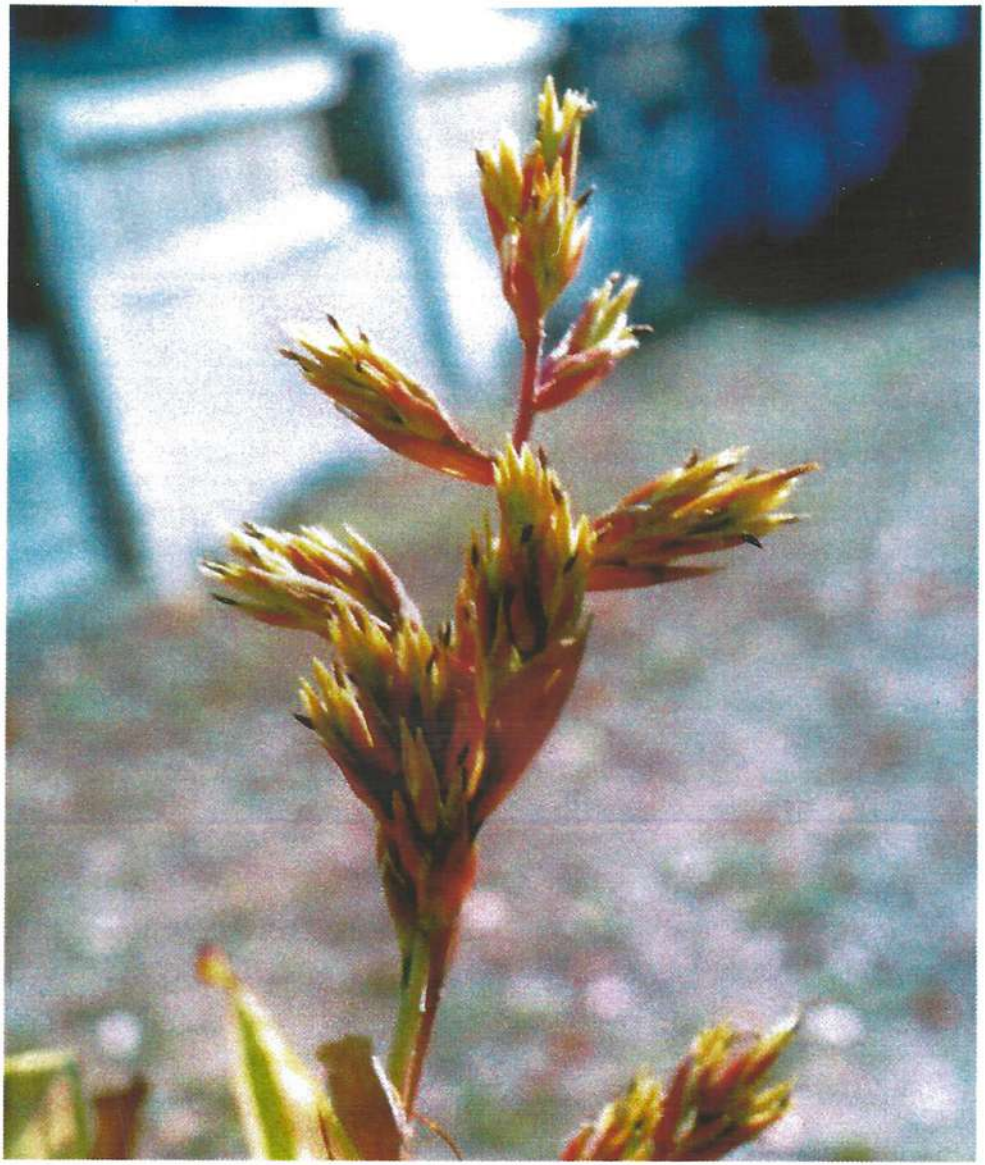
Brom Soc of Qld Inc. Lending

Bromeliaceae



VOLUME XXXVI - No. 1 - MAY / JUNE 2002

Bromeliaceae MAY / JUNE 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

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VICE PRESIDENT	Mr. Peter Paroz	Phone 07 3265 1547
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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 10, 2002 **July / August.....June 10, 2002**

Please forward all copy to

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

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

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

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

Phone 07 3378 3511

Cover Photographs

Front Cover

Ae. 'Peaches n' Cream' (grown in full sun)

Rear Cover Upper

Left	spike of *Ae. blanchetiana*
Right	spike of *Ae.* 'Forest Fire' *x ?* Green form.
Others	spike of *Ae.* 'Forest Fire' *x* self Red and Yellow forms.

Second from left Plant to be named as *Ae.* 'Golden Candelabra'

Grower & Photographer *Rob Smythe* M Sc.

Article *Ae. blanchetiana* 'Rubra' x self Pages 9 – 13

Rear Cover Lower

Navia igneosicola ?

Grower & Photographer *Cheryl Basic* Cultural Information Page 25

Society Diary

NEWS REPORTS EVENTS

Program

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

Field Days -2002

Saturday 29th June 9.00 am - 2.00 pm Bus Trip
Home of Linda & Graham Percival
1 Purcell Road, Bells Bridge via Gympie
Phone 07 5483 1634
Plant sales, morning tea. Bring your own lunch
BSQ Bus Pickup:- 52 Merthyr Rd. New Farm 6.30 am
Cnr. Gympie Rd & Webster Rd 7.00 am
Return approx 5.30 pm
Bus Reservations Ph 07 3271 1326

****

Saturday 7th September 9.00 am - 2.00 pm Bus Trip
Home of Cheryl Basic
130 Valdora Road, Valdora.
Phone 07
Plant sales, morning tea, BBQ lunch
After 2.00 pm, on to a Palm Nursery

****

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.

****

Monthly Meeting Lectures

May

Alcantareas Slide Show & Lecture **Arno King**

June

Early Days of the Society **Doug Upton**
Peter Paroz

Personalities & Slides from the 60's & 70's

Competition Results

March Meeting

Novice

First	*Neo.* 'Debbie' Dark Form	L. Gerchow & Y. Daniels
Second	*Neo.* 'Fools Gold'	J. Green

Intermediate

First	*Ae. nervata* * = *Ae. vanhoutteana*	D. Cutcliffe

Advanced

First	*T. mooreana*	B. Genn
Second	*Neo. johannis* 'De Rolf '	M. Symmons

April Mini Show

Novice

Class 3	First	Dyckia (Unnamed)	K. Dawson
Class 4	First	*Neo.* (*olens* x vulcan)	J. Green

Intermediate

Class 1	First	*Nid. rutilans* variegata	D. & C. Cutcliffe
	Second	*Nid.* 'Blue'	D. & C. Cutcliffe
Class 4	First	*Till. punctulata*	I. Hole

Advanced

Class 1	First	*Nid. altimontanum*	D. & J. Upton
Class 2	First	*Guz. sanguinea*	M. Symons
	Second	*Guz. lingulata cardinalis*	M. Symons
Class 3	First	*D. fosteriana*	D. & J. Upton
	Second	*D.* 'Dark chocolate'	B. & M. Paulsen
Class 4	First	*Vr. hitchcockiana*	M. Symons
	Second	*Bill.* ?	B. & M. Paulsen

Competition Program

May

Plant of the Month *Hohenbergia, Lindmania, Navia, Neoregelia* (species)

June

Plant of the Month *Neoregelia* (hybrid), *Nidularium, Ochagavia*

July Mini Show

Class 1 Billbergia Species & Hybrids
Class 2 Vriesea Species & Hybrids
Class 3 Pitcairnioideae Species & Hybrids
Class 4 Any other genus Species & Hybrids

The Editors Desk

Wanted A copy of a paper on Water Quality and Bromeliad Culture presented by McWilliams to the 1982 World Bromeliad Conference in Corpus Christi. *Ed*

While trolling through old issues of *Bromeliaceae* cataloguing cultural articles, I came across some comments which made me think about plant recognition as opposed to plant identification. I have been a bystander on many occasions when the topic was the identity of a particular plant; and I was amazed and often bemused at the fervour of the defence of a particular name, often citing features that are not relevant to the identification of botanical specimens. I can't speak for other growers, but even for species that I grow, I have only had opportunity at most to observe six to eight clones; double that for plants I have seen in other collections. Not a large population on which to assess species variation.

I note the increasing references to plant/bract/petal colour* as a distinguishing feature in separating like plants. I hope that readers are fully aware of the colour variations that might occur in the photos in *Bromeliaceae* as a result of the many processes involved. The final colour you see depends on the original film, lighting and exposure, the vagaries of my scanner and that of the colour printer!! Similarly colours from the internet. (Colour monitors ??) Illustrative **yes**: definitive **never** !!

*Rob Smythe had some pertinent comments on colour development in plants in *Bromeliaceae* Vol XXXII No.3 p 7. Very different from mixing pigments on a palette.

I note also that in some articles – not plant identification-, it is not clear what comments are based on observed information or validated data, and what is speculation. Speculation and opinion are useful tools for identifying alternatives or possible explanations, but the author should make it clear to the reader whether the information is based on observation, an alternate explanation of existing data, or speculation. *Ed*

Position Vacant

Assistant Editor

Qualifications :- Enthusiasm essential: Computer and Internet connection almost essential. S E Qld residence highly desirable. The editor can teach the required computer skills. Great opportunity for a new computer convert !!! Contact The Editor

Articles for *Bromeliaceae*

Photos

Previously, I have requested photos in portrait format –100 x 150 mm-- as these can be used for the front and rear pages with minimum cropping and resizing. An option is for a photo in landscape format which can be cropped to a half page ie 125 x 80 mm without loss of detail of the subject. These would need to be in pairs and would be used only on the back page; the portrait 100 x 150 size would continue to be used for the cover.

Articles

There is a constant need for new copy on all aspects of bromeliad culture; all sizes from notes to feature articles. New authors welcomed. Copy can be in any format on any media including hand written, but the preferred format is for electronic copy :- MS Word 7.0 or earlier, Times New Roman, font size 11 pt, page width 11.5 cm. With Justify, this format gives 39 lines per page. *Ed*

White Oil

Since I have been growing bromeliads, I have seen a few bromeliad 'truisms' challenged and consigned to the horticultural myth heap.

Bromeliads must be grown root bound in small pots

Bromeliads do not need to be fertilised.

Don't use white oil on bromeliads ??

I had long wondered about the origin of the 'ban' on using white oil on bromeliads but had always passed on this recommendation to other growers. Some time ago, I found some pin spot scale on a *Tillandsia tenuifolia*, and gave it a spray of white oil on a 'kill or cure' basis while I was spraying other plants in the garden. No adverse affects; and the scale eventually fell off.

After reading Rob Smythe's article on Scale Control, I decided that further experimentation was in order. (Rob's recipe for a home made white oil is worth repeating:- 750 ml canola oil, 3 tablespoons (approx 50 ml) of Sil detergent, water to 2000 ml. To use, add 300 ml of the concentrate, 300 ml of vinegar* or ammonia* and dilute to 4 litres giving an oil concentration of 28 ml/litre. *Rob's choice of a weak acid ***or*** alkali is curious !!).

My recent experiments involved a commercial white oil preparation based on hydrocarbon oils and used at a rate to give 11 ml/litre active. The plants were treated by total immersion for 40-50 seconds followed by draining - no washing - and shaded from direct sun for several days.

My choice of test plants reflected plants I had available and which were expendable. Also influencing the choice, was a thought that the original contra indication of white oil may have been related to expected fatal damage to trichome functions ??

The test plants were :- *T. albertiana, T. baileyii. T stricta*(3), *T. pruinosa, T. usneoides*(2), *T.* 'Greypower', *T. palacea, T. funckiana*(3), *T. sheideana*(5), *T. heteromorpha*, and an unnamed neoregelia hybrid which was infested with pin spot scale.

After 18 days, there have been no casualties and the scale on the neoregelia is getting easy to remove. Its premature to reverse the 'ban' on white oil, but further cautious experimentation is indicated.

Years ago, I came across a comment from an eminent food scientist "There is no such thing as a safe food additive, there are only safe ways of using them." In our context,***" There is no such thing as a safe agricultural chemical; but there are safe ways of using them."*** *Peter Paroz*

Ae. blanchetiana 'Rubra' x self

Please, anyone who has picked up a seedling marked *Ae. blanchetiana 'Rubra'* x self from me when passing through Townsville read on: and make the suggested change to the name. Let us try to nip one future piece of confusion in the bud.. I have already published an article[1] on this topic stating the various forms appearing from this seed imported from the USA. Unfortunately, now they are flowering, I have found that the parent was a hybrid. Fortunately, I have taken the advice of Derek, who found the seed for me, which was to keep the seedlings with brom growers. Fortunately again, I knocked back various offers from commercial nurseries wanting all these magnificent landscaping plants.

I would suggest you rename your plant *Ae.*'Forest Fire' x self for the Red and Yellow forms; and *Ae.*'Forest Fire' x ? for the green form for the time being.

Ae.'Forest Fire' has never reached our shores as far as I am aware but seems to have been spawned in the garden of the late Wally Berg in Florida where he blamed humming birds with one parent definitely *Ae. blanchetiana* and the other guessed to be *Ae. eurycorymbus* (yet another confused species in this complex!!). It was registered as such (comments below). I have also heard from the person supplying my seed that the second parent was believed to be *Ae.*'Peaches 'n Cream'. She has *Ae. blanchetiana, Ae.*'Peaches 'n Cream' and *Ae.*'Forest Fire' all flowering together and she sees *Ae.*'Forest Fire' as intermediate between the other two.

I have to digress with comments on the registration of *Ae.*'Forest Fire'. The second parent was definitely not *Ae. eurycorymbus* as the selfing of that cross with *Ae. blanchetiana* would not have given fasciculate (conjested) spikes but extremely lax (open) spikes. That is not all. It is widely believed that *Ae. eurycorymbus is* generally wrongly named and is really *Ae. callichroma.* The registrant may have been calling *Ae. Calichroma, Ae. eurycorymbus.* I have discussed this former species as a possible parent below, and can't rule it out completely. Why do I suggest he would make this mistake? I have never seen an *Ae. eurycorymbus* correctly named in old collections.They are all actually *Ae. callichroma* or possibly its hybrid; and to add further confusion for us in Australia, it is common knowledge that most plants in Australia labeled *Portea leptantha* are actually *Ae. eurycorymbus..*

Back to the story. If you intend registering any of these *Ae.*'Forest Fire' x ?, plants, I would like to vet the photo to be sure we are not doubling up.

I kept 50 plants and about 6 flowered this year. They are all different. Some key out as *Ae.blanchetiana* others as *Ae. rubens* but none fit the description of either parent. From my study of all the flowers, I am sure of the *Ae. blanchetiana* and confident another ancestor is *Ae. mulfordii* or a hybrid of the same. I don't want to get too technical but the fasciculate nature of spikes on some clones seems to be give away for *Ae. mulfordii* being in the breeding, but none show the long flower bracts of *Ae. mulfordii* - **which is curious-.**

Many features and the history, confirm *Ae. blanchetiana* as a parent. So you say, what about the *Ae. rubens* as per the botanical key? Some of the plants look shorter when fairly mature but I have not flowered these yet. I am not suspecting *Ae. rubens* in the genealogy but have to reserve my opinion on this. Though this smaller size along with the key might suggest *Ae. rubens* as a part parent it is not conclusive as some hybrids of *Ae. blanchetiana* and *Ae. mulfordii* would also be expected to key out as *Ae. rubens.* I'm getting too deep, but I can produce reasons for and against either of these in the parentage but I am sure of *Ae. blanchetiana.* I would have to know the dominant/recessive characteristics of bract lengths etc. to be more definite.

So what do we know about this parent plant *Ae.*'Forest Fire' alias *Ae. blanchetiana* 'Rubra'?

1) It is at least an F1 cross selfing: spawning a range of different plants.

2) It should never have been called *Ae.blanchetiana* but *Ae. blanchetiana* x *?* Unfortunately the 'x' is easily lost.

3) It has definite *Ae. blanchetiana* parentage; seeded on this plant.

4) From what the owner of the plant supplying by seed has told me, it is

almost definitely an *Ae. blanchetiana* x *Ae.*'Peaches 'n Cream'. Both possible parents in flower at the same time and her plant is intermediate between these two parents.

5) The parent *Ae. blanchetiana* was the bronze leafed form and not the green form available in USA or the red leafed form more recently discovered in Brazil.

6) *Ae. eurycorymbus* was not in the parentage.

7) What a tangled web we weave! That is the most indisputable fact.

8) It is not absolute fact but I am very confident that *Ae. blanchetiana* is in the second parent as well. How else can all selfings look so *Ae. blanchetiana* like? Dominance you say! Who knows?

9) The person that supplied the seed does have a red leaf form of *Ae. blanchetiana* but it has never flowered so there is no confusion there with the 'Rubra' bit.The red form was not a parent.

In summary to this point, I think we can say with some confidence that the plant known to us as *Ae. blanchetiana* 'Rubra' is now called *Ae.*'Forest Fire'; and is now most likely a cross between *Ae. blanchetiana* and *Ae.* 'Peaches 'n Cream'. When I see a flower of the actual *Ae.*'Forest Fire' and if it is like the offspring, the registration needs rethinking. If it is not extremely lax then it is wrong.

Ae.'Peaches 'n Cream'

Here lies another problem. I have closely studied my plants of *Ae.* 'Peaches 'n Cream' this year. I have not followed the literature on this but came to the conclusion that it had parentage from *Ae. blanchetiana* (plant shape, floral bract colourations) and *Ae. mulfordii* (fasciculation of spikes) at the very least. It had been suggested to me that *Ae.callichroma* was a possible parent but I do think the width and length of leaves, nature of bracts and size/shape of spikes are too much weight against this but again genetic dominance is an unknown with these bromeliads. Removing the flower spikes and looking at them alone, except for the more fascicular nature and rigid bracts unlike *Ae.callichroma,*they look very much alike.

With my *Ae.*'Peaches 'n Cream' plants, though obviously all the same clone, they can vary a lot in flowering characteristics.The smaller full sun grown plants suggest *Ae. rubens* (size, colour?) and *Ae. mulfordii* (fasciculated spike) as being in the breeding. So this is a difficult one and someone will have to study selfing of *Ae.*.'Peaches 'n Cream' to see if it is a new species or a hybrid for a starter.The fact that this variegated cultivar has been recorded variously in the USA as a form of *Ae. mulfordii* and then *Ae . rubens* suggests its identity is in doubt. It is also alleged to have been

found in the wild in Brazil with no locality advised. It has been suggested to me that it could have originated in the nursery of Seidel.

Something about my *Ae.*.'Forest Fire' x ?,self plants.

Another item of interest is that I have plants of my Forest Fire x ?,self and reverted 'Peaches 'n Cream' growing side by side in the sun and I need labels to tell them apart. Different though when in flower.

As I have reported in a previous article[1] this grex seems to break up into three groups.

The Red Form (green without sun usually red but can go quite yellow in lots of sun)

The Yellow Form (green without sun, yellow in sun)

The Green Form (green sun or shade)

They are all wide leafed *Ae.blanchetiana* like plants with the greens just noticeably narrower.The only thing I believe that allows me to distinguish the plant out of flower from *Ae.blanchetiana,* is the amount of red at the base of the leaves.The greens generally don't have this but their colour or lack of it in the sun is a give away. The flowers are the real give away. Some are very close to *Ae.blanchetiana* as expected, while others much closer to other parents but never botanically correct for other species.The red leafed forms are sort of rose/brown more than red and have less sheen than the golden form of *Ae. blanchetiana.* In the sun, I find them more compact but in the shade they are tall and very like *Ae.blanchetiana*. One clone has a purely stunning inflorescence with a myriad of yellow and red bracts lasting for months. I am thinking of calling it *Ae.* 'Golden Candelabra' if that name has not been used. The yellow forms are only

interesting in lots of sun though one clone has developed very wide leaves and is one of the most appealing aechmea plants that I have seen. The green forms are boring and are usually the thinner leafed forms and go into the trash heap. Commercial cut flower trade would be their only use for greens in my opinion.

What else can we do?

Very little I expect, other than rewrite the tags as suggested. If someone living in Brisbane or south could self *Ae.*'Peaches 'n Cream', I would be interested in growing up seed for study purposes. Fortunately or unfortunately (bromwise) we have the only Australian relative of the humming bird -*Nectarinia jugularis*- living in North Qld. Yes, my plants have seed and I have not touched them. These birds nest in my yard and do the plants over daily hence the need for someone living outside of their range to do the cross. Very cute to watch their hovering action but not good for controlled breeding experimentation.

For future reference, if I am silly enough to grow my own bird pollinated seed I have *Ae.blanchetiana, Ae.* 'Forest Fire' x self,? (six forms), *Ae.callichroma* (two colour variants), *Hohenbergia leopoldo-horstii* and *Ae.*'Peaches 'n Cream' all in flower together and all being intimate with my little birds.

WARNING: I believe *Ae.blanchetiana* 'Rubra' has been on sale from a commercial nursery in Australia. I cannot comment on this plant as I have not seen it as it is not connected with me.All I can say is my seedlings usually carry the label *Ae.blanchetiana* 'Rubra' x self. If the picture is published with this article you can see how distinctly separate the true *Ae. blanchetiana* flowers are. The only plant that I have seen labeled *Ae. blanchetiana* 'Rubra' was in far North Queensland and we have several importers up here from years past so the 'Rubra' in Australia might be from here but it is a name used in the USA, though to my knowledge, never recognized botanically. I must admit it was a stunning red plant but at that time my botanical knowledge was too low to know if it was a true *Ae. blanchetiana.* This plant started my chase for seed of the red form.

At the end of the day with such inexact science as bird pollinated hybrids it is my considered opinion at this stage (not having yet seen the flower on *Ae.*'Forest Fire') that the red and yellow forms of the hybrid are *Ae.*'Forest Fire' x self as there is a steady gradation in flower morphology whereas the green form may yet be a separate outcross done by the birds (spikes much shorter and compressed) which I would label *Ae.*'Forest Fire' x ? or dump it.

Rob Smythe MSc

1. ' Do You Have a Spare' Bromletter March/April 2001 pp 12-14

The Fire Ant Movement Regulations

RIFA -the acronym for the Red Imported Fire Ants- are a serous exotic pest, very easily spread in a wide range of materials such as potting mixtures, soil, and mulch.

At the March general meeting, Shari MacDonald from the DPI gave a comprehensive lecture on the Fire Ants; and the implications of the 'Fire Ant Movement Legislation'. **This regulation applies to all plants and other materials moved from designated fire ant areas.**

On the 18th of March, the 'Fire Ant Movement Regulations' came into force with very substantial penalties for non compliance. For bromeliad growers, these regulations are in two categories:- **Movement Controls for Commercial Activities** and **Movement Controls for Non-Commercial and Residential Activities,** and apply to all relevant activities in designated RIFA areas.

In view of the importance of 'clean' plant sales at the upcoming Combined Show, all members are urged to familiarise themselves with their obligations under these regulations.

Members are reminded that some of the bigger bromeliads, in particular the large pseudobulbous tillandsias - such as *T. streptophylla* - attract ant colonies to the inflated leaf bases. To date there have been no reports of fire ant infestations in bromeliads; but any ant infestation in a bromeliad is likely to cause great concern in the general public.

Essential Information

- It is an offence under the 'Queensland Plant Protection Act 1989' to spread Fire Ants

- Fire-ants are spread if the queen and winged workers fly to a new site, or by moving the queen
- When fire ants are spread mechanically, it is usually in soil or pot plants.
- Members should be aware of the risk and screen all incoming items
- Do not buy plants / materials from a Restricted Area unless you are sure it is fire-ant free
- The high risk items are:- Pot plants, soil, turf, mulch, potting mix, baled hay or straw, landscaping / construction materials, machinery / equipment, and any material that has come in contact with fire-ant infested ground.
- **All persons moving any of the above materials from a designated Fire Ant Area must have a DPI approved Risk Management Plan.**

The Restricted Areas for Fire Ants as of 20th March,, 2002 are :- **Suburbs completely inside a Restricted Area** :- Algester, Bellbird Park, Bellbowrie, Carina, Carole Park, Darra, Doolandella, Durack, Ellen Grove, Forest Lake, Gailes, Goodna, Inala, Jamboree Heights, Lytton, Moggill, Middle Park, Mt. Ommaney, Nudgee,Pallara, Redbank, Richlands, Riverhills, Seventeen Mile Rocks, Sinnamon Park, Springfield Lakes, Sumner, Wacol, Westlake and Willawong.

Suburbs partially inside a restricted area:- Acacia Ridge -Majority-, Alexandra Hills – NE Cnr., Anstead –Se sectors-, Archerfield -SW half-, Banyo -Majority-, Barellan Point -Majority-; Boondall -S half-, Brookfield -Central-, Browns Plains -NW- Cnr., Calamvale -Majority-, Collingwood Park -Majority-, Corinda -SW tip-.

Maps showing the boundaries of these Restricted Areas can be inspected at:- the DPI WebSite; Local, State and Federal government electorate offices in Brisbane, Ipswich, Logan, Maroochy and Redlands; and Libraries in Brisbane, Ipswich, Logan, Maroochy and Redlands.

If you ever suspect Fire Ants, **Do Not Touch**, Immediately contact the DPI Call Centre.

For additional details, contact the Call Centre **13 25 23**, the DPI web site :-**www.dpi.qld.gov.au/fireants** , or the nearest Queensland DPI office.

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As a general rule, grow green leafed *Tillandsias* as you would *Vrieseas*, and treat grey leafed *Vrieseas* as if they were grey leafed *Tillandsias*. The main botanical distinction between *Tillandsias* and *Vrieseas* relates to a relatively obscure (for most of us) difference in the way in which their floral parts are arranged. The difference has no practical significance in terms of how the plants should be grown.

THE DRAINPIPE TILLANDSIA

Tillandsia somnians looks like a small Neoreglia when it isn't in flower. It has 10 to 20 leaves about 30cm long forming an open rosette around 30 cm in diameter. The leaves are reddish when grown in strong light – but not full sun.

The floral bracts are relatively inconspicuous, and occur at the end of a one metre (or longer) "stalk" (floral scape). Offsets form freely along the floral scape.

Because of the plant's flowering/growth habit, it can be trained (over several generations) to grow up tall vertical surfaces, such as, the drainpipes for a house. I have mine growing up an old tree fern trunk.

There are several photographs of *T.somnians* in the *New Tillandsia Handbook* by Hideo Shimizu and Hirouli Takizawa (see pages 18, 86). Plants of this species are not common, but if you ask around, you should be able to obtain one. It appreciates regularly receiving a liquid fertiliser such as Phostrogen. *Bob Reilly*

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Try to avoid removing offsets until winter is definitely over. In southern coastal Queensland, this means taking offsets off during the period from mid September to late April. Offsets taken off during this period will usually develop roots and commence active growth more quickly, than ones removed during winter. Losses due to rot and other problems are also likely to be less.

The President's Notes

It is now three months since the AGM and the election of our new committee. The Society owes a debt of gratitude to the retiring President, Committee Members and Stewards who served so well last year. As well as continuing on with the routine business of the Society, our new committee will be dealing with some additional issues this year. I would like to mention just some of these (old and new) for the information of our members.

Computerisation

The application for grant money to purchase computer equipment and software that was made last year was unsuccessful in the first round of grants. Our application is still in the running for rounds two and three and we are hopeful that a grant may still be awarded. Intended uses for this equipment include the production, publication and possible upgrade of our journal '*Bromeliaceae*'; digital recording and backup of our Society records; development and maintenance of a Society webpage; and backup for accounting the receipts of sales at our shows.

Australasian Bromeliad Conference 2005

Our Society will be conducting the next conference held in Australia. We now have slightly less than three years to this event.

Constitution and By-laws

These are being updated and will be issued when completed.

Society Procedures, Documentation , Guidelines

These items are under review.

Insurance Coverage

Possible increases are expected in our insurance premiums. Available options are being looked into to obtain the best value for our money. These issues will be part of a challenging and, I hope, rewarding year, not only for the management Committee but also for our membership generally. In order to achieve these objectives we will need the support of all members.

John Higgins

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Most bromeliads have the male (stamen) and female (stigma) reproductive elements in one flower. However, some plants have them in separate "flowers" on the one plant e.g. *Cryptanthus*, on most occasions. Others have them on separate plants. Examples include: *Hechtias* and *Aechmea marie-reginae*. The Latin term for this latter phenomenon is "dioecious", meaning "two houses".

BROMELIADS IN THE GARDEN

THE ALCANTAREAS

Part 2 of 3

Alcantaria extensa (?)

Alcantarea extensa is another of the larger species. This plant has been sold as *A. imperialis* and *A. edmundoi* (*A.edmundoi* has a distinctive open spike; quite unlike this species).

As a juvenile, it looks very similar to *A. imperialis*. It is distinguished by the colour of its leaves which are grey to with grey-green latitudinal stripes and a reddish flecking towards the tip of the leaf. The tip of the leaf is folded over sharply and this gives it a kind of squared off look. The leaves are slightly thinner and quite flat in cross section. The base of the leaves is black.

This plant is quite spectacular when in flower with a very large, branched inflorescence. The spike is more open than most other species and creamish rather than pinkish. The scape bracts get smaller as you go up the scape. They are rounded in outline. There are two forms of this plant being grown in S E Qld. One has black spots around the tip of the leaf and one doesn't.

This species is native to rocky slopes in Rio de Janeiro State. Elton Leme notes growth rates are low in the wild. I have also found this to be one of the slower growing species. (John Catlan sent samples of his plant for identification by Elton Leme. This appears to be the same plant which Peter Tristram sells as *A. extensa*. The plant he sells as *A. edmundoi* is very different to any other plant grown in Qld. The picture of *A. edmundoi* shown in the 1995 article, 'A synopsis of the genus Alcantarea', shows a

different plant The scape bracts are large and almost the same size up the spike. It also has many narrow leaves which narrow at the tips and do not fold under. This looks similar to Peter's plant???)

A. vinicolor

A. vinicolor is a spectacular large bromeliad, which is quite distinct in form and unlikely to be confused with other species in the genus. The leaves are broad and corrugated like *A. imperialis* but differ in that they taper to a point along half their length rather than being blunt tipped. The leaves also tend to be bright green when young, turning more purplish as they age. This gives the impression that the centres are bright green with outside leaves maroon.

The tall inflorescence has widely spreading branches. It is distinctive in its height (2-3 metres) and in that the scape bracts are held tightly against the scape giving it a very different character to other Alcantarea species. This plant readily sets seed in our climate and the offspring show some variability with individuals which are mostly green and others which are much darker.

Leme (1993) notes that this plant is native to the Pedro Azul region of Espiritu Santo State, growing in a nutritionally stressed environments. These plants have well developed tanks which store water and litter which provides nutrition for the plants. The plants are found growing on barren hillsides in full sun. It is from a warmer area than many other species in the genus, so I suspect it prefers the subtropics.

A. regina

Regina: latin for Queen , in honour of D. Maria I of Portugal (1734-1816) who ruled the Portuguese Empire including Brazil.

A. regina is one of my favourites, however It has taken me almost 14 years to finally track one down (thanks John). Plants labelled as *A. regina* are usually *A. geniculata* or *A. glaziouana* (the "White Reginae"). This is a large plant, which forms a handsome rosette about 1.2 metres across. The broad, medium green leaves taper slightly at the tip. The plant is popular overseas and is grown in New Zealand and Hawaii as well as its native Brazil.

The inflorescence is very attractive, with shades of pink and blue. The scape is 800 mm in height and the inflorescence 450 mm in height. The petals of the flowers of *A. regina* are yellow and don't curl back (this is unusual for the Alcantareas we grow in S E Qld and sets it apart). The flowers are 84 mm long. The pollen is creamy. The pistil exceeds the length of the stamens. The floral bract is half the length of the bud.

In a letter to Bill Morris accompanying seed, dated July 1958, Adda

Abendroth wrote "Vrieseas regina is a showy giant. Its green leaves reach about a metre in length when adult. The branched red flower spike, bearing green bracts and large yellow flowers, towers above a person's head, at least in well developed specimens in the wilds. But, people say it takes 15 years to produce a flower" (Butcher 1995). Obviously our cultural practices can speed up this process.

This plant left a lasting impression on me during a trip to Brazil. When I travelled around Rio, I remember seeing it growing in large numbers on the granite cliffs and boulders around the city. I was there in November and many of these plants were flowering at the time.

A geniculata

This plant is very common in South East Queensland. It is almost always labeled as *A. imperialis*, *A. regina* or *Vriesea blokii* (a synonym of *A. regina*) by the older growers in our society. It differs quite markedly even as a young plant, and there should be no reason to confuse this species.

The rosette of this plant is generally no more than 800 mm across. The small, shiny, papery, bright green (apple green?) upright leaves taper towards the tip and roll under slightly. The plant generally does not have many leaves, so has a sparser form, rather than forming a half sphere like some of the other species. The large bracts up the inflorescence are green at the base, with more and more red as you work up the inflorescence. The branches off the main inflorescence are closely packed and appear like paddles. These paddles are held slightly upwards

The pistils and stamens of this plant are almost the same size. The

pollen is white. The floral bract is the same length as the bud. The petals of the flowers curl back after opening quite tightly. The inflorescence is much more tightly spaced. I find this plant is particularly prone to rotting during the warmer, wetter months of the year. I always grow a few plants to allow for losses. There is an excellent picture of this species on page 47 of Elton Leme's Book, "Bromeliads in the Brazilian Wilderness" (1993).

Sourcing Alcantarias

Where can you get these plants? The larger specialist nurseries have many of these plants and have made a conscious attempt to sort through the confusion which surrounds their naming. If they are not sure of the identity they advise customers (and there are a lot of interesting enigmas out there!). Plants are also available from hobbyist growers or at society meetings, BUT they are almost always incorrectly labeled. You are likely to get a lucky dip probably *A. glaziouana* - but this is a great plant so my advice is to grab any large Alcantarea that you can. Plants are slow to flower and to propagate.

How about trying to clear up this mess? If you are uncertain or have been growing these plants for a number of years, you can assume that you are growing A. *geniculata* or *A. glaziouana*. The more well known *A. imperialis* or *A. regina* are much less common in cultivation in this country. Talk to some of the society members who grow these plants, or check some books at home or at the society library to be sure. These plants are distinctive. It would be great if we could clear up this mess after all these years.

Derek Butcher noted in an article in Bromletter (July/August 1996), that this confusion may be due to seeds sent by Adda Abendroth to Bill Morris in 1958, supposedly of *A. reginae, geniculata* and *imperialis*. The *A. imperialis* seed turned out to be *A. glaziouana* " the problems we are having currently... stem mainly from this source". Olwen Ferris also received seeds from the same source. *Arno King*

.....

Pepinia sanguinea

A report from The Cairns Bromeliad Discussion Group.

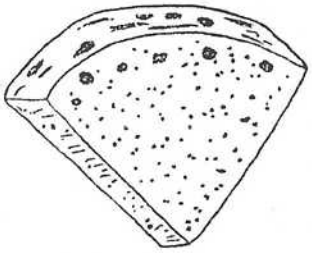
A member of our group got some of the seed that Harry Luther distributed. The seedlings grew very well in our tropical climate, and a few offsets have been shared around. Earlier this year, Don Duffield flowered one and got seed, that he passed on to me. It was a few months old by the time I had got it, and I was not confident that it would germinate. But after two months, I now can see lots of little green shoots. So it is not self sterile; maybe it needs very high humidity for pollenation and fertilisation.

Rapid Asexual Propagation of Bromeliads

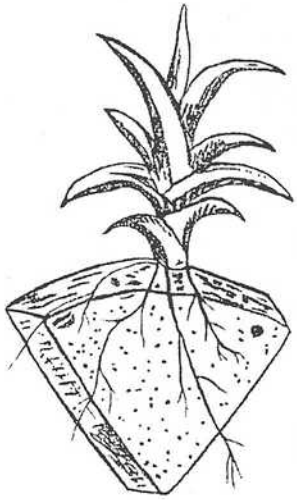
In the days before tissue culture, the pineapple industry developed the 'Stem Sectioning' procedure as a means of increasing plant numbers from selected clones; and the technique should be adaptable to other bromeliads which have large diameter stems.

The method was developed in Hawaii and is based on forcing into growth the dormant axilliary buds on the stem. When these buds are removed from the plant along with some adjacent stem tissue, and thus divorced from hormone action, most can be forced to develop into young plants. (Morrie Kellett estimates that the number of dormant buds is about 60 % of the number of leaves.)

The leaves and roots are removed and the mature stem cut longitudinally into several pieces depending on the stem diameter; to give sections 25-30 mm wide. The triangular sections are cut crosswise to give pieces about 25 mm long. (**Some** caulescent bromeliads - ie long slender stems – will respond if cut crosswise into 50-70 mm segments).



The sections have a high starch content and will quickly decay unless given a surface sterilisation before planting. Use what ever fungicide is available and treat by total immersion for 50-60 seconds, (the original procedure used a wettable powder with ethyl mercuric phosphate as the active ingredient).



After draining off surplus fungicide, the sections can be planted into a lightly moistened open seed raising mixture. The pieces are planted in rows point down about 50 mm apart and covered with 20-25 mm of potting mixture. Watering should be done sparingly for the first 10 - 14 days until the cut surfaces have dried. Covering the trays will prevent rapid moisture loss during this period.

The dormant buds should show some movement in a few weeks. When some roots are apparent, the plantlets can be carefully removed and treated as for seedlings.

Peter Paroz.

Study Group Report

When asked to submit a report on the activities of the Bromeliad Study Group for the year 2001, I hesitated momentarily, wondering what more could be said (written) of this enthusiastic group; this popular adjunct of the Bromeliad Society of Queensland Inc.

To best explain the Group: It is not an association outside the normal function of the Bromeliad Society. It is but an extension, fundamentally, an assemblage of Society members endeavouring to increase their knowledge of the Bromeliaceae, through further instruction, study and experience.

Looking back over past editions of our Journal, one finds the Society's roving reporter Mr. Bob Reilly and others have frequently addressed the Group's productive activities. Their published insights are gratefully acknowledged, having made mention of hybridising as a major focus, growing bromeliads from seed with talks and discussions by individual members.

Members recognise hybridising and seed raising as long term happenings, a progression of events. These projects have established a bond between members that has engendered friendly criticism, advice and encouragement in just in the right proportions, over many many months of anticipation.

Regarding the Group's activities, there is certainly a regular order, or mode of proceedings. To begin, members set aside one morning each month to meet at the home of Len and Olive Trevor. Usually the day's programme has been prearranged, however, each member must now resolve the day's first activity - how much should one consume from a well appointed breakfast table.

After breakfast, a showing of selected plants, some rare and difficult to cultivate, others quite beautiful and very well grown. Members can talk of their success, or perhaps the unfortunate loss of a treasured bromeliad. Plants are always displayed, thereafter, recognition and admiration for the well grown, commiserations to the unfortunate, but conferring always with helpful discussions to trace the cause of any problem.

Next it's hands on, a type of workshop in the shade house areas inspecting previously pollinated plants for those all important swollen seed capsules, with numbered tags, (tags are used to identify each parent plant). Some Group members prefer to leave seed capsules mature on the plant, but hasten to add, care must be taken to ensure seed is not lost to any sudden abrupt opening of the capsule. Bromeliad seed germinate in bright light, and should be placed upon the growing medium.

Members have produced several exciting hybrids that have proved **stable** above and beyond expectations. These hybrids will be registered.

On occasions the Group is fortunate to have quest speakers presenting differing aspects of bromeliad history and nomenclature. Their subject matter is often varied but always interesting. For example, an Adelaide visitor spoke of his collecting trip in Bolivia, a New South Wales member spoke of his 'Aussie Dream', a member from Townsville spoke of variegation in bromeliads, a mitochondrial inheritance factor. Talks on landscaping with bromeliads have revealed many species amenable for growing under a minimum of shelter; trees, shrubs and palms offering protection from the hot summer sun. Landscaping, growing outdoors; many bromeliads seemingly do better if left undisturbed to form large clumps.

Another talk that readily comes to mind, the pineapple plant (its fruit often served on the Group's breakfast table). Pineapple suckers (pups and slips) grow from the leaf axil of the parent plant. Once established the sucker will form a rosette of stiff upright leaves. A central stem will bear a cluster of flowers topped by a group of small stiff leaves. The flowers will ripen and ultimately form a fruit composed of individual fruitlets compounded together into a bulk of mouth watering enticement.

An average pineapple fruit consists of more than 150 fruitlets, each of which is formed from a single blue/violet flower. The mature plant will eventually sprout additional suckers and produce another crop of fruit. This yield is referred to as a ratoon crop and can usually be harvested some 18 months later. It should come as no surprise, pineapple plants, *Ananas comosus* (L) Meer., also have air roots (inter foliar) that absorb moisture and nutrients. These fibrous roots are found close to the central stem among some of the lower leaves.

There you have it; breakfast, plant showings, discussions, pollinating, seed raising, a hands on workshop and quest speakers, a morning well spent among congenial members and friends.

All that is necessary to grow bromeliads is a basic knowledge of their requirements. However, learning of their natural growing conditions e.g., habitat locations and their various means to regulate moisture intake will greatly assist the enthusiast. Once aware of their preferences, rewards are often remarkable. Healthy plants exhibit brilliant colouration, good symmetrical leaf structure and vigorous inflorescences.

Much knowledge can be found in the many wonderful bromeliad books; and when combined with informative Society General Meetings and Study Group practical workshop activities, Group members consider they have the best of all worlds.

Doug Upton

Navia igneosicola ?

Navia, a genus of bromeliad not often seen in cultivation. Navia's grow in the northern parts of South America. A few species have been found in Amazonian Columbia, Brazil, Guyana, and Suriname, but most of the species occur in the "lost world" of Venezuela, where they grow in the sandstone mountains, on ledges and boulders, in crevices and along the banks of streams. Most of the species form small rosettes of spreading leaves. The central leaves surrounding the flowers often turn orange, red, or white at the base when flowering, the flowers can be red, orange, or white.

The species that I have grown from seed, is *Navia igneosicola*: acquired from a friend in the U.S. As seen in the photo, the leaves at the base are yellow and red and the flowers are red. The under side of the leaves is covered with white scales or hair. The plant was approximately 300 mm across when it flowered. There is a photo in Bromeliaceae of Venezuela which does not show the beautiful colour that occurs in my flowering plants. To date I have had five mature plants flower and all exhibit the same colours as shown in the photo.

The seed was quite difficult to grow; the plants being very cold tender during the first few winters. I was living in Brisbane at that time, but since I have moved to the Sunshine Coast where the weather seems to be warmer, and also the plants have matured slightly; there have been fewer problems. The mature plants seem to go through winter without any sign of damage.

The genus Navia was new to me and I was unaware of the process the plant went through to regenerate. Whether it was seed alone or from offsets. Reading through the literature did not help; this information was not available. From first hand knowledge, I can now say that the plants have flowered and produced seed as well as offsets that formed along the stem. The mother plant has subsequently died.

The offsets do not seem to make any roots, and as hard as I have tried, I have not been able to strike any. I did give an offset to another bromeliad grower to try; I am uncertain of the results.

The seed has been planted, but so far none have germinated, there is still more seed and I will try again, and again. The original seed was not difficult to germinate. BUT, I do still have plants that have not flowered and so the species remains in my collection.

I hope that by the time the next one flowers, I will have more ideas how to handle the offsets. If any one has had experience with this genus and can enlighten me, I would be glad to hear from them. *Cheryl. Basic*

"Building a New Shadehouse" PostScript

BECAUSE of my on-going battle with my computer (which usually wins), I sent an incomplete article to Editor Peter — I left out some important paragraphs in my article *Building a New Shadehouse* which appeared in the January-February 2002, edition of *Bromeliaceae*.

The sandstone-coloured shadecloth I used was 75%, the same percentage most growers use but in the green colour. As I said in my previous article, the sandstone colour allows much more light through because it "generates" considerable reflected light which green does not. This is fine in winter months, but as last summer approached, I found there was too much light in the shadehouse as many of my bromeliads were turning a khaki colour instead of green.

To overcome this, I added four-foot wide strips of 75% sandstone at four-foot intervals over the entire roof. These additional strips run north-south because of the angle of the sun's passage during the course of the day. This helped a lot until those real hot mid-summer days with more intense light when my plants again turned into the khaki colour. The remaining single 75% will now have to be covered with another layer to further reduce the light.

No-one could tell me, with any degree of certainty, what two layers of 75% equates to; but if I were to build another shadehouse using the sandstone colour cloth, I am convinced 90% will be ideal. Even though two layers of 75%, or one layer of 90%, may seem to be too much, the **quality** of light, according to the growth of my bromeliads, is still a lot brighter and better than the 75% green cloth with its dullish light. I base this on looking at the shade cast by the varying thicknesses and combinations of shadecloth.

I previously said I covered the ground with six sheets of newspaper and then a sheet of weed-control cloth. Because Brisbane is a notorious termite area, the whole area is also covered with one-inch cypress pine wood chips. I stress the use of **cypress pine** and not pine bark because cypress is a well-known deterrent to white ants while pine bark attracts them. The extra benefit of this allows the soaking-up of more surplus water (rather than letting it go to waste in the ground) and therefore increasing much-desired humidity.

While I have erected some shelves in my bromhouse, I favour cementing into the ground 7 foot lengths of water pipe on which I attach brackets into which fit the pots. There are several advantages in this over shelves:

Firstly, up to 25 plants can fit on one post which occupies the same area as one plant on a shelf, thereby dramatically increasing the number of plants in any given area; and secondly, several microclimates are created which means there are many areas available to plants which require different conditions; more than can be achieved on shelves. *Ray (Nicko) Nicholson*

BOOK REVIEW

The Biology of the Bromeliads by David H. Benzing

This book was first published in 1980 by Mad River Press in the United States of America. It has recently been reprinted in Australia, and a copy is held in the Bromeliad Society of Queensland's library.

The book is several hundred pages long. It has over 20 colour plates, as well as many more black and white photographs, line drawings, and graphs. Dr. Benzing wrote this book to fill a gap between presentations in the scientific literature on a range of topics related to bromeliad growth, for example, water requirements, nutrition, photosynthetic and reproductive strategies; and the 'how to grow them' – type manuals and articles which approach these topics from the perspective of most amateur growers.

The great strength of this book is the presentation of an range of material related to the growth habits and requirements of bromeliads in a manner which enables the reader to draw practical conclusions on ways to improve their cultural practices. While Dr. Benzing devotes an entire chapter to this topic, "insights" emerge throughout the book.

Parts of the book are somewhat "dated" with the passage of time. For example, quite a few of the species' names have changed. A more significant issue is that a reader without a high school level knowledge of biology will find the book "heavy going". For such a person, some parts of the book may need to be re-read several times before one fully appreciates the implications of the text for day-to-day bromeliad growing.

However, in my view, this effort will be amply rewarded with the knowledge you gain.

The Biology of the Bromeliads can be obtained for $70 (including postage) from Maurice Kellett c/- Raemur Plant Farm PO Box 612 Hurtsbridge Vic 3099

Telephone 03 9718 2760, Fax 03 9718 2760

Email: mossy@melbpc.org.au

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, Sl seedling, Date when plants or seed are available.

Member	Wanted		Phone
Michael Pascall	*Aechmea gigantea*	P S	07 4098 8253
Michael Pascall	*Aechmea entringeri*	P S	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	*Tillandsia dodsoni*	P	07 3870 8029
Bob Reilly	*Tillandsia mooreana*		07 3870 8029
Keith Dawson	*Vriesea zamorensis*	P O	07 3285 6710
Keith Dawson	*Ae. tillandsioides kienastii variegata*	P O	07 3285 6710
Peter Paroz	*Tillandsia linearis*	P	07 3265 1547
	Available		
David Brown	*Bromelia balansae*	O	07 3818 3133
Peter Paroz	*'Grande' (4)*	M	07 3265 1547
Peter Paroz	*Vriesea malzenii* Mar/Apr	S	07 3265 1547
Keith Dawson	*Ursulaea macvaughii*	Sl	07 3285 6710

The first attempts to induce flowering in commercial pineapple plantations used smoky grass fires to windward. Smoky fires generate small concentrations of ethylene which are sufficient to induce flower initiation under favourable conditions.

The composite fruit of the pineapple –**at maturity**– is a distinguishing feature separating *Ananas* and *Pseudananas* from other Bromeliadeae. The presence of the prominent coma -crown of leaves- on the fruit, separates *Ananas* from *Pseudananas* which has only an inconspicuous coma.

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