Bromeliaceae

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The Bromeliad Society of Queensland Inc.

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Front Cover:	*Ae. 'Shining Light'*	Photo by Ross Stenhouse
Rear Cover :	*Guzmania* 'Indiana'	Photo by Ross Stenhouse

Contents

Important things to remember to do:

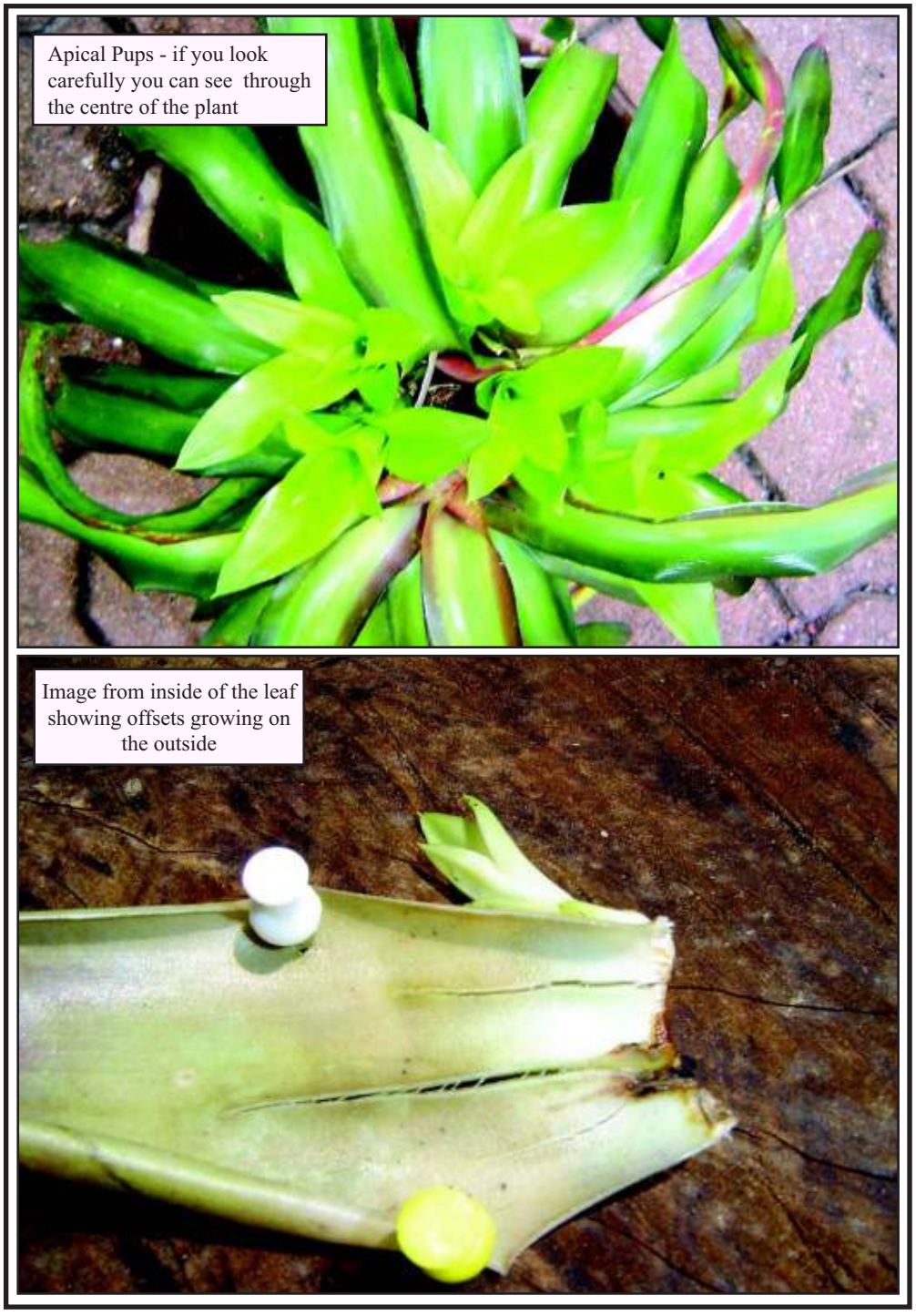
5th July - Bromeliad Seminar - 9AM to 4PM, core time 10AM to 3PM, Pamela Koides, the owner of the Birdrock Tropicals nursery in the Unied States, has agreed to be the keynote speaker for this event. Bring your own lunch- see advert page 45

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
• 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.



Apical Pups - if you look carefully you can see through the centre of the plant

Image from inside of the leaf showing offsets growing on the outside

Believe It or Not, But It is All True

Author: Rob Smythe MSc

People have come to me in the past with a brom looking like a telescope. You look in one end and you can see right through it. What can I do? It is usually hopeless but I have always believed there was something that could be done. I suggest they thoroughly clean what is left of the plant, spray it with a good systemic fungicide and hang it on a loop in the bush house and just spray it with water and/or fungicide to stop it drying out. Most people thought I was mad. I was visiting a friend in Ipswich and found out that she was doing the same and also with some success. Well, I now have the proof that we were doing things right.

Firstly, those who know me would guess that there must have been some science to my thinking. Here it is. Bromeliads have two major meristematic types. These are regions where plant cells are quickly dividing and making new tissue. The best known is the apical meristem where all the new leaves, new stem and flowers are formed (the growing tip). The second is the growing ends of the root tip.

Let us look further at the growing tip of the plant. As the tip grows further and further it leaves behind a bundle of dormant meristem tissue in the leaf axils. These can be stimulated into action by the plant when it flowers, has apical damage and sometimes just for the hell of it. Technically this is called lack of apical dominance and is controlled by a hormone. Similarly you will be familiar with the use of rooting hormone to produce more roots. We all know that we get pups from these axil pockets. What happens now, when all the above are destroyed by rot or physical damage? We usually throw the plant away.

We all overlook another area of meristem deposited by the apical meristem as it progresses ever upwards, namely the Intercalary Foliar Meristem. I have been aware of the very existence of these ever since my very early days of brom growing.

Len Trevor may remember this from when I tried to grow a brom from a leaf. His look said everything. I was aware that broms have longitudinal white stripes as variegations which were a direct result of the leaf growing from a cross section of meristematic cells across its base of the leaf. White cells make white cells and green make green and soon the leaf appears with its stripes and keeps on growing. Why can't we get pups from these leaf bases? I have always believed we could. Well now I have proven it.

Hopefully there are photos with this article showing a Neoregelia treated as above with a pup coming from the outside of a leaf and not from the inside leaf axil. This pup is developing from the Intercalary Foliar Meristem.

I think this is not only important to us but also to tissue culturists. It might even mean that we can tissue culture variegates from this area and get a higher than the usually pathetic preponderance of variegate plants from seed or tissue culture.

I was going to leave the story here but maybe a reader will be concerned that there is more in the botany books, and tissue culture literature than I have revealed.

Mesophyll cells.

These are thin walled parenchyma cells commonly found in leaves. These are living entire cells which are not usually meristematic but can be stimulated into regrowth by damage. The regrowth of burnt


Nidularium procerum
Pitcairnia andreana

eucalyptus forests and the leaf shoots on damaged African violet leaves are the best known examples. I have seen no examples of this type of regrowth in bromeliads but that does not say it is impossible. I have not seen it with my orchids either yet specialist tissue culture laboratories have done wonders with leaves. When I say wonders I mean wonders. Not only have they made new plants from individual cells but they have hybridized different plants asexually, using protoplasts, forming tetraploid plants with the full, not half, genetics of both parents. I expect all this to happen with broms. I am not up with brom tissue culture but from what I have seen it is still in its infancy.

There is More.

This could please the commercial growers and is something I only discovered in the last month or so. As a brom matures the leaves stop growing flowers forming. This consumes and terminates the apical meristem. The loss of apical dominance tells the lower meristematic cells in the lower leaf axils to form pups. Sometimes we interfere. Variegated plants have the right cytoplasmic medium to form stripes. This can change without notice to form all white or all green leaves. Usually the variegation is lost. We have learnt how to deal with this. We stick a Philips head screw driver down the centre, destroying all of the growing tip. All the immature leaves are also destroyed and fall off. Meristematic dominance is removed and variegated pups appear from the base which still retains the correct cytoplasmic medium for variegation.

I did something differently recently. I had a plant which I valued with a fallen branch sticking out of the well. I decided to operate. I carefully went under the damaged leaves with a very sharp knife and in doing so I removed just the meristem leaving the young leaves still in good shape. I was rewarded by a mass of five plants coming not from the bottom but from the top of the plant. I have supplied a photo but it may not be print quality. This plant was too valuable for me to rip apart in the name of science but I am guessing they are not coming from the main stem but from the leaf bases which were on young leaves with the leaf based meristem still actively dividing. If I am correct I expect a second set of pups from the same area. How many could I expect? How long is a piece of string?

Striking Broms

Author: Ross Stenhouse

A while back I read somewhere that a bromeliad enthusiast who was interested in growing pups from a rare plant which had a reputation for being difficult to get to grow roots had solved the problem by 'striking' the plant in water first.

I thought I would give it a try and chose to attempt it with a *Nidularium procerum*. I filled a bottle with a dilute solution of nitrosol in water and placed the bottle and plant on the kitchen window sill.

For quite some time, nothing seemed to happen and one day my wife, Jan called my attention to a small root that had started to grow from the plant.

A month later, the plant had grown to the extent shown in the photograph on the opposite page (top right). As can be seen from the photograph (top left) the plant is very healthy despite the bottom quarter being immersed in water for over three months. I had expected that the plant would rot and the results I was getting were somewhat unexpected.

The problem I now face is how long do I continue my experiment, what is the best course of action to take now.

Tillandsia Workshop

by Greg Aizlewood

At approximately 10.30 a.m. on the 8th March 2008 the much awaited workshop dedicated to Tillandsias commenced at the home of the convener John Olsen. Enthusiasts from as far west as Gatton, as far south as the Gold Coast, and from as far north as Cairns, attended. Yes, Uncle Bob Hudson flew all the way down and graced us with his presence. He was thanked by all for his attendance, the plants he offered, the information supplied on the coming world conference and his contributions during discussions throughout the day.

John kicked the proceedings off by introducing himself and his wife Cherie, and welcoming everyone in attendance. John has recently moved into these new premises and has had to build new shadehouses on his sloping block. Part of the design incorporated a dedicated area for germinating and raising Tillandsia seeds at which John has become very adept. He showed his method of laying the seed down on a piece of cream shadecloth which is stretched across a small piece of galvanised mesh. These structures are then placed in the dedicated seed raising area where they are watered on a regular basis using fogging nozzles which provide a very fine mist that gives the seed or seedlings the moisture they require without disturbing them. The watering system is controlled by an electronic programme device. He also spoke on the properties of Weldbond which he is trialing as an adhesive for mounting Tillandsias on timber. Having seen the product mentioned in a magazine and being aware that it is used by some in the U.S.A. he has decided to run some trials of his own .

Next to address the gathering was Gary May who spoke on his method of growing seed which involved germinating the seed on plastic flyscreen mesh that is stretched across a piece of galvanised mesh and transferring onto 300mm by 300mm by 3mm cork tiles using exterior PVA wood glue as an adhesive when the seedlings are approximately 3mm high. They are positioned on the tile in a structured grid pattern so that each plant occupies an area of approximately 6mm x 6mm on the tile. When the plants have grown to about 6mm high the cork tile is then cut up into individual plant lots which are then attached to a wooden clothes peg using the same PVA glue. The pegs with plants attached are then suspended on the galvanised wire mesh in the shadehouse. The samples passed around showed that this system was working well for Gary.

Viv Duncan also spoke on his method of raising seed using felt as a support medium for the seed during germination. He passed around some samples with seedlings attached which indicated that his system was also working fine.

Greg Aizlewood was the next to speak and once again seed raising was part of his topic. Similarly, he raises his seed on fly screen mesh and transfers the seedlings to wooden mounts using a polymer based sealant as an adhesive. He spoke on the redeeming properties of Selley's All Clear (polymer based sealant) as an adhesive for attaching plants to mounts. He first sighted this being used by Derek Butcher and after using it for twelve months seemed suitably impressed with the reliability of the product as an adhesive medium.

The next speaker was Nigel Thompson from the Sunshine Coast who has been successfully growing some of the more delicate or difficult to grow plants under southern Queensland conditions. He talked about

Tillandsia dyeriana and a *Tillandsia wagneriana* hybrid which he has been growing and the evidence provided was a very impressive flowering, lush foliage example of both plants. Well done Nigel.

Following lunch Nev Ryan introduced the group to an impressive display of flowering *Tillandsia fasciculata* and some unusual Tillandsias which are not always readily seen or available in this area. Plants such as *Tillandsia klausi, Tillandsia mauryama, Tillandsia atroviridipetala, Tillandsia delicta*, just to name a few.

Len and Olive Trevor also presented an impressive display of *Tillandsia fasciculata* which added more fuel to the Denis? Tropiflora? densispica? debate. In addition a couple of rather desirable clones of *Tillandsia fasciculata* var. *clavispica* notably one with an inflorescence which resembles a candelabra in shape with bright yellow floral bracts.

Cheryl Basic added more fuel to the fire with some of her *Tillandsia fasciculata* which appeared similar to those previously presented yet had differing names.

Barry Genn displayed and described some of the hybrids he had produced during his twenty odd years of being exposed to Tillandsias. He emphasized the need to be very deliberate in the selection of parents when hybridizing and to have a predetermined aim on what you intend to achieve, rather than just indiscriminately splashing pollen around and wishing for the best. One of the other attendee's offered some sound advice when they suggested novices should hone their skills by raising species from seed before they venture on to hybridizing.

Next Helen Moriarty and Pam Butler presented similar forms of *Tillandsia cyanea* and lead the discussion of why a plant labeled "Pinkie" had not flowered. Those more schooled in the art of cultivating Tillandsias informed the group that the plant was too young and would probably flower in the next twelve months. Pam's plant, for which she was chasing a name, was reviewed and following her description of the flower it was considered to be a possible hybrid of *Tillandsia cyanea* and *Tillandsia lindenii*. The name "Emilie" was suggested as a possibility.

Wendy Brown, a new addition to the group, brought along her collection of *Tillandsia brachycaulos* and hybrids and enlightened us to the trials and tribulations of growing Tillandsias in the Gatton area on the Darling Downs. The air temperature in this area can extend to both extremes and water quality and quantity can leave a lot to be desired. In view of these challenges the group admired her persistence and congratulated her on the quality of her plants.

Gwen Parkinson introduced the group to a rather impressive specimen of *Tillandsia latifolia* var *Major* which she had purchased from Doug Upton and was growing on her fence in full sun. The plant stood approximately 1.8m high and the inflorescence which had started to appear was expected to extend well past the 2.5 m mark. The plant dwarfed Gwen and in her hand, resembled something you would expect to see accompanying an American Indian chief.

John closed the day with a short power point display on various forms of *Tillandsia utriculata / Tillandsia elongata* pointing out some of the differences as he went. A very pleasant and informative day was had by all and hopefully a repeat workshop will be held in 2009.

Tillandsia 'Pat Coutts'

Tillandsia 'Pat Coutts'

Tillandsia 'Pat Coutts'

(by Bob Reilly)

The photographs on p.10 illustrate a particularly nice clone of *T. fasciculata* v. *denispica* (thanks to Derek Butcher for arranging for the identification). A small-growing form of *T. fasciculata*, it has pronounced silver scurfing on its leaves, and the bracts are coloured a lovely, "soft" lolly pink. It produces few offsets, unfortunately.

The cultivar has been named after Pat Coutts, one of our members from Townsville. Pat collected it several decades ago from fallen trees at the end of an airstrip on the island of Andros (latitude 25 degrees North) in the Bahamas.…"

Book Review: Searching For Miss Fortuna - The Hunt for a Bromeliad

BY Bob Reilly

This book was written by Chester Skotak, a prominent bromeliad hybridist based in Costa Rica, and published by Reliance Media. It can be purchased in Australia from Floriegium (phone: 02 9571 8222; email: gil@floriegium.com.au). It can be borrowed from the Society's library.

Chester Skotak describes this book as "…a novel inspired by true events…" It is loosely based on the events that led to the discovery, and introduction to cultivation, of a lovely cultivar of *Guzmania lingulata*, namely,'Fortuna'.

It is basically a paperback novel and contains little in the way of descriptions of plants or their habitat. I would describe it as more a book about human nature and the different types of people, and their motivations, who can become involved in attempting to acquire rare bromeliads.

So, it is an interesting book about human behaviour (and Chester Skotak's views on the topic) but of only marginal relevance if you are primarily interested in bromeliads.

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

Nid. innocentii var *lineatum*

Green tree snake in broms - photo Helen Moriarty

Importing Bromeliads

Hi Everyone

As many of you may know, it has become much harder to import bromeliads into Australia recently, due to AQIS policy changes.

An external review is under way of AQIS and submissions are sought by 28 April 2008.

This is a good opportunity to seek some changes to AQIS requirements and "open up" communication channels, at a policy level, with AQIS for the future.

Olive Trevor has offered for the BSQ to act as a "co-ordinating" society to deal with AQIS (Government agencies prefer to deal through one co-ordinating mechanism than with hundreds of individuals).

Please let Olive Trevor know (email : oliveb@bigpond.net.au phone: 07 3351 1203) if you have any queries concerning this email.

Thanks

Bob Reilly

Hello Ross,

This Green tree snake was gliding through my Neoregelias checking out the water tank in the centre of each plant. Perhaps he thought he might find a tasty frog lunch there!

Regards

Helen Moriarty

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Submission to Quarantine & Biosecurity Review Inquiry

Author: Bob Reilly

This submission deals with the consequences arising from AQIS' 2007 changes to the permitted genera and species of bromeliads that can be imported into Australia. An alternative approach is recommended.

1. Background

There are over 3,000 species, sub-species and varieties in the family Bromeliaceae (bromeliads), and over 10,000 hybrids. Importation of these plants has been occurring for over 100 years, with relatively large numbers imported in the 1970's to 1990's.

It is important to note that none of these bromeliads has ever become a weed species in Australia.

Importation occurs at two levels:

- Importation of a large number of plants of a small number of species or hybrids, through a few commercial nurseries.
- Importation of a small number of plants (typically less than 10) of a large number of species and hybrids, by collectors. Some of these plants subsequently become widely grown in Australia as offsets are distributed through swapping and sale amongst bromeliad hobbyists and keen gardeners.

This submission focuses on the collector "level" of importation. It is based on my personal experience (I have undertaken several importations from Germany and the United States of America over the last five years), as well as the experiences of other importers.

There are several challenges associated with obtaining bromeliads from overseas

Guz. lingulata hybrid

Crypt. fosterianus hybrid

hobbyists and nurseries. They are:

• Typically, they will only have a few plants for sale of a given species or hybrid. Plant availability frequently changes and, because of the slow propagation rate of bromeliads, a given plant can often become unavailable for several years. So, it is often a case of "buy it now or miss out".

• If you travel overseas to buy plants, it is rare for you to know precisely what will be available before you depart.

• Many bromeliad species have not been botanically described or, in the case of hybrids, formally registered. For example many Tillandsia (a bromeliad genus) species are labelled as:

'Tillandsia sp' collection location e.g. 'Pinat del Rio'.

Further, not only are many hybrids unregistered, but their parentage is unknown.

The 2007 AQIS changes require that a 6 page questionnaire be completed for each species/hybrid that is not on the improved importation list. (The questionnaire is designed to ensure that species/hybrids that could become weeds in Australia cannot be imported). Many months can pass before an assessment is made and the species/hybrid is placed on the list of bromeliads that can be imported. (Currently, there are less than 10% of the described/registered bromeliad species on that list).

So the net effect of the 2007 AQIS changes, when combined with the realities of overseas' bromeliad sourcing (as described above), has been to severely curtail the importation of bromeliads by collectors.

This outcome is considered unreasonable when one considers the fact that no bromeliad species or hybrid has ever become a weed species in Australia.

2. Recommended Approach

The approach used prior to the 2007 AQIS changes was workable and practical. It combined a "blanket approval approach" for species and hybrids from certain bromeliad genera with a case-by-case approval of species/hybrids from other genera. The vast majority of importations came in under the "blanket approval" genera. If necessary because of international conventions, this "general level" approach could be modified to contain a listing of all known species for the genera which previously had "blanket approval". If this modification was made, it would be important to include a "species (nova)" listing for each genus to allow for undescribed species. A similar approach would be needed for hybrids.

It is recommended that AQIS adopt this approach.

This approach would also reduce the burden on AQIS of assessing many hundreds of questionnaires as well as the burden on individuals who have to complete them. It would enable AQIS, and its assessors, to focus on those plant species/hybrids that have some possibility of becoming weeds in Australia, unlike bromeliads.

3. Consultation

The 2007 AQIS changes were introduced without consultation with bromeliad importers or bromeliad societies. All or most of these people and organisations would have been happy to discuss the issues with AQIS. This lack of consultation is unfortunate, as I have found AQIS field staff to be polite and helpful. However, this change was at a policy, rather than operational, level.

I would be happy to discuss my proposals with staff from the review or AQIS. My contact details are: phone (work) 07 3224 2898, email: bob.reilly@nrw.qld.gov.au.

Neostropsis 'B-Fire'

Guz. sanguinea (small form)

xNeostropsis 'B-Fire' versus 'Shadeball'

by Derek Butcher

A success story where a cultivar's origin has been revealed because of a younger bromeliad grower's eye for detail.

This started towards the end of 2005 when Ian Hook from Sydney alerted me to the fact that a plant called *Nidularium burchellii* x Neoregelia 'Fireball' was in circulation. Not only did it take ages to write the label but this was grex formula which should only be used by hybridists while under their control.

Theoretically, it should have been given a Cultivar name, and registered, when released to the 'general' public. Who was the hybridist? Contact with Olive Trevor of the 'Olive Branch' failed to get an answer but it seemed the plant had come from the World Bromeliad Conference in 2000.

As an aside, it is interesting that the BSI agreed to abide by the ICNCP rules in the late 1980's and Don Beadle started on his monumental work which culminated in the Bromeliad Cultivar Register being published in 1998. Grex names disappeared and not a formula in sight. This did not stop the BSI Show Officials from continuing to include the use of grex by way of formula for show plants. This double standard continues.

We eventually decided on *xNeostropsis* 'B-Fire' and this was registered in February 2006.

Everything went fine for a couple of years until hawk-eyed Ian Hook pointed out *xNeostropsis* 'Shadeball' a recently registered hybrid by Lisa Vinzant in Hawaii, looked awfully like 'B-Fire' and had the same parentage! PANIC.

Geoff Lawn of WA lead the investigations which showed that Olive could well have got her plant indirectly from Lisa and the concensus is that they are the same plant. So if you have *Nidularium burchellii* x *Neoregelia* 'Fireball', or *xNeostropsis* 'B-Fire', or *xNeostropsis* 'Shadeball' on your label they refer to the same plant!

I will make notes to this effect in the on-line Cultivar Register http://bsi.org .

To those who browse this data base it is not strange to find such references because the larger commercial concerns in the USA and Europe are apt to change a name because of market strategy!!

While 'B-Fire' has precedence datewise, both names will no doubt be used with 'B-Fire' in Australia and 'Shadeball' in the USA

For the purists who may be interested, some Brazilian taxonomists are treating *Canistropsis burchellii* as being really *Nidularium burchellii* so it is not just cultonomists who have naming problems!


Bil. 'Midnight' unreg
Guz.. 'Focus'
Guz. 'Marina'
Guz. 'Hilde'

Bromeliads at the 2008 BSQ Autumn Show

There was a wide variety of bromeliads on sale and show at this event. Some of them are described below – photographs appear on various pages, mainly on pp.20,22 and 25.

Billbergia '**Midnight**' unreg - A few leaves form a tubular rosette approximately 30 cm tall. The black-green leaves have silver barring and white spots.

Billbergia '**Squiggles**' unreg - A few leaves form a tubular rosette approximately 30 cm tall. The brown-green leaves have white spotting and barring. They are edged with black spines.

Guzmania '**Cavado**' unreg - Numerous, 2 cm wide, green leaves form an open, semi-erect rosette approximately 40 cm across. The purple, torch-like, inflorescence rises well above the plant's leaves.

Guzmania '**Focus**' - About 20, 5 cm wide, green leaves form an open, semi-erect rosette, approximately 100 cm across. The red-orange inflorescence resembles an elongated pine cone and is about 20 cm long.

Guzmania '**Hilde**' - About 20, 5 cm wide, green leaves form an open, semi-erect rosette approximately 100 cm across. The yellow, torch-like, inflorescence rises well above the plant's leaves and is about 20 cm long.

Guzmania '**Marina**' - Numerous, 2 cm wide, leaves form an open, semi-erect rosette approximately 60 cm across. The green leaves have central, cream stripes. They blush pink in good light, especially towards their base. The inflorescence consists of a cluster of small, red "cones".

Guzmania **'Rana' (variegated form)** - About 20, 5 cm wide, green leaves (with central, cream stripes) form an open, semi-erect rosette approximately 80 cm across. The red-orange, torch-like, inflorescence is about 30 cm long.

Guzmania '**Yellow Fire**' unreg - Numerous, 2 cm wide, green leaves (which have thin red stripes on their lower side, towards their base), form an open semi-erect rosette


Pit. brongniartiana
Til. dyeriana
Vr. michaelii
Vr. 'Pinkert'

approximately 60 cm across. The red and yellow inflorescence rises well above the plant's leaves.

Guzuriesea '**Happa**' - Numerous, 3 cm wide, green leaves form an open, semi-erect rosette approximately 70 cm across. The purple-white inflorescence rises 100 cm above the plant's leaves.

Neoregelia '**Flandria**' - About 20, 4 cm wide, variegated leaves form a flat rosette approximately 40 cm across. At flowering, the plant's centre flushes red.

Neoregelia '**Focus**' - Numerous, 2 cm wide, leaves form an upright rosette approximately 20 cm across. The bronze leaves have brown-red edges and tips, and have scattered , small brown-red markings. The plant is unusual for a miniature neoregelia in that it has a large number of leaves – most have less than 10.

Neoregelia '**Georges Prince**' - About 20, 8 cm wide, bronze leaves form a flat rosette approximately 40 cm across. At flowering, the plant's centre turns pink-purple.

Neoregelia **'Mandarin Miss'** - About 20, 4 cm wide, red-bronze leaves form a flat rosette approximately 50 cm across. At flowering, the plant's centre turns orange-red.

Neoregelia **'Painted Lady' x 'Magnifica'** - About 20, 5 cm wide, bronze leaves with brown-purple markings, form a flat rosette approximately 40 cm across. At flowering, the plant's centre turns purple with white spots.

Neoregelia '**Pink Debbie**' unreg - About 20, 8 cm wide, leaves form a compact, flat, rosette approximately 30 cm across. The bronze leaves have pink tips. At flowering, the plant's centre turns pink.

Neotanthus '**Firefoam**' - (This plant comes from a cross between plants from two different genera, namely, Neoregelia and Cryptanthus) - About 20, 5 cm wide, leaves form an erect rosette approximately 30 cm across. The green leaves have irregular, thin silver banding and red tips. At flowering, the plant's inner centre turns red.

Pitcairnia andreana - This plant has a cluster of light green leaves, each of which is about 20 x 3 cm. The inflorescence consists of a cluster of flowers. The petals are orange-red at their base and yellow at their tips. (The photograph on pg.6 also shows some seed pods).

Pitcairnia brongniartiana - This plant has a distinct stem. Its most striking feature is that the 35 x 10 cm green leaves have yellow spots. This feature makes it one of the few variegated pitcairnias.

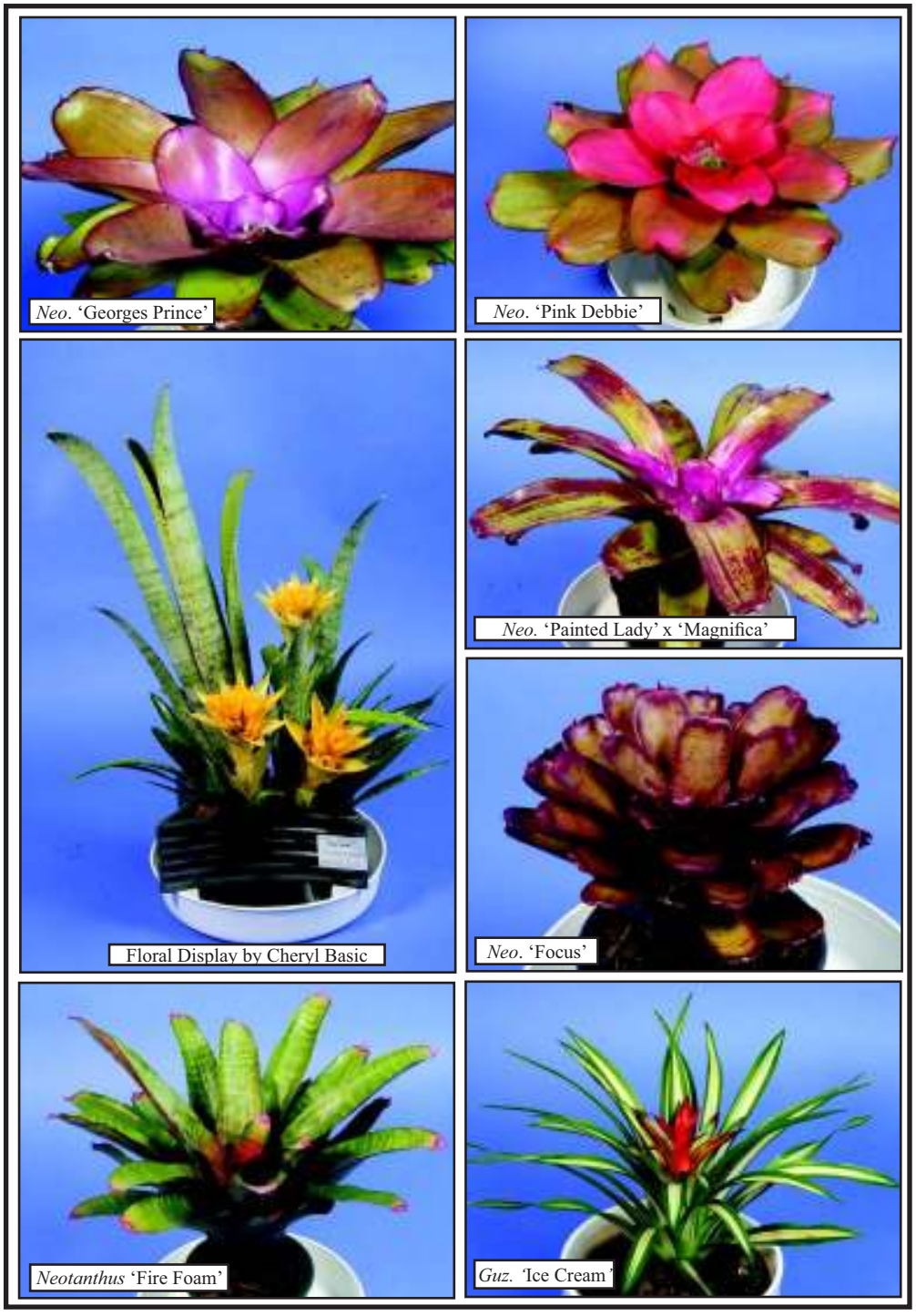
Tillandsia dyeriana - A few, green leaves form a tubular rosette approximately 20 cm tall. The semi-pendent red-orange inflorescence rises well above the plant's leaves.

Vriesea '**Elan**' - About 20, 2 cm wide, green leaves form an open, semi-erect rosette approximately 40 cm across. The multi-branched red inflorescence rises well above the plant's leaves.

Vriesea '**Forrest**' unreg - About 15, 8 cm wide leaves, form an open rosette approximately 70 cm across. The green leaves have purple tips and white stripes/markings – particularly towards the plant's centre.

Vriesea '**Galaxy**' - (This is a variegated form of *V*. glutinosa. Over the last two years it has become much more commonly available). About 20, 3 cm wide, leaves form an open, rosette approximately 70 cm across. The green leaves have a broad, central, cream stripe, and brown-red markings – especially on the leaves' lower surfaces. The inflorescence consists of several, red "branches".

Vriesea '**Goldfish**' - About 15, 3 cm wide, green leaves form an open, semi-erect rosette approximately 30 cm across. The fat, orange-red inflorescence is about 15 cm long and 5 cm wide.


Neo. 'Georges Prince'
Neo. 'Pink Debbie'
Floral Display by Cheryl Basic
Neo. 'Painted Lady' x 'Magnifica'
Neo. 'Focus'
Neotanthus 'Fire Foam'
Guz. 'Ice Cream'

Vriesea '**Margaret Ruth**' - About 20, 4 cm wide, green leaves form an open, semi-erect rosette approximately 50 cm across. The purple, multi-branched inflorescence rises well above the plant's leaves. Each "branch" is about 20 cm x 5 cm.

Vriesea michaelii - About 20, 1.5 cm wide, green leaves with brown-red spots form an open, erect rosette approximately 20 cm across. The yellow petalled flowers are clustered on a thin, red rachis (stalk).

Vriesea '**Pinkert**' - About 20, 0.5 cm wide, green-red leaves form an erect rosette approximately 15 cm across. The red inflorescence rises well about the plant's leaves.

***Vriesea* 'Red of Rio'** unreg - Similar to *V.* 'Orange of Rio', except the inflorescence is orange.

Vriesea '**Orange of Rio**' unreg - About 15, 2 cm wide, green leaves form an open, semi-erect rosette approximately 30 cm across. The orange, sword-like inflorescence is about 15 cm long and 5 cm wide.

As well as these plants, there were many other interesting and rare plants on display and sale. Photographs of some of these appear elsewhere in this edition.

There were also a number of impressive floral displays. The winning display was prepared by Cheryl Basic and appears on p. 23.

Discover Billbergias

(by Val Honeywood)

(Reprinted, with permission, from the Fraser Coast Bromeliad Society (Inc) Newsletter, [2007], v.3(1), pp 3-4)

Europeans discovered Billbergias in 1815 and there are now over 60 described species with many distinctive varieties. All are from the Americas, from Brazil to central Mexico.

Of course we humans can't leave anything alone and in this case, it pleases me greatly, as there are now countless hybrids of particular beauty making the spectacular though short-lived flowers an added bonus.

They are naturally epiphytic and a clump in a tree at flowering time is a spectacular sight. They will also grow over rocks and in the garden, requiring very well drained soil and when hung in pots above eye level the leaf markings (to me) are like miniature stained glass windows.

My affair with Billbergias began about 15 years ago when I acquired *B leptopoda*; I just loved it when those beautiful flowers caught me by surprise every year. I knew very little about the cultivation of Bromeliads in general, just don't water too much!

B leptopoda survives today and it was not due to TLC, in fact it received no care whatsoever for several years and this appealed to me.

Through plant friends and plant clubs my collection of Billbergias has grown over the past 5 years to 100 including species and hybrids, I would have many more if I could, but they are not always easy to find. My thirst for knowledge of my favourite plant is also not easy to satisfy. Thank heavens for the internet. It does help to some degree with identification but it makes the Wish List even longer.

When my Billbergias began to flower last winter, I could not help myself I just had to cross-pollinate. Perhaps it is the congenial weather in the Bundaberg area, but every flower I pollinated set seed. Never having propagated Bromeliads other than by offsets, what do I do now! Rhonda Symonds came to the rescue with some handy hints. The seeds were set on a bed of damp coir in clear plastic cake containers with re-sealable lids from the supermarket and the containers placed on top of the microwave oven which

gave them bottom heat when in use. They received filtered morning sunlight through the kitchen window, plus receiving longer days with exposure to kitchen light till quite late. Rather unprofessional, but it worked; I have more seedlings than I can poke a stick at, and now, the waiting game begins.

Discover the joy of growing Billbergias; they are not only beautiful they are also:

Very easy to grow, extremely hardy, more so than most other plants of any variety in my garden.

Take up little room, e.g. attach to fork of tree, hang pot in shade house, hang pot in, preferably, a deciduous tree.:

Light requirements, - high light – full sun in winter – will tolerate more sun than most Neoregelias.

So forgiving of neglect, should you be away for an extended period, they will be there to welcome you home.

Require minimal water, most having tall narrow tanks, evaporation is much less than with more open types of bromeliads.

Pots – Potting mix – free draining, orchid mix, pine bark, sand, perlite…

Fertilizer – very little or none. I fertilize when offset is removed and potted only.

Flowers – mostly during winter through spring, with a few exceptions in summer, e.g. *B*.'Domingos Martins'.

Propagation – so, so easy

Pests and diseases – overgrown conditions with poor ventilation will encourage flyspeck scale.

Temperature – only a couple did not like the cold of my winter, receiving burns similar to sunburn.

Some of my favourites:

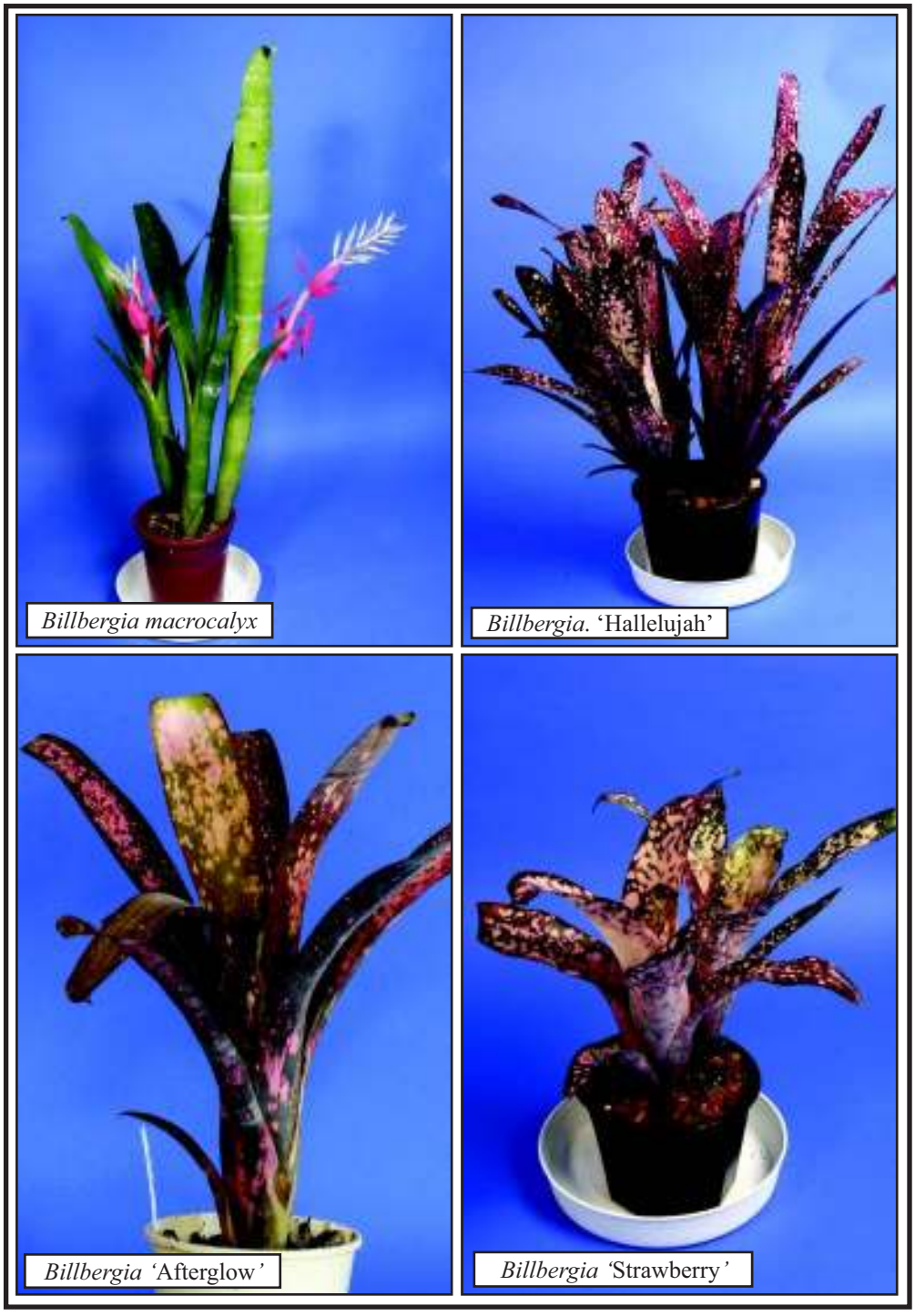
- 'Afterglow'
- *Amoena*
- 'Bellesima'
- 'Bellesima'' x 'Catherine Wilson'
- 'Carioca'
- 'Delisiousa'
- 'De Nada'
- 'Domingos Martins'
- 'Dorothy Berg'
- 'Golden Joy'
- 'Golden Joy – Purple Clone'
- 'Hallelujah'
- 'Muriel Waterman' X *Amonena var Stolonifera*
- 'Ole'
- 'Perriam's Pride'
- 'Platinum'
- 'Praise Be' unreg
- *sanderiana*
- 'Strawberry'
- 'Supa Grace'
- *vittata* 'Ralph Graham French'

Living In the Understory with Canistrum and Canistropis

(by Theresa M Bert)

(Reprinted, with permission, from the Journal of the Bromeliad Society, (2005) v.55, p.263-265).

The bromeliad genera Canistrum and Canistropis are native to the Mata Atlantica of Brazil (also called the Atlantic Forest), a highly diverse coastal mountainous rainforest between Alagoas and Santa Catarina states. Over 95% of the original habitat has been replaced by fields, pastures, and urban development, which has been ongoing since Europeans first started to colonise this beautiful region. Unfortunately, we will never know the full extent of the bromeliad diversity in that region. Nevertheless, the remaining beauty is nicely represented by these two genera.



Billbergia macrocalyx

Billbergia. 'Hallelujah'

Billbergia 'Afterglow'

Billbergia 'Strawberry'

Both genera grow principally in forest understory habitats. The Mats Atlantica forest trees are very tall, which allows for a wide variety of habitats beneath the exposed forest canopy. Epiphytes grow from tree trunks and limbs from just beneath the top of the canopy to near the forest floor. Most Canistrum and Canistropis species inhabit the lower reaches of this vertical ecosystem, as well as the forest floor, where they grow terrestrially in the leaf litter and mixed rocky/sandy/loamy ground. The two genera are nearly mutually exclusive in geographical distribution. Canistrum is found from Alagoas to Espirito Santo and has its centre of distribution in Bahia, where the most species occur. Canistropis is found farther south, from southern Bahia to Santa Catarina and has its centre of distribution between Rio de Janeiro state and Sao Paulo state. Within the distributions of these genera, most species have very limited ranges; some are known from only single localities.

Most species are small to mid-sized plants. Most have flower clusters, reminiscent of a cross between the typical inflorescence of a neoregelia and a Nidularium, two genera closely related to Canistrum and Canistropis. Although they don't have spectacularly coloured flowers, their inflorescences are beautiful because most have large red, orange, pink or yellow bracts cupping the inflorescence. Most species have either graceful arching deep-green leaves or rather stiff mottled or striated leaves that make a cupped or arching rosette.

Canistrum aurantiacum is the largest species in the genus. Although its range is restricted to two Brazilian States, Alagoas and Pernambuco, it can be quite abundant in certain remnant Mata Atlantica forest patches. Of the smaller canistrums, *Canistrum triangularae* is both beautiful and horticulturally interesting. It is a sun-loving epiphyte that grows high in the forest canopy on mountain slopes at about 750m elevation. It is the southern most Canistrum species and its distribution alone extends the genus range considerably. It was woefully misidentified in culture for years as *C.fosterianum* v. *pardinum a* variety of C.fosterianum that was never officially described. *Canistrum triangularae* has two different forms, a narrow-leaf form and a more common broad-leaf type. This is a beautiful little species with bright red bracts and white flowers in the inflorescence.

In the genus Canistropsis, two particularly interesting species are *C.correia-araujoi* and *C.seidelii*. *C.correia-araujoi* is a taxonomically problematic species that was originally thought to be a Neoregelia and is now thought to be a natural hybrid between a Neoregelia and a Canistropsis. Known only from Rio de Janeiro state, it has not been found in the wild since its first collection and may be extirpated due to expanding urbanisation, agriculture, and deforestation. When grown in very bright light, this species turns a rich reddish rusty colour. Large clumps of well spaced plants can be grown over time from a single individual as the starting plant. *Canistropsis seidelii* has many unique features. Rather than red bracts and a condensed inflorescence, this species has bright yellow bracts interspersed on an expanded inflorescence. Its stolons are especially long and its bract cups hold considerable water, in contrast to other Canistropsis species, and probably because its inflorescence is elongated.

I grow *Canistropsis albiflora*, *C.correia-araujoi, C.billbergioides, of which there are several forms, C.burchellii, C.exigua, C.microps, C.pulcherrima, C.seidelii, C. simulans*, and a couple of unnamed species. I grow *Canistrum alagoanum*, *C.aurantiacum, C.auratum, C.lanigerum, C.sandrae* and *C. triangulare*. Several others are grown at Selby Botanical Gardens, e.g. *C.montanum*

Catopsis morreniana

Catopsis sessiliflora

Canistrum qeidelli

and *C.seidelianum*. Despite the general shadiness of their natural habitats, many species in these genera can be grown in a wide variety of light conditions. I live in west-central Florida near the coast, where air temperature descends to freezing, on average, one night per year. I've had good success with shade-loving Canistrum and Canistropis species in outdoor conditions with a little full sun and in a pool cage in areas partially shaded by other bromeliads. *Canistrum traingularae* grows outdoors in a location that gets 2-3 hours of full sun in the afternoon. *Cartistropsis correia-araujoi* grows in a pool cage (about 25-35% shade) fully exposed to the sun all day. Nearly all others grow in a shadehouse that is shaded by trees for part of the day. It's easy to over-water species in these genera. They do well if potted in a loose mix of about 50% potting soil, 50% Perlite and a small amount of charcoal bits. I use red volcanic rock pieces to hold the plants up in the pot, pour the soil mix on top, and tap the mix into the rock interstices. Most species easily withstand temperatures down to 5°C but get nipped if not covered in freezing temperatures.

Plants in these genera are easy to grow and they make a few pups each generation. I've had some species for many generations. They are beautiful, most bloom at the turn of the year (South American Summer) and are convenient to grow if you have little space for bromeliads and little sun in the space you do have. To learn more about Canistrum and Canistropis and how to tell these genera and their close relatives apart, check out the colourful and informative books by Elton Leme of which, at least Canistropsis is available online through Selby Botanical Gardens and Tropiflora Nursery. *(Editorial comment: These books are in the Society's library).*

Restoring Variegations.

Author: Rob Smythe MSc

There is a lot of science in this but I will skip over it in one paragraph. White variegated bromeliads get their variations due to abnormal plastids or mitochondria (in the discussion below I will just use the word plastids to mean plastids plus mitochondria) in their cell's cytoplasm. This is broadly called cytoplasmic inheritance. All the factors (DNA) controlling this variegation inheritance come from the mother (pod producing plant). I will talk of 'the good plastids, which are those found in a normal plants and 'bad plastids'. Too many of the latter kill the plant by turning the leaves white. I don't want to get in too deep but will add that some nonvariegated seedlings using the variegated mother can

Crypt. 'Snow Rose' (winner of Grace GoodGoode Trophy Winner Autumn 2008 Show)

Dickia 'Blacktracker' unreg (Reserve Champion 2008 Autumn Show

have normal plastids as well as abnormal plastids. White variegation is not caused by nuclear DNA otherwise sibling crossing would restore the variegation. This does not happen. Variegation is not contagious so it is not virus induced. That is enough science. A little bit more later on.

How can I restore variegation in my bromeliads?

The scenario is my plant now has three green leaves or three white leaves at the top. My rule of thumb is to stop the plant's growth from the tip immediately. The longer you wait the worse is the outcome.

At this point growers usually question my motive with comments something that like they left their plant and got variegated pups. Yes, this is true if you are dealing with *Neo*. Bill Morris or *Aechmea* 'Ensign' (for example). Don't test your luck with *Aech*. 'Peaches n Cream' though. I need to explain why.

I put a Phillips Head screwdriver down the centre of the plant and do a very rough job on it. I destroy the entire apical growth centre and a lot of soft tissue near by. Keep the damaged plant dry and pull out the dead leaves. This is called removing the "apical dominance" from the plant. The dormant buds lower in the stem will spring to life and produce pups. If these spring from the lower part of the plant they could still have the right balance of good and bad plastids necessary to produce variegations. If they spring from the top you will have your plant just the same as when you destroyed it.

So you ask, "What is the problem?" The problem is that the lower eyes (as they are called) can turn into new shoots or into new roots. Broms survive by developing adventitious roots in the leaf axils. You can pull a large Vriesea to bits and see these adventitious roots just living off the rotten mulch in the leaf axils. With other broms they quickly grow into the potting media.

"So what," you say. Patience, patience, if you leave your plant growing and not remove the apical growth centre (meristem) these suitable lower outgrowths will turn into roots and the lowest eye that could produce a pup might now be the reverted (normal) tissue. Once the plant reaches flowering size that plant has had it as a variegate. Occasionally, before flowering they can revert back but don't count on it. So, plants like Aech. Peaches 'n Cream which revert when young, become a full time job keeping them variegated. Get to such plants as quickly as possible. Plants like A. Ensign and Neo. Bill Morris on the other hand generally revert or go white late in life which means there are plenty of suitable eyes, not forming roots, for the production of new variegated offshoots.

Rule number two is remove non variegated offshoots as soon as possible. Don't throw them away. Park them separately. It is possible for some of them to revert back. I'll have to go back to science here.

Reversion back to variegations.

Since the early sixties when certain diseases in humans were found to be due to cytoplasmic DNA 1, it was discovered that people could harbour both the good and the bad DNA in their mitochondria. They were "normal" people while young. With on going years and a multiple divisions of these cells the bad DNA was found to actually concentrate in some cells and disappear in others. Like likes like I call it. The bad cells could die or in combination with mixed cells ,survive to eventually progress into the symptoms of the disease. Some examples now known are a form of Alzheimer's plus CPEO, Diabetes mellitus, Dystonia, KSS and at least eight others. Back to plants, I don't think we need to know how the human diseases exhibit themselves.

When plants revert this could mean that

Tillandsia streptophylla (Mary Graselli Award - Autumn 2008 Show)

Neo. 'Enchantment' variegated (Hudson Trophy Autumn 2008 Show)

the level of bad plastids in the variegate could have gone too low to exhibit the variegated symptoms. All white leaves are the reverse i.e too many bad plastids. The former, living long enough the correct balance might be restored for variegation to be possible. Flowering is usually the end of the road. If the reverted plants are used as pod parents, I expect an extremely minute number of seedlings could come up variegated. I have never experienced or been told of this happening. Why would anyone use the reverted plant for breeding? The chance of getting a variegate seedling from a fully variegated plant is infinitesimal any way. Seedlings are usually all white (bad plastids) or all green (good plastids) when using a variegated pod parent. This is the like likes like rule again. Using a variegated pollen parent they are all green (no cytoplasmic DNA supplied by male plant).

If you are not science orientated, I don't think there is anything to be gained by looking up the meanings of the scientific terms. Put it to the test..

1) Douglas C. Wallace, Mitochondreal DNA in Aging and Disease, Scientific American August 1997, pp22 to 29

Report on the Show held at Mt Cootha 5 and 6 April

Author: Narelle Aizelwood

HOW A YEAR FLIES BY. Before you knew it, it was time to prepare for yet another Autumn Show at Mt. Coottha.

Our show was held on the 5 and 6 of April with setting up on Friday 4th. We arrived very early at 6.45 a.m. to an already busy band of energetic and enthusiastic workers. First thing to do is to set up the tables, then allocation of table space for sellers, Pam Butler took on the job for the first time, and although there were some challenges all went relatively smoothly. Plants were then moved in both for Sales, Display and Competition.

It really is interesting to be there on the Friday to see how the whole show comes together from scratch.

I would imagine that Olive our Chief Judge was very impressed with the large number of competition plants, and she did comment that the plants tabled for judging were of a very high quality.

- **Champion of Show** was *Vriesea fenestralis* x *Vriesea hieroglyphica* owned by Len and Olive Trevor.
- **Reserve Champion Plan**t was *Dyckia* 'Blacktracker' owned by Bob Paulsen
- **Best Tillandsioideae** – Nez Misso Memorial Trophy - was won by Len and Olive Trevor with *Vriesea fenestralis* x *Vriesea hieroglyphica*.
- **Best Bromeliadeae – Hudson Trophy** - was won by Len and Olive Trevor with *Neoregelia* 'Enchantment' variegated
- **Best Cryptanthus – Grace Goode Trophy** – was won by Bob Paulsen with *Cryptanthus* 'Snow Rose'.
- **Best Pitcairnioideae** was *Dyckia* 'Blacktracker' owned by Bob Paulsen
- **The Mary Grasselli Award** went to Wendy Brown for *Tillandsia streptophyllia*

There were 30 sellers registered for plant sales. 4,898 plants were sold for a total of $75,601.00. 1103 members of the general public attended our show on both days. The raffle raised $835.00.

The centre display by the Bromeliad Society of Queensland as usual always attracted great interest and many positive comments. Bruce Dunstan was awarded the Tom Schofield Award for his *Alcantarea glaziouana variegata* which took pride of place in

Photos from the recent BSQ Show at Mt Cootha

the display. The Sunshine Coast Bromeliad Society and the Gold Coast Succulent and Bromeliad Society also created fine displays of interesting and unusual bromeliads.

For the Bromeliad Society of Queensland to put on such a show twice a year there are always many hard workers behind the scenes. The people who collect and make up boxes, the Plant Sales Stewards who work tirelessly and sometimes very frantically in the sales areas, the girls in the kitchen who provide us all with wonderful refreshments on the week-end, Library Stewards, Stewards in the Cloak Room, Stewards on the door and selling raffle tickets all week-end, Bob Cross for carting the Hardware and props for the set up of displays, to all and everyone who helped make it another successful week-end we – The Society – thank you sincerely.

Chief Competition Steward Report on BSQ 2008 Autumn Show

Author: Arnold James

Due to problems in previous years the committee decided to change our method of recording plant entries for the show and adopted a system similar to that used by a number of Orchid societies; in this system each competitor was given a competitor number and pre-printed labels on which to enter the class of the competition being entered , the plant name and the allocated competitor number; this greatly reduced the work load of the competition stewards and expedited the judging.

Many thanks to Barry Kable for this suggestion. One disappointment was the lack of entries in some classes and a limited number in others. Overall the competition was a great success with many high quality plants in most sections and very imaginative entries in the Novelty and Floral displays.

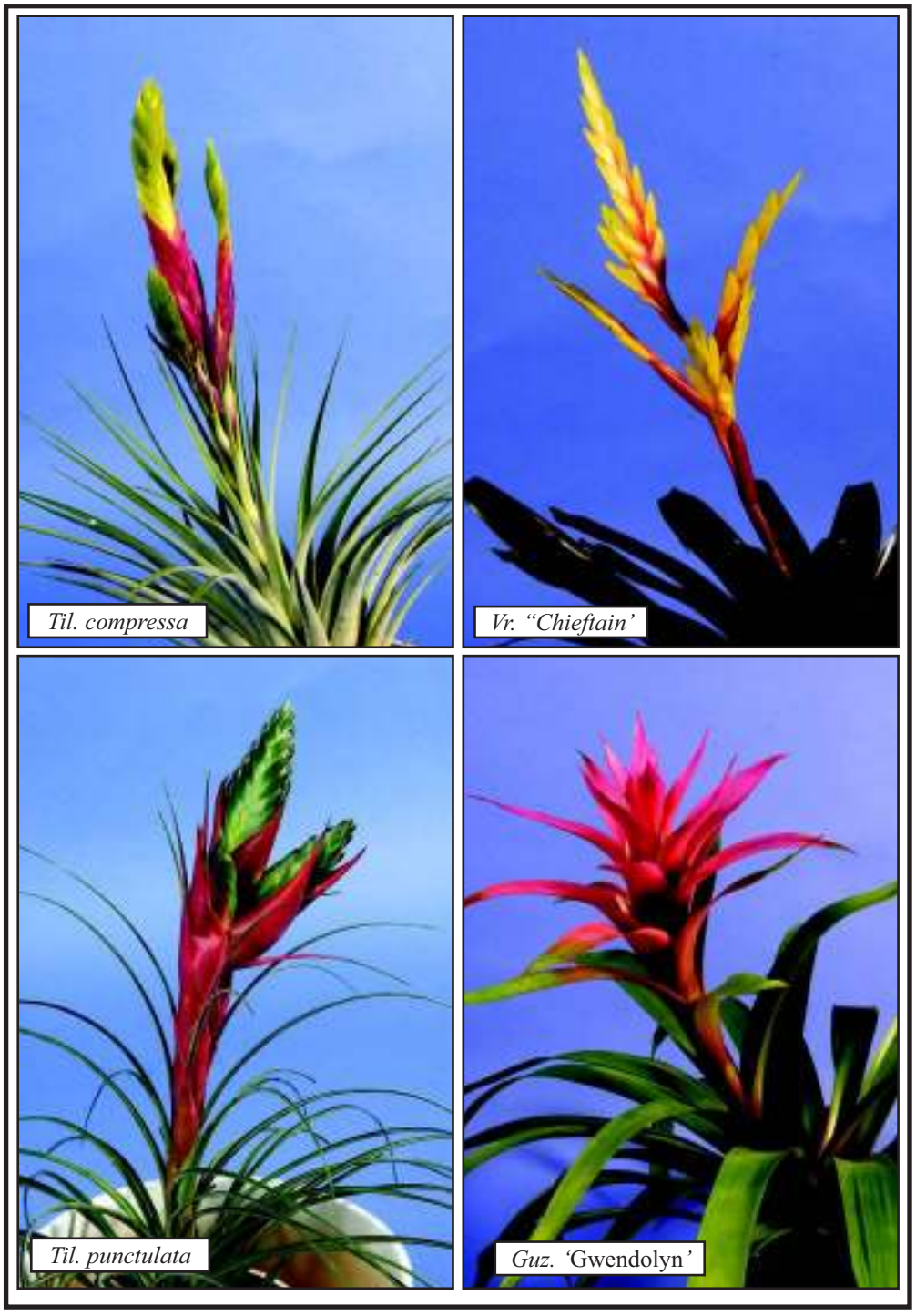
The details of each class and the placing in all sections of the show are included elsewhere in this journal.

Our judges had a difficult task and there were many plants in the various classes that were difficult to separate and very robust discussion took place among the judges before many awards were made.

Particular mention must be made of the plants that were selected for the special awards; these plants were the judged to be the best in their class and in their genera (classes 29 – 32); the final selection for Champion & Reserve Champion of the show were drawn from these four plants; again many difficult choices for the judges.

Congratulations to Wendy Brown for winning the "Mary Graselli Award" for the best bromeliad entered by a novice grower.

The president's selection of *Alcantarea glaziouana* variegated for the "Tom Schoefield Memorial Award" was universally approved; congratulations to Bruce Dunstan for winning this award.


Til. compressa
Vr. "Chieftain'
Til. punctulata
Guz. 'Gwendolyn'

BROMADELAIDE 2009

2009 Easter weekend

Keynote Speaker:- Dr Jason Grant, one of the younger breed, Jason Grant, an Alaskan, and a Doctor of Botany who is currently lecturing in French! at a Swiss University, showing his versatility. He is an authority on the genera Alcantarea, Werauhia and Racinaea

Other activities:

- Plant Sales
- Rare plant auction
- Optional Bus trip including winery tours/tasting and
- dinner at a unique and charming restaurant
- Balanced educational and stimulating talks

Hosted by:
The Bromeliad Society of South Australia.

Web site link: Including direct email links to conference organisers.
www.bromeliad.org.au/bromadelaide2009.htm

Postal address: "Bromadelaide2009",
10 Hedgerow Crescent
Hallett Cove S.A. 5158
Telephone enquiries: Derek Butcher
(08) 83567728

Reserve Champion *Dyckia* 'Black tracker' was a tribute to Bob Paulsen who as most of us know is always way up there with his beautiful plants.

It is no surprise that the beautiful *Vriesea fenistralis x heiroglyphica* was the winner of the top honor 'Champion Bromeliad of the Show'; what a beautiful plant and the judges decision was unanimous; congratulations to Olive & Len Trevor for their fully deserved win.

The competition depends on many people to make it a success and I would like to thank all who assisted in the multitude of different tasks that enabled us to carry out a successful event; from the setting up of tables, the organising plants on the tables, the judging of the entries, recording the judge's decisions, printing of the certificates and most of all to those brave and dedicated growers who participated in the event; without all these willing workers and participants it would be a NO SHOW event.

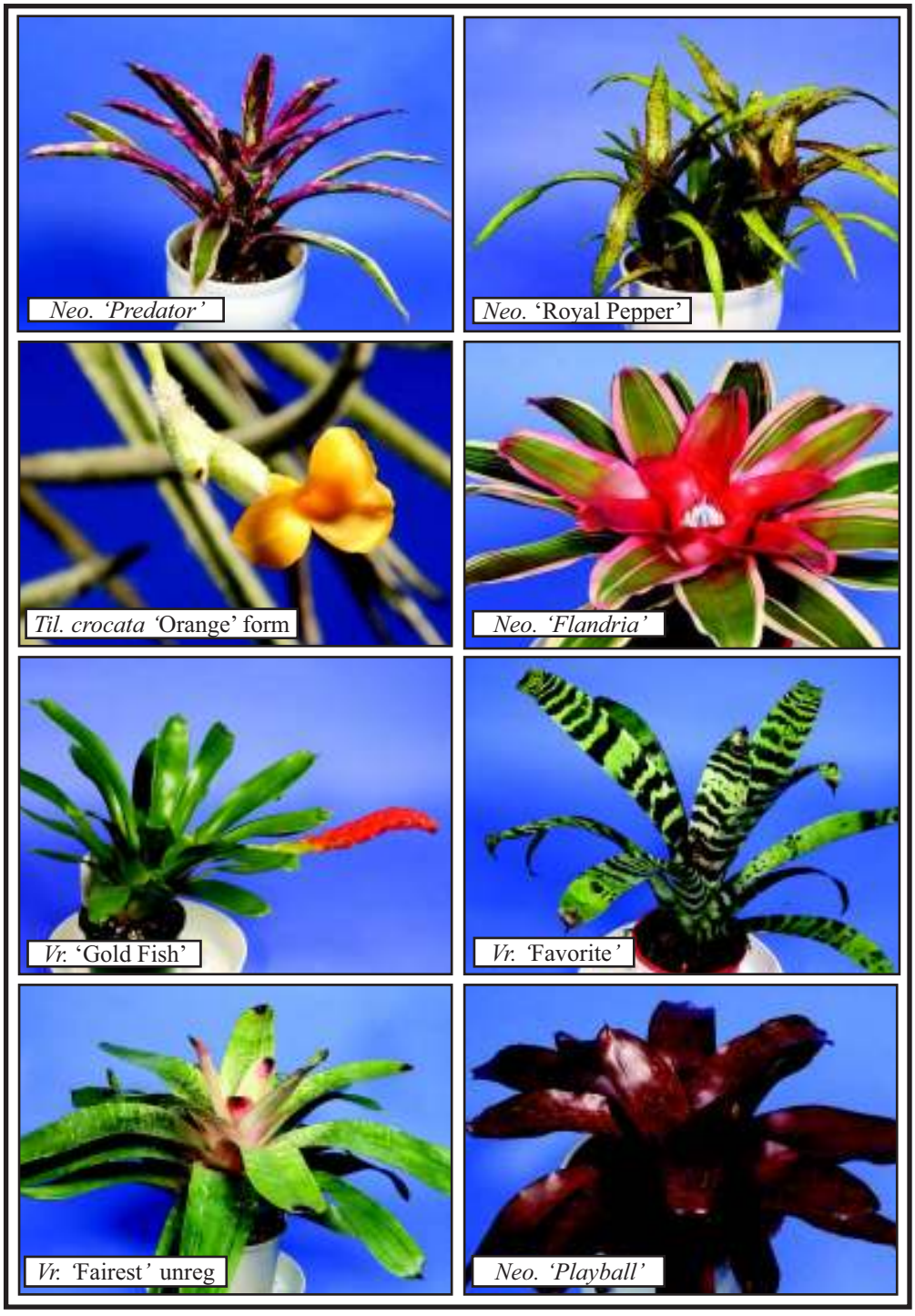
Congratulation to all the winners and sympathy to the not so successful (including me); the experience we have all gained from this show will hopefully encourage us to try harder next year an hopefully end up in the winners circle; for our other members who did not compete I would encourage you to join in the fun next year and maybe take home an award (and some bragging rights).

Arnold James
Chief Competition Steward

How does a Member Located in the US Import Plants fromAustralia.

Author: Roy Pugh

We have a new member in the USA. Frank Redmondlives at Atlantic Beach, Florida and is very interested in miniature Neo's. He has difficulties acquiring new varieties and in his letter of January 17th, he writes "It would be nice if there is some way to buy miniature Neo's from Down Under, but that may be too much trouble."


Neo. 'Predator'
Neo. 'Royal Pepper'
Til. crocata 'Orange' form
Neo. 'Flandria'
Vr. 'Gold Fish'
Vr. 'Favorite'
Vr. 'Fairest' unreg
Neo. 'Playball'

I wonder... would it be all that much trouble? Clearly, Frank would have to comply with US plant quarantine regulations regarding the importation of plant material, but it would be a friendly and welcome gesture to an overseas friend. Perhaps a member (or members) here could contact him and perhaps arrange to send him some of those Neo's he is so desperate to have.

If someone would like to take up the challenge, Frank's postal address is:

F. J. Redmond
350 4th Street
Atlantic Beach
Florida 32233-5344
USA

Tillandsia Tips

(by Bea Hanson)

Reprinted, with permission, from the Journal of the Bromeliad Society, (1989), v. 39(5), pp 224-225.

Here are a few tips on growing tillandsias that were gleaned from here and there.

a) Don't mount a blooming plant. Cut off the bloom spike or mount before one appears. When a bromeliad comes into bloom its roots cease to grow and the declining plant's remaining vigour is confined to producing seed and offsets. Logical when you come to think of it.

b) Select young plants with root growth in progress. This will give quicker results but any plant that is going to root anyway will do so with good air circulation, good light and a good watering and fertiliser programme.

c) Beware of any treated wood. This is a killer. Salt water driftwood seems to have no adverse affects but wash well with clear water just to be on the safe side. I leave mine out in the rain until it is time to use it, then bring it in and let it dry.

d) If there are roots on the plant turn the roots toward the mount and glue or staple on. Glue does not damage the roots. If you happen to have a glue gun and are using 'hot glue', it is burns your finger it will also burn the plant's little bottom.

e) Always be sure plants are firmly on wood etc. If they move about, roots take a lot longer to appear.

f) If you are not keen on using glue you can bore two small holes and thread thin plastic-coated wire (not copper) through, place plant inside the loop and fasten tightly at the back of the mount. For some heavier tillandsias I have used both glue and the wire to be sure they are firm.

g) Change positions of your Tillandsias by all means, but when you have the ideal one do leave the plant there. If you keep changing them about the poor things being to wonder what they should do next.

h) Speaking from experience. When you at last manage to get a small clump of tillandsias don't let people try and get pieces off you. I did that years ago and now realise if I had been firm I would have had some really super clumps today!

Why humidity is important to plants.

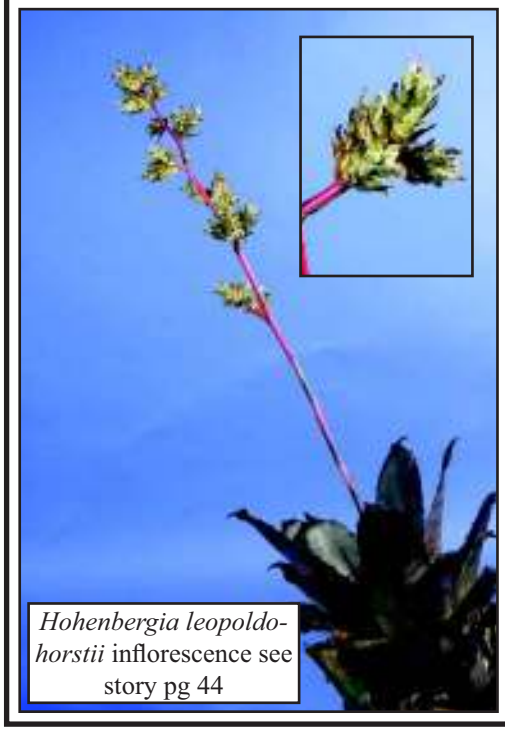
(Anonymous)

(Reprinted, with permission, from Bromeliad, [Journal of the Bromeliad Society of New Zealand], March 2007, v.47(3), p. 12)

All plants inhale carbon dioxide through their leaves. This gas is used in photosynthesis. As the plant opens its leaf pores to take in carbon dioxide, some of the moisture in the leaf can escape. Thus the plants sweat water vapour into the air whenever they breathe.

Quesnelia edmundoi var. rubrobracteata inflorescence

Quesnelia edmundoi var. rubrobracteata



Hohenbergia leopoldo-horstii inflorescence see story pg 44

Guzmania sanguinea 'Tricolor' pups. see story page 45

Dry air causes plants to transpire moisture much more rapidly than does humid air. Water in the leaves evaporates very quickly into air, causing the plant to lose moisture at a rapid rate. When leaves begin to lose water faster than the roots can absorb it – disaster strikes, in the form of self defence. In order not to lose more water to the air, the plant will almost completely close its leaf pores. This slows down the flow of moisture from the plant effectively, but unfortunately it also reduces the intake of carbon dioxide. Without carbon dioxide, the cells begin to die and the plant looks tired and ill.

The important point to remember is that dry air pulls water out of the leaves faster than the roots can supply the leaves. Under these conditions, it doesn't matter how much you water – it doesn't help. Over watering only reduces the amount of air in the soil and invites root rot.

When plants have the right humidity they thrive, because they open their pores completely and so breathe deeply without threat of excessive water loss. When the air is moist, there is little water loss from the leaf. Damping down the benches and surrounds, also misting leaves will help keep the air moist. Rapid temperature rises damage plants too. It means that the plant's leaves become warm physiologically active, while the root system in its solid rooting medium, is still cold and physiologically dormant. The active leaves are demanding large quantities of water and nutrients which the root system cannot possibly supply.

Under these conditions, photosynthesis, transpiration and other vital plant processes are severely restricted and as a result, developing flower growth and new growth are damaged. Rapid rises in temperature on sunny days can be avoided by opening vents or doors early in the morning and letting the greenhouse warm up gradually.

A humid atmosphere that is not moving, is also particularly undesirable. Damp, stagnant conditions encourage mould and bacterial diseases. A constantly moving, light and buoyant atmosphere keeps plants vigorous and healthy.

Premature Pupping

(Editorial comment: [Bob Reilly]. This article contains some interesting ideas on the causes of premature pupping. Reprinted, with permission, from the Journal of the Bromeliad Society of New Zealand, (2007), v.47(4), pp 14-15).

Having received an unrooted pup of Aechmea lueddemanniana (marginated) from a friend of mine I was very excited to get it growing. At the end of six weeks very few roots had appeared. A week later, a new initiation of growth was noticed at the base of the pup. This new growth, which in fact was a new pup, developed very slowly but evenly, at which time the pup from the young plant was almost the same size as the immature mother plant. The original pup was 7 inches tall, the immature pup six inches, and another pup 3 inches. A mature plant of this variety should range in size from 12-15 inches before pupping.

Premature pupping can occur for various reasons. One can be from removing the pup while they are still soft and undersized with no signs of root initiation. Early removal can lead to rotting of the base as well as failure of the pup to get established. Pups should be at least 1/3 the size of the mature mother plant before removal. These factors were probably the reason premature pupping occurred in this case. Oftentimes foreign matter such as a grain of sand or a small piece

of redwood or fir bark from the soil mix will fall into the center cup of the pup, injuring the growth initials to abort flowering and initiate pup production. It is best to handle pups carefully in the process of removing them and to use a sharp knife or long-nosed hand pruners that make a smooth clean separation of the pup from the mother plant without injury to the base of the pup or to the mother. After the pup is removed, it should be placed in a clean area. Many times pups are left on the potting bench to callus the wound for a day or two before being put into the growing medium, if no roots are present on the pup. Many pups get foreign matter such as the ones described above from the potting bench.

Injury to the pup before and during removal is probably the most common reason for premature pupping.

If the pup is not allowed enough pot space to develop up and out, injury can occur. Some of the leaves of the mother plant may have to be removed to let the pup develop properly, symmetrically and allow it enough light for development. Also, the tendency to want to wiggle and especially grip the base of the pup too tightly can injure the tissues enough to physiologically put the plant into a reproductive cycle.

Excessive, unnecessary repotting of bromeliads should be avoided to reduce premature pupping. Bromeliads of the epiphytic nature have a very small root system that needs very little medium, if any, surrounding it. The less mass of medium to the size of the root system, the better. Very few bromeliads should be potted up to a size larger than 4 inches, but of course there are exceptions.

It is best not to let the water in the centre cups of the bromeliads remain unchanged for more than two weeks so that stagnations occurs and algae begin to form. This later can lead to bacterial or fungal diseases that will kill off the center bud at any maturity of the plant, including an unrooted immature pup, to initiate putting.

Premature pupping can also occur due to moisture stress where the pup went too long between watering. Hot, drying winds inland and along the coast should be kept in mind for desiccating epiphytic plants as well as terrestrial ones. During this time,

frequent fogging of a collection outside as well as saturation of the growing medium is important.

Temperature-humidity relationships affect the timing of pupping. Perhaps a drastic change in temperature, especially warmer trends with a reduction in humidity, will cause any unrooted pup to send out a pup prematurely. Excessively high temperatures and low humidity are enemies of many plants requiring an environment similar to where they are natively found.

Premature pupping of a bromeliad means that a longer time will be involved for reaching a full mature specimen plant.

The food produced in the immature mother plant will now go toward development of the premature pup as the immature mother plant begins to decline before her characteristic form, size, and perhaps colour are reached. The premature pup will now be the plant to watch and protect from injury by moving or through reproduction. In this instance, it would be best to remove the immature mother plant only after she has completely exhausted her supply of nourishment to the pup. This is the reverse idea of removing the pup from the mother and possibly causing shock or injury to the pup where initiation prematurely may occur again.

By the time the immature plant is exhausted, the premature pup should hopefully be up to good size, with still somewhat retarded growth but with a good root system developed while still attached to the immature mother. Further generations developing from the new pup will be in most cases the characteristic size at maturity when they will produce pups.

Some Bromeliad Tips

(Compiled by Bob Reilly)

1. Over time, the writing on plant labels can fade. Many labels that have had the writing on them "bleached out" can be read if held at an angle in bright sunlight.

2. It can be hard to see if fly speck scale is dead after you have sprayed the plant. One method is to wait two weeks and then see if the scale's "shell" is a "dull" black, rather than a "shiny" black. Another test is to see


Vr. 'Reo Red' unreg
Vr. 'Orange of Reo' unreg
Ae. 'Felicity' unreg
Ae. fasciata

if the scale's shell readily disintegrates when you scratch it.

3. If you would like to grow a plant that is bigger than the parent, then leave the pup on as long as possible. Cut away the leaves of the mother plant to give the pup plenty of light and minimise the risk of "elongation" or "malformation" in the pup's appearance. Tilting the parent plant on its side so that the pup is vertical may also help.

4. Sometimes it is best not to remove pups at all. Many bromeliads look better in clumps; and, small, stoloniferous ones (such as many miniature neoregelias can look very appealing in a basket or rockery. In such cases, only remove the old, and dead, parent plants.

5. Billbergias make very good hanging container specimens. They can also be tied onto the fork of a tree or large shrub.

Ipswich & Districts Bromeliad Society Inc.

The society is now in its second year. It was announced by the outgoing president at the February AGM that we had reached a membership of 75 and with more joining up since then we certainly are growing.

After a change of executive and committee, we have a group of people working towards providing maximum opportunity for members to learn about their absorbing hobby in a relaxed, friendly and enjoyable environment.

The local Ipswich Horticultural Society annual show has been won for the last two years by bromeliads, each time grown by our very keen member, Margaret Dixon .Last year she won with her Neo. 'Enhancement' variegata and this year Margaret won with her lovely flowering Aechmea 'Shining Light'. This plant was photographed with its owner by the Queensland Times newspaper.

In May our society will be holding our very first display at the Ipswich Agricultural Show. Graeme Star has volunteered to oversee this project and we hope it will provide a great deal of publicity for us within the community.

At October's meeting we will be celebrating our second anniversary and as Alan Freeman is our patron, we are planning to have a special day by trying to fill our hall with as many beautiful Freeman hybrids as possible. If you have any, we would love you to join us.

We meet every first Sunday of the month (except January) at 2.00PM in the SDA church hall at 56 Hunter St. Brassall, 4305.

Hohenbergia leopoldo-horstii

(by Bob Reilly)

This plant is one of the nicest Hohenbergias *(see image pg. 39)*. It grows better in North Queensland than it does for me in southern Queensland, but it is still a nice plant, even if it does grow relatively slowly here.

A brief description is:

About 20, 6 to 8 cm wide, leaves form an open, vase-like shape around 40 cm high. The purple-black leaves are coated with silver scurfing and have distinct spines. The inflorescence rises about 50 cm above the plant's leaves and consists of a number of small "cones". The flower's petals are light purple.

I grow the plant under 50% sarlon shade cloth, as this seems to bring out the best colour (the leaves turn almost black). I use a free draining potting mix, with a slow-release fertiliser added to it.

Pups Revisited

(by Bob Reilly)

In the September-October 2007 edition of Bromeliaceae, there was an article on vegetative propagation which highlighted the desirability of never giving up on an old mother plant until all the leaves are gone.

In that article, it showed a *Guzmania sanguinea* 'Tricolor' plant which did not have many leaves left, but was forming another pup. That photo and another one taken in late April 2008 appear on p. 39.

The latter photo shows that the old mother has produced quite a few more pups. Alas, these may be the last, as only two leaves remain on the parent plant.

Bromeliad Seminar

5th July, 2008

at the Uniting Hall, 52 Merthyr Rd.,
New Farm,
9AM to 4PM,
Core Time 10AM to 3PM,

Pamela Koides, the owner of the Birdrock Tropicals nursery in the Unied States, has agreed to be the keynote speaker for this event. Pamela will be giving one talk on Mexican tilandsias in their habitat, and another on her tillandsia hybrids.

Both will be illustrated by digital images (computerised slides). Pamela is an accomplished speaker, and is very knowledgable about Tillandsias

Bring your own lunch

Bus Trip - 23rd August 2008 - Details

Departing Uniting Hall 52 Methyr Rd, New Farm 8.00AM, Pickup Palmdale Shotting Centre, Logan Rd, Mt Gravatt 8.15AM arrive back 4.30-5.00PM.

Our first stop for the day ill be the Kholo Botanic Gardens for morning tea, then on to John and Joan Stevens at Laidley Heights under the canopy of palms, gum and cotton wood trees. An array of geraniums, succulents and a bonanza of bromeliads.

After walking down the winding gravel paths with the sound of birds and the whirring of windmills, its on to Gary and Connie Pitman's garden, Regency Downs, to practice your putting on their manicured lawn, the bromeliads reaching for the sky in all their splendour and the ones peeking out from under low growing shrubs. Walking leisurely amongst gardens enhanced with sandstone.

Morning tea provided,- bring your own lunch.

Price $20
Plants on sale
For further information contact:
Ruth - 3208 0546 after 4 PM
Bev - 3208 7417

Calendar of Events

24-30 June 2008 - World Bromeliad Conference No. 18 - Cairns, Australia. For further details visit the event web site www.bromeliadsdownunder.com or contact the organizer Lynn Hudson at lynnhudson@bromeliadsdownunder.com or contact Greg Aizlewood on (07) 55461161 or if you prefer contact Lynn Hudson on phone (07) 40 533 913

5th July - Bromeliad Seminar - 9AM to 4PM, core time 10AM to 3PM, Pamela Koides, the owner of the Birdrock Tropicals nursery in the Unied States, has agreed to be the keynote speaker for this event. Bring your own lunch- see advert page 45

23rd August - BSQ Bus Trip - Departing Uniting Hall 52 Methyr Rd, New Farm 8.00AM, Pickup Palmdale Shotting Centre, Logan Rd, Mt Gravatt 8.15AM arrive back 4.30-5.00PM.- Price $20 - Plants on sale -For further information contact: Ruth - 3208 0546 after 4 PM or Bev - 3208 7417

11th October Stockade Nursery Open Day - 9-12 AM 70 Wades Road, Bellmere, Qld. See add in Bromeliaceae for details

4th December - BSQ Christmas Party - Lakeside Gardens, Mt Cootha - Camella Room. Because of the increasing numbers of members attending the party the management committee has decided that we should break with tradition with the choice of venue. Another alteration will be the necessity to buy tickets in advance for the party because to aid the caters in making sure the event is well supplied with food.

BROMADELAIDE 2009 - 2009 Easter weekend - see add in Bromeliaceae (Pg 36) for details

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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 7.30 pm. Classes for beginners commence at 7.00 pm.

Plant of the Month Programme for 2008

FEBRUARY:	Ananus, Intergeneric Plants, Tillandsias and Full-sun Neoregelias.
MARCH:	Cryptanthus, Tillandsias, Full-sun Aechmeas and Canistrums
APRIL:	Cryptanthus, Tillandsias
MAY:	Spotted Neoregelias, Orthophytums, Tillandsias and Variegated Bromeliads
JUNE:	Alcantareas, Foliage Vrieseas, Dyckias, Hechtias and Asterias
JULY:	Billbergias, Pitcairnias, Cerepegias, Hoyas, Nidulariums and Agaves.
AUGUST:	Billbergias, Foliage Vrieseas, Catopsis and Miniature Neoregelias.
SEPTEMBER:	Billbergias and Guzmanias.
OCTOBER:	Vrieseas, Neoregelias, Nidulariums, Guzmanias and Crassulaceae.
NOVEMBER:	Not often seen Bromeliads and Succulents

Competition Schedule for 2008

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, Novelty Bromeliad Display

March: **POPULAR VOTE:** Any Genus – species or hybrid, Novelty Bromeliad Display

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, Novelty Bromeliad Display

June: POPULAR VOTE: Any Genus – species or hybrid, Novelty Bromeliad Display

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, Novelty Bromeliad Display

September: **POPULAR VOTE:** Any Genus – species or hybrid, Novelty Bromeliad Display

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, Novelty Bromeliad Display

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.

Note 2: Class 1 (April), Class 2 (July) and Class 3 (October) provide for plants from these subfamilies not elsewhere included in the Mini Show schedule.

Guzmania 'Indiana'