

Bromeliaceae



VOLUME XXXIV - No. 5 - SEPT / OCT 2001



The Bromeliad Society of Queensland Inc.

P. O. Box 565, Fortitude Valley
Queensland, Australia, 4006

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 in the Program
MEMBERSHIP FEES Family \$20, Single \$15 pa — payable on 1st of January

OFFICE—BEARERS 2001-2002

PRESIDENT	Mr. Bob Cross.....	Phone 07 3265 4364	
VICE PRESIDENT.....	Mr. Jay Jacobs.....	Phone 07 3396 8460	
IMMEDIATE PAST PRESIDENT	Mr Bob Paulsen.....	Phone 07 5493 3677	
SECRETARY.....	Mrs. Norma Davis.....	Phone 07 3271 1326	
MINUTE SECRETARY	Ms. Noela Tucker.....	Phone 07 3857 6570	
TREASURER.....	Mrs. Dorothy Cutcliffe	Phone 07 3386 0505	
BROMELIACEAE Editor	Mr. Peter Paroz	Phone 07 3265 1547	
	Photographs.....	Mr. Doug Upton	Phone 07 3378 3511
LIBRARIANS.....	Mrs. Mavis Paulsen and Mrs. Evelyn Rees		
SHOW ORGANISERS	Mr. Bob Cross and Mrs Olive Trevor		
SUPPER STEWARDS.....	Mr. Neville Ryan and Mr. Barry Genn		
PLANT SALES	Mrs. Nancy Kickbush, Mrs. Gwenda Anderson		
COMPETITION STEWARDS	Mr. Chester Cutcliffe, Miss Barbara Rowe Mr. Mike Symmons		
HOST and HOSTESS.....	Mr. Len Trevor and Mrs. Joy Upton		
HALL STEWARDS.....	Mr. David Brown and Mr. Bob Paulsen		
AUDITOR.....	Mrs. Anna Harris		
MANAGEMENT COMMITTEE	Mr. R. Cross, Mr. J. Jacobs, Mr. R. Paulsen Mrs. N. Davis, Mr. B...Genn, Ms. N. Tucker Mrs. D. Cutcliffe, Mrs. N. Poole Mr. W. Lyons, Mr. N. Ryan, Mr. D. Upton Mr. D. Wallace, Mr. P. Paroz		
COMBINED SHOW COMMITTEE	Ms. B. Rowe, Ms. N. Tucker, Mr. B. Cross Mr. D. Brown, Mr. N. Ryan, Mr. D. Upton		
LIFE MEMBERS	Mrs. Grace Goode, Mr Bert Wilson Mr. Peter Paroz		

The Bromeliad Society of Queensland Inc. gives permission to all Bromeliad Societies to reprint articles in their Journals provided proper acknowledgment is given to the original author and to Bromeliaceae, and no contrary direction is advised in Bromeliaceae. This permission does not apply to any other person or organisation without prior written permission of the original author.

Opinions expressed in this publication are those of individual contributors and may not necessarily reflect the opinions of the Bromeliad Society of Queensland Inc. or of the Editor.

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

Contents

Society Officials.....	Page 1
Contents.....	Page 2
Cover Photographs.....	Page 3
Broms at the EKKA.....	Page 3&24
Society Diary.....	Page 4
Editors Desk.....	Page 5&6
<i>Pitcairnia feliciana</i>	Page 7
BSQ Field Day Reports.....	Page 8-12
Mineral Elements & Plant Growth.....	Page 12
Judging Notes.....	Page 13
Non Nutrient Potting Medium.....	Page 14
Trading Post.....	Page 15
Importing Bromeliads Pt 2.....	Page 16-18
A Neophyte with Neos.....	Page 18&19
Controlled Release Fertilizers.....	Page 20-23
Advertisers	
M. J. Paterson.....	Page 10
Pinegrove Bromeliads.....	Page 12
Raemur Plant Farm.....	Page 14
Brisbane Bromeliad Centre.....	Page 20
Forest Drive Nursery.....	Page 22
The Olive Branch.....	Page 23

The Bromeliad Society of Queensland Inc.

Society Badges

ARE NOW AVAILABLE \$5.00 EACH

CONTACT MRS. NORMA DAVIS

Ph 07 3271 1326 or see her at the meetings

COPY DEADLINES for *Bromeliaceae*

November / December.....October 20, 2001
January / February.....December 20, 2001

Please forward all copy to

The Editor, 3 Derribong St., Boondall, Qld, 4034

Phone 07 3265 1547

Email pparoz@powerup.com.au

Electronic copy in RTF or MS Word 7.0 or earlier- Times New Roman

Photographs to Doug Upton, 101 Jerrang St. Indooroopilly, Qld, 4068

Cover Photographs

Front Cover Grower B.Genn Photography D. Upton

Pepinia sanguinea - Pitcairnioideae

This plant is a seedling raised from seed sent to Australia by Harry Luther in August 1997. In the letter that accompanied the seed, Harry said that one of these plants was auctioned at the 1996 Conference and sold for over US \$1000. This species is a fairly recent discovery from Colombia.

I have found this plant easy to grow in good quality potting mix in the same way you would grow a pitcairnia, and has never shown any ill effects or damage from the cold. With 70% shade, I get good growth and colour. The flowers are red and tubular, about 50mm long, similar to many pitcairnia flowers.

My aim is to propagate the plant from seed, but I will need to flower two different clones at the same time as the plant seems to be self sterile.

(N.B. There is some disagreement in botanical academia with a claim that *Pepinia* should be returned to *Pitcairnia* Ed)

Back Cover Photography D. Upton

BSQ Display at the RNA Show First Prize Horticulture - Specialist Societies

A Different Look at Broms at the EKKA

To those of you outside Queensland, our "EKKA" is the event of the year - "The City comes to the Country"; it is the equivalent of Sydney's Royal Easter Show, and other capital cities' Royal Shows. Queensland's EKKA is notorious for the cold weather in the lead up to and during the show. The westerlies come in and if you are going to catch something, the EKKA is the place for you. But this year we were blessed with reasonable weather.

This was my first year at being involved with bromeliads at the EKKA and, as with the June Show, I felt I must see, and help or hinder where needed in the setting up, just to see how it all comes together. Wednesday 8th August was the appointed date for the troops to rally and set-up the display. The team, very ably lead by our President Bob Cross and Artistic Director Doug Upton, started the ball rolling early Wednesday afternoon. I do know that Bob had spent a week taking in his beloved lady, the tree (not Kath) and other bits and pieces into the Exhibition Grounds. Would anyone else take his beloved lady - not likely, she is made of concrete!!!! To P 24

Society Diary

NEWS REPORTS EVENTS

July Mini Show

Novice

Billbergia	1st	<i>B. amoena</i> 'Dr Oeser'	Jay Jacobs
Neoregelia	1st	<i>Neo.</i> 'Beyond the Pale'	Yves Daniel
	2nd	<i>Neo.</i> (Takemura x Silverado)	Gordon Cockerel
Other Genera	1st	<i>Guzmania wittmackii</i>	Evelyn Rees

Intermediate - No entries in this section.

Advanced

Billbergia	1st	<i>Bill.</i> 'Pink Patches'	Bob Cross
	2nd	<i>Bill.</i> 'Unknown'	Bob Cross
Pitcairnioideae	1st	<i>Hechtia rosea</i>	Mike Symmons
	2nd	<i>Deuterochonia brevifolia</i>	R. & M. Paulsen
Neoregelia	1st	<i>Neo.</i> (<i>carcharodon</i> x <i>carolinae</i>)	M. Symons
	2nd	<i>Neo.</i> 'Aussie Dream 'April''	R & M Paulsen
Other Genera	1st	<i>Tillandsia tectorum</i>	M. Symmons
	2nd	<i>Tillandsia ionantha</i> 'zebrina'	D & J Upton

August Popular Vote

Novice	1st	<i>Cryptanthus bivattus</i>	Keith Dawson
	2nd	<i>Neoregelia</i> Skotak hyb	Joe Green
Intermediate	1st	<i>Tillandsia fasciculata</i>	Dorothy Cutcliffe
	2nd	<i>Neoregelia</i> 'Deep Pleasure'	Yves Daniel
Advanced	1st	<i>Guzmania</i> 'Luna' †	D & L Trevor
	2nd	<i>Tillandsia (stricta</i> x <i>recurvifolia)</i>	Neville Ryan

Program

September

Mini Show Class 1 Dyckia Class 2 Guzmania

Plant commentary by the judges

Speaker: Barry Genn 'Growing Tillandsia from Seed'

Plant sales

October

Popular Vote Plant of the month Neoregelia

Brom-a-warra Conference Review

Plant sales

November Break Up Meeting, Continuous Raffle (over 40 selected plants)

Plant Display, No Plant Sales

December No General Meeting

The Editors Desk

Quality copy for publishing in Bromeliaceae is always in short supply at the editor's desk. Ten to twelve thousand words are required for each twenty four page edition. Cultural and related topics are preferred, but any information on bromeliads is welcomed. Long contributions will be serialised into two to three page episodes. Short items from one liners to half page notes are welcomed as fill in items. The editor also invites 'Letters to the Editor' on current events in the bromeliad world, controversial or otherwise.

The editor has been taken to task regarding a vigorous application of the red crayon; an occupational hazard for editors. My mistake was not to refer the changes to the author. When submitting an article, please include an Email address if available or a phone number for quick referral in the event of a major query. Minor changes regarding spelling, grammar and format remain the prerogative of the editor. Authors are responsible for the accuracy of information contained in their contributions. Ed

.....

During a recent visit to Singapore, I took the opportunity to visit the Botanic Gardens, a section of which housed the National Orchid Collection and the Bromeliad Collection.

For a long time bromeliad grower, the bromeliad collection was a little disappointing. The collection had originated as a bequest from a deceased estate and does not appear to have been systematically extended. The plants were mostly located in a shade house but there were some adjacent landscape plantings including magnificent specimens of the variegated forms of *Ananas comosus* and *Ananas bracteatus*.

The collection consisted mainly of *Neoregelia* hybrids, a few *Neoregelia* species with some *Billbergia*. I saw a few *Vriesea* possibly a *V. splendens*, and there were a couple of identifiable *Gumanias*. Most of the common genera we grow were represented, but some with only one or two species. I was not able to see any names on plants. The potting mixture was pea sized expanded clay (leca) with a foliar spray once a month. Many of the *Neoregelia* were planted in hollowed tree fern stems.

The tillandsias were a disappointment; only the silvery leafed types were represented. There was no sign of the *T. lindenii* / *cyanea* group which would probably grow very well there. The silvery leafed tillandsias were

attached to fishing line hanging from the rafters at about 300 mm intervals and the line weighted down with a sinker to keep the it taut. There was little indication of flowering or seed production; my assessment was that these plants were alive but not thriving. I did not see any mounted plants, or a bromeliad tree !! Very surprising as there were many orchids tied to all different types of trees in the other areas of the orchid section of the Gardens.

With the exception of the tillandsias, the rest of the plants were in very good condition; no sign of old leaves that should have been removed. The landscaped plants also were in good condition. There was a very large area of a long leafed Pitcairnia, possibly *P. flammea*, but I could not be sure of the species. Regrettably, in the time I had available I was not able to talk to any of the staff in this section to find more details on the cultural procedures.
Ed.

Should plant names be visible to judges while the plants are judged ? Is the identity of the plant of the plant likely to influence the judges in their assessment of the plant ?? It's a long accepted aspect of competitive judging that owner's names or other open grower identification not be visible to the judging panel. What do you think ? Correspondence invited. Ed.

Spanish Moss

A note from the 1982 July/August issue of Bromeletter, reports that researchers at the University of Florida investigating dieback in Spanish moss had isolated a fungus *Fusarium solani*. This organism was considered to be the primary cause of the problem although contributions by environmental factors such as air pollution were not ruled out.

The report ended on a hopeful note in that while the blight had reached epidemic proportions in a given area it had gradually disappeared after about four years.

Beginners Class

Members are reminded of the very informal 'Beginners Session' conducted by Len Trevor from 7.30 to 7.55 pm on each Thursday meeting night. The usual format is for Len to comment briefly on two or three topics and then open the discussion for questions and comments from the floor. While the presentation is structured predominately for new growers, all members are welcome to attend and participate.

Pitcairnia feliciana

Bromeliads natural range is almost exclusively north and south America, the only known exception is *Pitcairnia feliciana* discovered by Henri Jaques-Felix in Guinea, Africa. It was first described as a new monotypic genus *Willrussellia* in *Lilliaceae*.

In 1938, Howes & Mildbraed transferred it to *Bromeliaceae* under the binomial *Pitcairnia feliciana* (A.Chev) Harms & Mildbr. This publication caused some doubts as to its authenticity as an African species. An erroneous suggestion that the plants had been collected on the coastal cliffs led to speculation of a recent introduction by natural or human means (There are no coastal cliffs in Guinea; the coastal plain varies in width and consists of dry land or delta mangroves.) The known distribution of *P. feliciana* is some 100 km inland at the base of Mt. Gangan near Kindia.

"In 1958, L.B.Smith, confirmed the specific validity of the African *Pitcairnia* and considers it an endemic"

An edited extract from *Selbyiana* 2191,(2):118-124. 2000. Interested members are invited to consult the original article.

Library Note

SELBYIANA is the Journal of the Marie Selby Botanical Gardens: A publication devoted to Tropical Plants, with emphasis on epiphytes and their forest canopy habitat. (Harry Luther is a frequent contributor, mostly describing newly identified bromeliads)

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, Mrs. Mavis Paulsen, Ph (07) 5493 3677
ALL PRICES PLUS POSTAGE

BSQ Field Day Reports

On 28 April, the Society held its first field day for 2001. The event was hosted by Nancy Kickbusch at her suburban property, Brom-Haven, in Brisbane. Over 150 people attended the field day. As well as seeing Nancy's extensive collection of bromeliads and other plants, people were able to buy plants from the large range of bromeliads brought along by Society members.

Instead of a detailed description of Nancy's collection, I thought readers might prefer an insight as to why, and how, Nancy grows bromeliads. Nancy first started growing bromeliads about 30 years ago after she saw the 'Matchstick Bromeliad' (*Aechmea gamosepala*) and *Billbergia pyramidalis* growing in her mother's garden.

Her early purchases included Aechmeas such as *Ae.* 'Fosters Favorite', Billbergias and then Neoregelias. Nancy's collection now extends to over 1,000 different species and hybrids.

Her favourite genera are:

- Billbergias because of their ability to rapidly develop clumps of plants and their spectacular, though short-lived, inflorescences
- Guzmanias because of their long-lasting and spectacular inflorescences;
- Neoregelias because of the wide range of intense foliage colours which can be obtained when they are grown in strong light, and
- Tillandsias because of their unusual shapes and growth habits.

Nancy grows nearly all of her bromeliads, excluding tillandsias, in pots. She does this because it is easier to move the plants around to take advantage of changing light patterns during the year and to remove pups (offsets). A potting mix based on pine bark is used by Nancy. Most bromeliads are grown under trees, although many of the *Guzmania* species and hybrids are grown in a shade house.

The only pests and diseases which Nancy has found to affect her bromeliads are grasshoppers and fly speck scale. The grasshoppers are best killed (if you can catch them!) on an individual basis, while the scale is controlled by treating affected plants with Rogor 40, twice a year.

I asked Nancy if she had any advice to give people who were just starting to grow bromeliads. She said that people will find them easy to grow compared with many other types of pot plants. Neoregelias are good plants to start with, while Billbergias and Aechmeas are quite hardy in Brisbane's climate.

The main reasons why Nancy keeps growing bromeliads are:

- they are hardy, easy to grow and look after
- and new species and hybrids are becoming available all the time.

Thank you Nancy for making your property available for the field day. Everyone who attended enjoyed themselves. Thanks are also due to the other Society members who helped out on the day by undertaking tasks such as running the bromeliad sales, serving morning tea, answering queries concerning bromeliads and running raffles.

Bob Reilly

JUNE FIELD DAY

The Society held its second field day for 2001 on 30th June at the property of Len and Olive Trevor on the western outskirts of Brisbane. Over 200 people attended the event.

Len and Olive own one of Queensland's major bromeliad nurseries. They have over one hectare of shade houses and plastic-covered buildings. Consequently, there was a large range of bromeliads for people to see.

This report focuses on the way Len and Olive have used bromeliads in landscaping, and the two presentations made on the day. The first was presented by Dennis Hundscheidt. It dealt with the use of Cordylines and bromeliads in landscaping, while the second was given by Nev Ryan, one of Queensland's most experienced Tillandsia growers, on aspects of growing grey-leafed Tillandsias

Len and Olive have several landscaped areas which focus on the use of bromeliads. Filtered light is provided by the use of trees with relatively open canopies such as Eucalypts and some rainforest species. Palms are also used for this purpose.

Larger bromeliads such as Alcantarea, Werauhia and certain Vriesea, Aechmea and Portea species are used to provide a "backdrop" to plantings of the smaller-growing bromeliads. The plantings' foreground is occupied by the smaller-growing Vrieseas as well as Neoregelias.

The plantings' visual impact was improved by alternating variegated plants with green ones. Bromeliads which were in flower were often interspersed with ones which were not. The visual effect was also heightened by growing plants of a given species in small clumps of 3 to 7 plants, rather than as individual specimens.

Many of the smaller-growing plants were in pots, rather than being grown in the ground. This enables plants to be moved about to allow for changing light patterns at different times of the year, and the removal of plants which have passed their "peak".

Dennis Hundscheidt's talk focused on the use of Cordylines in landscaping, although he said the same approach applied to bromeliads. Points made by him included:

- Cordylines and bromeliads are very useful in landscaping because most have coloured or variegated foliage and thus provide colour all year round, rather than just when they are flowering.
- Many species and hybrids take up little space, which means a large number of plants can be grown in a small area such as a suburban backyard.
- Most like filtered light, although some will take full sun or close to it. An example of the latter group of bromeliads is *Aechmea blanchetiana*.

During cooler weather, the pink, red and purple colouring in the leaves of many bromeliads and cordylines is enhanced.

The use of liquid fertilisers will promote foliage growth. However, best results will be obtained by using fertilisers relatively high in phosphorus and potassium, and low in nitrogen.

Alternating clumps of plants possessing foliage of different shades of green e.g. light green and dark green, can create a visually appealing effect. Dennis recommended placing container-grown bromeliads into a mulch layer on the ground's surface, and letting the offsets spread out on the mulch layer's surface over time. This will create small clumps which are visually appealing.

Nev Ryan's talk focused on growing grey-leafed Tillandsias in coastal Southern Queensland (although many of his points are applicable elsewhere in Australia and New Zealand). Points made included:

- They grow best in filtered light during summer, with many being able to take full sun during winter. By growing them under these conditions, any reddish colour in the plant's foliage is enhanced.
- To obtain the best results, Tillandsias need good air circulation about

M. J. PATERSON

212 SANDY CREEK ROAD, GYMPIE, Qld. 4570

Large Range of Bromeliads For Sale

Especially our own Hybrid Tillandsias and Neoregelias

DO CALL IN IF YOU ARE UP THIS WAY BUT PLEASE PHONE FIRST

Phone / Fax (07) 5482 3308

Email: paterson@spiderweb.com.au

them, for all of the year round.

- Some of the plants can be grown in close to full sun during summer. However, if they show signs of sunburn e.g. dead leaf tips, more shade is required. A visually appealing way of achieving this outcome is to place a thin layer of Spanish Moss over some of the leaves. The Spanish Moss can be removed in winter.

Nev waters his plant twice a week in summer and about once a week in winter.

Tillandsias respond well to liquid fertilisers which should be applied when the plants' leaves are wet. Nev recommends the use of a liquid fertiliser with a chemical composition similar to Phostrogen or those commonly used on African Violets

As Tillandsias usually grow most actively in the cooler times of the year (in coastal Southern Queensland) liquid fertiliser should be applied all year round. Application at fortnightly intervals is recommended.

Wherever practical, remove dead leaves and similar material from Tillandsias, especially clumps of them. This reduces the risk of disease and rotting.

Some Tillandsias can be successfully grown in small pots. Examples are: *T.fasiculata*, *T.seleriana* and *T.capitata*. It is important to use a very well drained potting mixture such as those used for orchids. Some do not need any potting mixture at all. An example is *T.xerographica*.

Most grey-leaved Tillandsias are best mounted on wood or cork, rather than being grown in pots. Examples include: *T.bergeni*, *T.stricta*, *T.junceae*, *T.pruinosa* and *T.ionantha*. While cork is a good choice, it is expensive and difficult to obtain. Branches, with the bark left on, of *Callistemon* and *Leptospermum* species can also be used. Branches should be about 30 millimetres in diameter and will last for at least 5 years. It is best to avoid using Wattle or Eucalyptus branches because of the chemicals in their bark.

Old wooden fence palings are also suitable provided they do not contain white ants, or have been treated with preservative. The white ants cause the timber to rapidly decay, while the preservative will often kill Tillandsias.

The plants can be fixed to the wooden or cork mounts by either tying them on with strips of hosiery or gluing them. A liquid glue such as one of the various types of Liquid Nails can be used. However, use solvent-based rather than water-based glues, as the latter tend to disintegrate before the plant is rooted to the mount. Ensure the plants are firmly attached to the

mount. If they move about, roots take a long time to grow.

A small hole can be drilled through the top of the wooden or cork mount. Thread some light, galvanised iron wire through the hole. The top of the length of wire can be shaped into hook, while the bottom section can be twisted together to securely fasten the wire to the mount. The hook enables you to hang the plant in your preferred location, which may change during the year.

Thanks are due to Len and Olive Trevor for making their property available for the field day, and arranging for the guest speakers. The willingness of Dennis Hundscheidt and Nev Ryan to pass on their knowledge is appreciated, as are the efforts of Society members in undertaking a variety of activities on the day.

Bob Reilly

Mineral Elements and Plant Growth

The mineral elements required for healthy plant growth are described as essential or beneficial.

- Essential elements are those that are necessary for a plant to complete its life cycle and :- (1) cannot be replaced by another element, (2) are directly involved in the plant metabolism, or (3) necessary for a distinct metabolic step. These elements are classified as macro- or micro nutrients; the distinction based on the concentration in the dried plant matter; elements with levels above 0.1% are called macro elements or macro nutrients.; elements occurring at lower concentrations are termed micro nutrients or trace elements. The demarkation is somewhat blurred and varies from species to species.

Beneficial elements are not essential elements but may stimulate growth for

PINEGROVE BROMELIADS

**Specialising in Neoregelias, Aechmeas, Tillandsias, Vrieseas,
Guzmanias, Rare Species and Hybrids**

VISITORS WELCOME **PHONE (02) 6683 4188** OPEN 7 DAYS

Opportunity to view over 8000 different species and hybrids

SEND LARGE STAMPED ADDRESSED ENVELOPE FOR MAIL ORDER LISTS

JUNE and JOHN BUCHANAN

P.O. BOX 61—PINE STREET—WARDELL, NSW, 2477

some species. Silicon for some grasses and sodium for some C₄ plants.

In his latest publication 'Bromeliaceae Profile of an Adaptive Radiation', Benzing nominates the following mineral elements for *Tillandsia paucifolia* and *Guzmania monostachia*.

Macro Nutrients:- Nitrogen, potassium, calcium, magnesium, phosphorus, and sulphur. (Carbon, Hydrogen and Oxygen)

Micro Nutrients:- Iron, manganese, zinc, boron, copper, and molybdenum.

Judging Notes

In the BSI Journal, January-February 2001, the following changes to the Judges Hand Book were promulgated having been ratified at the world conference in San Francisco, June 2000.

- Standard Pot Pages 10 & 27. "A standard Pot is a container that will hold potting medium, and that does not add to or detract from the entry" The JCC advise that each society may add any further standards they deem necessary. Once a society has set a requirement for the standard pot, it should not be altered from year to year, and should be included in the show schedule
- Re the scale of points Pages 39,40 & 59C "The word 'Rarity' is omitted." The ten points will apply only to 'Difficulty of Cultivation'.
- Judges Touching or Moving Plants during Judging Page 75. This will be a society option but the option selected must be included in the show schedule and must be communicated to the judges at the judges briefing.
- Bromeliad Expert page 77 & 78. The definition of a Bromeliad expert will be " one who is bromeliad knowledgeable, but has had no formal BSI training in judging"

.....

Silicon in the form of silica is the second most common element on earth. Silicon as silicon dioxide has been promoted as a growth enhancer for plants. A recent internet search revealed that silicon is listed as a beneficial element for some grasses but the status of silicon in relation to other plants including bromeliads has not been established.

.....

Some people prefer to make mounts, to which Tillandsias can be attached, from Leptospermum or Callistemon branches which have dried completely out. This can be achieved by removing all twigs and leaves from the branches and putting them on a shady place for 12 months to dry out. The process can be speeded up by leaving the twigs and leaves attached to the branch for 4 to 6 weeks. The leaves tend to draw all of the sap out of the branch, thus accelerating the drying.

Non Nutrient Potting Mixtures

There are probably almost as many potting mixtures as there bromeliad growers. Some years ago I wrote that a potting mixture for bromeliads should provide the following properties:- Aeration, moisture retention, and long life. Nutrients in the potting mixture were an option. !

In recent times, I have been experimenting with potting in a porous medium which does not contain any nutrients. The nutrients are provided as a foliar spray applied to both plant and potting mixture. The porous medium retains moisture and the nutrients are available to the plants over an extended period.

The advantage of this approach is that it gives me total control of the nutrient supply to the plant both in composition and timing. The down side is that application of the nutrients must be regular to avoid stop-start growth with the subsequent distortion to the leaf shape. Its still early days; only time will tell whether there any unforeseen problems *Ed*

.....

When talking to Grace Goode, she mentioned that the temperature during the July cold snap had fallen to 3° C. Given the proximity of her land to the ocean, this seemed very unusual. Further discussion revealed that in recent years, apartments had been built on adjacent land and the likely cause of the low temperature was pooling of cold air against the buildings.

Cold air is heavier than warmer air and will flow down from the adjacent hills. Any barrier - fence, hedge etc - that impedes the flow will cause a dam with a 'pool' of cold air. The moral of the story is to monitor changes in the local environment whether natural or built; and assess what effect these changes may have on the microclimate. *Ed*

RAEMAUR PLANT FARM

SPECIALIST GROWERS OF TILLANDSIA SEEDLINGS

Hard grown to suit All Australian conditions

Specimen Plants, Seedlings and surplus seed sold when available

Write for a Free Price List to:

RAEMAUR PLANT FARM

P.O. BOX 612, HURSTBRIDGE, 3099

PHONE (03) 9718 2887

FAX: (03) 9718 2760

Trading Post

Members, especially country members are invited to list their hard-to-find plants in the Wanted List. The Trading Post has recently been expanded to include wanted books and seed, and available plants and seeds. If you have any of the items, contact the member listed. Please contact the editor regarding changes to the list.

Key: P Plant, O Offset, B Book, M Magazine, Date when seed or plants available

Member	Wanted		Phone
Bob Reilly	<i>Vriesea capituligera</i>	P S	07 3870 8029
Dorothy Cutcliffe	<i>Tillandsia</i> 'Pamelae'	P	07 3386 0505
Dorothy Cutcliffe	<i>Hohenbergia catingae elongata</i>	P	07 3386 0505
Dorothy Cutcliffe	<i>Hohenbergia intermis</i>	P	07 3386 0505
Michael Pascall	<i>Aechmea tayoensis</i>	P	07 4098 8253
Michael Pascall	<i>Bromelia scarlatina</i>	P	07 4098 8253
Ray Nicholson	<i>Quesnelia</i> 'Tim Plowman'	P	07 3399 5296
Keith Pohlman	<i>Neoregelia</i> 'Absolutely Fabulous'	P	07 4151 5395
Keith Pohlman	<i>Neoregelia</i> 'Bob'	P	07 4151 5395
Keith Pohlman	<i>Neoregelia</i> 'Bailey'	P	07 4151 5395
Keith Pohlman	<i>Neoregelia</i> 'Aurora'	P	07 4151 5395
Dorothy Cutcliffe	<i>Neoregelia carcharadon</i> (reddish)	P	07 3386 0505
Doug Upton	<i>Aechmea retusa</i>	P	07 3378 3511
Bob Reilly	<i>Vriesea tuerckami</i>	S	07 3870 8029
Bob Reilly	<i>Guzmania conferta</i>	P S	07 3870 8029
Bob Reilly	<i>Guzmania sanguineai v erecta</i>	P S	07 3870 8029
Bob Reilly	'Blooming Bromeliads' (English Edition) 1994. Baensch Ulrich & Baensch Ursula Publisher Tropic Beauty	B	07 3870 8029
Available			
David Brown	<i>Bromelia balansae</i>	O	07 3818 3133
Peter Paroz	'Grande (4)'	M	07 3265 1547
Peter Paroz	<i>Tillandsia disticha</i> (Nov. 2001)	S	07 3265 1547

If you are thinking of building a shade house, it may be best to build it during winter. Not only will you find it easier to build it then, rather than during hot weather, but the shade house will be ready to house the Spring "explosion" in bromeliad numbers due to the potting of offsets, and acquisition of new plants.

Importing Bromeliads

Part 2 of 2

If you are considering importing bromeliads, the following points made by Olive and other people who have imported bromeliads will assist you.

- Importing plants is expensive and many are sometimes lost in the quarantine process. It is best to buy locally (if the plants are available) and avoid the potential problems if you can.
- Talk to someone who has recently imported bromeliads to obtain an up-to-date list of things which you should do and, just as importantly, not do.

If you're importing plants of a bromeliad species (as opposed to a hybrid) it is often worth considering importing a plant which has a slightly different genetic composition to other examples of that species already in Australia. This is desirable because some species are "self sterile" and it is only possible to obtain seed of that species if plants with different genetic compositions (known as clones) are used as "parents". If you bring in a new clone, you may be responsible for enabling seed to be produced of that species for the first time in Australia.

The Queensland Bromeliad Society can put you in contact with someone who will know whether this is a potential issue for the particular species you're considering importing.

Make sure all of the paperwork required by AQIS is complete before you order your plants, or you leave Australia if you're buying them in person. As part of this process you'll need to select a Quarantine House to hold your plants during the quarantine period. QDPI and other people/organisations own such houses, but usually charge for their services. If a Customs' clearance is needed (and this will depend upon the shipment's value) you will need to put arrangements in place to deal with this matter.

There is often considerable variation in bromeliads. This is true for both 'species', and especially hybrids. To be sure of getting the plant you really want it is best to buy it in person or at least obtain a photograph of it from the nursery.

Quarantine Houses can get very hot inside. To help improve your plant's chances of survival avoid, if possible, having your plants in quarantine during the four to six hottest months of the year.

The time spent in transit, and the treatment plants receive during that process, is a major factor in determining whether your plants will arrive healthy and vigorous, or in a weakened condition. Few weakened plants survive the quarantine process.

The best approach is to buy the plants overseas yourself as this enables you to pack them carefully (plants should be packed in a "bare rooted" condition, after being dipped in an insecticide, and free of any insects, scale or disease), and bring them back to Australia with you.

This approach means transit time will typically be less than two days, versus the four to 10 days experienced when you're relying on the nursery to send them. Death-inducing experiences such as plants freezing because they've been left on an airport tarmac in the middle of a blizzard, will also be avoided.

If you are relying on a nursery to pack and send your plants, five points worth remembering are:

- The fewer times a consignment of plants has to be put on a different aircraft on its journey to Australia, the better. Hence, other things being equal, it is better to buy plants from a nursery on the west coast of the USA than the east coast.
- Specify to the nursery how you want the plants sent; eg airfreight, airmail etc. Unless you've a strong preference for a particular method, it is often best to follow the nursery's advice on the best method.
- Ask the nursery to conspicuously label the box(es) containing your plants with "Perishable" or "Live Plants" stickers. Many USA nurseries will offer to supply a phytosanitary certificate, for which an additional charge is made. There is no need for such a certificate when importing plants into Australia.
- Ask the nursery to fax you a copy of the consignment note, or similar document (or telephone you with its details) when they send the plants. This will enable you to "track" the plant's progress through the shipping system, and alert AQIS and your Quarantine House owner to the shipment's likely arrival time.
- After AQIS fumigates the plant with methyl bromide gas, it is important to remove the gas residue quickly so as to avoid further damage to the plant. Barry Genn stated at the March meeting that methyl bromide gas is 4.5 times heavier than air, so it tends to stay "trapped" between a plant's leaves. The gas dissolves readily in water where it remains active. (In other words, it can still damage the plant).

One way of treating plants to deal with this situation is to, if possible, arrange with AQIS to have your plants gassed in the morning, rather than the afternoon, so the next steps can be undertaken immediately by the Quarantine House owner's staff or yourself (if acceptable to the Quarantine House owner).

- Immerse the plants fully in a container of water, (this will tend to dissolve any remaining methyl bromide gas into the water).
- Hang, or hold them, upside down until all the water drains out (this will minimise the amount of water containing dissolved methyl bromide which is left on the plant)
- Mist the plants and leave them bare-rooted for 24 hours.
- Repeat the "dipping in water" process outlined above.
- If appropriate, pot the plant.

Remember the AQIS people are doing an important job trying to keep disease and pests outside of Australia. Please observe quarantine rules and don't try to smuggle plants in.

Best of luck in your importing efforts!

I gratefully acknowledge the advice I received from Olive Trevor and Barry Genn in writing this article.

Bob Reilly

A NEOPHYTE WITH NEOS

Many years ago, when we first started collecting bromeliads I spoke to a number of our well known hybridists and discussed hybridisation, seed raising and other related topics; and gradually I got the itch to try and grow bromeliads from seed. As we have mostly Neoregelias in our collection, it was almost a foregone conclusion that any attempt at seed raising or hybridisation would be conducted with this genus.

One of the things that slowed me down was the comments from some of the growers about getting up at the crack of dawn to pollinate the flowers before ants or other insects got going and pollinated them before I did. As I'm not a 'bright break o'day person', this was a big problem to start with. Fortunately mother nature came to the fore and during a period when we had been away and hadn't watered as much as we normally do; all the busy insects went to work and pollinated the flowers for us.

While removing offsets from the old plants, we discovered many with seed set in the vase so we harvested this seed from those plants that looked interesting and hopefully would produce quality offspring. The only disadvantage with this is that although you know the seed parent you don't know the pollen parent and therefore you may end up with poor progeny after you put in a lot of effort raising the seed and growing the plants to maturity.

None the less we went ahead and sowed and sowed. Not being sure of a suitable mix for seed raising, I experimented with quite a few different mixes

from fine charcoal mixed with fine orchid bark and perlite and vermiculite, to coarse sand and sieved pine bark and many variations in between; the main criteria being that it should be well drained and should have reasonable moisture holding capacity. Generally speaking they all worked except some mixes dried out quicker than others and consequently needed more frequent watering; unfortunately this led to the demise of some plants as I have a bad memory and forgot to water them often enough.

Raising bromeliads from seed is only one of many things that make up my busy life and sometimes looking after them slid to the bottom of the 'to do' list. Tasks such as transplanting to punnets from seedling trays, and then to larger and larger pots as they grew were often postponed or forgotten; so their development was somewhat erratic and they probably took longer to reach maturity than they should have. That many of the plants survived is due to the incredible hardiness of the plants and not my tender loving care.

Now after several years, we have many varied and interesting plants in our collection and look in wonder at the diversity of colour, shape and size of the plants from the same batch of seed. It took me a while to realise that this diversity within the batches could be due to the practice of mixing the seed from more than one pod that we harvested from. As the creatures of nature had carried out the pollination, it is highly likely that multiple pollen donors may have been involved.

In my current attempt, I am keeping the seeds from the individual pods separate and will follow the development of each set of seedlings with interest to see if a wide variation of colour, form, size etc. occurs within a single seed pod group. Of course, not all our efforts were rewarded with beautiful plants and at our place there is very large pile of composted discarded seedlings.

One of the most important thing when growing seedlings is to be ruthless in discarding any plant that doesn't come up to a high standard of quality; whole batches of plants we raised were discarded because they fell short of our expectations and we would not consider distributing plants of inferior quality.

Since the early days of my 'experience' I have tried growing seed from other genera and have had success with *Aechmea* and *Billbergias*. Alas the tender *Vrieseas* and *Guzmanias* have defied all my efforts; but I am trying again now with different mixes and growing methods -- maybe this time.

If you have the urge to try your hand at seed raising I'm sure you will enjoy the experience as much as I have and will come to be proud of the results you achieve; you just need a lot of patience, time and if you get too ambitious, a lot of space for those hundreds of seedlings that you inevitably hang onto when you start growing from seed.

Arnold James

Controlled Release Fertilizers

Copyright reserved: No reproduction in any media without prior written permission by the author.

Slow release fertilisers fall into two groups: one type where the nutrient release depends on the use of a sparingly soluble salt such as magnesium ammonium phosphate, and the other which consists of more soluble nutrients encased in a bead of a semi porous polymer.

I recently contacted several of the manufacturers of the bead type CRFs requesting detailed information on the rate of release of the various nutrients. The responses to date are varied; from a no response "confidential information" to quite detailed and useful information from the Sales Manager of Arthur Yates & Co Limited. The data and most of the comments in this article are extracted from a paper 'Evaluating CRF Performance in Summer Conditions' by D. Huett, G. Smith, and B. Gogel.

Most CRFs currently available are in the form of beads of soluble compounds of NPK with a semi porous polymer coating. The above paper evaluated the nutrient release of various CRFs in sand columns in constant temperature cabinets at 30°C and 40°C. The columns were leached three times each week and nutrient release determined. The procedure was continued until concentrations of nutrients in the leachate were negligible. The release period for CRFs were reported as the time to 90% nutrient recovery.

Table 1 Release Times (weeks) for various CFT's

Product	Stated	Nitrogen	Phosphorus	Potassium
Nutricote (N4) 270 day black	16: 4 :4:	35.3 30.0	43.3 40.0	36.3 33.3
Nutricote (N5) 270 day green	13: 5.7: 9.1	36.7 28.3	44.3 40.7	41.7 35.7
Nutricote (N6) 360 day brown	16: 4.4: 8.3	34.3 30.3	43.3 41.7	37.7 34.3
Apex Gold (A8) high N 9 mth	18: 2.5: 9.9	34.7 28.0	38.7 35.3	36.0 32.0
Apex Gold (A9) 8-9 mth	16: 3.5: 10	35.0 22.7	14.0 11.3	42.3 37.3
Apex Gold(A10) high N 12	17: 2.1: 9.1	38.0 33.3	42.7 39.0	42.3 37.3
Apex Gold (A11) 10-12 mth	24: 1.7: 9.9	32.0 26.0	21.0 16.0	29.7 24.0
Osmocote (O14) 8-9 m th+	16: 3.5: 10	23.0 21.7	35.0 31.3	25.0 23.3
Osmocote (O15) 12-14 mth +	15: 3.5: 9.1	25.7 20.7	37.7 34.0	28.3 23.0
Macrocoate (M17) 9mth Red+	16: 4.4: 10	22.3 16.7	31.7 29.0	8.0 6.7

The data for Nutricote(N6) 360 day brown @ 30°C has been recalculated to estimate the relative strength of the leachate at various times during the release period. I have made some assumptions regarding the mechanism involved, which are not necessarily correct but these figures will give a useful indication of the performance of this product.

Nutricote(N6) 360 day brown: Weeks @ 30°C

Time	Table 2a Relative NPK			Table 2b Normalised NPK		
	Nitrogen	Phosphorus	Potassium	Nitrogen	Phosphorus	Potassium
Start	16.0	4.4	8.3	16.0	4.4	8.3
2	13.9	3.9	7.3	16.0	4.6	8.5
4	12.2	3.5	6.5	16.0	4.7	8.5
8	9.3	2.9	5.1	16.0	4.9	8.7
16	5.5	1.9	3.1	16.0	5.5	9.1
24	3.2	1.3	1.9	16.0	6.2	9.6
48	0.64	0.34	0.44	16.0	8.5	12.4

Yates had no specific information for bromeliads but suggested the use of the 270 day N 18 Nutricote® at the rate of 3-4 grams per litre of potting mix. However, the paper cited provides a wealth of useful information for the use of

BRISBANE BROMELIAD CENTRE

34 Hauton Road Morayfield 4506

HUGE SELECTION

of

Aechmeas, Vrieseas, Guzmanias, Neoregelias

Nidularium & Tillandsias,

together with a variety of rarer species and Hybrids

BARBARA and LORRAINE

Phone (07) 5433 0303

VISITORS by APPOINTMENT

Table 3. Average percent reduction in release time due to the increase in temperature from 30°C to 40°C *

Percent reduction in release time			
Product	Nitrogen	Phosphorus	Potassium
Nutricote ®	19	13	14
Osmocote	21	14	15
Apex Gold	21	14	14

these CRFs in pot culture.

* A similar percentage **increase** in release times can be expected for use at 20°C.

- Note in Table 2a the substantial reduction in strength of the leachate over time. The majority of the nutrients are released quickly; about 50% by the twelfth week.
- Note also in Table 2b that, because the nutrients are not leached at the same rate, there is a progressive change in the NPK ratio. This effect will be more noticeable with short life formulations.
- Don't be tempted to substantially increase a usage rate that has been successful in the past. The initial release of nutrients is rapid and the concentration relatively high. Plant roots are adapted to absorbing nutrients from very dilute solutions and more concentrated solutions particularly in conjunction with high pot media temperatures, can damage roots, with possible loss and fungus infection.
- Don't use damaged beads as these release the nutrients very rapidly with the

FOREST DRIVE NURSERY

Located at REPTON, South of Coffs Harbour, NSW
Specialising in species and varieties from mostly imported stock

Tillandsias to titillate even the most discerning fanciers
 Beautiful Vrieseas (including Silver species), Guzmanias, Aechmeas, Neoregelias, etc

Visitors Welcome, Please Phone First (02) 6655 4130

Mail Order List — Send S.A.E.

Peter Tristram, PO Box 55, Repton, NSW. 2454

potential to cause 'salt burn'.

- Avoid unnecessary heavy watering as the useful life of the beads is probably related to the number of waterings as well as elapsed time.
- CRFs require only a slight amount of moisture to commence nutrient release. Potting mixes made up in bulk and stored for a time before use may build up salt levels sufficient to cause root damage.
- CRFs vary as to calcium and/or magnesium content and the available data does not include release rates for these nutrients. If these are not included in the potting mixture, they must be applied as a supplement in the nutrition program; and are recommended toward the end of the release period.
- Because of the temperature effect, actual release of the nutrients will be different depending whether the initial rapid release occurs in summer or winter.

SUMMARY: The generic term 'Controlled Release Fertilisers' is somewhat of a misnomer; as there is little opportunity for control. The nutrient release is determined by the properties of the polymer coating, the size of the bead, temperature, and watering frequency; and to a lesser extent by the composition of the fertiliser.

However, once the characteristics are known, these materials can be used to advantage in the culture of potted bromeliads. In particular, the relative lowering of nitrogen through the release period is a definite advantage for foliage plants such as *Neoregelia* or *Billbergia* which benefit from low chlorophyll and high anthocyanin pigmentation at maturity.

Peter R Paroz

THE OLIVE BRANCH

Len and Olive Trevor

232 Canvey Road, Ferny Grove, Qld. 4053

Specialising in hybrid *Vrieseas*, *Aechmeas*, *Variegated Neoregelias*, *Sko-tak Hybrids*, *Aussie Dream* and varieties, and other quality *Bromeliads*

SEND LARGE STAMPED ADDRESSED ENVELOPE FOR LIST

Phone (07) 3351 1203

Visitors welcome by appointment -- Please Phone First

One by one the team arrived, Carole & Jay, my husband Mike, our very own Director of Floral Art, Margaret Morrow, Joy & Doug, Len & Olive aided by one of their helpers, and El Presidente Bob.

With the tree in place and our lovely lady taking centre stage, it was now a matter to get the picture right. "What is the right picture?" Carol, Olive & I asked. Dare say we will find out when we start moving plants around – well we sure did. As we stood back and admired the beautiful placement of Guzmanias, we said "Give him 5 minutes" – sure enough Bob was soon rearranging our beautiful artistic design. While all of this was happening, Doug & Joy were merrily getting along with their section while a couple of us caused havoc on the other side: lots of laughter- not sure what the other competitors thought.

About 7 o'clock, the cry came "We have an hour to finish." We novices looked in amazement and muttered that they will never get this finished in a fit. Stand back; let the professionals take over as Doug & Joy, Bob & Olive worked on the display and Margaret merrily working away at her beautiful floral arrangement. As time passed by, our display of Guzmania hybrids in full colour and flower, the Achmeas large & small, Vriesias, Billbergias, the brilliant colours of the Neoregelias, and the wonderful group of *Neophytum* 'Gallatic Warrior' transformed the area into a spectacular display.

We swept up, stood back and admired the almost finished display; ready to put the finishing touches of Bob's treasured liquid amber leaves to the front of the display. SHOCK HORROR !!!! they were nowhere to be found – well we did find them - in our competitors display of all places. We must have left them there and they thought they were theirs and used them!!!! The end result was that we did not need them to win as the judges awarded the Bromeliad Society of Queensland First Place. Judge for yourself and see what you think – what an effort!!!! I must say that I think Margaret's Floral Art Display was truly magnificent.

During the EKKa many members manned the display and noted that most interest from the public was in Bob Cross's magnificent *Quesnelia* 'Tim Plowman'. The most common questions: "Did we use a curling wand on the leaves?", and "Where can I buy it?" The public were fascinated with the Billbergias and Tillandsias on the tree, as well as Bob Cross's lady-in-the-tree trunk statue – we could have sold about 20.

I must say it was an exciting time for me seeing it all come together. I say to new members come along; Get involved: it's a lot of fun. *Norma Davis*

.....



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

Published bi-monthly

Printed by

BRIAN PERKINS PRINTING Ph: 3882 0968

Print Post Number: P.P. 434327/0002