

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

Study Group meets the third Thursday of each month

Next meeting 16th April 2015 at 11 a.m.

Venue: PineGrove Bromeliad Nursery
114 Pine Street Wardell 2477
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Discussion: March 2015

General Discussion

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Meeting 19th February 2015

The meeting was opened at approximately 11.00 am
The 22 members and two visitor present were welcomed.
A total of two apologies were received.

General Business

Forecast to be the beginning of a substantial East Coast Low weather system, we however survived the day with a great meeting, lots of chatter and laughter and enjoyed seeing so many in attendance considering the forecast.

Ross distributed the Newsletter after welcoming everyone having commented that he knew why January's meeting had fewer members in attendance, as it was office bearer election time again. Our one change to the previous office bearers is Jeanette Henwood, who has kindly offered to be our Librarian, thank you Jeanette.

A timely reminder from Ross, those of us who bring our bromeliads in boxes to the meetings are to make sure the boxes are marked, named or colour coded in some way, so that everyone knows it is your box. For those, who do not bring a container, be it a polystyrene or cardboard box etc. and find themselves requiring one at the end of the meeting to take their spoils home, DO NOT help yourself to someone else's, please ask Ross or Helen if they have a spare one.

Show, Tell and Ask!

Gloria commented that when repotting her *Tillandsia dyeriana*, she found it had very few roots, although it had recently flowered with two magnificent flower spikes and was very healthy. She asked was there anything she could do to encourage better root growth. Gloria said she had always used German peat and perlite previously when potting her Tillandsias.

Both Ross and Lesley commented that they had similar experiences and it had been suggested to them to adjust the ph of the potting medium to be more acid. Also foliar feeding with a soluble fertiliser does help.

Gloria also asked about the removal of large pups on her Vrieseas and when was a good time to do so, Ross, suggested that now was a good time and that he took his pups off all around the year. Adding that in the cooler months he pots them into dry mix, leaving them for a few days before wetting the mix.

Jeanette, required a verification as to the correct identification of her plant as it only had mixed parentage names on the label, ID was *Neoregelia* 'Satsuma'.

Lesley showed her *Tillandsia* "Samantha," a beautiful hybrid by Pamela Koide. It has shown a similar growing problem to *Tillandsia dyeriana* with little root growth making the plant unstable which needed staking in its pot. This did not however detract from the stunning plant about to burst forth in full bloom. Lesley also had a very colourful *Tillandsia* 'Marron' a cultivar of *Till. capitata* to show us, with many oohs and aahs following. Many of these magnificent specimens live outdoors in Lesley's peach tree which gives the perfect environment, semi shade in summer with the foliage and with its deciduous nature, full sun in winter.

John told of purchasing a Tillandsia from our sales table about twelve months ago and after hanging the plant in his shade house, how successful he has been. The plant has produce an abundance of pups on a regular basis for him, admitting that he has given it plenty of TLC.

Les showed his large single specimen of *Cryptanthus warren looseii* and commented that if you wish to grow large single specimen Cryptanthus, grow them in small pots, preferably wide and shallow so the plant stands or sits alone.

Les also raised the issue of the deteriorating quality of some of the raffle plants and nicely reminded everyone that this is a fund raiser for the Group and should also be a showcase and not a dumping ground for what he referred to as, "what should rightfully be on the compost heap". Please endeavour to bring to the raffle table, plants you would be proud of and would wish to take home yourself.

Ross reminded everyone when putting entries in the monthly competitions please remember to write your entry and name in the appropriate folder, as you are losing a point if you forget to enter your details and all these points add up towards the end of year awards.

Kevin asked about fertilising bromeliads and was it necessary as they synthesise their own from leaves and other detritus that falls in the leaf axils / cups? He spoke of a grower recommending that he place prills of slow release fertiliser in the centre of the bromeliad. The response to Kevin's question was that over time our bromeliads do respond well to additional feeding, their root development has changed from primarily holdfast to the adaptation that some of the plants nutrition is absorbed through the root system. Ross added that a measured amount of slow release fertiliser be placed on/in the potting medium around the plant or alternatively, foliar feed your bromeliads with half strength soluble fertiliser. Ross added that you only place a very small amount of slow release fertiliser in each leaf axil to encourage pup / offset growth. Only ever add fertilizer prills to the centre of a bromeliad after it has finished flowering as doing so at any other time may initiate burning to the delicate growth point. Foliar feeding with a soluble fertilizer is a different matter.

There were questions and discussions about using basket or net pots for growing Tillandsias, both Lesley and Ross stated that they used them frequently and found them excellent with one major drawback the roots of Tillandsias love these pots. They send their roots out through the holes in search of moisture and nutrition, locking themselves firmly to the basket leaving you to destroy the pot when you wish to remove the plant for division. Some growers prefer solid walled pots as they feel a lot of nutrition is lost via the holes of these net pots.

Following on from this discussion, we touched on the subject of fibrous feeder roots and anchorage roots and will revisit this in more detail at another meeting. Gloria commented that she had listened to a talk on how the roots of bromeliads change and adapt and found this information very interesting.

Meg commented on her *Neoregelia* 'Garnish', 'Hot Gossip' (also known as 'Predator') and her *Neo*. 'Predatress' that she brought to a meeting in Spring last year displaying lots of colour with pups showing considerable variation to the parent plants. Meg removed the pups and potted them, she has found that they are not growing as expected and appear to be deteriorating. It was suggested to Meg to check her mix for drainage and or pests.

Les gave a talk on *Cryptanthus* 'It' and Genetics, article starts page 10.

After lunch Kay and Trish distributed their surplus *Hohenbergia* and *Nidularium* seedlings to members willing to participate in a comparative growing exercise, not a competition but a comparison of various climatic and environmental conditions plus added TLC to see how the bromeliads respond. It is anticipated that those members participating in the exercise will bring their plants to the September meeting and report on where and what they have done with their bromeliads and what they have learnt and experienced in doing so.

These plants were given as a gift with a small caveat: you, as recipients are obliged to participate in the ongoing exercise and feedback, so the Group can collate and make recommendations on the preferred growing conditions for these species. If this is successful and the Group wishes to continue please let us know and we may be able to try many other bromeliad species as seed is available. We will need time to grow them to acquire the numbers of small plants required.

Dennis Mills showed a 'Living Picture', he constructed a hanging frame setting a section of metal garden edging into the framework to support a pot ready for planting. A light chain attached to the framework allows it to be hung. The result: a stunning decorative display of ideas and craftsmanship shown by John Crawford with a *Neoregelia* 'Pink Spider' planted in the pot. (photo p.8)

Aechmea 'Samurai and 'Shogun'

by Lynn Hudson 2014

Here is what I wrote in Bromelcairns 2014 #5:

There are two very attractive and very popular Aechmeas - 'Samurai' and 'Shogun'. These are both from Japanese tissue culture, *Ae.* 'Samurai' being produced before 1985 and *Ae.* 'Shogun' before 1990, *Ae.* 'Samurai' has a wide yellow median stripe and *Ae.* 'Shogun' has yellow leaf margins.

When I heard talk of a "French Clone" and a "European Clone" I didn't understand, I assumed they referred to 'Samurai'. Then I read a newsletter story about a carpet snake shedding skin with the help of a variegated *chantinii*. I asked Olive Trevor why they would call it *chantinii* when it was 'Samurai' and Olive told me there were two, they looked the same except the variegated *chantinii* had flower bracts that were redder than 'Samurai'.

I collected 'Samurai' wherever they were available for purchase as they really appeal to me. Lately there has again been discussion about the variegated *chantinii* and 'Samurai'. It comes up now and then and I usually get dragged into the conversation as people know I grow both. I can only tell you of my experiences with these beautiful bromeliads.

While at the Florida DeRoose Nursery in 2002 I saw attractive variegated plants and I asked Paul for 'Samurai'. He said he had better, a variegated *chantinii* and it would give more variegated offsets. So my original two 'variegated' plants came from Paul and he was very right, they have reproduced faithfully. Yes I have had a few plain *chantinii* offsets but a much higher count of variegated offsets than from 'Samurai' I have been very diligent with the name tags, mainly due to my own curiosity.

I have even had a variegated plant from a completely plain *chantinii* variegated. This has never happened to me from a completely plain 'Samurai'. I have produced a variegated 'Samurai' from a plant that had casual variegations by placing the node of the best variegations to the morning sun. Sometimes it can take several generations of patient manipulation to get a good specimen.

I have been told of a non-variegated 'Samurai' producing a well variegated offset. Maybe the plant was originally *chantinii* variegated, but inadvertently named 'Samurai' by a person who, just like me, did not know there were two plants almost completely indistinguishable from each other. I have grown many, had them flower together but I have seen no differences in flower bract colours; or in leaf tip shapes or in plant shapes or leaf colouring. I can only tell you of my experiences as they are easy to grow in Cairns, they love our warm climate.

Aechmea chantinii variegated 'German clone' by Ross Little 2015

Recently there has been discussion regards the variegated and albomarginated group of *Aechmea chantinii* cultivars again with the suggestion of a variegated 'German clone'. Was this variegated clone a select clone of *Ae.* 'Samurai' being grown in Germany, if not where did it originate ? I had to know.

I followed my usual line of questioning everybody I came in contact with who I thought may know of this variegated clones history. We know *Ae.* 'Samurai' is from Japanese tissue culture in the 1980s and *Ae.* 'Shogun' is its reverse. BCR note: Mr. Isao Yamamoto of Japan advises that 'Shogun' did not originate in Japan but seems to have been a sport at some later time somewhere!

All leads seemed fruitless until I spoke with Bob Larnach of Bromeliads Australia who suggested a possible connection with the Gulz Nursery in Europe. I sent an e-mail off to Peter Bak in Europe for help and was well rewarded suggesting I contact Hermann Prinsler in Germany.

Hermann's response was prompt and precise informing me that he acquired a *Aechmea chantinii* with variegated foliage from a German Bromeliad nursery. This nursery owned by a Mr Link cultivated a lot of *Ae. chantinii* between 1970 and 1980 and was visited by Hermann several times. It was during one of his visits between 1972 and 1974 that he saw in amongst many hundreds of *Ae. chantinii* seedlings a variegated one which Mr. Link sold to him. In Hermann's own nursery the plant grew and propagated well where he found it always made good variegated pups.

Hermann sent pups to the USA, his connections there being E. Wurthmann, Dr. Dexter, Dr. Kent and other collectors. He also sent photos of his variegated *chantinii* to Victoria Padilla, the Editor of the BSI Journal. One of Hermann's photos also graces the pages of Victoria Padilla's book *The Colorful Bromeliads* published in 1981, page 71. ▶



It appears that *Ae.* 'Samurai' came much later and is not related to the Link plant grown by Hermann Prinsler known as *Ae. chantinii* variegated 'German clone' which is *Ae.* 'Vista' named by Kent's Nursery, as this is one of those pups that Hermann sent to his USA connections. Now we know for sure there are three plants, one of Japanese and two of German origin, but which one is yours ?



That I doubt we can ever be sure of now.

◀ *Ae. chantinii* variegated ▶
grown by Hermann Prinsler 2015



Show and Tell Discussion Plants

shown by Helen Clewett



***Tillandsia* 'Nashville'**
A Margaret Paterson hybrid using:
Tillandsia
tricolor
X
brachycaulos

Bromeliad Hybrids: #2
"for my own satisfaction"
pages 26, 27



***Tillandsia* 'Yabba'**
A Margaret Paterson hybrid using:
Tillandsia
brachycaulos
X
flabellata

Bromeliad Hybrids: #2
"for my own satisfaction"
pages 36, 37



Tillandsia dura
Distribution: Epiphytic
in rainforest, from
near sea level to
800 m alt,
southeastern
Brazil



Tillandsia fasciculata grow well both mounted or in pot culture.
Distribution: Epiphytic in woods, from near sea level to 1350 (-1888) m alt,
Mexico, Central America, West Indies, northern South America.





Aechmea 'Loie's Pride'
1st Open John Crawford



Tillandsia 'Samantha'
1st Novice Lesley Baylis



Tillandsia 'Marron'
grown by Lesley Baylis



Ananus 'Bitter Chocolate'
grown by Ross Little



Guzmania hybrid
grown by Kay Daniels



Cryptanthus warren loosei
Judges Choice Les Higgins

Photo's supplied by: Ross Little



'Living Picture'
1st Decorative John Crawford



'By the Seashore'
by Helen Clewett



Vriesea philippo-coburgii
grown by Kevin Jones

Cryptanthus 'Ti' and Genetics

by Les Higgins 2015

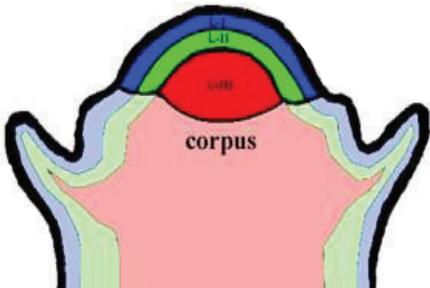
I would like to instigate a discussion about this *Cryptanthus* 'Ti' with a chimera (pronounced kimera) that appears to be identical to *Crypt. arelii*. In this talk I will attempt the simplest possible explanation of the extremely formidable subject of genetics.



Cryptanthus 'Ti'
with chimera

Cryptanthus 'It'

Many ornamental plants originated as mutations such as a chimera. A chimera may be induced chemically or by irradiation or they can appear spontaneously. Chimera genotype differs to that of the parents resulting in a partial or a new form of plant.



Plants produce a new shoot by forming a meristem. The top of the meristem is the apical dome known as tunica. The tunica is considered to have three layers:
first is the Periclinal
second is the Mericlinal
third is the Sectorial

Each of these layers is responsible for specific parts of the plant. Mutated cells clustering across the top of the apical dome make a periclinal chimera. This is a stable chimera and can be vegetatively propagated. The extent of cell clustering and positioning within one or two or all three layers determines the physical attributes of the emerging pup. There will always be a proportion of non mutated cells in the meristem.

As a simplified example: A spineless plant can be created from a spined plant by a one layer periclinal chimera. The periclinal layer has no genetic information for spines and the pup emerging from the epidermis is spineless. The root, stem and flower cells that are the products of the mericlinal and sectorial layers have the unchanged original genetic information. A sucker emerging from the roots has spines.



Many chimeras fail to grow independently or lack the energy to become established. Some chimeras are characterized by their inability to synthesize chlorophyll. A white leaf is devoid of chlorophyll. Pink, Cream and yellow leaves have limited chlorophyll. This "arelii pup" chimera of pink and brown has been an extremely slow grower on its own roots. It's probably deficient in photoautotrophic ability. *Cryptanthus* 'Ti' leaf colour suggests a low level of chlorophyll. Perhaps inadequate chlorophyll

explains the many overwinter losses of *Crypt. 'Ti'*. Having a parent that has a low level of chlorophyll gives little hope for the independent survival of this "arelii pup" chimera.

Tissue Culture originally limited one explant to produce less than 500 plantlets. As the quantity increases so does the probability of mutations. Commercial Plant Propagators produce plantlets from tissue cultures taken from tissue cultures and hope eventually to get a good mutation. *Crypt. 'It'* and *Crypt. 'Ti'* originated from excessive tissue culturing.

Cryptanthus 'It' caused a sensation when it appeared in a tissue culture cabinet that was mass producing *Crypt. arelii*. ► At that time about 20 species of *Cryptanthus* were known and a small number of hybrids were available. The arrival of 'It' was a dramatic event. No other *Cryptanthus* has been so extensively tissue cultured as *Crypt. 'It'*.



No other *Cryptanthus* has had so many disappointing attempts at self pollination and cross pollination. Chimeras cannot be propagated true to type from seed and furthermore *Cryptanthus* are considered self sterile. Eventually a mutation occurred with the colours of *Cryptanthus* 'It' reversed. The letters in the name were reversed and *Cryptanthus* 'Ti' was born. Since then chimeras, sports and variegations of both 'It' and 'Ti' have been produced and few have survived.

FNCBSG Newsletter June 2012 published Orthophytum 'What'. A cross made between *Cryptanthus 'It'* and *Orthophytum saxicola*. *Cryptanthus 'It'* as mother plant produced only white seedlings none of which survived. With *Cryptanthus 'It'* as pollen parent the seedlings resembled neither parent and were mostly "Dogs". The story of white seedlings is repeated whenever 'It' and 'Ti' are hybridised with other *Cryptanthus*. 'It' and 'Ti' appear to be genetically crippled. There are other cultivars that spawn white seedlings. Does this phenomenon identify chimeras?

A *Cryptanthus* mutation whose genotype is similar to the morphology of the parent may go unrecognised. A darker coloured section on a plant may be a chimera and become the preferred propagating material. FNCBSG Newsletter November 2014 has two articles questioning the origins of 'Jean Nicol' and 'Glad'. Both plants are similar. 'Jean Nicol' is the bigger and brighter plant. *Cryptanthus 'Glad'* originated from a seed, 'Jean Nicol' has an unknown origin but associated with 'Glad'. *Crypt.* 'Jean Nicol' as a parent produces white seedlings. Is 'Jean Nicol' a chimera of 'Glad'.

Careful observation of the pattern of leaf colouration may suggest what type of change has occurred. A leaf pattern of a plant that is mosaic or has spots or blotches or lateral stripping is probably not a chimera. The Cryptanthus Society Journal has announced a new marginated "sport" of *Cryptanthus arelii 'It'*. At a guess this plant described as "marginated" is a somatic cell division. In that case it is correctly identified as a "sport".

A microscope is needed to distinguish between a chimera, sport and variegation. All three names are apparently used interchangeably. A pedantic explanation of each name used in this article is:

Chimera: A tissue complex made of genetically distinct cells. A chimera can be described as a cultivar or variety but not a sport. The most likely type of chimera to be seen is the variegated plant. But not all variegated plants are chimeras, many are sports.

Sport: This describes a plant that is the product of a Somatic mutation. Sports occur as an incorrect division during mitosis. The phenotypic character of the plant is so modified that it may continue as a clone but not a genetical distinct segregate.

Variegation: A visible condition of a leaf, often the result of a somatic mutation, or sometimes the effect of a pathogenic event where areas of green pigments are reduced or become totally absent.

Photoautotrophic: Nutrition obtained through the utilization of radiant energy from sunlight.

Genotype: The genetic constitution of a plant.

Phenotype: The changed characteristics of the genotype as modified by the environment.

Morphology: Relates to the external structural features of the plant.

Mitosis: Plants enlarge by cell division. A cell divides into two cells that when the division is complete each new cell has the same number of chromosomes as in the original cell. Plants multiply in size by division.

Meiosis: Is the sexual formation of the cell. This is where one chromosome from the female combines with one chromosome from the male. As a pollen grain bores its way to the ovary it has been known that two grains arrive simultaneously at the ovary and one seed has two daddies.

Somatic Cell Division: A cell divides into two cells with equal sharing of the one cell content. A second cell division is needed to restore the contents of the original cell to each of the cells.

1. Is this emerging chimera a reversion to *Crypt. arelii* ?
2. Or was this now adult *Cryptanthus 'Ti'* snapped-off the parent plant before its genetic composition had become mature.
3. Or maybe excess heat? This *Cryptanthus Ti'* has grown to maturity in mostly +30°C.
4. Perhaps using a yellow shade mesh patch to force the leaf colour of this plant to become dark pink could be the answer.
5. Is this a result of the environment in which the adult *Cryptanthus* has grown in since being a small pup? .
6. Or is this no more than juvenile colouration.

Photos supplied by Ross Little, FCBS and from Wikipedia - the internet.

An Example of the Order in which Plants are Divided and Named

Family Bromeliaceae
 Subfamily Bromelioideae
 Genus *Edmundoa*
 Species *lindenii*
 Variety *rosea*

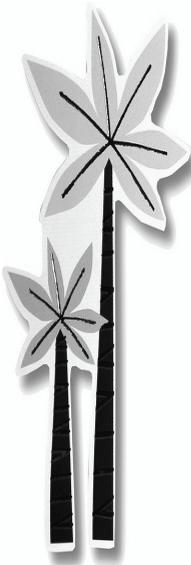
Bromeliads and Butterflies

by Nancy B. Greenfield

Who loves butterflies more than I do? You'll never guess! Butterflies arrived en masse this summer to visit my mini jungle, especially the Spanish Moss (*Tillandsia usneoides*) where they hovered around enjoying the small fragrant blossoms. This was their first visit to my Bromeliads and I hope it won't be their last.



The butterflies were gorgeous reflecting a chestnut brown body, with cream bands on their wings and a brilliant cerise red spot near their heads. They hung like bats on the Spanish Moss then skipped around to view my other plants. On walking out into the yard I was immediately surrounded by these lovely butterflies. Several of them also inspected *Tillandsia stricta* and perched there for a time. I found them down in the vases of the Aechmeas using them like a delightful pool of spring water.



My Bromeliads are growing in many different media: on trees, in the ground, in dirt and in river gravel. They are all doing well and relish the Florida weather. On two palm trees in my front yard I attached several types of Bromeliads, one a *Aechmea orlandiana* has produced at least 75 offsets on each tree completely surrounding the trunk of the Royal Palm. What a sight this was on Christmas all in bloom! Also in bloom on the palm tree is *Aechmea* 'Maginali' with its bright red berries for the holiday season.

On another palm tree in the front yard there are at least 50 *Billbergia porteana* that were given to me by a grower who said they had never bloomed for her. I attached the six she gave me and now they have multiplied with at least 14 blossoms appearing all around the trunk of the tree. This Bromeliad is absolutely magnificent and one of my very favourites:

exotic beyond belief. Visitors to our area stop their cars to see this beautiful blossom and can hardly believe their eyes.



Growing Bromeliads is an extremely fascinating hobby: always more plants to discover, more facts to learn and more people to meet who share your interest.

Reprinted from: BSI Journal, Vol. XXX, No.3 May - June 1980.

Homonyms

by Derek Butcher 2015

You are never too old to learn and the word homonym may be understandable to the botanist but it makes me think. Let us look at the definition

“homonym: A name spelled exactly like another name published for a taxon of the same rank based on a different type Note. Names of subdivisions of genera or infraspecific taxa with the same epithet even if of different rank are treated as homonyms disregarding the connecting term. Not considered valid”

To me this means that you cannot have two binomials (genus plus species name) that are exactly the same. I did think this only applied to botanists but apparently it includes palaeobotanists too!

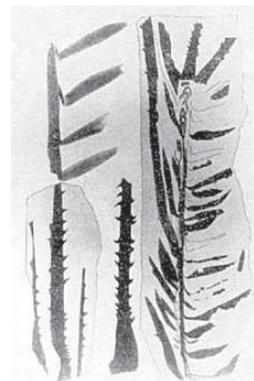
I quote the recent case where *Bromelia tenuifolia* Esteves et al was changed to *Bromelia neotenuifolia* I M Turner. Why is it so? Let us look at a bit of history.

“Are they Bromeliads by Lyman B. Smith in Brom Soc Bull 11(6): 92-3. 1961 Some time ago Racine Foster called my attention to references to two supposed bromeliad fossils. *Bromelia tenuifolia* Lesquereux from Kansas and *Bromelia gaudinii* Heer from Switzerland. As can be seen from the illustrations, the specimens are sterile and fragmentary. In evaluating such difficult material, I should like to lay the evidence before the members of the Bromeliad Society and use their combined experience not only with bromeliads but with all plants that these fossils might be. In all probability it is impossible to identify either specimen with any living species since they are from the Tertiary, but we can ask if the characters which they display are to be found in the Bromeliaceae, and if not, where.”

Lyman goes on to try to prove that these are not Bromeliaceae.

If we look at what is on the Internet we find that plant fossils seem to be separate from living plants but are still under the ICBN rules. The IPNI (International Plant Names Index) does not list plant fossils so I am finding it difficult to find what other Bromeliad type names have been used in fossil nomenclature.

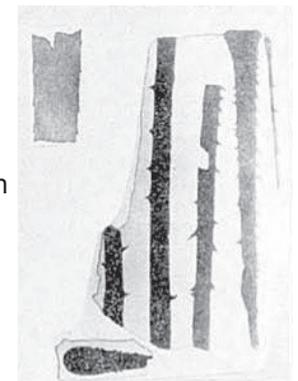
Name changing is generally ignored by the general Bromeliad grower because it means changing labels but this latest move is a new one on me.



Bromelia gaudinii

References
Bromelia tenuifolia Lesquereux,
U.S. Geological Survey Monograph
17: 41, pl.1, fig.13, 1892.

Bromelia gaudinii Heer,
Flora Tertiaria Helvetiae
1:107, pl. 49, 50. 1854.
Smithsonian Institution
Washington, D.C.



Bromelia tenuifolia

Novice Popular Vote

1st	Lesley Baylis	<i>Tillandsia</i> 'Samantha'
2nd	Les Higgins	<i>Cryptanthus warren loosei</i>
3rd	Kevin Jones	<i>Vriesea philippo-coburgii</i>

Open Popular Vote

1st	John Crawford	<i>Aechmea</i> 'Loie's Pride'
2nd	Gloria Dunbar	<i>Neoregelia</i> 'Wild Rabbit'
3rd	Laurie Mountford	<i>Tillandsia</i> 'Creation'

Judges Choice

1st	Les Higgins	<i>Orthophytum warren loosei</i>
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Decorative

1st	John Crawford	'Living Picture'
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Comments from the Growers:

John recently moved house taking his Bromeliads with him and needing to construct a shade house at the new home. John commented how well many of his bromeliads, including his winning *Aechmea* had done in the summer without shelter. He has had this *Aechmea* for two years and it now resides in the new shade house which has a double layer of 50% white shade cloth, one layer being removable for the cooler months to allow more light through.

Gloria grows many of her bromeliads in the open with her *Neo*. 'Wild Rabbit' in a position where it receives morning to midday sun with no fertilising and no pests and diseases.

Laurie has had his *Tillandsia* "Creation" for several years, growing it under a double layer of 25% shade cloth. The tillandsia receives morning sun is watered when needed, fertilised with soluble fertiliser, it has no pests or diseases.

Lesley purchased her *Tillandsia* 'Samantha' from Ross in August 2013 as a small plant. It is growing outdoors beneath a peach tree in filtered light, it gets frequent watering and a regular foliar feeding.

Les reiterated that if you wish to grow single specimen *Cryptanthus*, you need to grow them in small shallow pots, provide ample moisture and nutrients to sustain their growth, this is a example of the results Les achieves with his obsession.

Kevin originally obtained his *Vriesea philippo-coburgii* from June Howard in Evans Head and now has a lovely *Vriesea* in flower with no pest or diseases.