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

Study Group meets the third Thursday of each month

Next meeting April 18th 2019 at 11 a.m.

Venue: PineGrove Bromeliad Nursery

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Discussion: March 2019

General Discussion

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Meeting 21st February 2019

The meeting was opened at approximately 11.00 am
The 11 members were welcomed.
A total of four apologies were received.

General Business

Ross welcomed all to the meeting announcing that ALL office bearing positions are vacant. Only two positions have changed this year again which are those of assistant editor/proof readers, thank you Michelle and Drew for putting your hands up. All other positions remain as they were however any/all assistance is most welcome especially at set-up and pack-up/clean-up times.

Newsletter: Ross, Helen, Michelle and Drew
Treasurer: Helen and Debbie
Sales: Coral and John
Raffle: Coral and Debbie
Popular Vote: Gary
Librarian: Dave

A letter titled “Goodbye FNCBSG, an open letter from Les Higgins” was read to the Group being an apology from Les regards recent disruptions over the/his disapproval of the Decorative Popular vote section.
Much discussion was had about this e-mail received from Les where it was moved and passed unanimously that we would not be implementing any of his suggestions described in his email.

A reminder from Helen how important it is to sign the attendance book each month as the annual Christmas draw is taken from January to November. Every attendance is noted, even if it is only once, yes it may end at the bottom of the draw but better than not at all. The more meetings one attends and signs the book of course the higher up the draw sheet one is. The moral here is that if you don’t sign in you can’t be counted, so don’t tell us you’ve been to every meeting as the sign-in book tells the tale of who signed in, who didn’t or wasn’t here.

There has been a suggestion for progressive Popular Vote Results to be tabled each month. Helen has advised that the results are available for anyone wanting them after the Popular Vote winners are announced. Perhaps the person who suggested a progressive total can do it, however the PV sheets are not to be removed from the venue at any time as they are needed during the month.

Show, Tell and Ask!

In our February Newsletter p.9 is a photo of *Tillandsia* ‘Corsa Corner’ shown by Helen Clewett, this plant is now registered on the BCR. In 2007 plants were imported from Corsa S.A. (Nursery) in Guatemala by Chris Larson of Collectors Corner Nursery, Melbourne, Victoria and has been distributed in Australia as *Till. fasciculata* 'Corsa'. Some were also tagged as *Till. fasciculata* ‘Corsa’ ex Larson, unfortunately as often seen the ‘ex’ has been dropped giving rise to the erroneous name of *Till. fasciculata* ‘Corsa Larson’. If you have a plant tagged with either of these three names: ‘Corsa’, ‘Corsa’ ex Larson or ’Corsa Larson’ it should now be changed to the registered name of ***Tillandsia* ‘Corsa Corner’**. This registered name is derived from combining the names of Corsa Nursery and Collectors Corner to help us remember the acquisition history of this plant.

The discussion about Till. ‘Corsa Corner’ led us into another discussion about naming of plants. It is the Botanist that give the genus name to the plant / plant group. I say group because a botanist describes a new species from his/her type specimen or set of specimens that the description and name of the new species is based on. However a botanist can’t describe and name every single variant of a particular species which may cover a huge natural range over several states or even countries. There are several kinds of type specimens such as:

Holotype: The single type specimen from which a species is originally described.

Lectotype: A biological specimen or illustration later selected to serve as definitive type example of a species or subspecies when the original author of the name did not designate a holotype.

Some species are given a varietal name because they differ slightly to the ‘type description’ written by the botanist.

Variety: A plant having slight but distinct differences which distinguish it from the type of the species; a botanical variety as opposed to a cultivar which is a horticultural variety.

The species name can not be changed easily and should not be changed by use of a pet or nurserymans name or a descriptive selling name to make a plant sound more appealing to the buyer. Or as sometimes seen a name gets changed for sales purposes, a new name means collectors must buy one only to find later that they already have under another name. Buyer beware.

Cultivar: A plant produced in cultivation as opposed to one growing in habitat; a horticultural strain.

A **cultivar** can also occur in nature as a plant mutation however most cultivars are from plant breeders/hybridisers who in some cases name and register their creations. Botanists rarely recognise a variegated plant found in the wild as they are so far and few between and don't reproduce true from seed, these species variants are generally treated as cultivars and given a cultivar name. We have seen evidence of this over recent years with many variegated species being given cultivar names. For example do an Advanced Search on the BCR (Bromeliad Cultivar Register) and enter fasciata group or nudicaulis group into the Notes section and check the results, many of these variegated species now have cultivar names.

Why a cultivar name ? — for recognition, to help identify or distinguish one plant from another. As there are many forms, varieties, sizes, colours, shapes and leaf patterns to many species how does one describe to a seller just which 'type' one is after to purchase. For example if I saw a rather large *Vriesea fosteriana* and asked a seller for just that, I'll receive a plant but it may not be the same as what I'd seen previously — disappointed. However if I took the time to do some research on the BCR in Notes - fosteriana group or check a label and asked the seller for a *Vriesea* 'Big Red' which is what I'd seen — happy.

Some recent discussions have been around the *Tillandsia fasciculata* group of plants. Wow if we used fasciculata as a generic term what would one end up with if having to buy by mail-order instead of by see-it-like-it-buy-it. I recently read a growers comment that he had 100 different types, The New Bromeliad Taxon List indicates there are nine recognised *Tillandsia fasciculata* - varieties. In 2016 we travelled from Cancun in Mexico through to Costa Rica seeing many many different forms, shapes, colours, variation in paddles/spikes of *Tillandsia fasciculata*. In Honduras we travelled to Copan where we saw a few variants in just a small area abounding the power lines, trees and fences. On arrival home I checked and compared my photos to known fasciculata names to come up with our nearest being *Tillandsia* 'Hondurensis', not quite a match to ours. Here we have the suffix of 'ensis' meaning "pertaining to," "originating in," referring to a place, in this naming a country. In our case our plants were photographed in Honduras at Copan but what identifying name do we give them apart from *Till. fasciculata* an 'Orange', 'Red' or 'Yellowish Green' one. Again this is where a cultivar name is useful if one was wanting to buy exactly the plant that had been seen if it were in cultivation. If these particular plants were known in cultivation a cultivar or descriptor name would help rather than just *Tillandsia fasciculata* ??

The moral here of "Why A Cultivar Name ?" is to make us the collectors, plant hunters, admirers and most of all buyers life easier and enjoyable — happy.

John brought along two plants for discussion, one *Aechmea* 'Roberto Menescal' having beautiful variegation. The second not so good but was still a very nice dark chocolate plant with silver cross banding and a stripe on lower leaves only. We occasionally see such plants sold as *Ae.* 'Black Zombie' which is a reverted sport (novar) of the variegated *Ae*. 'Roberto Menescal'. A 'novar' you may ask, yes but we do see select 'novars' of good stable quality get cultivar names.

From Around the Shade House

FNCBSG NSW December 2011

A question asked this month -- what does 'novar' mean

The term 'novar' was coined in the late 1990's by Dennis Cathcart of Tropiflora Nursery in the USA for the non variegated offsets of normally variegated plants, reasoning being, if one removes a plain green pup off a variegated plant and sells it, the buyer knows there is a chance that this plant could produce a variegated pup at sometime in the future and if it does it is not a sport (something new) but the original variegation returning.

How to write your label:
Plant with variegation: *Neoregelia* 'Tricolor'
Plant lost variegation: *Neoregelia* 'Tricolor' 'novar'
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BUT when is a 'novar' a 'novar' meaning it has NO variegation, exactly then, when it has NO variegation. Here in John's case below on the right in my opinion we have a poorly variegated *Ae*. 'Roberto Menescal' not *Ae*. 'Black Zombie' as has been seen for sale at times by some sellers. Buyer beware, if it has a stripe it's just poorly variegated, however don't despair these '*semi-novars*' can and do produce some good variegated pups.

Tillandsia multicaulis Steudel Nom. Bot. ed. 2, 2:688, 1841.

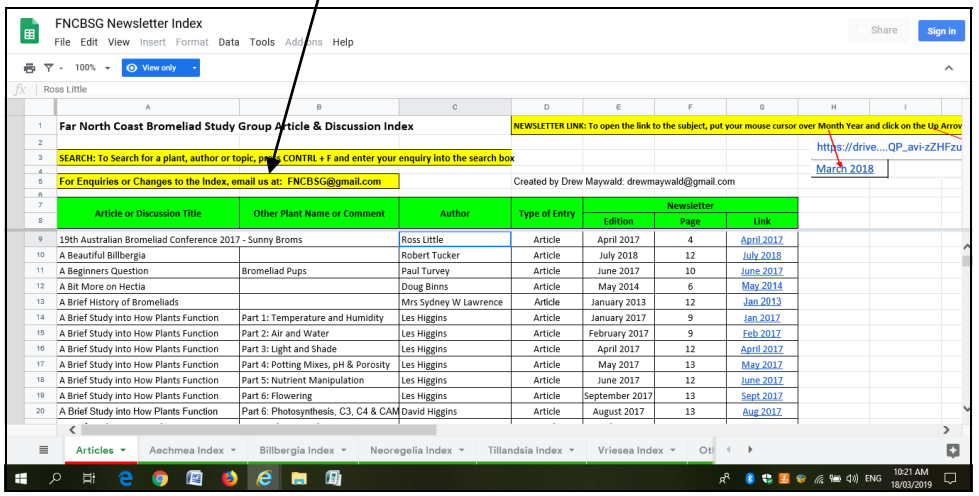
Based on *Tillandsia caespitosa* Schlechtendal & Chamisso, Linnaea 6:54, 1831 (non Le Conte, 1828). Type: Scheide & Deppe 1007 (holotype B, isotype BM, photo GH n.v.) Jalapa , Veracruz , Mexico.

Distribution: Epiphytic in forest, 1500 - 2500 m alt, southern Mexico, Central America.

John brought in *Tillandsia multicaulis* to show us its unusual flowering habit of multiple inflorescences. Unlike many of our wonderful plants that flower from the centre this one has multiple spikes from the leaf axils. It also pups from the leaf axils. One would think that with all reproduction coming from the leaf axils that the central part of the plant would continue to grow, but alas it dies.

FNCBSG NSW Newsletter Index

Drew has spent the last couple of months compiling a complete index of our Newsletters from start to our most recent. Our Newsletters have been available to all on the Bromeliad Society of Australia web site (thank you Ian) and now with Drew's work will make this site more complete being easier to locate past articles, plant information and photos. Drew showed members at our meeting how to navigate the index and suggested if anyone notices any omissions to please notify us at: FNCBSG@gmail.com thanks for all your hard work Drew.



'Happy Valentines Day'
by Dave Boudier

'A Bromance'
by Drew Maywald

Tillandsia brachycaulos
grown by Gary McAteer

Cryptanthus ??
ID needed for Wendy Buddle

Neoregelia 'Midnight Express' ?
also brought in for identification.

Tillandsia remota
ID'd for Ian Buddle

Neoregelia 'Yang'
1st Open John Crawford

Neoregelia 'Cheeky Pink'
1st Novice Michelle Hartwell

'Hooked on Broms — Who Me?'
1st Decorative John Crawford

Wallisia 'Triflor'
1st *Tillandsioidea* John Crawford

Neoregelia 'Manoa Beauty'
shown by Dave Boudier

Neoregelia 'Groucho'
grown by Coral McAteer

Vriesea 'Pink Sensation'
grown by Sue Mackay-Davidson

Cryptanthus 'Elaine'
grown by Wendy Buddle

Neoregelia 'Garnish'
grown by Drew Maywald

Cryptanthus bahianus
grown by Ian Buddle

Photo's supplied by: Ross Little

Recycling Food Containers in the Garden by Drew Maywald 2019

A friend of a neighbour dropped in the other day to look at our stag horns and elk horns growing on the Jacaranda tree and the palm trees in our garden. This friend is writing a book on stag horns so I took the opportunity to ask him about growing them from spores.

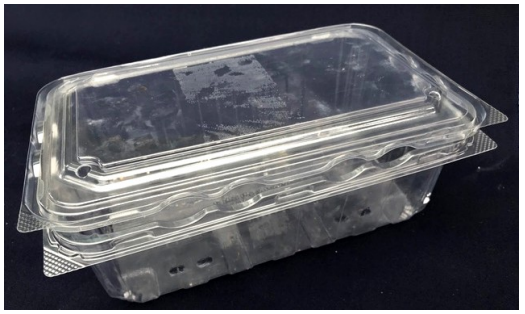
He advised that I buy a seed raising tray and lid from the local hardware store or nursery, and put the spores in that on top of a couple of layers of growing medium. However, when I saw the seed raising trays at the hardware store I decided to see if I could use some other trays that would not cost any money.

We buy our apples and nectarines in plastic containers from Aldi. These 120 x 165mm containers have holes in them for ventilation and come with a lid. I remove the labels from the containers and presto I have perfect seed raising trays.

Aldi sell their mushrooms in 150 mm square plastic trays. By joining two trays together with plastic cable ties I was able to make a container perfect for raising seed.

Cable ties

My next-door neighbour buys her grapes from Coles in a 250 x 150mm plastic container with a lid. She now gives me the empty containers which are perfect for raising seeds.



Need a saucer to stand your pots in? Why not use these shallow food trays which usually contain zucchini or cucumbers.

I have also found that by recycling these plastic meat containers (which have been washed and cleaned) I have perfect trays in which to raise succulents and vegetable and herb seedlings which I can transplant into the garden when they are large enough.

One of the advantages of recycling our plastic food containers is that I can have one container per seed type, rather than put them all in together in the larger containers available at the hardware store and nursery. But the best thing about recycling your plastic food containers, is that they cost nothing and can be disposed of in the recycle bin when you have finished with them, and you will be surprised at how quickly you accumulate a range of different containers ideal to be used in the garden.

My small green house has currently got 10 recycled seed raising containers containing seeds from several Neoregelias, Aechmeas and Billbergias, and spores from stag horns and birds nest ferns.

Here's another seed raising tray once we have eaten the figs!

I have found that some of the seed containers are an ideal measure when feeding the chooks grain and greens. I also use recycled food containers for mulberries which I pick, when in season, from a tree around the corner but that is another story.

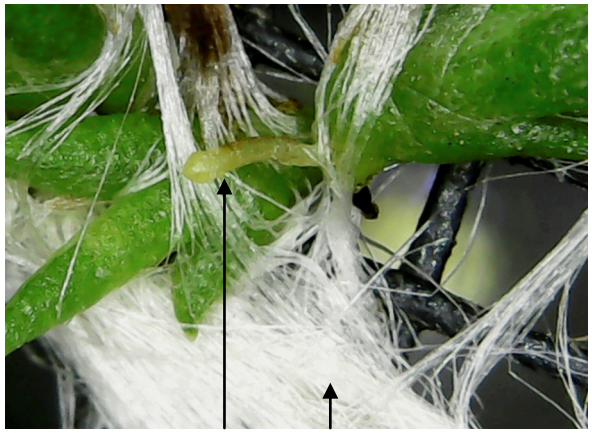
Need a saucer to stand your pots in?

Why not use these shallow food trays which usually contain zucchini or cucumbers.

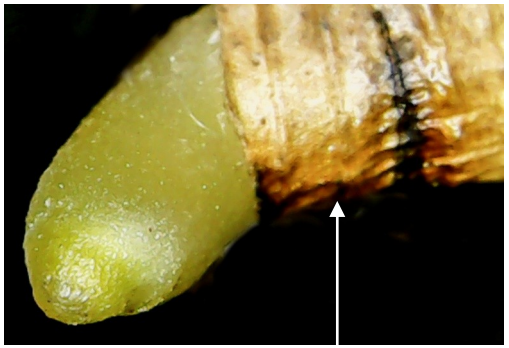
A Few Ideas About Roots - Tillandsia Roots

by Lloyd Goddman 2019

Depending upon the species and cultivation Tillandsias produce roots to varying degrees. In nature, the main function of Tillandsia roots is to hold the plant fast to an anchor like a tree, rock or cactus where the seed has germinated. Initially, the seed relies on the fine barbs of the coma hairs to fix it to the anchor surface where it has landed so as germination can commence. After germination, along with the first leaves, many species will produce a small first root, which can be seen under a microscope. At this point the plant is very delicate and trying to separate or move it can tear the fine root off the base of the plant and kill it. As mentioned at this point, the root is so fine that it's almost invisible, so you can do damage without realizing it. Be patient and leave the seedling until it is a few years old and strong enough to move.



Root and coma hairs



Root apical meristem - turns brown over time

Tillandsia roots are quite different to other plants and are more like a very strong hard wire with a slow setting glue on the end. Once they fix onto a surface, they become like a boa constrictor - almost impossible to move, and most growers cut them off when they want to move a plant. Likewise old dead roots can also be trimmed off, but make sure not to damage the base of the plant.

Dicotyledons or dicots are flowering plants with an embryo that bears two cotyledons (seed leaves). Dicotyledons constitute the larger of the two great divisions of flowering plants, and typically have broad stalked leaves with netlike veins (e.g. daisies, hawthorns, oaks). The roots of these plants tend to continuously fork from the main root into finer and finer roots that take up water, minerals and nutrients. Many of these plants have the ability to produce an acid at the root tip that can help dissolve rock to gain minerals. The fine root hair pushes into a crevice, dissolves a bit more rock and pushes again, it may end up fracturing the rock. There are even cases where these plants have compromised the structural integrity of concrete. By contrast, Tillandsias are Monocotyledons or monocots which are flowering plants (angio-sperms) whose seeds typically contain only one embryonic leaf, or cotyledon. The roots are more fibrous, do not tend to branch and do not produce a rock dissolving acid. The lack of cambium in the primary root limits its ability to grow sufficiently to fully maintain the plant. This necessitates early development of roots derived from the shoot (adventitious roots). In addition to roots, monocots can develop runners and rhizomes, which are creeping shoots.

Perhaps of all monocots Tillandsias have evolved in a manner where there is little or even no reliance on roots to take up nutrients, this is what holds them apart in the plant world. New root growth on a Tillandsia is not massive but any root growth is often a sign that the plant is happy in its environment.

The growing aspect of the wire like roots where the root apical meristem (RAM) is active, is usually a yellow colour and turns brown over time. The plants can produce a new flourish of new roots each season, which appears from the base of the plant. This seems to be a strategy to continually keep pace with the growing weight and mass of the maturing plant to keep it physically secure. In some countries Tillandsias have used these strong roots to anchor to power wires and other structures.

However, some species of Tillandsia that rely on a terrestrial anchor do produce many more roots and can benefit from a loose medium which drains well and a root-based fertilizer. There are species which are quite particular about what the root fixes onto while others are extremely tolerant. For instance, I have *Tillandsia lajensis* growing in pots with a loose bark soil mix, on hard rocks, even on clay and as an epiphyte on trees. Despite common perceptions, I have seen Tillandsia roots fix to stainless steel and even treated timber.

Lloyd has produced a rather extensive e-book about Tillandsias, their Diversity and Range, Tillandsia and the Bromeliad Family, Taxonomy, the Evolution of Tillandsias, Collecting Tillandsias, Growing Tillandsias, Tillandsia Pests, Indoor and Outdoor Culture, Mounting Tillandsias, Pollination and Seed Germination. The e-book contains Photos of Tillandsias, Drawings and Diagrams and more.

For a copy of his wonderful work Contact Lloyd at: lloydgodman@gmail.com

Theory of Bromeliad Pups

by Maurice J. Kellett

Idea: That by counting the number of leaves remaining on an adult bromeliad plant and deducting thirty percent the result should equal the possible number of 'Pups' that may be reproduced before the plant expires. In order to explain this theory it is necessary to study the plant growth from seed stage to maturity.

Seedling: Seedling plants start as one single leaf quickly progressing to three leaves. At this stage damage to one of the leaves will quite often produce miniature pups. Similarly if surplus quantities of fertilizer are available some species (Guzmania) will form small rosettes of plants.

Plants grown from seed on Agar where lighting is overhead and food is readily available develop in a branched manner similar to a small tree. It is possible to take cuttings from this sort of growth.

In summary the Meristem cells must be developed at an early stage and there must be a large quantity of them.

Juvenile Growth: As the plant develops the baby leaves sometimes disappear and the plant goes through a formative stage. As each new leaf appears a new growth ring is added to the stock and a growth bud is established somewhere around the ring. These buds are similar to the 'Eyes' on a potato or orchid bulb. While they are dormant they may remain concealed just under the plant surface or buried in the scar tissue caused by leaf removal. Damage to the plant at this stage or even a surplus of plant food will quite often produce pups.

Some plants of the Vriesea family produce pups prior to adult growth as a natural occurrence to ensure continuity of the species. The pups are produced around the base only and are quite different in appearance to the offsets produced after flowering.

Adult Group: The plant has now formed its adult leaves and is passing through the flowering stage. Pups may be produced during flowering or just after. Pups may even be produced from the stock long after the adult leaves have died and all that is left is just the centre core. The quantity of pups produced from the centre core will depend upon several factors:

A. The length of the core. Many plants produce elongated growths that may be a metre or more long. (e.g. Tillandsia, stolon type plants). Each growth ring can produce a pup given the right conditions.

B. The vigour of the plant. A planned feeding program right from seed to flowering will ensure that enough food is available to generate a quantity of pups.

C. The treatment of the plant when removing pups. Re-potting may damage the root growth and slow down pup generation. Likewise if pups are not removed at the right time the plant may fail to produce more pups.

Summary:

1. The Meristem pattern is only established by growth rings arising from leaf growth.

2. The ability of the plant to produce pups is controlled by available food and the period of decline.

3. By deducting 30 percent of the quantity of leaves this allows for the last few leaves which have not established a growth ring. The remaining 70 percent allows for pups that may not be stimulated from the live section of stem and for dormant pups that may be stimulated from the older part of the stock.

Reprinted from: Bromeletter, The Bromeliad Society of Australia, Jan/Feb, 1980

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Articles for your Newsletter

Over the last 10 years the FNCBSG NSW has been lucky enough to have had some very well informed members on botanical science and plant biology. We thank them very much for all their input into our Newsletter, their knowledge has been well received by many both here and overseas. However as time moves on so do the people, now it's your turn to help.

Help comes in many ways:
Articles: short or long are a huge assist to the editors accompanied with photos if possible, we can help there also if required.

Problem Plants: bring your plant problems to the meetings for discussion, you never know you may get a on-the-spot solution, if not there is always somebody prepared to help do some research.

Problem Pests: this is an issue that often arises and with our new **index** one should be able to find one of the many informative Pest articles in past issues. If not we'll try to find a solution to your problem for you.

Photos: of your plants or that special one coming into flower or of your garden, the editors can help build an article around your photos with your help.

If you can help with any of these problems send to the editors (details on front cover), your solutions to help improve our Newsletter and be helpful to others.

Novice Popular Vote

1st	Michelle Hartwell	*Neoregelia* 'Cheeky Pink'
2nd	Sue Mackay-Davidson	*Vriesea* 'Pink Sensation'
3rd	Wendy Buddle	*Cryptanthus* 'Elaine'

Open Popular Vote

1st	John Crawford	*Neoregelia* 'Yang'
2nd	Dave Boudier	*Neoregelia* 'Manoa Beauty'
3rd	Coral McAteer	*Neoregelia* 'Groucho'

Tillandsioideae

1st	John Crawford	*Wallisia* 'Triflor'
2nd	Gary McAteer	*Tillandsia brachycaulos*
3rd	Dave Boudier	*Tillandsia exserta* x *brachycaulos*

Decorative

1st	John Crawford	'Hooked on Broms — Who Me'

Judges Choice

1st	John Crawford	'Hooked on Broms — Who Me'

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.