Bromeliaceae

VOLUME XLI - No. 4 - July/August 2007

The Bromeliad Society of Queensland Inc.

P. O. Box 565, Fortitude Valley
Queensland, Australia 4006,
Home Page www.bromsqueensland.com

Editors Email Address: rossjanstenhouse@hotmail.com

Front Cover:	*Guz.* "Marjan"'	Photo by Ross Stenhouse
Rear Cover :	*Guz.* 'Mini Belle' unreg	Photo by Ross Stenhouse

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Books For Sale

The Society has the following books for sale:

• Starting with Bromeliads	$18
• Pitcher Plants of the Americas	$60
• Bromeliads: A Cultural Manual	$5
• Judges Handbook by BSI	$34
• Back Copies of Bromeliaceae (2005, 2006 Editions)	$4
• Bromeliads for the Contemporary Garden by Andrew Steens	$36
• Bromeliads: Next Generation by Shane Zaghini	$33

Postage and package extra. Unfortunately we cannot supply overseas orders. Please phone the Librarian, Mrs Evelyn Rees (07) 3355 0432 to order books.

Bromeliad Growing Tips

(Compiled by Bob Reilly)

I've accumulated these from various sources. While I have not tried all of them myself, they have worked for a number of people.

• Treat your mounting wood for tillandsias with citric acid to acidify the wood and encourage shy-rooting plants to put out roots.

• Add one or two Nutricote pellets to the lower leaf axils of a favourite plant to encourage it to send out more pups.

• Mount or display your grey-leaved tillandsias in the position they grow in nature. An indication of this position can be found by looking at the base of the plant. If you position the base of the plant at a right angle to your hand, that will give you an indication of the plants natural position.

• Another way of working out the correct orientation for grey-leaved tillandsias is to ask the person you buy from if he or she has any clumps of the plant or similar plants. (In clumps, these plants tend to show their natural positions. If they are all oriented a certain way, they will have a particular orientation they like. If they go "every which way", they don't care).

• If you place covers such as newspapers, sheets etc. over your bromeliads to protect them from cold, check that they are still in position if you experience high winds.

• When the leaves on Tillandsia bergeri start to become wrinkled, then it is a good indication that it is time to water your tillandsias.

• Why use sealant and not glue to attach bromeliads to supports such as rocks or wood? Glue sets hard and often the growing plant will force itself from the mount. Sealant stays flexible!

• Branches and roots shaped by the weather can make great bromeliad "trees", but how do you stop them from falling over? One way is to place the base of the branch/root in a squat pot/bucket filled with quick-setting concrete. The finished article is pretty difficult to tip over!

• A quick way to obtain wooden mounts for tillandsias is to saw a well-seasoned branch of a tree diagonally, so as to get an oval shaped piece of wood about 2 cm thick. This can then easily have a wire attached for hanging and, if necessary, a small hole bored in the centre, at an angle, to hold your tillandsia.

• Remember that it takes 24 hours for sealant to "set" properly, so leave your tillandsia flat for this period before hanging them up.

• Some tillandsias when allowed to clump seem to lose their inclination to flower and yet others need to be in a clump to induce flowering , such as T. argentina, so get to know your plants.

• Some tillandsia nurseries recommend that grey-leaved tillandsias' leaves should be dry within four hours of watering to minimise the chances of rot occurring. To achieve this outcome, you need to water early in the day in winter, and early in the day or late afternoon in summer.

• Diluted liquid fertiliser used frequently, is better than more concentrated fertiliser used infrequently.

• Fertilising potted bromeliads can be less hazardous than fertilising those grown in the ground, as it is easier to "flush out" the plant and pot with water.

• There is no use giving a plant plenty of liquid fertiliser, if it is not getting enough light, water, or carbon dioxide. So, fertilising

when the plant is stressed due to drought is quite likely to result in damage.

• A skewer with a loop at one end can be used to remove leaves from bromeliad cups and between their leaves.

• Bottle brushes can be used to remove spider webs from bromeliads' cups. The size can be varied to suit the plant.

• Aeration is probably the most important factor in determining a good potting mix – this outcome is achieved by air pockets in the mix that allow good drainage to occur.

• Three bamboo stakes can be used to hold a large plant upright in a pot. Even if the pot is blown over, the stakes will often still hold the bromeliad in position.

• It is not a good idea to use the same watering can for chemical applications and routine watering.

Cultural Corner

By Peter Paroz

Cultural information on bromeliads is a bit like a joke – "There are no new jokes only ones you have not heard before"-. So it is with cultural information; there is little new cultural information, but a wealth of information in old issues of Bromeliaceae, the BSI Journal and other bromeliad Society publications that are held in the library.

These notes on seed raising are primarily for the benefit of new members; and are a collation of reliable suggestions gleaned from various sources over the years.

BSQ members have a great history of raising bromeliads from seed dating back before BSQ was formally created in 1967. Nez Misso, the first president of BSQ pioneered the growing of tillandsias from seed in Queensland and probably in Australia. His mentor was the noted German bromelian, Dr. Oeser, whose name appears frequently in many of the early articles on bromeliads.

In the early sixties when I first became interested in bromeliads, there were a limited number of bromeliad species available and very few hybrids. Importation of bromeliads into Queensland was not allowed. (The official reason was a potential to import diseases which might affect the pineapple industry). Raising plants from seed was the only way to increase variety or quantity.

When handling bromeliad seed, avoid using sweaty fingers as the perspiration may promote fungus growth. Wash and dry your hands; and dust lightly with talcum powder.

Seed banks are a great idea and the recently formed BSQ Seed Bank deserves your full support. With bromeliad seed, 'fresh is best'. There is a (minor) disadvantage of the seed bank system; the time taken from seed harvest to the seed bank, to advertising the list, to receipt by the grower. One way to offset the age of the seed, is to soak the seed in a weak fertilizer solution overnight before sowing.

This has the advantage that the water fully hydrates the seed and provides a trigger for germination, and the fertilizer adds a little nutrient as well. My experience suggests that this may be an advantage even for fresh seed. It is a useful procedure for non-bromeliad seed as well. Use a weak solution, about 2 gm (about half a level teaspoon)/litre. This procedure will not guarantee germination of aged seed; but it will improve the germination of seed in a marginal condition.

There is not a lot of information on the storage of bromeliad seed. When I harvest seed, I 'plant' it immediately or store it for the seed bank in a sachet made from plain unglazed paper (with name and date of harvest). Do not use plastic press seal bags. (Any moisture in plastic bags is likely to result in fungus growth on the seed and loss of viability). My recommendation is to sow

bromeliad seed as soon as possible.

Bromeliad seed requires sun light to initiate germination. Bromeliad seed is always sown on the top of the growing medium whether a potting mixture for aechmea, neoregelia or billbergia; or a pad of coir fibre for tillandsia seed. For vriesea or guzmania seed with a coma (the fine hair parachute), presoaking is not practicable. The best option here is to spray the seed lightly with the weak fertilizer solution frequently over the first two days after sowing.

For bromelioideae and pitcairnioideae seed, the first indications of germination are the appearance of a single cotyledon (seed leaf) followed by root development. For tillandsioideae, the first indication is a slight swelling of the seed with a greenish tinge. At this very early stage of development, the tiny plantlets are very susceptible to drying out from low humidity. Extra care is necessary especially for the combination of high temperature and low humidity which happens occasionally in spring is S.E. Queensland.

Bromeliads benefit from a regular supply of nutrients and a light spray of fertilizer once the seed has germinated will ensure that nutrient supply does not limit growth.

Fertilise bromeliads of any size 'weakly and weekly'.

Plant Propagation

Author: Peter Paroz

Another procedure for the rapid propagation of pineapples; and a variation of the 'Stem Sectioning' procedure reported last issue. This may be adaptable for other bromeliads.

With this technique, the leaves are retained, carefully dissected from the stem retaining a portion of the stem attached to the leaf and including the dormant bud at the base of the leaf. The segments are treated with fungicide, allowed to dry and planted in an open moistened mixture with the bud level with the surface. Water sparingly to keep the mixture just moist. Remove the plantlets when roots develop and treat as for seedlings.

Recovering from Hail Damage

(by Bob Reilly)

The appearance of bromeliads can really suffer when they are hit by hail. Typically, the leaves have long, unsightly striations (or worse) where the hailstone has hit the leaf.

However, the plant can recover over time provided it is not coming into flower (at which point no more leaves will normally be produced).

The inner leaves on the plant shown in the photograph have been produced since the hailstorm and so are not marked. As they mature, they will hide the damaged leaves, although this will take 12 months or so.

Welcome to New Members

Please welcome the following new members, whose membership applications were accepted by the Society's Management Committee at its June and July Meetings.

June

Juliann Bond, Beryl White, Bob Allen, Stanley Edward, Roland Kidman-Lewis, Kim Scerri, Glenice Cameron, Patricia Hellyer, Jed Sanders, Mirva Harrison, Sandra Vesey-Brown, Noel & Merle Mason, Anne Allison, Doris Thomes, Paul Widdup

July

Nancy Broomhall, Jenny Jackson, Dennis & Jill Ludlow, Elaine & Bill Asher.

The Editors Desk

by Ross Stenhouse

Peter Cundall at the end of his TV show says "That's your blooming lot for this week". Well about this time in editing this journal I think 'Well that's that blooming edition almost finished'.

Some of you would have heard of the 90/10 rule. The explanation of the rule is that 90% of the work takes 10% of the time and the remaining 10% of the work takes 90% of the time. That rule well and truly applies to this journal.

The really hard work comes just before it goes to the printer. Deadlines are approaching and filling up those small 'left over' bits in some of the columns takes a lot of work.

Life member Peter Paroz has come to the rescue with his concept of having a cultural corner. As an example there is an article Peter titled 'Plant Propagation'. It's about 2/3 of a column in length and gives a short outline on a topic that Peter learnt a while ago.

These short articles are a good starting point if you have a topic you think may be of interest to other members, however you don't have the time or maybe the experience in writing to tackle a long story.

It can be a bit of an art to get the message across in a few words, but don't let that put you off. We need articles of all sizes for the journal.

Articles not needing illustrative images are definitely needed. Having illustrations can be a bit of a drawback at times when it comes to laying out the journal. I try and position the illustrations adjacent to the accompanying story, however that is not always possible.

As I prepared this edition, I particularly enjoyed reading member Penny Murphy's article on her shadehouse and the cultural information she gave about her experiences in growing bromeliads in rural Australia.

For those of you who don't know where Dalby is located. It's about 100 miles west of Brisbane on the Darling Downs. Penny is a hundred miles west of that.

Thanks to all of you who have helped out in some way or the other with Bromeliaceae, without your help this journal wouldn't exist.

Bromeliaceae Production Crew

Editor: Ross Stenhouse
Proofreader: Roy Pugh
Regular Contributors: Derek Butcher, Rob Smythe, Rob Reilly, Beryl Batchelor

Winter Care

Author: Peter Paroz

A collation of hints and suggestions from various authors and sources, mainly past Bromeliaceae.

Remember, all plant growth comes from sunlight. Grow your plants in the strongest light they will stand without leaf burn and for the longest day exposure your location allows.

Winter time is the time in S.E. Queensland to move plants out into a brighter location. This allows the plants to become acclimatised to the gradually increasing sunlight intensity. It is surprising the plants that can be conditioned to full sun using this technique. I have successfully grown *T. lindenii, T. cyaneai* and *T.* 'Emilie' in full sun for at least 10 years. Even *T.* filifolia thrives outside my bush house but not quite full sum.

Maximum light intensity (and max sunburn potential) occurs in summer between 10am and 2pm. Look at your bromeliads. Most have curved leaves. Sun damage will occur first on that part of the leaf at right angles to the midday sun. The first sign of too much light is bleaching of the leaf colour.

Root Rot & Heart Rot

Author: Peter Paroz

Bromeliads are not subject to many pests and diseases but heart rot and root rot can cause considerable losses. These two conditions can be caused by the same organism *Phytophthera cinnamomi* depending on the origin of the attack. This organism is a fungus with swimming spores which thrives in oxygen deficient conditions. The spores have a long time resting stage 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 is suspected.

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 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 organism 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.

The pineapple industry has developed a simple "baiting' test for detecting phytophthera in soil, potting mixture or water. The procedure depends on the ready attack by the organism on the basal white tissue at the base of a bromeliad leaf. The original test used leaves from a pineapple top, but any young bromeliad leaf with white tissue is satisfactory.

Fill a glass jar to about 100 mm with 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 to pin the leaf at the required depth. Allow to incubate for 8-10 days. Phytophthera is indicated by attack on the white tissue usually with a blue/black line 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 mixture in the bottom on the glass jar and gently pour in the boiled and cooled water, and set the leaf as above.

The recommended fungicide for the

local pineapple industry is Ridomil (Fongarid). Aliette is a recommendation from the WWW. Another local recommendation is Phosforpine which is a phosphorous acid preparation neutralized to pH 5.7. This compound appears to act by inhibiting germination of the spores.

Bromeliad plants which are infested 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 recent heart rot problems that I am aware of seems to be associated with the use of chemical sprays; one for mosquito and the other for scale control. A possible reason is that the chemical was too strong and caused damage to the growing point of the plant allowing invasion by the fungus.

Judge's Handbook Changes

The handbook for Judges, Exhibitors, & Affiliates includes the rules and instruction for staging a Bromeliad Society International (BSI) show.

Olive Trevor, the BSQ President and one of our senior judges wanted to bring to the attention of members a couple of the changes. They are as follows:

Pg 29, # 5 - Horticultural Displays

Mountings that have been "home" to a plant will not be the beauty that it once was. Judges should judge the plants and consider the age of the mount. Judges need to be made aware that some Tillandsias never root and a judge should not take off points or try to re-classify.

Page 59, # C - Difficulty of Cultivation/Rarity

Difficulty of cultivation and rarity should also be considered in ribbon judging and not just during major awards. When judging Tillandsias clumps, points should not be taken off when the dry, dead leaves near roots or at the base are not removed. The dry leaves can be trimmed back, but the complete removal may cause the clump to fall apart.

Page 10 & Page 27 - New Description of a Standard pot.

A standard pot is a container, that will hold potting medium, that does not add to or detract from the entry.

Hopefully those members who exhibit plants will find the above useful.


Guz. 'Tango'
Guz. 'Rosie'
Guz. 'Bahia'
Guz. 'Grado'

Guzmanias at the 2007 Autumn Show

(By Bob Reilly)

There were many beautiful guzmanias on sale and display at the 2007 Autumn show. This article describes some of them, while their photographs appear elsewhere in this journal. First though, I've provided some tips on how to grow these plants.

Flowering guzmanias can be brought inside the home for several weeks without affecting them. This also applies to air conditioned premises. Their desirability for this use is enhanced by their lack of spines.

In nature, they are usually found in heavily shaded areas of humid rainforests. Virtually all grow as epiphytes, rather than terrestrials. These two factors are the key to growing them successfully.

Guzmanias perform best when grown in pots in a shade house, although a few of the hardier ones will be happy in well shaded (but not dark), damp areas in a garden. They like to be covered by 70 to 75% shade cloth for most of the year with some additional protection, if possible, during the hottest part of the year (mid November to end of February in southern coastal Queensland). If it isn't practical to provide some extra shade cloth during the hottest part of the year, try relocating them to the shadiest part of the shade house, for example, where a tree shades the shade house from early afternoon onwards. Plants which have a "bleached" appearance are receiving too much sunlight.

Guzmanias prefer to be spaced out so that the leaves of plants are just touching each other (if the bottom leaves of a plant are dying off, they are probably too crowded). This density helps to achieve good air circulation which guzmanias, given their epiphytic nature, strongly prefer.

During winter, one heavy watering a week is sufficient. Over summer, two heavy waterings per week are necessary and, desirably, daily light watering as well when the maximum temperature exceeds 30 degrees Celsius. (A heavy watering results in the "vase" formed by the plant's leaves overflowing for several minutes, while a light watering is sufficient to fill the vase and wet all of the plant's leaves). During winter, aim to water plants between 8am and 10am (and then only on warm days), while in summer water between 6am and 8am or 4pm and 6pm. Try to keep the humidity high in the shade house at all times (covering the floor with pine bark chips which are regularly watered helps achieve this outcome).

Guzmanias need a potting mixture which drains readily, but retains moisture between watering. One mixture, which achieves good results, is composted pine bark combined with some peat moss or Coco peat (Composted pine bark can be bought from some landscaping centres. You can make your own by buying some of the smaller sizes of commercially – available pine bark and allowing it to "weather" in the open air for 6 to 12 months). A continuous release fertiliser such as Osmocote or Nutricote should be added to each pot, when the plants are potted.

Another good mixture is bark chunks, such as those used to grow Cymbidium orchids, which have been treated with a special type of fertiliser dissolved in water. (The bark chunks can be bought in 50 litre bags, while the fertiliser is sold by the Bromeliad Society of Queensland). The mixture can be improved by adding charcoal to it, in the ratio of 1 part charcoal to 7 parts treated bark. However, this potting mixture is more


Guz. 'Gwendolyn'
Guz. 'Laja' unreg
Guz. 'Sunnytime'
Guz. 'Jive'

expensive than the other approach.

So far, the approach described for growing guzmanias is similar to that used for many ferns. However a major difference is the use of liquid fertilisers once the plant is potted. Guzmanias could be described as the liquid fertiliser "guzzlers" of the bromeliad family. They love it! Use a liquid fertiliser such as Phostrogen (in the concentration recommended by the manufacturer for indoor plants) at least once a fortnight. Ideally, foliar feed them every week. Not only will this give strong, healthy plants but it is essential to achieving large inflorescences. Apply liquid fertiliser throughout the year, but ensure the plants' leaves are wet beforehand.

Guzmanias have few pests and diseases, although sometimes they are subject to scale attack. Scale can be treated with insecticides such as Folimate.

Guzmanias reproduce readily through offsets (pups). Pups should be one third to one half the height of the parent plant when they are removed. Avoid the coldest, and hottest, times of the year when removing offsets. The best times (in southern coastal Queensland) are: October to early November and mid February to late March.

Guzmanias usually produce two "batches" of offsets. Give the parent plant a continuous release fertiliser such as Nutricote or Osomcote after removing the first batch of pups. Continue to apply liquid fertiliser, and a second batch of three to four strong pups will often be produced. Plant the pups directly into one of the potting mixtures described previously, ensuring they are firmly held by the mixture.

'**Apache**' About 20, 3cm wide, leaves form a semi-erect, open rosette approximately 60 cm across. The green leaves have thin, brown-red stripes on their lower surfaces. The light orange/white, open, cylindrical inflorescence is about 20 cm long and 15 cm wide.

'**Augusta**' unreg Numerous, 3 cm wide, green leaves form an open, semi-erect rosette approximately 60 cm across. The red, cone-shaped inflorescence has white-petalled flowers.

'**Bahia**' About 20, 2 cm wide, green leaves form a 60 cm wide, open, semi-erect rosette. The white/purple star-shaped inflorescence is about 15 cm tall and 25 cm wide.

'**Cavado**' unreg About 20, 2 cm wide, light green leaves form an open, semi-erect rosette approximately 60 cm across. The red-purple, open, cylindrical inflorescence is about 30 cm long and 20 cm wide.

'**Grado**' About 20, 4 cm wide, green leaves form a 60 cm wide, open, semi-erect rosette. The orange-red, club-like, inflorescence is approximately 20 cm wide and long.

'**Gwendolyn**' About 30, 4 cm wide, green leaves form an open, erect rosette approximately 50 cm across. The pink-purple, cylindrical inflorescence is about 40 cm long and 10 cm wide.

'Indian Night' unreg About 20, 4 cm wide, dark green leaves form an open, semi-erect rosette approximately 80 cm across. The maroon-red, open, cylindrical inflorescence is about 40 cm long and 30 cm wide.

'**Jive**' About 20, 2 cm wide, leaves form an open, semi-erect rosette approximately 50 cm across. The green leaves have central, cream stripes of varying widths. The yellow-orange, cylindrical inflorescence is about 15 cm long and 10 cm wide.

'**Laja**' unreg About 20, 5 cm wide, yellow-green leaves (coloured light maroon underneath) form an open, semi-erect rosette approximately 80 cm across. The inflorescence, which looks like a miniature Christmas tree, is about 30 cm long and 10 cm wide.

'**Lyndall**' unreg About 20, 5 cm wide,


Guz.' **Tutti Frutti'**
Guz. **'Mango'**
Guz. remyi
Guz. wittmackii

green leaves form a flat rosette approximately 90 cm across. The 20 cm wide, red, star-shaped inflorescence "nestles" in the plant's inner leaves.

'**Mango**' About 20, 5 cm wide, green leaves form an open, semi-erect rosette approximately 80 cm wide. The yellow-orange, open, cylindrical inflorescence is about 20 cm long and wide.

'Mini Blush' About 20, 2 cm wide, green leaves form an open, semi-erect rosette approximately 60 cm across. The predominantly pink-red, open, cylindrical inflorescence is about 20 cm long and 15 cm wide.

'**Moonlight**' About 20, 2 cm wide, green leaves form an open, semi-erect rosette approximately 40 cm across. The predominantly white, open, cylindrical inflorescence is about 10 cm long and 15 cm wide.

'**Rana**' About 20, 3 cm wide, green leaves form an open, semi-erect rosette approximately 90 cm wide. The predominantly red-orange, open, cylindrical inflorescence is about 30 cm long and 20 cm wide.

remyi About 10, 3 cm wide, leaves form a flat rosette approximately 15 cm across. The leaves' upper surfaces are green, while the lower surfaces are brown-red. Its lolly-pink, pendent inflorescence is about 15 cm long and 3 cm wide. Unfortunately, unlike many guzmanias, the inflorescence only retains its vivid colour for a fortnight.

'**Rosie**' About 20, 3 cm wide, green leaves form an open, semi-erect rosette approximately 80 cm across. The predominantly pink-red, open, cylindrical inflorescence is about 20 cm long and wide.

'**Rouge**' About 20, 3 cm wide, green leaves form an open, semi-erect rosette approximately 90 cm across. The predominantly pink-red, open cylindrical inflorescence is about 20 cm long and wide.

'**Saffron**' About 20, 4 cm wide, green leaves form an open, semi-erect rosette approximately 80 cm across. The orange-yellow, 20 cm long, cylindrical shaped inflorescence rises well above the plant's leaves.

squarrosa '**Pink**' About 20, 3 cm wide, green leaves form an open, semi-erect rosette approximately 100 cm across. The star-shaped, predominantly pink, inflorescence is about 25 cm long and wide. this plant could be *G. kareniae*

'**Sunnytime**' About 20, 3 cm wide, green leaves form an open, semi-erect rosette approximately 60 cm across. The predominantly yellow, open, cylindrical inflorescence is about 20 cm long and 15 cm wide.

'**Tango**' unreg About 20 cm, 3 cm wide, green leaves form an open, semi-erect rosette approximately 90 cm across. The yellow-orange/red, open, cylindrical inflorescence is about 25 cm long and 20 cm wide.

'Tutti Frutti' Numerous, 4 cm wide, green leaves form an open, semi-erect rosette approximately 80 cm across. The predominantly red-orange, open elongated star-shaped inflorescence is about 20 cm long and wide.

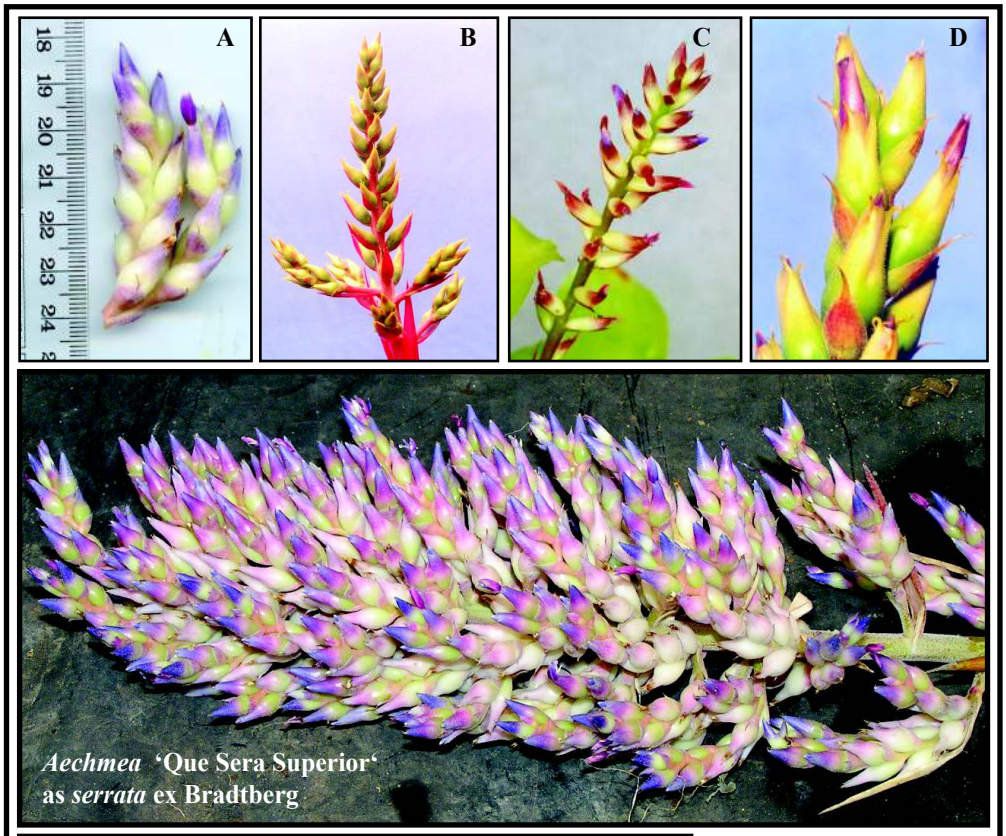
'**Twist**' unreg About 30, 4 cm wide, green leaves form an open, semi-erect rosette approximately 50 cm across. The white/purple, cylindrical inflorescence is about 40 cm long and 10 cm wide.

'Puna Gold' Numerous, 2 cm wide, pale green leaves form an open semi-erect rosette approximately 60 cm across. The yellow, cup-like inflorescence is about 10 cm long and wide.

wittmackii About 20, 2 cm wide, thin, green leaves form an open, erect rosette approximately 60 cm across. The inflorescence is often 50 cm long and looks something like an elongated Christmas tree. The bracts can be pink, red, orange or purple.

Author contact details:

Phone: (07) 3870 8029; email: bob.reilly@nrw.qld.gov.au



Images above:
A: *Aechmea* 'Que Sera Superior' photo by D Butcher
B: *Aechmea* 'Que Sera' photo by D Butcher
C: *Aechmea* 'Sight for Saw Eyes' photo by P Franklin
D: *Aechmea* 'Que Sera' photo by D Butcher

Image opposite:

The work is titled 'Ant-eater' and was assembled by member Anne McBurnie utilizing a piece of pottery created by her daughter, Tamsin.

Aechmea 'Que Sera Superior'

Presented at May 2007 meeting of the Bromeliad Society of South Australia Inc by Derek Butcher.

And so to the plants you thought I had missed in my talk. Undoubtedly the one to get most comment was the two bucketfuls of Aechmea that Keith Bradtberg had brought in. It had taken him some 15 years to get this far from seed from the American seed bank and the plants had offsetted many times before one plant per bucketful decided to flower. Was it our dry summer that was the trigger? This saga goes back at least 5 years when Keith surprised us with an oddity we could only call 'Que Sera' after the Doris Day song – 'Whatever will be, will be'! These current plants have links to that! You may see my quirky sense of humour regarding the linking of the name to the name on the seed packet. You see, the name on the seed packet was Aechmea serrata.

In J. Brom Soc. 55: 207-9. 2005 I pointed out to the Bromeliad World that as far as I was concerned the only true *Aechmea serrata* was being grown in habitat on Martinique or in Europe. The plant growing in the USA and Australia under this name was an imposter and what I thought seemed closer to *Ae. smithiorum*.

Back to the meeting where others including Dave Wecker were mumbling under their breath "Butcher by name and butcher by nature". This was all because Keith allowed me to remove the inflorescences for scientific purposes. In any event I promised him photos of my achievements and this has been accomplished. The inflorescences were clearly different. One looked like what was being grown as *Aechmea serrata* on the east coast of Australia and in the USA and the other a large heavy inflorescence with lots of flowers. For want of a name I am calling this one 'Que Sera Superior' because there are some links and people will want to grow this plant. What I did find very odd indeed was the branches of the compound inflorescence which were in tandem and only had one primary bract for the two branches - A mixed up kid indeed!

We know that Bill Treloar is growing *Ae.* 'Que Sera' which is basically a simple spike with a few branches at the base, so he will jump at the chance to get a plant with a decent large inflorescence.

While Keith got his seed for 'Que Sera'as *Aechmea serrata* in 1990, Peter Franklin in New South Wales had obtained seed of *Ae. serrata* the year before, also from the BSI seed bank. He was somewhat proud when PAF777 flowered. On seeing the inflorescence I suggested to Peter that he call it 'Sight for Saw eyes' but somehow the name died a natural death and in 2007 Peter does not know where the plant is!

If the seed in the BSI seed bank came from the same source then I have strong views that the *Ae. serrata* (now query *Ae. smithiorum*) is in fact a hybrid with *Ae. fendleri* or *Ae. dichlamydea* in its genes somewhere. We do know that Hawaiian and Floridian hybridists were busy hybridising these species in the 1970's and reluctant to register their progeny. Perhaps this is the answer to our dilemma. I have tried to contact Chester Skotak who I know did grow this plant (mentioned in Blooming Bromeliads by Baensch 1994, p64) to find out if he did use it in any hybridising programme – alas no reply.

Our other dilemma is that the plant under cultivation in Australia and the USA as *Ae. serrata* seems to be continue to be grown as this name despite my article pointing out the name was wrong and suggesting


Aechmea aff. winkleri - We are still looking for the green sepals!"
Tillandsia 'Beauty'
Photo Peter Paroz
Ae. 'Bert'

that *Ae. aff. smithiorum* was preferable. It now appears that the *Ae. aff. smithiorum* is in fact a hybrid but to give it a cultivar name to identify it would only cloud the issue even further because of the lack of interest of some growers to have correct names on their plants.

New Tillandsia Registration from Queensland

Tillandsia Beauty

Named by persons unknown. Originated in Qld, Aus., possibly in the collection of Nez Misso in the 1960's as seed from Dr. Oeser. Appears to be one of the many forms of *T. fasciculata*, flowering to about 70cm high including inflorescence about 30cm long; Features: multi-branched (6-8) inflorescence with large, inflated, highly coloured branches. photo fcbs.org

Culture: Full sun, granular diatomite potting mixture, fertilised weakly and weekly with Phostrogen (with additional magnesium sulphate) at approximately 4gm/L.

Article, Plant and photo Peter Paroz.

A Member's Shadehouse

Hi Ross,

You have asked for photos of shade houses. I don't know if you are still interested but have attached a photo. We live on a cattle property 100 miles west of Dalby. My shade house is not very good but maybe it's situation is a little unusual compared with most of your other members. This one is the old chook pen which is out in the compound with 5 dog kennels, the clothes line and wood heap etc. As you can see the compound boundary on one side is the cattle yards. At the moment we are weaning 200 big calves in them. I do have a smaller shade house inside the garden.

The drought has not been very kind to us lately and the big eucalypt behind the shade house is in the process of dying as are many brigalows in the paddocks. I am still able to water my bromeliads with dirty dam water although it takes away their shine and I get very envious when I visit my daughter in Brisbane because of the lovely shiny broad leaves of her plants.

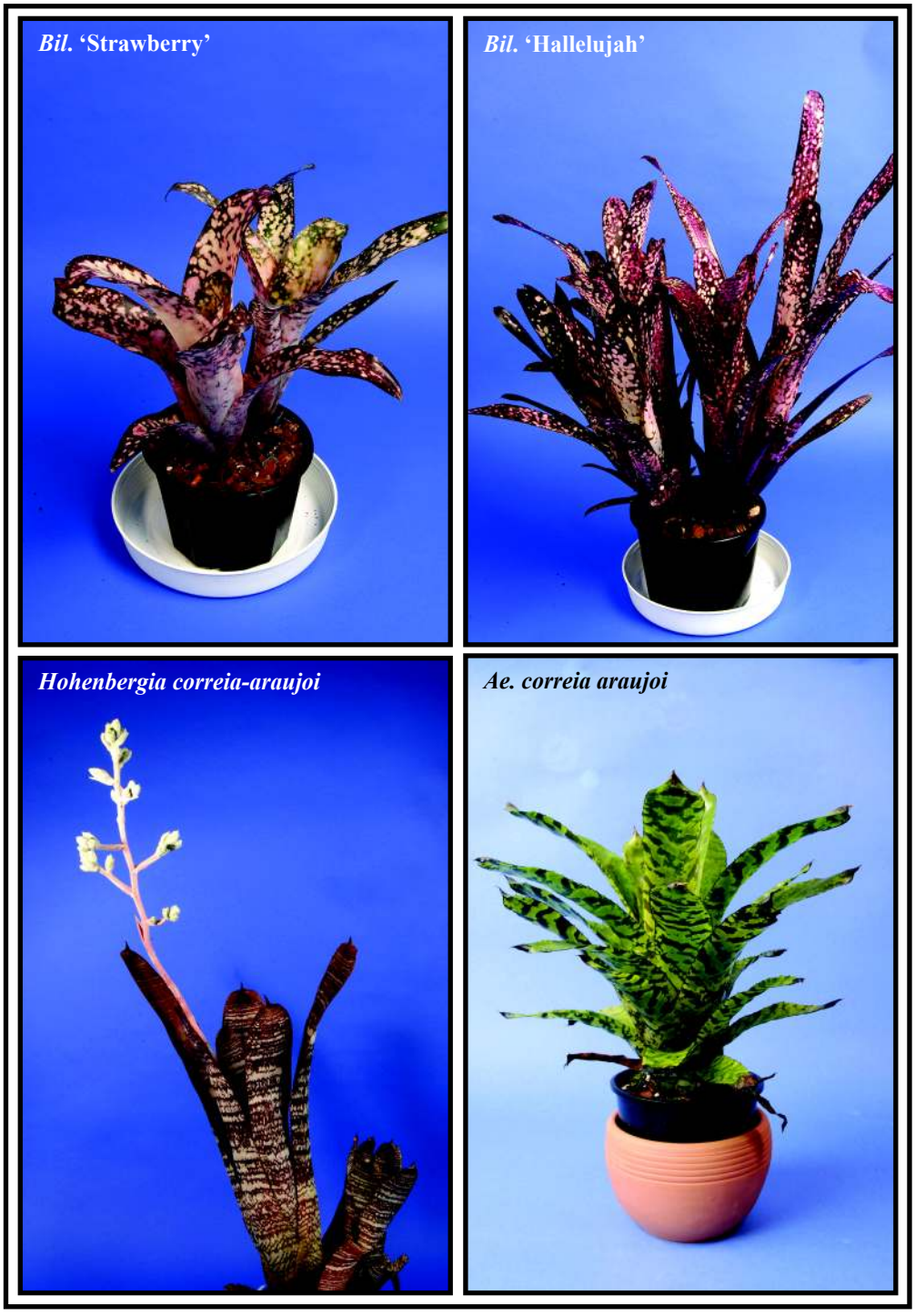
The humidity down there with the few showers makes such a difference. The bromeliads are still the best things in my garden and I get a lot of pleasure from them. So do the green frogs which I have by the hundreds and then the snakes enjoy those.

By choosing the right bromeliad types they cope reasonable well with hot dry winds and temperatures often over 40 in summer and down to zero in winter. I don't seem to get frosts inside the garden maybe because of the wood stove and the trees although they can be heavy just outside the fence.

I enclose a photo of the shade house and one to show that the garden looks a little better than the paddocks. Have kept the photo size fairly small because of my very slow dial up connection.

The original plants my daughter gave me to try and which have turned me into a bromeliad fanatic are still flourishing in my garden in nice clumps. They are *Billbergia pyramidalis, Aechmea gamosepela* and *Aechmea caudata.*

Probably the hardiest of my bromeliads would be *Neo Correia-araujoi* and Ivan Hole's *Billbergia* 'Midnight'. I have not found any bromeliad that will cope with full sun out here but these two would survive the most.


Bil. 'Strawberry'
Bil. 'Hallelujah'
Hohenbergia correia-araujoi
Ae. correia araujoi

Aechmea 'Echidna', *aquilega*, and several different forms of *Ae. nudicaulis* are the toughest Aechmeas with *Ae.* 'Bert' being a big favourite and also burgundy which makes a lovely clump with the sun shining through. I do not seem to be able to grow *Ae. lanchetiana* well which may be due to the lack of humidity even though I would be watering several times a week in summer.

All the Billbergias I have tried seem to do very well, including *Bil*. 'High and Mighty', 'Super Grace', 'Midnight', 'Carioca' and 'Hallelujah' which colours better with a little less sunlight. I was surprised by 'Strawberry' which looked more fragile but proved to be one of the toughest.

Hohenbergia correia-araujoi has done very well and so has *Androlepsis skinneri* which has coloured really well during two winters but lost it's colour for the summers. The first of it's pups is just starting to colour now.

Miniatures do not flourish in the dry conditions and I have given most away after seeing what they can do in Brisbane. Instead I grow *Neoregelia zonata* and others of similar size in hanging pots. *Neo. zonata* does marvellously and hung high so you can see the light shining down through the leaves so that it emphasizes the stripes, is one of my favourites.

Many Neoregelias do very well. *Neo. Correia-araujoi*, 'Roy', 'Morris Henry Hobbs', 'Roehr's Best', and *cruenta* being among the toughest I have with 'Bobby Dazzler', 'Gold Fever', 'Wizard' and 'Gunpowder' being others I use a lot. 'Gee Whiz' can be lovely but does not colour well for me and sometimes quills which I presume is because of the dry heat. In summer this affects the colour of many of the Neoregelias even though they are not bleached or burnt. I have a lot of other neos that do well and there are no doubt many others that would succeed that I have not tried. That leaves me more to look forward to buying.

Luckily I have not had any trouble with wildlife eating bromeliads here. Sheep, cattle and kangaroos do not like them even in the drought.

I look forward to getting my Bromeliaceae every two months as it is my only contact with the society. The photos in it are great.

Many thanks for all your hard work putting it together.

Yours sincerely
Penny Murphy

Comment from the International Bromeliad Registrar - Derek Butcher. While Billbergia 'Midnight' is currently unregistered, Ivan Hole of Toowoomba has just joined the ranks of the hybridists keen to register their hybrids and make things 'legal'.

Aechmea winkleri

Author: Ross Stenhouse

Nothing seems to be as straight forward in the world of horticulture as it at first appears. On page 18 is an illustration of what I have had labelled as *Ae.* 'Winkler'. I have had the plant for about two years under that name.

The reason I wanted to use the illustration was that the plant has a close connection with *Ae. gamosepela* (see image of inflorescence page 35) and that plant was referred to in the article "A Members Shadehouse"

When Derek Butcher was checking the illustration captions he told me that it was an incorrect name and maybe it should be *Ae. winkleri* and to be that it should have green sepals.

When I asked Derek the obvious ques-

tion "What is it?", the answer I received is as follows:

"When Peter Franklin and myself looked closely at this Ortgiesia group of *Aechmea* over 10 years ago we found they were very easy to grow from seed and they hybridised when you weren't looking! This meant there were lots of plants being grown that were not quite right. Some with clear cut differences we gave cultivar names but there are lots of nearly-theres like your plant.

Taxonomists get over this problem by using aff. (short for affinity). I suggest you call your plant *Aechmea aff. winkleri* even though it may be a man-made hybrid."

I found that an interesting and informative tale and hence this article.

From another article of Derek's published on the BSI web site (http://www,bsi.org) I found the following:

"This plant group has its origins in Santa Catarina which is a State of Brazil, just south of Rio de Janeiro. Santa Catarina is roughly the same latitude as the south - east of Queensland and northern New South Wales.

It has a similar climate with both rainfall and temperature occurring in a similar pattern to the Australian east coast. All in all, it is no wonder that this group of plants like growing there and do not particularly mind our cool winters.

They are popular with beginners and connoisseurs alike. Whilst it is easy to recognise an Ortgiesia in general, it is not easy to recognise all the individual species"

So now knowing that, I have found out why both *Ae. gamosepala* and Ae. *aff. winkleri* grow so well in S.E. Queensland and because of that I have plenty of them.

That is not a problem for me because I am particularly taken by these two species. It was my liking for *Ae. gamosepala* that was the reason I got involved in growing broms.

BSQ Study Group Report

Author: Olive Trevor

A group of twenty Bromeliad Society members met at Len & Olive Trevor's home for a study group meeting on Saturday 30th June 2007.

Len had a very warm wood fire burning and Olive served curry & rice while members added some fancy breads and lots of 'In season' fresh fruit.

After breakfast our discussions were mainly about seedraising and culture of seedlings. Barry Kable, who is an experienced orchid grower showed us some of his seedlings that he had grown from seed given to him by Brubo de Silva at the Bromeliad 13 Conference.

Barry likes to experiment with different growing mediums and we viewed the results of some of his experiments.

Olive showed a tray of her Neoregelia seedlings with some of them showing white

variegation in lots of their leaves. She is looking forward to them reaching maturity.

After the study group, most members stayed on to participate in the judging school. Nev Ryan gave the first talk on judging Tillandsias. He brought along a nice display and pointed out what to look for in presenting Tillandsias for competition. He showed three very large and beautiful Tillandsia tectorun and most of us could choose which one deserved to be champion of the show. Cheryl Basic brought along some of her Hawaiian foliage Vrieseas and we followed the steps on how to judge these beautiful plants. Olive followed with her Neoregelias and told us how to prepare and present them for competition.

After lunch we judged some of the plants using the point system. All agreed that they had learnt a lot as well as enjoying the meeting and socialising.

Unfortunately due to business commitments Olive and Len have been unable to conduct these meetings on a regular basis, however look forward to doing so again soon.

Any members interested in learning more about bromeliads are welcome to come and share in our activities, Olive may be contacted on (07) 3351 1203 for more information about the study group or anything else related to bromeliads.

Charcoal and Broms

Author: Ross Stenhouse

A lot of you will already know that it is beneficial to add charcoal to the potting mix used in the growing of most bromeliads.

What most of you wouldn't be sure of (and for that matter scientists is not sure either) is how the charcoal carries out its beneficial actions. In more recent times there has been a lot of discussion about just which form of charcoal should be used.

I am sure you have all heard of activated charcoal that is used to 'polish' water from bores or in fish tanks. On the household front sometimes little satchels are used to remove odours from the air in the refrigerator.

Charcoal is a form of carbon usually resulting from the incomplete combustion of wood in a oxygen poor atmosphere. Many articles on soil refer to the organic carbon content of the soil and impress the importance of sufficient in the soil.

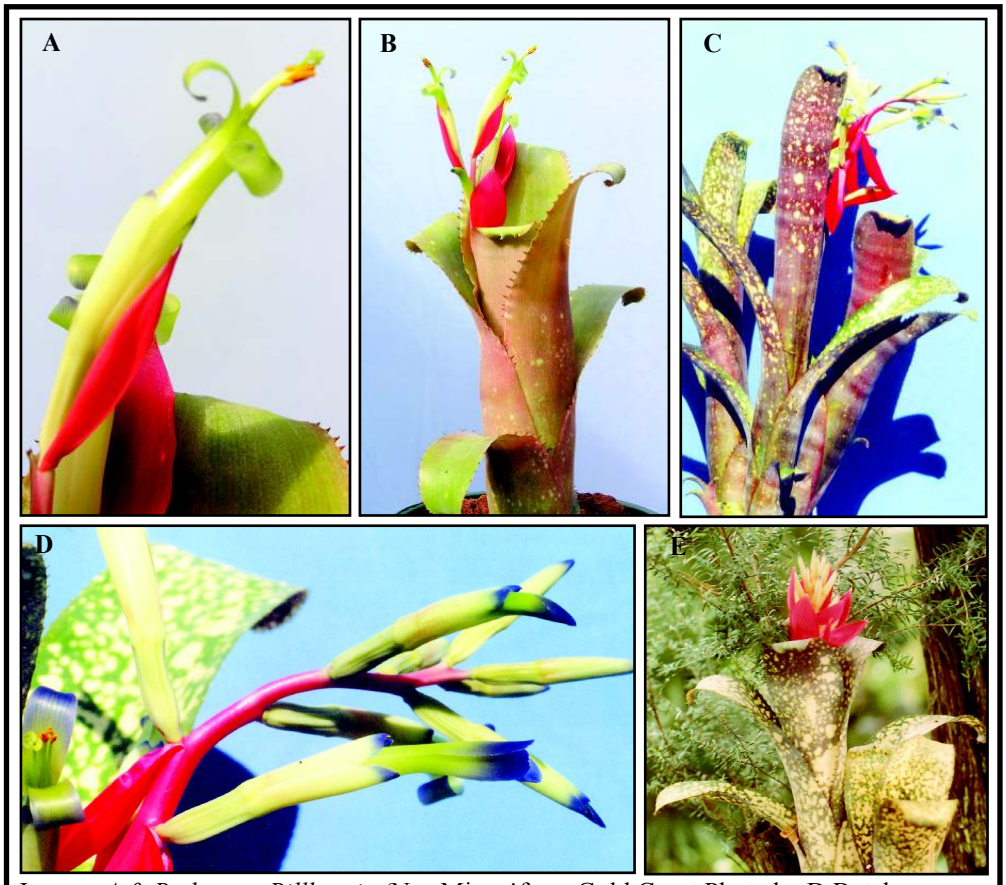
Typical Australian soils have one percent organic carbon and that's low and the conventional wisdom is to add organic matter to increase the organic carbon percentage.

When we add the charcoal to out potting mix, we are not doing it because we wish to raise the organic carbon percentage of the mix. I am not sure why its done, rather I am suggesting maybe we should consider the form of charcoal we add. There is a type of charcoal known as agri-char and maybe this is what we should be adding.

Char is a form of charcoal and a specific form of char is agri-char. Char is produced by heating organic waste to a very high temperature in a limited oxygen environment, Not all char is agri-char, argi-char still contains about 60% of the energy content of the original material.

When we add compost to the soil we are adding a form of carbon that is biologically active, agri-char is definitely not biologically active. Typically organic carbon lasts in the soil for about 10 years (after about three years 95% is gone) - char lasts in the soils for thousands of years.

So we are still faced with the problem of what form of charcoal we should add to our potting mix. I hope this article stimulates discussion and maybe someone more learned than I may be able to expand on the issues I have raised.



Images *A & B above - Billbergia* 'Nez Misso' from Gold Coast Photo by D Butcher
Images *C & D above - Billbergia* 'Nez Misso' from Adelaide Photo by D Butcher
Image *E above - Billbergia* 'Nez Misso' photo by Len Butt

Billbergia 'Nez Misso'

by Derek Butcher May 2007.

In 1983 Len Butt wanted me to record a hybrid in the Australian Check list and this was one of the very few occasions when a photo was actually sent to me. This shows the plant growing epiphytically in Brisbane.

He had received the plant under the parents as *leptopoda* x *chlorosticta* from Nez Misso and wanted to name it after him. By the way, the pollen parent name has since been changed to *B. saundersii*.

As well as sending me a photo I was sent an offset that we have been growing ever since having acclimatised it to Adelaide conditions. It has always had dark blue tips to the petals and the amount of spotting on the leaves seems to depend on the amount of light it gets.

Recently we got a 'food' parcel from Narelle Aizlewood on the Gold Coast and included in the parcel was a *Billbergia* 'Nez Misso' as a different shaped plant.

We are used to different shapes because of different cultural conditions and this did not worry us. When it flowered a couple of months later we were in for a shock. Where had the blue tips to the petals gone? Was this an imposter? Did Len Butt have more than one plant in his original batch?

If anyone else is growing a *Billbergia* 'Nez Misso' would you please check its flowering habit and colour because I hope you are as intrigued as I am!

Editor's Shadehouse

The image on the left is of my shade house - I don't have one. I just have a collection of plants that I grow to photograph.

Vriesea guttata

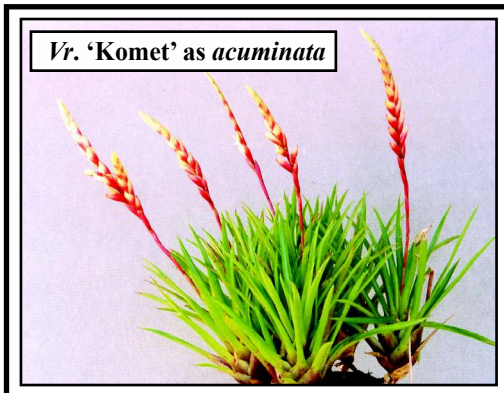
(by Bob Reilly)

This plant looks really nice when grown in a 120 to 140 mm, hanging pot. While it has been in Australia for many years, it is not a common plant,

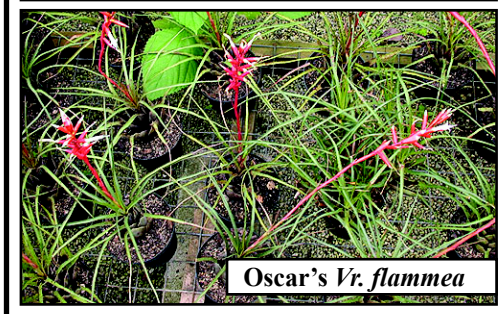
About 20, 3 cm wide, leaves form an erect rosette approximately 20 cm across. As is shown by the photographs on p29, the thin, green leaves have few, or many, purple-brown spots, depending upon the clone.

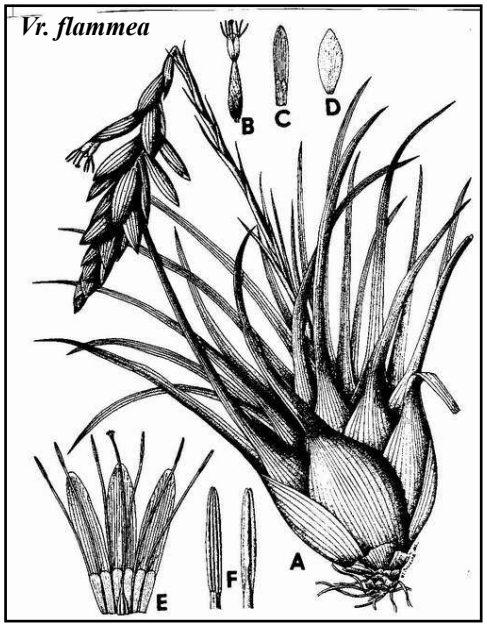
The pendent inflorescence is about 30 cm long. It is pale pink, and heavily covered in silver scurfing. The flowers have yellow petals.

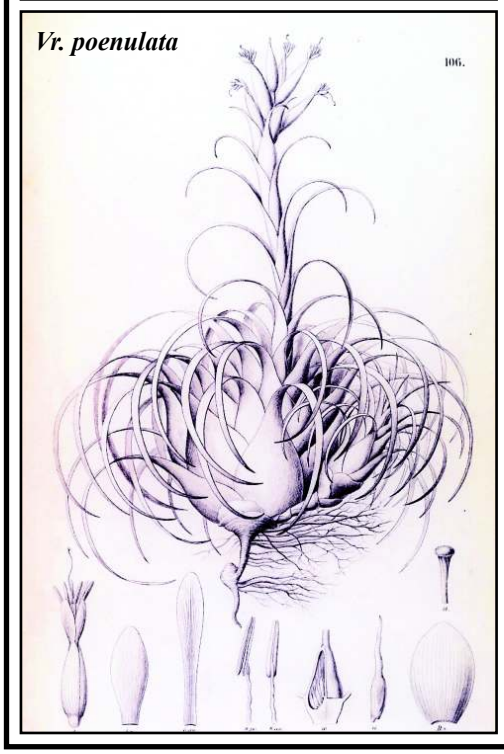
Ed. The species name guttata is derived from the Latin word for 'drop' - gutta. The closest English counterpart to guttata is probably guttate, drop-like, spotted, or speckled


Vr. 'Komet' as *acuminata*


Vr. poenulata


Oscar's *Vr. flammea*


Vr. flammea
B
C
D
E
F
A


Vr. poenulata
106.

Vriesea flammea versus *Vriesea poenulata*

by Derek Butcher 6/2007

Over the years I felt I knew the difference between these two species. One was a small plant and the other larger and I did not bother to look at the finer points of identification. I had looked carefully at a Vriesea with a similar inflorescence which we know as 'Komet' with all its variations because of having been grown from seed in Australia. With the help of Peter Franklin of Raymond Terrace, NSW we even convinced ourselves that the *Vriesea acuminata* was really a false name for yet another 'Komet'. Our view was vindicated when this species became a *Werauhia*!

So in September 2005 I was surprised to receive a photo of a *Vriesea poenulata* with yellow petals from my friend Oscar Ribeiro in Rio de Janeiro. Alarm bells rang because this did not link with what I thought was *V. poenulata*. A quick reference to Smith & Downs showed petals as white so I refuted Oscar's name. Oscar replied by saying that Elton Leme said petals should be yellow and had agreed with Oscar's identification. Not to be outdone, I checked with Harry Luther who confirmed the error of white petals in Smith & Downs which should show yellow. So I had to eat humble pie and removed the Aussie photos of the alleged *V. poenulata* from http://fcbs.org and replaced them with Oscar's. What we had as *V. poenulata* were really *V. flammea*! This broadened my view as to what could be a wide range in *V. flammea.*

What is interesting is that Baker in 1889 said petals were white, Mez in 1935 said petals were yellow, and Smith went back to white. The Holotype is a Morren drawing – note drawing not painting where colour may come into the equation!

If we look at Smith's key we will see that we should be really looking at the scape bracts for the key difference and I ask you to look carefully at both drawings.

With this knowledge stored away for future reference I was confronted in June 2007 with yet another plant called *V. poenulata* by Ken Woods in Sydney which did look different to the previous Aussie *V. poenulata* I had seen. Here we must remember that *V. flammea* and *V. poenulata* are next to each

Dichotomous Subkey XI

Flowers in more than 2 ranks, polystichous. Inflorescence simple; stamens mostly exserted.

1. Inflorescence polystichous-flowered only at base, lax, elongate. Cuba (variety)	***platynema***
1. Inflorescence wholly polystichous flowered	2
2. Leaf-blades ligulate, acute, 4-5 cm wide. Mexico.	***malzinei***
2. Leaf blades narrowly triangular, attenuate. Brazil	3
3. Scape-bracts all bearing recurved elongate blades; inflorescence dense, few -flowered, 4-9 cm long.	***poenulata***
3. Scape bracts bearing erect blades, those of the upper ones very short	4
4. Inflorescence dense except at base; flowers in about 4 ranks, mostly suberect; floral bracts inflated	***flammea***
4. Inflorescence lax; flowers in slightly more than 2 ranks, all divergent or spreading at anthesis; floral bracts closely enfolding the sepals.	**corcovadensis**

other in Smith & Downs so they are very similar and we have to decide whether we take someone else's word on identification. Colour of the floral bracts for *V. flammea* says red or the highest yellow and for *V. poenulata* says red or the upper pale green which is very similar taking into consideration differences in growing conditions.

I suggest you look at *Vriesea flammea* in the broad sense because I suggest that this species is common in Australia whereas *V. poenulata* is not.

Reluctant to flower: Do they need a cold trigger?

Author: Pat Coutts

Brrr !! it has been cold in Paradise this year. Not our usual warm sunny, cloud free North.

But there's a bonus, Tillandsias that have never bloomed before are bursting forth & who knows? Maybe there will be other surprises awaiting around the garden.

One can't say I've been impatient, a hybrid Tillandsia which I brought back from the San Diego Conference some fifteen or more years ago is going to reward me with it's beauty. *Tillandsia* 'Flaming Cascade' is it's name, from memory, which is not very reliable these days.

Can't find it in the registered names list. I think *Tillandsia stricta* is a parent, but could it be a *meridionalis, tenuifolia* or *aeranthos* hybrid?

The name is long gone and it has been residing on a bench, with some seedling *Beaucarneas* (Pony tails), unmounted and neglected receiving very infrequent waterings and even less rain (Townsville, Queensland we are in the dry tropics)

It is a robust silvery plant which multiplies readily and the emerging flower looks like a large stricta, but so do a lot of others.

Tillandsia stricta is flowering late and in bloom now.

Some years ago I gave a *Tillandsia* 'Flaming Cascade' to June Buchanan and she reported that it flowered, which made me quite envious (see image pg. 35).

Had I been more patient I may have had blooms on *Tillandsia bergeri* and perhaps *duratii*, which were passed on to growers where there is a regular winter season.

In conclusion: A small tip to other growers of Tillandsias. I have found that suspending spent mature plants by the inflorescence, tends to promote extra offsets after the first pups have been removed.

Tillandsia secunda: Viviparous Offsets

(by Bob Reilly)

This tillandsia is interesting because it produces a mass of offsets (known as viviparous offsets) along its flower stem. On p. 29 there is a photograph of a clump of offsets on the old flower stem. Another photograph shows one of these offsets. It is about 15 cm long.

The offsets are easily detached from the old flower stem, by giving them a tug near their base. They can be potted in a coarse pine bark mixture. At flowering, the plant is about 50 cm tall and wide.

Ed. In order to let readers make the comparison between viviparous offsets and adventitious offsets I have published a photo of a Alcantarea extensa showing offsets at its base.

This particular plant was itself such an offset and appeared in an illustration in this journal about two years ago.


Alantarea extensa showing adventitious offsets at the base
Vriesea guttata
Tillandsia secunda

Notes on the Intensity of Colour in Spikes of Tillandsias

(by David Barry, Jr.)

Reprinted, with permission of the Bromeliad Society International, from the Bromeliad Society Bulletin, January-February 1961, v. XI (1), p.9.

Much of the beauty of tillandsias such as *T. lindenii* and *T. cyanea* is in the bright watermelon pink of their flat spikes. This colour is a delightful contrast to the blue or purple of the expanded flower petals.

Light is an important factor in the development of the pink colour. As evidence, the side of the spike that faces the brightest light is a darker shade of pink than the other side. Yet light is not the sole factor in intensifying the colour of the spikes. In fact, too much light will destroy the colour. As an example, when plants are placed in the bright light of full sun, the pink colour will be blanched to the colour of celery. When plants are suspended high in a glasshouse in a bright, hot location, even the green of the spike will be whitened.

In addition to light, temperature and humidity are essential factors in the coloration of the spikes. The deepest colour in the spikes can be developed by reproducing the cool, moist conditions of the cloud forest. But it will rarely be possible for the average grower to reproduce in his greenhouse or garden such a condition as that of a misty, moving air of cool, mountain slopes. Nonetheless, the goal can be recognized, and certain steps taken in its direction.

Keep the plants in the coolest part of your greenhouse or yard. If in the tropics, keep the plant in a shady part of the garden. At the same time, give the plants as much humidity as you can manage by spraying them from time to time, and watering down their surroundings. As an example of the response of the plants to a dull, cool condition, during overcast or foggy days, two and sometimes three flowers on the spike will expand at the same time, whereas only one flower is the usual development.

Our fellow society members, the Goodale Moirs, of Honolulu, place their *T. lindenii* and *T. cyanea* plants at the upper end of their Nuuanu Valley yard, where the cool driving rains and mists from the mountains above descend upon the plants. Under these conditions, the pink coloration of the spike is so dark, and also so bright, that a luminescence seems to be in the colour. The Moirs call this place in the garden their cloud forest. Other kinds of bromeliads, besides these tillandsias, grow luxuriantly here.

T. lindenii and *T. cyanea* are natives of the high Andes of Peru and Ecuador. As there is heavy rainfall in their native regions, the plants should be watered generously.

Light and Colour

(by Roger K. Taylor)

Reprinted, with permission of the Bromeliad Society International, from the Bromeliad Society Bulletin, January-February 1961, v. XI (1), p.8.

On a high shelf in our dining room, under fluorescent lights, we have a collection of bromeliads that, with their ornamental foliage, make an attractive display. The majority of the plants have their more pronounced markings on the underside of their leaves, readily visible in this position; one, however, has plain green on the under leaf, and all colour is on the upper faces.


Tillandsia cyanea 'Pinkie' unreg
Tillandsia compressa
Til. jalisco monticola x xerographica
Tilandsia fasiculata (ex florida)

Although I do not have a precise identification of this one, a number of its characteristics suggest Neoregelia carolinae, and it seems likely that it is a variety or hybrid of this species. The original coloration was a rich green, shading to pink at the very tips, but under the lights, a flush of purple-bronze developed. As this striking colour combination was not readily visible on the shelf, I moved the plant to a table about 60 cm below. While it was still illuminated by the lights over the shelf, the plant's interior was better displayed. In the course of a few weeks the extra colour disappeared almost completely; I now have it back on the shelf where once more the purplish overlay has appeared.

Two features of this behaviour are of interest. First, what is evidently a delicate balance between light intensity and colour was stumbled upon by chance. Second, the reversible colouring and fading of the whole plant is at variance with what I have seen with other plants.

Normally, in my experience, the leaf colour and marking is determined by the light conditions prevailing at the time of growth, and fixed. Perhaps someone who knows more about this matter, would care to comment.

Neoregelia macwilliamsii

by Derek Butcher

Ed. This article was first published in this journal in the May/June 1998 edition. During June/July of this year when I looked about my collection of Bromeliads nothing much seemed to be in flower except my Neo. compacta.

Olive Trevor told me that she didn't have much that could be photographed so I took some images of my N. compacta and asked Derek if he had any info relating to N. compacta. He came up with this article. However the story didn't end there. So read on and find out how subjective plant identification can be.

This all started with yet another parcel from John Catlan in Queensland with a plant named *Neoregelia macwilliamsii*. Now we all know the differences between *N.macwilliamsii* and *N.compacta* don't we? One is bigger than the other!

This saga started twenty odd years ago when we grew *N. compacta* in Adelaide where it flowered in the middle of winter and promptly died. Eventually it dawned on us that the plant didn't like living in Adelaide.

Some ten *(now twenty Ed.)* years ago we heard about *N. macwilliamsii* growing rampant in Queensland, so we thought we'd have another try. AND YES, *N. macwilliamsii* grows rampant in Adelaide too, but doesn't flower! So I have to rely on me mates such as John Catlan to send me the odd parcel now and again with a flowering specimen.

First things first. I had to photograph the plant and its sex parts before starting dissecting. This was finished including a discussion with the female of the household as to whether the top third of the petal was mauve (Isley #45) on the outside, and rose pink (#37) on the inside, or was it lilac (#44) depending on whether you looked at the comparison chart indoors or outdoors! Anyway this seemed more scientific than L.B.Smith's red for *N.compacta* and nothing for *N. macwilliamsii*. !

The comparison began and we came very close to *N. macwilliamsii*, despite the fact that long stolons are not mentioned in the formal description. The centre leaves were red with small green dots as specified and all other detail seemed to nearly match.

Harry Luther has always pointed out to me the similarity between the two species and that *N. macwilliamsii* could be conspecific. In


xNeomea 'Exquisita'
Aechmea chantinii 'Stripe on Stripes'
Neo. compacta + flower

fact he believes that the only difference is that *N. macwilliamsii* is a *N. compacta* with one or two genes from *N. marmorata.* This makes you think of a Skotak hybrid, only it has happened in the wild and could be represented by the formula *N.compacta* X *compacta* X *marmorata* X *compacta* !

What does intrigue me is that L.B.Smith named *N. macwilliamsii* in 1969 when he was aware of the existence of *N. compacta*. If you use Smith's Key using the *N. macwilliamsii* description you come to *N. compacta*! However, he decided to compare *N. macwilliamsii* with *N. carolinae* .

Let me digress for a moment. When a botanist describes a new species they must either describe the plant totally in Latin or do a comparison with another species in Latin. A Latin comparison is easier and seems more popular.

As a layman I used to think they would pick a species most closely allied but now I am not so sure. The cynic in me keeps suggesting that if 'A' differed from 'B' because of width of leaf then it would be quickly spotted as a synonym. If 'A' differed from 'C' because of a number of factors the outcome would be more clouded! Hence my concern in Smith's comparison of *N. macwilliamsii* with *N. carolinae* rather than *N. compacta*.

You are no doubt aware I have correspondents all around the world and luckily all write and understand Australian. I have one very good contact in Hawaii who is always having problems with correctly named 'species' imported from mainland USA. So we compare notes.

Lisa Vinzant said this, "The giant form of *N. compact*a is sometimes called *N. macwilliamsii*, although it exhibits flower morphology similar to the smaller *N. compacta*. Apparently it has a strong gene for marmoration since 100% of its hybrid offspring so far have been spotted plants, whereas *N. compacta* crossed with some other parent (e.g. *N. concentrica*) has shown none of this. Also you can tell the difference between the two not long after germination. A seedling with one *N. macwilliamsii* parent, be it male or female is long and grassy in a way that sets it apart from any other neoregelia that I've seen. I'm not saying that this is enough to qualify it as a separate species, just that there is more here than meets the eye" . For those who use photographs or paintings to assist in naming plants, there is a botanical painting by Margaret Mee that looks identical to *N. macwilliamsii* even to the small green spots on the red centre leaves, BUT, it is called *N. compacta* !

Elton Leme is slowly working through this group of the Bromelioideae and I hope he has a solution to our problem. As an aside, his latest book entitled '*Canistrum*', but covering *Edmundoa, Wittrockia, Hylaeaicum* and *Aechmea* as well, is a great read, and is worth the $125.00 cost and should be in every Group's Library. It is of interest to the technically minded such as Peter Franklin and myself, and has great coloured pictures for the not so technical.

The *N. compacta* saga continues in Australia where John Catlan has promised to send me a flowering portion of a 'true' *N. compacta* as grown in Queensland for comparison purposes. Apparently there is a range of plants in Queensland, from a compact *N. compacta* to an extra large, rarely flowering rampant *N. macwilliamsii*. (I think they let Adelaide have the last mentioned to keep us quiet !)

Both *N. compacta* and *N. macwilliamsii* offset well and I cannot see the necessity to grow these from seed, so how did this range of plants occur? Have successive waves of importation occurred from the USA each bringing in a 'true' clone with little pedigree?


Aechmea gamosepala
Tillandsia 'Flaming Cascade'
Photo Pat Coutts
Neoregelia
correia-araujoi
Photo # 5 Vinzant
Photo by Lis

Neoregelia macwilliamsii L. B. Smith, Phytologia 18: 138, pI. 1, fig. 7, 8. 1969; as "*mcwiIliamsii*"..
Desc. from S&D
Leaves: over 32 cm long;
Sheaths: broadly elliptic, pale green, 14 cm long, subdensely vestite with appressed brown-centered scales;
Blades: ligulate, broadly rounded and apiculate, 55 mm wide, entire or nearly so, inconspicuously pale-lepidote throughout, green near apex, below red with small green spots.
Scape: 3 cm long.
Inflorescence: ca. 30-flowered, 35 mm in diameter, wholly dark red.
Floral bracts: lanceolate, attenuate, thin, about equaling the sepals;
Pedicels: slender, to 5 mm long.
Sepals: lanceolate, acute, slightly asymmetric, 32 mm long, connate for 6 mm.
Type: L. B. Smith & E. L. McWiIliams 15432 (holotype US, isotypes MICH, R), large boulder pile near shore, northeast of Parati, Rio de Janeiro, Brazil, 13 Feb 1968.
Distribution. Known from the type collection only.

Neo. 'Brazil'

Author: Rob Smythe

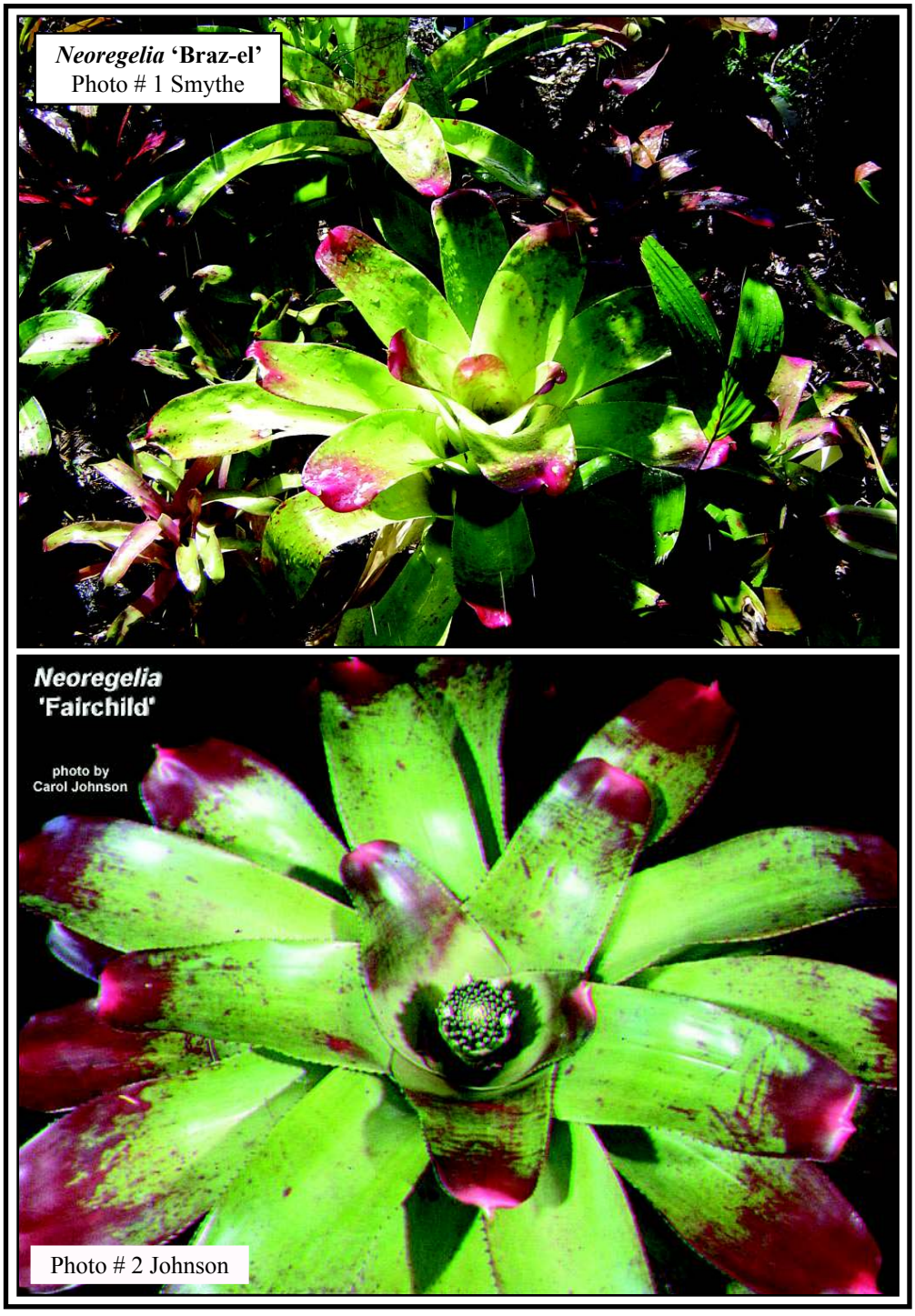
Neo. 'Brazil' or should that be *Neo. 'Fairchild'* or maybe *Neo. Braz-el.*

Introduction

There is an ever-increasing number of very large neoregelias that really need sorting out. The spectrum probably starts with the green *N. johannis* at one extreme, through N. Red Macaw, then the various spotted *N. johannis* plants then to *N. DeRolf*, then to N. DeRolf (with no stripes), *Neo. Fairchild, N. Braz-el* (see later) through to *N. correia – araujo*i at the other end of the spectrum. probably some where eons in the past, *N. marmorata, N. cruenta* and *N. Johannis* got together to form hybrid swarms. These swarms may have been stabilized by selective pollination. The bird with the right size beak may have been the factor. Things like nearly doubling of flower size and formation of a prickle at the end of the sepal (both found here) might restrict those birds with the smaller beak to smaller flowers. Darwin was laughed at when he suggested that a moth would be found with the 30 cm long tongue (proboscis actually). This would be necessary to pollinate an *Angraecium sesquipedale* it having a 30 cm nectary. Such a moth *Xonthopan morganii* was subsequently found. Darwin actually went to his grave believing such a moth would be found.

Bromeliad scholars in earlier times thought *N. correia–araujoi* was derived from *N. cruenta* and *N. marmorata*. Today it is more popularly thought that *N. johannis* is a better candidate than *N. cruenta*. The reasoning is that *N. cruenta* occurs to the north of Rio De Janeiro while the other two are found to the south. What was the case eons back? Fossil evidence is virtually unknown for bromeliads. *N. cruenta* holds its leaves erect. On a *N. johannis* they rise and curve down earth wise as they lengthen. *N. correia – araujoi* does the former. Another item of support is the variance in growth pattern of *N. cruenta*. You would never believe that the extremely large broad green leaved floppy plant growing in shade could turn into a much smaller tightly rosetted, strongly erect red leaved plant when grown in full sun. No wonder the botanists kept refinding it and giving it different names. I don't think we are ever going to sort out the mystery presented above.

The paper below is not that technical but one can easily get lost because I myself thought I had photographed two differently named plants at different times but the blemishes on the leaves proved they were photos of the same plant. Photos 3 & 4 have captions followed by question marks. I can delete from


Neoregelia **'Braz-el'**
Photo # 1 Smythe
Neoregelia
'Fairchild'
photo by
Carol Johnson
Photo # 2 Johnson

further discussion *N.* 'DeRolf' and *N.* 'Red Macaw' as these are now registered clones and with registered clones we don't have to register parentage. I don't think either are wild collected.

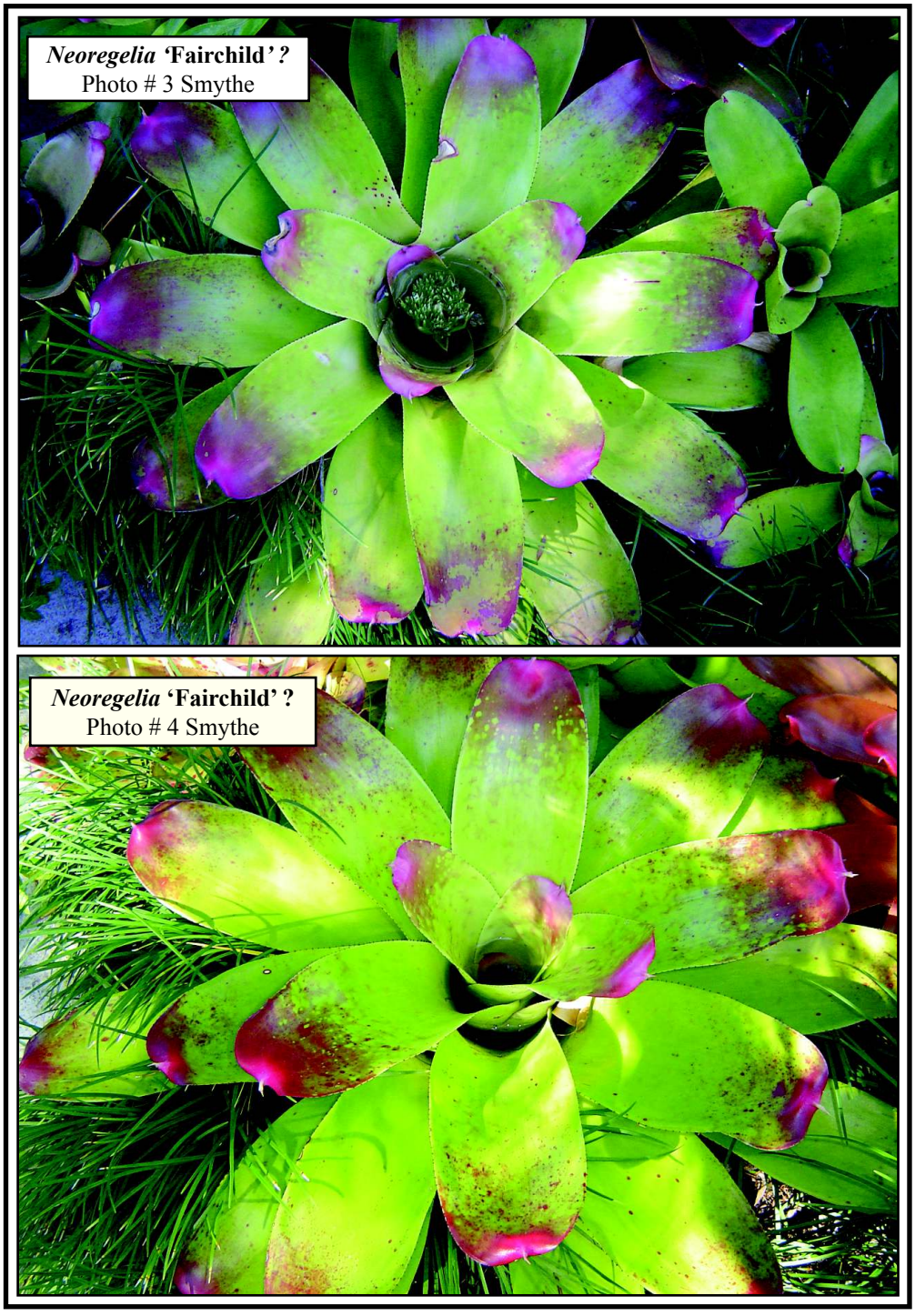
Registered Clones (cultivars)

My old friend known to brom growers world wide as Uncle Derek has asked me to write this article. Why have you done this to me Derek? All I asked of him was, could I give the plant, depicted in Shane Zaghini's first book, on page 8, a proper name? We all know this monster of a plant with Grace Goode's pixie like hand caressing the outer leaves. It is called 'Brazel Species' in this book. I thought it would be simple to correct the typo but, no, this was not possible as the name Brazil was taken. So I have asked Derek to name it *N.* 'Braz-el' which keeps the incorrect spelling but splits it so we don't offend the Brazilians. All looked well, but, I made enquiries about it in Brom Watch which I publish monthly. Should be doing it now instead of writing this!

Continuing on, Ian Hook, Richard Harper, Sam Mammino and of course Derek Butcher have been in contact with me. Ian has sent the news further through his contacts. Two photos of a plant called *N.* 'Brazil' have crossed my desk. None of these is correctly named as they are not *N. carolinae* types. How do I know that 'Brazil' should look like a *Neoregelia carolinae*? The Bromeliad Cultivar Register 1998 tells us this was a name used by the Quihots in Florida in the 1970's when they had a fetish with *Neoregelia carolinae* and saw lots of differences in the plants they had. Alas we only know it by name and not why it was considered to be different to all their other plants called *N. carolinae*! Now we can easily take photographs of our plants to give us some idea of what they look like. These days you can only register if you have a photo!

So the use of 'Brazil' as a cultivar name is not allowed because it had already been used. The photos that I received all looked the same as my *N.* 'Braz-el'. We tried to trace the plants back to their origin. One has traced back to Shane Zaghini. The other two are back to the South East Corner of Queensland. Shane's photo looks like it was taken in Grace's yard before the termites found the shed in the photo. I will just have to wait for the other sources to surface.

Then I started looking around. *N. correia–araujoi* (pg. 35 photo # 5 Vinzant) looks similar to *N.* 'Braz-el' (pg. 37 photo #1 Smythe) except you can drive a truck between the leaves of our Townsville *N. correia–araujoi*. The whorl angle, angle between successive leaves, is so close to 180 degrees that with some of them the leaves nearly pack in three columns. The plants of *N. correia–araujoi* I have take 4 to 5 whorls of leaves before the gaps between the original leaves are filled. The plant that I refer to as *N.* 'Braz-el' has beautiful shape and wide leaves. This nearly fills the gap in two whorls but takes no more than three to do the job. Because of its shape I thought I could discard *N. correia– araujoi* as a name for my plant even though its markings are closest to that of *N.* 'Braz-el'. The other contestants would be *N.* 'Fairchild' and a widely spread unregistered plant known to me as N. cruenta 'French's Clone'. I suppose it is difficult to register the latter as it is not a cruenta and most likely is a cruenta hybrid with *N. concentrica* or even more likely *N. johannis*. *N.* 'Fairchild' has been down this path. Firstly it was named as a cruenta then as a johannis and now has its own clonal name. That's another story. I got my measuring tools out and all I could exclude was the 'French's Clone' as it had much thicker leaves. With the others I measured thickness as well as width to length ratios and could not develop additional data which would clearly separate



***Neoregelia* 'Fairchild' ?**
Photo # 3 Smythe

***Neoregelia* 'Fairchild' ?**
Photo # 4 Smythe

them. Whorl angle is not a valid tool as it is culture dependent but reliable enough in these extreme cases. It is virtually impossible to work at the scientific level with plants coming from the horticultural industry.

I found out that Harry Luther has said that *N. correia-araujoi* is believed to be a natural hybrid. This could easily be checked by germinating wild collected seed. Could I do a major diversion here for the serious breeders of bromeliad species?

Using wild collected seed is not the same as selfing wild collected plants unless you take precautions. I have found that out in my area where ants are the major problem. Ant outcrossing has occurred from plants up to 4 metres away. A friend who has less of the large Aechmeas to distract our local humming bird's relative (*Nectarinia jugularis*), has found out that the outcrossing can be from anywhere. This wrecks any conclusions you might make about the genetics of the so called species or natural hybrid. The serious student, when selfing a plant, should move plant/s indoors before any flowers open and cover the flower head/s with a stocking. Clearly mark crossed flower or remove unwanted flowers. This is the only way that you have any hope of finding out if you have a true species. I'm not sure all the species photos found in fcbs would meet these criteria but we can only do our best. I am sure Derek would love to have photos of wild collected plants and details of seedlings, from wild collected seed, of the plants suggested to be natural hybrids.

So where are my investigations at? To register this *N.* 'Braz-el', it would have to be different to *N. johanni*s and different to *N.* 'Fairchild', for a starter so it is time to look at the evidence. Here I will borrow some pictures from the fcbs site with Derek's permission of course.

My plant in question. A young one at that is yet to mottle.

Well that looks good. My plant of 'Fairchild' (pg. 39 photo # 3 Smythe) looks just like the plant of 'Fairchild' found on the FCBS site (pg. 37 photo # 2 Johnson) and my plant of N. 'Braz-el' (pg 37 photo # 1) looks nothing like either of the *N.* 'Fairchild' photos and it does not look like any of the FCBS photos of *N. johannis*.

"Right! So Rob should go ahead and name it *N.* Braz-el".

"Wrong ! I only wish it was that easy?

"Heh Rob! What are you doing? That is another photo of *N.* 'Braz-el'. You covered it with your first photo, its not 'Fairchild' ".

Look more deeply my friends while Uncle Derek pulls his hair out. You will see why the '?' marks were put against the 'Fairchild' photos. See in this latter photo that there is a little heart shaped mark at the end of the leaf at about 3.30 and the little burn at the tip at about 11 o'clock.. Yes there they are again in the next photo up at about 2.30 and 9 o'clock. They are photos of the same plant at different ages. So as every second person has been telling me *N.* 'Braz-el' and *N.* 'Fairchild' look a lot alike. In fact they are probably the same clone. This plant grows erect like cruenta and flattens with age becoming more johannis like. I was fooled. I have photographed the same plant twice. Once, as a younger plant, it is the same as another plant of 'Braz-el' and photographed it about a year later and it is the same as 'Fairchild'.

"Well Rob, at least you eliminated *N. correia–araujoi* with its very open conformation "

"Wrong again!"

Look at the photo from FCBS web site (see pg.35 photo # 2 Johnson).

Could one of these be our plant *N.* 'Braz-el' grown hard and with little fertilizer? While this may be the case, it does seem that the plants Lisa Vinzant obtained in the 1980's

were smaller than we expect when looking at the dimensions in the prologue

Maybe *N.* 'Braz-el' = *N. correia-araujoi* (Vinzant) and maybe they are all the same clone as *N.* 'Fairchild' and thus *Neoregelia johannis*. You will have to wait now till flowering time so that I can at least confirm that they may or may not be all the same species (hybrid).

When I first received my *N. correia–araujoi* it was a plain, green, strappy thing which I planned to discard. I planted a pup in the sun and all the mottling turned up. How nice. Looking back now and with the photos above could the only difference between *N. johannis* and *N. correia–araujoi* be where it is grown?

N. johannis was described from plants in a heavily shaded area near the sea while *N. correia-araujoi* came from a presumably more open valley (Mambuco River Valley). They were both said to have great variations. Something for the botanists to consider. My plants are not wild collected and for what they are worth they have quite different dispositions of the leaves. May I be so bold as to suggest that they could all be one taxon. That is the lumper's point of view but as a splitter they become three. The sparsely narrow leaved flattened type; the multi- narrow leaved type and the broad leaved type like *N.* 'Braz-el', *N.* 'Fairchild', Vinzant's plants and maybe even *N.* 'DeRolf'.

So after all that, what do I do? The simplest thing would be to drop 'Braz-el' after all my work and call it 'Fairchild'. What can you do? If you have both please grow them side by side in a couple of locations and let me know your findings.

N. 'DeRolf'—If you get a non variegated form does it grow stronger and more erect or does it flop at the tips like its mother. Please let me know.

The saga continues but shows that

The BSQ Web Site

Don't forget that the society has a web site. We place urgent and general information and information on the site. It also is a resource for smaller societies to get articles for their newsletters.

The URL is:

www.bromsqueensland.com

non-attention to detail in the early stages compounds problems at a later date. Thanks to Derek for doing some fill-in information. Hopefully a couple of related articles from Derek will accompany this publication. They should help the more serious scholars to follow my line of thought.

I think, just for the sake of tidying up a mess in our bushouses, all the plants out there carrying the name *N.* 'Brazil' and (I think they will all fit with *N.* 'Braz-el') should be renamed *N.* 'Braz-el'. For this reason alone I would suggest registration is needed. It can be linked with *N.* 'Fairchild'. With further research we may, like my pair of plants, find they are the same. If my finding is a general one, we won't be the first to name the same plant twice.

Rob Smythe MSc
69 Bundock St
Belgian Gardens 4810
Townsville

Is *Neoregelia correia-araujoi* a natural hybrid?

Author: Derek Butcher

First I must point out there is no stigma attached to a plant being called a natural hybrid. Most plants were at one time a natural hybrid – it was just that some settled down to become treated by taxonomists as a species. There are many plants currently described as species which are most likely recent hybrids! But this should not stop us discussing odd happenings. Elton Leme is strongly of the opinion that this taxon is not a hybrid. This is what he had to say while showing photographic slides in the Report of proceedings at the Brom. Conference New Zealand 2003

"On the contrary *Neo. johannis* grows in an area covered by forest close to the ocean. You can see it here in the south part of Rio de Janeiro, some rock formation and you can see when *johannis* grows on the rocks very close to the salt water. You can see here the level of the high tide and it is very adapted to the salt conditions. You can select all kinds of shapes and colours and I saw here and in many other places, different plants supposed to be hybrids or supposed to be cultivars but they are just selections of the typical populations. Here are some examples of different populations just two kilometres apart. You can also find variegated ones sometimes but these are a different category in terms of taxonomy and you can use a cultivar name. (This is where 'DeRolf' comes from.)

Another problem is *Neo. correia-araujoi*, you can see that it has spotted leaves that never occur in the typical *johannis*. People used to say that *correia-araujoi* may be a natural hybrid between *cruenta* and *mar-*

morata but the populations of *cruenta* and *marmorata* are never in contact in the environment, *Neo. cruenta* grows up north of Rio de Janeiro and johannis grows to the south. *Neo. marmorata* grows in Sao Paulo state far away. Here is *correia-araujoi* in shade conditions, and you can see it is keeping the spots on the leaves.

This is the typical *Neo. marmorata* from Sao Paulo, a smaller plant compared to *correia-araujoi* and *johannis*, with narrow leaves and a very peculiar kind of ornamentation. In the *cruenta* the petals are blue and in *johannis*, white. Here we have some white petals with tips of lilac, and also some shades of green in the lower part of the petals."

As far as I am aware *Neo. cruenta* has never been part of the discussion although there was much confusion up to the 1990's as to what constituted a *Neo. cruenta* and what was *Neo. johannis*. Elton does know where these species are found whereas we have to rely on reportings from publications such as Smith & Downs. As such we are unaware of the exact localities for *Neo. johannis* although we do know that *Neo. marmorata* has been reported from Parati in the state of Rio de Janeiro.

In 1983 Pereira and Penna described *Neo. correia-araujoi* and compared it with *Neo. marmorata*.

In the late 1980's Lisa Vinzant of Honolulu obtained two verified clones of *Neo. correia-araujoi* which she crossed in both directions. She got 1/4 to 1/3 plain green 'johannis' type plants and the rest with some degree of marmoration.

In 1992 I obtained seed from Brazil called *Neo. correia-araujoi* and the resultant progeny included green 'johannis' type plants which when flowered linked to the *Neo. johannis* description. Others seemed closer to *Neo. marmorata* but could not be linked directly to the *Neo. marmorata* description.

In private correspondence with Harry Luther I also found out that he too believed there was a link with these two species but I do not know what he based his opinion on.

Clearly, something odd was happening from two different sources. The problem is that hybridisation occurs more easily from plants held in Brazilian collections rather than in the wild but to have similar results from two different sources suggest that there is a close relationship with all three species. Whether you write *Neo. correia-araujo*i or *Neo. Xcorreia-araujoi* on your label is your decision.

Botanical description: Neoregelia correia-araujoi Pereira & Penna, Bradea 4:2-3, 6.1983

Plant: epiphytic, flowering to 40cm high,

Leaves: many, rosulate, forming an inflated funnel shape at base, ligulate, membranaceous, all the same colour, ca 40 cm long,

Sheath: wide elliptic, ca 18cm long, maximum width 12cm, both sides dense punctate lepidote, purple and green spotted,

Blade: sub linear, ca 22cm long, maximum width 11cm, tip red spotted, wide rounded emarginate, with rigid mucron, edges sub-densely spined, spines 1-3mm long, purple Scape 4cm long, 1cm diam.,

Scape bracts: ovate, 35mm long, apiculate, entire, slender, whitish, both sides punctate lepidote,

Inflorescence: simple, sub-globose, 10cm long, 8cm diam.,

Involucral bracts: narrow ovate, 45mm long, tipped with a spine, entire, whitish and membranaceous, both sides punctate lepidote,

Floral bracts: linear, 6cm long, 1-2 cm wide, entire, hyaline, tip acute, lightly lepidote, not keeled, whitish, equalling the middle or more of the sepal

Flowers with pedicel: ca 8cm long,

Pedicels: ca 3cm long, white,

Sepals: 25mm long, sub-lanceolate, tipped with a spine, asymmetric, glabrous, green, 3mm joined at base,

Petals with stamens: missing in our specimen,

Ovary: cylindric, ca 2cm long, white, Epigynous tube 2mm long, Placenta joined to the middle of the loculus, Ovule apiculate

Type: State of Rio de Janeiro, Angra dos

Reis, leg. Luiz K. Correia de Araujo no 42, 18th January 1983 Holotype HB

Differs from N. marmorata in Flowers 8cm long not 5cm, Pedicels 3cm long not 15mm, Floral bracts not cucullate nor carinate (neither of these are mentioned in Smith's Description) with acute apex, Sepals with a spinescent apex, Ovary cylindric not ellipsoid

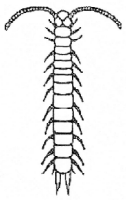
Harry Luther suggests hybrid between marmorata and johannis. 1992

Peter Waters, NZ said in Nov 2005 Neo correia-araujoi only comes from Mambucabo River valley, just south of Angra dos Reis, where it is very variable, I saw many

Are There Symphylids In Your Garden?

Peter R. Paroz

There do not appear to be any references to symphylids as an insect pest of cultivated bromeliads although they have been reported causing serious damage to pineapples, Ananas comosus 'Smooth Cayenne', in Hawaii and Queensland. This may be caused by a lack of information about these insects and their detrimental effect on plant growth.



Symphylids are small, blind, fast running multipedes (length: < 10mm) which inhabit soils and forest litter. They are generally white, but dark-coloured gut contents can often be seen through the body wall. Many feed on decaying organic matter, but some are known to feed on plant roots. Symphylids, which have caused losses in Queensland pineapple fields, are of the genus Hanseniella. This is a large symphylid (to 6mm) with 14 body segments and 12 pairs of legs. It is white in colour, often with a grey or brown streak on the back. It has prominent, active antennae. It is shy of sunlight and moves quickly under cover to avoid exposure. Symphylids have no eyes and move by feel as though undecided as to direction; a trait which is quite characteristic. These insects cannot burrow and are found in loose, open, or stony soils.

Symphylids affect plant growth by eating the tips of new root system growth, restricting the uptake of water and nutrients. This damage results in a root system with short, heavy branching; and with a characteristic 'witches broom' appearance. If you find a plant with this type of root development, then check the soil or potting mixture. Spread the mixture thinly on a dark background and look for small white centipede-like insects.

Bromeliads most at risk are those planted in soil or garden beds in open or stony soils. Plants grown in mixtures of sterile or inert ingredients such as peatmoss, perlite, washed sand, etc. should not be at risk, but infestation by migration from infested soil is a possibility. With the current popularity of bromeliads as 'water wise' plants for landscaping, symphylid problems may become more apparent.

Control is by sterilization of the potting mix, or by drenching the soil or potting mixture with Lindane (400 ppm active). (1984 recommendation) Avoid putting this solution on the leaves as tissue burn is likely to occur. Drenching with Lindane provides good residual protection against reinfestation but is no longer available; and approved control agents are not available to gardeners.

Schedule of Talks at Monthly Meetings

Main Presentation

July - Steve Flood on Landscaping
August - Bruce Dunstan on Panama
September - TBA
October - Ross Stenhouse on Photography
November - Arno King

Beginner's Classes

July - Narelle Aizelwood

August - Alan Phythian - Seed Raising
September - unknown at present
October - Len Trevor
November - Dorothy Cutcliffe

Beginners Class

Author: Ross Stenhouse

The beginners classes are held before the start of the BSQ monthly meeting. They usually start about 7:30pm.

I am a regular as far as the beginners classes are concerned. I usually find them, together with looking over the sales tables, the most enjoyable part of the meeting.

The August beginners class was conducted by Alan Phythian. Alan is a orchid enthusiast with over 30 years experience. About three years ago he started growing broms. His main interest seems to be in the hybridizing of vrieseas.

Alan demonstrated the method of preparing a seed bed for sowing vriesea (and other brom) seeds. I have successfully grown broms from seed. Whilst I knew it was important to sterilize the seed bed, I didn't know that it was important to spray a anti-fungicide over the sown seeds immediately prior to sealing the container.

Alan passed around samples of vriesea seed to allow those present to see what the seed looks like. He also had sample packets of *Alcantarea extensa* which he gave away to those attending the beginners class. A kind thought and a practical one, the seed allows the attendees present to put into practice what they have learnt.

Points like this are why I attend the beginners classes. Whilst I have a reasonable knowledge about the cultural aspects of growing broms, these small practical tips are invaluable.

Well done Alan!

Calendar of Events

October 14th - Field Day at the home of Viola Hamilton. Viola's garden is also part of the Australian Open Garden Scheme held each year. The address is 280 Beaudesert - Beenleigh roads in Bahr Scrub just south of Beenleigh

Nov 10-11th. - **Bromeliad Bonanza** - Spring Show and Plant Sales at Mt Cootha Botanic Gardens, 8 am to 4 pm Saturday, 9 am to 3 pm Sunday.

December 6th - Society Christmas Party

GENERAL MEETINGS of the Society are held on the 3rd Thursday of each month except for December, at the Uniting Hall, 52 Merthyr Rd., New Farm, Brisbane, commencing 8 pm. Classes for beginners commence at 7.30 pm.

Plant of the Month Programme for 2007

JANUARY:	Aechmea, Alcantarea, Ananas, Androlepis, Areococcus, Ayensua.
FEBRUARY:	Billbergia, Brewcaria, Brocchinia, Bromelia.
MARCH:	Canistropsis, Canistrum, Catopsis, Deinacanthon, Deuterocohnia, Disteganthus, Dyckia.
APRIL:	Edmundoa, Encholirium, Fascicularia, Fernseea, Fosterella, Glomero pitcairnia, Greigia, Guzmania.
MAY:	Hechtia, Hohenbergia, Hohenbergiopsis, Lindmania, Lymania, Mezobromelia.
JUNE:	Navia, Neoregelia.
JULY:	Nidularium, Ochagavia, Orthophytum.
AUGUST:	Pepinia, Pitcairnia, Portea, Psuedaechmea, Psuedananas, Puya.
SEPTEMBER:	Quesnelia, Racinaea, Ronnbergia, Steyerbromelia.
OCTOBER:	Tillandsia.
NOVEMBER:	Ursulaea, Vriesea, Werauhia, Wittrockia.

Competition Schedule for 2007

Novice, Intermediate and Advanced in each Class of the Mini-Shows and in the Popular Vote.

January: **MINI-SHOW**
Class 1: Aechmea - species and hybrids
Class 2: Vriesea - species and hybrids
Class 3: Dyckia - species and hybrids
Class 4: Any Other Mature (flowering) Bromeliad - species and hybrids.

February: **POPULAR VOTE:** Any Genus – species or hybrid

March: **POPULAR VOTE:** Any Genus – species or hybrid

April: **MINI-SHOW**
Class 1:Bromelioideae not listed elsewhere in the schedule – species and hybrids.
Class 2: Guzmania - species and hybrids
Class 3: Pitcairnia and Pepinia - species and hybrids
Class 4: Any Other Mature (flowering) Bromeliad - species and hybrids.

May: **POPULAR VOTE:** Any Genus – species or hybrid

June: **POPULAR VOTE:** Any Genus – species or hybrid

July: **MINI-SHOW**
Class 1: Billbergia - species and hybrids
Class 2: Tillandsioideae not listed elsewhere in the schedule – species and hybrids.
Class 3: Neoregelia - species and hybrids – up to 200mm diameter when mature.
Class 4: Any Other Mature (flowering) Bromeliad - species and hybrids.

August: **POPULAR VOTE:** Any Genus – species or hybrid

September: **POPULAR VOTE:** Any Genus – species or hybrid

October: **MINI-SHOW**
Class 1: Neoregelia - species and hybrids – over 200mm diameter when mature.
Class 2: Tillandsia - species and hybrids.
Class 3: Pitcairnioideae not listed elsewhere in the schedule – species and hybrids.
Class 4: Any Other Mature (flowering) Bromeliad - species and hybrids.

November: POPULAR VOTE: Any Genus – species or hybrid

Note 1: Class 4 in each Mini Show schedule provides for any flowering bromeliad that would not be in its prime for the appropriate Mini Show.