

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

Edition: March 2023

Agenda: General Discussion

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

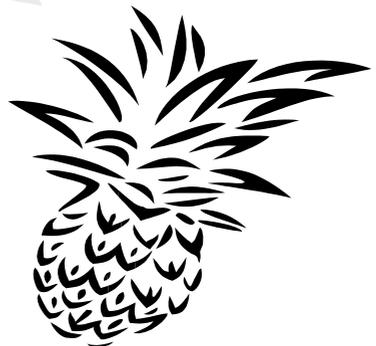
Study Group meets the third Thursday of each month
Next meeting April 20th 2023 at 11 a.m.

Editorial Team:

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Helen Clewett
Lesley Baylis

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Life Members: Gary McAteer, Coral McAteer
Debbie Smith, Shirley Smith



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Meeting 16th February 2023

The meeting was opened at approximately 11.00 am
The 10 members present were welcomed.
Two apologies were received.

General Business

All members were welcomed to the meeting and reminded “it is next month” and the dreaded election of officers was to be discussed. Well that was a short lived discussion with the suggestion of “keep them as they are, you’re all doing a good job” which was promptly seconded with a follow-up remark of “move on”.

On a serious note, thank you to everyone for your kind words of appreciation for the work we do on this Newsletter, albeit with the occasional error. It can be a trying job at times but a little support from members helps by supplying some articles. So please write a short, or long if you prefer article about your gardening achievements, or recent sightings of Bromeliads whilst on holiday. Asking questions at our meetings can help guide you in a direction to look for answers, doing your own research can be rewarding, then reporting your findings to the Group which may result in an interesting Newsletter article.

Thanks again for your support. Eds.

Show, Tell and Ask!

Ian has a *Goudeaea ospinae* var. *gruberi* with a lanky trunk and asked how best to deal with it.

Suggestion 1: plant it in the garden on its side allowing the trunk to lay on the soil surface, it will set root along the trunk and pups too, forming a trailing clump. The head of the plant will eventually turn upwards toward the light.

Suggestion 2: cut the trunk just below the lowest leaves and reset into fresh potting mix as per normal potting procedures. Don't discard the trunk, feed it and hopefully it'll give more pups along the trunk.

Ross had at hand a lanky double trunk to perform a practical demonstration on, one trunk was cut and potted and somebody asked if it was possible to 'graft' other plants to the remaining trunk. As a novel exercise several *Neoregelia*, *Aechmea* and a *Vriesea* etc. were attached to the trunk just like attaching plants in trees, this time creating a 'Frankeneliad'.

This discussion lead to cross pollinating to create bigenerics or trigenerics and what you can and can't cross. The simple answer is generally the same seed types may cross e.g. berry to berry, plumose to plumose, winged to winged.

“if you don't try you don't know”

Is Your Hybridizing Really Necessary ? by Derek Butcher

There are hundreds of true species of Bromeliads that have been found in the wild and many of these or their progeny are in collections in Australia. However, they will evolve in a different pattern to their “brothers” and “sisters” in habitat.

There are some very beautiful true species and you could have a varied collection just from these. You can have 1 cm midgets to 10 metre giants. You can have green, spotted and striped leaves. You can have an inflorescence of 100 flowers or just one. What a variety!

Are you still toying with the idea of hybridizing “just for fun”?

Think Twice

It will put you in a class of the Ginger Tom next door OR even worse put in the class below the birds and the bees. Remember that in habitat the birds and bees do exactly what the flowers want them to do!

Do you still want to hybridize? What do you want to achieve?

The good hybridist will go down in history, a good hybridist has a definite goal.

Are you looking for?

- a. Hardiness.
- b. Compact growth.
- c. Broader leaves.
- d. Better markings.
- e. Larger inflorescence.
- f. Scented flowers.

Simply crossing two plants that happen to be flowering simultaneously, and hoping for the best, is a hit-or miss operation.

In Summary - A plant which sets seeds may have:

1. Set seed to the pollen applied.
2. May not have set seed to the pollen applied, but may have selfed (this particularly applies to self-fertile plants).
3. May not have set seed to the pollen applied, but may have set to a 'foreign' pollen (bird or insect).
4. May be a combination of 1 and 2, or 1 and 3, or even 2 and 3.
The combinations become more likely as more seed pods are involved.

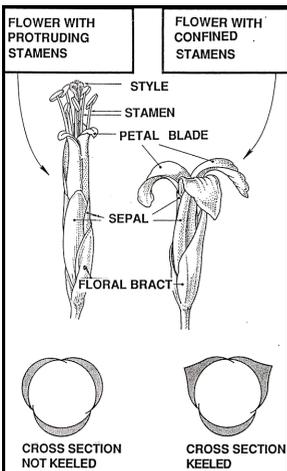
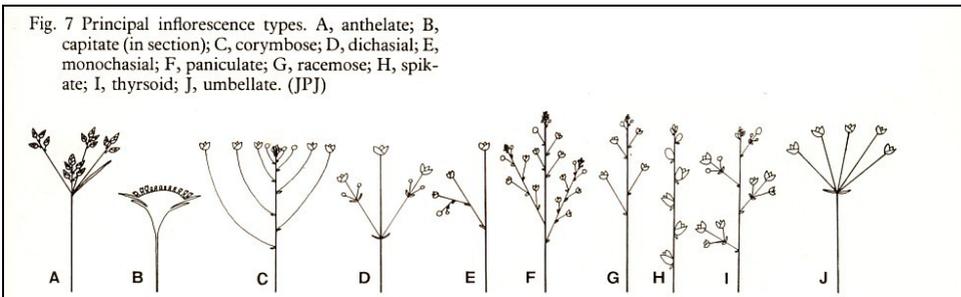
Finally, in deciding what has happened, the issue can become very clouded if a hybrid is involved in being either parent.

Our next question was about flowers, inflorescences and leaf arrangements.

From: Biology of the Bromeliads by David H. Benzing - p.113.

“The common inflorescence forms have technical names. A very elaborate type, and perhaps the most primitive one in Bromeliaceae, is the **panicle**. Each of the numerous flowers on its diffusely branched axes is located in the axil of a **floral bract** which may or may not be visible. Note that the major and minor branches of the inflorescence also arise from the axils of bracts. The two or more orders of bracts on a single inflorescence usually differ in colour, size and shape.

Whether originating in two ranks or in a spiral from the main axis, the pedicels of the individual flowers may twist in a single direction to produce a secund (one-sided) inflorescence. If the bracts and flowers extend from the central axis in two opposing rows, the arrangement is described as **distichous** (two-ranked), just as it would be with leaves similarly disposed on a stem. If its subdivisions are arrayed in a spiral, the inflorescence is **polystichous**. The distichous arrangement produces a flat inflorescence exemplified by *Tillandsia multicaulis* and *Vriesea splendens*; the polystichous condition yields a radial or circular display of parts, as expressed by the Guzmanias and *Tillandsia imperialis*.”



Panicle: a loosely arranged branched inflorescence blooming from the centre on the lower branches to the outer ends or top. (refer 'F' above)

Secund: one sided; borne along one side of an axis.

Distichous: arranged in two ranks, as the flower spikes of many *Vrieseas*, or the leaves of *Dyckia estevesii*.

Polystichous: arranged in several rows around the axis, one above the other e.g. *Tillandsia pentasticha*; rare in Bromeliaceae. See spiristichous.

Spirostichous: leaf or flower arrangement when inserted spirally. Much more common than polystichous in Bromeliaceae. Better to state as spirally arranged.

Examples of some flower and leaf arrangements



Tillandsia secunda
flowers secund



Aechmea nudicaulis an *Ananas*
and *Neoregelia* 'Burnsie's Spiral'
polystichous / spirostichous

Photos from the
Butcher files.



Dyckia estevesii
leaves distichous.



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

We have two tidy-ups this month:

In our August 2022 FNCBSG Newsletter we published that “Someone had got promoted to SPECIES status!” from *Tillandsia ionantha* var. *vanhyningii* to: *Tillandsia vanhyningii*. Following the phylogeny (Ancestral history of a kind as deduced from its component individuals. BSI Glossary 2022) unfortunately its species status decision has been reversed. Reason being *Till. vanhyningii* is only separated from one *ionantha* lineage and should be considered as a variety again. So change your labels back to *Tillandsia ionantha* var. *vanhyningii*. Refer to the New Bromeliad Taxon List: <https://bromeliad.nl/taxonlist/>

Tidy-up number 2:

It appears that over the years our botanical language/terminology has deviated from its origins of Linnaeus who formalised a botanical language in Latin. This universal language allowed scientists of the world to communicate. The gain by using botanical Latin was some consistency in describing the attributes of plants that everybody could understand. However it appears that as the use of Latin was translated into English the meanings became misrepresented or confused. Unfortunately our Glossaries which we often refer to when writing notes for our Newsletters followed these English translations for terminology explanations. Hence we 'oldies' do slip occasionally and use old names and terminologies like scape instead of peduncle as Eric Gouda has pointed out. Fortunately the latest Glossary available to us is correcting these old ways, so off the table with the old and refer to the new 2022 BSI Glossary for the up-to-date correct terminologies.

Tidy-up number 2 continued - Eric Gouda noticed:
 "There are taxonomic errors in your (February) Newsletter, the term scape is used wrongly several times."

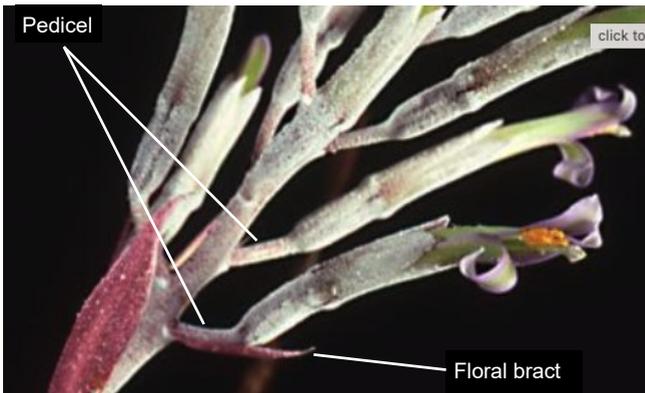
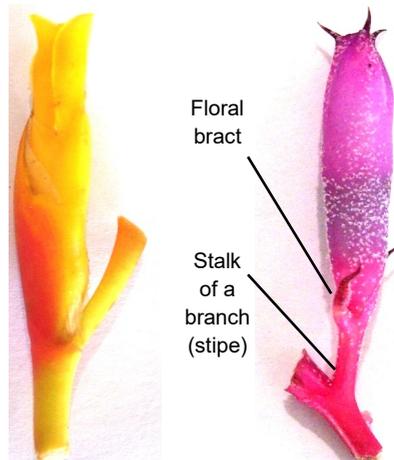
Scape: wrongly said to be the stem of the inflorescence usually extending beyond the leaves. It may bear bracts but no foliage leaves and may be one or many flowered. In reality refers to a leafless peduncle as in Amaryllidaceae.

Better to use peduncle. Taken from BSI Glossary Third Edition 2022.

"The most obvious error is the pedicel. You will never find any bracts above a pedicel, if you do, it is not a pedicel, but the stalk of a branch (stipe)!"

So the flower you see on the right is sessile like the one on the left.

A flower is in the axis of a floral bract (if present). If the flower has a stalk (pedicel) it is within (above) the floral bract, otherwise it does not belong to the flower. It is the definition of a flower."

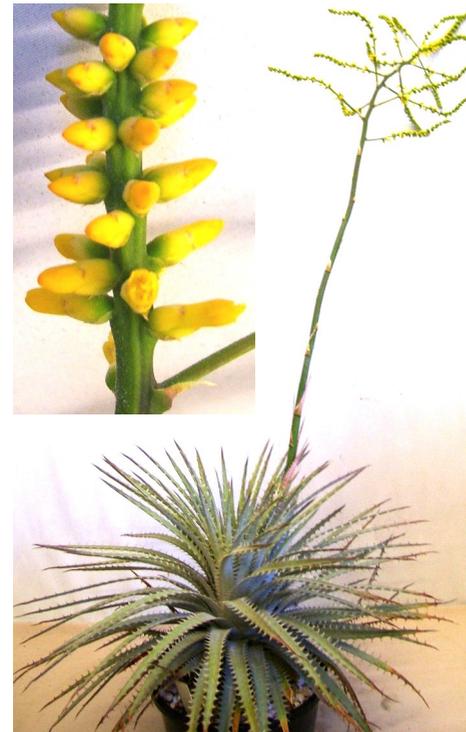


"A simple inflorescence of *Billbergia fosteriana*, with a distinct pedicel within the floral bract."

Pedicel: the stalk of a single flower in an inflorescence.

For up to date terminologies Eric suggests reading the article:
Bringing Bromeliaceae Back to Homeland Botany by Gouda and Scharf which is being reprinted in two parts beginning in this issue, refer to pp. 12 - 15.

Ed: We thank readers and appreciate any assistance in correcting errors, so please forward 'Eagle Eyed Observations' to the editors for our Tidy-up Corner.



Dyckia pseudodelicata
 1st Open Mitch Jones



Vriesea 'Princess Anique' x hieroglyphica unreg.
 1st Open Michelle Hartwell



Catopsis compacta
 1st Tillandsioideae and Judges Choice
 Helen Clewett



'All About Love'
 1st Decorative
 Coral McAteer



Guzmania 'Watermelon'
shown by Helen Clewett



Vriesea philippo-coburgi
shown by Kayelene Guthrie



'Tears of Heaven'
shown by Debbie Smith



'Another Day'
shown by Mitch Jones



Neoregelia 'Atomic Blast'
shown by Keryn Simpson



Tillandsia velutina x brachycaulos unreg.
shown by Keryn Simpson



Tillandsia juncea
shown by Gary McAteer



'Happy Valentines Day'
shown by Keryn Simpson



'From Little Things,
Big Things Grow'
shown by
Kayelene Guthrie

Some Recent New Registrations



Vriesea 'Philatoo'

Grown and photographed by:
Barbara Stutz named by Ross Little*

Mature, open, medium-sized rosette to 60cm. diameter x 30cm. high. Broad, arching, mossy green leaves tinged purple with purplish tips in strong light. Erect, multi-branched spike to 1.3 metres tall of pointed, crimson / rosy red peduncle bracts and yellow flowers. The breeder is known to be a Northern Rivers (N.S.W.) nurseryman but his identity is undetermined.

Foot note:

On the Bromeliad Cultivar Registry (BCR) the asterisk (*) after a persons name is to indicate they are the person who named the plant but is NOT the hybridizer.

Neoregelia 'Russian Red'

Ross showed this Neoregelia at our January meeting as an unregistered Shane Zaghini hybrid. Thanks to Geoff Lawn, the Cultivar Registrar, this attractive plant is now registered.

"Mature, open rosette to 50cm. diameter x 30cm. high. Arching, broad, black-spined, dark bronzed green leaves, randomly striated vibrant pinkish scarlet in strong light. No cup colour at blooming". (from the BCR)

This has proven to be a relatively easy plant to grow requiring little extra care under our conditions.



Neoregelia 'Pinegrove Spots'

"Mature, open rosette to 50cm. diameter x 25cm. High. In strong light it has broad, arching, bronzed tan leaves heavily spotted / marbled green with pinkish red tips. Its exact origin could not be traced from nursery records but grown as such for over 35 years. Reg. Doc. 2/2023 by Ross Little. Country of origin: Australia ?" Taken from the BCR.

At PineGrove there are thousands of Neoregelias planted directly into the sandy soil grounds of the nursery by the previous owners. Unfortunately most haven't got labels with them which makes positive identifications difficult at times, this one we only knew as a marmorata hybrid. Searching the Pinegrove Ledger for marmorata and hybrids of it, we found 18, none with a direct link to the name 'Pinegrove Spots' which has been used in sales posts and lists.



It was time to legitimise the name for this spotted Neoregelia from Pinegrove of unknown origin and register it as *Neoregelia* 'Pinegrove Spots', thanks Geoff.

Photo above by Leanne Gray and below by Ross Little



Bringing Bromeliaceae Back to Homeland Botany - Part 1

Uwe Scharf & Eric J. Gouda

Reprinted from: Journal of the Bromeliad Society 2008, Vol.58, No.3

Summary:

The terms used by Mez (1896, 1934), and Smith & Downs (1974, 1977, 1979), such as “bi-/tripinnate”, “scape” and “inflorescence” for example, in ways that deviate from those proposed by Linnaeus, and other terms used in a non Linnaean tradition in Bromeliaceae literature (anterior, posterior, actinomorph, zygomorph, irregular, imbricate) are presented together with their use in general botany. Furthermore, a catalogue of all parts of a bromeliad plant (Gouda 2007) is published as a guideline to describe, for example, specimens of a new taxon. Definitions of differently understood organs (inflorescence, scape, bi-/tri-pinnate) are given. This article was previously published in the German language in *Die Bromelie* 2007(2): 68–73.

Throughout its history, descriptive botany acquired its value by always using the same terms for the same organs. This consistent terminology is the base for a broad and immediate understanding of species descriptions, especially descriptions of new species, and transmits effectively the knowledge from the author to the reader.

Modern descriptive terminology is mainly based on the works of Linnaeus (1707–1778). His perfect drawings are still used as illustrations, e.g. in Stearn (2004:309, fig. 1). In Germany Johann Wolfgang von Goethe (1749–1832) from Weimar, and Wilhelm Troll (1897–1978), who mainly worked in Halle/Saale and Mainz, developed descriptive botany in the Linnaean tradition towards becoming a finely detailed science (the studies of W. Troll concerning comparative morphology were based on the tradition of von Goethe and thus still on Linnaeus).

While Baker (1889 still used the general morphological terms, with Mez (1934) Bromeliad terminology was led onto a path deviating from that of the main plant terminology. Obviously, some terms were misinterpreted, misunderstood, misused, or even wrongly used by him. Afterwards, the terminology of Mez was copied and used on a broad scale by Smith & Downs (1974, 1977, 1979) for their important monograph of all then known species of Bromeliaceae.

Subsequently, these terms were extensively used and multifariously copied by gardeners, bromeliad lovers, enthusiasts, amateurs, and even scientists who based their work on the monograph of Smith & Downs e.g., Gouda (1989).

For bromeliad specialists, these terms do not raise any uncertainties as long as the specialist stays in this field. However, for botanists working in other plant families, the terms of Mez and Smith & Downs cause considerable confusion, because the same terms are used to name different morphological details in other families. Mez and Smith & Downs used terms in botanical Latin and English despite the fact that descriptive botany was undertaken in Germany long before English-speaking scientists entered the field.

For Bromeliaceae, the basic importance of Linnaean-based works and treatments (Linnaeus 1751, 1789-1791); (Troll 1937-1943, 1954-1957, 1964-1967); (Von Goethe 1790, 1984) is frequently overlooked in recent times due to the presence of the monograph of Smith & Downs.

World communities are coming closer together, and the different fields of botany are interacting more intensively than ever before. The exchange of information takes place much faster than a few decades ago. Therefore, it is very important to speak a common language to avoid the misunderstanding and misinterpretation of genuinely correct information.

In the meantime, some bromeliad specialists have again started to use the main plant terms in their original sense e.g., Gouda (1997), and the first articles explaining why and how the terms are used have appeared e.g., Gouda (2002). In 1998 a provisional catalogue was published by E.J. Gouda on a webpage. Since then, many improvements and replacements have taken place, from which finally the recent version has resulted (Gouda 2007). This catalogue of all parts of a bromeliad plant is a guideline to describe, for example, specimens of a new taxon.

For a description of a bromeliad the same terms should be used as for a description of plants of other families. The following can be considered the main organs: 1. roots; 2. stem; 3. (vegetative) innovation zone, stolons/runners with bracts, addorsed prophyll; 4. leaf, 4a. leaf sheath, 4b. leaf blade, lamina, 4c. leaf margin (with marginal teeth); 5. inflorescence, floral region, 5a. peduncle, basal/sterile/unbranched part of the inflorescence with peduncle bracts, 5b. apical/fertile/branched part of the inflorescence with 5b1. bracts along main axis/rachis in branched part (spike bracts), 5b2. side-branches = spikes (of first, second, ... order), 5b3. floral bracts; 6. flower, 6a. sepals (forming the calyx), 6b. petal with 6b1. claw (part of the petals that is covered by the sepals), 6b2. throat, 6b3. blade of petal, 6c. stamen with 6c1. filament and 6c2. anther, 6d. pistil with 6d1. ovary (inferior: develops mostly into a berry, superior: develops mostly into a capsule), 6d2. style, and 6d3. stigma (with stigmatic lobes); 7. fruit (capsule or berry); 8. seeds.

In the following table, the terms used by Mez (1896, 1935) and Smith & Downs (1974, 1977, 1979) in a deviating way (bi-/tripinnate, scape, inflorescence) and other incorrect uses in Bromeliaceae are explained and presented together with their use in general botany. Definitions of differently understood organs (inflorescence, scape, bi-/tri-pinnate) are given after the table.

Term	Correct Application	Misused in Bromeliad Literature	And Means (erroneously)
Anterior	Applicable only in strongly zygomorphic flowers, but even there it remains doubtful.	Description of sepals.	Abaxial (= the side away from the axis), inapplicable in long and/or twisted pedicels.
Posterior	See anterior.	Description of sepals.	Adaxial (= the side towards the axis), inapplicable in long and/or twisted pedicels.
Pinnate	Description of compound leaves with leaflets arranged on opposite sides of an elongated axis or of a certain venation pattern.	Description of the architecture of the fertile part of the inflorescence.	Not used this way, but see bi- and tri-pinnate, an unbranched inflorescence is a spike or a raceme.
Bipinnate	Twice pinnate (leaves), see above.	Branched inflorescence even if not in one plane.	Side-branches of first order, once-branched.
Tripinnate	Pinnately compound three times, with pinnate pin-nules (leaflets).	see bipinnate.	Side-branches up to second order, twice-branched
Quadripinnate	Pinnately compound four times, with pinnate pin-nules (leaflets).	see bipinnate.	Side-branches up to third order, thrice-branched or three times branched.
Scape	Leafless peduncle arising from ground level (usually from a basal rosette) in acaulescent plants. (e.g. Amaryllidaceae).	The basal part, the sterile portion, the stalk of an inflorescence.	Peduncle.
Scapebracts	Non existent, non extant.	Bracts on a scape (a peduncle is meant, see under scape).	Peduncle bracts.

Term	Correct Application	Misused in Bromeliad Literature	And Means (erroneously)
Inflorescence*	All organs for displaying flowers or fruits, including the sterile parts e.g. peduncle and stalk.	Apical part of the inflorescence from the first branch on.	Fertile part of the inflorescence.
Zygomorphic	Descriptive term for flower symmetry, means bilaterally symmetrical, e.g. flowers of Lamiaceae or Fabaceae.	Description of petals and sepals.	Sepals or petals are asymmetric, propeller-like.
Actinomorphic	Descriptive term for flower symmetry, means radially symmetrical e.g. flowers of Ranunculaceae (the majority of Bromeliaceae has actinomorphic flowers).	Description of petals and sepals.	Sepals or petals are symmetric (also flowers with asymmetric sepals or petals can be actinomorphic, compare flowers of Apocynaceae).
Irregular	Means, without rule or order', doubtful term, applicable only for description of repeatedly arranged organs like flower or leaves along an axis or of irregular distribution of structures or organs on a surface (e.g. hairs).	Description of the shape of organs i.e. sepals and petals.	1. Asymmetric. 2. Correct description of the shape e.g. by comparing the organ with similar structures elsewhere. 3. Many-shaped, from ... to ...
Thyrus, Thyrsoid	Type of inflorescence with terminal flower at the branches (doesn't exist in Bromeliaceae).	Description of inflorescences where the branches emerge close to each other and bend upwards.	Panicle fascicled, clustered, broom-like.
Imbricate #	Described organs are arranged like tiles on a roof, i.e. overlapping each other.	Description of appressed bracts loosely arranged along the peduncle.	Bracts appressed to the peduncle.

To be continued Part 2 next month.

Open Popular Vote

1st	Mitch Jones	<i>Dyckia pseudodelicata</i>
1st	Michelle Hartwell	<i>Vriesea</i> 'Princess Anique' x <i>hieroglyphica</i> unreg.
2nd	Helen Clewett	<i>Guzmania</i> 'Watermelon'
2nd	Kayelene Guthrie	<i>Vriesea philippo-coburgi</i>

Tillandsioideae

1st	Helen Clewett	<i>Catopsis compacta</i>
2nd	Gary McAteer	<i>Tillandsia</i> 'Jim Hyde'
3rd	Keryn Simpson	<i>Tillandsia velutina</i> x <i>brachycaulis</i> unreg.

Decorative

1st	Coral McAteer	'All About Love'
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Judges Choice

1st	Helen Clewett	<i>Catopsis compacta</i>
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John's Decorative Object - judged by John Crawford

1st	Coral McAteer	'All About Love'
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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.

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.