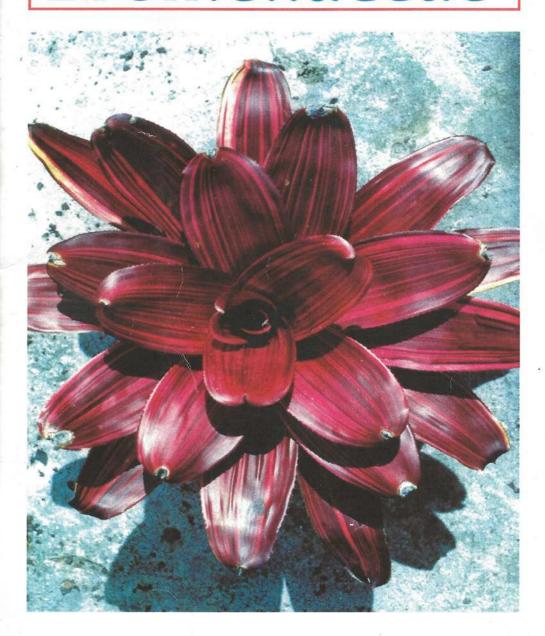
# Bromeliaceae



**VOLUME XXXIV - No. 5 - NOV / DEC 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

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## The Bromeliad Society of Queensland Inc.

### **Society Badges**

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#### CONTACT MRS. NORMA DAVIS

Ph 07 3271 1326 or see her at the meetings

#### COPY DEADLINES for Bromeliaceae

Please forward all copy to

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

Phone 07 3265 1547 Email pparoz@powerup.com.au

### Cover Photographs

Front Cover

Neoregelia Aussie Dream 'Downunder Gem'

This beautiful hybrid is but one of the several selected clones from the cross *Neoregelia* ('Meyendorfii' x *Neoregelia olens* 'Vulcan') produced by Bob Larnach.

Two other clones from this cross, N. Aussie Dream 'Something Spcial' and Aussie Dream 'Classic' continue to delight enthusiastic growers but we will have to wait a long while for 'Downunder Gem'. Bob has never released this plant, retaining it as a stock plant. To quote bpb's wife Gleness, "it's my favourite, too gorgeous to give away".

Grower Bob Larnach Photography Bob Larnach

Rear Cover

Vriesea 'Tina'

The plant in the photograph was purchased at the last World Conference and brought to Queensland by the Olive Branch. Ease of transport required the removal of the inflorescence as the over all height was about one metre. Safely packaged, it was placed with other purchases from Paul De Roose and air freighted to Australia.

Fumigation and quarantine confinement can be disastrous; many plants do not survive, and unfortunately this Vriesea was one of the many. Olive Trevor is not alone; other collectors in Australia have also lost *Vr.* 'Tina'. We have published this photograph so that our members might appreciate its beauty, and hope that one day a collector might be bring this plant into cultivation in Australia. When this happy day arrives, would the grower please pass on the good news.

Grower De Roose Nursury, Florida Photography Bob Larnach

If you are trying to decide which potting mix is best for your conditions, it is worth remembering:-

A potting mixture which stays wet and soggy for any length of time will probably cause you more problems than one which tends to be on the dry side; and

You may only experience some adverse weather conditions e.g. a wet spell of a fortnight's duration in winter, once in several years. However, if your potting mixture isn't designed with these conditions in mind, you can suffer a lot of plant losses when they do occur.

Bob Reilly

## Society Diary

NEWS

REPORTS

**EVENTS** 

#### September Mini Show

N	ovi	ce

Class 1 1st Neoregelia 'Joes Mauve'	Yves Daniel
2nd Neoregelia 'Pink Shadow'	Lindsay Gerchow
Class 2 1st Guzmania 'Symphonie'	Keith Dawson
2nd Guzmania lingulata	Keith Dawson

#### Intermediate

No entries

#### Advanced

Class 1	1st	Tillandsia bulbosa	Peter Paroz
Class 1	2nd	Tillandsia seleriana	<b>Bob Cross</b>
Class 2		Guzmania 'Hawaian Hybrid'	<b>Bob Cross</b>
Class 2	2nd	Guzmania lindenii	<b>Bob Cross</b>
Class 3		Dyckia fosteriana	Bob Paulsen
Class 5		Dyckia 'Dark Night'	Bob Paulsen

The quality of plants tabled was very good, but support for the mini show was very poor; only half of the classes attracting entries.

#### October Popular Vote

3 T		
	OV	100

lst	Neoregelia 'Lamberts Pride'	Keith Dawson
lst	Nidularium innocentii lineatum	Barbara Rowe
Intermediate	The state of the s	6 31 11 1 1
1st	Tillandsia ionantha (display)	G&N Aizelwood
2nd	Neoregelia 'Oh No Very Cherry'	Dorothy Cutcliffe
2nd	Neoregelia 'meyendorfii'	DorothyCutcliffe
Advanced	4	
1st	Aechmea tesmannii	Mike Symmons
2nd	Billbergia 'Afterglow'	Bob Cross

There was a Judges Commendation for the Aizelwood's specimen of *T. ionantha*. This display was commenced six years ago with the planting of twelve small seedlings on a piece of driftwood. Each plant has grown into a clump of six to eight plants, all in full colour and flower.

## Annual Subscription

Members are reminded that the annual fees are due and payable on 1st January 2002. Prompt payment will greatly assist the treasurer. Members unfinancial at the A G M will be ineligible to vote or to nominate for management committee positions.

Program

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

Members are asked to bring a plate. Drinks will be provided A Display of Flowering & Unusual plants, No Plant Sales

A great social night not to be misssed. ALL WELCOME

December No General Meeting

January Slide Evening - Conference and recent bus trips

Mini Show

Class 1 Aechmea species and hybrids

Class 2 Vriesea species and hybrids

Class 3 Pitcairnia species & hybrids

Class 4 Mature plant Any other genus; species & hybrids

February Annual General Meeting

Plant of the Month: Encholirium, Fascicularia, Fosterella, Greigia

Notice of the Annual General Meeting

EMBERS ARE HEREBY NOTIFIED that the Annual General Meeting of the Bromeliad Society of Queensland Inc. will be held on Thursday 21<sup>st</sup> of February, 2002 commencing at 8 pm in the Uniting Church Hall, 52 Merthyr Road, New Farm.

Business to be conducted will be:- Confirmation of the Minutes of the 2001 AGM, The Presidents Report, The Financial Report, The Election of the Management Committee and the Election of the Auditor. Nomination forms for all positions are available from the Secretary on request; and will be available prior to commencement of the AGM. Nominees for positions on the management committee must be financial members of the Society. In the event of insufficient written nominations being received prior to commencement of the meeting, nominations will be called from the floor.

#### STOP PRESS

The Bromeliad Society of Queensland has accepted the responsibility and the challenge to host the 13th Australian Bromeliad Conference to be held in 2005. Conferences in the past have suffered from a lack of strong support from local members. Members with no accommodation costs and minimal travel costs have a unique opportunity to participate. Make a decision now to attend: This Convention needs strong support from local members.

#### **Annual Subscription**

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## The Editors Desk

There have been a number of reports from researchers investigating the range of fauna that can be found in the water of tank forming bromeliads in habitat. I came across a segment on the National Geographic TV channel where the researcher was investigating the survival of tadpoles in large bromeliads (vrieseas?), in the Andean forests of the Amazon.

The small frog species which was not named, lays 500-1000 eggs in clutches of 50-100 in the water of the leaf axils. When the eggs hatch, there is little or no food for the developing tadpoles in the leaf axils and initially the early hatchlings eat unhatched eggs. Subsequently cannibalism is the order of the day. Unfortunately, the results of the study were not revealed but from the footage, it appeared that 5 to 8 tadpoles per leaf axil might survive until they developed legs and were able to forage away from the bromeliad. (The leaf axils appeared to hold 80-100 ml of water)

For members who enjoy reading accounts of bromeliad collecting trips, I recommend 'Bromeliad Search in Jamaica' by Manfred Broetzmann, B.S. of South Australia Vol 24 #4, July/August 2001. Inquire with the librarian.

The Trading Post has been further extended to include pollen. This is intended to facilitate the production of seed from species that are not common in cultivation in Australia. As with other items listed, members have to make private arrangements for exchange of all items.

The editor is interested in collating information on plants suitable for growing in exposed situations outdoors, and requests interested members to observe their plants during the coming summer. It is proposed to list the plants in two categories:- Full Sun - plants exposed to direct sunlight between 9AM and 3PM and Exposed - plants in an exposed situation with only very light shade between 10AM and 2PM. Results will be published in *Bromeliaceae* 2002 #2.

Many bromeliad species like high levels of sunlight (but few can tolerate full sun in the middle of summer!). If a plant of a light-loving species has been grown in shady conditions, moving it straight into a well-lit position may result in sun damage e.g. yellowing of the leaves, bleached "spots" on leaves. Give the plant time to adjust by moving it, over several months, into progressively more sunny locations.

Bob Reilly

**August Field Day Report** 

he Society's August field day was held at Belle Rive, the property of Yves Daniel (Danny) and Lindsay Gerchow in Orme Road, Buderim.

Over 100 people visited Danny and Lindsay's property. The Society chartered a bus to assist Brisbane-based members to attend the field day. As well as enabling us to see their bromeliad collection, it also provided the opportunity for Brisbane-based members of the Society to meet those from further afield. We also met with members of the Sunshine Coast Bromeliad Society; a very welcome opportunity.

Danny and Lindsay had written a poem which visitors could read as they entered the garden. Because it sums up some of field days' objectives, and provides guidance on the desirable conduct of visitors at such events, it is repeated here.

WELCOME: The Orme Road Ode

Thou shall respect the garden

Thou shall not covet thy brom

Thou shall not pilfer, plunder or damage thy collection

Thou shall tread lightly

Thou shall spend heavily [on plants]

Thou shall experience joy, wonderment in thy collection

Thou shalt have contentment and good repast

## Bromeliad Society of Queensland Inc.

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 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

Thou shall not remove name tags or move pots

Thou shall leave happy

Lindsay and Danny are landscapers. This experience is evident in the manner in which their collection is presented. Some of the approaches used to effectively present their collection to best advantage are:

They have worked with, rather than in opposition to, the site's features. For example, the more shady areas of the garden are planted with shadeloving bromeliads such as: Canistropsis (Nidulariums), Guzmanias and Vrieseas, while the plants which like more light such as Aechmeas and Neoregelias, are planted in well-lit areas.

Nearly all of the bromeliads are grown in pots so that as plants pass their 'peak', or are needed for displays in other areas of the garden, they can be

shifted around.

A network of narrow, winding paths surfaced with pine bark or pebbles, is used to help the visitor experience different perspectives or viewpoints on the same group of plants. They also enable the visitor to view, and fully appreciate, particular groups of plants without this experience being diminished as a result of them being "submerged" in the patterns of colour and light elsewhere in the garden.

Other plants are used to help create favourable growing conditions for bromeliads. For example, in one location, there is a need to provide shade from the sun at certain times of the day. This could have been achieved by constructing a lattice, or shade cloth, wall to a height of about two metres. Instead, Danny and Lindsay have used a variety of plants to achieve the

same effect, but in a much more natural-looking way.

Many of the taller-growing bromeliads such as Aechmea blanchetiana, Portea sp, Aechmea marie reginae variegata are used as effective "backdrops" for the lower-growing bromeliads. Other plants such as, heliconias, tree ferns and cordylines are also used for this purpose. They provided an effective contrast with the bromeliads grown in front of them.

Even small spaces with unfavourable growing conditions are used for growing plants. On one side of the house, there is a gap of about two metres between the wall of the house and a fence. The area is heavily shaded. Lindsay and Danny have used clear fibreglass in the fence to allow sunlight in and placed a light mesh over the top of the area to keep leaves and other debris out. A "vertical garden" has been created through the use of hanging pots containing shade-loving plants. This maximises the use of available space.

To grow well, the grey-leafed tillandsias need plenty of light and circulating air. This outcome has been achieved by attaching them to wire frame which is hung near a fence. Not only is the wooden fence partially hidden, but additional growing space is created.

I am sure all of the people who visited Danny and Lindsay's garden left with some additional ideas on how to best present their plants, and make better use of those "difficult areas" which are present in every garden. After the visit to Belle Rive, visitors had a light lunch at Shady Trees. Many bromeliads were on display at this property.

Danny and Lindsay then escorted visitors to the gardens of Palm Fascination, a wholesale nursery which sells palms, cordylines and a variety of other exotic plants. Many of these plants were on display in the nursery's gardens. As well as walking around the nursery's gardens and shade houses, members had the opportunity to buy a wide range of cordylines. (Palm Fascination will be open to the public, through the Australian Open Garden Scheme, on 2/3 February 2001 from 10.00am to 4.30pm).

The willingness of Lindsay and Danny to make their garden available for visitors, and in arranging subsequent activities, is much appreciated. Thanks are also due to those people who helped out in a number of other ways on the day.

\*\*Bob Reilly\*\*

## SUMMER CARE OF YOUR BROMELIADS

The care of your bromeliads during the summer season is in fact not very different to any other season. There are however a few tips/jobs for the summer months.

As the weather starts to warm up, the bugs become active. It is often necessary to start with a spray for the dreaded flyspeck scale. As we are all aware this is one of the most insidious of all of the pests that attack bromeliads. The insects are on the move and will not have produced the hard cover that often tells you that they are present. If you have many plants and want to keep them free of this invader it is a good idea to spray regularly for scale as a preventative measure. When I bring plants home from other sources, as a precaution I treat the new batch of plants before putting them in the bush house. This stops the re-introduction of flyspeck scale and other (new) pests. There are several methods to use. Previous journals have referred to chemicals including natural sprays which can be used for this purpose.

Spring is the time for repotting and removal of the offsets, often referred to as pups. The old plant after flowering will produce offsets and eventually dies. As there is usually more than one offset produced, your collection will grow in size. As your collection starts to expand, then comes the problem many of us have. Where are we going to put all of these plants? The trade table? Some plants take years to flower and produce offsets.

To page 14

How Good are Your Plants

Part 12

Edited extracts from the BSI Handbook for Judges

Criteria for judging genera of Tillandsioideae

The Genus Tillandsia

The genus Tillandsia has the greatest number of species and the greatest range of any of the genera. Tillandsias are found from the southern tip of Virginia to five hundred miles south of Buenos Aires. More than 400 species are currently recognised.

Tillandsias are highly variable plants ranging in size from less than 12mm to over 4 metres. One member, *Tillandsia usneoides*, is lichen-like in appearance. Others form small rosettes, large urn-shaped plants, or twisted, bulbous growth. Some have soft leaves and look much like a Vriesea. The more common species are so covered with greyish scales that they appear to be sprinkled with silver dust. The soft leafed species come from humid forests; the scaly, silver species come from dry areas where they are found growing perched on hot rocks or sunny tree tops.

No tillandsia has spines on its leaves; all have entire leaf margins. Unlike many other bromeliads, the leaves of many tillandsia species do not form a cup in which water and nutrients may collect. Instead they are completely covered with tiny peltate scales which not only absorb water and nutrients from the air, but also help to conserve moisture within the plant. The flowers, generally found in flattened spike formations, are either blue, lavender, pink, white, yellow, brown, or green; a few are fragrant. The bracts range in colour from white to green, pink, red, yellow, and orange. The ovary

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JUNE and JOHN BUCHANAN

develops into a capsule which dries at maturity releasing the seeds which have a parachute-like appendage that aids in their dispersal.

Tillandsias require little care, but certain conditions must be met: they must have plenty of air movement. As their roots are unimportant except to hold on to the host for support, tillandsias are often mounted on tree fern, wood, cork, etc. Some tillandsias can be grown in a pot, but the potting medium must be very well drained.

#### Classification of Tillandsias

#### A. Light Requirements

- 1. Full sun T. hildae, T. albida, T. fasciculata
- 2. Nearly full sun *T. bulbosa*, *T. caput-medusae*, *T. streptophylla*, and most species that have hard, grey-green or grey leaves; also those that have grey leaves covered with fuzzy scales.
- 3. Bright T. flabellata, T. geminiflora, T. guatemalensis
- 4. Average T. cyanea, T. lindenii, T. leiboldiana
- 5. Subdued T. multicaulis, T. lucida

#### B. Shape of Plants

- 1. Vase T. guatemalensis, T. multicaulis, T. lucida
- 2. Bulbous T. bulbosa, T. butzii, T. caput-medusae, T. circinnata,
- T. flexuosa, T. streptophylla
- 3. Tufted plants T. ionantha, T. plumosa, T. schiedeana
- 4. Narrow arching leaves T. brachycaulos, T. capitata, T. fasciculata,
- T. lindeni, T. stricta
- 5. Cascading plants T. araujei, T. usneoides, T. albida

#### C. Size of Plants

- 1. Midgets T. argentea, T. ionantha, T. pruinosa, T. kammi
- 2. Small T. concolor, T. brachycaulos
- 3. Medium T. capitata, T. cyanea, T. streptophylla
- 4. Medium-large T. fasciculata, T. hildae
- 5. Large T. ponderosa, T. xerographica
- 6. Giants T. prodigiosa, T. fendleri, T. grandis

#### D Foliage Coloration

- 1. Reddish or Maroon T. capitata, T. abdita
- 2. Pink or pinkish T. concolor
- 3. Blue-grey—T. fasciculata, and many other species
- 4. Silvery—T. xerographica, and many of the dry growing species
- 5. Plant with a coloured centre—T. brachycaulos
- 6. Plant with coloured leaf tips—T. leiboldiana
- 7. Leaves with longditudinal stripes—T. cyanea

- 8. Spotted, splashed leaves—T. guatemalensis
- 9. Crossbanded leaves—T. hildae
- 10. Variegated—T. viridiflora var. variegata
- E Width of leaves
  - 3. Narrow—T. usneoides, T. filifolia, T. linearis, T. festucoides
  - 4.Medium-T. cyanea, T. lindenii
  - 5.Wide—T. xerographica
- F Texture of leaves
  - 3.Soft leaves—T. multicaulis, T. leiboldiana
  - 2. Hard leaves—T. fasciculata, T. capitata
- G Type of inflorescence
  - Pendant—T. proddigiosa
  - 4. Simple—T. cyanea, T. lindenii, T. 'Emilie'
  - 5.Branched—T. fasciculata
  - 6. Tubular flowers in the centre of the plant—T. ionantha
  - Cone shaped—T. stricta, T. geminiflora

From a judging standpoint tillandsias fall into two groups. The largest of these are the heavily scaled, grey, stiff leafed tillandsias, which we will call Group I. Group II includes the soft green, vriesea-like plants which are grown for their beautiful inflorescence. Most Group 1 tillandsias are diverse mounted specimens that are merit judged as horticulture displays.

Group II tillandsias fall almost equally between the potted plants of Division 1 and Division 11 and the horticultural displays of Division 111. Some are also seen in decorative containers and arrangements. They are judged by the applicable scale of points.

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**キャャャャャャャャャャャャ** 

Consider re-potting bromeliads as soon as you obtain them. The mixture they may be growing in could stay either too "wet" or "dry" for your conditions. If it stays too wet or soggy, there is a real risk the plant could rot. If it stays too dry, you will either need to water it more frequently than your other plants, or its growth will be affected adversely. Bob Reilly

Terminology

Trees which by nature do not support epiphytes Axenic

A plant native to fertile substrates Eutroph

Oligotroph A plant native to nutrient deficient substrates

From page 9

I have one plant in my collection that is a least five years old and still looking good, but not a offset to be seen.

When potting, the use of fertilizer will aid the growth of your plants. Neoregelias do not require vast amounts of fertilizer and the initial application when repotting will carry your plants through for some time. Vrieseas (foliage and flowering types), Guzmanias, Tillandsias, all require regular fertilizing, either by foliar application or slow release. Both methods are often used.

As the weather becomes hotter you will need to increase the water, as the pots tend to dry out much faster. Many bromeliads come from tropical high rainfall areas and can take vast amounts of water, so these require plenty of water for good growth. This is where the potting medium becomes very important. Drainage must be good, as wet soggy roots will rot off. Even the desert and dry climate bromeliads can use extra water in summer; adequate water will give better growth. Be careful not to let the plants sit in stagnant water because this encourages mosquitoes.

If you have shifted some of your plants towards the light during the winter period, check to see that there is no evidence of burning on the leaves. The summer sun can burn in a very short period. You may need to move them back to filtered sunlight where they get that little extra bit of protection.

Even if you don't get around to doing all of the jobs required, bromeliads can still be rewarding. They are tough plants. We read stories of plants that sit in water for months on end, plants that sit in pots for years without any attention, still flowering and growing. Well maybe? With a little care and attention your bromeliads will grow happily for years and always give you a wonderful show of colour in the garden or greenhouse, or wherever you choose to grow them. Cheryl Basic

## **BRISBANE BROMELIAD CENTRE**

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**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, available plants and seeds, and more recently pollen. 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, p Pollen, Approx Date available

Member	Wanted		Phone
Bob Reilly	Vriesea capituligera	PS	07 3870 8029
Michael Pascall	Aechmea gigantea	P	07 4098 8253
Michael Pascall	Aechmea entringeri	P	07 4098 8253
Ray Nicholson	Quesnelia 'Tim Plowman'	P	07 3399 5296
Keith Pohlman	Neoregelia 'Absolutely Fabulous'	P	07 4151 5395
Keith Pohlman	Neoregelia 'Bob'	P	07 4151 5395
Keith Pohlman	Neoregelia 'Bailey'	P	07 4151 5395
Keith Pohlman	Neoregelia 'Aurora'	P	07 4151 5395
Dorothy Cutcliffe	Neoregelia carcharadon (reddish)	P	07 3386 0505
Doug Upton	Aechmea retusa	P	07 3378 3511
Bob Reilly	Vriesea tuerckami	S	07 3870 8029
Bob Reilly	Guzmaina conferta	PS	07 3870 8029
Bob Reilly	Guzmani sanguinea v erecta	PS	07 3870 8029
Bob Reilly	'Blooming Bromeliads' (English Edition) 1994. Baensch Ulrich & Baensch Ursula Publisher Tropic Beauty	В	07 3870 8029
	Available		
David Brown	Bromelia balansae	O	07 3818 3133
Peter Paroz	'Grande (4)'	M	07 3265 1547
Michael Pascall	Vriesea fenestralis seedling	P	07 4098 8253
Michael Pascall	Guz. sanguinea v brevipedicellata s'ling	P	07 4098 8253
Peter Paroz	Vriesea malzini (Dec 201)	p	07 3265 1547
Peter Paroz	Tillandsia disticha (Nov. 2001)	S	07 3265 1547

Before applying foliar fertiliser to bromeliads, thoroughly wet the leaves with water. This helps to ensure the leaves are in the best condition to absorb the nutrients in the liquid fertiliser. Similarly, ensure potting mixtures are moist before applying liquid fertiliser.

Brom-a-Warra Report

he 11th Conference of Australian Bromeliad Societies was held at Shellharbour on the South Coast of NSW from 11th to 15th October. When I first thought about attending my first National Conference, the first thing that came to mind was would it probably be too full on botanically for me: but I was wrong. I had read where these conferences welcomed the new, and the old catch up. It was not long before the new had acquired new acquaintances and the old welcomed the new.

The Conference opened at 4:00pm on Thursday with Plant Sales, a must for Bromeliad Collectors, then a welcome evening at the Sea Spray Function Centre situated right on the beach.

On Friday, we were very fortunate enough to have a day trip to the Southern Highlands where, on visiting the Lavender Farm we were advised that they had been under two feet of snow some two weeks earlier. It was so cold I am sure it could have snowed that morning. Members viewed the processing of the lavender into oils and we also checked out their wines, mustards and kalamato olives which were something special.

We continued our tour through the Highlands onto Bowral viewing the beautiful tulips, which unfortunately we were only able to view from the bus as parking was non existent. Then it was onto Berrima for lunch; our bus driver was a bit concerned that there maybe one or two missing for the continuation of the trip – they have a very comfortable jail there. After lunch it was onto Fitzroy Falls, a photographer's dream, an unfit person's nightmare especially if you take the walk to view the second fall.

For those who like the Big Dipper it was onto Kangaroo Valley where the road into the valley was something I have never witnessed before, 20 kph and

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not much room on the edge of the road. It was then onto Berry and to Jasper Wines where I fell in love with the Strawberry and Passionfruit Wines: I could have stayed there for hours. Onward home via the Blowhole at Kiama which unfortunately was not blowing very much, to the disappointment of our International Visitors, as it was a beautiful calm day. Then home to crash into bed; but no there was more, a spit roast dinner that evening!!!!

On Saturday evening we actually had a night off but Illawarra had organised an optional dinner at the Bowls Club for those with stamina; Unfortunately I was not one of those, Norma Poole and I chose to stay at home, but I hear on good authority that food was just fantastic.

On Sunday afternoon, we went on another bus trip, this time to the Nan Tien Temple, the largest Buddhist Temple in the Southern Hemisphere. If ever you are in the Wollongong area, it is something that you should not miss. I am told we walked up and down approximately 179 steps – someone had fun counting. It was then onto the Grevillea Gardens that was kindly opened just for our trip. This is a beautiful garden that is run by a group of volunteers.

Sunday evening we had a Banquet Dinner followed by a Rare Plant and Book Auction. Brisbane's one and only Len Trevor conducted the auction and had everyone in fits of laughter all night. I am not sure what Len did in his life before he became the "Nursery Hand" at the Olive Branch Bromeliad Nursery, but I think he must have worked as a comedian at night and an auctioneer during the day. I noticed Len also suffers from convenient deafness especially when he thought things should be sold for a higher price than what people were bidding; he always seemed to add an extra \$10 onto the price and on a couple of occasions got away with it!!!

In between all of this socializing and frivolity there was an actual conference taking place with the Guest Speaker, Dr Eric Gouda, Curator of the University of Utrecht Botanical Gardens, The Netherlands. Eric gave talks on the Mass Production of Bromeliads in Europe, Growing Tillandsias from Seed, Bromeliaceae of NE French Guinea, and Collecting in the Andes. Other guest speakers were Bill Treloar who spoke of the setting up and running a Bromeliad Nursery in Bute, S.A. population 150; Bob Hudson from Cairns gave an interesting session on propagating tillandsias from seed in Tropical North Queensland; and his wife Lynn spoke on being the New Kid on the Block, having been involved with Bromeliads for only approximately two and a half years.

Uncle Derek Butcher gave a talk on "Golden Oldies" (Bromeliads not people), Bob Larnach gave a presentation on New Hybrids which

unfortunately had to be rerun in the evening because of the poor lighting in the hall; but everyone agreed it was worth waiting for. This was followed by an interesting and humorous session by John Fleming on tillandsias in the Illawarra area.

On the final day of the conference Lester Chin from New Zealand spoke of the proposed 2003 conference in Auckland, New Zealand. This was followed by a 45 minute video presentation given by Gerry Stanfield with Avon Ryan who were unable to be at the conference. Len Trevor followed speaking on Commercial Production and Marketing of Bromeliads and Eric finished the conference off with a very interesting session on collecting in the Andes. A copy of the proceedings is available from the Librarian. Unfortunately the proceedings don't tell you much about the social side but I am here to tell you all, if you missed it, you missed a great time.

The next Conference will be held in Auckland, New Zealand in 2003 and the 2005 Conference in Queensland.

Norma Davis

If you can, delay removing offsets until they are one-third to half the size of the parent plant. They will tend to establish and grow more quickly, and be less likely to rot (or suffer from other death-inducing problems), than when offsets are removed at a smaller size. The downside of this approach is that the plant may produce fewer pups, than if they were removed at an earlier stage of their development.

Bob Reilly

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## What's Killing Our Spanish Moss

Part 3 of 3

The Good News

hile things look bleak for the moss there is some good news. To my knowledge this disease does not affect any other Tillandsia species or any other bromeliad.

It does not affect *Tillandsia recurvata*, *T. mallemontii*, or the hybrid *T. (usenoides x mallemontiii*). Further, to my knowledge, it only affects two forms of Spanish Moss: "the common" (Southern USA) form and what I call "the thicker form" (very similar, but with slightly larger denser leaves- this was the most badly hit, instant kill overnight.). As I noted earlier, the common form naturalised in my garden, producing siblings. These siblings were equally affected by the disease.

Because of my interest in spanish moss over the years, I collected the many variants. I estimate that there are at least 30 forms in Australia. Many of these are slightly slower growing that the common form, but watering, feeding and teasing out clumps can speed up growth significantly

Here are some of the forms that appear to be immune to the disease. I characterise them by their size

#### Smaller Forms

I grow four small forms. I know there is a fifth form about as well – what I call fine silver.

Fine Green: greenish silver and very vigorous. Reasonably common

Fine Bronze: Hard to tell apart from the above unless grown side by side. It is more of a silver colour, going bronze in the sun. While vigorous, it is not as fast growing as the above.

Yellow Flowered Peru Form: Recently collected and imported from Peru. The plant has yellow flowers and is similar to the common moss but slightly smaller and whiter in colour.

Grace's Golden Form: A form Grace Goode grows which sparkles gold in the sun. A very slow grower and I find it a bit touchy.

#### Medium Forms

I grow two medium sized forms. There is also a third form, what I called the thick form which is slightly larger and denser to the common form. This is the plant I noted above which was killed off outright by the disease.

Medium Grey: This one is a grey-green form that is medium in size. The leaves are quite perky and point to the sides.

Chunky. It is white in colour, with chubby leaves that look almost square in cross section.

#### Large Forms

I know of two forms. Both are slow growing but I'm told that they really respond to dilute fertiliser.

Large White: This is the commoner form, large, very furry and white. This is probably my favorite form – but it is so slow growing. The birds, possums and wind give it hell at my place. I have lost it several times.

Large Green: This form is not so large and is greener. It is also frustratingly slow.

#### Curly Forms

I know of two forms grown locally. Both curl in on themselves. Both seem to be medium sized growers.

Coarser curly: larger in size and coarse in habit.

Finer Curly: this form is finer and silvery. This form is common in the States

In compiling this list I realise there is a need to rationalise the identification of these forms. I have just noted 13 different forms in my discussion. These descriptions probably mean little to anyone else but they help me. I really didn't try hard to collect them. If I was visiting a grower and saw some interesting spanish moss I would point it out and try and find out more about it.

Interestingly, I had lost track of some of these plants in the garden and shadehouse. Birds, possums and wind disturbed many clumps and the common form had got interdispersed with some of these plants. Now that the common form has started to die off I'm finding these plants again.

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If you like spanish moss I would strongly suggest that you start getting some of the less common forms. I've become more aware of these forms and many commercial suppliers grow and sell them. If you don't have the disease you could consider quarantining your plants and avoid getting any new Tillandsias. However I believe this is a rather short term solution. This disease seems to be spread by the wind as it apparently moves into areas on its own, leaving a trail of dead plants. Perhaps applications of weak fungicide could help maintain clumps. Again this seems to be a rather short term approach.

I would be very interested to hear of the experiences of other growers with this mysterious disease. Are your experiences similar to mine? I am also interested in the success or otherwise of other forms of spanish moss. I am also keen to try other forms of this plant. I am sure I have seen other variations in collections here.

Arno King

#### Nidularium rubens

his all started with the usual batch of photographs I get from Geoff Lawn in Perth where I try to help him out with his inherited misnamings!!! Two were of that *Nidularium innocentii* looking plant with white petals and long stolons that has been in Australia for many years. Geoff had a question mark against *Nidularium purpureum* which is a name we also saw on this plant in years past! But *N. purpureum* has red petals!

The plant had apparently been in Western Australia for 20 years having been "imported" from the Eastern states. I obtained my plant from Ruby Ryde in Sydney some 10 years ago and ever since Elton Leme's book on Nidularium arrived I have been puzzling over this plant. Coming from Ruby Ryde with her penchant for species makes me think it is a species rather than a hybrid. A batch of these Nidularium books arrived on Aussie shores in late 2000 but if any keen growers want their own copy their best bet is to contact Karl Green in Florida direct at his Email address kkg@mindspring.com Because of the low exchange rate of the Aussie dollar this book will cost over A\$200.00 but is well worth it. Those who do have this book are asked to check my findings!

First, I started off with the key which is easy to follow and surprisingly I finished up at *Nidularium rubens*. I say 'surprising' because I thought I should have come out at *Nidularium albiflorum* which had been treated by Lyman Smith as a variety of *Nidularium purpureum*.

This is what Elton Leme had to say about this species:- "Nidularium rubens was described in 1891 by Karl Mez from a specimen collected by A.

Glaziou at Serra do Picu and deposited in the Berlin-Dahlem Botanical Museum herbarium, in Germany. The holotype is composed of an entire plant, without petals, so there is no data in the protologue on these structures. The species is characterised by its slender nature, stoloniferous mode of propagation, leaves few and strongly canaliculate toward the base with undulate margins, inflorescence clearly raised above the leaf rosette, primary bracts with an acuminate-caudate apex, often revolute toward the apex, and petal lobes white.

This species belongs to the "white complex" and is morphologically close to *N. albiflorum*; it even shares the same habitat, at least in the Sera de Paranapiacaba region. *Nidularium rubens* differs from *N. albiflorum* in its stoloniferous habit, longer leaves, much more developed floral scape that raises the inflorescence above the leaf rosette, primary bracts acuminate-caudate and often revolute, and wider sepals more highly connate at the base."

I worried about the length of the scape but the description says 10 - 20cm long and ours is at the bottom end of the scale. I worried about the predominantly green primary bracts but the description says greenish to red; also about the leaves but the description says blades sublinear-lanceolate, purplish-wine underneath. So, MY worries are over. How about yours?

So, instead of Nidularium 'Long stoloniferous from RR.' I'm putting Nidularium rubens on the label

Derek Butcher

## Potting Mixtures

There are probably almost as many potting mixtures as there are 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 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 of the leaf shape.

The most advanced plants in the trial are offsets of *Aechmea* orlandiana -dark form-. The dark leaf colour is more intense in the plant

#### GROWING TILLANDSIAS FROM SEED

Part 1 of 2

A the Society's September meeting, Barry Genn gave a presentation on growing tillandsias from seed. This article is based largely on that presentation, and on subsequent discussions with Barry. It also contains some material from Mark Dimmitt's articles in the Bromeliad Society International Journal, which can be borrowed from the Queensland Bromeliad Society's Library.

The obvious question is why bother growing tillandsias from seed, as it takes four to ten years to produce a flowering plant? There are two reasons: First, it is a lot of fun growing plants from seed; and second, many tillandsias only produce one or two offsets. This makes it very difficult to obtain a "clump" of some species, which is often the most attractive way to display them. Also, if you only obtain one offset every time a plant flowers, sooner or later an accident will happen, resulting in the loss of the offset and thus the plant.

For this article, tillandsias are defined as the xerophytic and atmospheric tillandsias species which mainly grow in semi-arid habitats. Thus 'tank-type' tillandsias such as T. wagneriana and T. dyeriana are excluded, although many of the procedures outlines below can also be applied to them.

The first step is to obtain some seed. There are various sources, namely, your own plants or those of friends; seed listed in the Trading Post section of Bromeliaceae; or the seed funds operated by the Australian and New Zealand bromeliad societies or the Bromeliad Society International. However, you need to be a member of these societies to access their seed funds.

Some tillandsias set seed without any help from you. Examples include: *T. schiediana*, *T. pruinosa* and *T. butzii*. Usually though, you need to assist the pollination process by transferring pollen from one plant to the stigma of another plant. Important points about this process include:

If you wish to produce seed of a particular species, it will usually be necessary to have plants from two different 'clones' i.e. plants which have a slightly different genetic composition from each other. Plants which are offsets from the same "mother" plant will not be suitable in such situations. (The technical term for plants which have this charateristic is that they are 'self – sterile').

Pick the best plants of the species or hybrid you wish to use in your seed production program. Superior parents definitely produce better progeny. Mark Dimmitt has outlined many of the factors you could take into account when making the decision. They are: the plant's size and shape;

foliage colour; size and colour of the plant's inflorescence, bracts and

flowers; how frequently it flowers (Dimmitt, 1985).

The ease with which you can access the plant's pollen and stigma varies considerably. The easiest ones have the stamens and stigma protruding beyond the petals. Examples of species which have this characteristic are:- *T. bulbosa, T. concolor, T. fasciculata and T. ionantha.* 

Species which are somewhat more difficult, have the petals forming a 'tube', but have the stigma and anthers located near the top of the tube. Examples include: *T. stricta*, *T. aeranthos* and *T. ixoides*. The most difficult ones are those where the stigma and anthers are located at the bottom of the 'tube'. Examples include: *T. cyanea*, *T. lindenii and T. durattii*.

The pollen has to be transferred when the stigma is receptive to it. For many species, this occurs in the early morning. However, temperature, light and humidity can influence the optimum time of receptivity. Some species are only receptive at night.

Barry often uses the end of a fine slender tillandsia leaf e.g. *T. juncea* to transfer pollen to the stigma. Mark Dimmitt (1990 a) suggested using a hair from the coat of a dog or cat. Some people use a very fine artist's brush. However, this approach can result in you unintentionally creating hybrids, as it is difficult to remove all of the pollen of one species before using the brush for another pollination exercise. For a more detailed discussion on issues connected with pollination see the paper referenced as Dimmitt (1990 a) in the bibliography at the end of this article.

Assuming pollination occurs, you then have to wait for the seed to ripen. In Barry's experience, it takes between three months (e.g. *T. meridonalis*) and two years (e.g. *T. ionantha*, *T. pruinosa*) for the seed to ripen.

The seed is contained in a seed pod (capsule) which, in most instances, appears to "grow out" of the pollinated flower. The seed pod usually (but not always) changes in colour from green to brown when the seed is ripe. When this occurs the seed pods can open very quickly. (As always there are exceptions. Dimmitt [1990 a] notes that the seed pods of *T. brachycaulos* stay green even when the seed is ripe).

Bob Reilly

If you are mounting tillandsias onto wooden or cork mounts, try to do this activity well before the plant flowers. This will improve the chances of the plant sending out roots onto the mount, as flowering plants often do not do this. Instead, flowering plants are probably using their energy to make flowers, then seeds and offsets.

Bob Reilly



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