

# *Bromeliaceae*



**VOLUME XXXVII - No. 6 - November/December 2003**



# The Bromeliad Society of Queensland Inc.

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## The Bromeliad Society of Queensland Inc.

### Society Badges

ARE NOW AVAILABLE \$5.00 EACH

**CONTACT MR. CHESTER CUTCLIFFE**

Ph 07 3386 0505 or contact him at the meetings

### Bromeliaceae COPY DEADLINES

January / February.....December 10th , 2003

March / April .....

February 10th , 2004

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# SEASON'S GREETINGS

From  
The Committee  
of  
B.S.Q. Inc

## Bromeliad Society of Queensland Inc.

### BOOKS FOR SALE

Bromeliads -- Next Generation by Shane Zaghini	\$33.00
Tillandsia Handbook by Hideo Shimizu and Hirouli Takizawa	\$58.00
Bromeliads for Everyone 2 by Bea Hansen	\$11.50
Growing Bromeliads by The Bromeliad Society of Australia	\$21.50
Genus Tillandsia by Paul Isley III	\$3.00
International Check List of Bromeliad Hybrids by B.S.I	\$1.50
A Bromeliad Glossary, 1977 Edition, by B.S.I	\$3.50
A Bromeliad Glossary, 1998 Edition, by B.S.I	\$18.50
Bromeliads -- A Cultural Manual by B.S.I	\$5.00
Distributional Checklist of the Genus Tillandsia by Lloyd Kiff	\$20.00
A Guide to Beautiful Neoregelias by S. Zaghini	\$20.00
1985 Bromeliads III Conference	\$10.00
1993 Bromeliads VII Conference	\$18.00

Inquiries: LIBRARIAN, Ms. Noela Tucker  
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# Society Diary

NEWS

REPORTS

EVENTS

GENERAL MEETINGS are held on the Third Thursday of each month except December, at the Uniting Church Hall, 52 Merthyr Road, New Farm, Brisbane, commencing 8 p.m.

Classes for beginners commence at 7.30 p.m.

FIELD DAYS are held regularly in the gardens of members as advised.

MEMBERSHIP FEES Family \$20, Single \$15 pa

The BSQ Web Page can be accessed at the [www.bsq.org.au](http://www.bsq.org.au)

## Annual Subscription

Members are reminded that the annual fees are due and payable on the 1<sup>st</sup> of January, 2004. Prompt payment will greatly assist the treasurer. Members who are unfinancial at the A.G.M. will be ineligible to vote or to nominate for management committee positions. Members who have allowed their membership to lapse will not receive issues of *Bromeliaceae* after 2004 # 1.

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## Competition Results

### September Popular Vote

#### Novice

First *Tillandsia tricolor* v *melanocrater* M. Southman

#### Intermediate

First *Tillandsia ionantha* G. & N. Aizlewood

Second *Neoregelia* 'Enchantment' Y. Daniel

#### Advanced

First *Tillandsia bulbosa* D. & J. Upton

Second *Vriesea* 'Pink Enchantment' L. & D. Trevor

Second *Vriesea* Hybrid L. & D. Trevor

## Program

### November General Meeting

Beginners Session Plants for Beginners Bob Cross

Floral Arrangements with Bromeliads Margaret Morrow

Plant of the Month *Werauhia, Wittrockia*

### December Christmas Break Up

December 4th. At the Uniting Church Hall, New Farm

No formal meeting. Highlight *The Traditional Raffle of Selected Plants*

Bring your best plants for a spectacular display.

Members are requested to bring a plate for supper.

Contact Norma Davis, catering co-ordinator.

**February Annual General Meeting**

**Preliminary Notification.** The Annual General Meeting of the Society will be held in The Uniting Church Hall, New Farm on the 19th of February, 2004. Full details of the business to be transacted will be listed in *Bromeliaceae* 2004 #1.

**Competition Schedule for 2004**

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

January:

**MINI- SHOW**Class 1: *Aechmea* - species and hybridsClass 2: *Vriesea* - species and hybridsClass 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 hybridsClass 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.*

*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.*

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### PLANT OF THE MONTH PROGRAMME - 2004

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

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- The extreme weather conditions of the last week of October. -high temperatures, very low humidity and high wind velocity- resulted in very high moisture loss from plants and the environment. At particular risk, were small seedlings and recently germinated seed. The counter to these conditions is to increase the humidity. The RR is a misting system coupled to a humidity sensor. Alternately, a misting system on a timer with the grower checking the results visually and adjusting the time interval is a viable option. Growers without a



## Cover Photos

*Tillandsia imperialis*

The habitat regions for this species are the cloud forests of central and southern Mexico, between 2400m and 3000m. Cool, damp, cloudy conditions prevail and the plants are found growing saxicolously (on rock formations), and epiphytically on oaks and conifers.

*T. imperialis* has been variously described as being stemless, 40 to 50 cm high (with inflorescence), many leaved, forming a large cistern up to 50 cm in diameter. Leaf sheaths are broadly oval. Leaf blades are ribbon-like, pointed, the tips sometimes recurved, up to 40 cm long; up to 6cm wide above the sheath, green, shiny, sometimes with short scales. The scape is sometimes reddish, short, strong, hidden by leaves and scape bracts. Scape bracts are similar to the leaves, tightly overlapping, covering the scape with wide sheaths. The upper sheaths are shiny red.

The compound inflorescence forms a thick cone up to 18cm long and 10cm thick. Primary bracts are upright, thick, overlapping, broadly oval, long and tapered, covering the spikes, brilliant red with green, flared, recurved tips. The spikes have up to four flowers, are flattened, up to 6cm long and 2.5cm wide, elliptical, almost completely hidden by the primary bracts. The floral bracts are up to 3.5cm long, and tightly overlapping. Petals form upright, blue tubes 53mm long. The flowers open singly on consecutive days.

The plant featured on front and back covers was nursery raised in Victoria; acquired during Easter 1995 and flowered in Brisbane in October/November 1995. It was grown amongst large tank Vrieseas which provided a microclimate and protected the plant from the drying conditions of S. E. Queensland. The long flowers opened singly in each group of floral bracts over consecutive days until exhausted.

The effect of flowers appearing along the length of the inflorescence was a spectacular sight. The scape bracts remained in colour for several weeks after flowering. During flowering, three adventitious offsets formed around the base of the plant. About three months after the last flower faded, three offsets formed in the lower leaf axils and three more adventitious offsets formed around the base.

Grower and Photographer *John Higgins*.

( A difficult species to grow in coastal S.E. Queensland due to the contrast between our climate and that of the plant's habitat. A better proposition for Toowoomba and mountain areas South.)



## The Editors Desk

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Authors are responsible for the accuracy of all information in their articles.

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### Letter to the Editor

#### **Naming and registering cultivars.**

This answers both the letter and Editorial comment.

Oh! Dear, I always try to write in simple terms but it seems I have disturbed Mike yet again. I can only apologise. However, I do not intend to expand further on my previous comments because I think they were taken out of context.

I do get the feeling from the questions asked that there is a negative feeling amongst some, towards registering cultivars under the ICNCP rules. I should not be the only person capable of answering questions about cultivars but I am always prepared to stick my neck out. Remember these are the ICNCP rules not the DRB rules. Around the world I do have 'Friendly Ferrets' who help with the aim of collating details from all worthwhile-growing cultivar Bromeliads in circulation but not in the Register. No one has volunteered for the Brisbane area as yet, but I am optimistic.

The naming of plants originating in cultivation are covered by the ICNCP rules which have been in existence for over 50 years and anybody can apply to be a Registrar for a particular group of plants. In the early 1990's, the Bromeliad Society Incorporated applied to look after the Bromeliaceae and was accepted. How you do the job is checked by the Royal Horticultural Society and you are expected to be pro-active!

The Queensland Bromeliad Society Inc. could have applied for the job but didn't, and I see no reason why the BSI should have the approval of all Bromeliad Societies around the world. One of the responsibilities of the Registrar is to maintain a Register. Remember a register is not part of the ICBN (plants found in the wild) rules.

Any person can ignore the rules of either the ICBN or the ICNCP just as people ignore the rules of the road but here there is no punishment. You do things voluntarily.

A Register is only as good as the information sent to the Registrar. A

Registrar is not a judge.

You do not have to be a member of the BSI or the Queensland Bromeliad Society Inc. to register a cultivar. If you do not want to encourage others to register then that is also your prerogative. Let us remember that Mike Symmons has never registered a bromeliad cultivar and I can only assume he has never hybridised bromeliads. I notice that he exhibited *Neoregelia* 'Wim' at the July Min-show and as far as I can see, its identity is only known to Mike because it is not on the Register!

I have always said that the use of a formula is a valuable guide to the hybridist but IF the Cultivar is registered then this detail is held in the register. There is no need to keep the formula on the label AS WELL AS the cultivar name! My aim is to try to get all growers to be vigilant and advise me of any naming and naming anomalies so that all can read about them in the Register, not just on a plant label!

I am well aware of the many plants, named and unnamed that are 'out there' and I prefer to try to address the problem of identification when it is current - not leave it for the future.

Derek Butcher

#### ..... OFFSETS REVISITED

Many plants have developed other methods of reproduction to supplement survival by seed production; in the case of bromeliads by offset production. Offsets develop from dormant 'eyes' in the leaf axil and in some cases the bract axil also. Generally, the growing point of the plant releases auxins (plant hormones) which suppress the development of the offsets until the growing point has matured.

Offset development varies widely; nil for *Puya raimondii* and *Tillandsia utriculata* and up to 6 or 8 with some other tillandsias; more with some human intervention.

Offsets develop from different parts of the plant in different species. In the case of the pineapple, *Ananas comosus*, from the base of the plant (suckers), from the peduncle (stem of the fruit) where it is called a 'slip' or from the crown of the fruit (top). *Tillandsia somnians* is unusual as many of the offsets develop from the flower stem. Most commonly offsets develop from the base of the plants.

Offsets develop at the end of a stolon which can vary from a long thin wiry structure approaching one metre long in *Neoregelia pendula* var *brevifolia* to a very short fleshy tissue almost non-existent (*Vr. splendens*) with all variations in between. Offsets which develop at the base of the plant and/or have a visible stolon are easy to harvest. The difficult ones such as *Vriesea splendens* and *Guzmania sanguinea* develop their offsets at the base

of the spent flower spike and with a minimal stolon. In the absence of some human help, these plants often produce only one offset; a one for one replacement.

I came across the following note from a Q & A while cataloguing cultural articles in previous issues of *Bromeliaceae*. It's worth reprinting as the question is often asked by new bromeliad growers.

The question: "Is *Vr. splendens* propagated only by seed because it does not produce multiple suckers? Can you tell me if there are others like this, and if so, could you please publish a list of them?"

The answer: *Vr. splendens* can also be propagated by off-shoots, but the manner of removing the off-shoots is a bit more delicate and difficult than with most bromeliad species. After the inflorescence of the plant has reached its maturity, the new shoot will appear near the axis next to the inflorescence instead of at, or near, the base of the plant as is usual with most bromeliads.

When this new shoot has reached a height of five to six inches, it may be removed with a sharp knife. The operation is a delicate one as it is necessary to cut through the **live tissue of the old plant** which will separate nearly half of the plant. *The cut must not injure the base tissue of the new off-shoot, and the old basal leaves should be removed before the cut is made.*

If this operation is carefully done and the cut tissue treated with Captan, it is possible that the old plant will produce one or more off-shoots from the uninjured side. These later plants may be generally more easily removed than the first one. It takes some courage as well as a surgeon's skill to attempt this operation, especially if you have only one plant in your possession.

Many, if not most bromeliad plants, may be deliberately injured in the axis (growing point of the plant) to induce offset production.. Just be careful to dry it off and antiseptically treat it with Captan, so that rot or decay will not set in. Off-shoots, one or more will soon appear. The main plant, of course, will not continue its growth.

This procedure of injuring the centre may be carried out even with seedlings two or more inches in height. I hope your readers find this interesting.

*Mrs. P. Reeves, Orlando, Florida.*

(I have never been prepared to deliberately damage the growing point of a plant, especially an only plant, to induce offset growth. However, a plant of *T. tectorum* which was accidentally so damaged is currently alive and producing four offsets.)

*Ed*

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Old shade cloth can be put to good use as a worm barrier in the bottom of pots, particularly those on the ground. Worms are great in the soil but cause premature breakdown of potting mixtures.

## The Presidents Page

### Christmas Wishes

The year is now drawing to a close and this is our last issue of 'Bromeliaceae' for 2003. I would like to extend season's greetings to all members of the Society. I hope that the Christmas and New Year period proves to be healthy, happy and safe for all members.

### Christmas Break-up

In 2002 an extra meeting was added to the Society calendar to cater for the Christmas break-up. This proved to be popular with members and will be repeated this year. The date for this meeting will be 4<sup>th</sup> December and all members are invited to attend. The main activities for the evening will be a monster (large) plant raffle and a celebration supper. Members are requested to bring a plate of food to assist with the catering. Our Vice President, Norma Davis, has again volunteered to co-ordinate the catering arrangements and members can contact her to view the list of recommended foods to bring.

### Bromeliads for Christmas

Christmas is always a period of growth and flowering at our place and we include as many bromeliads in our Christmas decorations as we can. A large part of our outside living area is covered with shade cloth and one corner is given over to a tiered display of bromeliads and other plants for our family and guests to enjoy. Searching the collection for plants in flower to include in the display is an annual ritual that helps jolt me out of denial about Christmas coming around again. Because of their versatility, bromeliads lend themselves to many lifestyle situations.

### Shows, Displays, Plant Sales

Our end of year activities have been further expanded this year to include a spring/summer show of bromeliads at the Mt. Coot-tha botanic Gardens on 1<sup>st</sup> and 2<sup>nd</sup> of November next. This will be our first solo Show as a Society and a sub-committee is hard at work organizing under the direction of Co-ordinator Wayne Lyons. I am sure that all members will get behind Wayne and his team to make the Show a success.

Also on our end of year calendar is the Royal Horticultural Society Inc., Garden Spectacular at Mt. Coot-tha Botanic Gardens on 18<sup>th</sup> and 19<sup>th</sup> of October. Our Society has been associated with the "Royal" since the inception of the Garden Spectacular in 1988 and this year we continue that tradition.

The Tropical Foliage Festival to be held at Mt. Cotton 23<sup>rd</sup> November will be the final show/sales activity on our yearly calendar of events. This activity is open to members and friends and will again feature a number of

specialist plant societies, including our own, providing plants for sale.

### Members

As I write these notes my thoughts turn again to the contributions made by so many of our members towards the successful running of the Society. We are very fortunate in having these members who go about these tasks professionally and with good cheer. The future of the Society is assured while these members provide their time unselfishly for the good of all.

*John Higgins*

.....

## *Southern Safari*

The bus trip to Northern N.S.W. was a resounding success judging by the number of complimentary comments that I have heard. A big thanks to Nancy Kickbusch for the excellent organisation and execution of the weekend. Two of our members have put pen to paper and recorded their impressions of the trip; one from one of our more experienced members and the other from a new member and grower.

### A BUS to BROMELIAD BLISS .

'We leave at 5am sharp! Be there!'.....and we were! No one was late, and that's how the entire trip ran – with clockwork precision, thanks to Nancy Kickbusch's excellent organization. We all sat back and enjoyed every moment of the trip. The bus company was Murrays and our driver, Steve gave us a very smooth trip as he presented an interesting and informative historical and geographical commentary along the way.

We arrived in Coffs Harbour at approximately 11 am and stopped at The Clog Barn where we saw clogs being made the original way as well as by modern technology. Olive and Len Trevor tried out the clogs and wondered whether they would be suitable for wearing around their nursery in wet weather. We all had a very tasty light lunch there of cheese and ham crepe plus a side salad. Now everyone was rested and fuelled up for the big buying frenzy at Peter Tristram's Nursery just south of Coffs Harbour.

No-one wasted any time getting out of the bus and down to Peter's house where he welcomed us and talked about the continuing problems with the drought there. Then every one made a beeline for the sales area and I think that most people found something to be excited about. He had a lot of different varieties that the "enthusiasts" didn't have. So two and a half hours and many boxes of bromeliads later, we left for our motel for a quick shower and change before dinner.

One of the ladies on the bus who was 80+ years had an interesting offer when there was a mixed up booking and she was offered a room with a male

she'd never met. But did she get flustered by this? She just smiled and said....."Well, I'd like to see his cheque book first!"

Our motel was well positioned as we were opposite the Coffs Harbour R.S.L Club and so we could walk over for dinner. Steve, our driver had the tables and vouchers organized for us so dinner was a lovely social affair. We had a three course meal of our choice and there was a lot to choose from. Jim Batchelor had a particularly fortuitous night and went home \$450 the richer. That gave him big spending power for bromeliads the next day!

On Sunday morning, we drove to the harbour and saw the jetty and then the Coffs Harbour markets which are mainly under cover. More plants were bought and as Steve opened underneath the bus to find a space a certain male enthusiast was heard to say " We'll have to pull out the bloomin' suitcases soon to make way for the plants!"

After a short stop at "The Big Banana" for refreshments, our trip to Grafton was via the Coffs Harbour hinterland which was very scenic and interesting. It was good to go back via a different route. We saw where Russel Crowe lives, but we didn't call in. As we went past a cemetery, Steve commented about how dry it was. Some bright spark at the back of the bus commented, " Well, the things they plant there don't need any water!"

A roadside stop at Woodburn enabled many to view a copper work display. We reached Wardell and were welcomed by June and John Buchanan. There were bromeliad offsets for sale as well as potted bromeliads. Our hosts then took us for a guided walk through acres of bromeliads, growing in sandy soil. This was like ' Bromeliad Wonderland'. It was great to see flannel flowers as well, growing wild in drifts throughout the nursery.

The next question was "How on earth are we going to fit any more plants or boxes in?"....but we did! And everyone settled back to rest on the way back.....That is, after our second raffle was drawn. Thankyou to Len and Olive Trevor for the bromeliad they gave for one of the raffles. and ????

We arrived back at the designated time and there was no need to guess what everyone was doing first thing the next morning! When's our next wondrous trip Nancy?

*Anne McBurnie*

.....

### **The COFF'S HARBOUR BUS TRIP**

Our day started at 3.45am when we put a few finishing items in the suitcase and had a quick breakfast before heading to Palmdale, opposite Garden City at Mt Gravatt where 14 of us joined the coach at 5.15am. The other 32 keen-as-mustard bromeliad collectors had an earlier start from Roma Street at 5.00am. Everyone had been on time. It was a lovely morning,





*Tillandsia punctulata*



*Guzmania 'Luna'*



*Aechmea blanchetiana*





*Aechmea* ('Flavorosea' x *fasciata*)



*Billbergia porteana*



*Neoregelia* 'Rainbow'

after a brief storm the night before, and we hoped our broms would hang on until we could be with them again!

We pulled up at Exit 41, Ormeau, to collect some plants to be delivered to our host at Repton, and our coach captain, Stephen, told us we would be changing coaches at Southport, as our coach was losing power spasmodically. We supported his decision, as we didn't want mechanical problems later on. It was a swift changeover and we were soon on our way again.

We pulled up at the Big Prawn café for either breakfast or morning tea, and had a bit of a delay as the café was busy with 3 coaches which had pulled in ahead of us. When aboard again, Nancy had a lucky door raffle arranged, which was won by David Reece and Philip Beard. Olive and Len Trevor donated the lovely plants which were the prizes.

Lunch was at Coff's Harbour at the Clog Barn, where we had a demonstration of how clogs were made, and we were shown how "modern" machinery took 1½ minutes to shape a clog from soft pine. Lunch was in an adjoining building and then we entered a miniature display Dutch countryside with an electric train. We were back on the coach again by 1.00pm and then on to the more interesting part, Peter Tristram's nursery at Repton. (No hope of finding it without directions)

We were greeted by Peter and his wife, who provided refreshment on our arrival. Peter had 5 shade houses, for us to inspect, but had provided a large table of offsets for us to drool and pick over and some mature plants. His garden was full of broms under trees with many *Alcantareas*, *Aechmeas*, *Hohenbergias* and *Tillandsias* – just about everything. Many of us were wanting to ask about various specimens – what they were like – what kind of flower – whether they would grow in Brisbane or wherever. We roamed around the garden and into the greenhouses where some beautiful large *tillandsias* and *vrieseas* were housed – many of which we had not seen before. One plant in flower was an impressive *Tillandsia* (*australis*?) The inflorescence had to be supported, it was so large!

Peter's wife and mother served us an afternoon tea of sandwiches, scones and jam and cream (fresh homemade) cakes, tea, coffee, and cool drinks which were enjoyed by all. Then it was back to see if we could find a treasure missed on our first foray. Peter was busy snipping offsets for thirsty brom collectors and answering questions. Many of the broms in the garden looked thirsty, too as the area was in much need of rain.

The coach captain encouraged us back to the coach at 3.45pm, after President John Higgins moved a vote of thanks to Peter and his family, and for the use of his home as a few of us had an interest in the football.

The Chelsea Motor Inn was ready for us when we arrived, so we went for a quick shower before assembling at 5.45pm to cross the road to the RSL Club for a 3 course meal of our choice. Most of us went back to the motel early, as we were pretty weary from our early start, but at least one member returned to wake his wife with the news he had won a \$400 jackpot!

Our official photographer, Doug Upton was seen snapping desirable plants, and one of our unofficial photographers left his camera at the Big Prawn.

The weather changed during the night so we awoke to a much cooler morning. After a good starter for breakfast, we set out with a visit to the port, and some Sunday Markets, where plants and fruit were the main purchases. One couple bought a large tile with a frog painted on it in very bright colours – it will go in their garden in “just the right spot”. Yours truly purchased a couple of heliotropes. It was a pleasant  $\frac{3}{4}$  hour and then on for a break at the Big Banana. There I bought a motto which I thought was appropriate for the girl at our supermarket. It says “I can please only one person per day. Today is not your day and tomorrow does not look good either”. Chester says it is appropriate for other occasions.

Stephen drove us (off the beaten track) to Grafton, via small townships which were noted for their pubs. On arrival at Woodburn, our organizer, Nancy, was keen to purchase a “jabiru” for her garden, whilst I noticed that Lindsay climbed aboard with a wrapped copper wall hanging. The driver handed out our lunch boxes, which had been prepared by the motel staff, and then on to Wardell, and the Buchanan’s nursery. June Buchanan welcomed us and took us to their sales area, which looked a lot barer by the time we had finished. I think the coach captain was wondering where it would all fit, and it was suggested we might need a trailer “next time”. June took us down the back where a huge amount of broms live under the trees. We were all trying to identify them. Since my last visit, the nursery had put name tags under the plants, and June’s secateurs came in handy. We could have stayed for hours, but a hurry up call had gone out, so it was back to the coach again after thanking June & John Buchanan for letting us visit.

It was a quieter time from Wardell, and we had another raffle won by ? (not me). I think we were noticing the lighter pockets and the activities of two full days away. We had our last comfort stop at the Gold Coast, and my last stop was Palmdale where we had to sort out the plants and luggage of the departing 14 members. That’s where I departed with the 13 others and we said goodbye. We thanked Stephen for his patience, guidance and helpfulness – Nancy for her work in organizing the trip. The company was beaut – we all had a common goal to see and purchase broms. A bonus was

to meet with members who couldn't come to meetings, one from Gladstone, Maurice Featherstone, and another from Sapphire, Doug Binns, and of course, Peter, John & June, who are members as well. We are looking forward to our next trip.

Dorothy Cutcliffe

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{ In an interview with Alan Freeman (a successful grower and breeder of Neoregelia hybrids) by the president, Alan commented that his fertilizer program followed closely the recommendations of John Wilkins in a paper presented to BROMELIADS III. . This essential sections of John's paper are reprinted for the benefit of new members and a reminder to the oldies. Copies of the proceedings of BROMELIADS III with the full text and appendices of this lecture are available from the librarian.

At the time of the conference, John was CEO of A.C.F. & Shirleys and would have had access to top technical and laboratory resources }

## ***NITROGEN FRIEND or FOE***

### FERTILIZER EXPERIMENTS on the GENUS NEOREGELIA

#### Introduction

The application of fertilizers to bromeliads has always been a controversial subject. This is not surprising, when one considers the nutrient requirements of plants, the varied environments in which they are grown and the differing objectives of growers. Additionally, recommendations often tend to generalise, sometimes causing problems with specific genera or under special growing conditions.

This is particularly true of the element Nitrogen (N). Reference to Appendix I illustrates how important it is to be specific when referring to fertilizers. Certainly it is difficult to find agreement in published literature, journals, or even in commercial catalogues.

For instance, one large bromeliad nursery in California recommends Superphosphate and a slow release W + Dolomite to achieve a pH of 6 for most genera. Comments are made that too much fertilizer produces plants with very narrow, grass-like leaves, especially if the fertilizer is high in the element Nitrogen (N). In the case of the genus Neoregelia, they recommend no fertilizer whatsoever until after flowering.

For other genera, especially Vriesea and Guzmania, they recommend an N P K in the proportions: 1 part N. to 2 parts P. and 2 parts K. They especially warn against 'Fish Emulsion' as being too high in Nitrogen (N). Appendix II explains these terms and lists the nutrient contents of the main commercially available fertilizers.



There seems to be a majority judgement in the U.S. that the genus *Neoregelia* should not be fertilized until after flowering. However, opinions still differ, and local experienced growers have successfully applied foliar fertilizers to *Neoregelias*, or put slow-release or other fertilizers in the potting mixture and have still achieved prize winning plants.

Of the early bromeliad pioneers, Bob and Catherine Wilson contend that no fertilizer is necessary for bromeliads if the potting medium contains some compost. In an inert medium, soluble fertilizer or 'Fish Emulsion' used at half strength monthly in the spring and summer months is recommended. Warnings are given that fertilizer residues in the 'cups' causing leaf burn.

Victoria Padilla suggests slow-release or liquid fertilizers used in a weak solution at frequent intervals.

Perhaps the most helpful indicators come from Dr. David H. Benzing in his book 'The Biology of Bromeliads'. He states "to simulate the feeding most bromeliads receive in the field, specimens should be sprayed frequently with a very weak solution of plant food". Such a solution, he goes on to say, should contain only *1-5 parts per million of each macro nutrient*.

In further commenting on the type of N used, he suggests part ammonium N and part nitrate N as this best approximates what is found in nature. He comments that the pH should fall between 4.5 and 6.5, and adds that the pH of natural fluids in bromeliad 'tanks' can be as low as 3.8. It must be realised, however, that nature does not always produce optimum plants, and man can generally improve on 'natural' conditions to achieve a superior plant. Dr. Benzing does warn that excess N. can prevent flowering and over fertilizing can cause a build up of coarse white deposits on the leaf base.

It was to help resolve some of these conflicting theories and recommendations that I commenced a fertilizer experiment in 1982 on the genus *Neoregelia*. It seemed that for the other genera, with the possible exception of *Cryptanthus* that a weak fertilizer regime with slow release or foliar fertilizer, used regularly, was generally accepted as being necessary for optimum growth and flowering.

The plants were all grown in the same area, in pots sunk into pine bark under a covering of 50% shade cloth. The plants were examined at approximately 6 monthly intervals, and repotted into larger pots as necessary, up to a maximum of 6" pots.

The observations were designed to check growth, form, colour and offset production, and specifically to determine the extent to which the element Nitrogen (N) was friend or foe to these factors.

## INITIAL TRIAL DESIGN:

In August, 1982, eleven (11) near identical offsets were originally potted in 4" pots using a mixture comprising

- 1 part sieved Pine Bark
- 1 part Peanut Shell
- 1 part Peat Moss
- 1 part Charcoal

The following treatments were given

Offset	Treatment
1	Control - no fertilizer
2	Urea only for N
3	Triple Super for P
4	Potassium Sulphate for K
5	Urea and Triple Super for N P
6	Urea and Potassium Sulphate for N K
7	Triple Super and Potassium Sulphate for P K
8	Osmocote 14-14-14 Slow Release
9	Foliar fertilizer weak solution weekly (Foliar 1)
10	Foliar fertilizer #1, strength solution monthly (Foliar 2)
11	Urea, Triple Super and Potassium Sulphate for N P K

## FIRST TRIAL RESULTS:

In early observations, the plants with no N. showed best colour, and particularly the K. only. Foliar I also showed satisfactory colour. Growth was better with treatments containing N but colour poor. A feature noted, but not measured, was that plants with no N., particularly the P only treatment, had an excessive number of dead outside leaves.

At maturity, plants with no N except the M treatment, still showed best colour, but were generally smaller than those with N included in the treatment. The N only treatment was the only plant not to mature and flower that season. The N P K treatment was superior to both 'Osmocote.' and Foliar treatments in both growth and colour. In later observations of offset production, the M treatment produced the most offsets and Foliar I and the Control the least.

All these results are summarised in Appendix III.

On the basis of the results obtained and to check further on other aspects, further trials were commenced using the offsets from the original plants.

## SECOND TRIAL DESIGN:

The following treatments were given to achieve the objectives as set out:-

Offset	Treatment	Objectives
1	Control - no treatment	
2	Sulphur only low rate )	
3	Sulphur only high rate )	To check the effect of pH levels
4	Dolomite only low rate)	
5	Dolomite only high rate )	To check the effect of pH levels
6	Triple Super and Potassium ]	
	Sulphate low rate ]	To further check the
7	Triple Super and Potassium ]	effect of no N.
	Sulphate high rate ]	
8	Urea	
9	Ammonium Nitrate	
10	Urea, Triple Super and Potassium Sulphate	
11	Ammonium Nitrate, Triple Super and Potassium Sulphate	
12	As for 10 plus Sulphur to lower pH	
13	As for 11 plus Sulphur to lower pH	
14	As for 10 plus Dolomite to raise pH	
15	As for 11 plus Dolomite to raise pH	

These treatments (Offsets 8-15) were designed to test Dr. Benzing's theory that some nitrate nitrogen as well as ammonium nitrogen would be beneficial. Also to further check on the effect of pH levels

- 16 M with Cu and Zn low rate
- 17 M with Cu and Zn plus Dolomite
- 18 M with Cu and Zn plus Sulphur
- 19 N P K with Cu and Zn high rate

These treatments were to check the effect of the commercial pineapple fertilizer which contains a recommended quantity of Copper and Zinc. In addition, some offsets were left with no fertilizer, and some offsets fertilized with N P K only after flowering, to check offset production.

#### SECOND TRIAL RESULTS:

As many plants had not reached maturity at the last observation, only colour, form and growth could be recorded.

In general, the plants treated with Sulphur were marginally superior to those treated with Dolomite, but all plants were surprisingly tolerant of extreme pH variations (from pH 2.5 -- 3.5 to pH 7.0 -- 7.75)

There was no evidence that the nitrate form of N. gave any better results than the ammonium form. The N P K with Copper and Zinc caused slow growth, retarded maturity and gave completely green plants.



Appendix IV summarises these results.

### CONCLUSIONS:

In drawing conclusions from one limited trial, one must be careful not to be too dogmatic. Environments under which plants are grown differ, growers cultivation methods vary: and from separate observations I am convinced that light plays a more significant role in achieving good colour in the genus *Neoregelia* than fertilizer practices. Nevertheless, I have concluded to my own satisfaction that in relation to the genus *Neoregelia*

(i) An N P K (not slow release) added to the potting medium gives best combined growth, form, colour and offset production.

(ii) The formulae of the N P K should be in the approximate proportions 15% Nitrogen (N); 5% Phosphate (P); 15% Potassium (K). The Nitrogen should be derived from Urea or Ammonium Phosphate, and the Potassium preferably from Potassium Sulphate.

(iii) The amount used is not critical, but should be about 1 level teaspoon to a 5" pot, mixed with the potting medium. The alternative for bulk mixing of potting mixture is about a standard cup per 4 x 5 litre containers.

(iv) pH is not critical, but the potting medium should preferably be on the acid side, i.e. lower than 6.0.

(v) There appears to be little benefit in fertilizing *Neoregelias* after flowering to induce additional offsets. I suspect that the triggering mechanism for offset production is already fixed by flowering time.

(vi) The use of Phosphate or Potassium without Nitrogen causes a nutrient imbalance and makes plants susceptible to disease (rot, etc.).

(vii) Use of commercial pineapple fertilizers containing copper and zinc are unsuitable to *Neoregelias*, and probably to other genera.

Finally, I think we can conclude from the above, **that properly used in balance with other elements**, Nitrogen can indeed be a FRIEND and not a foe.

*John Wilkins*

.....

In sub-tropical and tropical climates, many bromeliads can be grown in the garden, all year round. Care needs to be taken with the placement of *Aechmeas*, *Billbergias*, *Neoregelias*, *Quesnelias* and the plants of similar genera during summer, especially in December, January and February (in southern coastal Queensland). This arises because the combination of high temperatures and low air humidity can cause leaf "scald" or burn", when the same temperatures combined with high humidity will not. Several hours (on one day) of adverse weather conditions are often all that is needed to cause severe plant damage.

*Bob Reilly*

**BROMELIADS XIII CONFERENCE**  
**BRISBANE October 2005**  
**Newsletter # 2**

- Firstly, we offer our congratulations to the New Zealand Bromeliad Society for the first Australasian Conference conducted earlier this year in Auckland. All who attended will agree that the conference was very successful and will be a hard act to follow. The venue, which provided for all on-site activities to be held under one roof, was the envy of our committee members.
- Our Conference Committee of Greg Cuffe (Conference Convenor), Peter Paroz (Programme Convenor), Bob Cross (Display and Sales Convenor), and Ruth Higgins (Conference Registrar) have been hard at work planning Bromeliads XIII. The basic programme has now been drafted and we can share some of the details.
- The venue will be the Conference Centre at Bardon, one of the inner suburbs of Brisbane. This venue has a tiered lecture theatre and a full range of facilities with on-site accommodation in a bushland setting. Access to the city is available by public transport from nearby.
- The Conference will be held over four days from Friday 14<sup>th</sup> October to Monday 17<sup>th</sup> October, 2005, inclusive. These dates have been selected so that we can feature a broader range of flowering plants in displays and in competition to those previously featured in Brisbane conferences.
- Lectures / presentations will be held in the mornings with bus trips to major local collections on three afternoons. The evenings will include Feature Lectures, Banquet, BBQ, etc.
- The lectures will be presented by two international speakers supported by a panel of 'local' speakers.
- We now have an agreement with the first of the International speakers. Bruno Rezende Silva, Director of the Neotropicum Botanical Gardens, is new to the Australasian Conference round. He will provide new and interesting insights on a range of bromeliad topics.
- Expressions of interest have been invited from any other international speakers to fill the second position. Submissions

should include a list of proposed presentation subjects together with a short outline (100 to 150 words) of the content of each topic for consideration by the Programme Convenor who may be contacted at the address below.

Expressions of interest will also invited from local speakers to fill vacant positions. Any interested persons should submit a list of topics and a short outline (100 to 150 words) of the content of each topic to the Programme Convenor at the address below.

- Following the trend of recent conferences there will be an open competitive show for all delegates. Details and entry forms will be available as we move closer to the event.
- Space will be provided for societies, businesses, and individuals to present displays. Details will be advised as soon as planning is completed.
- On-site plant sales will be provided. Applications for sales space for sellers will be circulated in the near future.
- As planning proceeds we will advise registration and accommodation details.
- We have commenced our fund raising with a raffle. First prize will be the book 'Bromeliaceae III' by Estevez, second prize will be bromeliads to the value of AUD100 and third prize will be bromeliads to the value of AU\$50. Winners of second and third prizes will be able to make their own choice of plants. We seek the support of members, friends, and societies to assist in the sale of tickets for our fund raising. Please contact the Registrar, Ruth Higgins at the address below to order some of the raffle books. Books contain 5 tickets at \$2.00 each (\$10.00 per book).

Our special thanks to long time member Margaret Draddy for her kind and generous donation to the Conference fund. Margaret continues to provide valuable support to all the societies conducting the conferences.

*Bromeliads XIII Conference Committee*  
**Brisbane 10<sup>th</sup> October 2003**

*Enquiries to:*

Bromeliads XIII Conference Committee  
C/o Bromeliad Society of Queensland Inc.  
PO Box 565, Fortitude Valley, QLD, 4006

## Judges Training School

Nine students have attended the three judging schools held this year. These are held at our home at 232 Canvey Road, Ferny Grove following the Study Group Meetings. The Study Group meetings are held on the second Saturday after our monthly Bromeliad Society meetings and are open to all Society members.

It was recommended that student judges purchase a copy of "The Handbook for Judges and Affiliates", a publication of the Bromeliad Society Inc., to be used as a guide for this course.

At the first school, we looked at the recommendations of becoming a good judge. We found that judges are expected to be an active grower and competitor, and read and study as many journals, books and articles to further their knowledge of bromeliads on all aspects of bromeliad culture.

We then moved on to the procedure of point scoring. This was made easy by using the guide sheets which were used at the judging school I attended at the Conference at St. Petersburg, Florida

The genus studied at the first school was *Aechmea*. At the second school, we studied *Acanthostachys*, *Billbergia*, *Cryptanthus*, *Orthophytum* and *Portea*. We also practiced point scoring on the judging of multiple plants. Bob Paulsen supplied the plants of *Cryptanthus*, *Acanthostachys* and *Orthophytum* and assisted in the study

The final school of the year was held on the Saturday 25th October when the topic was revision of what had been covered in the first two schools. This enabled anyone who had missed a meeting to catch up on the study and learn more about bromeliad culture and judging.

*Olive Trevor*

.....

I have a bed of sand and gravel inside my shade house. Recently, I was given two seedlings about 2cm high. I planted the seedlings in small pots and placed them on the sand and gravel bed. They did not thrive which isn't surprising as it was late winter/early spring.

I cut the top off a 3 litre fruit juice container made of clear plastic, inverted it, and placed it over the 2 seedlings. It formed a small "glasshouse" over the seedlings. They have responded well to the extra warmth and humidity. (A container made out of opaque plastic does not work anywhere as well as a clear one).

*Bob Reilly*

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## Helpful Hints

- If you are putting pots of bromeliads into a landscape display, ensure water can drain away from the pots. Otherwise, if the pots' drainage holes "clog up", or the pot is sitting in constantly wet soil, the plants may rot.
- You may wish to give some of the bromeliads e.g. *Guzmanias* in your shade house, extra shade during the hottest part of the year (typically, mid November to March in Southern coastal Queensland). One way of achieving this, is to place an extra piece of shade cloth underneath the shade cloth forming the shade house's roof. If necessary, the additional piece of shade cloth can be "pinned" to the roof by using 75mm long galvanised nails. These nails can be removed easily when you wish to take the extra piece of shade cloth away.
- You may have, or know of, a large palm tree, similar to a *Cocos* palm, which is being removed. If you can obtain 1 metre long sections of the palm tree, cut them length-wise and remove the soft material which formed the palm's centre. Replace with tree fern staghorn, or elkhorn fibre or similar material. Place some of the smaller growing grey-leafed *Tillandsias* in the fibre. Hang the *Tillandsia* log from a support in the shade house by means of a loop of plastic-covered galvanised wire around both end of the log. The *Tillandsias* grow well in the log which will last for up to seven years.
- There is no need to root offsets in a special potting mixture. Just plant them in the regular potting mixture you use for that type of bromeliad.

Bob Reilly

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*Bromeliaceae* is the Journal of the **BROMELIAD SOCIETY OF QUEENSLAND Inc.**

Published bi-monthly by

**ULTRA PRINT** Phone 07 3865 5700

Print Post Number: P.P. 434327/0002