

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

Edition: February 2021

Agenda: General Discussion

Venue: PineGrove Bromeliad Nursery
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Study Group meets the third Thursday of each month
Next meeting 18th March 2021 at 11 a.m.

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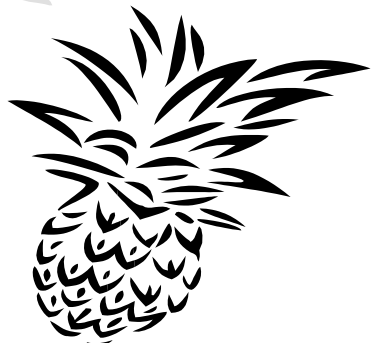
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Meeting 21st January 2021

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

General Business

We began our first meeting for 2021 with a warm welcome and exchange of Happy New Year greetings to all. Even though we have had some disruptions from Covid 19 in our region, we hope for a Happier New Year for those who have been seriously affected and they can get back to some normality soon.

December mail - Bromeletter - from the Bromeliad Society of Australia was handed to the librarian for processing before it can be borrowed.

We reviewed the Newsletter for January 2021 which indicated the relevance of the article beginning Page 3 to the day's topic of discussion, growing plants, observing your results and selection, from species selection or seed grown.

Helen took us back in time with another history lesson, the contribution to the Bromeliad world by Victoria Padilla. As we gain new members to our Group it is encouraged they not only learn about the plants but also the people that have built our hobby to what it is today. Of note from Victoria's time as editor is that nothing has changed, we're still chasing articles and photos, we're still putting more time into setting out the layout for each issue than we're given credit for! A comment made to me once about the task of compiling this Newsletter each month was: "it only takes you about 2 to 3 hours a month to do it, so why do you want help?". If only some readers knew just how much time and effort, research, plant name checks etc. we need to do each month, it's a little more than 2 to 3 hours....!

A couple of things that keep us going are, firstly we have been fortunate enough over the years to have had some very talented writers who have regularly graced our pages with informative articles. Secondly, reader feed back spurs us on with the occasional "thank you", "well done" and "your articles are always very informative!!"

This help and kind words of encouragement show appreciation for our efforts, you know "the 2 to 3 hours worth", however it's not just our efforts I feel the kind words are for, it is for all editors, so we at FNCBSG Newsletter team thank our contributors and you the readers very much for your thoughts and kind words.

Show, Tell and Ask!

It was a tough day for the "question and answers" panel at our January meeting having to answer some technical questions from some of our newer members. It is good to have some new enquiring minds as it keeps us all refreshed on 'what is what' with our Bromeliads.

With there being a few Tillandsias on the Popular Vote table we were asked:
"What is the difference between a Tillandsia and a Vriesea ?"

For the layperson there is no clear visible 'which is which' rule because there are Tillandsia that look like Vriesea and vice versa. When you think you have this sorted, taxonomists with DNA tests will rearrange everything into other genera e.g. some Tillandsia were transferred to Wallisia.

Simple answer is that Vrieseas have a nectar scale at the base of the petals whereas Tillandsia don't.

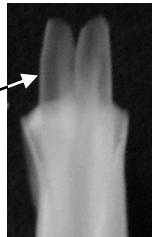
From Smith and Downs Flora Neotropica Monograph:

Tillandsia = petals naked; inflorescence of one or more distichous-flowered spikes or rarely reduced to a single polystichous-flowered spike or to a single flower.

Vriesea = petals bearing two scales ("lateral folds" of Mez) on the inside of the claw, inflorescence as in Tillandsia except rarely of more than one polystichous-flowered spike.

To show exactly what a nectar scale is / looks like, a flower was dissected and handed around, with the petal folded back the two nectar scales were clearly exposed.

photo by Ross Little



From the BSI Glossary

Distichous: arranged in two ranks, as the flower spike of many Vriesea.

Naked: without covering; naked petals are those without nectar scales at their base.

Polystichous: arranged in several rows; attached all the way around the axis.

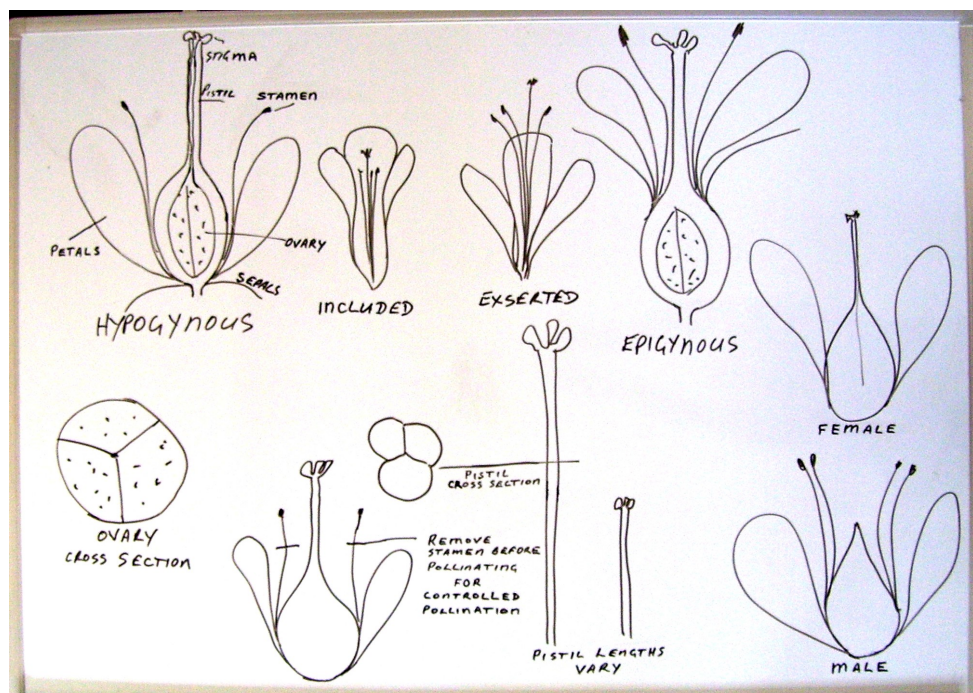
"What is the purpose of the nectar scales ?"

I did say some tough questions were asked.

Possibly to help differentiate from a flower visitor to a pollinator, the nectar scales may stop a visitor from accessing the nectar yet allow another more suitable pollinator past gathering pollen on its way to pass on to the next flower it visits ??

Perhaps one of our readers may have a more definitive answer ?

The discussion of nectar scales led us to the structure of a Bromeliad flower and pollination, including hybridising and the naming of them.



From our rudimentary drawings (by Ross Little) above a general knowledge of the Bromeliad flower structure was gained showing the main points to note:

Hypogynous flower: a flower with petals and sepals attached under the ovary.

Epigynous flower: a flower with sepals and petals situated on the upper part of the ovary.

Included: not protruding, as stamens not projecting above the petals (corolla).

Corolla: the inner circle of floral parts composed of petals.

Exserted: sticking out, projecting beyond, stamens above the petals (perianth).

Perianth: the floral envelope taken as a whole consisting of the calyx (sepals) and corolla (petals).

Female flower: a pistillate flower possessing the female organ only.

Pistillate: a flower having pistils and no stamens, female.

Male flower: a flower having stamens only, no pistil.

Stamens: the pollen bearing male organ of a flower. In Bromeliads there are usually six stamens consisting of the anther at the top supported by a special stalk called a filament.

Perfect flower: a flower that has both stamens and pistils - both sexual organs.

With a basic understanding of what each flower part is and its function we went on to discuss cross pollination - hybridising. There are several factors when one is selecting a plant to breed with that needs to be considered, most important is to control your pollination. Controlled pollination is being absolutely sure NO foreign pollen or its own has landed on the stigma. To achieve this cut the pollen bearing anthers off the proposed seed parent and add the selected pollen to the stigma and cover the inflorescence with a bag. Alternatively the plant can be placed in a secure enclosed room to prevent accidental contamination from insects or other unwanted pollinators moving pollen about. Some plants are cleistogamous which means they self pollinate with own pollen without the flower opening. These are more difficult to control, timing is important here, the petals need to be separated before the pollen sacks open and you cut them off. Once this is done the pollen of the selected parent can be added to the stigma when it is receptive, bag the inflorescence or place in the secure room.

Know your plant, if it doesn't self pollinate it's less of a problem regards anther removal, it's better to be sure. Even with a dioecious plant - male and female flowers on different plants, care must be taken not to contaminate a preferred pollination.

When pollinating tag each individual flower, cut small thin plastic wedges as a tag, write a number on the tag and secure the tag in the pollinated flower, note the number and pollen parent used in your hybrid note book.

Before embarking on this challenge consider:

Do I need to create another hybrid. Is my creation distinctly different to anything that is already available. Of the two trays of seedlings pictured here most will be culled/dumped, we may grow some to maturity, if they're not outstanding they will also be culled.



We don't need more SOS's (same ol' s...)



The article on the following page is reprinted here in response to naming issues we often see when seedlings/hybrids are being sold. Give your hybrids individual names and register them before selling or at least give the parentage formula, working this out later can be difficult and often ends up being guess work.

A Note on Nomenclature

by Victoria Padilla

Usually, I print the names of bromeliads in articles that appear in the Journal just as they are submitted. Recently, however, I have noted confusion on the part of growers as to the use of the terms *cultivars* and *variety*, with the consequence that a number of errors have appeared in the Journal.

A *cultivar* (cv.) is a variety found only in cultivation; a *variety* is a botanical term used to describe a plant found in nature or in the wilds. To write the name of a botanical variety, you write the name of the genus, the species, and then the abbreviation *var.* followed by the name of the variety for example:

Aechmea distichantha var. *schlumbergeri*.

On the other hand, a cultivar name when immediately following a botanical or common name must be distinguished clearly from the latter either by placing the abbreviation *cv.* before the cultivar name, or by some typographic device, such as single quotation marks. Accordingly you have *Vriesea* cv. Red Chestnut or *Vriesea* 'Red Chestnut.' Capital initial letters must be used for the cultivar name, except when linguistic usage demands otherwise. (See Article 29 of the International code of Nomenclature of Cultivated Plants.)

In Issue No.6 for 1975 Kelsey Williams described a neoregelia in his collection as *Neoregelia carolinae* var. *Medallion*. The term *var.* cannot be used here because the plant so far has been found only in cultivation. The correct nomenclature would be *N. carolinae* 'Medallion'.

In the same issue of the Journal a beautiful new hybrid *Vriesea* 'Plantation Pride' is described. There appeared several variations among the seedlings that produced this hybrid, and Mr. Burstrom decided that they were varieties of 'Plantation Pride' and named them accordingly. As they were found in the same cross as 'Plantation Pride' and so were not derived from this plant, they are also cultivars on the same level. So instead of *Vriesea* 'Plantation Pride' var. "Forever Amber" the plant should be known as *Vriesea* 'Forever Amber.'

Growers should consult the International Code whenever in doubt as to the correct naming of their plants.

Reprinted from: BSI Journal 1976 Vol.26 No.4

Note from the editor: the BCR entry is *Neoregelia* 'Medallion', however some growers still prefer to include the species name, in this case - *carolinae* even though it is not necessary. In other words the grower knows immediately that the plant is a variety of *Neo. carolinae* without having to do a 'parentage' search on the Bromeliad Cultivar Registry (BCR).

Neoregelia wilsoniana M.B. Foster

by Drew Maywald



Thirty four (34) months ago I acquired a *Neoregelia wilsoniana*. I took off two pups and all three plants have flourished with one producing 14 pups in the one pot.

At long last they have flowered which I wanted to share with you.

They don't produce many flower buds but when they open they are a large (for a Neo.) pure white flower.



What a great way to start 2021!

**Happy
New
Year
and Be Well,
Drew.**

From the Butcher files:

Neoregelia wilsoniana: type was collected by R.H. & C. Wilson 20 (holotype US), between Ilheus and Agua Preta, Bahia, Brazil, 25 June 1955.

Distribution: South eastern Bahia, Brazil.

Brazil, Bahia: Agua Preta, 3 June 1939, Foster 59 (GH, sterile).

What is a holotype in taxonomy? - From www:

Verification and validation by type specimens. The holotype is a single specimen designated by the original describer of the form (a species or subspecies only) and available to those who want to verify the status of other specimens.



Dyckia 'Clifton Snow'
1st Open and Judges Choice
Mitch Jones



Tillandsia 'Tropiflora'
1st Tillandsioidea
Dave Boudier



'Vertical Garden of Cryptanthus'
by Mitch Jones



Tillandsia krukoffiana
grown by Mitch Jones



'A Dyckia Garden'
1st Decorative
Helen Clewett



'Our Christmas Tree'
by Keryn Simpson



Neoregelia 'Purple Heat' unreg.
Grown by Keryn Simpson



'Hey True Blue'
by Dave Boudier



Tillandsia 'Nezley'
grown by Helen Clewett



Neoregelia 'Mad Max'
grown by Kayelene Guthrie

My Billbergia Brag - Is it *Billbergia* 'Afterglow' ?

Wendy Buddle sent in a brag photo: I acquired this *Billbergia* at a GCSBS (Gold Coast Succulent & Bromeliad Society) meeting about two years ago as a pup. This is its first blooming and I am very happy with both the plant and the bloom. It has received no special treatment other than dappled shade and some fertiliser once a year.

The name on the tag states: *Billbergia* 'Hallelujah' x 'Afterglow'.

Ed: Being a curious person when it comes to formulas on plant labels and for correctness in our Newsletter I did an Advanced Search on the BCR (Bromeliad Cultivar Registry) to see if it has been named and registered.

I entered afterglow into the search box which led us to a number of hybrids with the same and reverse parentage by Greg Aizlewood. To my eye none of these were a match to Wendy's plant, so I contacted Greg who is a GCSBS member to see if he recognised the plant and could offer alternative suggestions.

Greg offered a couple more names to look toward, on close examination of the floral parts it could be seen that all the leads offered had either blue or blue/grey petals. In the photo supplied by Wendy it is clear that her plant has green petals.

International Cultivar Registrar - Geoff Lawn has been very helpful during this search, offering some additional name suggestions of matching parentage but noting even through culture/climate the basic inflorescence doesn't change.

End result is: no matches to Wendy's plant except for *Billbergia* 'Afterglow' itself. Why the additional name ('Hallelujah') was on the tag is any ones guess - mine is the seller (not Greg) wasn't sure of the ID so they hedged their bet, either/or.

If still unsure write the tag as just *Billbergia* or *Billbergia* unknown.



Aechmea 'Star Bright' unreg.

Dave and Keryn brought to **Show, Tell and Ask!** this month an unnamed *Aechmea* which was first thought to be *Aechmea nidularioides*. A little research was needing to be done as we noticed this plant has blue petals not the white typical of *Ae. nidularioides*.

Aechmea poitaei was looked at, the narrow shiny green leaves ruled *Ae. poitaei* out, it has broader more lepidote, small scurfy scales, trichomes on the leaves than this plant.



Aechmea 'Cracker Night' was another contender, its inflorescence is very similar in appearance but it has white petals not blue like the plant in our photos.



We've come to the conclusion that Keryn and Dave's plant is most likely of hybrid origin with suggestions of *Ae. biflora* / *napoensis* / *skotakii* / *poitaei* / *nidularioides* or ?????

This beauty deserves a name:

Aechmea 'Star Bright' unreg.

Keryn: "we have had this plant in our collection for a lot of years. Not having flowered for us it got placed into the garden under trees and given general care with many of our other plants.

Wandering about the gardens one morning we came across this unexpected surprise of a long awaited inflorescence, Dave and I both agreeing that it was definitely worth the wait. The white tips against the red of the bracts was what really made it stand out from all the other plants around it".

photos by Ross Little

Benevolent Bromeliads - Part 1

by Racine Foster

In our boundless enthusiasm for bromeliads concerning their decorative and horticultural aspects we bromel fans are apt to forget the more practical and useful side of this versatile family.

Since man is quite susceptible to anything gastronomical let us consider first some edible bromels, most famous of which, of course, is the pineapple, *Ananas comosus*. We need hardly be reminded of the extensive use of this delicious fruit with its innumerable horticultural varieties, some weighing twelve to fifteen pounds; there are wild species, some so small that they weigh but a few ounces. Their fruits may be tender, stringy, hard as a nut, sweet or sour. All make interesting species, but, only *A. comosus* has been commercialized because its varieties suit our selective palates best.

We are finding that the pineapple can serve man in other ways than food. From this glorious fruit has come, in recent date, an extracted substance appropriately called "Bromelin" effectively used as a diuretic or purgative on intestinal parasites. Conrad F. Asenjo suggests in his paper⁷ that fresh juice of the pineapple could effectively be used as an anthelmintic in Brazil and India where the native population is burdened with intestinal parasites. This contribution to medical science from the common pineapple adds prestige as well as more utilitarian possibilities to this family.

This discovery is not too surprising since the native population in the West Indies has already considered fresh pineapple pulp as well as juice from the seeds of *Bromelia pinguin* as a vermifuge. Senor J. P. Carabia in his "Las Bromeliaceas de Cuba" says that the juice of fruits of *B. pinguin* has been used with success as a vermifuge in Cuba.

In Puerto Rico the young inflorescence of *Bromelia pinguin* is used as a vegetable; it is of good flavor and quality, prepared in various ways.

My husband found that in Bolivia and Argentine, *Tillandsia maxima*, a very large species, and *Tillandsia rubella*, are used as fresh vegetables eaten cooked or raw as we eat celery. The local name for both is "Horka." The tasty tender heart of these bromeliads is similar to and a rival of, the palm hearts so choice a food in South and Central America.

Puya hamata, living on the high paramo areas of southern Ecuador, is the source of a sweet drink, "jugo de aguaronge" which is extracted from the tender leaf bases which form the heart that later develops into the flower head. Just before it appears the center is dug out and a sweet juice collects in the cup thus

formed, very much as the *pulque* is collected from the Agaves in Mexico. Also the tender Leaves of this Puya are eaten as a cooked vegetable.

The Arahuaca Indians of the Sierra Nevada de Santa Marta eat the tender heart and leaves of a Puya, which is called "Besa." They not only gather it wild but also cultivate it in their gardens.

In remarks about bromeliads which he collected in Ecuador Dr. W. H. Camp (Memoirs of the New York Botanical Garden Vol. 8, No. 1) says that *Puya gum-mifera*, found south of Cuenca, is eaten by the common people in the belief it is good for the kidneys. It is also fed to domestic animals.

In this same paper Dr. Camp has noted that the roots of *Pitcairnia pungens*, found on the western escarpment of Chimborazo, are ground up and cooked for use as a diuretic.

In northern Brazil, leaves from *Bromelia laciniosa*, natively called "Macambira," (and is a source of fiber, also) are boiled for extracting a starchy substance which when dried is used as farinha, a widely used flour very rich in calcium.

Undoubtedly there are numerous other bromeliads used as food or medicine among the natives of Latin America and it is hoped they will come to our attention in further study.

Tillandsia usneoides has a dual role in service to mankind, primarily as a fiber (which will be discussed later under that heading), but also as the little known possible use of this amazing plant in surgery.

Here and there in the West Indies we have heard that this tillandsia has been used to make a styptic ointment for the purpose of stopping bleeding. The chief styptics are alum, tannic acid and salts of minerals and undoubtedly tillandsias contain some of these properties in their fuzzy leaves. This native use has been more scientifically applied.

In the Feb. 9, 1944 "Staff Meetings of the Mayo Clinic" which Dr. C. W. Mayo was kind enough to send us we learned that the absorptive qualities of Spanish Moss for use in surgical dressings had been investigated with interesting results. ". . . the dried moss will retain its absorptive power better than a substance like cotton, as the liquid taken up is stored chiefly inside the leaves and cells, instead of merely being held between adjoining strands." . . . Florida moss will take up from six to ten times its dry weight of water."

Although the availability of cotton has not made it necessary to use the Florida Moss as surgical dressing it was in view of possible supply blockades in time of war that this investigation was made.

Among useful bromeliads we find yet another service rendered, that from *Aechmea bromeliaefolia*, at one time called *Billbergia tinctoria* from which a dye was successfully made, and used by the West Indian natives. This dye was made from the yellow fluid which is extracted when the main stem of the plants is crushed.

In studying the useful bromeliads further we were rewarded with learning that there are a number of bromeliads which produce a commercially useful fiber. Only the one, *Neoglaziovia variegata*, found in Brazil, is used on any extensive scale for commercial purposes. It is not grown agriculturally but is gathered from the wild. The value of other members of Bromeliaceae is not unknown; for example: *Bromelia saganaria* A. de C. which grows in and near the state of Para, Brazil, has two varieties, one known as "Branco"(white) which is stronger and lighter in color and therefore more desirable than the "Roxo" (purple) which is an inferior grade. The species will grow freely in sand or humus soil and although not commercialized yet, it has possibilities.

"Curaua," *Ananas erectaefolia*, produces very long fibers which has an average of two meters length; each plant has a yield of 350 grams of fiber. The plant has a quick turn over as the leaves can be harvested twelve to fourteen months after planting just when the points of leaves start to become yellow.

Bromelia laciniosa Mart., "Macambira," is another one of the bromeliads growing in vast areas of northern Brazil which have fiber possibilities.

Neoglaziovia variegata, natively called "Caroa," grows extensively in dry, hot, north eastern regions of Bahia, Alagoas, Pernambuco, Paraiba and Piaui. The firm of J. Vasconcelos & Cia. of Pernambuco has gone into the preparation of this Neoglaziovia fiber on an extensive scale. They mechanically decorticate the



Aechmea bromeliifolia
photo by M.B. Foster

fibers and manufacture it into ropes, twine and sacking. It has also been woven into cloth suitable for clothing. The fiber is said to be three times as strong as jute. Its thread No. 22, for instance, has a resistance of thirty-eight pounds.

Many thousands of acres of this unique fiber plant grow in the highlands of northern Brazil. The area is called "Caatinga" and is comparable to the mesquite areas of Mexico and the Southwest.

In order to preserve the plant from extinction the gatherers are allowed to pull only two or three leaves from each plant at a time.

One of the important fibers of Mexico comes from *Aechmea magdalenae* a pineapple-like bromeliad which has an extensive range throughout southern Mexico, Guatemala, Honduras, Salvador, Costa Rica. Panama. Colombia and Ecuador. Dr. R. E. Schultes in his paper¹ says that the fiber or *pita* from this aechmea "is the basis of one of the most important native industries of the Chinantec and Zapotec Indians of Oaxaca" in southern Mexico, being made into hammocks, ropes, nets, fans, baskets and numerous practical articles.

Concerning gathering this bromeliad, Dr. Schultes states, "The work of procuring the fiber is accomplished chiefly by the Chinantec women who cut the leaves near the ground and remove the soft, flexible but strong fibers. The extraction process consists of rubbing the softer tissues of the leaf free from the fibers on a metate. The fibers are then thoroughly washed and freed from extraneous materials. When dry, the finished product is almost pure white in color."

Further in praise of the fiber of *Aechmea magdalenae*, Dr. Schultes says that it "is promising" and "is of superior quality." "It has been shown to possess great powers of resistance to the effects of salt water," and its "resistance to alkaline hydrolysis (caustic soda) is good."

Reprinted from: BSI Journal 1952, Vol.2, No.3 and in part No.4

To be Continued next month.



Caroa fiber ready for spinning in the Caruaru factory of Jose de Vasconcellos & Cia in the state of Pernambuco, Brasil.

Open Popular Vote

1st	Mitch Jones	<i>Dyckia</i> 'Clifton Snow'
2nd	Kayelene Guthrie	<i>Neoregelia</i> 'Mad Max'
3rd	Keryn Simpson	<i>Neoregelia</i> 'Purple Heat' unreg.

Tillandsioideae

1st	Dave Boudier	<i>Tillandsia</i> 'Tropiflora'
2nd	Mitch Jones	<i>Tillandsia krukoffiana</i>
2nd	Helen Clewett	<i>Tillandsia</i> 'Nesley'

Decorative

1st	Helen Clewett	'A Dyckia Garden'
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Judges Choice

1st	Mitch Jones	<i>Dyckia</i> 'Clifton Snow'
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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.

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.