Bromeliaceae

VOLUME XLVIII Fourth *Quarter* 2014

The Bromeliad Society of Queensland Inc.

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GENERAL MEETINGS OF THE Society are held on the 3rd Thursday of each month except for December, at the Uniting Hall, 52 Merthyr Road, New Farm, Brisbane, commencing 7:30 pm.

ANNUAL GENERAL MEETING is held immediately before the February General Meeting

Front Cover: Vriesea Inflorescence detail	**By:** Glenn Bernoth
Rear Cover: Christmas wishes	**By:** J & C Coulthard

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CALENDAR OF EVENTS 2015

January Meeting	15th Jan, Uniting Church, Merthyr Road, New Farm
The AGM	19th Feb, Uniting Church, Merthyr Road, New Farm
February Meeting	19th Feb, Uniting Church, Merthyr Road, New Farm
March Meeting	19th March, Uniting Church, Merthyr Road, New Farm
April Meeting	23rd April, Uniting Church, Merthyr Road, New Farm
	Shows and Exhibitions
Tillandsia Workshop	22nd February, Newmarket School (Sunday)
Autumn Show	20th – 22nd March, BTTC, Windsor
Bromsmatta	16-19th April, Parramatta NSW
Exhibition	7th – 16th August
Spring Show	13th – 15th October

Terminology - Six Thousand Words in Pictures

By John Olsen

In preparing the article on Conservation in the last issue I came across the term "cataphyll" which is required to be present on a *T xerographica* for import to Europe. I went to Google and the BSI Bromeliad Glossary to find:

Cataphyll: An undeveloped leaf; a rudimentary leaf form as at the beginning of a growth.

Having now seen the photo included in that article, I guess the definition above is near to adequate, but without the picture it was unclear to me if it referred to original leaves for seed grown plants…or what. So on the basis that a picture is worth a thousand words, here are six pictures which explain an assortment of commonly used terms describing bromeliads, together with the definition from the BSI Glossary.

Distichous; Arranged in 2 rows, as the flower spikes of many vrieseas

Vriesea Kerri Ann left

Tillandsia didisticha (is doubly distichous – the lateral spikes are arranged in pairs and then the bracts on each spike are distichous).

Stamens: The pollen bearing male organ of a flower (relates to the photo pg 5 top left).
Anther: The top of the stamen that shed pollen.
Stigma: the top of the female portion of the flower which receives the pollen
Exerted: protruding beyond a point.

The photo below shows all the above. Six stamens are topped by the yellow pollen bearing anthers. The white stigma is seen exerted from within the flower.

Above: Alcantarea Flower – Photo John Byth

Caulescent: Having an evident leafy stem above the ground.

The photo right shows a flower where the sex parts are *included (ie not protruding and within the flower itself).*

This suggests a bird or moth with a proboscis is responsible for pollination.

Lepidote: Surfaced with small scales (trichomes), a key characteristic of bromeliads. The scales may be fine and scarcely visible to the naked eye, or they may be coarse and spreading and highly visible.

T albertiana x editheae hybrid showing lepidote leaves and lepidote floral bracts (the darker purple parts in the flower above are floral bracts. *Bract: a modified leaf, often a flower like structure associated with the true flowers).*

Australasian Conference 16 to 19 April 2015

The next Australasian Conference (Bromsmatta) will be held in Parramatta.

A copy of the registration form can be sourced from the website.
Fees –May 1, 2014 to Jan 31 2015 - $280, after January - $300

For more information check out the web site at www.bromeliad.org.au

If you are looking at attending this conference, you should consider booking accommodation now as there appears to be a high demand at the time of the conference.

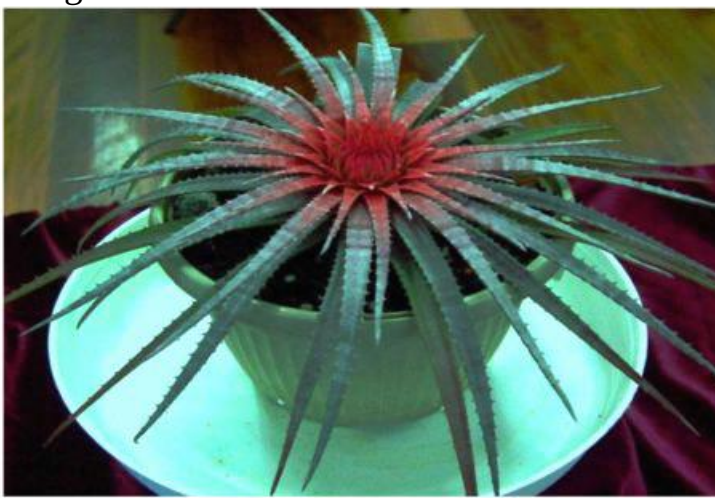
ORTHOPHYTUM

By Dave Weston

An overview of the genus - presented at Bloomin Broms, June 2014 Cairns

The genus Orthophytum sits within the sub family Bromelioideae. The genera Cryptanthus and Lapanthus are the most closely related. Future revision of these genera and the genus Orthophytum may see some species reassigned to one or the other genera.

Distribution - Orthophytum are endemic to regions within the north and east of Brazil.



Orthopytum burle-marxii

The genus has approximately 60 species of which 50 or so have been formally described and there are still new species being discovered. The taxonomic knowledge of orthophytum is still quite rudimentary, many species are poorly researched and only known from type collection specimens.

Habitat and Ecology

Orthophytum are terrestrial and predominantly rupicolous - growing on or amongst rocks. They inhabit the Caatinga area, plus granitic gneiss inselbergs, and quartzitic sandstone outcrops in the *campos rupestres* or "rocky fields";

'inselbergs' = an isolated hill, ridge or small mountain that rises abruptly from virtually level land.

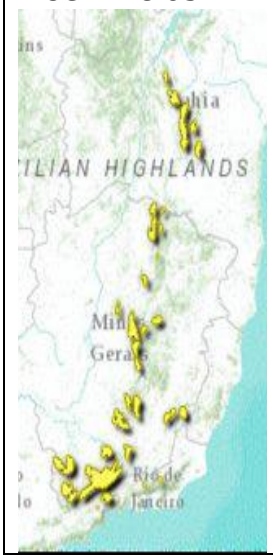
Caatinga habitat with Encholorium and cactus species

O. horridum with *Melocactus*

[Ed: The Caatinga biome is exclusive to the Northeast of Brazil. It is the largest dry forest in South America, it also has moist forest enclaves and is rich in biological diversity. ‘gneiss’ = coarse grained metamophic rock.]

Campos rupestre, literally means ‘rock fields’, in this context refers to a type of shrubby montane savannah vegetation of the Espihaco Range formed from an ancient plateau of precambrian rock. The range is not continuous, but separated by deep river valleys. There is a high diversity of plant species with many endemic to discrete plant communities. The climate typically is mild wet summers followed by a 3-4 month dry winter. Temps average 17-20c.

Rock Fields



Vegetation varies in campos rupestre.

Many species are heliophiles, (growing in full sun) and often at high altitudes. A few species are endemic to terrestrial rain forest habitat. A large number of the species are highly localised and endemic to very small areas, often only inhabiting a few rocky outcrops or discrete niches.

Orthophytum are often found growing in association with other bromeliads, orchids, bryophytes and lichens on exposed rocky outcrops where their roots can take advantage of the moisture and nutrient resource within the stabilized layer of peat and humus which accumulates over time.

Orthophytum Morphology

Orthophytums have a well-developed fibrous root system and are essentially terrestrials taking up most of their nutrients and water from the soil substrate. In habitat these species tend to establish themselves in rock crevasses where their roots can access the humus and moisture which is directed into these repositories from off the surrounding rocks.

Orthophytums are particularly variable with growth form, generally the foliage tends to be more succulent than most other bromeliad genera; prominent spines along the margins of the leaves are a characteristic feature. There is considerable variation even within species, such as *O disjunctum* which has forms with a dense cover of white trichomes ranging through to grabrous forms with smooth glossy foliage which can vary from a reddish colour to a dark green. The genera Orthophytum is divided arbitrarily into two main complexes. These two complexes are determined by inflorescence structure. The sessile inflorescence complex. The scapose infloresence complex.

Sessile Inflorescence - The principal characteristic of the sessile inflorescence group is that these species produce their flowers in the centre of the leaf rosette, however the foliage does form a tank. The foliage is stiff to rigid long narrow leaf blades with spiny margins. At the onset of flower initiation the foliage will turn a brilliant red, some species exhibit contrasting colour characteristics.

Orthophytum burle-marxii

Orthophytum sp. aff. roseum
side view of inflorescence

The exception here are the caulescent species of the "subcomplex vagans" such as *Orthophytum vagans* and *Orthophytum zanonii.* These species are characterized by long foliated stems and produce their flowers in the axis of the terminal leaves.

Scapose Inflorescence - Within this complex is the "sub-complex disjunctum", this includes species like: *Orthophytums disjunctum, glabrum, rubrum, gurkenii* and, in comparison, the relatively dwarf species with short scape inflorescence such as *saxicola.*

The example of an *O. disjunctum* inflorescence scape shows the glomerate spikes of spent flower clusters along the upper portion of the scape, you can also see that there is a distinct difference in the leaf shape and the scape bracts at the base of the spikes. The foliage of the scapose group tends to be more succulent and the leaf blades are more often quite

broad and triangular in form. Some species in this group can be quite soft, all exhibit some degree of spininess on the leaf margins.

Above: O. Disjunctum

Right: *Orthophytum gurkenii*

Left and above:

Orthophytum fosterianum

Orthophytum gurkenii inflorescence scape prior to flowering.
Orthophytum fosterianum at scape development and at rosette stage – under cultivation it can develop quite soft lush foliage, in habitat it has a different appearance.

To add further complication, under the scapose inflorescence complex is another group; "sub-complex leprosum". The disjunctum sub-complex form a distinct rosette of leaves prior to development of the inflorescence. The leprosum sub-complex species do not develop a rosette and the leaves are not clearly distinguishable from the scape bracts.

O. venzingii

Ortho. sanctum seed capsules

O.labrum showing offsets on short stolons and exiting the drain holes.

Left: O.rubrum with 300mm long stolon is developing roots and could be removed

Reproduction and Propagation of Orthophytum

All Orthophytum species are capable of producing viable seed. However unless the grower is seeking a new form or variation there is little advantage in using seed, as the resulting plants can be quite variable and slow to produce.

Vegetative propagation. All Orthophytum will reproduce vegetatively either by offsets produced basally or on stolons, or on terminal point of the scape flower.

Basal offsets of *O*. "Stellar Beauty" and *O*. aff. *roseum*

Some species within the scapose complex, produce offsets at the terminal point of the individual flower spikes on the scape.

Cultivation Requirements

Orthophytum are well suited to either container or garden cultivation. They require bright light and good air circulation. Many can tolerate full sun exposure given adequate depth of soil and moisture. Soil media should be well drained but rich in organic matter. They have requirements similar to Cryptanthus except they are tolerant of much higher light intensity and will generally tolerate extended periods of dryness.

Pests and Disorders
Orthophytum have very few pest issues, the main one would be Mealy Bug. Root rots may occur with soil media that is not free draining. Leaf rot can occur when water stays on the leaf surface for an extended period.

Garden and Landscape Applications
The sessile group of Orthophytum are best suited as container plants as they are often slow to reproduce and can become lost in a garden situation. The scapose group are well suited to garden and landscape applications as they will quickly establish and often naturalise in the garden. These also make great potted plant specimens as they go through their various growth stages.

Orthophytum Intergenerics
Most of the worthwhile intergeneric crosses have been made with Neoregelia. *xNeophytum* Firecracker, Ralph Davis, Gary Hendricks, Hytime.

Summary
The main distribution is Brazil with at least 50 known described species, and new species are still being found in the wild. They are terrestrial plants which are often found in harsh stony habitats. There is considerable variation in growth forms, even within species. There are two main complexes, the Sessile and the Scapose. They are easily propagated by removing offsets and are adaptable to cultivation. They require well drained organic soil media with bright light to full sun. You need to ensure free air movement and avoid prolonged wetting of foliage. They have few pests. The sessile group are best suited to containers and the scapose are more adaptable and can be used in garden landscapes.

Orthophytum vagans

Vriesea Hieroglyphica on the Move!
Believe It or Not

By John Catlan

Reprinted with permission by Karen Andreas FCBS.org

The flowers of *V. hieroglyphica* are like normal Vriesea flowers, one on either side of the bract stem. But when you are setting seed the bract is sweating an oily nectar which means you cannot use a felt pen to write on the flower bract so you use a plastic tag to write on and slip between the flower bract and flower bud. You have set seed, sit back and watch.

Every seed capsule, those with or without seed, start to move and each side moves 90 degrees towards each other. They leave the flower bract in the original position and all your tags drop out. *V. hieroglyphica* is the only Vriesea I have noted that does this.

In the plant (*V. racinae* x *V. hieroglyphica*) only one side of the bract moves 90 degrees, the other side is fixed. In other *V. hieroglyphica* crosses, a portion of the bract moves 45 degrees leaving a portion of the bract with the capsules arranged at 90 degrees. You can use this to confirm which plants have *V. hieroglyphica* parents.

Vriesea Fosteriana on the Move Too!

Here the flowers move from right angle 90 degrees to the bract stem downwards to 45 degrees to the bract stem, just as the flowers open. Both green and red forms, also V. Red Chestnut do this. The *V. fosteriana* hybrids only move half as much. You can use this to confirm which plants have V. fosteriana parents.

Left: *Vriesea hieroglyphica*

Below:
Vriesea fosteriana 'Red Chestnut'

Kew Gardens

By John Olsen

I spent most of a day in Kew Gardens, in London's SE in early October. The gardens are extensive covering 132 ha. The gardens feature 7 glasshouses and a variety of landscaped areas featuring tree collections such as magnolias, holly, redwoods, oaks, pines, and flowering plants such as azaleas, rhododendron, roses, and snowdrops. Another area features 550 species of grasses. It seems obligatory to have a Japanese garden and pagoda, and a Mediterranean garden.

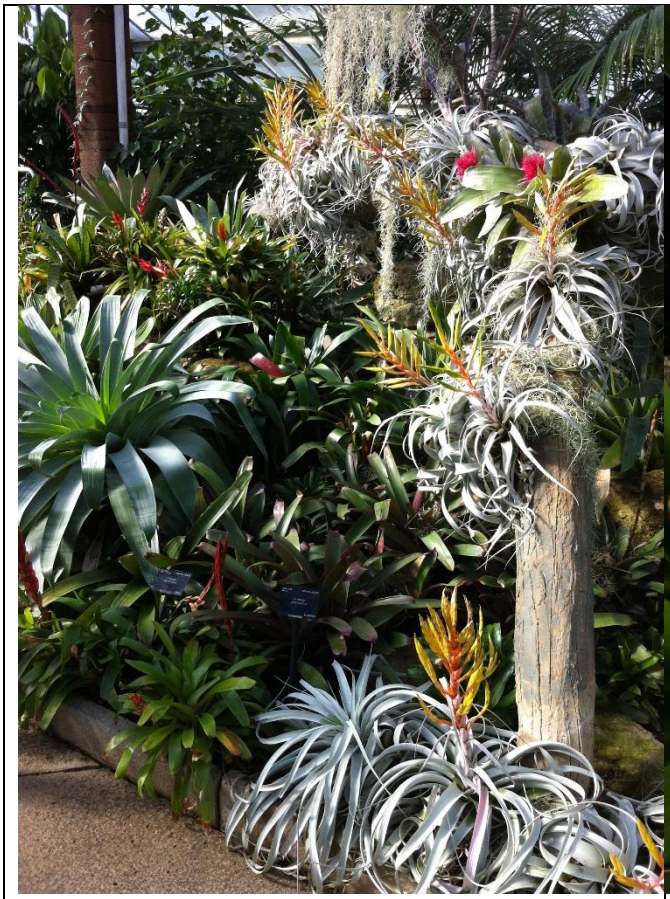
As you would expect in such a climate, bromeliads are limited to the glasshouses. The gardens have several glasshouses dating back to the 1800s. As always one of the features of anywhere you visit is closed for maintenance and the largest of the old glasshouses, or conservatories as the English call them, was closed for repair (The Temperate House). The Palm House has a huge array of palms and related tropical rainforest plants. It houses what appears to be the world's oldest pot plant – a cycad (*Encephalartos altensteinii*) collected in Eastern Cape South Africa in 1773 and has been in the Kew collection since 1775. The waterlily house had a small collection but attractively presented. Kew goes to the trouble of putting black dye in the water to improve reflections and discourage algal growth.

The newest of the glasshouses is named the Princess of Wales Conservatory and is set up to create 10 climatic zones. Bromeliads feature in the wet tropics and the arid zone sections. Photo 1 shows part of the display.

In addition to the fixed collections, Kew mounts special events and activities focused on specific aspects of plants and their relationship to people. The gardens attract many school groups and I was unfortunate to accompany one group of 10 year olds on the 50 minute train journey across London to the gardens. In the gardens there were so many school groups they warrant their own lunch area. I walked a long distance across the gardens to the Climbers and Creepers house expecting interesting vines etc., only to discover it to be a play area for small children.

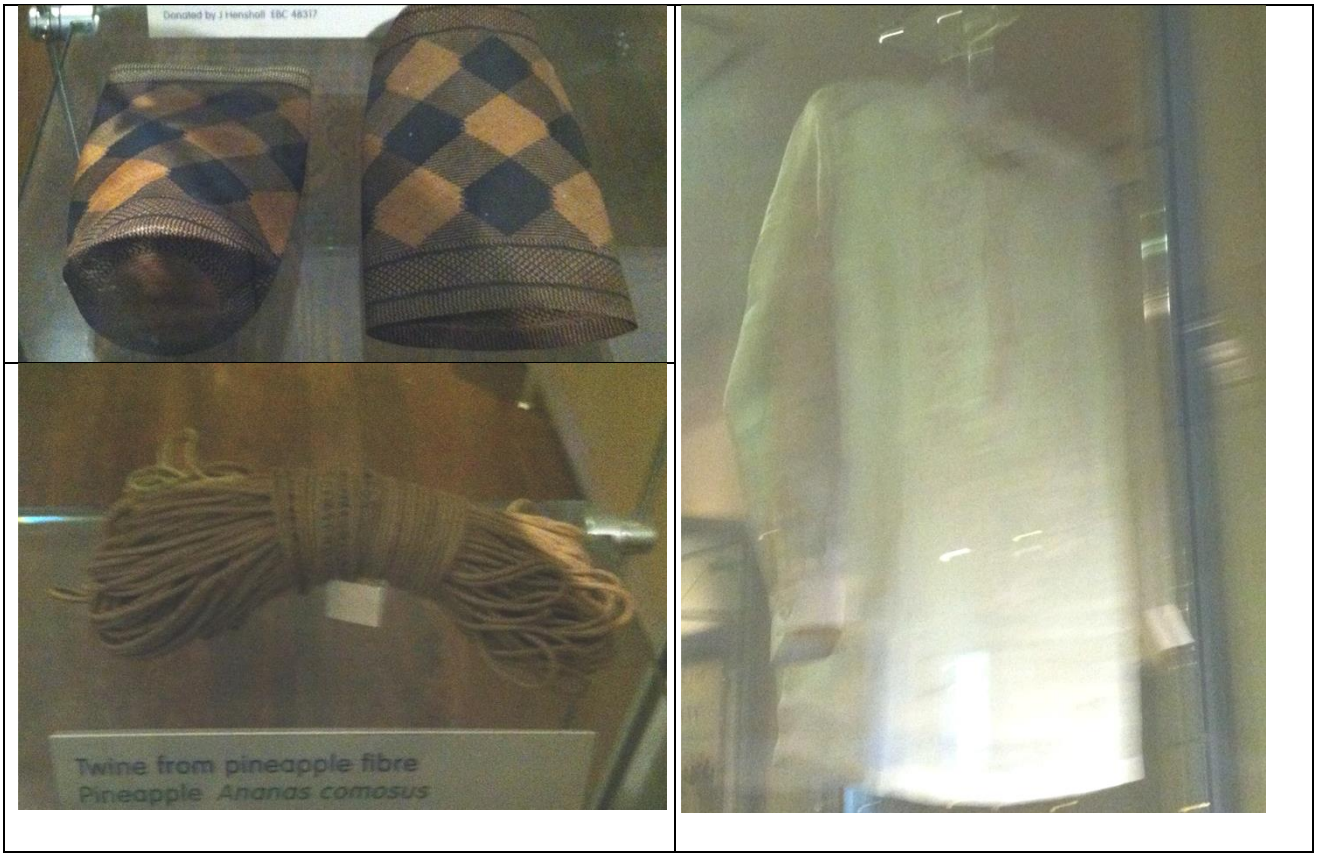
The displays of interest in October were a "Plants and People" display which revealed a greater reliance on bromeliads ie: pineapples (*Ananas comosus*) among American indigenous groups than I realised. I thought pineapples were limited to a food source as a fruit but the photos below show additional uses. Flour has been made from bromeliad leaves. The leaves were woven as some Pacific islanders do with split palm and banana leaves. The photo shows a cigar case example. Twine was also made using the fibres within the pineapple leaves. Most surprising was a shirt woven from the fibres. It was a very fine material bleached white and embroidered in yellow. (Apologies for the poor photo where light source and glass conspired against me.)

The other display was styled the InTOXICation Season – from everyday to Class A drugs – sourced from plants. These ranged from popular drinks (coffee, tea, chocolate, mate) to mind altering drugs (peyote, coca, cannabis, fungi) and poisons. I found it amusing that Kew Gardens was not permitted to have a coca plant and had to rely on a photo.



Above: Bromeliads in Conservatory

Flour from bromeliads



Above Twine from Bromeliads, a cigar case and a shirt woven from fibres

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Safe Poisons Management

By Barbara Murray

We are responsible for safe use:

Pesticides are chemicals of plant, animal or synthetic origin manufactured to kill or repel pests, insects weeds, plant disease organisms, rodents and other kinds of animal and plant life.

Pesticides come in various forms, such as:

- Liquid concentrates
- Baits
- Dusts, wettable powders, granules, crystals and pellets
- Herbal and organic products such as eucalyptus and tea tree oil
- Surface and space aerosol sprays

Each one is designed for a specific need and use. Chemicals may be toxic, flammable or may react violently when mixed.

Herbicide = kills plants Insecticide = kills insects
Fungicide = kills fungus disease Rodenticides = kills rats/mice
Nematicide = kills nematodes (tiny worm-like creatures that live in the soil)
Molluscicide = kills molluscs (slugs and snails)
Miticides or Aracacides = mites and ticks

Resistance Group: To prevent the pest from building up resistance to the chemical, you should not use chemicals from the same resistance group over and over again. Swap between chemicals from different resistance group over and over.

Popular Vote Nov 2014

Advanced	**Name**	**Plant Name**
First	Bruce Dunstan	*Tillandsia tricolor*
First	Mal & Michelle Cameron	*Vriesea* Black Beauty x Jungle Jade
Intermediate		
First	Ron Jell	*x Vrieslandsia* Marichelle
Second	Maxim Wilson	*Vriesea* hieroglyphica
Novice		
First	Jenny Ittensohn	*Vriesea* Favoriet
Second	Jenny Ittensohn	*Guzmania* Lyndal
Decorative		
First	Janet Richter	"Christmas Bauble"

DNA Analysis Means Many Species are Moving to New Genera

By Peter Waters

At the 'Cool Broms' conference one of the speakers, José Manzanares, gave a most interesting talk on the work being done by Michael Barfuss and Walter Till on the classification of *Tillandsioideae* by DNA analysis. The outcome of this large scale project has produced some interesting but in many cases not surprising, results.

Background: The classification of bromeliad species into genera by taxonomists has often caused some frustration among collectors as sometimes it is hard to accept that a certain plant belongs to a genus when it looks very similar to species of a different genus. Such was the case with *Wittrockia amazonica* which closely resembled a Nidularium, but because the petals had appendages and that was a defining characteristic that separated *Wittrockia* from *Nidularium,* which had no appendages then it seemed to be in the wrong genus. When Elton Leme produced his total revision of the nidularioid genera about 15 years ago, and redefined what makes each genus, then at last *Wittrockia amazonica* found its rightful place as *Nidularium amazonicum.* No longer were the appendages on the petals an important feature.

A few years previously, Jason Grant had shifted more than 20 Vrieseas into *Tillandsia*. These were the grey-leaved species that had always seemed out of place in *Vriesea*. But of course they were there because they bore appendages on the petals and that separated them from tillandsias which had naked petals. In this case, this renaming was not accepted by many by many botanist, including Harry Luther for the simple reason that Jason had not rewritten the descriptions of *Vriesea* and *Tillandsia*.

DNA analysis: The arbitrary system devised by botanists over 100 years ago of categorising species on characters such as petal appendages was totally ignored as the new system of comparing the DNA was introduced. For the collector it is going to mean some new labels will be required as many species have been moved to a new genera. In most cases, they make sense, for example it has been suspected that *Vriesea ospinae* and *Vriesea chrysostachys* were distinct from other vrieseas. They are now in the new genus *Ericgoudaea*. Likewise *Vriesea splendens* and *Vriesea glutinosa* are the two species in *Harrylutheria*. Some tillandsias have been renamed as the genera, *Lemeltonia*, *Josemania* and *Barfussia*. Other new genera are *Waltillia*, *Zizkaea* and *Cipuropsis.*

This may seem an awful lot of changes but at least it has ironed out many of the problems that have been known to exist. Most of these new genera only contain two or three species so *Tillandsia* and *Vriesea* still cover most of the species we are familiar with.

José Manzanares presented these results in a most interesting and informative way and with much subtle humour, that even the most unscientific person came away having learnt something.

Aechmae mariae-reginae

By John Olsen

Most bromeliads reproduce both sexually and asexually. Asexual reproduction is by offsets or "pups" as colloquially known. Sexual reproduction involves the transfer of male pollen to the stigma of the flower and thence to the ovary – the female part. Bromeliads are mostly monoecious i.e. male and female organs on the same flower.

Bromeliad species can be self-compatible or self-incompatible when it comes to the source of the pollen. Self-incompatible species require pollen to be delivered from another plant. Self-compatible plants will accept their own pollen but many have evolved mechanisms which favour cross pollination from a different plant (see Benzing: Air Plants).

A small number of bromeliads are dioecious. These plants have the male and female flowers on different plants. This is common among Hectia and Catopsis species. Some species have populations which are dioecious in only a particular area and have perfect flowers elsewhere.

Aechmea Maiiae-reginae (H.Wendland) is a Brazilian aechmea which has been variously named by synonyms- *Aechmea gigas, Aechmea lalindei, Pothuava mariae-reginae. Aechmea mariae-reginae* is native to Costa Rica and Colombia and was described by Hermann Wendland in 1863. BSI Journal 1970 v20(5) has some notes on its history:

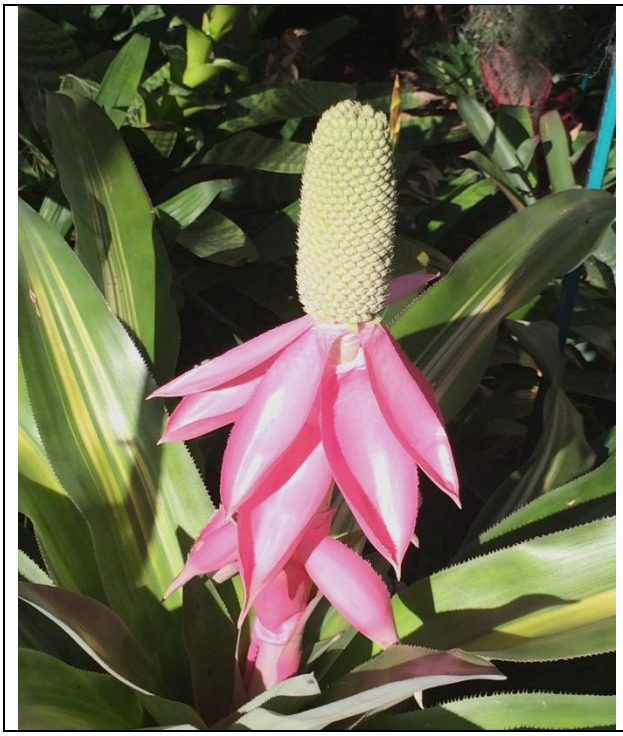
One of the most noteworthy of Aechmeas is *mariae-reginae*, a native of Costa Rica and discovered by Hermann Wendland around 1863. About twenty years later it was reported as being in the conservatories of the White House. It is strange that a plant of such easy cultivation and striking beauty should have so long remained uncommon in the United States.
In Europe it was widely cultivated shortly after its introduction. The following excerpt appeared in the *Gardener's Chronicle* (Vol. 31, 1871, p. 106):
"Under the name of *Aechmea mariae-regina* since has appeared at our flower shows during the present summer one of the most beautiful Bromeliaceous plants ever introduced to our gardens. It was first exhibited at the Regent's Park early in July, by its introducer, Mr. Wendland, Inspector of the Royal Gardens, Hanover, and received a First-class Certificate, and, in addition, a silver medal for its superior excellence and extreme beauty. We are informed that the flowering specimen may still be seen in full beauty at the establishment of Mr. B. S. Williams, at Holloway, who has arranged with Mr. Wendland to receive the entire stock.
"This handsome plant is of somewhat robust habit. The leaves are 18 inches in length, arranged so as to form a beautiful vase-like plant. The flower-spike rises from the centre and attains a height of about 2 feet; half the length is clothed with large boat-shaped bracts, some 4 inches long, of an intensely rich rose pink; the flowers, which are tipped with blue and change to salmon colour with age, are arranged compactly upon the upper portion of the spike, and materially add to the beauty of this extremely grand plant. The bracts are very persistent, retaining their rich colour in full perfection for several months. This superb plant, when known, cannot but become a universal favourite, and no doubt Mr.

Williams will soon be able to distribute this treasure to the lovers of rich and rare plants, in whose gardens it is sure to find a welcome.
Culturewise it is accommodating as most Aechmeas and verges on the "hardy." A plant here in Riverside, California, grew in an area under fibreglass roof, but exposed at the end and naturally without heat. It did very well over all when the temperature outside plummeted to 26 degrees. Sometime the immature leaves developing in the cup had the tips rotted off, but these soon grew out. Strangely, the plant "went" in one of our mildest winters when we had a late cool spring. It seems, not unnaturally, that a prolonged chill does more harm than a colder on of shorter duration.

Aechmea mariae reginae grows on the highest limbs of the highest trees in its native Costa Rica. When in bloom it can be seen by low-flying airplanes. Years ago when Lindbergh made his famous goodwill tour to Latin America he commented on the beautiful pink blossoms which he saw growing high on the trees".

The name of this plant means Queen Mary. And it has been seen as quite a regal plant. It is relatively large at around 1.5m across. The inflorescence has spectacular pink bracts below the cylindrical inflorescence. This Aechmea is dioecious. The photos below are of a male plant and inflorescence. The female inflorescence is shorter and more compact. The flowers are white with blue edging to the petals which turns pink as they age. This is the variegated form of the plant. Notes elsewhere suggest the female form is more compact and has a shorter inflorescence of greater diameter. *Blooming Bromeliads, Baensch, at page 72,* has male and female inflorescences shown.

Photos of the inflorescence were published in our November newsletter in the hope someone had a female plant and we could generate seed of this desirable plant. If you think you have a female plant send us a photo and letter so we can do some pollination next flowering.



Deuterocohnia brevifolia Cultivars

By Derek Butcher

In 2012 we saw 'Little Marj' registered in the Bromeliad Cultivar Register and details can be read on the BinA website http://www.bromeliad.org.au/ or the BCR http://botu07.bio.uu.nl/bcg/bcr/index.php

In 2013 we saw the Doctoral Dissertation on the genus *Deuterocohnia* by Nicole Schuetz where the old *Abromeitiella* genus was finally laid to rest as being within *Deuterocohnia*. The species *D. brevifolia* was redefined and it would appear that the subspecies *chlorantha* of Schultze-Motel has finally bitten the dust. I rather liked this subspecies because it is widely grown in California and Australia.

I first saw this form at the place of Dutch Vandervort from near Los Angeles, California in 1996 and was lucky enough to get a couple of pieces that survived quarantine. Moreover, it has never been propagated from seed, as far is known, but by offsets and as such can claim cultivar status. Each plant is on average, 2cm diameter and each leaf is green with scattered lepidote on the upper face with about 10 bristles each side. While slow growing it can form quite large mounds in large shallow pots. While in nature you will find the species growing on rocks it seems quite happy growing on a minimum of soil in cultivation.

This is now registered under the name *Deuterocohnia* Chlorantha. The photos show the detail of *Deuterocohnia* Chlorantha and some other species of Deuterocohnia growing in Huntington Botanical Garden. You will note that labels still refer to the genus *Abromeitell*a now moved into *Deuterocohnia.*

1. Deuterocohnia Chlorantha Photos D Butcher

2. *Deuterocohnia* Chlorantha

3 *Deuterocohnia* Chlorantha

5 *Deuterocohnia lorentziana* (Huntington Gardens, Photo M Wisnev)

4 Deuterocohnia Chlorantha (Huntington Gardens, Photo M Wisnev)

6 *Deuterocohnia lotteae*(Huntington Gardens, Photo M Wisnev)

Plant of the month List for 2015

January	**Aechmea**
February	**Tillandsia**
March	**Cryptanthus**
April	**Dyckia, Hectia, Puya**
May	**Alcantarea**
June	**Vriesea**
July	**Rarer genera eg Navia, Fosterella, bromelia etc**
August	**Pitcairnia**
September	**Billbergia**
October	**Guzmania**
November	**Neoregelia, Nidularium**

Neoregelia johannis Complex

By Alan Herndon

Extracted from CBSociety's Calahoosahatchee Meristem Jan 2010

This month I would like to offer a very preliminary review the *Neoregelia johannis* complex. I don't have enough material to pretend I can solve any of the problems in the complex, but I hope that the information I can offer will inspire others to share additional information. *Neoregelia johannis* and its relatives are typically large plants. They can have leaves to 9 cm (3.5") wide and up to 50 cm (20") long. Of course, a pup from a large plant may bloom at a much smaller size than the parent, especially if it is one of the last pups. Leaves on these small bloomers are still relatively wide compared to other *Neoregelia* complexes. Offsets are produced on thick stolons that are short, so the new offsets arise from under the leaves of the mother plant, forming dense clumps if not removed. There is no colouring of the inner leaves and leaf bases associated with blooming. Leaf margins are well armed with spines that are sharply curved towards the tip of the leaf. These spines are dark, but not always conspicuous due to their relatively small size. An outstanding characteristic of the complex is that the young inflorescence fills only part of the broad, shallow central cup of the plant. At about half-size, the inflorescence is conspicuous, but only half the width of the cup. When flowers start to open, the inflorescence is still surrounded by a ring of open water. In my experience, the inflorescences eventually fill the cup as they age. (In all other *Neoregelia* complexes, the inflorescence expands to completely fill the cup at a very early stage. You are unlikely to ever see the inflorescence before this stage.)

(far left) *Neoregelia johannis* growing in full sun in Honolulu Hawaii (left) growing directly next to above plant was *Neoregelia johannis* 'De Rolf'. Photos by Larry Giroux.

In the *Neo johannis* complex, bracts enveloping the inflorescence are large but inconspicuously coloured (light green to white) and remaining well below the flowers from an early stage. *Neoregelia johannis* also has stiff floral bracts with narrow, tapering tips that nearly reach the top of the sepals. Petals are usually white (see exception below), only lightly extended beyond the sepals and with tips that spread only slightly. Two characters of the mature fruit are noteworthy. First, the mature, seed-containing fruit are bright red. Ovaries on unpollinated flowers never mature and remain white until they brown with age. Unless you live in an area with active pollinators adapted to this plant, you will need to cross-pollinate between two different clones to see this. In addition, the red fruits will not be visible until you start actively searching for them, spreading the flowers and bracts to get a view of the underlying ovaries and fruit. (Red fruit are not unique to the *Neoregelia johannis* complex. They also occur, at least, in *Neoregelia macwilliamsii.)* Second, the mature fruit are relatively slender. They are 3 to 4 times as

long as wide. (In most *Neoregelia* species, the fruits expand greatly in width during fruit maturation, ending up about 2 times as long as wide, so the floral bracts are spread and the top of a mature fruit is readily visible from above.) There are three widely cultivated clones.

- *Neoregelia johannis* 'Fairchild' is characterized by primarily green leaves and was introduced by Dean Fairchild. With age, the leaves develop a light to dark red coloration starting at the tips and moving progressively inward.
- *Neo johannis* 'DeRolf' is a variegated clone collected by Larry DeRolf in Brazil. Without variegation, the plants look very much like 'Fairchild'.
- Still rare in cultivation is a clone obtained by Karl Green from Roberto Menescal that has leaves more evenly suffused with a red colour throughout the life cycle. Additionally, the colour is more translucent than the red colour on the leaves of 'Fairchild'. This plant, collected in the State (not city) of Rio de Janeiro, also differs in having light violet petals. Otherwise, it is virtually identical to 'Fairchild'

This plant was labeled *Neoregelia johannis menescalii* and was growing in partial shade in Fort Myers, Florida. Photo by Larry Giroux

Neoregelia correia-araujoi is currently recognized as a distinct species, but could just as well be considered a clone of *Neoregelia johannis* that has leaves mottled red and green. The inflorescences are not noticeably different between the two species. At least two clones are widely cultivated. I got one clone from Michael Kiehl as *Neo cruenta* x *marmorata.* Presumably, this has been in cultivation for many decades. The other clone (with superior leaf coloration) I have gotten from several sources (including Michael Kiehl). Originally, it came from the garden of the Brazilian collector Ruiz K. Correia de Araujo. Bob Work first brought this clone to southern Florida. Karl Green has another clone, probably from Wally Berg. This plant lost the red leaf mottling almost entirely under his growing conditions, but it has recently regained some of the leaf colour. I also have (from Moyna Prince) a small plant collected by Larry DeRolf that is presumably a *Neoregelia correia-araujoi* clone. It has the same leaf markings as the larger plants, but I am still waiting to see it bloom.

As noted above, *Neoregelia correia-araujoi* was treated as a hybrid for many years in the US market (usually *marmorata* x *cruenta).* This question has been examined by Derek Butcher recently (Bromeliaceae (Bromeliad Society of Queensland) 51(4):42-45. 2007 also reprinted in Bromeliad (Journal of the New Zealand Bromeliad Society) 49(7): 12-13

Growing in moderately full sun in a North Fort Myers, Florida yard is this more classically coloured and marked *Neoregelia johannis* (probably the cultivar 'Fairchild'). Photo by Larry Giroux

There is no obvious reason to consider *Neoregelia correia-araujoi* a hybrid. There is similarity between the leaf markings on *Neo marmorata* and *Neo correia-araujoi*, and that, along with the suspicion that always attends a plant described from cultivation, seems to be the only evidence for hybrid status. (It is worth noting that *Neoregelia rubrovittata* has a similar pattern of leaf markings.) Against this is the essential identity between the inflorescences, flowers and leaf structure of *Neo correia-araujoi* and *Neo johannis*.

In addition, it has been noted in Hawaii and Australia (and I can confirm based on my own seedlings) that plants indistinguishable from *Neo johannis* 'Fairchild' can be found among seedlings from a cross between two clones of *Neo correia-araujoi*.

As a final note on the complex, I would like to note that *Neoregelia cathcartii* seems to belong to the *Neoregelia johannis* complex. The inflorescence of *Neoregelia cathcartii* has the same relative size, floral bracts, sepals and petals as those in the *Neoregelia johannis* complex, although *Neoregelia cathcarthii* is a smaller plant with narrower leaves. (I am assuming, of course, that the plant is correctly named in our collections).

The Bromeliad Society of Queensland Inc.

Notice of Annual General Meeting
19th February 2015

The Annual General Meeting of The Bromeliad Society of Queensland Inc. is to be held at 7.30 pm on Thursday 19th February 2015 at the Uniting Church Hall, 52 Merthyr Rd, New Farm. The Agenda is as shown below.

AGENDA

Welcome
Minutes of Previous AGM
President's Report
Treasurer's Report / Financial Audit
Declare Management Committee Positions Vacant
Election of President
Election of Officers and Management Committee
General Business
Approval of Auditor for 2015

Membership Renewal

Members are reminded that their membership fees are now due and should be paid prior to the AGM. Annual membership runs from January to December

BSQ Spring Show Results 2014

Champion Peter Tristram - *Aechmea egleriana*	**Reserve Champion** Nigel Thomson - Encholirium species
Best Bromelioideae Nigel Thomson - *xHohenmea* Casper	**Best Tillandsioideae** Nigel Thomson - *Tillandsia Etna*
Best Pitcairnioidede Nigel Thomson - *Deuterocohnia brevifolia*	**Best Species** Barry Kable - *Alcantarea glaziouana* variegate
Best Cryptanthus Barbara McCune - *Cryptanthus* Irish	**Photography** Ron Jell
President's Award Bob Cross	**Best Hobbyist** Barry Kable
Best Commercial Nigel Thomson	**Best Novice** Rebekah Trevor

Competition Schedule for 2015

January - **MINI SHOW**
Class 1 – Aechmea species & hybrids
Class 2 – Vriesea species & hybrids
Class 3 – Dyckia species & hybrids

February - **POPULAR VOTE –** any genus species & hybrids + novelty bromeliad display

March - **POPULAR VOTE**

April - **MINI SHOW**
Class 1 – Bromelioideae not listed elsewhere in Schedule, species & Hybrids (*Acanthostachys, Ananas, Androlepis, Araeococcus, Bromelia, Canistropsis, Canistrum, Edmundoa, Fascicularia, Hohenbergia, Hohenbergiopsis, Neoglaziovia, Nidularium, Ochagavia, Orthophytum, Portea, Quesnelia, Ursulaea, Wittrockia)*
Class 2 – Guzmania species & hybrids
Class 3 – Pitcairnia species & hybrids
Class 4 – any other flowering bromeliad species & hybrids

May - **POPULAR VOTE**

June - **POPULAR VOTE**

July - **MINI SHOW**
Class 1 – Billbergia
Class 2 – Tillandsioideae not listed elsewhere in Schedule, species & hybrids *(Alcantarea, Catopsis, Mezobromelia, Racinaea, Werauhia)*
Class 3 – Neoregelia up to 200mm diameter when mature, species & hybrids
Class 4 – any other flowering bromeliad species & hybrids

August - **POPULAR VOTE**

September - **POPULAR VOTE**

October - **MINI SHOW**
Class 1 – Neoregelia over 200mm diameter when mature, species & hybrids
Class 2 – Tillandsia species & hybrids
Class 3 – Pitcairnioideae not listed elsewhere in Schedule, species & hybrids *(*Brocchinioideae, Lindmanioideae, Hechtioideae *(= Hechtia),* Puyoideae *(= Puya),* Navioideae, Pitcairnioideae *(= Deuterocohnia, Encholirium, Fosterella)*
Class 4 – any other flowering bromeliad species & hybrids

November - **POPULAR VOTE**

December - **No competition - Christmas Party**

Wishing all members and friends of the Bromeliad Society of Qld., a very Merry Christmas