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

Study Group meets the third Thursday of each month

Next meeting September 20th 2018 at 11 a.m.

Venue: PineGrove Bromeliad Nursery

114 Pine Street Wardell 2477

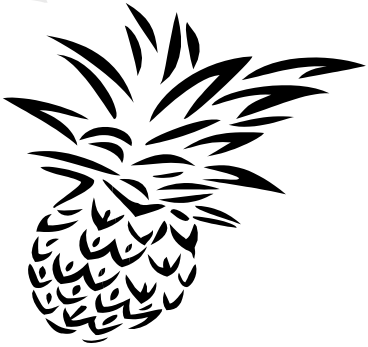
Phone (02) 6683 4188

Discussion: August 2018

General Discussion

Editorial Team:
Ross Little
Helen Clewett
Les Higgins

pinegrovebromeliads@bigpond.com



Meeting 19th July 2018

The meeting was opened at approximately 11.00 am
The 17 members present and one visitor were welcomed.
One apology was received.

General Business

Ross requested help with “History”, our researcher Helen has been delving into Bromeliad history which we will be publishing some of her findings here in our Newsletter. If any of our readers have any Bromeliad history they feel may be of interest to others we would be grateful if the info. is forwarded to the editors.

There was a rather protracted conversation about hybrid multiplicity. There are identical hybrids with different names and hybrids of different appearance sharing the same name. The general opinion seems to be too many hybrids are being produced with too little consideration given for the purchaser regards proper identification. Only keep the most distinctive plants from a seed batch that can easily be distinguished from any others already available and cull the rest.

Information about minerals that create fragrance was requested. Very little is known about mineral combinations to make fragrance/odor. Potassium and Nitrate are essential for flowering potential and both can be taken-up in luxury amounts. Magnesium and Sulphate both in larger amounts than normal would be needed for fragrance production. Among the trace elements Manganese, Boron, Iron, Iodide in that descending order are some of the trace elements that are known to be needed. Copper and zinc are two undesirable trace elements. Study Group members are asked to load expendable plants with diverse minerals at different percentages and record the results. We could make a world first!

Show, Tell and Ask!

Gloria brought in a *Vriesea morrenii* which Ross pounced on quickly wishing to replace one he’d lost many years ago albeit a wrongly identified one which on flowering was identified as being *Vriesea reitzii.* (article p.5)

A plant labeled as ‘Cracker Jack’ was corrected to x*Sincoregelia* ’Firecracker’.
(*Sincoraea navioides* x *Neoregelia* 'Fireball')
When in doubt don’t guess at a name use the BCR or as John did, ask for help.

Ted brought in a stunning Guzmania with yellow leaves/scape bracts rising above its green leaves. Regrettably it had no name and even with a quick web search no positive ID could be assured. (photo p.7)

John introduced a plastic hanging basket with a cleverly contrived self watering system. *Cryptanthus* ‘Jean Nichols’ was growing in the basket, although it was registered as a variegated plant, like most *Crypt*. 'Jean Nichols' it has reverted to *Cryptanthus marginatus*. (photo p.9)

Les attempted to show how to make Magnesium nitrate by mixing Epsom salt (Magnesium sulphate) and Calcium nitrate in water. The elements cross-over making a “milky” liquid, the white substance is Gypsum (Calcium sulphate). As the white substance slowly sinks a clear liquid appears, this is a concentrated solution of Magnesium nitrate.

A small amount of Magnesium nitrate was added to tap water and tested with Bromothymol Blue (2 drops in 5ml), it was found to be pH7.5. Citric Acid was then added to reduce the sample's pH to a suitable acidic level. For Bromeliads the desirable acidity level is between pH5.5 and pH6.5.

Gloria pointed-out that vinegar will also reduce pH. The value of using citric acid is that it assists the natural citric acid released by plant roots to obtain iron from the environment.

Epsom salts gives the plant adequate Magnesium. However, **Magnesium nitrate** forces the plant to take-up the maximum possible amount of Magnesium. Magnesium is an essential element in the chloroplast and Magnesium nitrate results in: A more intense greening. Growth of variegated plants is accelerated. The yellow/cream in variegated plants will not enlarge and the green area may increase. The Nitrate adds to the plants carbohydrate store.

The way Les uses Magnesium nitrate is to dissolve Epson salt and Calcium nitrate in 8 litres of water then add Potassium nitrate with Molybdenum, Manganese, Iron chelates and Boron as Trace elements. Pour 2 litres of this solution into another watering-can containing 6 litres of water, a quick stir and the pH is adjusted. This final dilute nutrient is poured over the plants. The white sediment will wash away in the rain/watering. While the sediment is present Sulphate and Calcium are available. Alternatively decant the clear liquid to use through a fine spray nozzle with or without additional substances.

Chores for the Month

Although the nights are still cold preparations should be made for spring growth.
Are more pots needed?
Net pots are good for epiphytes.
Squat pots for monocots (plants with shallow fibrous rooting systems) such as Bromeliads. Leave the standard pots for dicots (plants with tap roots), monocot root systems don't need the full depth of a standard pot.

Potting mixes will be needed. Cheap commercial products are nothing more than crushed pine bark and sawdust. Premium potting mixes have a range of ingredients including nutrients. However, it is not worthwhile to pay for additional NPK as this is the typical fertiliser applied as liquid. Purchase a mix that comprises several ingredients without nutrient and perhaps modify it. Useful additions to a potting mix can be: Coarse river sand, Perlite, Vermiculite, Zeolite. Make the Air: Water Ratio of a potting mix about 30%.

PineGrove supplies a coarse/free draining mix suitable for most Bromeliads. As with any mix larger chunks of pine bark or styrene chunks can be added to improve drainage. Also it can be adjusted with the addition of your own ingredients to create a greater moisture retentive mix to suit your growing conditions. This includes adding ratios of a quality potting mix, cow manure or coir chunks etc.

Before adding coir to a mix it should be soaked and well washed in a Potassium chloride solution. The reason for this is coir can contain a large quantity of undesirable Sodium. Chloride and Sodium combine to make common salt a substance that is highly soluble and easily washed away. The final wash is in clean water.

Don't add lime to a potting mix, it grabs phosphate to make insoluble Tri-calcium -phosphate. (Sulphuric acid is required to break the triple atom bond). Use Soft-rock-phosphate (Mono-calcium-phosphate) the Calcium has saturated the Phosphate therefore no further reaction occurs. The single atom bonding can be broken by acids released by plant roots.

In a garden situation don't combine lime and Super Phos, within 3 weeks those two will have combined into Hard-rock-phospate (Tri-calcium-phosphate). This explains why there are tonnes of insoluble phosphate degrading our agricultural soils. Use Soft-rock-phosphate.

Plants gradually deplete the soil's Potassium leaving a "hole" that fills with a Hydrogen core. An electron swarm develops within the soil making it "sour". This is traditionally corrected by lime. Soft-rock-phosphate satisfies the plants requirements of both elements. The excess calcium fits the "hole" better than the hydrogen does. The electron swarm is dispersed as hydrogen is replaced by calcium and the soil becomes "sweet".

Growers Comment

Cryptanthus 'Silver Zones' registration declares: pod parent unknown, pollen parent *Crypt. zonatus* Silver. In 1994 *Cryptanthus* 'Silver Zones' was voted as “Outstanding Hybrid Species”.

Vriesea morrenii or green on green on green

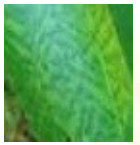
by Derek Butcher 2/2007.

Do not confuse this name with the hybrid ‘Morreniana’! ►

In the late 1980’s Len Colgan imported a *Tillandsia segregata* from Bello’s nursery in Brazil for Peter Tristram and which served its quarantine sentence at Peter’s place. It survived and a few years later Len got an offset to grow on. However, Len decided it would not be easy to grow and the plant went up to northern Queensland never to be heard of again.

This information was not known to me when in August 2000 we acquired a *Vriesea morrenii* from Genny Vauhkonen. Subsequently we have found out that she got her plant from Peter Tristram. How did it get a name change? I can only assume it was because Peter Tristram saw that in 1994 DeRebus I page 29 the succinct note that *Tillandsia segregata* is now *Vriesea morrenii* according to an unpublished Supplement to Flora Neotropica. If you look at Flora Neotropica 1977 page 1141 under *Vriesea morrenii* you find the note “Edmundo Pereira in Rio de Janeiro has living material with wholly naked petals but otherwise indistinguishable from *Vriesea morrenii.* For the present I am regarding this as a reversion to a more primitive state.” You will note that although Smith was aware that Pereira had published in 1971 the name *Tillandsia segregata* was not mentioned! We now know the reason for such statement. More on this later.

Genny commented, “It doesn’t flower often!” If they had problems in this regard near Brisbane where it is sunny everyday and raining everynight, what chance did we have in Adelaide where it is sunny every day and dry everynight. But in Feb. 2007 (7 years later!) our plant decided to flower. It seems to be a plant that produces large vigorous offsets before flowering. When you have a plant that is 1m in diam and flowers to nearly 2m high you need space. Admittedly while you wait for flowering you do have a lovely green leafy plant with dark lines and no prickles on the leaves.



So I was blithely assuming I had a *Vriesea morrenii* ► to butcher. Ever since I retired, I have been on the search for plant descriptions not in Flora Neotropica. This search increased apace when I got access to the Internet and could get detail from little-known published papers. I now have descriptions of virtually all the Bromeliaceae. In the case of *T. segregata* it took a fair bit of fossicking to find that Pereira had described this new

species in Rodriguesia in 1971 and thanks to Dr. Walter Till I got hold of a photo-copy. Translation of the Latin and the Portuguese helped me understand what was going on.

We know that Lyman Smith split *Vriesea* and *Tillandsia* at genus level purely on the basis of petal appendages and yet in this instance he was prepared to forget his own philosophy ! Luckily these days emphasis is less strong on the importance of petal appendages although it is said the presence or absence of these could be used to segregate at species level! As such I believe that we should have *T. segregata* resurrected perhaps as *Vriesea segregata* but leave it up to the Brazilian taxonomists. After all, Pereira in 1971 wrote strongly about the casual decision of Lyman Smith to consider his plant to be a *Vriesea*! As is natural, the Brazilians would follow a Brazilian taxonomist so this is why Len Colgan got his plant as *Tillandsia segregata*!

A copy of a drawing of *T. segregata* is shown here. The plant had been collected in the Organ Mountains in Rio de Janeiro. The description of *T. segregata* says yellow petals, whereas everything else was a variation on green so it must stand out! Alas, we missed the first flowerings with our plant because the petals were dark green. There are a few discrepancies between our plant and the description but nothing to suggest it was another described species. AND I could not find any petal appendages. So there are at least two plants around with this attribute – Pereira 10674 and ours!

Let us now have a quick look at *Vriesea morrenii* which was named in 1880. Alas the herbarium specimen has been lost. In 1889 Baker treated it as *Tillandsia Morreni* with no mention of petal appendages. In 1935 Mez records *Vriesea Morrenii* with two appendages and by Flora Neotropica 1977 these appendages had become ovate! I am currently trying to find the protologue in 1880!! We know that Lyman Smith collected *V. morrenii* in 1952 in the Organ Mountains so the shape of the petal appendages could have come from here. The description is otherwise very similar to that of *T. segregata* except that it mentions irregular transverse dark green lines whereas Pereira says *T. segregata* has longitudinal folds. Our plant has both attributes.

This plant will continue to be grown in Australia if only as a non-prickly foliage plant but don't be disappointed with the greenness of the inflorescence! Reports around Australia from the SAME clone reveal an interesting phenomen about the petal colour. We know that in Adelaide they are totally green but I have proof that in Melbourne at least one flower had totally yellow petals whereas in northern NSW they are yellow with green tips. Dare I ask that if you are growing a plant of this name from a different source you check for little appendages at the bottom of the petals to see if you have a TRUE *Vriesea morrenii*!

Guzmania hybrid
by Ted Devine

Tillandsia neglecta
by Dave Boudier

'Christmas in July'
by Dave Boudier

Billbergia 'Showtime'
by Keryn Simpson

Tillandsia bulbosa
by John Crawford

Tillandsia disticha
by Keryn Simpson

Tillandsia fasciculata
by Coral McAteer

One of several unstable variegates
shown by John Crawford

Photo's supplied by: Ross Little

Neoregelia 'Donna'
1st Open John Crawford

Alcantarea vinicolor
1st Novice Coral McAteer

Tillandsia inopinata
= 1st Tillandsioideae John Crawford

'My Thorny Devil'
1st Decorative Keryn Simpson

Tillandsia neglecta
= 1st Tillandsioideae Helen Clewett

Neoregelia concentrica hybrid
grown by Dave Boudier

Cryptanthus 'Silver Zones'
grown by Les Higgins

'Christmas in July'
shown by Helen Clewett

'Cockatoo Manor'
shown by John Crawford

xSincoregelia 'Firecracker'
shown by John Crawford

Cryptanthus grown in water saver
basket shown by John Crawford

A Little Bromeliad History - Part 1

sourced by Helen Clewett

Some of the earliest illustrations of bromeliads can be found in: **A Voyage to the Islands Madera, Barbados, Nieves, St. Christophers and Jamaica**. The author was physician, traveller and collector Sir Hans Sloane. His collected curiosities became after his death in 1753 the nucleus for the then established British Museum and his herbarium is now in the Natural History Museum. The two volumes of this book were published in London in 1707 and 1725 and are illustrated with 274 drawings of plants, trees and animal


Plate 120

There are two bromeliads in the first volume; the drawings were made after herbarium specimens by Everard Kick and engraved by Michael van der Gucht. On the plates their pre-Linnean names are given, the current names are:

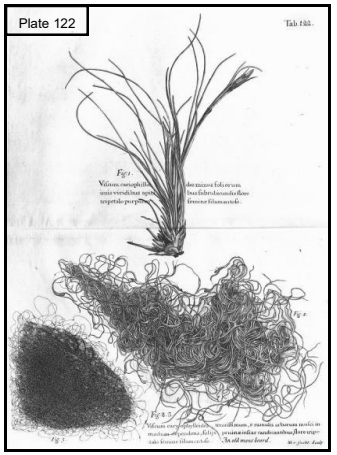
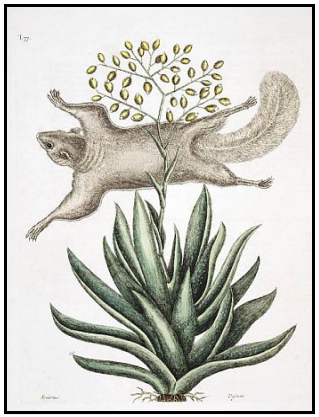


Plate 122

Guzmania lingulata (pl.120) and *Tillandsia setacea* with *Till. usneoides* (pl.122).

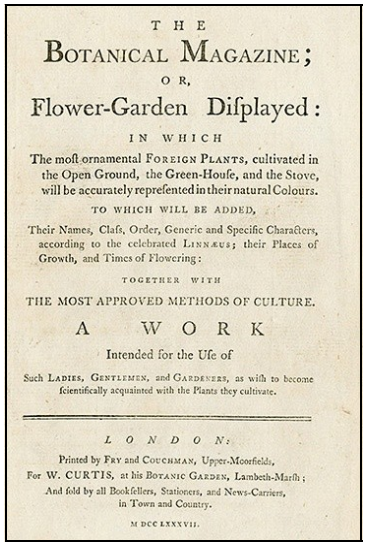
A book written and illustrated (both drawings and copper engravings) by English traveller and naturalist **Mark Catesby** was published in London from 1730-1743, with a second edition revised by George Edwards from 1748-1754.


Catopsis berteroniana

It was titled: **The Natural History of Carolina, Florida and the Bahama Islands**. The original watercolours were purchased by King George III in 1768. The two volumes contained 220 plates of animals and plants, including the bromeliad drawings by Mark Catesby pictured here:


Tillandsia balbisiana

The first magazine on horticulture that would give ample attention to bromeliads was started in England. In the year 1787 it was founded by botanist **William Curtis** and for the first 14 volumes was entitled **The Botanical Magazine**. The text on the titlepage tells us what it is all about: "The Botanical Magazine; or, flower-garden displayed: in which the most ornamental foreign plants, cultivated in the open ground, the greenhouse, and the stove, are accurately represented in their natural colours. To which will be added, their names, class, order, generic and specific characters, according to the celebrated Linnaeus; their places of growth, and times of flowering: together with the most approved methods of culture. A work intended for the use of such ladies, gentlemen, and gardeners, as wish to become scientifically acquainted with the plants they cultivate". Curtis died in 1799 after which John Sims took over as editor, later to be followed by William Jackson Hooker, John Dalton Hooker and William Turner Thistleton-Dyer, all directors of Kew Gardens. The name was changed in **Curtis's Botanical Magazine** and today that magazine is still published (from 1984-1994 it was labeled **Kew Magazine**). It is a publication of the Royal Horticultural Society. Over all the years some 11500 plates were produced, including 122 of bromeliads. About the artists working in the early years for the magazine one can read in an article in the BSI Journal (Read 1986).



THE
BOTANICAL MAGAZINE;
OR,
Flower-Garden Displayed:
IN WHICH
The moſt ornamental FOREIGN PLANTS, cultivated in the Open Ground, the Green-Houſe, and the Stove, will be accurately repreſented in their natural Colours.
TO WHICH WILL BE ADDED,
Their Names, Claſs, Order, Generic and Specific Characters, according to the celebrated LINNÆUS; their Places of Growth, and Times of Flowering:
TOGETHER WITH
THE MOST APPROVED METHODS OF CULTURE.
A WORK
Intended for the Uſe of
Such LADIES, GENTLEMEN, and GARDENERS, as wiſh to become ſcientifically acquainted with the Plants they cultivate.
LONDON:
Printed by FRY and COUCHMAN, Upper-Moorfields,
For W. CURTIS, at his BOTANIC GARDEN, Lambeth-Marſh;
And ſold by all Bookſellers, Stationers, and News-Carriers, in Town and Country.
M DCC LXXXVII.


Pitcairnia bromeliifolia

To make a choice from the illustrations I focused on some bromeliads that were newly described. The first bromeliad illustrated in Curtis's Botanical Magazine was *Pitcairnia bromeliifolia* (plate 824 in vol. 21, 1805). There were three more Pitcairnias to follow before in 1813 a plate was published depicting a member of some other bromeliad genus: *Tillandsia stricta* Solander ex Ker-Gawler, a "frosted stiff-leaved Tillandsia", together with the description of this new species. The drawing for the engraving was made by Sydenham Teast Edwards who a few years later was to start his own magazine. The plant was found by Solander near Rio de Janeiro and first introduced into the European gardens by Lady Neale at Walhampton.

The Swedish botanist Daniel Solander had already died in 1782, but the lengthy description of T. stricta in Latin is from his hand and published by botanist John Gawler, who after a change of name was also known as John Bellenden Ker (in some publications the name of Sims, editor at the time, is mentioned as the publishing author). Solander was an apprentice of Linnaeus and the librarian of Sir Joseph Banks, co-founder of the Royal Horticultural Society in 1804. Together with James Cook, Solander and Banks had made a world trip collecting plants in the years 1768-1771. This was the first Pacific voyage by Cook. Many zoological and botanical collections were made and several artists made watercolours of these discoveries, often during the voyage of the ship Endeavour. They are now at the National History Museum in London. Some bromeliads were illustrated by Sydney Parkinson in 1768 -1769 and are presented here below (courtesy National History Museum). The plants were collected in 1768 during a short stay in Rio de Janeiro.

Tillandsia stricta

Aechmea nudicaulis published as Bromelia bracteata

Aechmea sphaerocephala published as Bromelia Pseudo-Ananas

Tillandsia geminiflora published as Tillandsia argentea

drawings by Sydney Parkinson

Taken from: www.bromtravels.nl/ht/icontext2.html Great Britain

Development of Pest Control

by Les Higgins 2018

In ancient times an angry God sent plagues of pests. Hitting the pests with sticks or crushing them was the only defence (still in use). An alternative was to placate the God with prayer or animal or human sacrifice (useless).

Pest control has gradually developed. Oils and emulsions were the safest and most advanced pesticides available pre-1945. Magazines published various oil recipes that optimistically clamed to overwhelm a pest's respiration system of minute diameter passageways. (Insects have no lungs and therefore don't breathe). Oils mode of action is to smother and It takes many hours to kill a pest.

Oils have considerable disadvantages**:** They clog the stomates causing leaf fall. Not all the pest population is exterminated. Resting eggs are invariably immune. Regular resprays are necessary. With bromeliads there is an additional problem, the beautiful lattice work of the tricomes (scurf) becomes congested.

Oil recipes are occasionally revived. Don't be deceived – OIL IS BAD FOR BROMELIADS. The most effective insect control is chemical penetration of the cuticle of insects and mites to destroy the nervous system.

The insect's nervous system is allied to the cuticle. The primary ganglia (primitive brain) in the head controls the antenna and eyes. A double cord connects from the primary ganglia through the three thorax segments and then continues with a single cord into the abdomen. The locust (grasshopper) has a sub-oesophagus ganglia functioning as mouth control. Ganglia's and nerve networks that are in every section of head, thorax and abdomen are amalgamated.

The ganglia in every individual section must be killed otherwise that section has the potential to continue functioning. A most distressing sight is to see a caterpillar, dead in parts, walking on its pro-legs. This occurs regardless of whether oils or chemicals are used.

World War 2 was anticipated to start where World War 1 finished. The writer went to school carrying a gas mask in a cardboard box. Gas warfare is the foundation of modern agricultural poisons. Only the LD50 of the operator prevents the same fate as inflicted on the pest. The vaporising characteristics of pesticides mandate the wearing of overalls and a gas-mask.

Wettable powder is a plant safe carrier of agricultural chemical poison. Early WP's needed constant agitation in a spray tank. Back-pack spray units had a 3volt battery powered agitator.

E.C (hydrocarbon solvent) holds an increased amount of poison compared to WP and it disperses wholly in water. Malathion WP250 could now be marketed as Malathion EC500. WP's were displaced and their value overlooked.

Many pesticides are low LD50. (The Lethal Dose killing 50% of the test mammals, measured in milligrams to kill kilograms of body weight). Some animal experiments are inaccurate. The early Rogor 40® tested on dogs gave an LD50 of 250. It was presumed that a 50% chance of killing a 70 kilo person is 250 x 70 =17.5 Kg. However, following a murder case (1960's?) it was learnt that human tolerance to the then Rogor 40 is 3mg.

Plant cuticle is a hydrocarbon substance. The advent of the scanning electron microscope revealed an E.C stripped the hydrocarbon wax cuticle. The naked plant becomes subject to sun-burn, increased water needs and has greater visibility to pests. Plants, unlike animals, never repair damage they continue growing or die.

Pesticides can be a stomach poison, a blanket, a systemic, a penetrant. The chemical can mimic the plants cytoplasm to become a growth stimulant or growth suppressant. Before purchasing a pesticide always consider not only price but the active ingredient, its concentration, carrier, LD50 and the host plant.

Use short life poisons of highest LD50. Never use a pesticide if the temperature is approaching or above 30^{O}C the result will be a viral like effect on the host plant. For bromeliads a very suitable insecticide is Congard® *a.i*

The old adage is "Spray when bees are not active". Effective pest control is to spray when pests are feeding. Caterpillars never stop eating. Slugs and snails are most prominent overnight. For locusts (grasshopper) eating bromeliad leaves the time to spray is late evening. Bees are flower foragers, they are active early in the day and retire early. Therefore, in the vicinity of flowers use short life insecticides in late evening.

Australia would cease to be a food exporter if "Greenies" ranting caused pesticides to be banned. However, don't be influenced by the Chemical Manufactures propaganda. In small scale bromeliad culture pest control can be achieved without oils and minimum/no use of chemicals. Diatomaceous Earth kills by contacting insects such as ants, scale (as crawlers), mealy bug and cockroach. Potassium silica (pH12) as a fortnightly folia spray throughout the growing season stiffens the sieve tubes preventing the penetration of insect mouth parts including those of hard scale.

Diseases have been developed as pest control**:** Green mould® for locust control and Dipel® to kill caterpillar.

Biological Control is useless in shade house and glass house culture. Predators need a consistent food supply and that necessitates breeding pests to maintain the predator. Biological Control is advantageous in gardens and orchards.

However, there is a proviso: Pesticides are required to maintain a balance between pest and predator. In fruit orchard culture the technique is to spray selective poison on one quarter of the area to reduce either pest or predator consequently maintaining a balance.

One absolute NO-NO is to dump infested plants and potting mix on the garden or compost heap. Ants will rescue soft scale, mealy bug, soil and root mealy bug. Once ants have established a haven for these insects it is a source of constant re-infestation. Boil, bake or micro-wave all infested soil before dumping.

Algae, Fungi and Seed

Q: How do I remove algae from my Tillandsia seedlings.

Response by Lloyd Goddman

Without doubt, algae can effectively snub out germinating Tillandsia seed. Algae reproduce very quickly and need only sunlight (or another form of energy, like sugar), water, carbon dioxide and a few inorganic nutrients to grow. In the right conditions where they are kept dry, Tillandsia seed can be stored for years. Once the conditions are set for germination; where moisture, warmth and light are offered, the seed will rapidly take in the moisture, swell, and begin to green. With some seed, I have seen this happen as quickly as 4-6 hours. However in unfavourable conditions where algae and or fungi are present, there is a race for survival.

Fast growing algae can quickly grow over the surface of the Tillandsia seed and smother them. Generally algae is a sign of too much water with no drying period.

However there can be other factors at work. Where I live, we rely on tank water; no town water at all, it is all stored in tanks from roof run off. In the past I have had patchy results with germinating some species of Tillandsia seed and I suspected fungi and algae in the stored water from the roof which I would mist the seed with.

Recently I have boiled the water and then let it cool before misting the seeds. I clean all the seed trays and netting with hot water so the seeds are in a highly sterile environment. The results are amazing with nearly 100% strike rate.

With existing plants that have algae - let them get more sun and less water then over time the new growth will over come the problem.

Novice Popular Vote

1st	Coral McAteer	*Alcantarea vinicolor*
2nd	- - - - - - - - - -	- - - - - - - - - -
3rd	- - - - - - - - - -	- - - - - - - - - -

Open Popular Vote

1st	John Crawford	*Neoregelia* 'Donna'
2nd	Dave Boudier	*Neoregelia concentrica* hybrid
3rd	Les Higgins	*Cryptanthus* 'Silver Zones'

Tillandsioideae

1st	Helen Clewett	*Tillandsia neglecta*
1st	John Crawford	*Tillandsia inopinata*
2nd	Keryn Simpson	*Tillandsia disticha* 'major'
2nd	Dave Boudier	*Tillandsia neglecta*

Decorative

1st	Keryn Simpson	'My Thorny Devil'

Judges Choice

1st	Keryn Simpson	'My Thorny Devil'

Web Links for Checking Correct Identification and Spelling ?

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

New Bromeliad Taxon List : http://botu07.bio.uu.nl/bcg/taxonList.php
Refer to this site for latest species name changes and correct spelling.

Bromeliads in Australia (BinA) http://bromeliad.org.au/
Refer to this site for its Photo Index, Club Newsletters, Detective Derek Articles.

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

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.