

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

Edition: October 2021

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

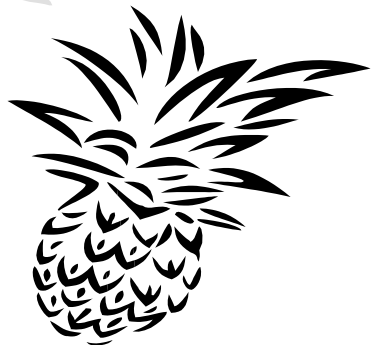
Next meeting 18th November 2021 at 11 a.m.

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Meeting 16th September 2021

The meeting was opened at approximately 11.00 am
The 8 members present were welcomed.
Five apologies were received.
One 'special' visitor who sat with Helen (photo p.9).

General Business

It was good to see some smiling faces again after another couple of months of no meetings due to Covid-19. Unfortunately not all of our Group are able to meet as yet, hopefully in the near future our Queensland friends will be able to attend meetings again.

Show, Tell and Ask!

Winter has almost past us and we're moving into spring but that doesn't mean you should forget about the effects of the cold weather, some of our plants will still need extra care. Just because the days are warming up doesn't mean the nights are too, some cold sensitive plants will still need their night time cold protection. However, remember spring can bring about some pretty severe days too, so be ready to protect sun sensitive plants that may have been out from under cover for some extra winter sun to help maintain their shape and colour.

Start preparing now for the summer heat by gradually moving plants back under cover, this past week saw temps in our area reach 30°C, today it is raining and 12°C. It's when that sun comes back out in a few days some plants may risk getting sunburnt. A good springtime drenching will help with some growth spurts and fresh tender leaves that aren't hardened to the summer sun, so protecting them is still a necessity.

Toppers: it's almost time to get 'toppers' back in place for summer.

What is a 'topper'? It is an extra layer of shade cloth used to put over a shade house for extra summer protection. Percentage evaluation article ps.14 and 15.

Some growers may use 70% beige coloured shade cloth thinking that is a good all year round protection cloth. Depending on your surrounding environment it may not be enough, 70% beige is equal to about 50% black shade cloth which isn't enough to protect Vrieseas and Guzmanias from our summer sun, so a 'topper' is required. Add an extra layer of 30% shade cloth over your existing cover, ensure you keep the humidity level up in your shade house by keeping the floor wet, dry air makes plants more prone to burning in summer heatwaves.

Summer Problems

by Lindsay Jones

Sunburn: This can occur extremely quickly on very hot days. All attempts should be made to ensure maximum protection for the middle of the day but thought should be given to late afternoon protection as the sun can be quite intense even after 5.00pm on some days. Relocation of a plant when taken from low light (indoors) to outdoors (even not if into direct light) may cause extensive burning. Gradual increase in light will allow the leaves to toughen up after an extensive indoors stay. The sun is higher in the sky so that which was in shade during winter (2hrs mild midday sun) may not be during summer (4hrs intensive direct midday sun). The days are longer in summer which may cause bleaching.

Heat: Usually this is in association with sunlight and dehydration. Plants can be cooked in a glasshouse where the light isn't necessarily high and the humidity is very high. Watch out for heat reflected from walls, windows and from the pavement. Plants will be burnt on one side even though they are not in direct light.

Dehydration: The drying out of plants puts strain on plants which in itself will result in irregular growth. The drying of roots reduces their ability to take up nutrients. Soil will fall away from the roots or may be set into a pot-shaped rock. The re-wetting of the soil may be difficult and take a long soak. The lack of moisture can cause young leaves not to develop, stick together and longitudinal leaf curl may occur. To avoid the problem, water more often, locate plants in a place where dehydration is minimized, use soil conditioners such as compost, peat moss or artificial conditioners. Wetting agents for the soil also help as they will ensure when watered the moisture goes through all of the pot and is captured.

Pests: These are generally fewer in number in summer however not totally absent. Crickets seem to be the most active, since they are prepared to eat anything, Bromeliads are at risk. Grasshoppers are similar. Heat and humidity in glasshouses (and shade houses) results in high activity from the likes of mealy bug and scale.

Wind: Our strongest winds are winter winds but thunderstorms are common in Perth in summer as are strong easterly winds. However the most destructive aspect is probably due to their drying affect, particularly to those items that are suspended above ground level. Give special attention to hanging baskets and Brom trees which may need watering daily. If wind is a problem then you can put up a wind break with shade cloth, move plants out of the winds passage or simply lower them to ground level temporarily.

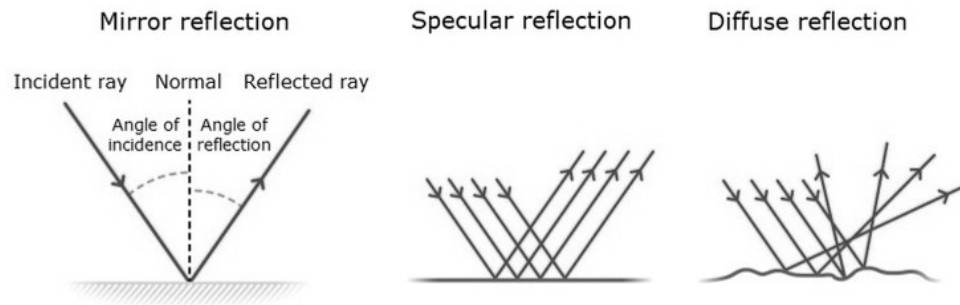
Reprinted from: Bromlink the bi-monthly Journal of The Bromeliad Society of Western Australia Inc. Volume 8, No.4, January / February 1988.

Another summer issue raised was sun burn through water droplets laying on plant leaves. Be mindful of watering in the middle of the day, water droplets act like a magnifying glass and burn leaves. If you must water during the day to help keep your growing area cool or it's the only time practical for you try misting for a long period until the sun has past over and is no longer directly over your plants. If I have to do this to my Alcantarea that are growing in full all day sun I mist them from around 10.00 am until about 2.00 to 3.00 pm every few days as their potting medium dries quickly in our summer heat.

What is it called when water reflects light?

If the water surface is smooth and shiny, the light will reflect at the same angle as it hit the surface, this is called **specular reflection**.

For a rough surface, reflected light rays scatter in all directions, this is called **diffuse reflection**.



Pup Removal Kayelene asked about removing pups and how long should she leave them to heal before potting them. Many of us with large collections and who are also time poor don't have time to cut pups, dust the cut with a fungicide, (cinnamon has been suggested for this) and allow them to heal for 1 to 2 days before we pot them on as is recommended.

Bromeliads are fairly resilient, if potting pups immediately after cutting try to keep the mix a little on the dry side for a short period by adding water to the central cup/well of the plant only. If your fresh plant division has roots pot immediately and treat as per normal so the plant roots don't dry. Foliar feeding plants after separation will also help them get through this stressful period.

A vegetative reproduction of a Bromeliad is known as a 'pup' an 'offset' or an 'offshoot', these can be removed when the 'pup' is about 1/3 to 1/2 the size of the mother/parent plant. The larger a pup is before removal the better the chance of it surviving on its own stored food reserves.

Kayelene enquired about the gel at the base of some of her Bromeliads ?

Many Bromeliads are of the tank type water holding variety, this environment supports many life forms, mainly frogs and insects. The droppings from these animals and corpses also decaying leaf litter assists in feeding the plants.

The following quote taken from: Bromeliads by Walter Richter

"Epiphytic Bromels constitute an immense swamp in which animal and vegetable waste products are dissolved by the enzymes in the leaves. The process involves the jelly-like substance exuded by the inner faces of the sheaths. As a rule, putrefaction occurs only when there is too much pollution. Normally the leaves absorb the end product of the organic waste by way of their scales. The water in the funnels remains fairly clean and in dire need, potable." (drinkable)



A couple of years ago Gary started mounting his Tillandsias on a product called Ekodeck which is made from over 90% reclaimed timber and recycled plastic that is easily cut and drilled. Gary's Tillandsias seem quite happy attaching their roots to it with no ill effects apparent as seen with the *Tillandsia ionantha* below.



Keryn and Dave brought along to show us this beautifully grown *Aechmea capixabae*.

This is a plant that prefers to be grown in a shady position evident by its glossy green leaves.

The vibrant yellow orange inflorescence panicle with blue petals is a standout for a shaded garden.



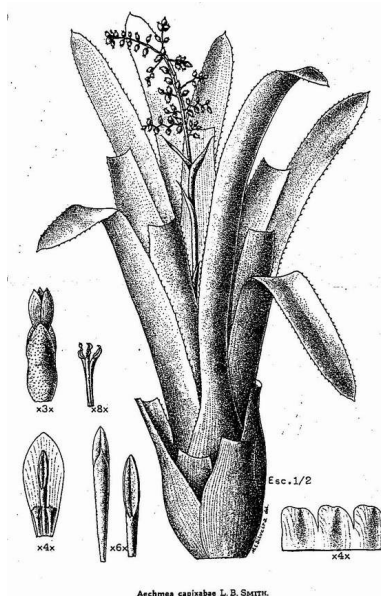
Aechmea capixabae

Harry E. Luther in Journal Brom. Soc. 46 (3):122-3. 1996.

Aechmea capixabae L.B. Smith was first collected in July of 1939 by Mulford and Racine Foster near the city of Santa Teresa in Espirito Santo, Brazil. They re-collected it in the same locality a little over a year later. Apparently no living material was acquired, or more likely, none survived the rigors of the expeditions.



Aechmea capixabae was described and illustrated in 1941 in the Brazilian journal, *Arquivos de Botanico do Estado de Sao Paulo*. The drawing (pictured right) is rather unlikelike and does not accurately present the habit of the plant, although the various details of the inflorescence are clearly depicted.



At some point in the ensuing thirty-some years, the author of the species decided that *Ae. capixabae* was not a "good" species. In *Flora Neotropica Monograph 14*, part 3, 1979, *Ae. capixabae* is treated as a synonym of the quite distinct *Ae. victoriana* L.B. Smith. Adding to the confusion was the use of the drawing of the type of *Ae. capixabae* to illustrate *Ae. victoriana*. Fortunately, clonotypic material of *Ae. victoriana* has been well established in cultivation so the identity of this taxon has never been questioned. Because *Ae. capixabae* was not known in horticulture its validity has not been a matter of concern to horticulturists until very recently.



Aechmea victoriana



Aechmea fulgens

At some time during the last few years, at least two introductions of *Aechmea capixabae* have been made. The first apparently entered North American horticulture as *Aechmea* 'fulgens var. kautskyana', a fictitious name. At least this association appears to be more accurate than the unnecessary synonymy with *Aechmea victoriana*. *Aechmea capixabae* is closely related to *Ae. fulgens* (left) but with smaller flowers and a differently shaped ovary. More recently the species, in a slightly darker color form, arrived with its true name. *Aechmea capixabae* is easy to grow if given moist and somewhat shaded conditions. It appears to be a bit more cold-hardy than *Ae. fulgens* but certainly should be protected from frosts and freezing. Its only drawback appears to be the fear associated with pronouncing its name.

Puya spathacea was first described botanically and the name validly published by August Heinrich Rudolf Grisebach in 1879 as *Pitcairnia spathacea* but was revised and reclassified by Carl Christian Mez in 1896. It is a native of Argentina where it was originally discovered by Lorenz growing on the banks of the Rio Primero, Cordoba, Argentina on the 27th of January 1876.

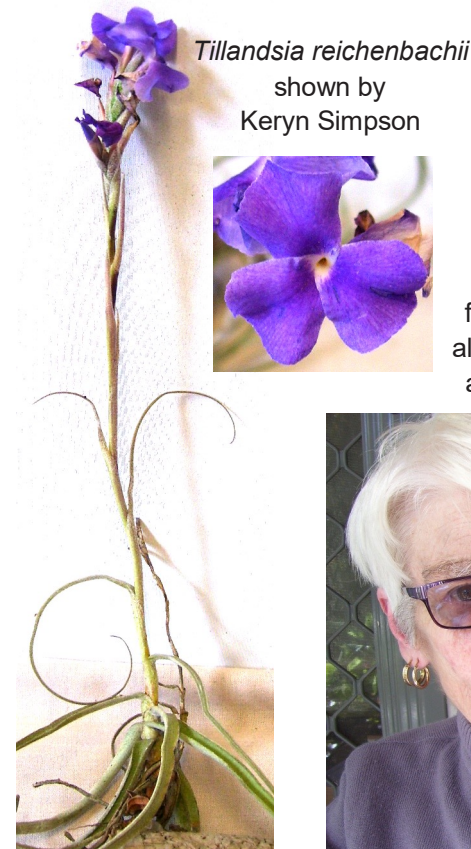
This is the first time this Puya has flowered for me here at PineGrove with this spectacular coral red inflorescence that's standing 850 mm tall. At its peak it had blue to dark green tubular petals 25 - 33 mm long. The inflorescence has remained quite an eye catcher for several months now. This Puya enjoys all day full sun, it grows in a free draining potting mix allowing for the regular watering it gets in a mixed genera collection area of variable watering needs.



Tillandsia scaposa
shown by Helen Clewett



A kitchen whisk makes a secure home for this *Tillandsia ionantha* shown by Keryn Simpson



Tillandsia reichenbachii
shown by Keryn Simpson

Our 'special' guest Verde the local free flying eclectus parrot, he visits Helen almost daily, not sure if he is learning much about Bromeliads but he sure chats a lot.

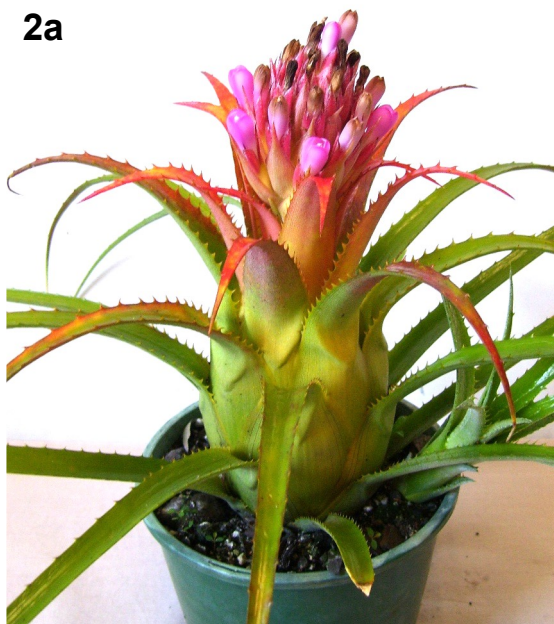


Aechmea recurvata

Dr. Lyman Smith, in his 1979 Monograph on sub-family Bromelioideae, placed *Aechmea recurvata* in subgenus *Ortgiesia*, where it is distinguished by having a scape wholly covered by the leaf sheaths, floral bracts usually serrulate (but not so with var. *benrathii*,) sepals 9-15 mm long without a terminal mucro (sharp tip) and leaf blades triangular and uniformly narrowing from base to apex. The plant flowers about 7-8 inches high and its leaves are about 6 inches long. The broad sheaths form an ellipsoid pseudobulb and are densely lepidote (covered with white scales). The leaf blades are lepidote below and green and nearly glabrous (without scales) on their top sides. The floral bracts are red and longer than the sepals and the flowers are erect and sessile (without stems). The petals are over 1 inch long, rose-pink, purple or purple-black.

Dr. Smith's key to the three recognized varieties of *Ae. recurvata* as follows:

- 1. Inflorescence almost completely exerted above the leaf sheaths; floral bracts serrate var. ***recurvata***
 - 1a. Inflorescence almost wholly included by the leaf sheaths.
 - 2a. Leaves and bracts strongly serrate var. ***ortgiesii***
 - 2b. Leaves & bracts entire (spineless) or nearly so. var. ***benrathii***



So it should be easy to distinguish the varieties. If most of the inflorescence rises above the leaf sheaths and its floral bracts have spines it is var. *recurvata*. If most of the inflorescence does not rise above the leaf sheaths and if its leaves and the floral bracts have spines, it is var. *ortgiesii*. If the spike is mostly included and the leaves and floral bracts are without spines or nearly so it is var. *benrathii*. Right?

No, it is not so easy because these plants are so variable and your plant may fit conflicting key descriptions. Dr. Lyman Smith says *Ae. recurvata*'s leaves are "very variable from sun to shade" and that the leaf blades are "abruptly spreading or recurving from the junction with the sheaths". If the conformation of the plant depends on cultural conditions, it is therefore understandable that there are problems distinguishing var. *ortgiesii* from var. *recurvata*.



Aechmea 'Blush'
showing
variability
due to cultural
conditions.



One of the problems is that we are measuring the height of the inflorescence against the top of the leaf sheaths, but the leaves may be stiff and spreading or they may recurve downward. In the latter case the recurving takes place where the leaf blades join the sheaths so that in fact the top of the sheaths are the top of the plant. In a plant with stiff leaves in a spreading rosette, it is almost useless to measure the inflorescence height against the sheaths.

Reprinted in part from: **Bromeliana** 36 (5): 1-3. 1999
written by Herb Plever.
Photos by Ross Little and the Butcher files.

Tillandsia dura (right)
and
Tillandsia geminiflora
(below)
shown by
Helen Clewett



Mitch Jones demonstrating
to the Group
how to collect pollen
from a Dyckia.



Rich red
banded
Aechmea
'Vaquero'
shown by
Ross Little

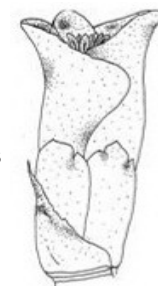
Pollinating Dyckias and Storage of Pollen

by Mitch Jones

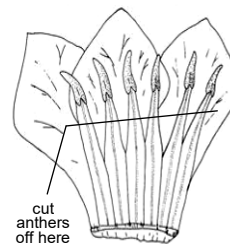
First point to note is that Dyckia's are notoriously well known to self-pollinate without any help, they are also very promiscuous accepting pollen from other Dyckia's in the near vicinity or by friendly insects such as ants or bees.

If you wish to create your own hybrids controlled pollination is a must.

To control the pollination you need to remove the anthers (the male parts) whilst they are immature, take care not to cut the stigma (the female part) off. In my experience depending on the plant, with some flowers you have to separate the petals to access the anthers once the bud starts to swell as anthesis (when pollen is ripe) can occur long before the petals open.



Interesting fact: Bromeliads have six anthers, in Dyckia the anthers are included as per the drawing, not protruding above the petals.



Removal of immature anthers is best and easily done with fine metal wire, needle, needle point tweezers or scalpel blade (if you have a steady hand). Once removed you can fill the flower up with the pollen of your choice from another Dyckia or use a brush and apply to the stigma. My choice is fill the flower up as its easier, try and seal the flower with a clip or squeezing the petals together.

Make sure you label or attach coloured string with notes recorded in a book of what pollen has been applied to the plant.

For future hybrids mature anthers with pollen can be stored in centrifuge tubes with silica gel bead in the freezer and taken out when the anther/pollen is required to create other hybrids. Do not take out and thaw all the pollen unless you are going to use it all at once.



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://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, Detective Derek Articles.

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

Toppers - Shade Cloth Combinations - What is the Result?

The question often gets asked – “how much shade do I get if I put one shade cloth on top of another”. Using an example of say a 30% shade cloth topper placed over a 50% main shade cloth, the theoretical calculation would be:

Light passing through a 30% topper = 70% of available light, that light passing through the 50% main shade cloth underneath the topper = 50% of 70% of the available light = 35% of available, so total shading = 100 less 35% of available light passing through → combined shading = 65%.

This assumes that the fibres in the shade cloth underneath are positioned so that they always cross the holes in the shade cloth above, but this won't always be the case (especially if the shade cloth panels are close together) which means that some holes in the bottom cloth are going to line up with the holes in the top cloth and so won't provide any extra shading at all, especially during the middle of the day in summer when the sun is close to going straight down through the holes. So, this means that the actual shading is going to be a bit less than calculated. All very nice in theory, but what actually happens in practice?

I thought maybe I should actually go and test this, so I put some extra bits of shade cloth on top of a 50% white shade cloth awning in the yard and measured the light underneath with a light meter. (pics attached)



Shade cloth combination with nominal % as sold	Individual actual % shading		Measured light intensity*	Combined % shade		
	main	topper		Measured	Calc based on actual	Calc based on nominal
Nil – ambient direct sun	0	0	87	0	0	0
50% white	48	0	45	48	48	50
50% white + 70% beige topper	48	51	26	70	75	85
50% white + 30% green topper	48	31	33	62	64	65

*Measured light intensity = lux x 1000, at approx. 9.15 am AEST 15/10/2017 Sydney, ambient = direct sun, clear sky with light haze measured with light meter, sensor face approx. perpendicular to sun and 10 cm under shade cloth, test topper pieces approx. 750 mm x 450 mm results are averages of five (5) replicated sets of readings, each set consisting of all four (4) shade cloth combinations taken in rapid sequence percentage (%) shade results in each set checked and consistent within 1 - 4% across sets, so measurement error small and averages should be a good working guide.

Conclusions:

The calculation works just as expected with actual combined shading a bit less than calculated - BUT only if you use the ACTUAL shade percentage (%) of the shade cloth. Check the result for the nominal 70% beige (a reputable major local brand), it only gives around 50% actual shade measured using the same techniques in other results not shown here, so using the nominal percentage (%) for this shade cloth gives a big overestimate of the amount of shading you get both singly and in combination.

Note, this is absolutely not a case of deception by the shade cloth manufacturer. They are applying the routine standard that rates shade cloths based on the amount of surface area that is covered by fibres in the cloth (“cover factor”), NOT the amount of light getting through, which can be a lot more if many of the fibres are thin and transparent (but exclude UV) as they are in typical retail shade cloths. So, “70% shade cloth” does NOT mean (necessarily) that you get 70% shade!

So, use the calculation BUT if you can't get the actual (NOT nominal) shade percentage (%) from the shade cloth manufacturer (try their website), then get a cheap light meter from somewhere like Jaycar or the internet, get some samples of the shade cloth, then measure the actual shade percentage (%) before doing the calculations and spending a lot of money!

Tests conducted and information for this article compiled by Paul Turvey.



Where to Find Bromeliad Groups & Societies Meeting Dates

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

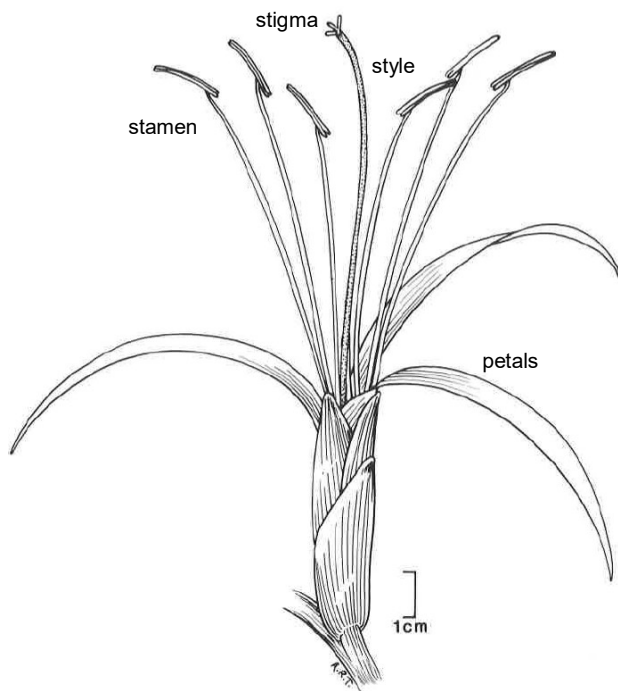
Check this site for regular updates of times, dates and addresses of meetings and shows in your area and around the country.

The Resurrection of Alcantarea

As interest grows in Bromeliads we are occasionally asked why Alcantareas aren't in older Bromeliad literature we read. The simple answer is they used to be known as Vrieseas until Jason R. Grant resurrected the genus Alcantarea in 1995 in *Tropische Und Subtropische Pflanzenwelt* as follows:

"The intent is to circumscribe the boundaries of individual genera in order to develop a natural and phylogenetic system of generic-level classification within the subfamily. Here, Alcantarea (Morren ex Mez) Harms is resurrected to the generic rank from its previous subgeneric position under Vriesea.

It is distinguished from Vriesea by its spectacular, linear-long, fusiform, ephemeral, distinctly flaccidescient, spiralescent petals, and seeds with both basal and apical comas. Alcantarea is restricted to the Brazilian states of Rio de Janeiro, Espírito Santo, Minas Gerais, and Bahia".



A typical flower of Alcantarea, note: the conspicuously exerted pistil (stigma, style and ovary) and stamens and the linear-long petals that become flaccid soon after anthesis.

The history, nomenclature, taxonomy, and generic relationships of the genus are discussed at length in Jason's paper, by doing a google search for:

the resurrection of alcantarea by jason r grant