



S.F.V.B.S.

SAN FERNANDO VALLEY BROMELIAD SOCIETY

SEPTEMBER 2018

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Web: **Mike Wisnev,** Editors: **Mike Wisnev & Mary K.,** Snail Mail: **Nancy P-Hapke** Instagram & Twitter & FB: **Felipe Delgado**

next meeting: Saturday September 1, 2018 @ 10:00

am

Sepulveda Garden Center 16633 Magnolia Blvd. Encino, California
91436

AGENDA

9:30 – SET UP & SOCIALIZE

10:00 - Door Prize drawing – one member who arrives before 10:00 gets a Bromeliad

10:05 -Welcome Visitors and New Members. Make announcements and Introduce Speaker

10:15 –Speaker – Cristy Brenner

Subject: **“Bromeliads of Eastern Brazil”**

Brazil is the largest country in South America and offers many different environments that support Bromeliads. Cristy will take us on a tour of Minas Gerais and the Bahia states where we will see Bromeliads from nineteen different genera. We will see the plateau regions of the semi-arid Caatinga and Cerrado regions, as well as the Atlantic coastal forest and the large granitic domes that support cliff-hanging Bromeliads.



Cristy is President of the Saddleback Valley Bromeliad Society in Mission Viejo. She has presented several talks at BSI conferences and is also a BSI Judge. As a recently

retired Community College Geography professor, she has visited all of the continents, but in (Continued) recent years she has concentrated on regions with Bromeliads. In addition to Brazil Cristy has observed and photographed Bromeliads in Mexico, Guatemala, Honduras, Costa Rica, Trinidad, Tobago, Ecuador, Peru, Argentina and Venezuela.



11:15 - Refreshment Break and Show and Tell:

Will the following members please provide refreshments this month: **xxx and anyone else who has a snack they would like to share.** If you can't contribute this month don't stay away.... just bring a snack next time you come.

Feed The Kitty

If you don't contribute to the refreshment table, please make a small donation to ([feed the kitty jar](#)) on the table; this helps fund the coffee breaks.

11:30 - Show and Tell is our educational part of the meeting – Members are encouraged to please **bring one or more plants.** You may not have a pristine plant but you certainly have one that needs a name or is sick and you have a question.

11:45 – Mini Auction: members can donate plants for auction, or can get 75% of proceeds, with the remainder to the Club

12:00 – Raffle: Please bring plants to donate and/or buy tickets. Almost everyone comes home with new treasures!

12:15 - Pick Up around your area

12:30 –/ Meeting is over—Drive safely <> [Announcements](#)

- **Participation Rewards System** – This is a reminder that you will be rewarded for participation. Bring a Show-N- Tell plant, raffle plants, and Refreshments and you will be rewarded with a Raffle ticket for each category. Each member, please bring one plant <>

Please Put These Dates on Your Calendar

Here is our 2018 Calendar. Rarely does our schedule change..... however, please review our website and email notices before making your plans for these dates. Your attendance is important to us

Saturday September 1, 2018	<i>Cristy Brenner</i>
Saturday October 6, 2018	<i>STBA</i>
Saturday November 3, 2018	<i>Nels Christianson</i>
Saturday December 1, 2018	<i>Holiday Party</i>

TBA = Speaker To Be Announced

Speakers Let us know if you have any ideas for Speakers about Bromeliads or any similar topics? We are always looking for an interesting speaker. If you hear of someone, please notify John Martinez.

Bromeliads in Ecuador; courtesy of Jerry Raack.

Jerry Raack is a long-time bromeliad enthusiast (about 50 years!) who recently posted some great habitat photos he took in Ecuador. See <http://botu07.bio.uu.nl/Brom-L/>. He graciously allowed his pictures and emails to be used in the Newsletter. Thanks so much to Jerry for sharing these photos.

The plants below have been tentatively identified as *Tillandsia* cf. *accuminata* on the website.



Jerry says “ Growing in scrub trees (probably not original vegetation) terrestrially on the ground. Note the enlarged stem formed by offsets. Also growing in the same locale *T. stenoura* and *T. walteri*. Plants were approximately 135 to 140cm tall with inflorescence. Note the very colorful new young plant growing out in the open. Too bad their foliage doesn't keep this attractive.”





Jerry Raack, standing close to *Gregbrownia fulgens*. Photo by Jose Manzanares. 67(2) BSJ 119 (2017).

Taxonomic Tidbits: *Canistrum*, *Wittrockia* *Edmundoa* and more – Part 2 (*Edmundoa*)

By Mike Wisnev, SFVBS Editor (mwisnev@gmail.com) Photos by Wisnev unless noted.
San Fernando Valley Bromeliad Society Newsletter – September 2018

Part 1 was intended to describe the differences among these various genera in the title. It had started by noting that *Wittrockia leopardinum* and *Edmundoa lindenii* seemed the same, at least out of flower. Since both had been considered *Canistrum* before, the first part of this article veered toward that genus and never got past describing *Canistrum*. Part 2 discusses *Edmundoa*.

I thought my *Edmundoa lindenii* (below) looked much like *Wittrockia leopardinum* shown on the next page. Clearly, they differ but there are species with more variation within them than these two plants. Why are they different genera?



In general, *Canistrum* have asymmetric sepals, while those of *Wittrockia* and *Edmundoa* are symmetric. In very simplified terms, Elton Leme's key to the Nidularioid complex in his book *Canistropsis – Broms. Alt. Forest* (1998) ("Canistropsis Book") started out by splitting the complex into those with asymmetric sepals with a spine on the tip, which included *Canistrum*,

some uncommon subgenera of *Neoregelia*, and some *Aechmea* (even though *Aechmea* are not in the complex).



Here is *Wittrockia leopardinum*.

Those groups with symmetric sepals without a spiny tip included *Nidularium*, *Wittrockia*, *Edmundoa*, *Canistropsis* and the bulk of the *Neoregelia*. In simplified terms, the key continued by distinguishing Neos (and some *Wittrockia*) as having simple a simple inflorescence. The rest had a compound one. In turn, *Nidularium* broke off by having an inflorescence that could hold a lot of water and with hooded petals. In contrast, the inflorescences of *Edmundoa*, *Wittrockia* and *Canistropsis* do not hold much water and they have petals that opened up quite a bit more.

Edmundoa (3 species) is distinguished from *Wittrockia* and *Canistropsis* on the basis that it has an inflorescence that has persistent wool after flowering while *Wittrockia* (7 species) and *Canistropsis* (13 species) don't. The key actually says *Edmundoa* have "Scape and inflorescence densely and conspicuously lanate both before and after anthesis, woolly pubescence dense and conspicuous at least to the floral bracts; inflorescence 8-17 cm in diameter." *Canistropsis* Book at p17.

Edmundoa got its current name in 1997 when Leme created the genus by moving three species into it. It was named "to recollect and to honor Brazilian botanist Edmundo Pereira (1914-1986). Professor Edmundo, as he

was known, was undoubtedly the greatest authority of his time on the taxonomy of Brazilian bromeliads.” Leme, *Canistrum* – Broms. Atl. Forest: 42. 1997 (“*Canistrum* Book”). Unlike *Canistrum*, *Edmundoa* grow in southern Brazil, and have been reported in the states of Espírito Santo, Rio de Janeiro, Santa Catarina, Parana and Rio Grande do Sul, and Sao Paulo. (In contrast, *Canistrum* generally grow in north Brazil, primarily in Bahia, though one species is in Espírito Santo.)



variegated form of *E lindenii*, shown here. This had been given the name *Canistrum lindenii* var. *pehnkii* but this form is no longer recognized.

This plant had been in a tree. One disadvantage of hanging plants in trees, at least some of them, is that you don’t know if they are blooming. If the mama bloomed, I missed it, but it has pupped and the mama hasn’t died.

Edmundoa lindenii had long been considered *Canistrum lindenii*, but had in fact first been treated as *Nidularium*, and as a *Guzmania*, *Aechmea* and *Billbergia*. It has a variety of forms, which may have led Morren (who described *Canistrum* in 1873) to describe three more *Canistrum* species that same decade, all of which are now treated as *E. lindenii*.

There are currently two recognized varieties: var. *lindenii* with green leaves and white, yellow or green bracts, and var. *rosea* that has red bracts and apparently often has reddish leaves, though there don’t seem to be pictures of any with red leaves. There had previously been a number of other varieties based on the color of the bracts and whether the inflorescence is sunk in the rosette or raised above it. Apparently some

have an inflorescence that can be over 6 inches long. My plant came with the name *E. lindenii* var. *exiguum*. This is apparently a reference to the relatively short peduncle.



Illustration of *C. eburneum*, now *E. lindenii*. Belgique horticole (1879) pl XIII. "Image from the Biodiversity Heritage Library. Digitized by Smithsonian Libraries. | www.biodiversitylibrary.org.

Morren described this species in 1879 and noted that *Nidularium lindenii* was a synonym. For that reason, he should have named it *Canistrum lindenii*. Leme states it is an illustration of the clonotype plant that flowered the prior year.

E. lindenii is the most commonly seen species of this genus, and is responsible for the entire distribution of the genus.

Since *Edmundoa* don't have asymmetrical sepals, one historical question is why *E. lindenii* was previously considered *Canistrum* as opposed to *Nidularium*? One answer is that Mez apparently didn't use this feature to distinguish *Canistrum* from *Nidularium*, and instead separated these two genera on the basis that *Canistrum* have free sepals and petal appendages.

Another may be that many features don't lend themselves to yes or no answers, but form gradations which may be viewed differently by different botanists. Smith states that the sepals of *E. lindenii* are asymmetrical, while Leme says the sepals are subsymmetrical.

Leme's key is much more complex than indicated above, and actually distinguishes the genera by asking if the sepals are (1) asymmetrical as opposed to (2) symmetrical, subsymmetrical or if asymmetrical are ecarinate or obtusely carinate. Leme defined asymmetrical as having one side twice as wide as the other, and symmetric as roughly equal sides. Presumably, subsymmetrical is between the two.

To the right is a drawing from *Belgique horticole* (1879) pl XIV. Is it symmetrical, subsymmetrical or asymmetrical? Traditionally, a botanist's answer to this kind of question may result in a new species being in one genus vs another. Similarly, your ability to determine what species you have based on a key depends on your answer.



E. lindenii sepal

Wooly inflorescences. As noted above, *Edmundoa* are distinguished by their wooly inflorescences. I was intrigued by this, as it is a quite unusual feature of the *Bromelioideae* subfamily. Fortunately I didn't have to wait long – my plant bloomed in September, about six months after I got it.

Mine started to get a bit large, so I had planted it on a hillside. Luckily the inflorescence of mine is raised a few inches above the rosette, or else I might have never seen it.

As you can see, it has an involucre inflorescence, though not as cup-like as many *Canistrum*. Since it has red primary bracts, it is actually *var. rosea*. The inflorescence is raised a bit but not six inches, which is where the *var. exiguum* came from.



Here are more shots that show the brown woolly inflorescence, white sepals and finally the green flowers.





I was curious to see just how wooly the inflorescence was. I finally decided to do a little modest dissection since the peduncle bracts completely cover the scape.



The flower bracts are also hairy, and arrow shaped.



Edmundoa have tripinnate subcorymbose inflorescences. This means they are branched and the branches have branches. I guess next time it flowers I might really have to dissect it since this isn't evident in my pictures. Similarly you can't see distinguish "subflabulate, pulvinate" fascicles – the description says there are 7-10, each with 10-20 flowers.

Cultivation. The more I have grown, the more I become convinced that location is perhaps the key ingredient in growing a particular plant well. I had planted mine on a hill, with a bit too much sun (or shade, who knows!). In any case, after flowering, a few pups formed, but didn't do too well, so I put it mildly. This always raises a question – will the plant adapt, or do you move them. In this case, I thought I almost waited too long - when I finally did so, I was pretty sure they would soon die. I forgot about them, and in fact thought they had died since I didn't remember seeing them.

This may be the easiest suggestion for you – if you don't like how a particular plant looks, try moving it to more or less sun and see what happens. But if you move it to more sun, do it gradually or use shade cloth- otherwise the leaves may burn.

Here are the pups, the first shot taken in August 2014 when I took them off the hill, and the next about 13 months later. They look a tad better.



Other species. There are two other *Edmundoa* species that are quite similar, and grow along the border areas between Sao Paulo and Rio de Janeiro. They are aptly named *E ambigua* and *E perplexa*. As compared to

E. lindenii, they have shorter leaves, white petals (as opposed to green) without appendages and different shaped sepals and petals.

E. ambigua is apparently fairly common in cultivation, and often misidentified as *E perplexum*. Its leaves have green spots, not wine colored ones, and have almost no spination. The flowers are so wooly you can barely see them.



E

perplexa. Photo by Bromeliario Imperialis.

E. perplexa is much like *E ambigua*. However, it has wine colored spots on its leaves and is spinier. The inflorescence is less wooly.

[Interestingly, two *Canistrum* species described by Leme – *sandrae* and *lanigerum* – also have wooly inflorescences, and are in part distinguished by whether their sepals push through the wool. Their other features placed them in *Canistrum* – Leme didn't even mention *Edmundoa* when describing them.]



. My *Edmundoa lindeni* var. *rosea* showed a lot more red color in January 2018.

Despite their obvious similarity, in 1935 Smith originally described *E. perplexa* as a *Canistrum*, while Wanderley and Leme described *E. ambigua* as a *Nidularium* in 1989. This fact is consistent with their names – they are derived from their confused status - both have free petals without appendices and slightly assymmetric or subsymmetric sepals. *Canistrum* generally have assymmetric sepals and free petals with appendages, while *Nidularium* have symmetric sepals and free petals without appendages. Leme says that Smith considered *E. perplexa* as a *Canistrum* because Smith considered its petal callosities as equivalent petal appendages. In contrast, the absence of such appendices led Wanderley and Leme to treat *E. ambigua* as a *Nidularium*. Leme also notes that both have folded filaments (like some *Tillandsia*) that simulate appendages, and perhaps serve the same function.

Well, once again, this is longer than expected, so *Wittrockia* will get its own article.

Recent Taxonomic Studies. Two of the larger DNA studies in the last six years have included all three species.¹ Both found that *E. ambigua* and *E. perplexa* were sister species. However, both found that *E. lindenii* was not part of the same clade, and appeared most closely related to some *Wittrockia* and/or *Canistropsis*. Surprisingly, a 2015 study that included *E. ambigua* and *E. perplexa* found they were closely related, but not sister species.²

In contrast, a 2017 parsimony study of 101 morphological characters (but not DNA) indicated that *Edmundoa* was monophyletic, and as noted last month, that *Canistrum* did not belong in the complex.³ The study was primarily on Neos, but included 16 other Nidularioid complex members.

In turn, a more recent 2018 study came to the same conclusion as the earlier ones – while *E. ambigua* and *perplexa* belonged together, *E. lindenii* didn't.⁴

¹ Sass, C. and C. D. Specht. 2010. Phylogenetic estimation of the core Bromelioids with an emphasis on the genus *Aechmea* (Bromeliaceae). *Molecular Phylogenetics and Evolution* 55: 559–571

Silvestro, D., G. Zizka, and K. Schulte. 2014. Disentangling the effects of key innovations on diversification of Bromelioideae (Bromeliaceae). *Evolution* 68: 163–175

² Evans, T.M., R. Jabaily, A.P. de Faria, L.O.F. de Sousa, T. Wendt, and G.K. Brown. 2015. Phylogenetic Relationships in Bromeliaceae Subfamily Bromelioideae based on Chloroplast DNA Sequence Data. *Systematic Botany*, 40(1):116-128.

³ Santos-Silva, F., Venda, A.K., Hallbritter, H.H., Leme, E.. M.C., Mantovani, M., and Forzza, R.C. Nested in chaos: Insights on the relations of the 'Nidularioid Complex' and the evolutionary history of *Neoregelia* (Bromelioideae-Bromeliaceae). *Brittonia* 69 (8). 2017

⁴ De Oliveira F.M.C, R. Louzada, M. Wanderley and G. Melo-de-Pinna Morphoanatomical characters in the Nidularioid Complex (Bromeliaceae: Bromelioidae) from a phylogenetic perspective . *Flora* 239 (2018) 111-121.

Taxonomic Tidbits – *Billbergia* with mostly red petals

– *B. pyramidalis*

By Mike Wisnev, SFVBS Editor (mwisnev@gmail.com)

San Fernando Valley Bromeliad Society Newsletter – July 2018

Of the roughly 34 species in subgenus *Billbergia*, all but three have green and/or blue petals. Those of *B pyramidalis* are mostly red with a violet tip. For various reasons, I have been confused about the color of the petals of *B pyramidalis*. At first I thought they were violet, and then I thought they were usually all red. I'll explain why later. To be complete, you may recall from the last article that *B lymanii* also has some red in the petals, though most of the blade was blue, and the pictures shown showed the claw as more off white with a reddish tinge.

At least in bloom, *B pyramidalis* is fairly distinctive for its unusual inflorescence. Surrounded by large red to rose peduncle bracts, the flowers are quite dense and the structure is much like an upside down pyramid. It is also the only species with a simple upright inflorescence in the subgenus.

Perhaps due to its extensive range in Brazil (and perhaps Venezuela, Cuba and other islands), the petals of this species can have a variety of colors.

“*Billbergia pyramidalis* has four different varieties for the colouration of the petals. Due to the absence of this information in most of the herbarium material labels, identification is hindered, as well as the determination of the geographical distribution of each one of them.” Barros & Costa, for State of Rio de Janeiro, Acta bot. bras. 22(4): 1172-92. 2008 (translation by Butcher).

Despite stating there are four varieties of color, the article says the petals are “totally red-purple or red-purple with top 1/9 blue, or yellow with top 1/3 blue.”

History and Synonyms. Interestingly, there are about 40 synonyms for this species, including *B. bicolor*, *nudicaulis*, *thyrsoides*, *speciosa*, *fastuosa*, and *splendida*. I am always curious when there are so many synonyms. Is this species that variable? Did the discoverers think they were different, or were they unaware of the earlier names?

Lots of pictures are shown below: (1) how different are they, and (2) do they have all red petals?



This is the original illustration of *Bromelia pyramidalis* (now *Billbergia*) in Curtis's Botanical Magazine, Vol 42 (1815). XLII.

<https://archive.org/details/mobot31753002719729>

The original description by John Sims, M. D. states the petals are a “fine scarlet, tinged on the inside with violet, more intense at the tips.”

Most (all?) bromeliad species were called *Bromelia* in the early days. In 1827, Lindley referred *Bromelia pyramidalis* to *Billbergia*.

Two years after Sims described *Bromelia pyramidalis*, Edwards described *Bromelia nudicaulis*. Seemingly, he wasn't aware that another species (now *Aechmea nudicaulis*) had been given that same name, but he was aware of *Bromelia pyramadilis*.



Bromelia nudicaulis, Bot. Reg. 3: pl. 203. Image from the Biodiversity Heritage Library. Digitized by Missouri Botanical Gardens, Peter H Raven Library. www.biodiversitylibrary.org.

Edwards said that this plant differs from similar ones “in having an entirely bractless inflorescence.” Bot. Reg. 3: pl. 203. 1817. Perhaps he is referring to primary or floral bracts, since the plate 203 showed a very similar plant, with large peduncle bracts.

In 1828, Lindley described var. *bicolor*, which differs in the “more obtuse figure of the petals, and in their colour; the leaves also appear to be more taper-pointed.” Lindley, Bot. Reg. 14: pl. 1181 (1828). In 1832, Loddiges described *B bicolor* stating it differed from “*nudicaulis* in its obtuse petals, its much narrow leaves, and its spines being green in lieu of black; the leaves are also green at their base.” Bot. Cab. 19: pl. 1819 (1932). Both are pictured on the next page.

B thyrsoidea was described in 1830 by Martius. He was certainly aware of *B pyramidalis*, since his description said “Differs from *B. pyramidalis* to which it has a good affinity, chiefly in Leaves large erect, much wider, shorter, obtuse with a tip, equally concave, Spines strong, Spike larger, Scape bracts light red short acuminate, less nerved, Smaller stature, Collected by Martius near Rio Janeiro on rocks.” Roemer & Schultes (Systema Vegetabilium Vol.7 part 2. p.1260 , 1830) Notice that he doesn’t mention any difference regarding the petal color.

Billbergia pyramidalis var.
bicolor. Bot. Reg. 14: pl. 1181 (1828).



Billbergia bicolor. Bot. Cab.
19: pl. 1819 (1832).



Images from the Biodiversity Heritage Library. Digitized by Missouri Botanical Gardens, Peter H Raven Library. www.biodiversitylibrary.org.

In 1853, Lindley said *B thrysoidea* had green leaves without any glaucous covering and erect flowers “with white mealiness,” while *B pyramidalis* “has glaucous taper-pointed leaves, and very large spreading flowers, conspicuous for the white mealiness of the calyx.” Paxton’s Flower Garden p3: pl. 74. In 1853, Curtis’s Botanical Magazine said the two species were “quite different.”

More were described, and I don’t have translations. In any case, by now, you might be getting the sense that there may have been some serious splitting going on. Perhaps

this is not surprising, since *Billbergia* was a new genus, and bromeliads themselves weren't well known. Probably every new clone that made its way back to Europe got a new name.

In fact, by 1873, most of these names had been treated as varieties of either *B. pyramidalis* or *B. thyrsoidea* by Morren in *Belgique Hort.*



pyramidalis, left and *B. thyrsoidea*, right. *Le Belg Hort* 1873, pl XVI and XVII.

Images from the Biodiversity Heritage Library. Digitized by Smithsonian Libraries. www.biodiversitylibrary.org"

Other than the width and banding on the leaves, and the denser inflorescence, they seem pretty similar.

Baker's monograph in 1889 seemed largely to follow this earlier treatment by Morren. He listed a number of *B. pyramidalis* varieties:

“Var. BICOLOR ...Flowers with the two colours, violet and red, not so much blended as in the type. Leaves more distinctly fasciated on the back.

Var. ZONATA ...Leaves broader and more obtuse than in the type, more distinctly fasciated on the back with white.

Var. B. FARINOSA ...A stunted form, with a few flowered slightly drooping spike and plain dull grey-green leaves.

Var. B. CROYIANA ...Leaves erect, with the dorsal zones conspicuous. Peduncle longer than in the type. Flowers more numerous; petals acute, red edged with violet.”

Handbook of the Bromeliaceae, Baker, 1889 p 71.

Presumably following Morren’s earlier work, Baker kept *B thyrsoides* as a separate species, despite stating “it is scarcely more than a variety of *pyramidalis* in a broad sense.” Among other minor differences, *B thyrsoides* had didn’t have transverse bands on the back and had “bright red petals with a violet purple tip,” as opposed to “mauve-scarlet, ... violet at the tip” for *B pyramidalis*. Id. He had two variations of *B thyrsoides*–

Var. B. SPLENDIDA ...More robust than the type, with more numerous bright-coloured flowers and. broader bracts.

Var. B. LONGIFOLIA ...Leaves longer than in the type and narrowed more gradually towards the apex”.Id. at 71-2.

In his 1934-5 monograph, Mez largely followed the treatment above, but apparently said *B thyrsoides* has all red petals.

Current treatment. The taxonomic twists and turns continue. *B thyrsoides* has been referred to *B pyramidalis*, and there are three or four varieties of the latter, or none, depending on your views! It looks like Smith may have been the first to refer *B thyrsoides* to *B pyramidalis*.

If you look at all the pictures above, none of them have completely red petals. In each case, there is at least a bit of blue at the tips. Is there a completely red petalled form? According to Lyman Smith, yes. In 1954, in a brief article entitled “New Name for an Old Error,” he named it *B pyramidalis* var. *concolor*, as explained below.

“For just one hundred years the variety of *Billbergia pyramidalis* with wholly red petals has been known as *Billbergia thyrsoides* Martius, but the original description in Roemer & Schultes ... reads: "petala coccinea ... apice ... violaceo-caerulea." Thus *Billbergia thyrsoides* is the same as typical *Billbergia pyramidalis*. A canvas of other names, including *Billbergia rhodocyanea*, shows that there are none which apply to this variety, so that it becomes necessary to give it a name as follows *Billbergia pyramidalis* (Sims) Lindl. var *concolor* L. B. Smith, var nov. *Billbergia thyrsoides* sensu Lindl. Paxton, Fl. Gard. 3: pl. 74. 1852-53. Not Mart. 1830. “ 4(1) JBS 6 and b/w illustration below.

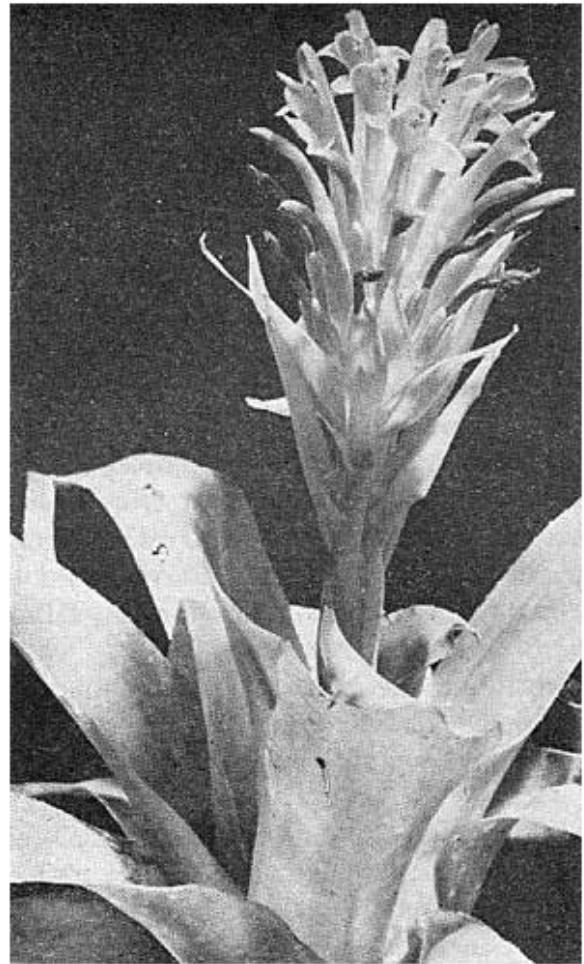


Photo by Ladislaus Cutak

Billbergia pyramidalis var. *concolor* L. B. Smith
formerly called *B. thyrsoides*

Derek Butcher has since questioned if there is such a creature, or if all the *B pyramidalis* have at least a hint of blue in their petals. Butcher, *Billbergia pyramidalis: Search for the Totally Red Petal Form*. 52(4) JBS 172-178. 2002. Basically, despite a lengthy search, he couldn't find one! He also noted that Paxton's Fl. Gard. (cited by Smith above) contrasted *thyrsoides* with *pyramidalis* without mentioning petal color. (On the other hand, it did say the bracts were "rich crimson" and the flowers were "of nearly the same color.")

Below is *B thyrsoides*, shown in III Paxton's Flower Garden pl 74, Vol (1853). Smith used this illustration and the black and white photo above as a basis to describe var. *concolor* with all red petals.



So does the real *B pyramidalis* look like the many illustrations above, or do those take some artistic liberties like we have seen before?

Is Derek right? One can't tell from the black and white photo in Smith's article. A Google search revealed hundreds of images, but a one minute look didn't show one obviously all red.



Figure 19. The old variety *concolor*.

John Catlan



Figure 20. The old variety *pyramidalis*.

Derek Bulcher

174

52(4) JBS 174. 2002.

These petals are almost all red, but have a tip that is tinged violet. Since Derek saw them, I presume they didn't look all red.



B pyramidalis at HBG.

These have considerably more violet on the tips.

Var. striata. In 1960, Mulford Foster described *B pyramidalis* var. *striata*. A new variety of *Billbergia* – *B. pyramidalis* v. *striata* 10(4) JBS 58 (1960). This was a variegated seedling of a plant he collected in 1939. While the seedling germinated in 1950, it seems it hadn't bloomed yet by 1960. It is worth noting that not only was it a seedling, but Foster said its parent had atypical leaves for *B. pyramidalis*, and bloomed midwinter while his other clones bloomed in summer.

Some 42 years later, Derek noted that var. *striata* has violet petals, with white at the base. None of the forms found have that color! Derek stated that "*B. pyramidalis* var. *striata* was ignored by Smith & Downs in 1979 in their monograph and was only reintroduced in DeRebus I in 1994 without any comment. Foster's *B. pyramidalis* var. *striata* will be covered under the ICNCP rules by renaming it *B. 'Foster's Striate.'* 52(4) JBS 172-178. 2002.

Note there is another more variegated clone called *B. 'Kyota.'*



Above is B 'Foster's Striate' on

the BCR, photo by Michael McMahon. Below is a plant labelled *B pyramidalis* var. *striata* at HBG.



Frankly, I am not sure the above HBG plant is really *B. 'Foster's Striate.'* The pictures on BCR look different, with a tighter more pyramid shaped inflorescence and darker flowers. In that regard, note the photo above shows such an inflorescence above the other one – it seems to become more lax as it develops.

Billbergia 'Violet Beauty' at the HBG (shown below) looks much like the HBG's 'Foster's Striate' except for the variegation. Its parentage seems a bit mysterious – BCR says it is a Giridlian hybrid of *speciosa x euphemiae*, but elsewhere says it is a *distachia* cultivar? Interestingly Derek's materials on the BCR state that Olwen Ferris reported there was a striated form of this that looked much like the striated form of *B pyramidalis* until it flowered.



B 'Violet Beauty' at HBG. The so-called Foster's Striate at HBG may be a variegated "Violet Beauty."

Var. *lutea*. Yet another variety was described in 1984 – it has "bright yellow petals which are purplish tipped only at the extreme apex." Elton M.C. Leme and Wilhelm Weber, 34(2) JBS 79-80. 1984. The article continued:

"In comparison with the geographical distribution and the ecological preferences of the typical *Billbergia pyramidalis* which grows mainly as a terrestrial in humid forest at altitudes between 500-1700 m above sea level

this new variety showed us some peculiarities: it occurs along the Atlantic coast from the County of Sao Pedro D'Aldeia up to Macae at low elevations from sea level to approximately 500 m (C. Farney). Its population can be found predominantly near the sea where the arboreal thicket formation is the covering vegetation. We observed it growing terrestrially and rarely as epiphyte, sometimes with numerous specimens grouped.”



Photo by Author

FIG. 15: *Billbergia pyramidalis* (Sims) Lindley var. *lutea* Leme and Weber, var. nov..

Photo by Leme. Here is the picture from the article of the new var. *lutea*. I was surprised, since the description says it is violet only at the “extreme apex,” so I had expected less than a millimeter of violet. A picture is worth a 1000 words!

Derek’s article addressed this variety as well. In some new terms, he distinguished the blade of the petal which is the portion visible, and the claw, which is the portion mostly covered by the sepals.. He said

“the blade colour can vary from red with pale violet tipping, to totally violet to totally dark violet. The claw can vary from white to cream to yellow to pinkish but I have been unable to link these colours with a particular blade colour. This variation suggests that there is no need for variety *lutea* Leme and Weber (1984) (07a & b) which I have also noticed varies in colour in cultivation.”

He now calls the yellow clawed form *B* ‘Lutea’.

So, how many varieties are there? The Bromeliad Taxon List list *B pyramidalis* without any varieties. The Encyclopedia of Bromeliads still shows three varieties.

At the outset of this article, I noted that at first I thought this species had violet petals, Why? One of my first plants was labelled "*B permadalis*" which I assumed was misspelled. Here it is.



My incorrectly

named *B permadalis* (sic). When I posted a picture on a forum, I was told it was probably *B pyramadalis*, which was good enough for me, at least at that time. I have since been told it probably has some *B vittata* in it. It does look a lot like B 'Charles Webb' which is a cross of the two species. In any case, since you might also have this incorrectly named clone, I wanted to show it here.