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

Study Group meets the third Thursday of each month

Next meeting October 15th 2015 at 11 a.m.

Venue: PineGrove Bromeliad Nursery

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Discussion: September 2015

General Discussion

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Meeting 20th August 2015

The meeting was opened at approximately 11.00 am The 21 members and one visitor present were welcomed. A total of four apologies were received.

General Business

Ross presented to the Group the new book on Alcantarea which includes some newly described species and also the naming of a plant that we only knew by its collection data name which was indicative of the area where it was collected, *Alcantarea* 'Imbe'. This plant has now been formally described and published in 'Bromélias Gigantes do Brasil' by Leonardo Versieux and Maria Wanderly as *Alcantarea australiana* Versieux & Smythe. Readers of the book will notice that some of the photos and other relevant information were supplied to the botanist by two members of the FNCBSG NSW being Don Beard and Ross Little. The book will be available in the Library after the usual cataloging and protective covering has been completed.

Show, Tell and Ask?

John showed seaweed powder 'Tri-kelp' he has for sale. Made up at the rate of 1g/1 litre it gives pups a good start by spraying them or dipping the whole plant in the made up solution. It is good for plants under stress as it toughens the leaves and in summer can help to prevent moisture loss.

It was Aechmea recurvata time again and some amazing colours were displayed. Ross showed three plants which all looked very similar. One was Ae. recurvata x Ae. orlandiana, a supposed hybrid which grows true from seed as evidenced by plants grown from seed by Don Beard and shown to the meeting. It was agreed it appears there is no cross as Don's plant has grown true to type. Another plant which was originally tagged as Ae. recurvata var. cardinalis ex Ruby Ryde from the late 1990s is now registered as Ae. 'Cardinalis'.

Additional information from the Bromeliad Cultivar Registry BCR: cv. or hybrid of recurvata w/wide leaves arching downward - grey-green uniformly with intense red inflorescence only extending part way from the rosette. The earliest reference we can find to this alleged variety of *recurvata* (never formally described) is in Hummel's plant list 1962 where he says it is larger than var. *benrathii* with a flower head more raised from the centre. Undoubtedly its origins were in California because the oldest photo we have is by Jeanne Woodbury in BSB 1968, page 1 Recurvata Group.

Ross also showed *Tillandsia recurvifolia* var. *subsecundifolia* which was flowering, it's grown in good light on the outside of the shade house. Also shown was a *Till*. 'Capitata Peach' which has had a name change to *Tillandsia riohondoensis*. Articles by Derek Butcher and Renate Ehlers are on pages 10, 11, 12 and 13.

Ross and Lesley spoke briefly about their trip to Ecuador and will be giving more detailed talks over the next few months when they have their notes organized and photos ready. The trip was to be a two week Bromeliad tour of Ecuador plus eight days on the Galapagos Islands. Lesley and Ross decided to spend extra time around the Guayaquil area prior to the tour and an additional week in the Quito area on return from the Galapagos Islands. The group of 11 Bromeliad fanatics, being five Australians and six Americans began the tour heading south from Guayaquil toward Vilcabamba. After several days in the south the group turned north travelling through Cuenca, Banos, Puyo, Archidona to Baeza. Bad weather changed the trip from its planned route to Papallacta backwards, across country to Mindo, finishing in Quito and then on to the Galapagos Islands.

After lunch the Group discussed recycling. Plastic bottles can be cut into a scoop shape or cut to create a mini glasshouse or the top can be used for a funnel. Holes can be drilled through bottles, ropes attached and a section of the side cut out to create hanging baskets. Strawberry punnets, cake containers, take away food containers etc. are all suitable as seedling starter trays. Gloria showed a bird feeder planted with succulents. The base was an old plastic pot cut down to fit and painted the same colour as the cage and filled with good quality potting mix. Helen had lots of ideas - Tillandsias growing in drinking glasses, on banksia tree seed pods and on pine cones make good Tillandsia mounts. You can sit a glass within a bowl for a table display, cover polystyrene in hessian, use cane BBQ plates as mounts. It's obvious why Helen often wins the Decorative competition section! (photos p.9)

Jeanette had 2 plants for identification, an *Aechmea warasii*, after checking its identification it appears to be *Ae. warasii* var. *intermedia*. The second plant for identification looked like a small form of *Quesnelia liboniana* (photo p.9) which Jeanette thought the leaves felt softer than others she has known. General consensus was growing conditions. Jeanette was also thanked for the excellent job she did taking the photos for last month's Newsletter in Ross' absence.

The auction this month raised \$97.00, thank you to Trish, Kay, Jeanette and Les for bringing in plants. The auctioning of plants not often seen on our sales tables has been a great success over the last few months. The Groups' coffers have improved to the point where we only need hold these auctions every few months if required. A huge thank you to those who participated, to those who supplied plants and to those who so generously gave monetary donations to help keep our Group financial.

Tillandsia 'Josee'

by Derek Butcher 2015

I am intrigued that this cultivar has only just arrived on Australian shores although apparently on the European market since 2007. It is clear that the nurserymen in Europe ignore the BCR in similar fashion to many US nurserymen but that is something we have to live with. Offsets of 'Josee' can safely be sold under that name in Australia but sellers are warned to check to see if it ever gets PBR rights in Australia. Now to the patents granted based on it being within the realms of *Till. cyanea* and yet to me it has a distinct scape putting it into the realms of *Till. lindenii* if we follow L B Smith. Let us remember that horticulturally the Europeans DID not differentiate according to length of scape and there are many instances of hybridizing between the two species. There is a much greater chance that 'Josee' came from seed produced horticulturally and thus of hybrid origins and did not originate from Ecuador.

From the botanist's point of view let me quote from Lyman Smith's Studies in the Bromeliaceae XVI (1951)

"The name, "Tillandsia lindeni", sets a new high for confusion in the Bromeliaceae. As used here it applies to the "long-scaped" species first noted by Regel,

and not to the "short-scaped" species that E. Morren described as new under the same name. Regel, after publishing his species twice as "lindeni", for no explained reason changed to "lindeniana" for his third and best-known description, and a year later proposed "morreniana" as a new name for Morren's species to avoid duplication of the "lindeni" he now disowned. Morren, not to be outdone in weird reasoning, proceeded to make Regel's earlier species a variety regeliana of his, the later, "lindeni".



Regel and Morren argued back and forth in print over the names and status of their two finds and were later further confused by Andre. Meanwhile, the horticultural writers, struck by the great beauty of the plants, published a profusion of notes and illustrations without stopping to verify names and identities. In several instances they managed to illustrate "*lindeni*" of Regel while labeling it "*lindeni*" of Morren.

Regel contented himself in arguing the priority of his name and the specific distinction of the two entities involved. Morren considered them varieties of the same species and went on to add further varieties, still under the wrong "lindeni," with the paradoxical result that three of them must now be transferred

from "*lindeni*" of Morren to "*lindeni*" of Regel, since the two species were founded independently, and on different types.

Again we meet confusion in the battle of *Tillandsia lindeni*. Both species were collected by Wallis and, as reported by Regel, one came from Zozoranga in Ecuador and the other from Huancabamba in Peru. Morren claimed that they were but a single collection, but later collections would refute this and also indicate that Regel had reversed species and localities. Actually, all collections since the types indicate that the species with the long scape is Peruvian and that with the short is Ecuadorian.

The earliest specimen of *Tillandsia lindeni* to be illustrated was few-flowered and rather resembled *Till. umbellata*, but later more vigorous plants had larger inflorescences that contrast sharply with that species."

Just to show the problems with the name *Till. cyanea* we should remember that this name was used by Morren for a completely different plant - *Tillandsia cyanea* (A. Dietrich) E. Morren, Belg. Hortic. 29: 297. 1879; non Linden ex K. Koch, 1867. which is now a synonym of *Till. guatemalensis*.

I well remember 1977 when the SA Society was formed when everyone had a plant of *Till. cyanea* because it pupped prolifically. It took us some time to realize we must have the rare non-flowering form. These days we are more fussy.

Currently registered forms of *T. cyanea/lindenii* are:

Anita Duvalii Hybride H G Pink Plume
Caeca Emilie Josee Sandy
Duvaliana Hans Gulz Paradise Triflor



Photos by Ven der Velden BV and Corn Bak BV



Tillandsia cyanea photo by Ian Hook













Pitcairnia heterophylla Nariz del Diablo (Devil's Nose Train ride) Tillandsia latifolia

Guzmania monostachia Tillandsia complanata) Inca ruins at Ingapirca

Guatemala is the source of a large portion of the world trade in tillandsias. Many of the plants currently sold in large numbers by Guatemalan tillandsia suppliers were initiated in the days before many of the species were described. Taxonomy often doesn't keep up with the speed of the commencement of trade in plants. The state of tillandsia taxonomy is such that some of the suppliers of these tillandsias have traded them for many years under the closest species that they could find, and as a result they often have been still traded under that name, as if out of habit, because both the vendor and the purchaser knows what they will get & what to supply if they order those names. In the late 80's & early 90's many of the species were described and most were sorted, but sometimes it takes longer, for

example it has taken until this year for the plant the

Tillandsia 'Chooks'



Tillandsia 'Chooks' photo by Terry Davis

Guatemalans call either *Till. capitata* 'Peach' (not to be confused with the *Till.* 'Capitata Peach' from Mexico) or *Till. sphaerocephala* to be described as *Till. riohondoensis*. How long it will take the commercial trade to catch up with this change is anyone's guess.

One group of plants where taxonomy has not been keeping up is the group we associate with *Till. tricolor*. This includes *Till. tricolor* var. *tricolor*, *Till. tricolor* var. *melanocrater* (now *Till. melanocrater*) and *Till. tricolor* var *picta* are the botanical varieties of *Till. tricolor*, but recently there have been other related species newly described such as *Till. welzii* & *Till. crista-gallii*. Even though *Till. crista-gallii* comes from Mexico, the type locality is almost on the Guatemalan border leading some to speculate that its habitat may cross over into Guatemala. *Till. crista-gallii* as it is known locally in Mexico means cock's comb and we have started calling these errant forms 'Chook' where they have a similar compound inflorescence where the short branches bend outwards, the floral bracts are red with scattered scales and the flowers are blue tubular with stamens exserted.

Here in Australia we see a range of forms of these *Till*. tricolor-ish plants come into culture which have been close to the species *Till*. *crista-gallii*, but we are unsure of their provenance or their actual identity. Hence we have coined the term 'Chooks' to deal with them. In all probability the name 'Chooks' will remain an Australasian phenomenon but will be put in the BCR so that there is a record of this/these plants identity.



Vriesea 'Kilauea'
1st Open and Judges Choice
Jennifer Laurie



Tillandsia 'Dimmitt's Talent' 1st Novice Lesley Baylis



Vriesea 'Eva Sunspot' (unreg.) grown by John Crawford



Neoregelia 'MacTunis' grown by Gloria Dunbar



A recycled palm seed pod used to create a 'Palm Boat'
1st Decorative Helen Clewett



Vriesea fosteriana grown by Laurie Mountford



Quesnelia liboniana grown by Jeanette Henwood



Tillandsia pseudobaileyi grown by Laurie Mountford

Photo's supplied by: Ross Little



Mini Neoregelias attached to a styrene box lid wrapped in hessian.



A Cryptanthus planted in a glass which is set within a bowl with Tillandsias.



Cryptanthus 'Corrine' grown by Les Higgins

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Tillandsia capitata and its Identity Problems by Derek Butcher

Tillandsia capitata came into being in 1866 with a plant found in Cuba. In the

intervening 147 years many plants have been found throughout the Caribbean and mainland Central America and been given this species name, but come in all shapes and sizes. Ten years ago it seemed that a Cuban botanist was going to come to the rescue and give some meaning to the prevailing chaos, but alas nothing has eventuated even from DNA studies which seem to take front stage in botanists current deliberations. Let us now look at cultivars linked to Tillandsia capitata. We should remember that nature abhors a vacuum and so too do nurserymen. Therefore plants get given 'common' names and sometimes these are registered so all growers of bromeliads are aware. While it costs nothing in monetary terms to register it does take precious time to take the trouble.

This is a story about only part of the *Tillandsia capitata* identity crisis which some growers will heed and some not, but at least we try.

Let us go back to the Journal of the Bromeliad Society 56: 64 (2006) where I tried to solve certain naming problems for a plant found in Guatemala which looked like a *Tillandsia capitata* but was sufficiently different to warrant a new name. To summarise, in the early 1990's we had a plant variously called, Till. xerographica x capitata, Till. 'Maya', Till. sphaerocephala Guatemala, Till. harrisii, Till. capitata 'Yellow Rose' (in New Zealand), and a name that I coined: Till, 'Rio Hondo', The latter name was based on the name Till, riohondoensis, a name that was used by Renate Ehlers, Germany in preparation of a publication of that new species. But at that time she decided not to publish this species because of the identity problems of Till. capitata in the broad sense. The name 'Rio Hondo' however was duly registered but I would suggest there are still many of these plants around with these other names on the labels.



Tillandsia riohondoensis inflorescence photo by: A. Böker



Now to phase 2: there is a plant circulating as Tillandsia capitata 'Peach', also from the early 1990's, which originated from Bird Rock Tropicals in California / USA under their inventory number 'T030'. It was originally collected in Mexico, but was never registered under that name.

'T030' shown here at the habitat in El Cameron. Oaxaca. Mexico, 2014, photo by P. Koide-Hyatt

Meanwhile there was a plant collected in Guatemala, which was also called Till. capitata 'Peach'. We do not know who gave it that name, but we do know, it is being sold in Florida under this name. This plant has leaves that have that furry covering like a Peach which is also shared by Till. capitata 'Rio Hondo', but the plant is significantly smaller. Because we do not know the source of either plant we can only surmise, they are closely related.

If you are a grower who prides himself/ herself on having a keen interest on plant identity you will be pleased to know that we have decided to coin two new names for the Register - Tillandsia 'Guatemalan Peach' and Tillandsia 'Capitata Peach'.



Tillandsia 'Guatemalan Peach' photo by D. Cathcart



Tillandsia 'Capitata Peach' photo taken at Bird Rock Tropicals by P. Koide-Hyatt

We leave it to you to decide, which name best fits your plant and suggest to others, who sell these plants, to use the new names, including 'Rio Hondo' if applicable.

In the 2015 (2) issue of Die Bromelie, Renate Ehlers finally publishes Tillandsia riohondoensis because in the many years since the first introduction nothing moved forward in identifying and classification of all these many plants called Till. capitata. So she decided to go the first step and publish this outstanding plant.

So from now on you can label your plants as Tillandsia riohondoensis.

by



Tillandsia riohondoensis habit and inflorescence.



Reprinted from: Die Bromelie 2015 (2)

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<u>Tillandsia riohondoensis</u>

by Renate Ehlers

A new species within the relationship of Tillandsia capitata

This plant has been on the market for a number of years and particularly in many American collections. It was sold by Guatemalan dealers as "*Tillandsia sphaerocephala* Guatemala". In German gardens and collections it also occurs under this or other fantasy names, but never, strangely, as *Till. capitata*.

There are some offered as very small plants which come from offsets and were often cultivated by using flowering hormones. These plants seem often stemless or short stemmed. At the type locality or when mother plants are old, the plants are long stem-forming and much larger in diameter. The offsets appear, like in *Tillandsia harrisii*, willingly from the leaf axils along the entire length of the plant.

You can buy the plant as a common commercial plant, but, in nature near the Rio Hondo, it is extinct. In 1994 I received my plants from Uwe Feldhoff. Unfortunately, I was never able to see them in their natural habitat. When we were in Guatemala in 2010, I wanted to go with Uwe Feldhoff to Rio Hondo, but he reported that there were no more plants anymore.

Tillandsia riohondoensis Ehlers, sp. nov. Die Bromelie 2015 (2): 57-61. 2015

A *Tillandsia capitata* Griseb. caulibus longis, rosula secunda, prolibus numerosis in toto caule, foliis subchartaceis, percano lepidotis, pedunculo brevi, spicis dense aggregatis rhachis internodiis perbrevibus, spicis bifloris bracteis sterilibus basalibus absentibus, bracteis spicarum ambis faciebus dense lepidotis cum laminis perlongis, bracteis floriferis parvis sepalibus usque ad 3 mm brevioribus, valde carinatis, membranaceis et sepalis subliberis totis carinatis differt. —

Typus: Guatemala, Departamento Zacapa, in valle Rio Hondo, 200-500 m s. m., saxicola in rupibus subperpendicularibus prope cataractam, 1989, U. Feldhoff s.n. (holo WU).

Plant stem forming, flowering 20-80 cm high, rosette somewhat secund, 10-70 cm high, 15-40 cm in diameter.

Leaves up to 35 cm long, very thin leathery light green, both sides strongly lepidote and therefore appearing greenish grey, upright to somewhat recurved.

Sheaths 5-10 cm long, 3-4 cm wide, elliptic, slightly curved, the edges involute (bent inwards), the basal half light brown, densely fine lepidote.

Blades faintly distinct from the sheaths, 1.5-2.5 cm wide above the sheath, up to 25 cm long, triangular, rather flat, edges involute, tapering to a linear tip, apex recurved.

Peduncle fairly short, 3-6 cm long, 6-8 mm in diameter, curved upwards, densely covered by a few imbricate bracts, bracts foliate, red coloured at anthesis.

Inflorescence (fertile part) 4-8 cm long, 2-3 cm in diameter (without the primary bracts), capitate, panicle with side-branches of first order, 5-15 spikes, upright, very densely and polystichously arranged.

Primary bracts similar to peduncle bracts, up to 25 cm long, blades recurved, the upper ones with reduced blade, at anthesis bright carmine red, on both sides densely covered by coarse white trichomes, the sheaths completely enfolding and hiding the spikes.

Spikes sessile, 1.5-2 cm (up to 2.5 cm) long, 8-10 mm wide, narrowly elliptic, acuminate, complanate, usually with 2 flowers, at apex sometimes another stunted flower, but no flowerless bracts at the base.

Floral bracts 1.1-1.8 cm long, 6-10 mm wide, elliptical or delta shaped, weakly acute, 2-3 mm shorter than the sepals, strongly carinate, nerved, thin, membranous, pale green, glabrous.

Sepals 1.4-2.1 cm long, 6-8 mm wide, elliptical, acute, thin, membranous with hyaline edges, nerved, glabrous, all 3 (including the abaxial) keeled, sub-free, the adaxial pair fused 1 mm high.

Petals 5.5-6.5 cm long, 9-10 mm wide, dark purple, tapering to 4 mm at the base and becoming white, forming an upright tube, the rounded tips somewhat recurved.

Stamens protruding up to 1.5 cm from the flower. Filaments 6.4-7 cm long, arranged in two whorls of unequal length, in the upper part oval in cross-section, 0.8 mm in diameter, violet, tapering to ribbon-like at the base and becoming white.

Anther 2.5-3 mm long, 0.8 mm wide, attachment versatile 1/3 from the base, light brown or brown, pollen yolk-yellow. Style 5.5-6.8 cm long, white, purple in the upper part.

Stigma 2 mm high, 1.2-2 mm wide, thin, white, with papillose spreading lobes (Type I according to Brown & Gilmartin).

Ovary 6-7 mm high, 2-2.2 mm wide at the base, elliptic, light green.

Distribution and habitat

Tillandsia riohondoensis comes from Guatemala, near the Rio Hondo in the province of Zacapa, and is known, so far, only from this locality. The plant grows on rocks in a very hot area on very steep volcanic tuff near a waterfall.

Similar species

This new species differs from *Tillandsia capitata* Griseb. in the following characteristics:

Plant forming long stems, rosette secund. Offsets not only appearing at the base, but also along the stem from the leaf axils. Leaves lepidote, quite thin and very grey. Peduncle quite short. Spikes very dense, internodes very short. Spikes with two flowers each, at base no flowerless bracts. The primary bracts are densely lepidote on both sides, the blades are very long. Flower bracts up to 3 mm shorter than the sepals, very small, strongly keeled, glabrous, membranous. All three sepals keeled and subfree.

Etymology: This new species is named after the area where it was found, Rio Hondo in Guatemala.

Reprinted from: Die Bromelie 2105 (2)

Les has suggested a name change for our proposed booklet to:

Bromeliad Husbandry in Northern N.S.W., this new name allows inclusion of Pests, Disease, Potting Mixes, Nutrition, Housing and General Welfare.

Over time we hope to gather information about 'Bromeliad Husbandry' from you our local growers, here is a suggestion for some of the brief information:

Insect Pests: Armoured scales are the most damaging of all scales, soft scales depend upon ants for their survival, unarmoured scales known as mealy bugs are protected by ants and infest all parts of plants. The long tailed mealy bug *Pseudococcus longispinus* and Citrus mealy bug *Planococcus citrii* infest stems and leaf. Root mealy bug, Rhizoecus falcifer makes white byssoids in the potting mix. Soil mealy bug (Pritchards mealy bug) *Rhizoecus dianthi* live between stem and clasping leaf. Ants build soil up the stems enabling Pritchards mealy bug higher access into the plant. Exposed roots are eaten by cockroachs.

Effective control includes:

Confidor™ (active ingredient a.i. = Imidacloprid) This is a water based wide spectrum systemic insecticide that has a high LD₅₀ rating (it will kill bees). **Diatomaceous Earth** DE (Amorphous Silica) annihilates all insects that come into contact with it.

Earth Worms and Gastropods: Copper is a fungicide that kills earth worms, slugs, snails and **Bromeliads**. Soak the plant house floor with copper oxychloride or copper sulphate or Bordeaux mix. Mesurol 75 Slug and Snail killer is a recommended foliar spray (also kills mealy bug).

Aerosol propellant is Hydrocarbon. E.C's are Hydrocarbon solvents. These along with detergents destroy the hydrocarbon cuticle of plants. Oils of any kind waterproof and clog a Bromeliad's trichomes.

Damage to plants, unlike animals, is never repaired. Trying to kill pests often create better conditions for them to flourish and plants less likely to survive.

Disease and Control: Pathogenic bacteria have an unpleasant smell. Dead flowers can initiate Bacterial Soft Rot (crown rot). Highly diluted bleach is one recommended control.

Fungal disease smells like mushroom. Watering plants in the evening and left wet overnight can initiate the water mould related disease — **Phytophthora** and **Pythium**. Potassium Phosphite is the a.i. (active ingredient) in <u>Aust-Phoz</u> and Yates systemic <u>Anti-Rot</u>. **Fusium** is a disease of high temperatures and high humidity. Fungicides are ineffective. Cut extravagantly into the living tissue to eliminate the spreading hyphae (branching filamentous structure of a fungus).

Novice Popular Vote

1st Lesley Baylis *Tillandsia* 'Dimmitt's Talent' 2nd Les Higgins *Cryptanthus* 'Corrine'

3rd -----

Open Popular Vote

1st Jennifer Laurie *Vriesea '*Kilauea'

2nd John Crawford *Vriesea* 'Eva Sunspot' (unreg.)

3rd Gloria Dunbar Neoregelia 'MacTunis'

Judges Choice

1st Jennifer Laurie *Vriesea '*Kilauea'

Decorative

1st Helen Clewett 'Palm Boat'

Comments from the Growers:

Note: Les asked if the Group would like to have constructive criticism of plants entered in the competition again. This section was previously abandoned due to upsets, the aim is to help **all** growers understand/learn about improving growing conditions for their plants with **constructive** comments from others, all agreed.

Lesley bought her Tillandsia 2 years ago from Olive Trevor. Since noticing the initiation of an inflorescence Lesley moved the plant away from the shade of the tree that was protecting it so that it may get better brighter light to help enhance it's colour, which we can see has coloured up beautifully.

Jennifer bought her Vriesea 2 years ago from Cheryl Basic. Good positioning and favourable light have brought out its intense pink colour.

John's Vriesea is a John Arden hybrid. He has it under 50% white shade cloth in Winter and double that in Summer. Since being in John's care it has doubled in size and came into flower quite unexpectedly.

Gloria has had her Neoregelia for 2 years now, received as a gift from Jennifer. It is a cross between *Neo*. 'Macho' and *Neo*. 'Tunisia'. It's richness in colour with a hint of yellowing is attained from being grown in full sun, another beauty.

Helen gathers these discarded palm seed pods from the garden to create her wonderful displays, a small amount of potting mix is placed in the pod, plants are placed according to size and compatibility. Mosses and stones are used for both embellishments and to aid in moisture retention, also gives a more natural look.

Les purchased his *Cryptanthus* 'Corrine' from North Queensland through e-bay. It unfortunately had Pritchards mealy bug concealed in the lower leaves that went unnoticed and eventually infested much of Les' early collection. Since then Les de-pots every new plant and strips the lower leaves. He feels that it is better to scrutinise every new introduction to his plant collection than risk infestation.

Cryptanthus 'Corrine' is a very attractive small Cryptanthus, parentage is 'Ruby' and 'Cascade'. Depending on light intensity the colour can vary from green leaves/red throat to the red of its parent 'Ruby' and any colour combination in between. In its red phase it is bigger and more attractive than 'Ruby'. The colour depends largely upon the shade cloth, red over white makes the green plant, green over white stimulates red pigment and a 10% yellow patch brings up an intense red.

Every day the temperature is checked and recorded, summer heat is often 38°C accompanied with high humidity. I don't approve plants of tropical origin be in night temperature below 12°C and never below 5°C. During winter 'Corrine' was brought into the house and since early August has been outside in full sun with nights 8°C to 12°C without showing harm. Now it is back in the shade house under 50% white shade cloth.

The 'wobbly' pups show that the plant is about to fall apart. Although it is said pups can be removed at a third of the parents size I believe this is poor advice. I will never break a pup off the parent. At natural abscission there are cells (known as abscission cells) that by their dissolution or rupture seal off the separation wound thus protecting both pup and the parent from disease entry. Prior to abscission the pup is primed with nutrient (a packed lunch to give the best possible chance of survival before being sent on its way).

After the first 'Corrine' — no pests, I credit this to the use of Diatomaceous Earth in the potting mix. No disease, perhaps because of judicious use of water. A mesophyte with overnight wet roots is asking for fungal infection. This plant has only received natural rain water with nothing since mid-June. 'Soil wetting granules' are individually added to every pot.

Foliar feeds ceased at the end of May, they were:

- 1) Black Gold®
- 2) My own formulation

At almost Ph7 I'm not satisfied with the potting mix. This is a terrestrial monocot and I want a pot full of roots. For this coming growing season I intend to increase the organic substance and improve root air flow.

Ed: Les does a lot of experimenting using different coloured shade cloths and assessing the results, I would like to hear of the results from others who have carried out similar testing. An experiment worth trying if you haven't.