

# *Bromeliaceae*



VOLUME XXXV - No. 1 - MARCH / APRIL 2002



# 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

## OFFICE—BEARERS 2002-2003

PRESIDENT .....	Mr. John Higgins .....	Phone 07 3800 2561	
VICE PRESIDENT.....	Mr. Peter Paroz.....	Phone 07 3265 1547	
IMMEDIATE PAST PRESIDENT.....	Mr. Bob Cross .....	Phone 07 3265 4364	
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	
<i>BROMELIACEAE</i> 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 Phyllis James Mrs Norma Poole		
COMPETITION STEWARDS.....	Mr. Chester Cutcliffe, Mr. Mike Symmons		
HOST and HOSTESS.....	Mr. Arnold James and Mrs. Joy Upton		
HALL STEWARD.....	Mr. David Brown		
AUDITOR.....	Mrs. Anna Harris		
MANAGEMENT COMMITTEE.....	Mr J. Higgins, Mr. R. Cross, Mrs. N. Davis, Mr. B. Genn, Ms. N. Tucker, Mr. M. Symmons Mrs. D. Cutcliffe, Mr. N. Ryan, Mr. D. Upton Mr. P. Paroz, Mr. V. Duncan, Mr. K. Dawson		
COMBINED SHOW COMMITTEE....	Ms. N. Tucker, Mr. J Higgins, Mrs. O. Trevor Mr. N. Ryan, Mr. D. Upton, Mr. L. Trevor		
LIFE MEMBERS .....	Mrs. Grace Goode, Mr. Bert Wilson Mr. Peter Paroz, Mrs. Patricia O'Dea, Mr. Michael O'Dea		

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*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.

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## The Bromeliad Society of Queensland Inc.

### Society Badges

ARE NOW AVAILABLE \$5.00 EACH

**CONTACT MRS. NORMA DAVIS**

#### COPY DEADLINES for *Bromeliaceae*

May / June.....April 15, 2002

July / August.....June 16, 2002

Please forward all text 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. Ph 07 3378 3511

## Cover Photographs

Front Cover      Grower Len & Olive Trevor      Photography Doug Upton

### *Aechmea contracta* (Platyaechmea)

While this attractive bromeliad is not rare, it can only be found in a few collections. *Aechmea contracta* requires some care, mesic warmth and consistent bright light conditions. Each plant has six to eight thin semi-upright leaves; best suited to a hanging basket and allowed to form a cluster. At the base of the younger leaves, an irregular pattern of brown spots highlights the otherwise unmarked leaf surface.

The long pendulous scape has rosy pink bracts followed by a beautiful crisp clear yellow inflorescence and white flowers. The form illustrated has a branched inflorescence.

Rear Cover

*Cryptanthus* 'Rainbow Star'      Grower Nina Rehak      Photography Jarka Rehak

Left Clone B      Right Clone A

Cultural article on Page 24

## Life Members

At the AGM, Life Membership was awarded to Patricia O'Dea and Michael O'Dea. *'In appreciation of long and meritorious service to the Society'*

### *The Citations*

*Since 1972, Patricia has served in many capacities, including President, Secretary, Judge, Chief Steward, Competition Steward and, for many years Committee Member. She has also served as Secretary and Committee Member of the Combined Show Committee and served for many years as the Society's Information Steward at the Combined Show. In all of these activities, Patricia has been motivated by her love of Bromeliads and the Society; and continues to serve as one of the Society's most enthusiastic promoters.*

*During the past thirty years, Michael has served in many capacities, including President, Vice President, (several times), Secretary (several times), Custodian, and Committee Member (for many years). He has stood in as Treasurer (on quite a few occasions), acted as Librarian, and has served on the Combined Show Committee. As well as serving in these executive roles, he has always been a willing and active worker at the monthly meetings. Several key administrative initiatives that are still in use by the Society were framed and implemented with his skilful and dedicated input.*

# Society Diary

NEWS

REPORTS

EVENTS

## Annual Membership Subscription

Annual fees were due and payable on the 1st of January.

Unfinancial members will not receive any further copies of Bromeliaceae.

## Program

*Members are requested to bring a plate to each field day that they attend.*

### Field Days 2002

Saturday 27th April

The Olive Branch 9.00 am - 2.00 pm

Olive & Len Trevor's Nursery, 232 Canvey Road, Ferny Grove

Phone 07 3351 1203

Plant sales, cultural talks, morning tea

\*\*\*\*\*

Saturday 29th June Bus Trip

Home of Linda & Graham Percival 9.00 am - 3.00 pm

1 Purcell Road, Bells Bridge via Gympie

Phone 07 5483 1634

Plant sales, morning tea. Bring your own lunch

Depart New Farm at 6.00 am, Gympie and Webster Roads at 6.30 am

For other Northside pickup locations, contact the secretary

\*\*\*\*\*

Saturday 7th September Bus Trip

Home of Cheryl Basic 9.00 am - 2.00 pm

130 Valdora Road, Valdora.

Phone 07 5446 6637

Plant sales, morning tea, BBQ lunch

After 2.00 pm, on to a Palm Nursery & Tropical Garden

\*\*\*\*\*

Saturday 26th October

Home of Phyllis & Arnold James, 9.30 am - 2.00 pm

1115 Oakey Flat Road, Narangba

Phone 07 3359 5970 Mobile 0411291913

Plant sales, morning tea

\*\*\*\*\*

## Competition Results

### January Mini-Show

#### Novice

Class 1	1st	<i>Ae. fasciata</i>	Carol & Jay Jacobs
	2nd	<i>Ae. fasciata</i>	Keith Dawson
Class 2	1st	<i>Vr. 'Gemma'</i>	Keith Dawson
Class 4	1st	<i>Guzvriesea</i> ??	Carol & Jay Jacobs
	2nd	<i>Neo. 'Walking Tall'</i>	Lindsay Gerchow & Yves Daniel

#### Intermediate

Class 4	2nd	<i>Neo. 'Kay Jay'</i>	Dorothy Cutcliffe
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#### Advanced

Class 1	1st	<i>Ae. orlandiana</i> 'Ensign'	Doug & Joy Upton
	2nd	<i>Ae. nudicaulis</i> 'Silver Bands'	Mike Symmons
Class 2	1st	<i>Vr. tariturbensis</i>	Bob Cross
	2nd	<i>Vr. 'Kilauea'</i>	Cheryl Basic
Class 3	1st	<i>Pit. atrorubens</i>	Mike Symmons
	2nd	<i>Pit. atrorubens</i>	Mike Symmons
Class 4	1st	<i>T. capitata</i> 'yellow'	Mike Symmons
	2nd	<i>Guz. 'Minnie Belle'</i>	Mike Symmons

### February Popular Vote

Novice	1st	<i>Neo. ??</i>	Joe Green
	2nd	<i>Ae. nudicaulis rubra</i>	Keith Dawson
Intermediate	1st	<i>Ae. 'Shining Light'</i>	Dorothy Cutcliffe
	2nd	<i>Ae. araneosa</i>	Dorothy Cutcliffe
Advanced	1st	<i>Neo. 'Red Waif'</i>	Doug Upton
	2nd	<i>Canist. billbergioides</i>	Bob Paulsen

### Anniversary

The Bromeliad Society of Queensland celebrated its 35th birthday on Australia Day.

### Monthly Meetings Program

March	Plant of the Month	<i>Greigia, Hohenbergia, Hechtia,</i>
	Light & Colour	Keith Dawson
	Selection of Plants for the Show Bench	Olive Trevor

April	Mini Show	Class 1	Nidularium	species & hybrids
		Class 2	Guzmania	species & hybrids
		Class 3	Dyckia	species & hybrids
		Class 4	Any other genus	species & hybrids
		Removing Difficult Offsets		Len Trevor
		Preparation of Show Plants		Olive Trevor

### New Members

At the February meeting, the following bromelians were welcomed as new members of the Society :- Werner & Christina Huber, Suzanne Phillips, Greg Dewing, Dorothy Harrison, Alf Ventor, Gail Dodt Vince Winkel, Malcolm Syme, Barbara Smithson, and Peter Hay.

\*\*\*\*\*

### A Simple Soil Test

For members interested in the use of bromeliads as landscape plants, the following procedure may be useful in assessing the character of the soil.

Take about one quarter of a cup of soil in a tall narrow glass container, add 500 ml of tap water and shake until fully dispersed. Allow to settle for several minutes and shake again. Allow to settle until the water clears. The coarse sand settles first, followed by fine sand, silt and clay; organic matter generally floats. Assess the relative amounts of the various layers and characterise the soil as follows:-

Half sand	Light sandy soil
Half silt, little clay	Heavy silt soil
One quarter clay and a lot of silt	Clay soil
40% sand, 40% silt, 20% clay	Loam

Sandy soils generally have good drainage but do not hold moisture and nutrients for long. Condition with organic matter

Clay soils generally drain poorly. Don't work them when wet as they form persistent lumps. Add organic matter. These soils can be further conditioned with agricultural lime (dolomite preferred) if the soil is acid, or gypsum if the pH is acceptable. (From the US 'Flower & Garden', 1968 via Bromeliad Post)

Water plants to wet the growing medium as evenly as possible. Most soils and potting mixes do not facilitate lateral moisture movement and water runs vertically down. Persistent dry spots in the growing medium discourages root growth and may encourage mealy bug infestation.

## The President's Annual Report

The years come, the years go; it hardly seems that time again, but indeed it is. My congratulations and thanks to all of you. With your help and the efforts of an excellent committee, the Bromeliad Society of Queensland Inc. again has had a good year with an increase in Australian and overseas membership. In addition to members, complimentary copies of *Bromeliaceae* are posted to nineteen bromeliad societies and a further twelve copies to kindred societies and local government organizations. The general meetings were well attended and the range of plants available to members at plant sales is increasing. Our financial position is stronger as revealed in the financial statements.

Our field days were well attended and the Combined Show was again a PR and financial success: these functions providing excellent fellowship between members. It is true that the competition tables at the Combined Show and monthly meetings could be better supported and we will be addressing this situation in the coming year.

During the year, Ray Nicholson stepped down as editor of *Bromeliaceae* due to ill health. My thanks to Ray for the excellent work he has performed for the Society over the years. Peter Paroz has stepped in to fill this position, and as you can see by the last edition is producing an excellent publication.

In recent years, *Bromeliaceae* has been edited and produced on the editors' equipment and in an initiative to improve an already excellent Journal, the Committee has moved to purchase our own computer, programs and associated hardware. An application for a grant to finance this purchase has been lodged with the QUEENSLAND GOVERNMENT GAMBLING COMMUNITY BENEFIT FUND.

We are still looking for slides and photos, especially those from the early years of the Society, to add to our Photo Gallery which Doug Upton is collating. The scanner and digital camera will enable us to extend this collection and provide quality photographs for the Journal covers.

The Study Group is still going strong with a core group of enthusiastic members. I would like to see more hybrids produced. Where are the Grace Goodes of the future?

Talking about the future, the first Tropical Foliage Festival, the extra show in which we participated in October last year, was very successful; and may grow to be the premier tropical plant display in the future.

*Bob Cross*



## The Editors Desk

### Cover Photographs

Members are invited to submit photographs for possible use as the front and rear cover photographs of *Bromeliaceae* according to the following guidelines.

Portrait format 149 x 112 mm

Single plant photograph of a bromeliad with a contrasting background and absence of distracting features.

Plants new to local cultivation, rare plants and unusual forms preferred. Photographs should be accompanied by a 150-200 word description of cultural details, the name of the grower and the photographer.

Forward all photos to Doug Upton, 101 Jerrang St. Indooroopilly, Qld. 4068.

If the photographs are to be returned, please include a SAE. Otherwise the photographs will be added to the Society gallery. Digital photographs are not supported at this time.

### Letters to the Editor

Peter, Just got your first edition for 2002. I know it is much harder to right a wrong than it is to wrong a right. This certainly applies to *Neoregelia punctatissima* where all the forms I have seen are *Neo. ampullacea*.

Bill Morris tried to make others look at the name on the label as long ago as 1984. This misidentification is rife in the USA too. For distinguishing features of this species check with [fcbs.org](http://fcbs.org). You never know, someone might take heed!

*Derek Butcher*

## Bromeliad Society of Queensland Inc.

### BOOKS FOR SALE

Bromeliads -- Next Generation by Shane Zaghini	\$33.00
Bromeliads for Everyone Book 2 by Bea Hansen	\$10.00
Growing Bromeliads 1 by The Bromeliad Society of Australia	\$22.50
Genus Tillandsia by Paul Isley III	\$3.00
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
A Guide to Beautiful Neoregelias by S. Zaghini	\$20.00
1985 Bromeliads III Conference Proceedings	\$10.00
1993 Bromeliads VII Conference Proceedings	\$18.00

Inquiries: LIBRARIAN, Mrs. Mavis Paulsen, Ph (07) 5493 3677

## *Profile of a Nonagenarian*

James A.H. (Bert) Wilson is our oldest - ninety last year- and also one of the long time members of BSQ. Bert and his late wife Ruth joined the Society in early 70's and were very active during the seventies and early eighties hosting a number of field days at their home at Witton Road, Indooroopilly. Bert and Ruth also hosted the tenth birthday celebrations of the Society at Witton Road; no mean feat since their home had been under water in the destructive floods of 1974.

In 1978, with a float of \$100, Bert established the first 'Trading Post' at the monthly meetings selling pots, fertilizers and labels at a modest mark up. So popular and successful was this initiative that after three years, he was able to return a profit of \$2000 to the society coffers. For many years, Ruth and Bert catered for the tea and biscuits at monthly meetings. With the commencement of the Combined Show in 1978, Bert and Ruth organised and managed the teas and lunches for many years.

Apart from bromeliads, Bert grew orchids, ferns and other foliage plants in his shade houses and a wide range of plants and shrubs in the garden. Bert is an accomplished organ player and provided great background and mood music for the field days at Witton Road.

After moving from Indooroopilly to New Farm, Bert and Ruth retained their interest in bromeliads, managing to find room for a small shade house in the grounds of their apartment complex. Bert and Ruth Wilson were made Life Members on the 17<sup>th</sup> February 1994, the citation reading "In appreciation of meritorious service which includes active promotion of the Society's aims, and through service to its members. The garden parties will not be forgotten".

After Ruth passed away Bert disposed of the bush house and plants but continued to attend meetings including the break up meeting last November. Bert has advised us that he is moving to the Gold Coast to live with his daughter. The best wishes of the committee and all members go with him.

*In the best traditions of the old school, a gentleman and a scholar*

*Ed*

.....

Words of Wisdom from Olive Trevor at the Christmas Party plant commentary, "For potted plants, a poor root system will not produce a good plant. You should be able to pick up the plant and pot by the leaves !!!"

## BUILDING A SMALL SHADE HOUSE

I have recently built a small shade house, and would like to share my experiences with you.

I live in Brisbane. While the air temperature sometimes drops to 4° C for several nights in succession during winter, I have not experienced any frost. During summer, the maximum temperature can be in the range of 35° C to 38° C for several days at a time. Occasionally, such temperatures are combined with low relative humidity e.g. 20 to 30% although, thankfully, this combination is rare. This is fortunate as these conditions, that is high temperatures and low humidity, can be very damaging to many bromeliads. Winters are relatively dry, while summers are normally quite wet.

When designing a shade house, it is worth considering bromeliads' preferred growing conditions. I mainly grow the epiphytic ones such as *Aechmeas*, *Canistropsis* (*Nidulariums*), *Guzmanias*, *Neoregelias*, *Tillandsias* and *Vrieseas*.

These plants like:

Lots of air movement around them throughout the year;

Good light (but not full sun) from all directions; and their potting mixture to become fairly dry between waterings.

The shade house I built is about 6 metres long. So, while it isn't anywhere near as large as those used by commercial growers, it is bigger than many of the "kit-type" shade houses.

The optimal shade house location is one where sunlight falls on the structure throughout the day. This achieves at least 9 hours sunlight in winter, and 12 or more hours in summer.

**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*

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VISITORS by APPOINTMENT

Unfortunately, I cannot achieve this outcome. In my case, the shade house receives about 5 hours sunlight in winter and around 10 hours in summer. It receives most of the morning sun and the afternoon sun until about 2 pm (in winter) and 3.30 pm in summer.

So, the challenge for me is to obtain the best use of the winter sun, while not "burning" plants in either winter or summer.

The frame for the shade house was built out of 20 mm galvanised pipe. I could have used hardwood timber, but as I had some spare pipe, I used it. If you are using hardwood, consider painting it. This will protect the bromeliads from being damaged by any copper salts which may "leach out" from the hardwood (this may occur if the timber is treated with a copper-based preservative which is usually the case). It will also increase the amount of light reflected onto the plants from within the shade house.

I used a high gloss acrylic white paint on most of the shade house's wooden surfaces e.g. a wall. It is certainly noticeably lighter inside than another shade house in a similar location where this was not done. Gerry Stansfield from New Zealand told me that using a high gloss acrylic paint will also make it easier to remove any algae, which may grow on the painted surface.

You don't have to confine yourself to painting only wooden surfaces. Doug Upton has painted part of a concrete wall inside his shade house.

While I was able to construct my shade house to a height of only 2.4 metres, build it higher if you can, as air circulation seems to improve with increasing height. Some commercial shade houses are over 6 metres high. Also, the higher the roof, the more opportunity you have to hang plants above the benches, and thus fit more plants into the shade house.

Incorporate existing structures e.g. walls, into the shade house wherever you can to help keep the cost down. One of my shade house's walls is an existing fence built from wooden palings. This works well in summer, and in winter I cover the fence's exterior (to the shade house) surface with reinforced plastic film to keep out the strong, cold, dry, westerly winds.

To cover the shade house I used knitted shade cloth. The eastern "wall" is 50% "shade", as is the southern wall. (In my location, the southern wall is in a very protected position). The northern wall is part of another shade house, while the western wall is the paling fence. The roof is 50% shade, which provides the right amount of shade for many bromeliads e.g. most *Aechmeas*, *Neoregelias*, *Tillandsias* and *Vrieseas*, during winter; but will be inadequate for most of them during the hottest months of the year (basically mid November to end of March). During this period, more shade will be obtained

by placing an extra piece of 50% to 75% shade cloth underneath the shade cloth forming the roof. (As a matter of interest, the percentage figure quoted for various types of shade cloth is the amount of ultraviolet light they exclude, not the amount of shade they give. A shade cloth with a 50% rating will let in more than 50% of the sun's rays, on most days).

To achieve better light reflection within the shade house, use a lighter-coloured shade cloth e.g. white or beige, rather than a dark green or black colour. I've used a white coloured shade cloth for the roof and found it makes a significant difference. However, the shade cloth will discolour if wet leaves are allowed to accumulate on it.

To improve the amount of sunlight reaching the shade house during winter, I remove any overhanging tree branches at the start of winter. I also regularly remove any leaves, which may accumulate on the shade house's roof (my shade house has a flat roof to help keep the cost down. However, a "gable" type roof, such as most houses have, would improve air circulation and help shed leaves).

For the shade house's benches, I followed the following principles:-

If at all possible, keep the plants at least 300 mm above the ground to enable good air circulation;

The benches should not exceed 900 to 1,000 mm in width if they can only be approached from one side e.g. if they are located adjacent to a wall;

Heavy "gauge" galvanised mesh is better than most other products for a bench top, as it doesn't rot or rust. (Fortunately, I was able to obtain some second-hand from a shade house which was being demolished, otherwise it can be rather expensive). Because the mesh doesn't rust, bromeliads grown

## FOREST DRIVE NURSERY

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Tillandsias to titillate even the most discerning fanciers  
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Neoregelias, etc

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underneath the benches aren't "burnt" by contact with water containing iron or other contaminants – as can happen if rusty reinforcing mesh used for concreting is utilised.

Most of the Tillandsias are hung on sheets of galvanised mesh suspended from the wall formed by the paling fence. This is similar to the method used by Barry Gen and Nev Ryan, two of Queensland's most experienced Tillandsia growers, for growing many of their plants.

They also suggest having the bottom of the galvanised mesh sheet further away from the wall than the sheet's top. In other words, the sheet is tilted away from the wall. This reduces the amount of water which drips from one plant onto another when they are watered. In turn, this gives you better control over the amount of water each plant receives.

I also have some sheets of galvanised mesh suspended horizontally about 600 mm below the shade house's roof. Many of the tillandsias I have growing in pots and tree fern "logs" like this environment. Also, I have some tillandsias hooked onto the shade cloth covered southern wall. They seem quite happy in this environment.

On the floor of the shade house, I have more light reflecting material in the form of pine bark chips. These came from Slash Pine and Carribbean Pine trees, and are light brown or orange in colour when new, rather than the much darker coloured bark obtained from Hoop Pine. As it retains moisture when watered, the pine bark also improves the humidity in the shade house. Other light reflecting material can also be used to good effect. For example, light-coloured pebbles can achieve a similar outcome.

I hope these ideas are of some use if you decide to build a shade house. I wish to thank Gerry Stansfield, Doug Upton, Barry Genn, and Nev Ryan for sharing their experiences with me.

*Bob Reilly*

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## Microclimates

Microclimates are the local variations in light, humidity, temperature, moisture and air movement which influence the suitability of a small area for growing a particular plant. The extent of these local variations may be quite limited. Manipulation of the microclimate is the means by which growers can grow plants from a wide range of habitats in a restricted area.

Microclimates are dynamic systems and as such, subject to change. Watch for changes in the built or growing environment which might alter a microclimate that has been carefully crafted for a special plant.

**The Bromeliad Society of Queensland Inc.**  
**Income & Expenbiture Statement Year Ended 31 December, 2001**

	2001	2000
<i>Income</i>	\$	\$
Trading profit/(loss)	(701.66)	1,169.31
Advertising	210.00	210.00
Bus trip	573.00	3875.00
Combined show – equity increase	462.30	489.47
Tropical Festival profit	40.95	—
Interest – bank	5.25	19.71
Interest – term deposits	1,658.41	1,524.68
Other income	39.20	17.00
Plant sales commission/auction	9,466.40	4,553.05
Raffles receipts	2,212.40	2,019.95
RNA receipts	450.00	450.00
Subscriptions	<u>3,075.00</u>	<u>2,350.00</u>
<b>Total income</b>	<b>17,491.25</b>	<b>16,678.17</b>
<i>Expenses</i>		
Audit fees	286.00	255.00
Bank fees and charges	155.10	70.20
Bus trip expenses	692.50	3,885.70
Depreciation	415.00	963.00
Donations	125.95	180.00
Hire hall	484.00	482.00
Incorporation expenses	31.20	30.50
Insurance	471.40	405.00
Journal expenses – printing	3,709.30	--
Journal expenses – postage	706.42	--
Postage	166.32	302.00
Printing & Stationery	294.30	4,362.48
Raffle/auction expenses	1,410.00	828.40
Repairs & minor equipment	318.11	--
Show expenses	90.10	175.95
Social costs	357.71	743.76
Subscriptions	614.18	341.51
Sundry expenses	355.92	29.75
Telephone	17.38	13.60
Trophies	<u>367.25</u>	<u>386.80</u>
<b>Total expenses</b>	<b>11,068.14</b>	<b>13,455.65</b>
Operating surplus before income tax	6,423.11	3,222.52
<b>Operating surplus after tax</b>	<b>6,423.11</b>	<b>3,222.52</b>
Accumulated surplus at 1 January 2001	42,117.04	38,894.52
Accumulated surplus at 31 December 2001	<b>48,540.15</b>	<b>42,117.04</b>

**The Bromeliad Society of Queensland Inc.**  
**Balance Sheet As at December, 2001**

	2001	2000
	\$	\$
<b><i>Current Assets</i></b>		
Cash		
NAB Carindale 64 374-5401	13,526.10	8,906.15
Cash on hand	200.00	100.00
Inventories		
Stock on hand – at cost	3,575.32	3,878.85
Other		
NAB Term Deposit 48 264 6495	25,000.00	25,000.00
Accrued interest on IBD	<u>1,428.49</u>	<u>1,429.10</u>
<b>Total Current Assets</b>	<b><u>43,729.91</u></b>	<b><u>39,314.10</u></b>
<b><i>Non-Current Assets</i></b>		
Property Plant and Equipment		
Property plant & equipment	1,227.93	1,227.93
Plant & equipment – library	4,277.99	3,577.99
Less: Accumulated depreciation	(4,097.00)	(3,682.00)
Other		
Equity combined show	<u>3,771.32</u>	<u>3,309.02</u>
<b>Total Non-Current Assets</b>	<b><u>5,180.24</u></b>	<b><u>4,432.94</u></b>
<b>Total Assets</b>	<b><u>48,910.15</u></b>	<b><u>43,747.04</u></b>
<b><i>Current Liabilities</i></b>		
Borrowings		
Unsecured liabilities		
Subs in advance	370.00	1,540.00
Advertising in advance		90.00
<b>Total Current Liabilities</b>	<b><u>370.00</u></b>	<b><u>1,630.00</u></b>
<b>Total Liabilities</b>	<b><u>370.00</u></b>	<b><u>1,630.00</u></b>
<b><i>Net Assets</i></b>	<b><u>48,540.15</u></b>	<b><u>42,117.04</u></b>
<b><i>Members' Funds</i></b>		
Accumulated surplus/(deficit)	<u>48,540.15</u>	<u>42,117.04</u>
<b><i>Total Members' Funds</i></b>	<b><u>48,540.15</u></b>	<b><u>42,117.04</u></b>



## BROMELIADS IN THE GARDEN

## THE ALCANTAREAS

Part 1 of 3

What are Alcantareas you may ask? Well, we used to know them as Vrieseas. They include some popularly grown species, and some of the giants of the bromeliad world. Many of these plants are sought after for landscaping, and feature in gardens and landscapes throughout the tropics, subtropics, and warm temperate areas of the world.

The most well known Alcantareas in S.E. Qld. are *A. imperialis*, *A. regina*, *A. vinicolor*, *A. extensa?*, *A. geniculata* and *A. glaziouana*. While each of these plants is quite distinctive, there has been a lot of confusion with their identification in S.E. Queensland. If you acquire or purchase a plant at a society meeting or from a member it is more than likely to be mislabelled. Luckily the major nurseries in our area are trying to get on top of this mess; and Elton Leme, during his stays in Brisbane, has helped in resolving some of these identification problems.

A warning – many of these plants become large with age. They may be far too large for a hobbyist's shadehouse (the rosette of *A. imperialis* can reach 2.5 metres across). This is probably why little attention is given to these plants in the southern states. Plants generally prefer sun and a free root run rather than being confined to pots. However, with a bit of planning you could find the ideal spot for some of these beauties in the garden.

I have always been a fan of these plants since seeing them used in landscapes designed by the famous Brazilian landscape architect Roberto Burle-Marx while studying horticulture at University in the early 1980s. It was a revelation for me to see these plants in landscapes around Rio de

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Janeiro and also in the wild during a visit to Brazil a few years later.

The genus *Alcantarea* was named in honour of Dom Pedro II ( Dom Pedro de Alcantarea Joao Carlos Leopoldo Salvador Bibiano Francisco Xavier de Paulo Leocadio Miguel Gabriel Rafael Gonzaga, 1825-1889), second Emperor of Brazil. The genus is restricted to the south eastern Brazilian States of Rio de Janeiro; Espirito Santo, Minas Gerais and Bahia. The genus stood at 15 species in 1995 (Grant 1995), and it is likely that further species have been added since then.

For the keen bromeliad grower, an *Alcantarea* can be “readily distinguished from a *Vriesea* by its spectacular, linear-long, ephemeral, distinctly flacciescent, spiralescent petals, and seeds with both basal and apical comas” (Grant 1995). While this genus was first proposed in 1929, it wasn't until the mid 1990's that it was formally recognised.

The 15 species include:- *A. benzingii*, *A. brasiliiana*, *A. burle marxii*, *A. duarteanai*, *A. edmundoi*, *A. extensa*, *A. farneyi*, *A. geniculata*, *A. hatschbachii*, *A. imperialis*, *A. nahoumii*, *A. nevaesii*, *A. odorata*, *A. regina*, *A. vinicolor*

I have only grown a few of these species, which I will discuss below.

#### *A. imperialis*

*Imperialis*: latin for emperor, in honour of Dom Pedro II, second Emperor of Brazil. Known as “King of the Bromeliads” or “Empress of the Mountains” for a good reason. This plant reaches a large size and is highly ornamental in nature. It is my favourite bromeliad. It took some time to track down a plant of the true species.

*A. imperialis* is endemic to the Serra dos Orgaos (Organ Mountains) in the State of Rio de Janeiro, Brazil, with a few populations found in nearby localities. It is a sun loving, rock dwelling plant found on steep escarpments at elevations of 800–1300 metres. There is frequent rain in its natural habitat, however the shallow well-drained soils dry rapidly and plants have adapted to this environment. The central tanks hold several litres of water. During winter, frosts are not unknown, and temperatures in the mountains are generally much cooler than in the lowlands below. *A. imperialis* occurs in the wild in large populations.

The leaves are wide, even as young plants. On older specimens this is between 150 and 200 mm and this is a distinguishing characteristic of the species. The other characteristic is the stiff nature of the leaves and the longitudinal creases up the leaf. The leaf tip gives the impression of being rounded, as the short tip is turned tightly under. Leaves are generally a metallic blue grey-green on the surface with maroon flecking. The undersides

of the leaves have more of this maroon flecking. There is also a plain green form and a rich maroon form of this species, but these are much rarer, particularly in Australia.

This species seems to be more widely grown overseas, particularly in Brazil, New Zealand, Hawaii and mainland USA. My favourite is the maroon form. Under ideal conditions, it is dark, almost black. I have been told that seed from these plants produces half dark and half normal progeny. If anyone has any spare plants of the dark form, let me know.

When in flower, plants may reach 3 metres in height. The inflorescence is like a giant candelabra, with lateral branches and deep red bracts. The flowers, which are located between the bracts, have spreading white petals, which turn back on themselves. The petals are long, 14.5 mm in length. In the wild, plants begin flowering in October. I have noted that during the summer, growth on this plant comes to standstill. Growth takes off again with the cooler weather. This is the reverse of many other bromeliads I grow. It suggests to me that the plants prefer the cooler weather.

The famous Brazilian landscape architect Roberto Burle-Marx used this plant extensively in many of his landscape designs in Brazil. This has resulted in it becoming so popular in Brazil, "for sophisticated gardens", that it has been removed from habitat in vast quantities to supply the nursery and landscape industry. This includes illegal removal from national parks.

The plants are also under threat from our native molasses grass (*Melinis minutiflora*), which was introduced to Brazil and now covers the mountain habitat. This plant swamps *A. imperialis* plants in the wild by covering them and preventing regeneration by seedlings. When molasses grass is dry, it

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ignites readily, destroying the native vegetation including the bromeliads, which are not adapted to a burning regime (Graef 1996).

In the wild, it takes up to 20 years for the plant to flower and many years to get to a respectable size. In cultivation, this time is much shorter as the plants are not nutritionally stressed as they are in the wild.

*A. imperialis* is propagated in large quantities in Hawaii to supply the landscape trade throughout the world. Despite growing well over much of the Australian continent, you are not likely to see it used as much in gardens as it is overseas. It is particularly unfortunate that Queenslanders have been slow to use bromeliads in their gardens and landscapes despite the ideal climate for doing so.

Luckily the Brisbane Bromeliad Centre has been growing a lot of this plant and it has recently become plentiful. I have even seen it for sale in retail outlets.

#### *A. glaziouana*

I believe *A. glaziouana* is the most commonly grown Alcantarea in South East Queensland, however it is almost always mislabelled! This is one of the species sold as *A. imperialis* but most commonly as the "White Reginae". It is likely that the confusion over the naming of this plant goes back to the origins of seed sent by Adda Abendroth of Teresopolis, Brazil in the Late 1950s.

When Elton Leme was in Qld in 1993, he quickly spotted this mislabelling but assigned the plants to *A. geniculata*. In 1997, he revised his understanding of this species and noted the differences between the *A. geniculata* and *A. glaziouana* following the visit here (Leme 1997).

A characteristic of this plant are the narrow leaves which are semi-circular in profile and pointed and tapered at the tip. The tips roll under in an open curl. At the base of the plant they are quite tubular in cross section. This is a very architectural plant and it has a large number of leaves at any one time if it has room to grow, and is not nutritionally stressed.

A feature of this plant is the luminous, greyish-white colour of the leaves, which is caused by a covering of fine white powder. Like many succulents, the white dust covering the leaves rubs off readily. I encourage visitors not to touch the leaves to preserve the beautiful colour.

The inflorescence of this species is particularly impressive. Between 2 and 3 metres high, the horizontally held branches are a glowing, pale whitish green, luminous at night. The flowers are large, at 95 mm long, only exceeded by *A. imperialis*. They are a crisp glowing white. The 3 large petals recurve back on themselves and the stamens protrude. The scape

bracts of *A. geniculata* extend to where the first flowers appear. They are a pinkish colour but this is influenced by the amount of light the plant receives. They are regular in size and do not get smaller as you go up the scape.

The flowers are scented, barely during the day, but strongly at night. I suspect this species is pollinated either by moths or bats. Unlike other bromeliads in the garden I have never seen a pollinating agent (probably because I am tucked up in bed). The flowers seem to last for about 3 days before shrivelling.

This is also a favourite plant of mine. I have been growing this species for over 11 years. It is probably the most commented plant in garden, in flower or not. I have three large specimens near the house in a raised north easterly facing garden bed.

Generally the plants take four to six years to flower. As in the other *Alcantarea* species, just before flowering the form of the plant changes and a mass of leaves are thrust up from low in the cup, forewarning you of the event (this is usually around October). The inflorescence usually produces the first flowers in mid November and flowering occurs through January and February. While flowering is spectacular I'm always sad when this happens. I lose one of my big specimens and it takes at least 1.5 - 2 years before a vigorous offset gets to this size again, leaving a hole in my planting.

For many years I only had two to three plants myself, as I was continuously asked for plants by people who would come and see it in the garden. I decided to keep at least five plants for myself. This means that I always have a few plants flowering or suckering.

During warmer weather, the rosettes appear to collapse or flatten and the

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plant stops growing. I suspect this plant also prefers the cooler weather, as by March, it starts growing again and takes on more of a semi globular aspect. I find this plant to be one of the hardiest. Over 11 years and after growing close to 100 plants (I suspect), I have only ever lost two to crown rot (both in shadier conditions, and during the hottest wettest time of the year).

Arno King

### *Neoregelia* 'Bossa Nova' versus 'Sheba'

This all started in November 2001, when I pointed out to Keith Golinski of Bromagic in Queensland, that I could not tell the difference between these two cultivars and Keith assured me he could. He even sent me photographs of plants he had received from Tropiflora in Florida and which had been growing under identical cultural conditions. He was quite clear in his own mind that the plant with a pale pink flush was 'Sheba' and the other 'Bossa Nova'. Both, of course, are albo-marginate. This was despite the fact that the Bromeliad Cultivar Registry shows that 'Bossa Nova' has pink tinges too! The photograph in Baensch's 'Blooming Bromeliads (1994) page 128 shows no pink tinges either so I was keen to correct the information in the BCR!

I sent the photograph showing both 'Sheba' and 'Bossa Nova' to the Brazilians for their comments. Because 'Bossa Nova' came to America from Brazil in the first place in 1988 and the Brazilians would not know much about 'Sheba' I would have expected a clear cut answer. Their verdict is that 'Bossa Nova' can have pink flushes too! So, the BCR is not wrong after all but it does show that these two cultivars are very similar indeed.

We know that 'Sheba' is of hybrid origin whereas 'Bossa Nova' is claimed to be a variegated form of *N. compacta* even though it is acknowledged to be different in shape to this species. No comparison has been done, as far as I have been aware, of the parts of the inflorescence.

So we have two very similar plants from different sources. What is all the more intriguing is that we understand a PBR or plant patent has been taken out on 'Ultima'. This is a medio-picta form in the same group so how it would be proved in court that this 'Ultima' is unique is a puzzle to me.

Derek Butcher

Avoid watering bromeliads in the middle of hot summer days if you can. The sun's rays can be focused by the droplets of water onto the bromeliads' leaves, resulting in leaf burn and, subsequently, "bleached spots" on the leaf.

## USING TILLANDSIAS AS A SCREEN

In southern coastal Queensland, Spanish Moss, *Tillandsia usneoides* and *Tillandsia mallemonitii* can be used to form screens in the garden. In both cases, select locations which, at least, receive shade in the afternoon. This is especially important in summer. Good air movement, such as that occurring in "breezeways" or locations with a northeasterly aspect, is also important. This is especially true for *T. mallemonitii*. However, avoid locations which are exposed to cold, dry winds.

Build a framework for the screen out of wood or galvanised pipes. A wide variety of material can be used to form the lattice from which the tillandsias are hung. Examples include:- timber lattice panels (but not those which have been treated with a timber preservative), plastic garden mesh, weldmesh fencing panels, and galvanised wire netting (but avoid rusty wire).

For Spanish Moss, hang strands along the mesh. Use strands which are two or three plants "thick", and hang down the full length of the framework. Leave a gap of two to five centimetres between each strand.

Tie two to five plants of *T. mallemonitii* to the lattice. Use plastic covered wire or strips of nylon pantyhose to do this job. Each cluster of plants should be separated at intervals of about five centimetres horizontally, and seven to ten centimetres vertically. (This job can be quite time consuming. However, you can do it when you are watching television similar activities. In this regard, it is a bit like knitting).

Water the tillandsia "walls" once a week in winter and twice weekly in summer. Use liquid fertiliser every fortnight.

These tillandsias will form an effective screen within one year. They need

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“renovation” every three years, as they “thicken up” over that period. In time, this results in plants in the centre of the clumps which have formed not receiving sufficient light, air movement, water or nutrients. *Bob Reilly*

### *Harvesting Bromeliad Seed*

*Q* little care and attention in harvesting and storing bromeliad seed will minimise the potential problem of poor germination.

Bromelioideae seed develop in a pulpy berry. Mostly, the berries show a change of colour and/or texture when mature. Alternatively, the berries are mature when they can be detached with gentle pressure. I prefer to wash the seeds free of the sticky pulp and allow them to dry before planting; essential if the seed is to be stored.

Pitcairnioideae and tillandsioideae seed develop in capsules which are dry and open spontaneously at maturity. Pitcairnioideae seed have ‘wings’ of various shapes, while tillandsioideae seed are ‘plumed’ - a parachute of fine hairs. These capsules mostly show some changes in the skin colour or texture commencing at the base as the capsule nears maturity. Seed can be harvested prior to opening provided the capsule has reached the last stage of maturity; avoiding possible loss. Alternatively, a fine open mesh bag placed over the flower head will avoid picking the seed off the bush house wall.

The capsules sometimes partially open at the base allowing water to enter. This encourages bacterial attack and sometimes a distinct sickly sweet smell. (Refer to B.Genn’s comment on ‘ropey’ tillandsia seed) Such seed has a doubtful potential for germination. However, if it is valuable seed, its worth a rescue attempt. Plant the seed immediately and wash with several changes of water.

Its a good idea to wash the hands before handling any seed as perspiration residues can facilitate mould growth. Old time nurserymen would dust their hands with talcum powder when handling seed !!

Best results are obtained when the seed is planted as soon as possible after harvesting, especially tillandsioideae seed. Seed to be stored is best placed into simple sachets made from folded plain white paper and kept in a cool dry location. Do not use plastic or other impervious material as any sweating of the seed will facilitate mould development. *Peter Paroz*

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.



## *Cryptanthus* 'Rainbow Star' De-mystified.

Formerly known as *C. bromelioides* var. *tricolor*, 'Rainbow Star' is now considered as possibly a sport of *C. osiris*, an oddity in the genus. Most *Cryptanthus* have a single rosette which matures, flowers then stops growing, directing its energy towards seeding and offsets. By comparison, 'Rainbow Star' produces one or more basal growths while still juvenile, as the parent **continues growing**.

Culture is similar for most *Cryptanthus*: good, filtered light for foliage colour; warmth and humidity for continuous growth. The terrestrial growing medium should be light, humus-rich and free-draining with fertiliser added. The mix should never dry out and high humidity can be maintained by standing the pot in a tray with wet peat-moss. Depending on climatic conditions and if dormant, watering and feeding should be adjusted accordingly.

I grow two distinct forms which are both natural clumpers akin to a small shrub and **cannot be grown as a single rosette**. Basal growths are **not offsets** but immature stems and must not be removed from the parent. Do not remove these growths as they develop, for they will produce the next generation of offshoots-- this is 'Rainbow Star's forward growth habit. There are exceptions but seldom do these offshoots appear evenly spaced or simultaneously from the rosette's base. Removal of the first offshoots will interrupt the natural growth cycle.

A heavily-variegated rosette cannot flower without support from the clump and is too weak to produce more offshoots. A single rosette will grow disproportionately tall and vegetate for a while, perhaps as a last resort producing a leaf axil offset. It has reached the stage where complaints are heard, like "My plant just sits there, doing nothing!" It becomes obvious that constantly propagating single rosettes causes stagnant growth--every vegetative cut or division is a set-back.

My interest in *C.* 'Rainbow Star' began in 1977, soon after joining the BSI. Somebody told me about Mrs. Olwen Ferris in Queensland and whilst ordering some *Billbergias* from Olwen, I asked also for 'Rainbow Star'. In the *Billbergia* parcel was a letter informing me "We have had a very cold Winter and all the offsets died!" Several years later, during a "nursery crawl" one day, I did find my first 'Rainbow Star'. I did not know it then, but it was the perfect size to start with: about twice the height of a medium-sized *Cryptanthus*, with two small offsets attached. All the 'Rainbow Star' form A clone that I have now, are its descendants.

I have been growing and exhibiting *C. 'Rainbow Star'* for many years now. My two distinct forms have stayed true to their original variegation for 20 and 14 years respectively.

Form A :- Plant, soft-textured with recurving foliage; slightly-undulating leaf edges; approximately 50/50% white and mid-green variegation, the irregular creamy-white stripes flushing pink in bright, diffused light.

Form B :- Stiffer-textured, mostly albo-margined foliage; leaves longer, more upright with pointed tips; in strong filtered light, leaf blades change to olive green with red edges; sometimes has random central fine lines.

Both my forms can be viewed on the website : <http://fcbs.org/>

Contrary to '*Rainbow Star's*' reputation, both forms do flower if left undivided. Form A needs to build up to a large clump and throughout its life will need re-potting several times. Form B will bloom as a smaller-sized clump. Post-flowering, several offsets will develop slightly below an inflorescence. These offsets are rather slow-growing and should not be harvested until reasonably mature. They are distinct from vigorous leaf axil growths which, unless over-crowded, I prefer to leave intact as they add fullness and enhance the clump's appearance.

Both forms are excellent subjects for the show table, from a single rosette with small offshoots to a spectacular multiple up to 40cm.tall and almost as wide. To produce large specimens takes some management which I find a creative and pleasant task. As the clump grows, some side stems may need support by staking: I prefer thin bamboo side branches. Occasionally, form A produces albino offshoots which should be pulled out whilst still small. Remove any old or damaged leaves by splitting each down the middle, teasing off the two halves in opposite directions.

With reasonable care, leaf dieback or spotting is not a problem -- avoid overhead watering in extremely hot or cold weather. If brown marks occur, see if removing the whole leaf is the better option rather than trimming it. You must watch the whole clump's conformation; and a rosette which does not comply with the overall desired shape can be cut out (never twisted) at its base and propagated.

*Cryptanthus 'Rainbow Star'* is chiefly a foliage plant and although there are valid reasons to want it to flower (simply the challenge, for seed-raising or hybridising), the blooming means a partial end to a long-growing, beautiful specimen. However, by removing the oldest stems and re-potting the rest, not only will flowering be prevented but the clump will be rejuvenated.

Eventually the clump, having completed its life cycle, becomes difficult to manage, tending to fall apart. The time for real propagation has arrived.

Carefully peel off the older rosette stem's capillary leaves. Adventitious stem roots should be visible, perhaps for 1cm. at the base but hardly discernible higher up. Leave foliage intact at the top for 10-12cms. Plant the rosette stem as deep as possible to maximise rooting, but **not** burying the lower leaves. (If not planting immediately, stand the stem in water with a drop of fertilizer added. This prevents drying out and encourages rooting). As rooting occurs, basal offshoots emerge which, if the parent is too tall to begin with, will never "catch up" to achieve a balanced multiple. The developing offsets, at various growth stages, begin filling the pot.

In the short term, but only if absolutely necessary, no harm will come by dividing the young clump in two or by removing the oldest stem with roots intact, planting it as it is, unless too tall. 'Rainbow Star' has a very fine root system which should be disturbed as little as possible.

For the long-term benefit, propagating by old stems is preferable to preserve the clone's vitality. An old stem has fulfilled its first duty by producing offsets and its remaining purpose is to flower. Therefore removing the old stem, which is still capable of producing further offsets, does no harm to an already-established young clump. By this method of vegetative reproduction, the previously-weak clone is strengthened.

C. 'Rainbow Star' has been accused of having unstable variegation with every offset differently-striped, which is partly true. However, stability of variegation is judged by a plant's ability to transmit variegation to its progeny, not in my opinion by the pattern of variegation. Both my forms, I describe as "consistently inconsistent" which have never produced totally green offsets while in my care, surely a record among variegated bromeliads. Variegation is a bonus enjoyed and sometimes artificially induced by humans but it is a genetic defect. Sometimes the plant succeeds in "curing" itself by reverting back to all-green leaves.

C. 'Rainbow Star' is hardier here than its appearance suggests. I live in Sydney, not far from the Pacific coast. The sub-tropical climate is usually mild and humid with frequent temperature changes in Spring and early Summer. During Summer's humid heat my 'Rainbow Star's are hung outside among other bromeliads in the fresh air under 50% shadecloth. When Autumn temperatures begin dropping below 10°C, my plants are returned to the heated, double-glazed glasshouse. If cold winter nights drop below 5° C, an electric oil heater raises it to 10 degrees, but mainly because of other tropicals housed there. Cryptanthus 'Rainbow Star' is easier to grow and flower here in Sydney than many other bromeliads --- *all it needs is some understanding.*

Nina Rehak

**Acknowledgement:** Many thanks to Geoff Lawn for assisting with this article.

## Trading Post

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

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

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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>Tillandsia dodsoni</i>	P	07 3870 8029
Bob Reilly	<i>Tillandsia mooreana</i>		07 3870 8029
Keith Dawson	<i>Vriesea zamorensis</i>	P O	07 3285 6710
Keith Dawson	<i>Ae. tillandsioides kienastii variegata</i>	P O	07 3285 6710
Peter Paroz	<i>Tillandsia linearis</i>	P	07 3265 1547
Available			
David Brown	<i>Bromelia balansae</i>	O	07 3818 3133
Peter Paroz	'Grande' (4)	M	07 3265 1547
Peter Paroz	<i>Vriesea malzenii</i> Mar/Apr	S	07 3265 1547
Keith Dawson	<i>Ursulaea macvaughii</i>	SI	07 3285 6710

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