

Far North Coast Bromeliad Study Group N.S.W.

Study Group meets the third Thursday of each month

Next meeting December 19th 2019 at 11 a.m.

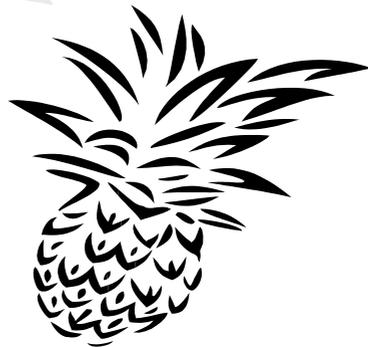
Venue: PineGrove Bromeliad Nursery
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Discussion: November 2019
General Discussion

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Statements and opinions expressed in articles are those of the authors and are not necessarily endorsed by the Group.
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Novice Popular Vote

1st	Drew Maywald	<i>Neoregelia</i> 'Dr. Jeffrey Block'
2nd	-----	-----
3rd	-----	-----

Open Popular Vote

1st	Dave Boudier	<i>xSincoregelia</i> 'Galactic Warrior'
2nd	Coral McAteer	<i>Neoregelia</i> 'Gold Medal'
3rd	John Crawford	<i>Neoregelia</i> 'Yin'
3rd	Keryn Simpson	<i>Neoregelia</i> 'Purple Star Marginated'

Tillandsioideae

1st	John Crawford	<i>Tillandsia fasciculata</i>
1st	Keryn Simpson	<i>Tillandsia recurvifolia</i> var. <i>subsecundifolia</i>
2nd	Drew Maywald	<i>Tillandsia schiedeana</i>
2nd	Gary McAteer	<i>Tillandsia foliosa</i>

Decorative

1st	Dave Boudier	'Pink Garden'
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Judges Choice

1st	Drew Maywald	<i>Tillandsia schiedeana</i>
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Web Links for Checking Correct Identification and Spelling ?

Bromeliad Cultivar Register (BCR): <http://registry.bsi.org/>

Refer to this site for correct identification and spelling of your hybrid or cultivar.

New Bromeliad Taxon List : <http://botu07.bio.uu.nl/bcg/taxonList.php>

Refer to this site for latest species name changes and correct spelling.

Bromeliads in Australia (BinA) <http://bromeliad.org.au/>

Refer to this site for its Photo Index, Club Newsletters, Detective Derek Articles.

Keep these web sites set as desktop icons for quick reference access.

Where do I Find the Dates ?

www.bromeliad.org.au then click "Diary".

Check this site for regular updates of times, dates and addresses of meetings and shows in your area and around the country.

Meeting 17th October 2019

The meeting was opened at approximately 11.00 am

The 9 members present were welcomed.

Seven apologies were received.

General Business

Ross opened the meeting with a warm welcome to all nine participants and a special welcome to Derryn from Western Australia who is on the Gold Coast for the Australasian Bromeliad Conference. Once again we had a good number of apologies.

Ross and other members of the Group paid tribute to Jim Henley who passed away recently after a long illness. Gary led us in a minute's silence for Jimmy who will be remembered as a wonderful person who was always smiling and joking. His funeral was a very large affair with the church packed out.

Ross presented the Group with a copy of the German Die Bromelie journal which has articles in German as well as English. Contact Peter Tristram for details if you would like to subscribe to it.

Show, Tell and Ask!

Drew showed *Billbergia* 'Booyong Ladd' which was in bud and about to flower. A very colourful *Billbergia* which is the albomarginated form of *Bill.* 'Allan Ladd'.

John brought in a *Tillandsia* for identification and while it was considered it may be *Tillandsia capitata* the name could not be confirmed until it flowers.

John recently attended a talk by an Orchid grower who recommended that if you want your plants to flourish, then research what their natural rainfall and conditions are where they grow, and try to recreate those conditions as closely as possible. This may mean the need for either heating (gas heaters) or cooling with misting fans in a controlled environment plastic covered tunnel house.

Ross led a discussion about keeping accurate records of your plants so that you can track details about them in the future. He showed a plant often seen called *Neoregelia acanthocrater* or *Neo. acanthocrater proserpinae / proserpine*, its name is not known for certain but seems to have links to *Neo.* 'Bobby Dazzler'. However, if you have a dubiously named plant in your collection, until it can be confirmed otherwise you should use the name it was given when you acquired the plant.

Ross and Derryn led a discussion about the Bromeliaceae subfamilies and the use of DNA testing to determine which family plants should belong to, which Drew is hoping to demystify for us in his series of compilations of 'A Layman's Guide'. As there is still a lot to learn about DNA testing some collectors feel the old system where we had three subfamilies was much simpler. For example, using the traditional morphological comparisons of the flower structure to match your plant to another by measuring all the parts of the flower. If differences are found, first one must decide which subfamily the plant belongs to, then secondly botanical keys can be used to help find a match. The three original subfamilies were based on the three types of seed, berry, flat winged or plumose produced by Bromeliads which made the classification much simpler. Perhaps we should stick to that classification system and add new findings into subgenera rather than creating additional subfamilies.

Derryn led a discussion about the use of fertilizer and some of the points that came out of that discussion were:

- Feed your Bromeliads if you want good plants.
- NPK Blue is a good balanced fertilizer.
- Best to fertilize in spring and autumn.
- If you are going to use liquid fertilizer a good rule is weekly, weakly!
- Campbell's Blue is a good foliar fertilizer.
- YaraMila complex 12-5-15 is another good fertilizer to use which is not too expensive, good for growth and keeping colour.

We are growing Bromeliads which originate from a massive area including South, Central and North America, from sea level to 4,000 metres up in the Andes, so we need to take care of our plants and feed them appropriately.

Dust on our plants raised concern due to the recent dust storms which can travel great distances. Much of the dust that lands on plants contains fertilizer (fine particles of pulverized animal poo) so don't wash the dust off but gently water it into your plants or they will lose this free air-born fertilizer.

Derryn talked about taking Bromeliads into Western Australia where they have to be quarantined and sprayed before being released, a costly exercise.

Derryn spoke to the Group about his nursery and the landscaping business he operates in the Perth area of Western Australia and answered questions from the Group about Bromeliads in the west. Derryn is busy creating his own range of hybrids, mostly Neoregelias at this stage with intentions of trying his hand at some other genera in the future. He says he is quite happy with many of his results to date, so perhaps one day we'll see some of them make their way east.

Ross brought out to show us his *Deuterocohnia meziana* with its 1.62 metre tall flower spike. This is quite a large Bromeliad with vicious spines on the leaf margins. *Deuterocohnia meziana* is one of the larger plants among the species of *Deuterocohnia* measuring around 650mm across. *Deuterocohnia brevifolia* and the cultivar *Deut.* 'Chlorantha' are the most often seen *Deuterocohnia* in collections measuring a mere 30 to 50mm across.

Having had this plant received as a seedling in his collection for over 10 years it was a joy to see it finally flower for the first time. On checking for correct identification using the:

Deuterocohnia key to the subspecies:

Sepals orange, petals orange to yellow with green tip it was agreed our plant in question is *Deuterocohnia. meziana* subsp. *meziana* Hopefully this plant will flower several times over the next few years providing the scape isn't cut.



It is found growing on the lower eastern Andean slopes and low lands of south east Bolivia (Chiquitania), Dept. Santa Cruz, adjacent areas in western Brazil and southwards along the Rio Paraguay to north Paraguay, Dept. Amambay, Concepcion at elevations from 150 to 1400 metres.



Deuterocohnia meziana ssp. *meziana*

Deuterocohnia Mez is one of the five genera belonging to the Bromeliad subfamily Pitcairnioideae s.str. (Givnish et al. 2007, 2011).

The genus comprises 16 species, which are all adapted to arid habitats. Most of the *Deuterocohnia* species are distributed in southern Bolivia and northern Argentina, some occur in Brazil, Paraguay, Peru or Chile (Schütz 2013).

Etymology: The species is dedicated to the German botanist Carl Christian Mez (1866–1944) whose research focused on plant taxonomy and physiology. He established the genus *Deuterocohnia* in 1894.

Discovering Succulent Bromeliads

by Helen Clewett 2019

This month's talk was given by Helen telling us originally her main interest was with cactus and succulents which is where she discovered a couple of strange and not so interesting plants to some of the other people in the local C&S Group. At the time they were a Bromeliad known as *Abromeitiella*, small, insignificant, colourless plants with green flowers (petals) that have since been reclassified as *Deuterocohnia*.

If only they knew of the rest of the Bromeliad family and realized as Helen had, there are many more succulent type Bromeliads worth collecting as she showed in the photo below. Not only are they tough, hardy plants, they suit our dry harsh summers often tolerating partial sun under shrubs in the garden and in full sun. Helen has found over the years *Cryptanthus bahianus* handles these conditions and also some other genera that fit this succulent category being *Deuterocohnia*, *Dyckia*, *Encholirium*, *Hectia* and many *Orthophytum* some of which have been reclassified as *Sincoraea*. Of course lets not forget *Puya* many with wonderful green-blue to dark blue flowers, a delight in any collection.

Most Bromeliads in our collections are of the epiphytic type, growing in trees that have adapted to hold water in their tanks/central wells while our succulent type developed a greater root system and the capability to store water in their leaves. They are often more greatly armed with vicious spines for protection than their epiphytic cousins.

As with all terrestrial plants, ground dwellers, they enjoy a generous amount of watering in the warmer months and of course don't forget to fertilize them.



Neoregelia 'Yin'
grown by John Crawford



Tillandsia foliosa
grown by Gary McAteer



Tillandsia streptophylla grown by Dave Boudier



xSincoregelia 'Galactic Warrior'
1st Open Dave Boudier



Neoregelia 'Dr. Jeffrey Block'
1st Novice Drew Maywald



Neoregelia 'Purple Star Marginated'
grown by Keryn Simpson



Neoregelia 'Gold Medal'
grown by Coral McAteer



Tillandsia fasciculata
= 1st Tillandsioideae John Crawford



Till. recurvifolia var. subsecundifolia
= 1st Tillandsioideae Keryn Simpson



'Cup of Fire'
shown by John Crawford



'Heatwave'
shown by Keryn Simpson



Tillandsia schiedeana
Judges Choice Drew Maywald



'Pink Garden'
1st Decorative Dave Boudier



Tillandsia rodrigueziana shown by Helen Clewett

A Shade House Revamp

by John Crawford and Drew Maywald

We decided to improve John's collection of Bromeliads by getting them off the ground. This was going to be no mean feat as his shade house is 30 metres x 30 metres with some 5,500 bromeliads in pots to deal with. The first photo is some of the Vrieseas (plus other Bromeliads) on the floor and is about one fifteenth of the area we had to deal with.



The other issue we were faced with was how to do this cost effectively. To make steel benches was out of the question.

In the end we decided to buy used security screen doors and put them on concrete blocks and put the plants on the doors. We were able to buy used security screen doors for up to \$20.00 each. We removed the old locks and fly wire from the doors and started on our first area.

It took us one morning to complete this area as we worked out the best way to complete the project. We were delighted with our morning's work and the results can be seen in the photo below.



Drew borrowed a Ute from a neighbour and visited nearly every screen door manufacturer on the Gold Coast to get enough doors to lift all the Bromeliads off the shade house floor. Sixty seven doors and two ute-loads of blocks later you would not recognise the nursery.

The Bromeliads are now easy to access, weed and clean without so much bending, and the floors of the whole nursery can now be cleaned

with a blower. During the recent storm where we experienced 100 kilometre an hour winds, there were only a couple of pots that had blown over.

During the process we also started to sort out John's collection and reduce the number of plants, but that's another story!



Another view of the great work done by John and Drew upcycling security doors.

Vale: Grace Goode, OAM (102)



She was introduced to Bromeliads in her 50s, and her ensuing passion for them lead to many Bromeliad hybrids by her, including close to 1000 named ones.

While she primarily hybridized Neoregelias and Cryptanthus, she also produced Aechmea, Billbergia, Nidularium, and Tillandsia hybrids.

She received the Order of Australia Medal in 2004 for her Bromeliad growing and hybridizing efforts. Grace was an Honorary Trustee of The Bromeliad Society International and The Cryptanthus Society and also was a life member of the Bromeliad Society of Australia, Cairns Bromeliad Society, Bromeliad Society of Queensland, and the Sunshine Coast Bromeliad Society.



Bromeliaceae – A Layman’s Guide Part 2 continued:

Hohenbergia: pronounced hoe-en-ber’gee’a, the genus name, Hohenbergia, is for the Prince of Württemberg, a German patron of botany known as Hohenberg. This epiphytic genus of usually large plants was first described by the younger Schultes in 1830. There are 49 species in the Hohenbergia genus.

This genus had two recognized subgenera: Hohenbergia and Wittmackiopsis. Recent DNA studies have shown the two subgenera are not monophyletic, and the species of subgenera Wittmackiopsis have been transferred to the resurrected genus Wittmackia.

Hohenbergia are beautiful flowering Bromeliads with very attractive foliage. They can grow quite large and typically have broad strap like leaves that are stiff and leathery. Some Hohenbergia remain upright, while others have leaves that bow out at the ends. The leaves often come together to form a tight rosette shape. Hohenbergia usually produce a tall flower spike, which is what distinguishes them from their close relatives in the Aechmea genus. The inflorescence of the Hohenbergia is often branched with small clusters of flowers.

Special scales on the leaves take in the water and the nutrients, while the roots act as anchors. Although Hohenbergia are often found as epiphytes in nature, they can also be planted terrestrially. Many Hohenbergia, especially those native to sandy beaches and coasts, prefer full sun. There are some that thrive better in indirect light or dappled shade. Hohenbergia should be watered in their central tank.

Hohenbergia produce a single inflorescence which is very long lasting, up to several months in some cases, but once it dies the plant will begin to die as well. However, Hohenbergia generously set on offshoots or pups. It can take some Hohenbergia as long as 5 years to reach maturity and produce a flower.

Hohenbergiopsis: pronounced hoe-en-ber-gee-opsis, the genus name is from the genus Hohenbergia and the Greek “opsis” (resembling) because it resembles the genus Hohenbergia. It contains only one known species, *Hohenbergiopsis quatemalensis*, native to Oaxaca, Chiapas, and Guatemala.

Karawata: pronounced kar-a wata, *Karawata* is a new genus to the Bromeliaceae family, sub family Bromelioideae. It consists of seven species that were all members of the *Aechmea* sub genus Chevaliera. This new genus was created by J. Marciel et al., in Systematic Botany 44(3): 519–535. 2019, in September 2019. This genus is endemic to the Brazilian Atlantic Forest. Phylogenetics work (the study of the evolutionary history of plants), revealed that *Aechmea* subgenera *Chevaliera* is not a monophyletic group (a group of organisms that are classified in the same taxon and share a most common recent ancestor).

Seven species previously assigned to the subgenus form a clade (a taxonomic group of organisms classified together on the basis of corresponding features traced to a common ancestor), with strong statistical support and in sister position to morphologically distinct members of other genera. Morphological and phylogenetic evidence segregates the following seven species to a new genus named Karawata, which requires the following new combinations:

Karawata depressa, *Karawata gustavoi*, *Karawata hostilis*, *Karawata multiflora*, *Karawata nigribracteata*, *Karawata prasinata* and *Karawata saxicola*.

Lymania: pronounced lie-may’nya, Lymania is a genus named after Lyman Bradford Smith an American botanist. The genus was established in 1984 to “unite furrowed or winged” species from Aechmea, subgenera Lamprococcus, Araecoccus and Ronnbergia. Lymania is a group of plants endemic to the Bahian coast of the Brazilian rainforest. Modern DNA analysis has confirmed that Lymania is correctly classified as an independent genus containing two distinct clades. There are nine species in the genus.

Neoglaziovia: pronounced ne’o-gla-zeeo’vee-a, The genus is named in honour of Auguste Francois Marie Glaziou, a French landscape designer and Bromeliad collector, by Mez in 1894. Neoglaziovia has three known species all of which are endemic to the Atlantic Forest biome in southeast Brazil. The species, *Neoglaziovia variegata* has been and continues to be, an important part of localized markets in South America where its fibres are woven into fabric, netting, and rope.

A succulent type leaf is the hallmark of this genus with inflorescences whose flowers are purple or violet.

Neoregelia: pronounced nee-o-ree-jeel’ya, the genus name is for Eduard August von Regel, Director of St. Petersburg Botanic Gardens in Russia (1815 - 1892). There are 122 species in the genus. Neoregelias are epiphytic plants in nature, meaning they grow attached to the branches of forest trees; they do not naturally grow in the earth, though they can be cultivated on the ground in controlled conditions, such as a garden, provided they are kept in a very airy growing medium such as pine bark that allows the root system to breathe.

Their roots serve primarily only as hold-fasts to grip their canopy perches and are adapted poorly to absorb nutriment, which is instead obtained through leaf litter, animal droppings and rainfall that collects in the prominent central cup (or well) exhibited by most species in the genus. They have mostly broad, relatively flat leaves often marked brightly with red, purple or yellow pigments which serve to protect the green photosynthetic tissues from sunburn and through selective breeding and hybridization thousands of cultivars in almost all colour combinations, many also striped with white, have been produced.

The inflorescences of these plants form in the shallow central depression - the "cup" - of the plant, which often fills partway with water, through which the flowers bloom. Neoregelias, like most Bromeliads, bloom only once in their lifetime and then begin to die, but normally not before producing several pups - small clones of the parent plant - around the central flowering rosette on stolons. These offshoots eventually replace the mother plant and form a cluster around it - though in cultivation, the offshoots can be severed and replanted when about two-thirds the size of the adult plant. The leaves immediately surrounding the inflorescence are very often brightly coloured, even in species otherwise not brightly marked - an adaptation to attract pollinating insects.

Neoregelia Bromeliads, due to their myriad forms and beautiful colours, are commonly cultivated and hybridised in captivity as houseplants and in warm climates and are particularly suitable for vivarium culture. Their needs are simple, mainly consisting of bright light (most forms will revert to green if lighting is sub-optimal) and an airy growing medium. They do not, as a rule, do well in soil and will be prone to rot due to their nature as epiphytes.

In temperate regions where temperatures fall below 10°C (50°F), they must be grown under glass or as houseplants. There are over 7,400 registered cultivars.

Neoregelias are utilized by many species of poison dart frogs to reproduce. The frogs raise their tadpoles in the security of the water-filled cup in the Bromeliads rosettes, allowing them to stay in the relative safety of the treetops and not have to venture to a pool on the ground where predators are likely to be much more numerous. Waste products from the frogs and their offspring, once deposited into the cup, are utilized by the plant for nourishment.

Nidularium: pronounced nid-u-lar-ee'um, this genus named to describe the nestling characteristic of the inflorescence (Latin: nidulus = little nest) by Lemaire in 1836. All 47 species are endemic to eastern Brazil where it grows on or near the ground. Commonly confused with Neoregelia which they resemble, this plant group has flat rosettes that are characterised by their inner collarette of leaves that turn red at blooming.

Ochagavia: pronounced och-a-gar-ve'a, this genus is named for Sylvestrus Ochagavia, Chilean Minister of Education. Endemic to southern and central Chile, including the Juan Fernandez Islands, Ochagavia has four species.

Orthophytum: pronounced ortho-fytum, the genus was named by Beer in 1854, from the Greek "ortho" = straight and "phytum" = plant, due to the erect inflorescence. All 58 species in this genus are endemic to the Atlantic Forest biome in southeast Brazil. This small genus of plants grow in clusters on rock ledges. Due to recent advances in technology and DNA testing many of the original Orthophytum species and cultivars have been reclassified under new genera.

Orthophytum are semi-succulent plants and all species have white flowers and green or copper coloured leaves with soft spines. They are hardy and require little attention, demanding only plenty of light.

Portea: pronounced por-te-a, the Portea genus is named in honour for Dr. Marius Porte, a nineteenth-century French naturalist who died in 1866 in Manilla while on a collection expedition for the National Museum of Natural History, by Koch in 1856.

Portea is a small group of plants and it currently includes just eight species. The plants are natives of the eastern Atlantic coast of Brazil where they tend to be medium to large terrestrial and epiphytic plants. They thrive in strong light. The foliage of this genus is often quite attractive, although heavily protected by sharp spines.

The branches of the inflorescence are somewhat lengthy. This characteristic makes the bloom even more stunning. The plant produces a tall bloom of lavender flowers followed by dark purple berries. Although the leaves are frost sensitive, the plants usually survive cold temperatures and produce blooms in the late spring. They are hardy plants that flower months on end.

Pseudaechmea: pronounced sue-do-eeek-me-uh, Pseudaechmea is from the Greek "pseudos" (false) and the genus Aechmea. The genus was established by Lyman Smith and R.W. Read in 1982. The genus has only one species *Pseudaechmea ambigua*.

Quesnelia: pronounced quiz-nell-ee'a, were described by Gaudichaud-Beaupre in 1844, this genus is named after French businessman, patron of botany and French Consul to French Edouard Prosper Quesnel of Le Havre (1781-1850). Terrestrial, epiphytic and lithophytic, this genus is endemic to eastern Brazil, and contains 22 known species.

Ronnbergia: pronounced ron-ber'jee-a, is a small genus of terrestrial and epiphytic Bromeliads discovered and named in 1874 by Edouard Morren to honour M. Ronnberg, Belgian Director of Agriculture and Horticulture in 1874. There are 22 species in the genus. A small to medium sized plant with a stoloniferous habit, the inflorescence forms a simple spike with blue-petaled flowers.

Ursulaea: pronounced ues-ul-ee-a, named for Ursula Baensch, plant breeder and co-author of 'Blooming Bromeliads'. This genus is endemic to Mexico and has two known species, *Ursulaea macvaughii* and *Ursulaea tuitensis*.

Wittrockia: pronounced witt-rock'ee-a, this is a small terrestrial and epiphytic genus endemic to Central America and South America, and the southern coastal mountains of Brazil in the Atlantic Forest biome. Similar in appearance to a Nidularium, *Wittrockia* was described by Lindman in 1891 to honour Veit Bracher Wittrock, Swedish botanist (1839 – 1914).

Wittrockia is large among Bromeliad genera, producing long, glossy leaves armed with sharp spines, and forming rosettes over 1 metre in diameter. The foliage may contain various colours of spots and banding, depending on the species. Their inflorescence blooms deep in the cup where the plant catches water. Epiphytic or terrestrial plants growing often in full sun or in medium intensity light about half-way up trees. Most species have thin leaves with few marginal spines

The seven known *Wittrockia* species are adaptable to varying climates and light exposure. Their attractive foliage has made them popular in cultivation as an ornamental plant.

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Compiled by Drew Maywald 2019