursery the plant grew and propagated well where he found it always made good variegated pups. Hermann sent pups to the USA, his connections there being E. Wurthmann, Dr. Dexter, Dr. Kent and other collectors. He also sent photos of his variegated *chantinii* to Victoria Padilla, the Editor of the BSI Journal.

It appears that *Aechmea* 'Samurai' came much later and is not related to the Link plant grown by Hermann Prinsler known as *Ae. chantinii* variegated 'German clone' which is *Ae.* 'Vista' named by Kent's Nursery, as this is one of those pups that Hermann sent to his USA connections. Now we know for sure there are three plants, one of Japanese and two of German origin, but which one is yours ? That I doubt we can ever be sure of now.

Two photos this article grown by Hermann Prinsler, 2015:

Aechmea chantinii variegated 'German Clone' = *Aechmea* 'Prinslers Link'.

Aechmea chantinii marginated = *Aechmea* 'Hermann's Link'.



***Hyalaeicum pendulum* var. *pendulum*.**

This variety is a small rosette of whip-like green leaves, the inner ones are bright red tinged with dark purple when in anthesis (flowering). It forms dense masses on long, very thin stolons.

***Hyalaeicum pendulum* var. *brevifolium*.**

This species is a more compact size with slightly broader leaves and seems to require relatively less care than var. *pendulum*. Its stolons are thicker than those of var. *pendulum*. These plants can be found growing as epiphytes in Ecuador (white petals) and Peru (blue petals) up to about 500m altitude.



'Happy Brom New Year'
by Coral McAteer



Tillandsia tenuifolia
grown by Helen Clewett

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.

Ed: Plants affected by crown rot often smell very foul alerting one to the issue, by this time it is generally too late, the damage is already done. Another tell tale sign is the centre leaves have often discoloured and will lift out of the plant with ease and give off that foul smell.

However Neoregelia often give off a foul smell after flowering which is generally caused by dead, rotting petals. Either keep the water level low by allowing the plant to dry out a bit or remove the spent inflorescence by cutting it deep down in the well or twisting it until it breaks off, then flush the tank with fresh water.

Plain Green Plants That Get Colour When They Flower

Many Neoregelia have plain green foliage prior to anthesis (flowering).

Inner Leaf Colour by John Catlan

The centre of many Neoregelias produces a flush of colour that begins with the initiation of flowering and extends beyond the floral bract leaves. The colour ranges from whatever the imagination can conceive.

With some the colour fades rapidly, whilst with others, the colour lasts for twelve months, although in a lesser state of brilliance. Bright light causes premature fading. Some Neoregelia have no apparent change but often there is a slight brilliance of colour.

Pumice Stone Planters

by Morris Henry Hobbs

Reprinted from: The Bromeliad Society Bulletin, 1953, Vol. 3, No. 6.

Here is a novel and interesting way to show your smaller bromeliads. Single plants or groups can be planted in the easily prepared stone. The stone planter can then be placed in a shallow dish, such as is used for a dish garden, and watered from below. The pumice rock is extremely absorbent and will hold more than its own weight of water. To the best of my knowledge, this stone has no alkaline effect on plants that are planted in it.

Pumice stone is available in many paint stores throughout the country. In the Pacific northwest, it can be found in some of the mountain streams.

The stone is usually irregular in shape and the first step is to saw it into two pieces, each of which will then have a flat side, which will be the base of the planter.

See Fig. 1.

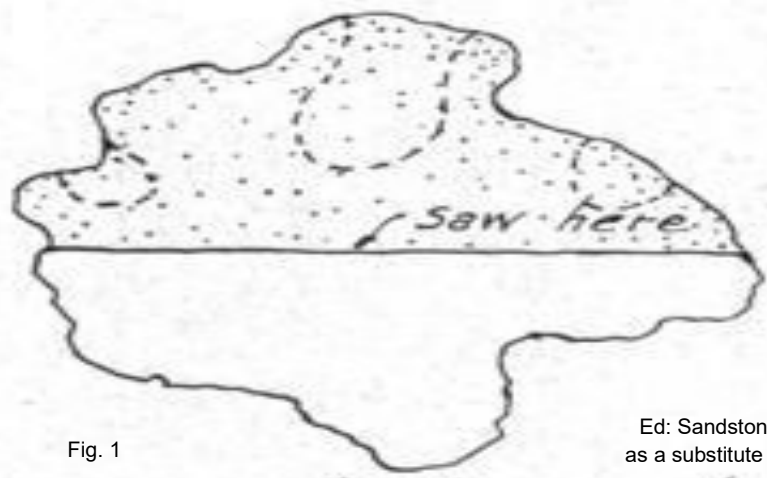
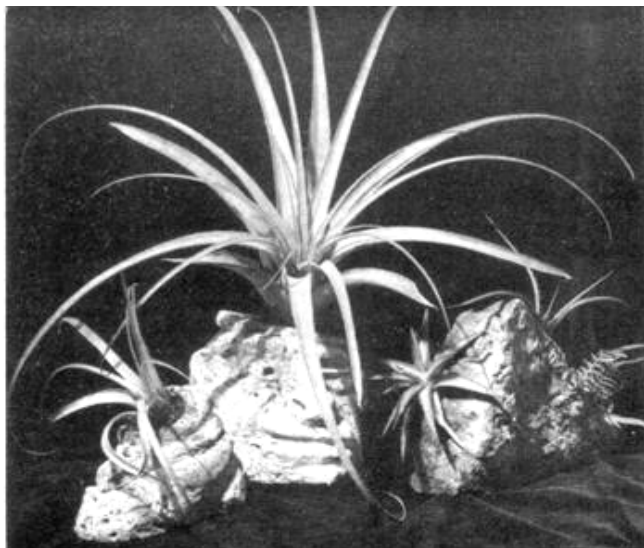


Fig. 1

Ed: Sandstone could be used as a substitute for pumice stone.

Then with a small woodcarving gauge or chisel, dig out the stone in either one or several places, these holes to be filled later with potting medium for the plants. See Fig. 2. (Ed: due to Fire Ant issues glue plants in position, no potting medium)

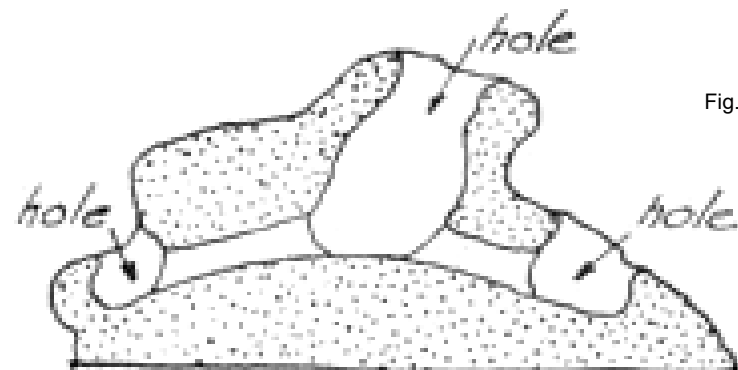


Fig. 2

In the case of several planting holes, it is well to connect them below the surface of the stone, so water will flow freely throughout the planter.

Fig. 3 shows a completed stone filled with plants.



Fig. 3

If you have a talent for whittling, you will find that small heads, animals etc. may be easily carved out of a piece of this material. The writer has carved a number of blocks of pumice into heads, some with the top of the head cut out for the plant, others with the open mouth available for planting. The three pumice stone planters shown in the cut are good examples of the possibilities inherent in the use of this material for the display of *Dyckias*, the smaller varieties of *Billbergia*, all of the *Cryptanthus* species, and some of the *Tillandsias*. A small cluster of *Tillandsia ionantha* has been growing continuously in a tiny carved pumice head for over two years, yet the planting hole is hardly larger than a good sized thimble.

Open Popular Vote

1st	Helen Clewett	<i>Aechmea fasciata</i> albomarginata
1st	Shane Fitzgerald	<i>Aechmea chantinii</i> (variegated)
2nd	Michelle Hartwell	Vriesea hybrid unreg.
3rd	Keryn Simpson	<i>Neoregelia</i> 'Atomic Blast'

Tillandsioideae

1st	Gary McAteer	<i>Tillandsia capitata</i>
1st	Shane Fitzgerald	<i>Catopsis</i> 'Emily'
2nd	Helen Clewett	<i>Tillandsia tenuifolia</i>
3rd	Keryn Simpson	<i>Tillandsia</i> 'Redken'

Decorative

1st	Keryn Simpson	'Lets Have a Cracker 2024'
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Judges Choice

1st	Shane Fitzgerald	<i>Aechmea chantinii</i> (variegated)
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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.

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.