

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

Study Group meets the third Thursday of each month

Next meeting 19th November 2015 at 11 a.m.

Venue: PineGrove Bromeliad Nursery
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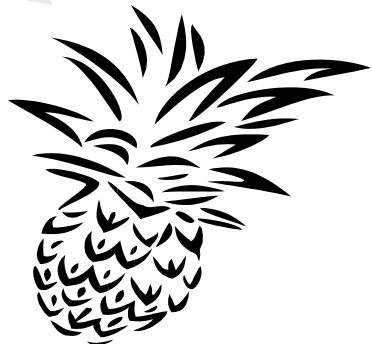
Discussion: October 2015

General Discussion

Editorial Team:

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Meeting 17th September 2015

The meeting was opened at approximately 11.00 am
The 17 members present and one visitor were welcomed.
A total of two apologies were received.

General Business

Ross welcomed the members to the meeting and distributed the Newsletter.

Ross drew our attention to a couple of articles in the Newsletter, one being the newly released *Tillandsia* 'Josee'. This is a delightful and dainty multi paddled form of *Till. cyanea*, also highlighted was the article on *Tillandsia* 'Chooks' and their complexities.

Our mail for the month was the current Bromeletter and the January/February 2015 BSI Journal and Ross explained as best he could to the Group the reasons behind the delayed issues and hopes the BSI Editorial team will be up-to-date in the near future.

Ross indicated to the Group that the Queensland Bromeliad Society requested an article on his and Lesley's travels in Ecuador for their Journal. Ross, reiterated to the Group that any other Society/Group that we have a reciprocal trade arrangement with for our Newsletter have permission to reprint any article from our Newsletter, with acknowledgement.

Gloria outlined several ideas and subjects she considered worthy of discussion with the meeting agreeing that many were to be adopted. One point is: some of our members needing a little more encouragement to participate in the actual meetings, such as giving a short talk etc. Gloria also stated and we have heard Ross comment that we should not leave it to Ross alone to conduct each and every meeting. We all should participate in some way, with each member being encouraged to give a short talk about their plants or experiences growing them, I am sure we have all made little discoveries from time to time.

Gloria suggested that we revisit the subject of preparing our plants for competition and exhibition.

Another suggestion was that members who enter either of the 3 Popular Vote Sections: Novice, Open and Decorative of our monthly competition have a written summary of their cultural notes for presentation to the Editors each meeting. Notes outlining the growing space, type of shade cloth, if applicable, aspect of the growing position, watering and fertilising regime, who, when and where you obtained the plant from and all the plants details, such as Genus, species names, when potted etc. would be greatly appreciated if possible.

A clarification of the Novice Section of the FNCBSG NSW was asked for and the following explanation was given:

1. A member is a Novice or may enter the Novice Section of our competition when and only when they are new to Bromeliads and their culture.
2. An experienced grower new to the Group should use some discretion whether or not they enter the Novice Section or go direct to the Open Section.
3. After competing in the Novice Class and winning the Class for that Year, a member would automatically move to the Open class and can no longer compete as a Novice.

A question about whether you are 'at liberty' to vote for your own plant in the competition. The answer is yes, why not if you feel it's the best on the table!

The Fund Raiser Auction: after discussion it was decided that we would hold them every 3 months, with plenty of prior notice so members will come cash to spend. As it is a fund raiser we can have lots of choice in what we donate, other species of plants, pots, driftwood for mounting Tillandsias and mini Neoregelias, etc., chocolate cakes, (large with lots of cream, jam and strawberries!) gardening tools and potting mix. It's your choice of what to donate.

Show, Tell and Ask ?

The question was asked, 'How much water do you give any one Bromeliad?' The following answer was given: It is a learning process, depending on the species, the size of the plant, the position and conditions the plant is being grown in. The substrate/potting mix it is growing in, the climate, the aspect and environment, shade or lack of and whether there is protection for the plant or not. You need to take into consideration whether the bromeliad is epiphytic or terrestrial/saxicolous etc., then you adjust your watering regime to suit each plant, generally grouping or planting like needing bromeliads with those of similar requirements. This was followed by a discussion on when to water, day or night, early morning, late afternoon or middle of the day ? Keryn had lots of ideas and answers with Les giving an explanation of plant photosynthesis and the time of day monocotyledons and dicotyledons synthesise their food. Misting or fogging was suggested as this gives the necessary moisture for night time metabolization. The theory of little but often, if your climate is on the drier side or your plants are up trees, works well. If you have them in or on the ground with relative humidity and protection the same theory also works well.

Jeanette told us of how she has recently changed the growing aspect for her Tillandsias which were on a south facing fence, very sheltered and protected. They now have an easterly aspect getting more sun and the sea breezes where Jeanette feels they are growing much better, she is happy with the results.

Gloria commented that since moving to the coast after living in the hinterland ranges how well her Tillandsias were growing and flowering with great results. Gloria's *Tillandsia somnians* is being grown in a small pot, the plant is supported by stones as she has difficulty in establishing roots on this plant even though it produces viviparous pups from nearly every bract along the flower spike.

A great collective discussion was had around reusing and recycling containers from our everyday living as well as finding inventive ways of using older materials such as fridge shelves, lids off cane picnic baskets, bird feeders, polystyrene containers and lids, driftwood, rocks and bricks, the list is endless particularly after visiting Opportunity Shops and we have some extremely creative members.

Have you ever come across a label that reads; *Neo*. 'Imp' ? It is not the name of the plant, 'Imp' is short for imported. Perhaps you have seen *Aechmea* 'No N' it is not 'NoN' but short for No Name. Or Bromeliad GKW, this means the grower has no idea of the genus, species or the name so it becomes a GKW — 'God Knows What'! So, when labelling your Bromeliad and you are unsure of it's name, would you please write the genus name e.g. Neoregelia and on the reverse side of the label write 'name unknown' — please do not abbreviate.

Ross showed *Tillandsia bergeri* and *Till. aeranthes* explaining the difficulties of telling these two apart when not in flower (article p.6 and 7). He also showed *Till. kautskyi* and a *Till. recurvifolia* hybrid in flower as well as a *Quesnelia indecora*. A request from Ross and many of the members in the Group: when you bring a plant in for identification always make sure it is in flower as so many Bromeliads look similar to others of their own genus that telling them apart is almost impossible and it is only when in flower that one can detect the subtle differences. Hence the notation WTiF we often see on Forums when identification is being sought for plants not in flower: 'Wait Till it Flowers'.

Trish had several *Cryptanthus* for show and tell, describing them as little battlers as they had spent the winter out in the open having been moved to their new surroundings after a house move. Apart from the odd small blemish their colour and overall health was great.

Please could everyone bring in more plants for show and tell.

To round off the meeting Ross, John and Les told many, many tales of the funny, the weird and wonderful highlights of their adventures on the South American continent and had us in stitches of laughter as they recalled some of their translations and modes of communication in this far off land. They shared the tales of bus travelling, or specifically when travelling on the 'smugglers bus' or jumping out of the buses, after trying to get the driver to understand you wish to get off, then running down roads with cameras in hand bromeliad hunting!! We eagerly await the film show !!!

A Comment from Outside

by Lucas Bauer

Binomen; plural binomina; adjective binominal. Please do not forget the second n.

Being a member of Bromelia Contact Groep in the Netherlands I sometimes like to read your magazine. Eric Gouda does communicate publications of befriended societies. And I always enjoy the reading. Because I do like names and their correct use, I now comment on nomenclature.

Species receive a (one) name consisting of two words, which need not be Latin. In our binary system of nomenclature every species name is a binomen. Earlier Latin was used as an international means of communication between scientists. As a result many scientific terms are Latin, definitions were given in Latin – and names often received a Latin ending or latinized form – but no, botanical names are not Latin names.

Binomen; plural binomina; adjective binominal. Please do not forget the second n.

From Don Beard (May 2015) I learned that the orchid growers word grex, plüral greges, sometimes is used in Bromeliaceae as well. With that word I have had problems because, without adding grex and correct spelling, a name is unclear. Then the written name cannot be understood conform cultivar rules. As you will certainly be aware a cultivar name is a noun or combination written in standard Roman type and between simple quotation marks added to the botanical name.

Derek Butcher writes very clear. In his valuable and enjoyable Beginners Guide (July 2015) he states that species receive two Latin names.

Actually, often mentioned so, this is NOT the case: the two words of any species name together form one (and only one) name. And the words need not be Latin!

Ananas is a South American Indian word, saying 'nice fruit, good food'.

Bromelia is the Swedish name (Olaus) Bromel with a Latinized ending.

Cryptanthus is classical Greek, meaning 'cryptic flower, hidden flower'.

The second part of a species name simply is specifying what species in the genus is meant. This is called a specific epithet, and in itself has no meaning – although if an adjective was used this has outside of botany.

It sounds nitpicky but in matters of nomenclature one can best be very accurate; amnsee the sometimes inaccurate use of greges.

In Linnean times – and later as well – the specific epithet often was an earlier genus name or aboriginal word reused as a noun in apposition. This also makes clear that only together both parts of a species name do form one name.

In bromeliad names we still know *Bromelia karatas* L. & *Bromelia pinguin* L. with both epithets a noun, not an adjective.

Interesting also is the pineapple case as Linnaeus must have had two plants. He named *Bromelia ananas* & *Bromelia comosa*. Merrem realized that these pertain to the same species and that the plant had better be removed from the genus *Bromelia*. He then coined *Ananas comosus* which makes *Bromelia ananas* the basionym for his new genus *Ananas* and *Bromelia comosa* basionym for *Ananas comosus* (L) Merr. The complete combination with authors makes sense!

Tillandsia bergeri, a Many Splendored Species

by Robert W. Read in Journal Brom. Soc. 38(4):147-9. 1988

A sizeable collection of plants of *Tillandsia bergeri* was imported from Argentina during the summer of 1981 (December and January in Argentina). The variation observed as they came into flower effectively illustrated a point that I have often stressed: variability among individuals of a single species over the range of population. This condition is clearly illustrated in the accompanying photograph. These three plants represent a cross section at selected points in the variation, with numerous intermediates blending form and colour throughout the collection. They also represent a random sampling of the population, since the plants were not in flower when originally collected. Large clumps of *Till. bergeri* were found growing on and between granitic rocks protruding from a dusty, reddish soil 400 km northeast of Buenos Aires. Although *Till. bergeri* is reportedly from Argentina only, *Till. aeranthos* is widely known through south eastern Brazil, Paraguay, Uruguay, and north eastern Argentina.



Three individuals of *Tillandsia bergeri* illustrate the variability that can occur in a random sample.

Tillandsia bergeri is a member of the subgenus *Anoplophytum* in a group of species distinguished by the fact that the stamens are included deep in the throat of the flower, with the style slender and much longer than the ovary; the stamens about equalling the claw of the petal, and the filaments strongly plicate in many species. *Tillandsia bergeri* keys out next to *Till. aeranthos* (Loiseleur) L.B. Smith on page 689 of Smith and Downs (1977) where it is distinguished solely on the colour of the floral bracts ("pale rose" in the former, "dark red" in the latter) and the petals ("dull blue to white" in the former, "dark blue" in the latter). However, in the text description, *Till. bergeri* (p. 837) is said to have stamen "filaments faintly plicate," while *Till. aeranthos* with its nine synonyms of species and varieties has stamen "filaments plicate." In the three specimens illustrated



Tillandsia bergeri dull blue to white petals
Tillandsia aeranthos dark blue petals

here I found no indication of plications immediately after full anthesis, with only a suggestion of plications in a couple of buds. In his new book on Tillandsias, Paul Isley (1987) also makes a point of stressing how indistinguishable these two species are in the vegetative or non blooming state.

Of particular interest here is the extreme variability of *Tillandsia aeranthos* and *Till. bergeri* whose ranges overlap. Plants with pale bracts, narrow white petals and non plicate stamen-filaments show one extreme; plants with dark red bracts, deep blue, broad-bladed petals and faintly plicate stamen filaments display another. Could this represent another case of putative hybridization and resultant hybrid swarm over a large area? Are *Till. aeranthos* and *Till. bergeri* really distinct species, or does the former merely extend the range of variability of the latter? These questions might be answered best by someone living in the region where they grow so that random collections and measurements could be made and perhaps other more sophisticated research could be undertaken.

Michael Rothenberg, who supplied the plants for this study, suggested that a comparison of the wavy versus rigid character of the petals of the two species might provide some useful information.



Both *Till. aeranthos* and *Till. bergeri* are illustrated in the book of Alberto Castellanos (1945).

Adaptations of these marvelous paintings were reproduced in Smith and Downs (1977) in fig. 264, along with an example from Botanical Register (pl.1338) (fig. 3). ▼

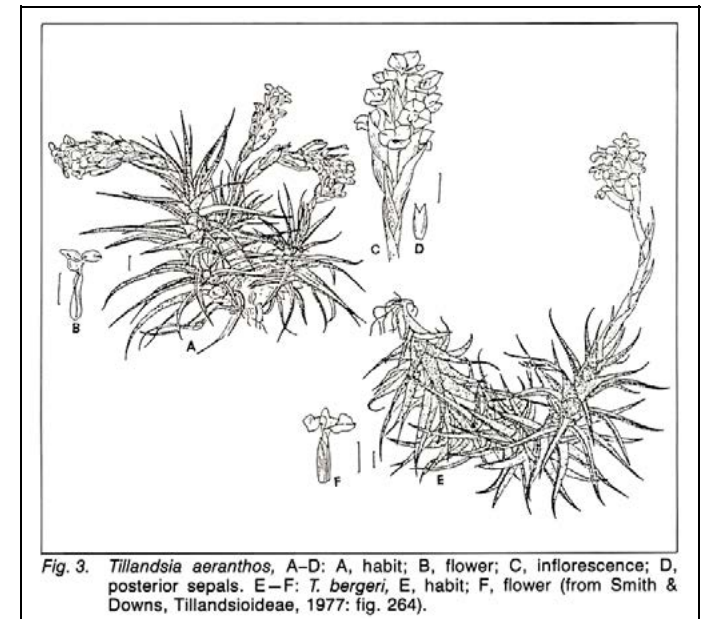


Fig. 3. *Tillandsia aeranthos*, A-D: A, habit; B, flower; C, inflorescence; D, posterior sepals. E-F: *T. bergeri*, E, habit; F, flower (from Smith & Downs, Tillandsioideae, 1977: fig. 264).



Aechmea 'Blush'
1st Novice Kevin Jones



Tillandsia aeranthos
grown by Laurie Mountford



Neoregelia 'Kahala Dawn'
grown by Keryn Simpson



Tillandsia cacticola
1st Open and Judges Choice
Laurie Mountford



Modern Arrangement
1st Decorative Warren Hulbert



Vriesea hybrid ?
grown by Jeanette Henwood
Photo's supplied by: Ross Little and Trish Kelly



Woven Design
by Jeanette Henwood



Cryptanthus 'Kaleidoscope'
grown by Les Higgins



Neoregelia 'Larnach's Enchantment'
grown by Flo Danswan



Vriesea hybrid ?
grown by Gloria Dunbar



Vriesea platynema hybrid ?
grown by John Crawford



Cryptanthus 'Strawberries Flambe'
grown by Trish Kelly



Tillandsia geminiflora
grown by Ross Little



Cryptanthus hybrid ?
grown by Trish Kelly



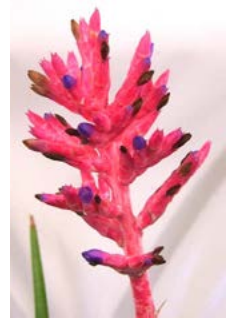
Tillandsia recurvifolia hybrid ?
grown by Ross Little

Have You *Aechmea distichantha* or *wittmackiana* ?

A much discussed complex for many years with confusion by growers regarding the identity of these two species which is quite a diverse complex with many of these plants in our collections misnamed. This makes the issue even more difficult to resolve as growers tend to believe their source rather than be inquisitive and check the written descriptions.

At our September meeting Keryn and Dave were inquisitive enough to have brought their plant in for identification. ▶

The first suggestion was *Aechmea distichantha* to which most members immediately agreed with until another suggestion of: "look toward *Aechmea wittmackiana*" was made.



The advice to Keryn and Dave was to check the descriptions for both plants and follow the keys. There are a lot of similarities between the two species however a couple of key points to look toward are:

- 1) Channelled leaves or not channelled.
- 2) Simple at the top or compound.

The following is how Lyman Smith sees the key differences:

- 1) Scape stout, erect, inflorescence amply compound, spikes many flowered, placentae apical, leaf blades not channelled. = *Aechmea distichantha*
- 2) Scape slender, decurved, inflorescence depauperately compound, spikes 1-3 flowered, placentae median, leaf blades channelled. = *Aechmea wittmackiana*

The differences between the forms Peter Franklin and Derek Butcher looked at seem to hinge upon:

- 1) Compound inflorescence, branches spreading versus depauperate compound, branches erect, simple at top.
- 2) Plant big versus plant small.
- 3) Leaves channelled versus non-channelled.
- 4) Scape stout versus slender.

Are any of these characteristics significant enough to split the *distichantha* / *wittmackiana* complex into species or varieties?



Aechmea wittmackiana



Aechmea distichantha

To make this decision one must read the entire article:

An interpretive nightmare - The *Aechmea distichantha* / *wittmackiana* Complex by Derek Butcher and Peter Franklin which can be found on FCBS at: www.fcbs.org/articles/adista3.htm

Introduction to the Taxonomy of the Bromeliaceae:

The Flower Parts by Wilhelm Weber from BSI Journal 1981, V31 No.2

Differing most from the normal leaves are the flower parts. The typical bromeliad flower is constructed in tripartite circles of three sepals, three petals, two circles each of three stamens and three fused carpels.

These sepals are shaped differently and are also coloured differently than the petals. They are also usually stiffer (leathery) in texture. Bromeliads also have distinctive petals (heterochlamydeic). An example of homeochlamydeic flower is the tulip flower, whose sepals and petals display the same form and colour. Such identical sepals and petals are called tepals.

The carpels are fused and consist of the ovary with its three chambers, which in its inner parts houses the placenta and the ovules. Also part of the carpels are the pistils, at whose tips are located the pollen pads or stigma. These stigmata may be tightly spiral or more or less spread and are usually ciliated.

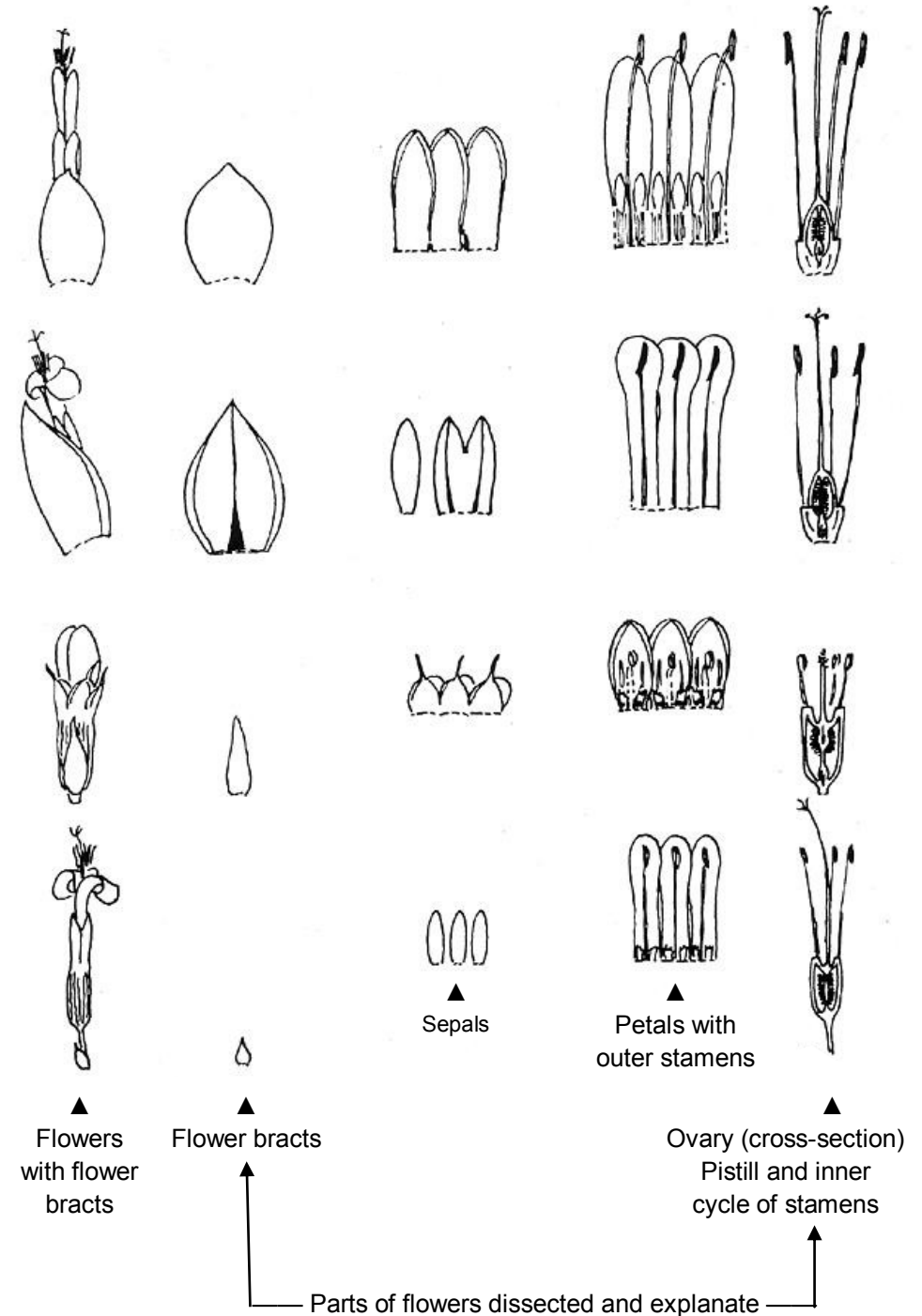
Important for distinguishing among the sub-families of bromeliads is the position of the point at which the sepals and petals are connected with the ovary. In the subgenus *Bromelioideae* they are at the tip of the ovary; the ovary is thus inferior. After pollination and maturity a more or less juicy berry develops, in which are the seeds. They are eaten by birds or other animals. The individual seed grains pass unharmed through the digestive tract and are distributed through droppings. Usually in this sub-family the upper rim of the ovary, near the sepals, is extended into a funnel or cup and thus forms a so-called epigynous tube, easily seen in longitudinal section, in which the septal glands emit the nectar.

In the *Tillandsioideae*, on the other hand, the sepals and petals are always fused at the base of the ovary; the ovary is thus superior. The fruit here is a dry, elongated capsule, and the seeds have a parachute-like tassel of hair, which assures distribution on the wind.

The *Pitcairnioideae* have a more or less semi-inferior ovary and also have a dry, but shorter, capsule. Here the seed are without the tassel of hair; only tail-like appendages or dry, papery edges are formed. They usually grow terrestrially.

The sepals are usually an elongated oval to a lancet shape, and especially in the *Aechmeas*, *Neoregelias*, and other *Bromelioideae* they frequently have an overlapping, asymmetrical, skin-like edge. They can be alike and free to the base or they may be keeled and may be fused to any height.

Also the petals can be free or fused rather high into a tube (e.g. *Guzmania*).



An important trait is the so-called ligula found in some genera or species at the inner base of the petals; it is the only distinguishing characteristic between *Vriesea* (with ligula) and *Tillandsia* (without ligula). Additionally many species have inside the petals two thick, longitudinal welts, whose taxonomic significance is not firmly established.

The stems of the stamens (filaments) in cross section can be round or flat; they are often partially fused to the petals. In the sub-genus *Anoplophytum* of the genus *Tillandsia* they are folded cross-wise.

At the tip of the filaments are the pollen pads (anthers). Also important for identification is the relative length of the stamens and the pistil to the petals. One must always indicate whether these protrude from the flower or whether they remain concealed.

Thus we have mentioned the most essential traits for the description or diagnosis of a bromeliad. The beginner should memorize these traits and especially have a look at the individual parts when he or she has a bromeliad in bloom. He or she should also pluck a single flower and with the aid of a dissecting needle and a razor blade separate it into its individual parts. You can get to know the subject especially well if you will try to draw it to scale. Even if you do not create a work of art, you will learn better to observe and to pay attention to important details. Frequently specialists are presented with such drawings of bromeliads with the request to give the plant in the drawing a name.

From the material at hand it is clear that one can not determine for sure a bromeliad species from a photograph; you must also have an exact description of all the features.

Glossary:

Anoplophytum: A subgenus of the genus *Tillandsia*.

Carpels: The cell of a simple fruit or pistil. Bromeliad fruits contain three carpels.

Epigynous: Situated on the upper part of the ovary. Therefore ovary inferior. One of the characteristics of *Bromelioideae*.

Ligula: A strap-shaped organ or body; particularly a strap-shaped corolla; a projection from the top of a sheath.

Pistil: The ovule-bearing and seed-bearing organ, consisting of ovary, style and stigma.

Cryptanthus Confusion

by Les Higgins 2015

In the FNCBSG NSW Newsletter, August 2015, pp. 6 and 7, Jamie Larnach's article **To Breed or Not to Breed** declares '**DON'T register a hybrid for the sake of EGO if the plant is not an improvement on both parents**'.

How right Jamie is ! This prompts me to show *Cryptanthus* 'Kaleidoscope' and risk the nickname "Old Grumble Guts".

Mediocre cross-pollinations give the originator satisfaction but ultimately dismay the buyer. The *Cryptanthus* gene pool is about 70 species, while hybrid numbers exceed 1,500 with unending additions. Many hybrids differ only by name. This month's raffle includes identical *Cryptanthus* 'Norma' and *Crypt.* 'Coral Bates'. The parents of both plants are *Crypt.* 'Osyanus' x *fosterianus* and registered by the same breeder. Virtually identical are *Crypt.* 'Cheerful', 'Cloud Cover' and 'Eric Moffat'. I began by purchasing plants by name only to find that more than half the collection is duplicated. My opinion of money grubbing, ego seeking hybridists is not good !

Cryptanthus nomenclature is a disgrace: stupid neuter names such as 'Red Eyed Gravey'. Grammatical errors. Dubious geographical identification. Anyone finding an un-named, including lost label, plant can go on an ego trip and register it as 'parents unknown'. I cannot remember in Botanical Latin if a name ending in 'us', such as *Cryptanthus*, is masculine or feminine. The species should follow the genus and yet *Cryptanthus* hybrid commemorative names should be of notable persons, for example: *Crypt.* 'Grace' commemorating Grace Goode. I dislike referring to my *Cryptanthus* as: 'Coral Bates', 'Florence Wasley', 'Norma', 'Eric Moffat', 'Fat Man', *ad infinitum* when these names were given after the: "mothers who stood outside school waiting for their children".

When labelling mutants, sports and cultivars I would like to see the species name included: *Cryptanthus* 'It' is more descriptive as *Cryptanthus arelii* 'It', this may help hinder duplication.

Botanical nomenclature has developed over 200 years, originally plant names were 100% Botanical Latin. Now to reduce confusion the breeders name is being added to the hybrid. Perhaps un-necessary if only distinctly improved plants/hybrids were allowed registration. "Fancy Language", a hybrid name in any language been valid many years. Best "Fancy Language" names identify a feature such as *Cryptanthus* 'Kaleidoscopes' mottled foliage.

Cryptanthus 'Kaleidoscope' ('Wild Cherry' x *argyrophyllus*) is one of a number of quality plants Doug Cross imported from America in 2012. The hybridiser is obviously knowledgeable. Jamie's article refers to the desirability of broad leaf transference, *Crypt.* 'Kaleidoscope's broad, thick leaves are inherited from the pollen parent. *Crypt.* 'Kaleidoscope' is sturdy and growing more rapidly than *Crypt.* *argyrophyllus*, suggesting heterosis (hybrid vigour), one of the benefits of good hybridising.

Ed: Comments requested (and expected) on this thought provoking article.....

Novice Popular Vote

1st	Kevin Jones	<i>Aechmea</i> 'Blush'
2nd	Keryn Simpson	<i>Neoregelia</i> 'Kahala Dawn'
3rd	Les Higgins	<i>Cryptanthus</i> 'Kaleidoscope'

Open Popular Vote

1st	Laurie Mountford	<i>Tillandsia cacticola</i>
2nd	Gloria Dunbar	<i>Vriesea</i> hybrid ?
2nd	Flo Danswan	<i>Neoregelia</i> 'Larnach's Enchantment'
2nd	John Crawford	<i>Vriesea platynema</i> hybrid ?

Judges Choice

1st	Laurie Mountford	<i>Tillandsia cacticola</i>
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Decorative

1st	Warren Hulbert	Modern Arrangement
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Comments from the Growers:

Les's *Cryptanthus* 'Kaleidoscope' is in a container cut from the top half of a net pot. Plastic gutter guard and a disc of shade cloth re-make the bottom. This container satisfies the demand of monocots, they are plants with shallow, spreading roots. It ensures adequate oxygen to the roots and he expects 'Kaleidoscope' is developing a full pot of roots.

Cryptanthus 'Kaleidoscope' has over-wintered in Les's house, only when the nightly temperature is at least 15°C will it return to the shade house.

The potting mix is the plants only source of nutrient which is a mix of river sand, coarse perlite, vermiculite, zeolite, diatomaceous earth, premium potting mix, mushroom compost, 5 in 1 plant food and egg shells.

As this is a cam plant the shade house watering will be minimal natural rain and nightly fogging. No pests and as the plant has over-wintered in a warm house there is no sign of disease.

Unfortunately no other **Growers Comments** were available this month. As you know we use a dictaphone to record the proceedings of our meetings, this can be played back at a later date to enable the General Business notes etc. and Growers Comments to be written for the Newsletter. However due to excessive chatter during the later segment these comments were unable to be deciphered from the recorder. The gathering of Growers Comments is to help us learn about other Members methods and achievements in attaining quality of growth in their plants, so please keep the chatter to a whisper so that some of us may learn a few helpful hints. Fortunately Les gave written notes of his comments.