

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

Edition: August 2023

Agenda: General Discussion

Venue: PineGrove Bromeliad Nursery  
114 Pine Street Wardell 2477  
Phone (02) 6683 4188

Study Group meets the third Thursday of each month  
Next meeting September 21st 2023 at 11 a.m.

**Editorial Team:**

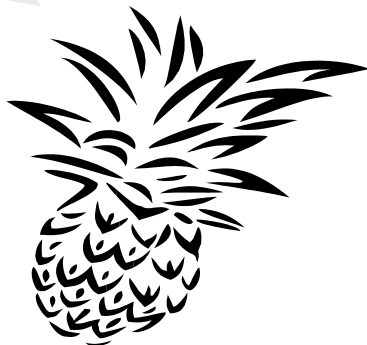
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Statements and opinions expressed in articles are those of the authors and are not necessarily endorsed by the Group.  
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## **Meeting 20th July 2023**

The meeting was opened at approximately 11.00 am

The 10 members present were welcomed.

Two apologies were received.

## **General Business**

Incoming mail was handed on to go into our library for members to borrow.

**Fire ants** are moving closer to our Northern Rivers NSW area, they are only 5.5km north of our border to Queensland. Our Group members are advised to adhere to NSW Department of Primary Industry (DPI) regulations regarding plant movements across the border.

Plant cuttings and foliage material are not considered invasive ant carrier and are not included in the control order.

The definition of invasive ant carrier as per the control order that can not be transported across the border from Queensland into New South Wales is:

- (a) organic mulch.
- (b) soil and anything with soil on it.
- (c) baled material.
- (d) potted plants.
- (e) turf.
- (f) agriculture or earth moving machinery.
- (g) mining and quarrying materials.

You can also find information about the control order on this webpage:

[Red imported fire ants \(nsw.gov.au\)](https://www.nsw.gov.au/red-imported-fire-ants)

Plant cuttings including bare rooted Bromeliad offsets and foliage material are not considered an invasive ant carrier and are not included in the control order.

### **Potted plants:**

A person must not import a potted plant into New South Wales from a known invasive ant infested area unless:

- (a) before dispatch, the potting media that is part of the potted plant was treated with an APVMA approved chemical for the control of invasive ants in accordance with all label directions and permit conditions.
- (b) the APVMA approved chemical used to treat the potting media for the potted plant remains effective until the potted plant arrives in New South Wales.

(c) the plant is accompanied by one of these certificates certifying that the measures in paragraphs (a) and (b) have been met:

- (i) a Plant Health Certificate.
- (ii) a BioSecure HACCP Biosecurity Certificate issued in accordance with the entry conditions specified in 'BioSecure HACCP Entry Conditions Compliance Procedure Number: ECCPRIFA28',
- (iii) a Plant Health Assurance Certificate issued in accordance with the ICA procedure ICA-39 'Treatment of Bulk Growing Media and Potted Plants for Red Imported Fire Ant.'

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The last thing we want are Fire Ants brought to our area and/or meetings infesting our properties or collections. **Note:** potted plants are on the banned/control order list. Before attempting to bring plants into NSW check with the DPI if you're allowed to do so as heavy fines may apply.

For a copy of the Biosecurity-Invasive-Ant-Carriers-Control-Order-2023.pdf ask the editors at [pinegrovebromeliads@bigpond.com](mailto:pinegrovebromeliads@bigpond.com) and it will be e-mailed to you.

## **Show, Tell and Ask!**

On reviewing last months Newsletter regards writing plant names the issue of checking spelling and correct identification was raised.

These are the two sites we prefer to use for doing this:

For species names spelling use - The New Bromeliad Taxon List

<https://bromeliad.nl/taxonlist/>

For hybrids and cultivars use the - Bromeliad Cultivar Register (BCR)

<http://registry.bsi.org/>

We are all only human and we all make errors / typos when writing labels in the field. Most people have internet connection on their mobile phones these days and should use it. If not, it pays to check when access to books such as:

The Concise Bromeliad Cultivar Registry - BSI (for older hybrids) is available or you can get to a computer to help save humorous errors. After many years of collecting Bromeliads one gets to recognise what may be a funny error such as the one that we came across recently but can't be found on the BCR:

*Neoregelia* 'Cameltoe', I was pretty sure even before checking the BCR that this one should've been *Neoregelia* 'Camelot'. The writing on the label was not recognised by any of our members, so if you're reading this or know who uses a **green pen** to write labels please change to the correct spelling / name.

A plant on the raffle table was checked for identification and confirmed to be *Aechmea* 'Bert'. This hybrid is distinguished from *Ae. fosteriana* by being stouter (shorter). It differs from *Ae. orlandiana* (glossy leaves) by being taller and having matte green with irregular brownish banded leaves. The inflorescence of *Ae.* 'Bert' is a denser panicle than the lax (loose; distant) flowers, not touching each other panicle of *Ae. fosteriana* and not as dense or very dense as that of *Ae. orlandiana*. The plant in question was compared to a clump of *Ae.* 'Bert' that was in flower growing epiphytically in a Jacaranda tree close by our meeting area and we all agreed that they were the same.

There were quite a few *Guzmania* on the **Show, Tell and Ask!** table opening the discussion of identification again. The pretties shone out, their eye catching beauty and vibrant colours had them stand out over the 'drab' *Guzmania roezlii*. Only drab to some but exciting to others who like to seek out those species plants that help fulfil our collections. Not all the plants in our collections have to be highly desirable to the retail market which is dollar driven. There are at present a total of 218 accepted species on the Taxon List excluding infraspecific taxa which are those at a taxonomic level below species, e.g. subspecies, form, variety or cultivar. There are many species *Guzmania* that are worth collecting, many of these are outstandingly colourful and have long lasting inflorescences. Albeit with our present import restrictions into Australia new species are not as easily obtained anymore and seed import can be just as difficult.

A reminder / brushing up on our *Guzmania* taxonomy regardless of how pretty it is, your *Guzmania* should have naked petals (no nectar scales at their base) and they should only be joined together, not fused. Some *Guzmania* flowers do not open very wide, if at all, these can be *Guz. lingulata* petals - cucullate (hooded). note: *Guz.* 'Broadview' and 'Etude'. Some spread completely open with recurved petals like *Guz. roezlii*, others have long tubular flowers like *Guz. wittmackii*.

Key to *Guzmania*:

Petals conglutinated/connate into a tube for more than 1/4 of their entire length; filaments partially agglutinated/adnate to the conglutinated/connate portion of the petals. Flowers usually spirally, rarely distichously arranged; petals white, yellow, or green; seeds without a distinct appendage at the apical end .....

Petals without basal appendages. Stigma of the convolute-blade I type or the simple-erect type, occasionally of the simple-patent type or simple-pinnatisect type ..... .. ***Guzmania***

For additional information refer to:

How to Recognize a *Guzmania* -- A Guide for the Layman - by Mulford B. Foster

Reprinted from: BSI Journal - 1955, Vol. 5.

Reprinted in: FNCBSG NSW February 2012 (with added drawings).

Reprinted in: FNCBSG NSW February 2023.



*Guzmania* 'Broadview'



*Guzmania* 'Etude'



*Guzmania wittmackii*

Flower of  
*Guzmania roezlii*



*Guzmania roezlii*





**Tillandsia recurvifolia**  
**var. subsecundifolia**  
 (W. Weber & Ehlers)  
 W. Till.

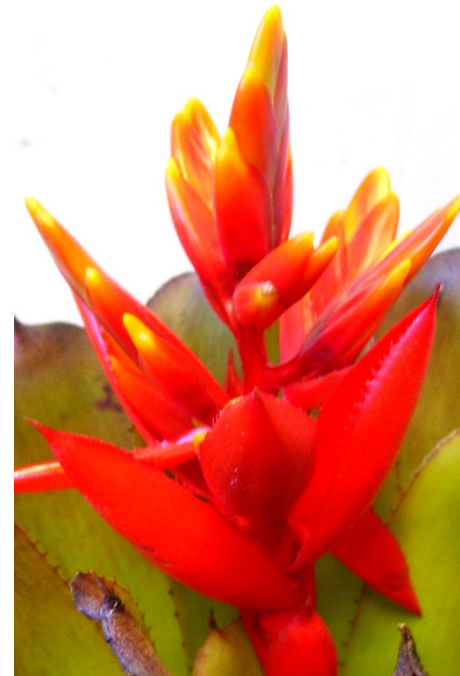
In its natural habitat in the state of Parana in Brazil, it grows as an epiphyte.

The main differences from the typical variety of *Till. recurvifolia* Hooker, are the sometimes more lax inflorescence and the orange-red floral bracts (not pink).

The very showy multi headed clump of *Till. recurvifolia* var. *subsecundifolia* is flowering now in northern NSW on an east facing location in full, unprotected sun from sun-up (first light in the morning) until around 1.00pm.

The Tillandsias are watered weekly during the cooler months and every other day in the warmer months.

Various foliar fertilizers e.g. Thrive Fruit and Flower are used every two to three weeks.



*Aechmea* 'Black' - silver form  
 grown by Mitch Jones.



I'm guessing some of you moved plants from their protected summer positions out into a much brighter light situation over the cooler months to help retain their colour. Be mindful of many overcast days in a row, then a clear bright sunny day as sunburn can be the result. When we move closer to spring we can get sudden hot days which may cause burn to unprotected plants. It's time to consider moving them back to their protected position. Not all is lost, pups will develop.





*Tillandsia gardneri*  
1st Tillandsioideae  
Gary McAteer



*Vriesea* unregistered Dillings hybrid  
1st Open and Judges Choice  
Michelle Hartwell



*Tillandsia bulbosa*  
grown by Helen Clewett



*Neoregelia silvomontana*  
grown by Helen Clewett

Mitch Jones has been developing this Decorative entry creating a rhinoceros out of *Tillandsia tricholepis* attached to a wire frame work stuffed with coco fibre. The eyes are two *Till. ionantha*, when they flower they will stand out brilliantly.

An interesting piece, what's next!



'Christmas in July' 1st Decorative Coral McAteer





Kayelene keeps an eye out for all things Bromeliad. Recently she found this Ananas (pineapple) necklace which she wore to our Group meeting to show everybody.



*Billbergia sanderiana* grown by Kayelene Guthrie.

A feature of this plant are the large 2.5 - 7mm black spines on the leaves. When in flower it shows off its rose peduncle bracts, they then become the real standout feature.

*Billbergia sanderiana* can be found growing as an epiphyte in the States of Minas Gerais, Rio de Janeiro and Esp rito Santo in the Atlantic Pluvial Forest of Brazil.

*Billbergia nutans*  
grown by Kayelene Guthrie



## **Billbergia nutans - Is Yours Decorated with Whiskers**

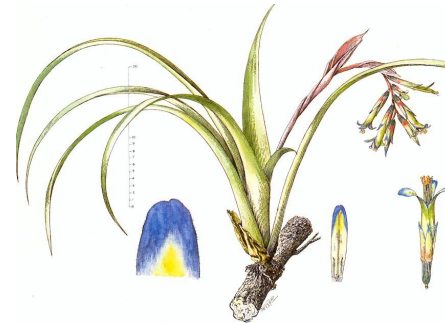
Derek Butcher 2016

For the inquisitive ones:

*Billbergia nutans* is a very common plant but who has looked at it closely?

I have never been able to find the elusive *Billbergia* var. *schimperiana* in Australia.

Does it exist?



*Billbergia nutans* var. *schimperiana*  
painting

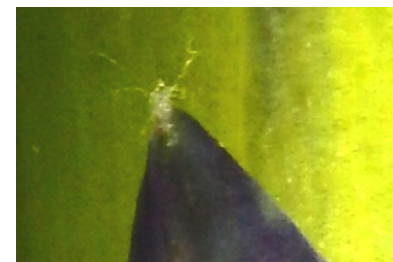


*Billbergia nutans*  
painting

With all the *Billbergia nutans* plants I have looked at the outer leaves are faintly spined but the inner leaves are spineless.

I have had to go to Reitz 1983 to find out that var. *nutans* has petals with blue edges AND tips. It is just a wider blue in *schimperiana*! Also Reitz will tell you that both plants have whiskers at the end of the petals. You need a magnifying glass but I have found them on every plant I checked in Australia.

Any comments welcomed.



Whiskers on  
*Bill. nutans*

◀ sepal  
and  
petal ▶



Photos by Lesley Baylis



## **Catopsis** Grisebach 1864.

Catopsis is a relatively small genus of the family Bromeliaceae in the subfamily Tillandsioideae with 19 accepted species listed (excluding infraspecific taxa).

Its members are exclusively epiphytic herbs, distributed throughout Central America, the Caribbean and northern South America.

The genus exhibits several features typical of the Bromeliaceae including peltate water absorbing leaf trichomes, trimerous flowers, simple leaves forming a characteristic water impounding rosette, septal nectaries, and small seeds with rich farinaceous endosperm.

Within the Bromeliaceae, Catopsis has traditionally been placed in the subfamily Tillandsioideae (Mez 1896, 1935 and



*Catopsis compacta*  
grown by Mitch Jones



Catopsis sp. growing on powerlines in Chiapas, Mexico, photo by Ross Little 2018.

Smith & Downs 1977) based on the presence of simple, entire leaves, superior ovary, capsular fruits and seeds with plumose seed appendages. *Catopsis* differs from the other genera of Tillandsioideae e.g. *Tillandsia*, *Vriesea*, *Guzmania* and *Glomeropitcairnia*, in its particular type of seed morphology. The seeds of *Catopsis* bear an apical appendage formed by numerous hairs born at the chalazal end. In the other Tillandsioid genera the seed appendage is typically basal (i.e. at the micropylar end). The unique seed characteristics of *Catopsis* brought Harms (1930) and Gross (1988) to the conclusion that the genus should be separated from the subfamily Tillandsioideae.

Catopsis have male (stamens only) and female (stigma only) flowers, the term for this is dioecious. A typical flower being hermaphrodite has both stigma and stamens. Catopsis need to have a male and a female plant to set seed.

Catopsis is a widespread genus found from southern Florida, throughout Central America, Greater Antilles (Cuba, Hispaniola, Jamaica), Venezuela, Colombia, Ecuador and south eastern Brazil.

The name Catopsis is derived from the Greek "Cathorao" (= looking down), referring to the seeds that appear as if they were "hanging" from their long apical hairs at maturity.

Also thought to mean:

Catopsis - "kata" meaning "hanging down", while "opsis" meaning "appearance". From the Greek word "katopsis" meaning view.

## **Floral Morphology and Development**

The genera *Catopsis* (Tillandsioideae) and *Hechtia* (Hechtioideae) are the only dioecious genera in the Bromeliaceae (Smith 1934, Smith & Downs 1977). In both cases, dioecy is the result of suppression of function of specific sexual organs. In pistillate flowers the stamens are abortive and non-functional, whereas in staminate flowers the ovary is completely abortive and non functional at maturity.

*Catopsis* differs from the genus *Hechtia* in that functional dioecy is not universal for all the species. Some species such as *Cat. juncifolia* and *Cat. nitida* have exclusively perfect flowers (i.e. homoecious species; Crudens & Lloyd 1995). Other species such as *Cat. micrantha* and *Cat. subulata* have either pistillate or staminate flowers in separate plants (i.e. dioecious species). A third group, including *Cat. nutans* and *Cat. sessiliflora*, exhibits plants with either perfect, pistillate, or staminate flowers (i.e. trioecious species). Trioecious species may exhibit different proportions of unisexual populations throughout their geographical range. Some species are predominantly homoecious with rare, occasional dioecious populations (e.g. *Cat. berteroniana*, *Cat. floribunda*, *Cat. wangerinii*), whereas others are predominantly dioecious with occasional homoecious populations (e.g. *Cat. morreniana*). Brown and Gilmartin (1988) suggested that those species with infrequent dioecious populations might be in transition from perfect to dioecious flowers, thus indicating a general trend towards dioecy in the genus.

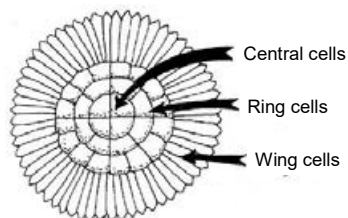
Sexual dimorphism in *Catopsis* is usually accompanied by noticeable variation in perianth shape and size, differential arrangement and density of flowers (i.e. inflorescence type), and often by a marked vegetative dimorphism between staminate and pistillate plants.

**Trichomes** are an essential feature of Bromeliads, they absorb atmospheric moisture. One trichome type is an epidermal extension looking like microscopic lattice work scale or scurf of many shapes. Another trichome type looks like a tiny valve or plug. Water accumulated by the trichomes transfers into the parenchyma tissue.

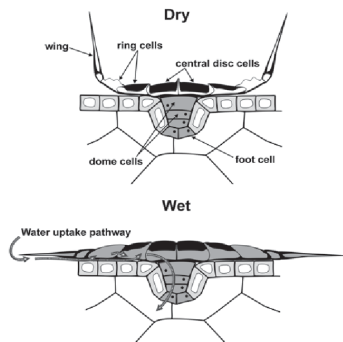
(C3 parenchyma is closely spaced columnar cells located beneath the upper epidermis). Even Cryptanthus that have an extensive root system use trichomes to make a water reservoir inside a thick leaf.

Oil emulsions applied to Bromeliads has the potential to hobble trichomes and clog the parenchyma cells. Mineral (white oil) emulsion permanently waterproofs Bromeliads. Pre and during the Second World War (1939-1945) Pineapple Scale was controlled by an emulsion of degraded Vegetable oil. The spiricules (breathing tubes) are clogged in an attempt to suffocate the insect. (To be effective must remain clogged for hours). Trichomes and stomata are also encumbered often resulting in leaf drop and permanent debilitation of some plants. Oil emulsions were never 100% effective and are definitely obsolete.

The oil wets the wing of the trichome and seals it closed, the trichomes are the scale found on the leaves of most Bromeliads which gives them their silvery sheen, they are the absorptive breathing organ of the plant. The problem with white oil is that it can take at least four days to break down in sunlight causing the plant to suffocate and die. Whereas vegetable oil products such as Canola white oil break down much quicker, one to one and a half days, it suffocates the pests without harming your plants.

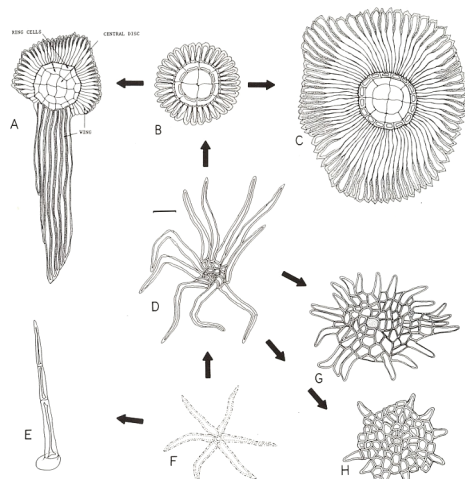


Tillandsioideae trichome



*Catopsis floribunda*  
x800

Phylogeny of the Bromeliad trichome: A. *Tillandsia crocata*; B. *Catopsis floribunda*; C. *Tillandsia circinnata*; D. *Cottendorfia serrulata* (bar = 50µ); E. *Cottendorfia wurdackii*; F. prototype stellata hair; G. *Pitcairnia undulata*; H. *Aechmea bracteata*. (A,C,D and E redrawn after Tomlinson Ref 8, chap 5)  
How trichomes vary - see Biology of the Bromeliads, Benzing 1980



## Bromeliad Key for Dummies

How do I grow it and what is it? Find out what it is, where it grows in nature and this should help tell you how to grow it. Contact a local bromeliad society and maybe someone can advise you. Another way is to check all the species photos we have on file on: [www.bsi.org/members/?bsd](http://www.bsi.org/members/?bsd) for cultivars and hybrids check on: <http://registry.bsi.org/>. BUT because we have over 15,000 this could take some time.

Botanical names are usually stated as two words:  
First is the Genus name and next the species or Cultivar name.  
Very much like you are identified by a Surname and a given name.

If you can answer a few simple questions we may be able to make your search easier by pointing to a probable Genus. You then have to try to find the species name or Cultivar name by searching the photos in the appropriate sections of the Photo data base.

The most common Bromeliads are *Aechmea fasciata*, *Billbergia nutans* or *Billbergia pyramidalis* or if you bought it from a Florist, a *Guzmania* Cultivar and it may be quicker to check on these names first.

1. Are the leaves with prickles (spines) on the edges? Go to Step 2
- 1a. Are the leaves without prickles (no spines) on the edge? Go to Step 6
2. Are the leaves very succulent and taper to a point? Think Dyckia or Hechtia. (Hechtia are found in nature above the equator and Dyckia below)
- 2a. Are the leaves in a stiff loose star-shape arrangement? Think Cryptanthus.
- 2b. Are the leaves green looking? Go to Step 3
- 2c. Are the leaves grey looking with extra long teeth? Think Puya.
3. Are the leaves like grass? Think Pitcairnia.
- 3a. Are the leaves strap-like? Go to Step 4
4. Are the flowers on a stalk (scape)? Go to Step 5
- 4a. Are the flowers low down in a rosette of leaves? Think Neoregelia.
- 4b. Are the flowers on a short pedestal with a star shape? Think Nidularium.
5. Is the inflorescence erect? Think Aechmea.
- 5a. Is the inflorescence nodding with few leaves in a tube shape? Think Billbergia.
6. Are the leaves grey? Think Tillandsia.
- 6a. Are the leaves green? Go to step 7
7. Are the leaves with lengthwise reddish lines underneath? Think Guzmania.
- 7a. Are the leaves totally green or with patterns? Think Vriesea.



## **Open Popular Vote**

1st	Michelle Hartwell	Vriesea - unregistered Dillings hybrid
2nd	Mitch Jones	<i>Aechmea</i> 'Black' - silver clone
2nd	Helen Clewett	<i>Neoregelia silvomontana</i>
3rd	Kayelene Guthrie	<i>Billbergia nutans</i>

## **Tillandsioideae**

1st	Gary McAteer	<i>Tillandsia gardneri</i>
2nd	Helen Clewett	<i>Tillandsia bulbosa</i>
3rd	Mitch Jones	<i>Catopsis compacta</i>

## **Decorative**

1st	Coral McAteer	"Christmas in July"
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## **Judges Choice**

1st	Michelle Hartwell	Vriesea - unregistered Dillings hybrid.
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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.

Bromeliad Species Database (BSD): [www.bsi.org/members/?bsd](http://www.bsi.org/members/?bsd)

Refer to this site for species identification, photos, descriptions and more.

New Bromeliad Taxon List : <https://bromeliad.nl/taxonlist/>

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 many with  
Table of Contents Index and there's 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](http://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.