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

Edition: February 2022

Agenda: General Discussion

Venue: PineGrove Bromeliad Nursery
114 Pine Street Wardell 2477

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Study Group meets the third Thursday of each month

Next meeting March 17th 2022 at 11 a.m.

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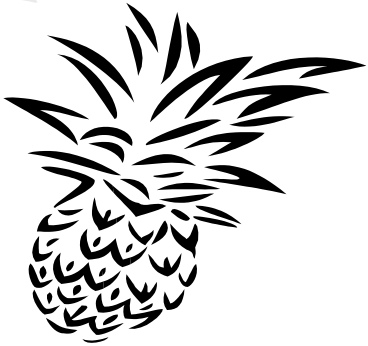

Meeting 20th January 2022

The meeting was opened at approximately 11.00 am
The 11 members present were welcomed.
Two apologies were received.

General Business

There was only one Newsletter in the mail box this month which will be added into the library for borrowing. For anyone interested in reading older Newsletters from other Groups and Societies you can access many of these through the Bromeliads in Australia (BinA) web site at: http://bromeliad.org.au/
Go to Club News where there is a list of 12 Groups whose Newsletters you can access, some with a Contents Index to help make your research easier.

My computer crash took its toll on getting our January Newsletter completed on time, fortunately I didn't lose too much info from it, mainly e-mail info. A new hard drive has been installed, all my lost programs have been reinstalled and I'm up and running again. I have strict instructions that next time a big blue screen pops up and asks me to do a 'restart', don't touch it, take it to computer Tim to fix it because it did a 'reset' instead and wiped everything off it. Lesson learnt. So my apologies were offered for not having our Newsletter ready on time, I think it's only happened once or twice in the 11 years I've been doing this.

Show, Tell and Ask!

Mitch mentioned about the strong winds and a few other problems he's been experiencing lately and how the wind was blowing his flowering Alcantareas over so he resorted to staking them up. A suggestion was "if it blows over leave it over until the wind stops blowing". Also we've been getting a lot of steady rain over the last couple of months, add in the wind blowing weed seed everywhere and we're going to have a big job ahead weeding pots and gardens again. That's a bit of a constant anyway but the recent wind and rain isn't helping us to get on top of the situation. Another issue this season is that constant rain has plants growing soft, so on a rare day when we see the sun it's generally quite harsh and bleaches those soft leaves.

Kayelene wondered about a black leaf in the centre of her *Vriesea hieroglyphica.* A response given was to tug gently on the leaf, if it comes away and is black where it breaks away and it smells, it's possibly got crown rot. Tip its water out, put cinnamon powder in its centre and allow to dry for a few days. Improve the air flow around the plant, it possibly needs to be in a brighter light situation. For cause think back several months for adverse weather conditions, heat/cold/wet.

Keryn asked what is the difference between *Alcantarea extensa* and *Alcantarea* 'Raymond Golden Brown'. A plant growing in Australian collections for many years that grows to around 1 mtr across and has purplish brown blackish leaf ends was referred to as *Alcantarea extensa.* This was mainly due to the limited knowledge and descriptions available of Alcantarea at the time. When a plant of this description flowered for Peter Franklin of Raymond Terrace (Hunter Valley, Newcastle NSW), being of a curios nature, Peter tried to fit his plant to the keys available at the time in the Smith and Downs Monograph. His plant didn't quite fit these botanical keys, so what is the next best thing to do to be able to keep track of this plant, give it a cultivar name e.g. 'Raymond Golden Brown' due to its golden brown petals.

From the BCR: "Has some links to *Alc. extensa* but has leaves short, broad, and rounded; blades scurfy and banded all over with blackish leaf tips; inflorescence branches straight; petals golden brown, 100-110mm long; PAF0975; plant obtained from Bill Morris, NSW, AU, but uncertain if seed originally came from Adda Abendroth in Brazil in the 1960's

Alcantarea 'Raymond Golden Brown' (aka PAF 0975) by P. Franklin 11/2006 Similar to *Alc. extensa* except for:- leaves short, broad and rounded (not **ligulate** and **acute**). Blades **scurfy** and banded all over (not smooth and **glabrous**). Blackish leaf tips (not known in extensa). Inflorescence branches straight (not **geniculate**). Petals golden/brown (not known in extensa). Petals 100-110mm long (80mm in extensa)".

Keryn commented about some marks she gets on some of her plants that at first glance appears as though the leaf is burnt or has some dirt on it, but on closer inspection the mark wipes off. She was offered the following answer:
At times a green slime appears in the water storage centre of our bromeliads. This algae can be hosed out, if it is left upon the leaves and allowed to dry out it will appear like thin tissue paper. It will need to be wet to be removed and sometimes a soft cloth will be needed to remove it all. It does not harm the plant but when it is thick it can stop the colour development in that part of the plant.

Dave asked about fertilising and getting the best results, he was referred to an article written by Chris Larson "A Matter of Energy" reprinted here in part. For the full article refer FNCBSG NSW Newsletters September and October 2013.

"As with others, my growing conditions are unique to me – it is conditional on my local climate and how I set up my collection, so therefore will not be identical to any other grower. Even growers in your region, though they will mostly have very similar conditions, will never have the same conditions.

Another commonly misunderstood concept with growing bromeliads is the

conversation about feeding bromeliads. Working as a retail nurseryman, I have long conversations with customers unable to get around the concept of using fertilizers. However with 30 years of growing bromeliads and seeing others in the bromeliad world's collections, and spending the last 10 years working with the commercial production of bromeliads (longer specifically with tillandsias), I have come to the conclusion that many amateurs underestimate the importance of food. When I think of plant food the primary thing that I have control over is the amount of light that the plant receives. I would like, foremost, to control both light and carbon dioxide, but without a technical setup that is difficult to provide in my circumstances I cannot control the CO2. But the idea that light is probably the most important plant food, is something we should all look at more seriously. In this respect, optimally, we should grow our plants in the lightest position which doesn't stress or burn the leaves. This doesn't mean up against a house facing west where it is in heavy shade for the first four hours of the day, medium shade for another two, then very strong light for the last half. A commercial nursery judges good light, as bright light for as close as possible to all day. This is often very hard to achieve within the confines of a suburban block. It is important form at stressful times, to position your plants with regard to those you want to prioritize access to light. There may be those that will lose colour or grow in poor shape that you want in prime light positions, but some plants will grow very slowly unless given access to good light.

Once you have addressed the light issue, then it is time to assess the issue of how to feed and how much food to apply. Food should always be applied in relation to available light and the nature of the plant. Too much food for the available light will result in longer leaves, sometimes poor colour, and a poorly shaped plant. One lady I spoke to recently said that she fed her *Aechmea blanchetiana*, after which it lost its colour – so she stopped feeding all of her bromeliads. After this she had a couple of plants which flowered well, then died. When I explained that this can happen to plants when they use a large amount of their available energy/resources in producing flowers and seeds, leaving too little to produce pups, she was surprised. There is a happy balance of feeding plants with a balanced fertilizer, where the rate of fertilization does not detract from the shape and colour of the plant. The lady then suggested using Seasol, to which I pointed out that Seasol is not a balanced fertilizer, and that when she chose a fertilizer she should look to someone in her area that knows about these things – either a professional nurseryman or an experienced grower should be able to advise what she should use. Both commercially available liquid and controlled release fertilizers can be used on bromeliads with good results. Even coloured foliage plants such as Neoregelias will grow faster and with more vigour if fed at least a little in their early stages, and if it is done properly they will

be magnificent plants. Care should be taken to ensure that Neoregelias have little food left when coming into flower to attain maximum colour. Vrieseas and Aechmeas will have superior flower spikes if well fed – so most growers of show bench plants have fed them well. To produce good plants which look like the ones on the show bench, or in the books, it is necessary to observe and take care of your plants. Most importantly make sure the plant is fed when it's expending energy on flowers, and if you want them to pup well, fertilize them after flowering**"**.

The issue of a fine matted cobweb type matter often encountered around the base of mounted Tillandsias and occasionally in coarse bark type potting mixes was raised by Dave. He said there appears to be a grub in it and he wanted to know what he could treat it with that's not harmful to Tillandsias. This has been an issue for growers over many years with limited results however Greg Jones seems to have found a solution worth trying:

From Greg Jones: **"**I was plagued by them for more than 10 years, where do they originate? Did someone bring them into the country with a Bromeliad shipment or are they a native? They seem content to eat mainly dead and dying plant material but will eat growing plant material as well. They are active in the potting mix and dead and dying leaf axils also old flower spikes seem particularly attractive to the caterpillars and are indicated by a fine web and dried droppings. They take a long time to grow and pupate before becoming a small moth that is very elusive and hard to catch. I have seen them on most Bromeliads especially Neoregelias, Pineapples and of course Tillandsias.

I looked everywhere I could think of on the internet but the closest match I could come up with is the Sod Webworm, a lawn pest which I am sure they are related to. I was desperate to get rid of them and used Bifenthrin a contact residual killer for lawn grubs. This treatment worked so well I have nothing to take photos of, so someone else will have to supply them. Just be aware that their webs take a long time to disintegrate leading to the thought the treatment has not worked so you have to find some of the dead and dying grubs to be sure**"**.

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Congratulations

to

Derek and Margaret Butcher

on being recognised in the

Australia Day Awards for 2022.

They were both awarded the

Order of Australia Medal (OAM)

for service to bromeliad horticulture.

Sincoraea sp.
= 1st Open also Judges Choice
Mitch Jones

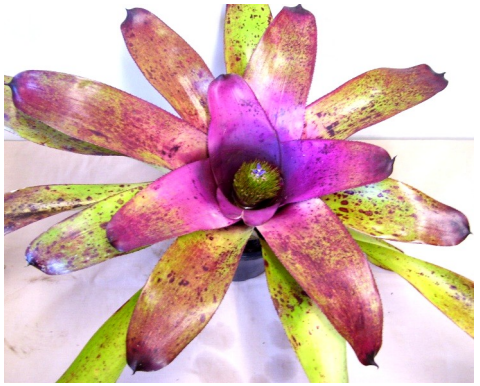
Aechmea fasciata
= 1st Open Helen Clewett

'Hotter Than Red Peppers'
1st Decorative Dave Boudier

Tillandsia leiboldiana
1st Tillandsioideae Dave Boudier

'Shells and Things'
shown by Helen Clewett

'Xeroscape'
shown by Mitch Jones

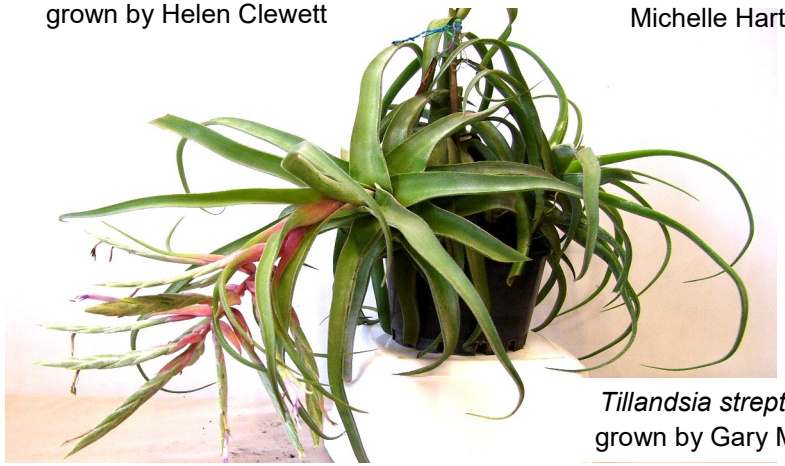


Neoregelia hybrid unknown
grown by Dave Boudier

Neoregelia 'Canefire'
grown by Kayelene Guthrie

Tillandsia 'Corella'
grown by Helen Clewett

Billbergia 'Kolan Flashback' unreg.
grown by
Michelle Hartwell



Tillandsia streptophylla
grown by Gary McAteer

Photos by: Ross Little

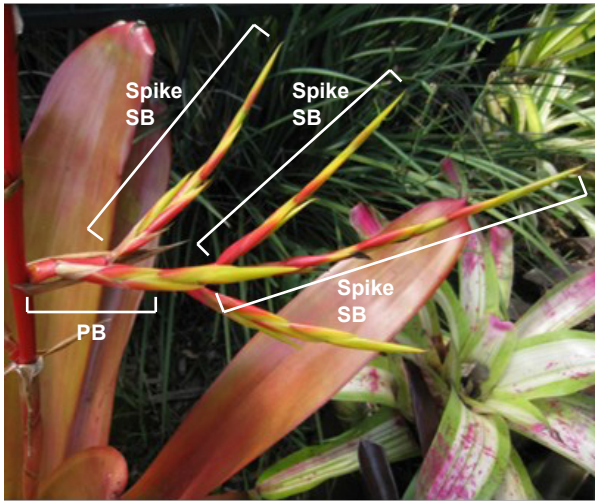
An Aechmea Comparison

by Paul Turvey

Aechmea blanchetiana **vs** *Aechmea eurycorymbus*

Based on the species descriptions in Smith & Downs, 1979, the inflorescences of the two species are outwardly somewhat similar, but there are some major differences in the branching, flower spikes and floral bracts.

Branching: **PB** = primary branch, **SB** = secondary branch, **TB** = tertiary branch.

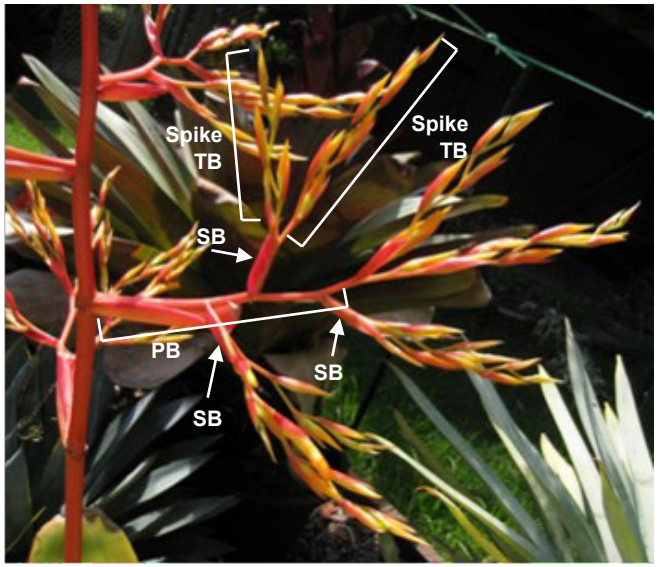


Aechmea blanchetiana

Lower branches:
PB short
Flowering on SB

Flowering spikes:
On SB
Long
Many flowers

All photos this article by Paul Turvey



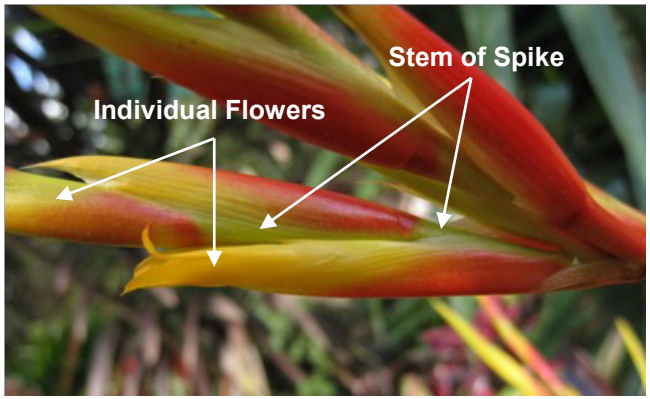
Aechmea eurycorymbus

Lower branches:
PB long
SB sterile
Flowering on TB

Flowering spikes:
On TB
Short
Few flowers

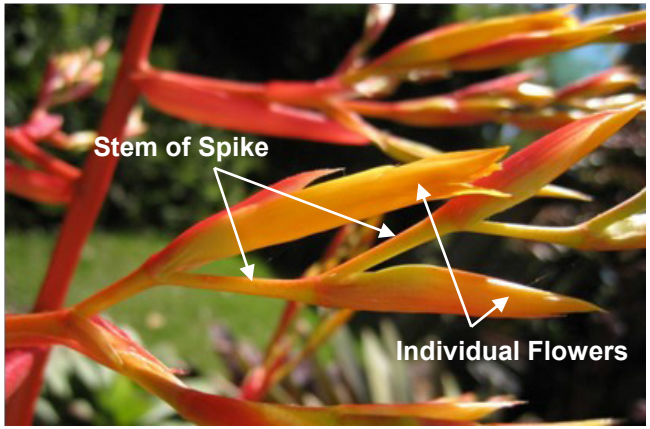
Aechmea blanchetiana

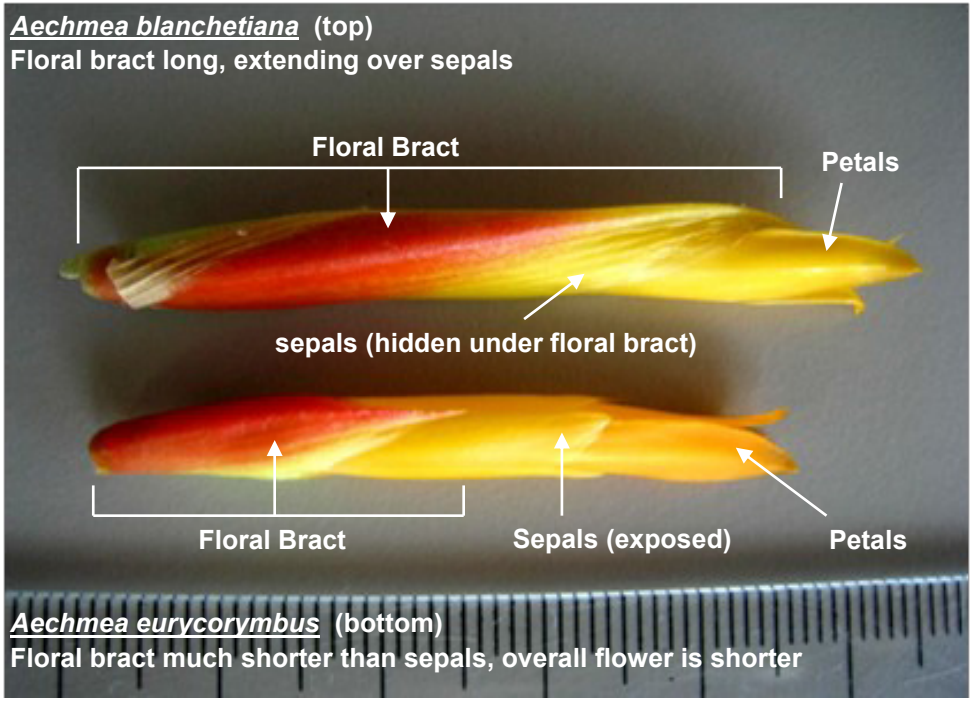
Stem of spike (rachis):
more-or-less straight



Aechmea eurycorymbus

Stem of spike (rachis):
strongly flexuous
(zig-zagged)





Aechmea blanchetiana (Baker) L. B. Smith, 1955.

Notes compiled by Ross Little

Type. Blanchet s n (holotype, BM), Bahia, Brazil.

Aechmea blanchetiana grows as a terrestrial in coastal scrub (restinga), Bahia, Brazil, the plants flower up to 2 metres high with a laxly tripinnate inflorescence. This is a large plant requiring plenty of space in the garden to allow it to spread, its pups are produced on short stolons and it forms striking clumps when all are in full bloom. This is definitely a plant for a full, all day sun position, its foliage can vary from light green to a vibrant golden shade to bright orange that really does glow in the sun. Being a terrestrial, they prefer a free draining substrate and not planted too deep, stake if necessary, keep water in their central wells until they become established, then for best colour leave them to the elements.

There is also a red foliage form, *Aechmea* 'Wally Berg' which struggles here at PineGrove in our summer sun so we tend to keep this one a little more protected in summer. From the BCR: "This Brazilian clone was wild collected in July 1997, north of Puerto Seguro, Bahia by U.S. collectors Wally Berg & John Anderson. Tagged as BAB140 and identified as *Ae. blanchetiana* by Harry. Luther. Smaller and more intense red leafed than type, even if grown in shade. Self-set seed breeds true to form, seedlings start off yellow/green but redden considerably as they reach maturity".

Aechmea blanchetiana has been in cultivation for around 180 years, it is a very hardy species well suited to landscaping. It has been used as a parent in many hybrids, be it deliberate pollination or just opportunistic seed gatherer growing. To date there are 20 registered hybrid and cultivar results on the BCR and only four for *Aechmea eurycorymbus*. Be responsible and register your hybrids.

Aechmea blanchetiana: photo by Ross Little

Aechmea eurycorymbus Harms, Notizbl. Bot. Gart. Berlin-Dahlem 1935

Type: Pernambuco, east of Floresta, Serra Negra, ca. 1,000 m elev, Mar. 1932, E. Werdermann 2931.

Aechmea eurycorymbus grows both as a terrestrial and as an epiphyte but does seem to have a preference for terrestrial growth. It is found growing at 300-1000 metres elevation in Pernambuco, north eastern Brazil. It is a large plant with green foliage growing to over 2 metres high when in flower. The inflorescence is laxly paniculate, broadly pyramidal, 4-pinnate from the base to the middle and tripinnate near the apex, distinctly exceeding the leaves, erect, 40-55 cm long, 27-30 cm in diameter at base, rachis stout, ca. 10 mm in diameter near the base, ca. 3 mm in diameter near the apex, nearly straight, glabrous, red.

In our gardens at PineGrove it seems to prefer a slightly shaded position to dappled bright light, it doesn't seem to like full, all day sun which tends to bleach its foliage.

***Aechmea blanchetiana 'Rubra'* x ? self ca 2003** by Rob Smythe

Please anyone who has picked up a seedling of *Ae. blanchetiana* 'Rubra' x ? self from me when passing through Townsville read on and make the suggested change to the name. Let us try to nip one future piece of confusion in the bud. I have already published an article on this topic stating the various forms appearing from this seed imported from the USA. Unfortunately the parent is a hybrid. Fortunately I have taken the advice of Derek Butcher who found the seed for me which was to keep the seedlings with bromeliad growers. Fortunately again I knocked back various offers from commercial nurseries wanting all these magnificent landscaping plants.

I would suggest you rename them *Aechmea* 'Forest Fire' x ? for the time being. *Aech.* 'Forest Fire' has never reached our shores as far as I am aware but it seems to have been spawned in the garden of the late Wally Berg in Florida where he blamed humming birds but guessed the parentage to be *Aech. blanchetiana* and *Aech. eurycorymbus* (yet another species in this complex!!) If you intend registering any of these plants I would like to vet the photo to be sure we are not doubling up. I kept 50 plants and about 6 flowered this year. They are all different. Some key out as *Aech. blanchetiana* others as *Aech. rubens* but none fit the description of either parent. From my study of all the flowers I feel sure of the *Aech. blanchetiana* and confident another ancestor is *Aech. mulfordii* or a hybrid of the same. I don't want to get too technical but the fasciculate nature of spikes on some clones seems to be a giveaway for *Aech. mulfordii* being in the breeding but none show the long flower bracts of *Aech. mulfordii*. Many features and the history, later, confirm *Aech. blanchetiana* as a parent. So you say what about the *Aech. rubens* as per the botanical key? Some of the plants look shorter when fairly mature but I have not flowered these yet, I am not suspecting *Aech. rubens* in the genealogy but have to reserve my opinion on this. Though this feature with the key might suggest *Aech. rubens* as a part parent it is not conclusive as some hybrids of *Aech. blanchetiana* and *Aech. mulfordii* would also be expected to key out as *Aech rubens.* I'm getting too deep but I can produce reasons for and against either of these in the parentage but I am sure of *Aech. blanchetiana*. I would have to know dominance recessiveness characteristics of bract lengths etc. to be more definite.

So what do we know about this parent plant *Aechmea* 'Forest Fire' alias *Aech. blanchetiana* 'Rubra' itself ?

1) It is at least an F1 cross. Selfing: spawning a range of different plants.

2) It should never have been called *Ae. blanchetiana* but *Ae. blanchetiana* x ? Unfortunately the X is easily lost.

3) It has definite *Aech. blanchetiana* parentage; seeded on this plant.

4) From what the owner has told me it is almost definitely an *Aech. blanchetiana* x *Aech*. 'Peaches 'N Cream'. Both possible parents in flower at the same time and plant is intermediate between these two parents.

5) The parent *Aech. blanchetiana* is the bronze leafed form and not the green form available in USA or the red leafed form more recently discovered in Brazil.

6) What a tangled web we weave!

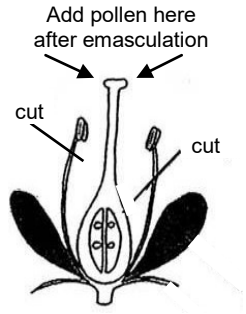
The person that supplied the seed does have a red leaf form of *Ae. blanchetiana* but it has never flowered so there is no confusion there.

In summary to this point I think we can say with some confidence.

The plant known to us as *Aech. blanchetiana* 'Rubra' is now called *Aech*. 'Forest Fire' and is now said to be a cross between *Aech. blanchetiana* and *Aech*. 'Peaches 'N Cream'. The plants I have reared in Australia should have their labels changed from *Aech. blanchetiana* 'Rubra' x ? to *Aech*. 'Forest Fire' x ? for the time being.

Ed: This article has been reprinted here to show some of the issues that can arise when accepting seed from various sources other than ones own collection. Seed obtained from seed banks is supplied to the bank by growers/collectors, how sure is the bank that the seed supplied is 100% true to type, the bank can only name the seed as supplied. Always add "??" after the name on your label until flowering has occurred and proper identification is made.

Quite often seed is garden collected, when sitting in the garden one can observe the birds flitting from flower to flower to flower of many different species and or hybrids, pollinating as they go. Therefore the father of any resultant seed can't be assured.



To be assured your seed is 100% you must do a controlled pollination. That is, place both the 'to be' seed mother and the 'to be' pollen donor father plants in an enclosed secure room. When you are ready to do the pollination remove/cut the anthers from the to be seed parent 'mother to be' plant to avoid any accidental pollination. Not all bromeliads self pollinate, just to be on the safe side this is a good practice to follow, emasculate them before they dehisce.

This is also a good practice when hybridising to be assured the pollen you are adding to your chosen mother plant is the father of any resultant seed and not some foreign pollen. Covering the flowers also helps keep foreigners out.

Root Rot and Heart Rot

by Peter Paroz

Bromeliads are not subject to many pests and diseases but heart rot and root rot can cause considerable losses. These two conditions are caused by the same organism, *Phtytophthora cinnamomi*, depending on the origin of the attack. This organism is a fungus with swimming spores which thrive in oxygen deficient conditions. The spores have a long survival time estimated at 12-15 years! It is highly invasive particularly when some form of mechanical damage has occurred. The mode of dispersal is not known but contaminated surface water is a possibility; and rain water has been suspected.

This fungus is a normal inhabitant of some soils, particularly those which are waterlogged, or otherwise have oxygen deficient conditions. In a normal well aerated soil (or compost), any *phtytophthora* is kept in check by a parasitic fungus, Trichoderma. Trichoderma thrives only under well aerated conditions, so that any tendency to water-logging or compost break down, kills off the natural enemy of *phtytophthora* and allows its proliferation. This can lead to root rot and its associated problems. Any transfer of this material into the crown of another plant may lead to invasion of the white tissue and subsequent top rot.

The organism is widely spread in soils where it has caused appreciable losses in avocado plantations attacking the roots. It is also reported as a problem in durian, oak, cotton and cacao trees and numerous ornamental shrubs in other parts of the world, and is a problem in Queensland pineapple fields. I have a copy of a newspaper article from the 1890's which describes in recognisable detail crown rot in pineapples at Nundah. The fungus gets its specific name from the cinnamon tree. The organism, previously unnamed, was identified as the cause of substantial losses in cinnamon tree plantations in Java about 1915.

Bromeliads infected by heart rot may not show obvious symptoms until the problem is well advanced. A quick test 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. This is not to be confused with fertilizer burn which usually appears as a scorched line or spot on the leaf with sound tissue below the burn area. However, fertilizer burn might provide the means of entry into the tissue by the fungus.

The pineapple industry has developed a simple 'baiting' test for detecting *phtytophthora* in soil and water, and is suitable for screening potting mixtures. The procedure depends on the ready attack by the organism on the white tissue at the base of a bromeliad leaf. The original test used a young leaf from a pineapple top; but 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.

For soil or potting mixture, boil and cool some water. Place 3 or 4 teaspoons of soil or potting mixture in the bottom of a glass jar and gently pour in the boiled and cooled water without stirring; and set the leaf so that the tissue is 30-35 mm above the soil. Incubate as above.

These fungicides have been used in the local pineapple industry: Difolitan, Captan and Ridomil (Fongarid). Aliette is a recommendation from the WWW. A local development is Phosforpine which is a phosphorous acid preparation neutralized to pH 5.7. This compound appears to act by inhibiting germination of the spores. These preparations may not be available for non-commercial use. Bromeliad plants which are infected with heart rot can sometimes be saved if the invasion is not too advanced. The best procedure is to remove as much of the affected tissue as possible back to white tissue. Treat with fungicide and allow the damaged tissue to dry and callous over. A serviceable fungicide for this purpose can be made from two parts slaked lime (calcium hydroxide not agricultural lime) and one part sulphur.

The heart rot problems of 2007 that I am aware of seem to be associated with the use of chemical sprays; one for mosquito control and the other for scale control. A possible explanation is that the chemical was too strong and caused damage to the meristem - the growing point of the plant, allowing invasion by the fungus.

Root rot from this organism is an indication of a poor quality or broken down potting mixture which has become anaerobic. The best response here is to remove the plant from the pot and trim off all dead roots. Check the basal stem to see if the infection has proceeded. Carefully trim off any rotted areas back to sound tissue. Dust the cut surfaces with fungicide and allow to dry. If you have caught the problem in time, you may get some new roots, or have to rely on offset development.

Sterilise any implements used to trim infected plants with boiling water to avoid contaminating other plants.

We hope this article helps answer Kayelene’s black leaf query.

Reprinted from: The Bromeliad Society of Queensland Journal:
Bromeliaceae Vol. XLI - No.4 - July/August 2007

Open Popular Vote

=1st	Helen Clewett	*Aechmea fasciata*
=1st	Mitch Jones	*Sincoraea* sp.
=2nd	Dave Boudier	*Neoregelia* hybrid unknown
=2nd	Michelle Hartwell	*Billbergia* 'Kolan Flashback' unreg.
3rd	Kayelene Guthrie	*Neoregelia* 'Canefire'

Tillandsioideae

1st	Dave Boudier	*Tillandsia leiboldiana*
=2nd	Helen Clewett	*Tillandsia* 'Corella'
=2nd	Gary McAteer	*Tillandsia streptophylla*

Decorative

1st	Dave Boudier	'Hotter Than Red Peppers'

Judges Choice

1st	Mitch Jones	*Sincoraea* sp.

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 : 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.