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

Edition: November 2024

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 December 19th 2024 at 11 a.m.

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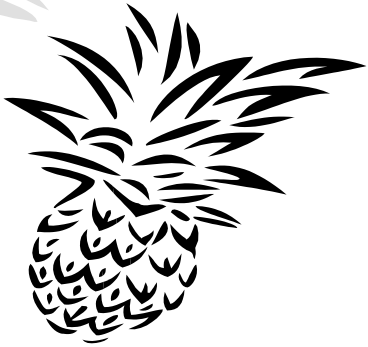


Meeting October 17th 2024

The meeting was opened at approximately 11.00 am
The nine members were welcomed.
Four apologies were received.

General Business

It's almost '*that*' time of year again - Christmas Party and trophy presentations. Winners from last year have been asked to return the shields so that this year's (2024) winners badges can be added and the shields presented to them.

A brief discussion was had regarding food arrangements which will be finalized at the November meeting.

There has been a suggestion to have a Q & A box set up for members to drop their written queries into. We will trial this from January.

Show, Tell and Ask! I asked and they laughed, I didn't think anybody would take the request to grow some plants on ants nests seriously (NOT fire ants of course!), so I guess it's up to me and then report my findings in a year or so.

Report Fire Ants (Solenopsis invicta) to NSW Biosecurity on 1800 680 244.

Tidy-up Corner (corrections) by an 'Eagle Eyed Observer'

Yes I've been caught out by EEO Graeme Barclay reminding me how easy it is to make spelling mistakes, even our proof readers missed this one. For those who did notice but overlooked it, no I haven't found or described a new species as Graeme alluded to, just a simple spelling error. Thank you GB.

Page 2, paragraph 4: Shane ……. *Neoregelia paucifolia*, incorrect spelling.

Correct spelling is *Neoregelia* ***pauciflora,*** pauciflora meaning few flowered.

If a reader does notice an error be it spelling or other please feel free to let us know via our e-mail address on the front page of our Newsletter.

There is of course a *Tillandsia paucifolia,* paucifolia means few or sparse leaved.

Two quotes from Derek Butcher:

- "The main problem with misspelling is the fact that it gets carried on like the plague".
- "Names are important because it means you are comparing like with like. Humans get very up-tight if you call them by the 'wrong' name so why not plants".

Open Popular Vote

1st	Michelle Hartwell	*Billbergia* 'Domingos Martins'
2nd	Shane Fitzgerald	*Neoregelia* 'Eva's Glow'
3rd	Mitch Jones	*Aechmea zebrina* hybrid
3rd	Helen Clewett	*Aechmea* 'Chianti'

Tillandsioideae

1st	Kayelene Guthrie	*Tillandsia tricolor*
2nd	Helen Clewett	*Tillandsia ionantha var maxima*
3rd	Mitch Jones	*Tillandsia botteri*

Decorative

1st	- - - - - - - - -	- - - - - - - - - - - -

Judges Choice

1st	Kayelene Guthrie	*Tillindsia tricolor*

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
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 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.

Show, Tell and Ask!

This month we discussed a little about growing Puya, caring for them and offset removal. They are terrestrial or saxicolous and suitable for xeric style gardens with Deuterocohnia, Dyckia, Encholirium, Hechtia and Orthophytums etc.

“The genus Puya is easily distinguished from other closely related genera by the petal blades that are distinct from the claw and spiraled together after anthesis, the appendaged seeds, the narrowly triangular leaf blades that are never contracted at base, and the superior to slightly inferior ovary.

Distribution: About 219 species distributed from Costa Rica to Chile and Argentina, principally Andean; seven species in Chile. (Ed. There are now 228 accepted species listed on The New Bromeliad Taxon List, November 2024).

Puya was described by Ignacio Molina in 1782 in his “Saggio sulla storia naturale del Chili”. Since then, our knowledge about the diversity of the genus has increased considerably, in particular over the last century. Traditionally, the genus was included in the subfamily Pitcairnioideae based on ovary, fruit, and seed characters (Harms, 1930; Smith & Downs, 1974, Smith & Till, 1998). Based on a comprehensive cladistic study of morphological and anatomical characters, Varadarajan and Gilmartin (1988) placed Puya in the tribe Puyeae together with Abromeitiella, Brewcaria, Deuterocohnia, Dyckia, Encholirium and Hechtia. Smith and Till (1998) maintained this classification, but sank Abromeitiella in Deuterocohnia. Recent molecular studies demonstrated that the genera formerly subsumed in Puyeae are not closely related and that Puya is not part of the Pitcairnioideae, but instead constitutes a monophyletic lineage in sister group position to subfamily Bromelioideae. Hence, Givnish et al. (2007) erected the monogeneric subfamily Puyoideae.

Plants perennial, acaulescent or long caulescent, simple or branched, stout, often with a tall inflorescence. Leaves densely rosulate, coriaceous; sheath distinct, generally wide; blade narrowly triangular, the base not narrowed, mostly succulent and spinose-serrate. Inflorescence simple or paniculate. Flowers perfect, showy; sepals convolute, free, shorter than the petals, glabrous, tomentose, or lanate; petals free, with or without appendanges, the blades tightly spiraled together after anthesis, distinct from claw; stamens generally shorter than the petals, the filament bases separate from each other after anthesis; ovary superior or slightly inferior, glabrous, style long, slender. Capsule loculicidal and often tardily septicidal as well; seeds appendaged, with a dorso-apical wing.”

Taken in part from: Taxonomic revision of the Chilean Puya species (Puyoideae, Bromeliaceae), with special notes on the Puya alpestris-Puya berteroniana species complex.
Georg Zizka Julio V. Schneider, Katharina Schult and Patricio Novoa.

We were given a practical demonstration on how best to deleaf a *Puya vasquezii* with up to 12 mm long black, antrorse spines (directed upward or forward). To tackle this task it is safest to wear long leather welding gloves and use a good pair of pliers for griping the leaf sheath to pull it away from the base of the plant.

If removing the entire leaf proves difficult use scissors to cut them as close to the trunk so the spines don’t hinder you when griping the leaf sheath with pliers.

The sheath is the part of a leaf that surrounds the stem/trunk of a plant.

The junction/division point becomes clearly evident once the sheaths have been removed.

This particular plant has three offsets so there are three such junctions. To divide them I would only cut one third of the way into the stem via each junction and downward through to the root base.

The three offsets should part with ease, allow to dry before potting in a good quality potting mix.

Tillandsia tricolor Judges Choice Kayelene Guthrie

There have been so many variants of this group of plants imported into Australia over the years that I find it best to refer to the botanical descriptions to be sure the correct name is attributed to the plant in question. I was trying to work out if this is *Tillandsia tricolor, Till. botteri, Till. rodrigueziana* or should it be placed in the *Tillandsia* 'Chooks' group (refer Bromeliads in Australia web site - Detective - DD0915 *Tillandsia* "Chooks", Butcher and Larson Sept. 2015).

The floral bracts which are lepidote - surfaced with small scales (trichomes) made me look toward *Tillandsia tricolor* and consider it the main contender.

The description for *Till. botteri* indicates lepidote toward the apex of the floral bracts leaning me more toward *Till. tricolor*.

The description for *Till. rodrigueziana* indicated the floral bracts are usually smooth, glabrous (smooth and glossy) to sparsely grey lepidote distally (farthest from the place of attachment = only lepidote toward the tip of the floral bract.

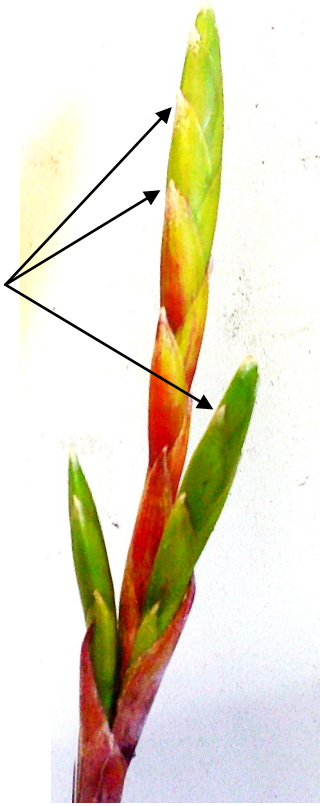
Tillandsia 'Chooks' floral bracts are red with scattered scales, so it doesn't fit.

Eric Gouda confirmed that the distinct lepidote apex of the floral bracts indicates *T. tricolor*. In *Tillandsia botteri* and T. *rodrigueziana* this is only scarcely visible.

Inflorescence terminal, erect, fasciculate - compound, bipinnate, erect spikes.

Floral bracts lepidote toward the apex.

Fasciculate: in close bundles or cluster.



Tillandsia botteri shown by Mitch Jones

Inflorescence pinnately compound, subthyrsiform, decurved toward the apex.

Subthyrsiform could translate to the panicle being somewhat, slightly loosely wide-spreading.

Tillandsia rodrigueziana - by Chris Larson
photos taken from:
Bromeliads in Australia website - Photo Index.

Billbergia
'Domingos Martins'

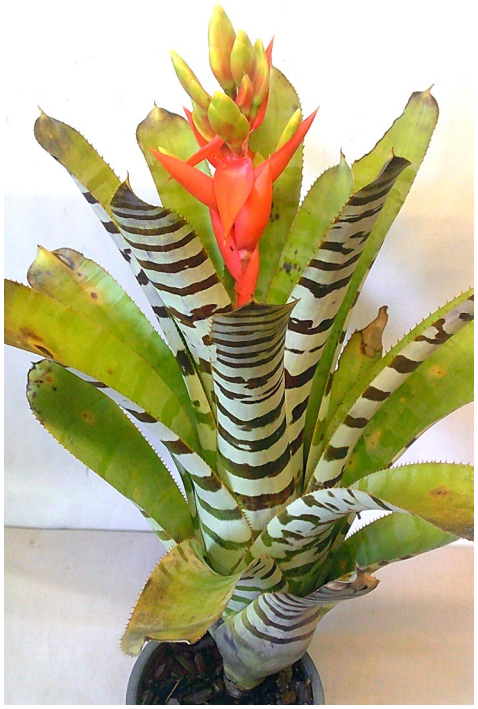
1st Open
Michelle Hartwell

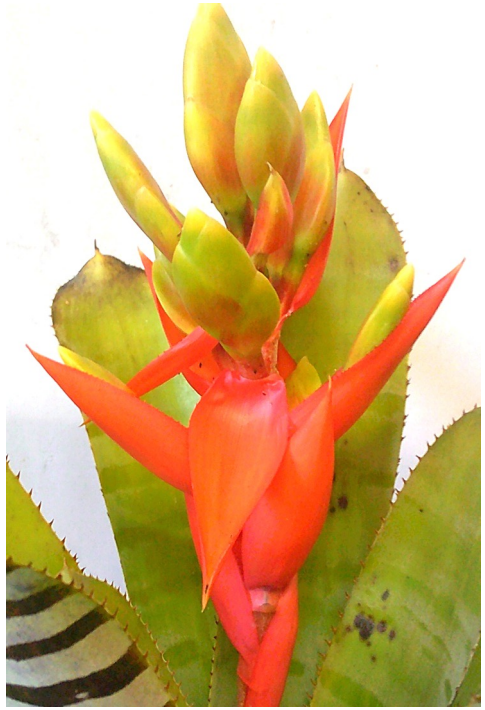
Bill. 'Domingos Martins' is a cultivar of *Bill*. *vittata* that was collected by Bob Whitman+ from Kautsky's Mountain near the town of Domingos Martins in Brazil.

(**+** means possibly)
(***** means named by)

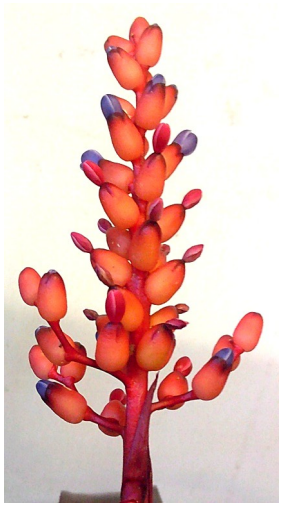
Neoregelia 'Eva's Glow'
grown by Shane Fitzgerald

Billbergia 'Hallelujah'
grown by Kayelene Guthrie





Aechmea zebrina hybrid
grown by Mitch Jones



Aechmea 'Chianti' grown by Helen Clewett

A small erect black/maroon rosette with an upright open branched orange inflorescence with blue petals and orange/red berries. Like many of these dark leaved plants they prefer lower light conditions to gain their darkest colouring. Too much light may cause bleaching of the leaves giving the greenish hue as can be seen in this plant. Lower the light, darker the colour.

Tillandsia ionantha
var. *maxima*
grown by
Helen Clewett

Tillandsia flavoviolacea
grown by
Michelle Hartwell

Previously known as
Till. 'Sesca'
It was thought to have been
a natural hybrid of
Till. schiedeana
x
baileyi

If you have this plant under this name or the suggested parentage it may now be prudent to change your label to:

Tillandsia flavoviolacea

Tillandsia 'Olive'
grown by
Shane Fitzgerald

Landscaping with Bromeliads

compiled by Ross Little

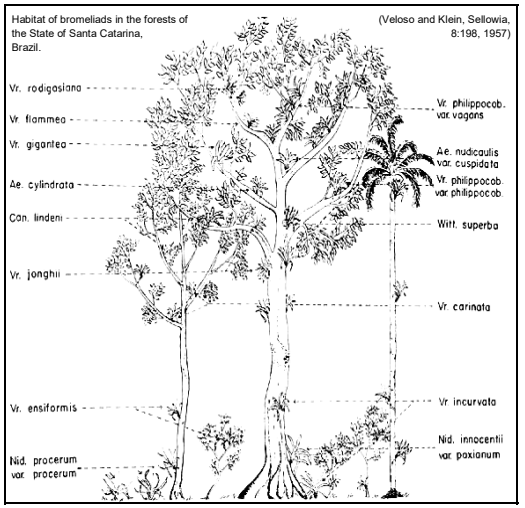
When selecting plants to go into your garden consider where they originated from because our plants come from all types of ecosystems requiring different growing conditions. Albeit our Bromeliads can be very adaptable considering we are dealing with plants from sea level to high altitude to rainforests and deserts. We mostly do OK keeping our highly variable collections alive in our protected shade houses by finding that little bit of microclimate that best suits them, but what about in the landscape.

Most Bromeliads in our collections are of the epiphytic type, they grow in trees and have adapted to hold water in their tanks/central wells while our succulent type developed a greater root system and the capability to store water in their leaves. They are often more greatly armed with vicious spines for protection than their epiphytic cousins. As with all terrestrial plants, ground dwellers, they enjoy a generous amount of watering in the warmer months and of course don't forget to fertilize them.

When wanting to set a plant directly into the ground consider drainage for it, it may be best 'on' the ground by building the site up using logs and rocks then backfill with a well draining type substrate to set your plant into. By using 'old' parent/mother plants I find these form flowering clumps quickly as opposed to starting with a single plant and waiting for it to flower and clump, unless a single specimen plant is preferred. A good idea, instead of planting your Bromeliad directly into the ground, dig a hole and set an empty pot into it, now you can set your potted plant into that pot and relocate as required with ease. No more hole digging every time you want to freshen up your feature area quickly and cleanly.

Trees are our Bromeliad friends in the garden, shade lovers grow under them and our epiphytic varieties grow up in them, they're not parasitic they are epiphytic. Any tree that does not shed its bark is suitable for attaching plants to. Remember when tying onto growth trees, rigid ties like wire has no give/stretch and can cut into the tree over time, cut and apply a new tie as required. Stockings, cable ties or baling twine are best.

Try putting seed onto your trees and mist it regularly until it germinates.



Bromeliads - Houseplants for Today and Tomorrow

Part 2

by Walter Richter (Translated by Adda Abendroth, Teresopolis, Brazil)
From: BSI 1967 V17 (5)

A Little Botany

The number of bromeliads that can be seen in Europe is comparatively small. In 1930 only 1,400 species were known, in 1955 the number was 1,600, and today there are still more because new ones are being discovered all the time so that the absolute total cannot be given with certainty.

Most of the bromeliads we are familiar with look distinctly like a rosette in one way or another. In our minds the word "rosette" is linked with the image of these plants. But, there are genera that have a different shape, as, for example, the Pitcairnias that have many thin, soft leaves growing in a bunch, or *Tillandsia usneoides* with its finely branched strands gathered into enormous hanging clusters.

Most bromeliads have a compact or a contracted stem, short therefore, but always present. The stem is often hidden from view by a coat of recurved leaves. Some Tillandsias (*T. araujei, T. albida*, and others) clearly possess a long stem, sometimes coiled, walled in a harness of dry leaves. Ordinarily stems do not bunch, although the great Puya species of the Andes do. Their arm and often thigh thick stem usually creeps for some length before it rises and branches, each branch holding an independent leafy crown.

In horticulture some species distinctly show prominent secondary growth. The new shoot that forms before or after flowering may attain greater height than the mother plant. This is a natural necessity. Close to its mother, the new shoot would not have space enough to develop; it must grow more than she did. Similarly, some bromeliads like *Nidularium bracteatum* and others break away from the mother plant by literally climbing up a tree trunk, their stolons sending new roots into the fissure of the bark to hold on tight.

There are both giants and dwarfs in the bromeliad family. Some of the Puyas are truly the giants in the family. Their relatively short stem produces a number of thick rosettes with hundreds of leaves over 1 metre in length. The flower spike attains several meters. *Vriesea imperialis* and *Vriesea regina*, both natives of the former Federal District (Rio de Janeiro) of Brazil, are also very large. Their rather broad leaves measure approximately 1.5 meters in length. The inflorescence of both grows to cover 2 meters and has many stout branches. These Vrieseas are certainly a striking example of creative force in the vegetable kingdom! The same may be said for *Bromelia pinguin*, at home in Central America.

The adult rosette, made up of over 100 leaves, measures 3 meters in diameter. Other species of the genus compete with it in size and beauty. Aechmeas, one of the best known species, also have giants for members. *Aechmea sphaerocephala* has leaves that may measure 2.5 meters in its native home in Brazil; *Aechmea columnaris* has leaves of about the same size.

The dwarfs in the family may be found in the genus Tillandsia. *T. tricholepis, T. crocata*, and a few others are so diminutive in size they look like mosses; and it is only thanks to their habit of congregation, forming communities, that they can survive over long periods. Some of their life processes function as if they were cryptogamous plants. The foremost problem in the life of such small epiphytes is to insure the water supply, especially in areas subject to periodic draught. They very likely depend to a high degree on the functioning of their scales. The genus Tillandsia contains many other species of reduced size. Some, though small, develop distinct rosettes which make them very attractive, like *T. erubescens* and others. Needing little space because they are so small, they are greatly favored by hobbyists. *Vriesea imperialis and Vriesea regina*, I said, are giants; their cups hold considerable water and a private fauna of their own. The smallest known species of the genus, *Vriesea racinae*, on the other hand, is so small, a fully grown specimen fits into a coffee cup. *Neoregelia ampullacea* is a dwarf next to her sister *Neoregelia concentrica* with its robust leaves and ample spread. The little *Billbergia reichhardtii* is only one-tenth to one-twentieth the size of the huge *Billbergia venezuelana*, and yet they belong to the same genus because they have certain characters in common. Hobbyists living in Europe have almost no chance to note these extremes in size - those for sale are of average size.

Development in the Bromeliaceae is accomplished over varying lengths of time. More often several years go by before a baby plant grows into an adult ready to bloom. The main plant flowers only once. After flowering or rather after fruiting, it stops growing but it may continue to function for a while. This is necessary so that the new side shoots, often called off-shoots or pups that form in the axils of the leaves may grow properly. The shoots carry ahead the life of the mother plant. They are an unconditional guarantee for the preservation of the species, independent of seeds. This possibility of survival seems especially important with epiphytes, because their seeds are exposed to much more danger of annihilation than are the plants on the ground. In the native habitat production of offshoots often results in the formation of large and compact communities as in Tillandsias growing on trees or in plants that grow in the soil, as in *Aechmea polystachia* (*A. distichantha*) which builds huge, impenetrable thickets.

Almost without exception the inflorescence is terminal, which is to say it originates in the tip of the axis and ends its growth. Only a few Tillandsia species are exceptions to this rule. They may produce side shoots after the main axis has bloomed. The side shoot will flower but it does not represent a new independent plant.

As we said above, vegetative reproduction of bromeliads proceeds by way of the side or off-shoots. These off-shoots are not unlike the mother plant from the start. They begin as a tube composed of a number of leaves which later opens out into a rosette. The pups come out in most species while the mother plant is in bloom or soon after. In a few species they come even earlier, while the plant is nearing adulthood. *Vriesea imperialis* and *Vriesea regina*, being so large, take 6 to 8 years to come into bloom. They have their first offshoots while half grown, the little plants sprouting in great numbers around the roots of the mother plant. They look like seedlings and can easily be removed. On the other hand, *Vriesea splendens* and its relatives produce offshoots sparingly. One, rarely two, will show up in provided with means of propagation by offshoots.a leaf axil of the old plant and in time overgrow its height. Most of the other Vrieseas produce their pups, many or only a few in the lower leaf axils.

Many species multiply by means of stolons issuing from the underground stem of the mother plant. We find this occurring among the Billbergias, Aechmeas, Nidulariums, Psuedananas, and Pitcairnias. The stem of the stolon sometimes gets very hard and woody. On its lower section the stolen is covered with leaf scales; further up regular leaves gradually take over. The genus Cryptanthus forms a number of pups in the lower leaf axils. These pups come off easily and root by themselves. The underground stem of *Cryptanthus zonatus* issues additional offshoots long after flowering time. Steps of transition lead from leafy axiliary offshoots to scaly underground stolons. *Ananas comosus* produces several underground shoots as well as pups on the crown of the fruit. The family is amply provided with means of propagation by offshoots.

The roots of the bromeliad, on the whole, play a much more secondary role than in other plant families. As was said before, bromels possess other means of absorbing water and nutrients. Consequently, the roots of an epiphyte act foremost as hold-fast organs, intended to tie a heavy plant to its lofty roost. The roots do not come in large numbers, but they are hard and wiry and strong enough to become almost undetachable from the host tree. Only a device like this makes it possible for certain species of Tillandsia to settle on perfectly smooth palm trunks or on the Saguaro and there to thrive and grow. To what extent the intimate connection between root and host may favor exchange of matter, or if exchange takes place at all, is yet to be ascertained.

Some Tillandsias, such as *T. dianthoidea, T. duratii*, and *T. decomposita*, are practically rootless. Some species hold on to their host by means of elaborately looped leaves. This is true of *T. usneoides*, Spanish moss, which employs its entire fabric of long, thin shoots for this purpose. *T. usneoides* has roots only while a seedling. Later, its dense pelt of scales takes over and captures the needed moisture. Then there are the desert plants, *T. werdermannii* and *T. lanobeckii*, that survive though they lie loosely on sand dunes, moving about with the winds, and which also never have roots.

In our study of the living organs of our plants let us now turn to the leaves. Their extraordinarily numerous shapes are well reflected in the description of the many species. Leaf blades are almost always elongated, broad or narrow, seldom ovate or lancet shaped. Grass-like leaves are also seen, as well as very thin, thread-like ones as in *Tillandsia linearis, T. plumosa*, and others.

The leaves of cup bromels often have very broad sheaths tightly adjusted to one another to build the cup for holding water. The canal-shaped blades guide the liquid to the cup, where it spreads and fills every nook; the surplus runs off. Special attention should be applied when growing bromels indoors to see that the cups are always filled with water. Equally important is it to keep the cups clean of anything that might cause decay. Cup bromeliads are much more sensitive to lack of water in their cups than to absence of moisture around their roots. Lack of water in the cups soon results in dry leaves and ensuing death of the plant. The reason is that the roots are unable to suck up sufficient water to keep the plant alive if there is no water in the cup for absorption by the scales.

Consistency of leaves also differs widely. The majority are tough, hard, and very rigid. Only the Pitcairnias with their soft hanging leaves are an exception. Often leaves have an armature of small or large spines garnishing the edge of the blades. In certain terrestrials the spines are so forbidding as to make the plants unapproachable. It is a fixed rule that species with capsule fruits have smooth, unarmed leaves; they are all epiphytes, need no protection against predators. Terrestrials, on the contrary, need protection badly. They are strictly berry bearing plants. Profusely armed species generally have their lower spines pointing downwards, the upper ones forward, and the center ones outward. It is defence in all directions. Some spines are broad at the base and taper into a curved, pungent tip — a dreadful weapon. From an aesthetic point of view, however, spines may be considered ornamental. They are often dark brown or black, in vivid contrast to the greenish blades.

To be continued ……...