

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

Edition: June 2023

Agenda: General Discussion

Venue: PineGrove Bromeliad Nursery  
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Phone (02) 6683 4188

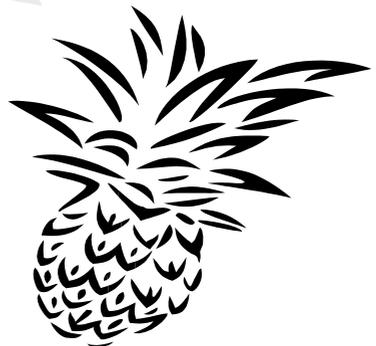
Study Group meets the third Thursday of each month  
Next meeting July 20th 2023 at 11 a.m.

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## Meeting 18th May 2023

The meeting was opened at approximately 11.00 am  
The 12 members and 2 visitors present were welcomed.  
Two apologies were received.

### General Business

Two visitors Shirley and Jayne were welcomed to our meeting, hopefully we entertained them enough on the day to encourage them to come along and join us again.

Ross reviewed the Newsletter especially the notes and photos regarding the Australasian Bromeliad Conference held in New Zealand in March 2023. The main emphasis of the discussion was to encourage our Group members to attend a Conference. The next Conference is yet to be announced, start saving!

We also reviewed the parts of a flower regarding pollen transfer and the basic fundamentals of hybridizing, where the pollen is transferred from and to, using an Alcantarea flower as a hands on example. Most importantly we discussed:

#### **What Makes a Bromeliad a Bromeliad ?**

Answer: the flower, all Bromeliad flowers have three (3) petals, three (3) sepals, six (6) stamens and one (1) pistil, most have one single growing point but not all.

### Show, Tell and Ask!

Coral brought along a plant she had acquired from Ross many years ago, it was an Alan Ladd hybrid of *Neoregelia* 'Scarlet Charlotte' x 'Medusa' (Deroose) with piping / fluting / corrugations along the leaves. It is thought that *Aechmea fasciata* may be involved in the parentage somewhere way back in the history of Deroose' 'Medusa'. Evidence of this is in two crosses made at the same time with different seed parents, 'Medusa' being the common pollen donor giving both hybrids produced, leaf piping and a compound inflorescence (branching).

In part from: **What is a Mule?** by Derek Butcher 2009.

In May 2009 when at PineGrove Nursery in northern New South Wales, I was shown a plant that had *Neoregelia* 'Lila' x *Neoregelia* 'Medusa' on the label with the quaint note that this plant had bigeneric traits – AND it did. There was no intention of the hybridist, Allan Ladd, to register his creation although willing to put plants on to the market. This attitude is prevalent amongst hybridists around the world, not just Australia, but a problem for the Cultivar Registrar. Many times has a discarded hybrid been considered a good plant and grown by many

Bromeliad growers and had to be 'grandfathered' into the system. Anyway, I was called in to adjudicate on a problem plant where the locals considered foreign pollen could well have been involved. The inflorescence was strongly compound. Why was it so? Luckily there was also a N. 'Scarlet Charlotte' x N. 'Medusa' which meant that the common denominator was N. 'Medusa' and luckily there was a plant of this name handy for me to butcher the inflorescence. I must now mention there are two sorts of *Neoregelia* 'Medusa' – one by Hendrix which has spines and one sold by Deroose that does not have spines. The plant was typical *Neoregelia* but the alleged non-spined form. It had the leaf deformity of piping you often see in the spineless *Aechmea fasciata* whose origin is shrouded in mystery, which suggested it was involved somewhere. This called for investigation. First Dennis Cathcart was able to advise that in their experience at Tropiflora this hybrid, when used as a parent, most times produced spineless progeny but never with compound inflorescence. The only real downside was the cracks and piping of the leaves which is exactly the problem with the spineless *Aechmea fasciata*. I suggested the possible involvement of this at bigeneric level to Reginald Deroose and his view was it was highly unlikely because, in his experience, bigenerics had malformed genitalia and could not be easily used in any further hybridising program. He said that they had first obtained the spineless 'Meyendorffii' from Germany from the Orchid people, Gunther Gemmel. Because the Orchid hybrid system is based on greges obtained from the quoting of true parentage I was optimistic in getting some positive reply. Alas, they do not keep records from that long ago. So we are left to conjecture. Was this oddity caused by mutation at seed level, mutation as a mericlone, or just plain sporting, or a hybrid with a compound inflorescence *Neoregelia*, OR WAS it a bigeneric and then backcrossed. Because *Neoregelia* does contain both compound and simple inflorescence species I tried to get some opinion from *Neoregelia* taxonomists. We know that some *Aechmea* species can flower either simple or compound so why not *Neoregelia*. No one was prepared to make a comment.

Clearly *Neoregelia* 'Medusa' (Deroose) has genes that link to piping and entire leaves but where does the compound inflorescence come from.

Because of the typical x*Neomea* inflorescence we are calling:

(*Neoregelia* 'Lila' x *Neoregelia* 'Medusa' ) = x*Neomea* 'Mad Alan' (unreg)

Ed: Alan got cranky / mad at the suggestion *Ae. fasciata* was involved.

(N. 'Scarlet Charlotte' x N. 'Medusa') = x*Neomea* 'Scarlet Ladd' (unreg)

Ed. Seems obvious, but Allan sported a scarlet mohawk at the time.

Hybridist Allan Ladd and named by Ross Little.

Ed. (N. 'Scarlet Charlotte' x N. 'Medusa') = x*Neomea* 'On the Fence' (unreg)  
sometimes has spines, sometimes not, it can't decide.

Ian brought along a large clump of *Goudaea chrysostachys* (previously *Vriesea*) asking about how best to treat it now that it is overgrowing the pot and if we could use it for a practical demonstration. So we attacked it !!

Firstly we removed the old spent 'mother' plants leaving healthy pups only. This allows good airflow throughout the clump. To maintain a nicely balanced looking clump several pups were removed also. Ian was advised it would be best now to re-pot the clump into a larger pot and fertilize it with a foliar feed of Thrive Fruit and Flower or Power Feed and add a slow release fertilizer to the potting mix.

Unfortunately there was no label in Ian's pot to confirm its identity, therefore when it flowers Ian will have to check it against the written description and bring it back in for discussion.

This species was formerly a *Vriesea*, due to DNA studies by W. Till & Barfuss, it was reclassified in 2016 to *Goudaea chrysostachys*, it was named in honor of Eric John Gouda (1957-) from Utrecht, The Netherlands, long-term researcher in Bromeliaceae.

"Pers Comm. H. Luther Feb. 2012 - The smaller plants from Ecuador to Bolivia I call *Vriesea (Goudaea) chrysostachys* var. *stenophylla*. Bracts can be yellow, orange or red; corolla creamy white to pale yellow. Probably not a strong variety, another case of little'uns and big'uns across a big range of territory".

### Saying

#### **Nomina si nescis, perit et cognito rerum -**

"If you don't know the names, your knowledge gets lost". C. Linnaeus, 1737.

Keryn was unsure of a pest problem on her Tillandsias, from her description it sounds like grub poo or fras - the debris or excrement produced by insects. She was referred to the following query and information supplied by Greg Jones in our February 2022 Newsletter page 5.

#### **'Grub' Treatment on Tillandsia:**

"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".

Over the years we have tried soaking affected plants in tubs of diluted Malathion - didn't work. We tried ant dust and cabbage dust neither of these worked but Greg's treatment seems to be working, thank you Greg. Hope this helps Keryn.

It's also that time of year that it is more comfortable (cooler) to be doing garden clean-up, thinning clumps out / dead heading / old plant removal and dead leaf removal. All this is necessary to allow good airflow around your plants. Thinning old plants out also allows the younger plants to grow into well conformed plants.

Whilst conducting this chore it is advised to be checking plants for pests e.g. fly speck scale (little black dots) and mealy bug and grubs e.g. leaf case moth.



Fly Speck scale  
*Gymnaspis aechmeae*



Mealy Bug



Leaf case moth  
in its leaf home.

Kayelene asked - what is scale and how best to treat ? Seriously badly affected plants are best burnt however if this isn't an option because it's a one-off plant in your collection then you will need to treat it with a chemical spray such as Spectrum 200SC or Malathion. Take care with chemicals, read and follow the instructions.

A safer alternative for those who don't like chemical sprays is Rob Smythes: Canola White Oil treatment. (p.6 and 7)



## How to make Canola Oil Spray

compiled by Aaron Smythe

I thought I would simplify my father's "oils ain't oils" document so everyone can understand it more easily with added pictures and corresponding instructions so you can "see" what has to be done.

The measurements below are for a 2ltr bottle. If you have a 4ltr bottle double the measurements and if you have a 1ltr bottle halve the measurements and so on.

Mix in a 2lt jug  
Canola oil 750ml  
3tbsp detergent  
1250ml water

Blend with a stick blender (if you don't have one a whisk would do the job) for about 30 sec (make sure you put a lid partially on top to avoid spillage). See picture 1 ►



Once blended it should all be white. Pour into an empty milk/juice bottle and let it sit for half an hour or so until oil and water have separated as per ◀ picture 2.

At this stage get something pointed and sharp and poke a hole in the bottom of the bottle as per picture 3 ►



Pull out and let the water part on the bottom drain out controlling flow with a tightening or loosening of the lid.

◀ See picture 4



When the water drains off and it gets down to the oil part only, screw the lid on tight.

◀ Picture 5 is of the oil part only left in the bottle.

This mixture makes about 1ltr of white oil. Transfer this to another storage container to use when required. You will find it fairly quickly separates back into oil and water layers. It should be used fairly promptly when fresh. You will find with time that the white oil left behind will stay as an emulsion longer and longer. The message is make big batches and store it. Each time you use it shake it well.

With this white oil you can add vinegar or ammonia.

For a 2ltr spray bottle

add

150ml white oil mixture just made

add

150ml vinegar **OR** ammonia

add

Water to fill the 2ltr spray bottle to the top.

Apply this in the late afternoon when sun is down and then early in the morning before the sun comes up hose the oil off the bromeliads you sprayed. If you have a few bromeliads do one section at a time as you might not have enough time before the sun comes up!!

Don't mix ammonia and vinegar together as one destroys the activity of the other. Remember when plants (Neoregelias) are coloured up use vinegar (actually enhances red colour and cleans calcium deposits off the leaves as well). When plants are in their greener stage use the ammonia. You can use the vinegar spray just to brighten up the plants when expecting brom visitors. The other positive thing is that vinegar prevents mosquitoes, strangely adult larvae don't appear bothered too much, but immature larvae don't survive. Hope this helps and good luck.

Remember scale are active at season changes so they are the times to apply.



*Alcantarea* 'White Star'  
1st Open Mitch Jones



*Billbergia* 'Curly Top'  
1st Judges Choice Keryn Simpson



*Tillandsia bulbosa*  
1st Tillandsioideae Gary McAteer



'Autumn Days' = 1st Decorative Mitch Jones



'A Little Mermaids Shelter'  
= 1st Decorative Coral McAteer



'My Love For Tills Forever'  
by Keryn Simpson



'Broms and Bubbles'  
by Kayelene Guthrie



'The Verandah'  
by Shirley Kay



*Tillandsia brachycaulos x fasciculata* grown by Keryn Simpson. Is this the natural hybrid or is it one of the man made hybrids? This is why keeping records is important especially for plants sold under formula. There have been several remakes using this formula, all slightly different, so knowing who the hybridizer/source was can help with correct identification.

*Tillandsia 'Neerdie'* (M. Paterson) looks a close match, grower/source records need to be checked to confirm.

*Tillandsia krukoffiana* from Mitch Jones grows to around 1.50 mtrs in diameter. Its pyramidal, wine coloured branched inflorescence with blue flowers grows up to 2.50 mtrs tall and can last for many months. It was named to honour Boris Krukoff who found it growing in rich open places at 900 - 1800 mtrs altitude in north western Bolivia in July 1939.

As a juvenile plant it is a very prolific pupper prior to flowering as can be seen on Mitch's plant.



*Vriesea 'Mountain White Magic'* unreg. grown by Michelle Hartwell. The plant was acquired on the 3rd September 2022 from Tamborine Mountain grower Bruce Condon. It is one of his creations hence 'Mountain' in the name.

I've been growing it in my new pergola area which is covered with 70% white shade cloth. By putting a topper (double shade cloth) over the area in February my plants made it through the heat of summer without burning.

A couple of photos from Kayelene that I wasn't able to fit in last month after I asked members to share their garden efforts for the month.

Thank you to those who sent in photos and a short note to go with them.

Kayelene had been busy recently tidying up her ever growing Tillandsia collection. Her "crafty efforts" making good use of wine bottle corks chain hung using hook and eyes to suspend them under a pineapple coat hanger.



*Aechmea 'Little Harv'* is growing nicely on the edge of her patio looking like it's receiving just the right amount of light indicated by its broad silvery leaves with a tinge of colour. Its typical *Ae. chantinii* type inflorescence standing tall which lasts for many months.

## Spiders, Scale or Beneficial Mites

In August 2017 Geoff Lawn was asked by a grower in Western Australia: "I was wondering if you have ever come across a possible pest that almost looks like scale but isn't scale ? I know that sounds strange so will explain in more detail.

Perfectly round pure white things approx. 1.5 - 2mm in size. Feels and almost looks like spider web. I have noticed an abundance of really small spiders that are so small that you wouldn't notice them unless looking for them with a small cream/white patch on the abdomen seem to be always near these white spots.

I did come across an article that I will send to you that says it is a predatory mite and the photo and text of the article sound exactly like what I have.

Whatever it is it doesn't seem to feed on the plants or do any damage at all and can even be found on the edge of pots. They feel flat but when they hatch out it gets a slight raised area and a pin hole sized opening where it has emerged out. I have noticed they are more prolific in the warmer months.

Like I say no damage to plants just doesn't look nice. I did a trial spray with Confidor and while no more spots turned up in that section the sacs still hatched.

They also just wipe off easily or hose off but seem to get into awkward places".

The following is the article sent:

**Weekend Gardener**, issue 179, 2005, Auckland New Zealand

**Q:** Some of my Bromeliads have what look like scale on them, but it's only on the upper surface of the leaves.

**A:** The spots on your sample certainly did resemble scale, but as they were only on the upper surface and there was no sign of young scales I had them checked out at Hort Research. It turns out they are the empty egg sacs of a predatory mite, probably a species of *Anystis*, which are known as whirligig mites. They are a good bug to have in the garden as they hunt down and eat some mites which are plant pests.

If you scrape off the empty egg sacs you'll find there is a pale spot underneath where light hasn't been getting through to the leaf surface, given time that should colour up as chlorophyll returns and photosynthesis becomes active again.



Geoff Lawn: "I hadn't seen this white rounded egg sac around Perth until four months ago when there were a few sacs on several *Neoregelia* 'Hannibal Lector' I bought from a late W.A. Brom. Soc. member's estate. I recognised them from when I visited the Olive Branch Nursery (Brisbane) four years ago and again recently just after the Sunnybroms Conference at Caloundra. I did ask Olive about them but she thought they were harmless egg sacs (which they are) from some insect.

They are easily brushed away or picked off (possibly by birds too if in the open) and never leave a permanent mark (in my experience). I have only ever seen it on *Neoregelias*, never on pots and as you say, more in the warmer months.

The sacs are never clumped but rather well-spaced and I never saw any more than about six sacs per plant, usually easily visible, but there again, I wasn't about to inspect every leaf axil of maybe 50,000 *Neoregelias*!

Confidor is systemic so wouldn't kill the pupae in sacs which are not at the sap-sucking stage -- if they have such a phase (sounds unlikely) .

I googled *Anystis* and it seems they predate on other mite species. I saw also a reference that they were introduced to W.A. from France way back to biologically control agricultural / pastoral mite pests.

Your photo and the article from the New Zealand garden magazine opened my eyes but I'm glad we have nothing to seriously worry about".

Reprinted from FNCBSG Newsletter January 2018 p.4.

## Fly Speck Scale and Others

compiled by Les Higgins

### **Family *Diaspididae* — Hard or Armoured Scale Pests of Bromeliads**

There are many genera of scale insects. Some are easily recognised by a distinct shape or colour. Others are so similar in appearance that identification is ascertained by inverting the scale and examining the insect under the cover.

N.S.W has three armoured scale of major importance infesting bromeliads:

#### **Pineapple scale, *Diaspis bromeliae*:**

Colour varies from greyish white to tan. Size is between 2mm to 3mm diameter. The female is nearly circular in shape and can be seen all over the plant. Males, similar in size to females, are more oblong with three longitudinal ridges on the upper surface. Males are in more sheltered positions low down on the plant. Emergent larvae, dependant on temperature, become adults from about 60 days onwards. There is no seasonal influence and several generations are produced per year.

**Orchid scale or boisduval scale, *Diaspis boisduvalii*:**

Females are circular to oval 1.2mm to 2.25mm in diameter. Colour, white to pale yellow and semi-transparent. When inverted the female is identified by two horns and an apical cleft. Males are oval to elongate in shape, up to 1mm long, with a white cover. Most popular hosts are green-leaf tillandsia, guzmania and vriesea.

**Fly Speck scale, *Gymnaspis aechmeae*:**

Females are shiny purple-black, circular to oval and very convex. Size is about .8mm to 1.3mm in diameter. There are two generations per year and seem most prolific in spring and summer. Live young are the first to emerge from under the female and later eggs are laid. Life expectancy, conditional on temperature, is between 33 to 55 days.

**Also recorded as armoured scale pests of bromeliads:**

**Red scale, *Parlatoria proteus*:**

Females are about 2mm in diameter, moderately convex, colour, dark reddish brown to almost black.

**Latiniae scale, *Hemiberesia lataniae*:**

Females are 1.5mm to 2mm in diameter, very convex. Colour, off white to beige. On top is a brown circle. The wax cover is enclosed overall with a scant, light coloured secretion.

**Tropical Palm scale, *Hemiberesia palmae*:**

Females are circular to oval 1.75mm to 2.25mm, very convex. Straw coloured to tan to dark brown.

**Black Thread scale, *Ischnaspis longirostris*:**

They look very thin thread like, shiny black in colour and 2.0mm to 3.5mm long.

The cover of all hard scales adheres firmly to the insect. The head and thorax are combined. Abdominal segments are fused to form the pygidium. The insect secretes waxy threads from pores on the pygidium and shapes them into a ribbon using the pygidial fringe. The ribbon creates the protective cover above the insect as it walks unendingly in a circle using its rostralis (long thin feeding tube) as a pivot.

Hard scale is described as a piercing and sucking insect although it lacks muscles to suck. The turgid pressure of the host pushes fluid into and through the insect. Without an anus all body waste flushes out from the rostralis and into the plant as a toxic poison. No anus means that no honey dew is produced and therefore hard scale is of no interest to ants. The only insects interested in hard scale are parasites and predators eager to eat them.

Females emerge as tiny six legged crawlers. They moult to first instar to second instar to third instar (adult). At each moult the insect increases in size. At the first moult the legs are lost. Females are wingless and remain sessile at that spot for the remainder of their life span. For about three days after expanding into the adult phase a pheromone permeates the area around the female. This odour attracts a male while the cover is sufficiently raised to facilitate entry.

Males start life identical to females. Mouthparts are lost at the second moult. Each passes through a pre-pupa and pupa stage to emerge as a minute, weak flying two winged insect. Without a mouth-part to provide sustenance life is brief. In less than one day the male must locate a receptive female and impregnate her. Job done, life over !

Larvae wander all over the plant to find a suitable permanent position. During this time they are dominated by light, heat, gravity and plant surface. Their mortality is huge! Larvae dehydrate during a hot day. Air currents disperse larvae and a lucky one could land on a distant bromeliad. Only when the crawler has settled and inserted its rostralis into the plant does it start to produce the hard cover.

The ideal habitat for *Diaspis bromeliae* is cool, moist and shady. The most prolific infestation can be found wherever light penetration is limited. Early experiments suggest a simple way to eliminate *Diaspis bromeliae*. Place infested bromeliads in a 'hotspot', a warm, sunny, north facing position (ensure the pot keeps cool otherwise the roots may get cooked). Unable to survive in about 40°C in bright sunlight all *Diaspis bromeliae* and eggs are dead within a few hours.

Bromeliads are unaffected by the heat that apparently kills Pineapple scale. The successful killing of hard scale in the "hot spot" may be due to UV wavelength in bright sunlight.

Could UV stabilised shade cloth encourage hard scale infestations?

As a Study Group please help with this experiment:

Put infested plants in a warm sheltered position, with maximum bright sunlight for a day or two.

Also scrutinize plants that are growing in an open situation, are they hard scale infested?

Please report your findings to the Group.

## Open Popular Vote

1st	Mitch Jones	<i>Alcantarea</i> 'White Star'
2nd	Kayelene Guthrie	<i>Aechmea</i> 'Little Harv'
2nd	Michelle Hartwell	<i>Vriesea</i> 'Mountain White Magic' unreg.
3rd	Keryn Simpson	<i>Billbergia</i> 'Curly Top'

## Tillandsioideae

1st	Gary McAteer	<i>Tillandsia bulbosa</i>
2nd	Keryn Simpson	<i>Tillandsia brachycaulos</i> x <i>fasciculata</i>
3rd	Mitch Jones	<i>Tillandsia krukoffiana</i>

## Decorative

1st	Mitch Jones	'Autumn Days'
1st	Coral McAteer	'Little Mermaid Shelters by a Shell'

## Judges Choice

1st	Keryn Simpson	<i>Billbergia</i> 'Curly Top'
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### Web Links for Checking Correct Identification and Spelling ?

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

New Bromeliad Taxon List : <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](http://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.