ILLAWARRA BROMELIAD SOCIETY INCORPORATED

NEWSLINK

April 2018

Bromelia serra

Ananas 'Variegatus'

Pitcairnia oliva-estevae

See article "*Tropiflora's Terrestrial Bromeliad Care*" pp. 8-11

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- The Society is, by the holding of meetings, displays and competitions, to provide a forum for the people of the Illawarra region who are interested in the culture and collection of bromeliads.
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MEETINGS - The Society meets at 12.00 noon on the first Saturday of each month (except January and December) in the Laurel Room* at the Ribbonwood Centre, DAPTO. *Scribbly Gum room for November meetings only.
MEMBERSHIP SUBSCRIPTIONS - Due 30th June each year: $15 single/$25 family.
NEWSLINK ISSUED QUARTERLY - January, April, July, and October and at http://www.bromeliad.org.au

VISITORS ARE ALWAYS WELCOME!

NEWS IN BRIEF . . .

NEW MEMBERS: A very warm welcome to our new members, Isabella and Lisa Chambers and Julie Stringer, who joined our Society at our March meeting.

MONTHLY RAFFLE PRIZE ROSTER:

April	-	Sharyn Baraldi, June Casey, Belinda Drury, Neville Wood
May	-	Beth Clague, Elizabeth Bevan, Rhonda Grant, Steve Wain
June	-	Anne-Marie Brun, Ted Clare, Barbara Jones-Beverstock, John Toolan
July	-	Suzanne Burrows, Michael Drury, Eileen Killingley, June Smith

ROSTER FOR CLEANING UP AFTER THE MEETING: As announced at last September's meeting, a roster for cleaning up after the meeting has been introduced. This helps share the load and it is expected that each member will only be called on two or three times each year.

April	-	Melissa Talbot, Maadi McKenna, Sandra Carnie, Sharyn Baraldi, Lydia Chinnock, Jørgen Jakobsen, Joy Scholz
May	-	Lesley Brand, Carol Burgdorf, Deniece Crutchley, Heather Thain, Les Thain, Anne Mobbs
June	-	John Toolan, Anne-Marie Brun, Beverley Irvine, Val Miller, Ann Kennon, Suzanne Watt
July	-	Brian Smith, June Casey, Isabella Chambers, Lisa Chambers, Julie Stringer, June Smith

GENERAL MEETING – 7th APRIL – "Bromeliad Conference 2001" – Elizabeth and Graham Bevan
Sometime in early 2017 our Society was invited to host the "21st Australasian Bromeliad Conference" in 2021. From the best advice available to us it was evident that we did not have the required facilities and so had to decline. In fact, we had hosted the 11th Conference in 2001 and the story of that Conference as told by Elizabeth and Graham will help explain why we could not do it now.

WORKSHOP - Saturday, 14th April – NOTE CHANGE OF VENUE: The first workshop of the year will be held at Lorraine and Fred Mirande's home at 66 Kenny Street, Wollongong (Phone: 04 1842 3568) which will feature: 1) breaking up a clump of broms; 2) taking pups; 3) preparing plants for potting and potting up; 4) preparing potting mix; 5) using old plants; 6) mounting tillandsias and other bromeliads; 7) preparing the label. Members who would like to learn how to pot, please bring a pot and some potting mix; we will provide the plant, the fertiliser and the name tag. For members who would like to learn how to mount a tillandsia please bring a plant and something to mount it on. While this is a workshop especially for novice growers there will be experienced growers there--Neville Wood and Suzanne Burrows--to provide advice and help and all members are welcome.

This will kick off at 10 am with morning tea and for lunch Fred will do a sausage sizzle, also providing buns and sauce. However, it would be appreciated if you could bring salads to share and cakes or slices for morning tea.

GENERAL MEETING – 5th May – "The Society Library" – presented by Michael Drury.
Over the last few years there have been changes to the ways in which the books and other materials comprising the Society's library have been stored and maintained. Michael will explain these changes and our policies with respect to journals we subscribe to and items that are excess to our requirements. He will conclude with suggestions for ways in which members might use the library to their advantage in growing plants.

GARDEN VISITS – Saturday, 19th May: Following our visits to 3 gardens in southern Sydney in February we now come nearer home to northern Wollongong but will have just two visits on the day. We will start out at the garden of Monica De Clouett, 44 Broadridge Street, Wombarra (Phone: 4267 3449), where we will enjoy morning tea (please bring cake or slice to share). Because of just the two garden visits we will make the starting time 10.30 am, and later move on to the garden of Jørgen and Maria Jakobsen, 130 Princes Highway, Corrimal (Phone: 4284 5464) where we can sit and enjoy our BYO lunch in their pretty garden. Tea and coffee will be supplied.

GENERAL MEETING – 2nd June: "Changing Bromeliad Names" - Presented by Eileen Killingley
Up until quite recently the various bromeliad genera were determined by the so-called morphology of the plant—the shapes, sizes and relationships of the plant components as could be seen with the aided or unaided eye. Now the geneticists are using DNA to make new determinations of the genera and we are having to cope with new names, groupings and relationships. Eileen will give us some insights into the changes and what they mean for us as members of a hobby group.

SOCIAL FUNCTION – SOUP'N SWEETS - Saturday, 7th July: This year we will enjoy "Soup 'N Sweets" for our July Social Function. There will be no plant sales or general sales and no afternoon tea of course, but there will be a brief Business Meeting, the usual plant competitions, plant raffle and Lucky Draw Prize. The entertainment for the afternoon will be a Bromeliad Quiz offered by Noel Kennon, with prizes for the winners.

WORKSHOP #2 – Saturday, 21st July: To be held at the home of John and Rita Toolan, 5 Rondanella Drive, Kanahooka (Phone: 4261 1773) from 10.00 am to 2.00 pm with a sausage sizzle lunch.
Please bring cakes or slices for morning tea and salads for lunch. Tutors will be Graham Bevan and Laurie Dorfer who will give information and answer questions about "Environments for Plants". Topics covered will include: Plants for full sun, part shade, full shade and indoors; shade houses and glass houses; growing on trees; growing singles or clumps; when to water and fertilise; use of *Seasol*; to pot or not to pot; pests and other problems.

RULES FOR PHOTOGRAPHIC COMPETITION – 2018: Please see the back page of this issue of *Newslink* for the rules governing our photographic competition for 2018.

UPCOMING EVENTS . . .

April 7 - 8	**COLLECTORS' PLANT FAIR – HAWKESBURY RACE CLUB, CLARENDON** Saturday 8 am – 4 pm/Sunday 9 am to 4 pm - www.collectorsplantfair.com
April 14 -15	**BROMELIAD SOCIETY OF AUSTRALIA – AUTUMN SHOW AND SALES – FEDERATION PAVILION, CASTLE HILL SHOWGROUNDS** – Saturday 9 am–3 pm/Sunday 10 am–3 pm **CASH ONLY SALES**.
April 28 - 29	**BROMELIAD FAIR** - Concord Senior Citizens Centre, 9-11 Wellbank Street, Concord Saturday 10 am – 4 pm/Sunday 9 am – 12 noon – Cards accepted.
Sept. 8 - 9	**ILLAWARRA BROMELIAD SOCIETY SPRING SHOW** – Uniting Church Hall**, CORRIMAL**

February 3, 2018: Plant Results

Open:

1st	Noel Kennon	x*Sincorphytum* 'Blaze'
2nd	Beth Clague	*Neoregelia* 'Heat Wave'
3rd	Michael Drury	*Aechmea fasciata*
3rd	John Toolan	*Cryptanthus* 'It'
3rd	Gary Claydon	x*Sincoregelia* 'Galactic Warrior'

Novice:

1st	Belinda Drury	*Deuterocohnia brevifolia*
2nd	Anne Mobbs	*Guzmania* hybrid
3rd	Pam Townsend	*Vriesea* 'Mariae'

Tillandsia:

1st	Suzanne Burrows	*Tillandsia streptophylla*
2nd	Noel Kennon	*Tillandsia mallemontii*
3rd	Noel Kennon	*Tillandsia edithiae*

March 3, 2018 Plant Results

Open:

1st	Lydia Chinnock	*Billbergia* 'Zebrina'
2nd	Noel Kennon	x*Sincoregelia* 'Firecracker'
3rd	Lydia Chinnock	*Canistropsis billbergioides* 'Lemon'

Tillandsia:

1st	Noel Kennon	*Tillandsia flabellata* (giant Red)
2nd	Anne Mobbs	*Wallisia cyanea*
3rd	Suzanne Burrows	*Tillandsia* 'Phoenix'

SAVE A SPECIES

By Neville Wood

At the 19th Australasian Bromeliad Conference, George Stamatis of Elimbah, Queensland gave a presentation with the title "Conservation through Cultivation". This highlighted the rapid rate at which bromeliads are becoming threatened in their native habitats and what can be done to help save them from becoming extinct.

Some of our members who attended this presentation came back with the idea we should investigate just what we, as a Society, can do to help this cause and I was asked to prepare a presentation on this topic to be given at the March meeting so everyone knew about this problem.

Because many of our members weren't at the meeting, Eileen has asked me to write this summary of what my talk was about so that all members are aware of the problem and what we as a Society decided to do to promote the growing of these threatened species.

Firstly, we should understand the important part species play in the overall scheme of things and although there are many beautiful hybrids there are also many beautiful species. These species play a very important part in the making of hybrids and we should understand that all of the wonderful modern hybrids that exist today, at some state are somewhere linked to species.

Without species there would be no hybrids and this is why it's so important to do what we can to preserve these very important remaining species plants.

There are many bromeliad habitats that are in particular danger, with the following three being major examples:

- The Atlantic Rainforest (Brazil)
- The Cerrado (Brazil)
- All of the bromeliad habitats of Mexico

All of these have been reduced to a tiny fraction of their original size and only fragments remain.

As an example, southern and southeast regions of Brazil were once covered in lush vegetation, with the Atlantic Forest claiming the majority of this area. In 1990 just 10% of the forest remained as a result of land clearing, farming, charcoal making, logging and fires.

There are two organisations which have been developed for the specific purpose of gathering information from which the level of threat to species in these areas can be measured. These are:

I.U.C.N. The International Union for Conservation of Nature; and
C.I.T.E.S. Convention on International Trade in Endangered Species of wild Fauna and Flora

They are composed of both government and civil society organisations and together they aim to ensure that international trade in specimens of wild animals and plants (including bromeliads) do not threaten their survival.

From the information gathered these threats are then divided into four specific groups:

- Plants which are Endangered
- Plants which are Critically Endangered
- Plants which are Vulnerable
- Plants thought to be Extinct in the wild

The question is, what can we as a small Bromeliad Society do to help prevent the extinction of the remaining threatened bromeliad species? We can locate and record threatened species currently held in collections, and if possible, obtain plants, pups or (true) seed from these species and multiply and distribute them by:

- Offset (pup) production
- Division
- Growing the seed

How does Conservation through cultivation work?

- Strictly speaking, it involves a carefully planned breeding program to build up numbers. Producing genetically diverse offspring is an essential part of the goal. A strong gene pool is essential for a species to have a future.
- It also includes the deliberate introduction of plant species into horticulture: parks, nurseries, home gardens and collections.
- Raising offspring from seed is vital to maintain genetic diversity—don't just propagate from offsets or cuttings.

Why seed and not just offsets?

- When a plant reproduces from seed, this involves sexual reproduction. Sexual reproduction produces genetically unique offspring. Offsets produce clones.
- Genetic diversity is essential for survival and evolution.
- It is best to use two different clones that aren't siblings from the same seed parent if you are going to produce seedlings with good genetic diversity. However, this isn't always possible, especially with very rare species. It is just the ideal.
- Avoid self-pollination for conservation purposes.
- Note: Some species readily self-pollinate without assistance. For these species it is not a problem. It is thought to have evolved due to isolation and a lack of pollinators in nature—e.g., many species of *Alcantarea, Encholirium*, some *Tillandsia* spp and some *Vriesea* spp. Growing seed from such species would not cause a problem for conservation purposes as they would behave this way even in nature.

What can I do as a collector-gardener?

- Make room for species in your collection.
- Make a point of propagating species from seed, not just from offsets.
- Try, where possible, to adopt a 'pet species' that you particularly like or that grows particularly well for you. Make it something you want to work on conserving through cultivation.
- Get a few different clones of your 'pet species'.
- Learn how to pollinate it and grow it from seed.
- Spread the offspring around.

Before we start any project such as this we need a plan and, most importantly, it should be broken down into workable tasks, such as:

- Ask members to compile a list of species held in their collections
- If members agree, make a central register of members' names and the species they grow.
- Attend workshop/s to learn how to grow seed and raise seedlings
- Perhaps look into a seed exchange program?

Members wishing to take part in this project are asked to submit their names to Noel Kennon and indicate what areas they are interested in—i.e., growing seed, growing pups, growing seed and pups.

Below I have extracted [from the FCBS Bromeliad Species Online Database] some of the species which I recognise that we may have in our collections., plus those on the CITES and Extinct listings. For full listings: <fcbs.org> Bromeliad Conservation – Alert Codes Used in FCBS Species Database – Ed.

Vulnerable	Endangered	Critically Endangered
Aechmea aculeatosepala *Aechmea biflora* *Aechmea calyculata* *Aechmea sphaerocephala* *Aechmea winkleri* *Alcantarea geniculata* *Alcantarea glaziouana* *Alcantarea nahoumii* *Araeococcus parviflorus* *Neoregelia cruenta* *Neoregelia hoehneana* *Nidularium atalaiaense* *Nidularium bocainense* *Nidularium itatiaiae* *Ochagavia carnea* *Ochagavia litoralis* *Portea alatisepala* *Puya venusta* *Quesnelia humilis* *Tillandsia cucullata* *Tillandsia ixioides* *Tillandsia marnier-lapostollei* *Tillandsia neglecta* *Vriesea bituminosa* *Vriesea psittacina* *Vriesea recurvata* *Vriesea rubyae*	*Aechmea echinata* *Aechmea manzanaresiana* *Aechmea orlandiana* *Aechmea tayoensis* *Aechmea triangularis* *Alcantarea imperialis* *Canistrum aurantiacum* *Deuterocohnia chrysantha* *Encholirium horridum* *Guzmania monostachia* *Guzmania rubrolutea* *Guzmania sanguinea* *Neoregelia compacta* *Neoregelia pascoaliana* *Nidularium rosulatum* *Racinaea tripinnata* *Tillandsia polyantha* *Wallisia lindeniana* *Vriesea delicatula* **Extinct in the Wild** *Cryptanthus fosterianus* *Neoregelia binotii* *Nidularium utriculosum* *Vriesea rectifolia*	*Aechmea eurycorymbus* *Aechmea serrata* *Aechmea viridipetala* *Canistrum camacaense* *Cryptanthus zonatus* *Hohenbergia castellanosii* *Hohenbergia correia-araujoi* *Nidularium azureum* *Portea kermesina* *Portea nana* *Racinaea dyeriana* *Tillandsia grazielae* *Vriesea bleherae* *Vriesea fosteriana* *Vriesea hieroglyphica* *Vriesea saundersii* *Vriesea sucrei* *Vriesea costae* **C.I.T.E.S List** *Tillandsia harrisii* *Tillandsia kammii* *Tillandsia kautskyi* *Tillandsia mauryana* *Tillandsia sprengeliana* *Tillandsia sucrei* *Tillandsia xerographica*

TROPIFLORA'S TERRESTRIAL BROMELIAD CARE

This article is used with the kind permission of Dennis Cathcart, *Tropiflora Nursery*, Sarasota, FL USA <tropiflora.com> accessed 02/03/2018

Terrestrial bromeliads are not of a single genus or even 'type' of bromeliad, rather as a group are those that are soil dependent, unlike some species which are facultative epiphytes and can be grown in soil or epiphytically. Coming from at least two of the bromeliad subfamilies—*Pitcairnioideae* and *Bromelioideae*—they are represented by numerous genera and many species. Further, as a group, their only characteristic in common is the dependency on growing in soil. There are arid growers, mesic growers, shade lovers and sun lovers. Some are miniature and some are giants, some have soft, delicate foliage and others stiff, well-armed, weapon-like foliage. Terrestrial bromeliads occur over the entire range of the *Bromeliaceae*, or from the U.S. to Argentina and the Caribbean. As a group they have little in common. So, you may ask, how can we lump them all together in a single care sheet of cultural tips? Obviously, this care sheet will only be the very most basic of guidelines, leaving you to do more in-depth research or experimentation to find out what care is best suited to your terrestrial bromeliad.

While terrestrial bromeliads have little in common aside from their need to be in soil, there are some basic natural groupings of characteristics that can be made. Nearly all terrestrial bromeliads lack the ability to hold water in the leaf axils. This characteristic was apparently never developed for two reasons: those from arid environments have infrequent rain to catch, so don't need a 'tank'; and terrestrial plants have access to moisture at the root zone, something that epiphytic plants do not. Most species need good soil drainage too; even those that prefer some constant moisture still do not like poorly draining, dense soils. It could probably be said that there are other basic groupings, such as sun-loving and shade-loving or moisture-loving and dry growing. Perhaps the best way to treat their preferences with any degree of accuracy is to do it by genus or at least by those with genera that like similar conditions. So, that is what we will try to do.

Sun-loving terrestrials:

This group, as a whole, can tolerate very bright light up to full sun, though they may perform well or even better in some degree of light shade.

- ***Ananas***. This is the group containing the familiar pineapple, grown widely across the globe. These plants like rich, loamy soil with a constant moisture content. Good drainage is still preferred. Full sun or bright light is best for form and color. Pots should be large enough to hold the plant upright, but also to accommodate a substantial root system. Some species grow to over three feet across. Propagation is by offsets from the base of the plant or between lower leaves and from adventitious offsets at the base of the fruits.
- ***Bromelia*** and related genera ***Deinacanthon*** and ***Neoglaziovia*** are terrestrial that lack a reservoir and grow, for the most part, in open grasslands, restinga or rocky caatinga and occasionally in open forests. All can withstand full sun or very bright light, and their coloration and form will be much better in stronger light too. There are some miniatures or very small varieties suitable for pot culture, but with *Bromelia* especially, growing in containers is a challenge not only for their sheer size, but most species of *Bromelia* and their related genera produce offsets on long stolons which need room to develop and to emerge from the soil. Too small a container will result in a pot full of soilless roots and un-emerged stolons winding around in the pot that may eventually push the plant right out of the container. In general, this group likes loamy soil, good drainage, frequent watering but with some wet-dry cycling. Fertilize occasionally for good growth when growing potted. It should be added that some species are fairly cold hardy, but you will have to do research to determine which, and meanwhile protect them from freezing temps and frost.
- ***Deuterocohnia*** is a genus that is getting more popular, even among succulent fanciers. Generally very dry-growing plants from the deserts of Peru and the 'southern cone' countries of South America. *Deuterocohnia* is famous for its perennial inflorescence on most species. The inflorescence

will form between the leaves near the top of the rosette and can vary between a foot to over 6 feet tall in some varieties. Rather than dying off after blooming it forms new branches and flowers each new season. There are two basic groups of *Deuterocohnia*—those with exerted inflorescences and those without--most of which were formerly in the genus *Abromeitiella*, now defunct. The former group is generally large, six inches to three feet across and requires larger containers. Generally from very arid, sunny locations they nonetheless have fairly thin (not particularly succulent) foliage and can tolerate extended dry conditions. A rich, loamy, but good draining, mix is best though some grow their plants in a very spartan, 'dirty perlite' or pumice mix. As a group they are quite cold-hardy, though should not be allowed to freeze or be exposed to frost. The other group of former *Abromeitiellas* are clustering, clump-forming miniatures, lacking a scape or having only a very abbreviated one, along with very thick, succulent leaves. This species quickly forms mounds that can cover the entire container, thus must be repotted from time to time to keep the plants from drying out because water can't reach the roots. This type does not like 'wet feet' and should be allowed to dry between waterings. *Deuterocohnias* are easily propagated by seed or by offsets or divisions.

- ***Dyckia*** is perhaps the most widely grown terrestrial genus by bromeliad and succulent fanciers. Varying in size from a few inches across to nearly 3 feet, there are many very handsome species and a great many hybrids with decorative foliage. The bloom spikes are usually a foot to three feet tall and are formed laterally, sometimes in multiples, and bear bell-shaped yellow to orange flowers. In spite of their 'cactus-like' look of stiff, glossy, spiny leaves, they are a genus that enjoys frequent watering. Avoid 'wet feet' by planting in a fast-draining media with some moisture retentive properties, but do not allow them going for extended periods without water. Plants frequently overgrow their pots, 'shading' the soil from water, and will begin to show signs of stress. Repotting to keep some soil exposed to overhead watering is best and a larger container accommodates more of a root system for these terrestrials. Shrivelled, yellowing leaves is generally a sign of too little water and/or a root-bound plant. Full sun or bright light produce the best color and form. Propagation is by offsets or seed and sometimes by division of a clump.
- ***Encholirium*** is a genus of terrestrial and saxicolous plants, mainly from central Brazil. Though there are some smaller varieties, many are quite large with very spiny leaves. In nature this genus is found on stony ground or growing on steep hillsides of solid rock, forming a root system in the smallest of cracks. Adapting these plants to cultivation has been a challenge and therefore there are few species commonly available in cultivation. Generally speaking, they need a pot large enough to allow overhead watering, and loamy but very good-draining soil. Allow drying between waterings and protect from extended periods of rain outdoors. Propagation is usually from seed, though some species produce offsets. The main rosette will die off after blooming.
- ***Hechtia*** is a genus of sun-loving species that are often restricted to the hottest, driest parts of its range, that is, from the Big Bend of Texas to Honduras. By far, most species are endemic to Mexico. Small to almost giant in size, most species are comfortable in a 6 inch to 10 inch pot. In cultivation they like good drainage and ample sized pots. Watering during the hot seasons should be thorough, but on a frequency that will allow complete drying between waterings. Stressful, hot, dry conditions lend to more compact, colourful foliage, often with red banding or spotting. Propagation is by offsets mainly, as hechtias are dioecious and two sexes are required to pollinate the flowers.
- ***Orthophytum*** contains sun-loving species as well as some shade growers. The sun-loving types are generally, though not completely, restricted to those with a nodular inflorescence. Species such as *burle-marxii* (now *Sincoraea burle-marxii*), *albopictum* (now *Sincoraea albopicta*) and *navioides* (now *Sincoraea navioides*) resemble some smaller species of *Bromelia* and take about the same growing conditions. Generally saxicolous, growing in cracks or between rocks, they thrive in a good draining mix with a gritty texture and enjoy bright light. Bulb pan pots are good for these types. Among those with a tall scape—*O. lemei, horridum* and a few others—can be grown in full sun or partial shade. The more mesic varieties will be treated in the next section on shade-growing varieties.
- ***Puya*** is a huge genus of mostly Andean species that often grow at very high altitudes on treeless plains, on slopes and in bogs. Few members of this genus are in cultivation due in part to the relatively giant size of many in this genus. Those that are small enough for container culture are

often cool-growing and thus unsuitable for many growers, save those in cooler, drier Mediterranean climatic zones. Puyas need ample root room and a good draining mix that is not allowed to dry out completely. Puyas are used in landscape in the desert southwest and California because of the often silvery foliage and showy blue flowers. Propagation is by seed or offsets. The genera ***Ochagavia*** and ***Fascicularia*** can be included here, as both are cool-growing, higher-growing genera.

Shade-loving terrestrials—or at least those less tolerant to full sun—include members of several genera. These plants are frequently native in areas that are hot and bright, but may grow under shrubs, in the shadow of rocks, or in forest conditions. Some can tolerate moist, mesic conditions, while others still prefer fast drainage and some wet/dry cycling.

- ***Cryptanthus*** is far and away the most widely cultivated, popular genus of terrestrial bromeliads that are not grown in direct sun. There are a couple of exceptions, but, on the whole, most species prefer loamy soil that is never allowed to become completely dried out but still affords good drainage. Bright, indirect light, out of direct sun is best. Too little light may result in faded colors and a dull appearance while too much light can cause bleaching or burning. Drying out for extended periods will cause permanent damage such as poor root development and drying or yellowing leaves. Cryptanthus are extremely popular as a house plant and in terrariums. A pot large enough to accommodate a vigorous root system is recommended. Regular fertilization will make a big difference in how your plants grow and look. Propagation is by offsets which are almost always rootless, but can be stuck into constantly moist, warm soil to root. Cold sensitivity is a factor in growing cryptanthus, with temps in the 40^0Fs [around 4^0-10^0C] barely tolerated.
- ***Disteganthus*** is an obscure, rarely grown genus related to *Bromelia.* Mainly forest dwellers, they require warm temps, an evenly moist but good draining mix and protection from direct sun. A generally fussy, difficult genus of just a couple of species.
- ***Fosterella*** is a rather unique and somewhat enigmatic genus that is not too commonly seen in cultivation. Plants may be bulb-like, with deciduous leaves that dry up and fall off seasonally then regrow each year. Some species are evergreen. Most come from hot climatic zones, even quite arid places, but are rarely growing in direct sun, rather occurring on shaded banks or under brush or grasses. In cultivation we find that most like conditions similar to that of a cryptanthus--brightly lit shade, moist but not wet soil, and warmth. Fosterellas, though, can take drought, especially during the dormant season. If your plant loses its leaves, water the remaining bulb only sparingly until leaves reappear. A few species are more mesic, notably *F. micrantha* from Mexico, which is not only far away from the 'normal' range of southern South America, but is also found on cliffs in wet montane forests. Propagation is usually from seed but occasionally by division of a clump.
- ***Navia*** is a genus that has many rather spectacular members, but few are in cultivation. Growing largely in the 'Lost World' of the Guyana Shield of Venezuela and surrounding countries, they are frequently restricted to a single locality on wet cliffs or rock outcrops. Notoriously difficult to adapt to cultivation, hence there are only a few that can regularly be found. Navias enjoy constantly moist but not wet media that has good drainage and aeration. Light can be from fairly shaded to quite bright, but not full sun. Propagation is by seed and offsets.
- ***Orthophytum*** has shade-loving members along with the sun-lovers. Normally those with a scape for an inflorescence [*Orthophytum*] as opposed to the nidular types [recent genus name change to *Sincoraea*] enjoy some degree of shade. In nature these are often found growing under deciduous tree canopy or scrubby vegetation. Occasionally they occur in situations where they are in sun part of the day and shaded by rocks the rest of the day. These types like quick-draining mix with some water retentive qualities. Peaty or loamy soils mixed with Perlite or pumice are good. Bright, indirect lighting and winter warmth make a handsome plant. Regular fertilization will reward you with bigger size, more ample blooms and a good flush of offsets for propagation. A growing favorite amongst bromeliad and succulent fanciers. The genus ***Lapanthus*** belongs here culturally too.
- ***Pepinia*** and ***Pitcairnia*** can be listed together here, though they both have a wide variety of species from a wide variety of habitats. There are those few that grow in full sun and dry conditions, but

most are sub-mesic or of types that enjoy some moisture and partial sun. Again it is hard to generalize about any genus, especially one so large and diverse, but, on the whole, *Pepinia* and *Pitcairnia* enjoy large containers, well-draining soil that is kept a little moist, warmth and bright indirect light. You may find that some are deciduous and therefore will require less water when dormant. Most species in cultivation are easy to grow and enjoy regular fertilization. Propagation is by seed and divisions.

- **Some notes on the cover picture *Ananas* 'Variegatus'** [From: "*The Pineapple*", *J. Brom. Soc*. 55(4): 187-9 by Derek Butcher] **<http://botu07.bio.uu.nl/bcg/bcr/docs/Ananas%20Variegatus.doc>**

  … We know that variegation is not a trait consistently transferred in sexual reproduction and as such is perhaps better catered for under the ICNCP rules. This means that *Ananas comosus* var. *variegatus* becomes either *Ananas comosus* var. *comosus* 'Variegatus' or *Ananas* 'Variegatus'. Likewise *Ananas bracteatus* var. *tricolor* becomes *Ananas comosus* var. *bracteatus* 'Tricolor' or *Ananas* 'Tricolor'. These changes only apply to plants currently known by these names. However, if you have lost the label on your variegated pineapple, plants can be linked to 'Variegatus' if the plant is like '*comosus*' but the leaves are variegated. They can be linked to 'Tricolor' if the plant is like '*bracteatus*' and the leaf blades are variegated with longitudinal stripes. There are already accepted Cultivars of these two varieties but, no doubt, there will be other Cultivar forms of these and other varieties that will arise from time to time in the future.

  Discussions with the 'Pineapple' people regarding the variability or non-stability of variegations has strengthened my resolve regarding registering variegated plants. We must remember that variegated is a major adjective and terms such as albomarginated, striate, medio-picta are but types of variegation. Therefore new registrations will be accepted as variegates only. Should the inevitable happen with a change in the form of variegation or the variegation disappears the name will not be invalidated. All you do is add the type of variegation or NOVAR (no variegation) that currently applies, as an adjective to the Cultivar name.

WINTER PREPARATION AND PROTECTION FOR BROMELIADS

- Wind is the biggest worry for bromeliads, particularly those grown for their foliage.
- Remove dry leaves and mulch from around the surface that can lead to the rotting off of plants. Remove dry leaves from the floor of the greenhouse to reduce pests such as scale from carrying over to Spring.
- Check the potting mix to see that it is not too decayed or broken down going into winter.
- Check that the mixture is not repelling water—watering the foliage only may leave the roots bone dry. Aechmeas have well-developed roots through which water is absorbed. Replace potting mix if necessary.
- For winter watering use a watering can to water each plant separately so that the foliage is not too wet for long periods—or soak the pot in a container of water and allow it to drain. Turn off automatic or fixed watering systems.
- Condensation dripping into the centres of tillandsias can cause them to rot.
- When plants are outside there is a difference between sitting the pot on the ground and sinking it in the ground. If the pot is sunk into the ground the plant will be kept warmer and moister. Foliage vrieseas need more protection than those with green leaves (which need excellent air circulation).
- One theory suggests that fish emulsion fertilisers contain cold-damage inhibitors which prepare the plant to withstand the cold much better. Alternate this fertiliser with other types of fertiliser.
- **Note:** Fish fertilisers are suitable for vrieseas but not for tillandsias.

ILLAWARRA BROMELIAD SOCIETY INC.
PHOTOGRAPHIC COMPETITION – 2018 RULES

1. An Open Photographic Competition will be held by the Society in 2018.

2. The competition is being held specifically for plants that flower at times that do not coincide with the monthly competitions or plants that are too large to be transported to the meeting room.

3. The Society invites members to photograph such plants during the period February to October.

4. For each plant, two photographs—A and B—are required and must be taken on the same day.

5. Photograph A is to be of the entire plant and photograph B is to be the flower. For large plants, a size scale of some kind must be included in photograph A.

6. Mostly, it is those plants which have prominent flowers that are eligible subjects for the competition.

7. Plants grown specifically for foliage are not eligible subjects for the competition: such plants include, but are not restricted to, neoregelias, cryptanthus and some vrieseas.

8. Entries photographed on days coinciding with, or nearly coinciding with, monthly competitions may not be eligible as the plants could have been entered in the competitions.

9. The photographs may be printed by the entrant or may be printed commercially and are to be post card size (i.e., 10 cm x 15 cm), with or without a border.

10. Each photograph of the pair (A and B) must have a label on the back setting out the appropriate information.

11. This information is:
    - Photograph A or Photograph B
    - The name of the entrant
    - The name of the plant
    - The date on which the photograph was taken

12. Every member is eligible to enter the Competition and is permitted up to three entries.

13. Entries comprising two photographs—A and B—are to be submitted in a blank envelope at the November General Meeting.

14. The entries are to be submitted to the Competitions Officer (Sharyn Baraldi) who will arrange for the eligibility of all entries to be assessed.

15. The eligible entries will be displayed at the Christmas Party in December.

16. The entries will be judged by popular vote and each member may vote for three entries.

17. As far as possible, judging should be concerned with the appearance of the plant and flower rather than the quality of the photographs.

18. The winner will be the entry receiving the highest number of votes.

19. The owner of that entry will receive an appropriate prize.