



**S.F.V.B.S.**

**SAN FERNANDO VALLEY BROMELIAD SOCIETY**

**FEBRUARY 2019**

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**next meeting: Saturday February 2, 2019 @ 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 – Program by *Guillermo Rivera***

**"Ecuador: Bromeliads Paradise part II"**

If there is one country on earth that would offer such a variety of habitats is Ecuador: dessert, coast, Andes, Amazon Forest, Pacific Forest. It is not surprising that such a small country boots the second largest of bird species in the world (second to Colombia). Well, it is not surprising either that the country also offers a cornucopia of bromeliads from all different habitats: Tillandsia Vriesea, Griggea, Pitcairnia, Puya, Guzmania, are among some of them with many species to see and discover. This is a follow up to a previous presentation where I have introduce many new plants and habitats from the last 3 trips. It is difficult to travel to Ecuador and not seeing something new!

Guillermo, born in Argentina currently resides in Florida. He is a former researcher at the University of Cordoba, Argentina where he received his BS degree in Biology. His MS in Marine Biology at Northeastern University and PhD in Botany at the University of Cordoba.

His career as a habitat guide started just by chance. In 2001 while he was still working as a researcher at the University of Cordoba he took a part-time position at the Cordoba Botanical Gardens. He took part in developing a “desert garden”, something totally unheard of in Argentina. He obtained the necessary permits to extract local flora and wrote to several cactus and succulent clubs in California asking for seed donations of Mexican or any other exotic cacti. A few weeks later, one of the clubs contacted him inquiring if he would be willing to organize and guide a tour to Northwestern Argentina and Chile. After scouting for plants, itinerary, hotels, etc., he agreed to do Northwestern Argentina in 2001 and from there the rest is history. His company now organizes tours to 10 countries.

He is the owner of **PLANT EXPEDITIONS** (former South America Nature Tours) a company dedicated to the organization of tours for the last 18 years, throughout South America (Chile, Argentina, Brazil, Peru, Colombia, Bolivia, Ecuador), Mexico and South Africa, Madagascar, and Namibia, with emphasis on plants: bromeliads, orchids, cacti, and other succulents and birds. Guillermo said the most rewarding aspect of his trips is visiting places and seeing plants in habitat of course. He never dreamed he would go to so many different countries to track down and show off rare plants to people.

*Continued on page 2*

### **Guillermo continued**

It's also very rewarding to learn so much from many different plant experts such as how they keep and grow some of the plants in their collections; plants they have seen in habitat.

Next year he is planning the following plant adventures to Ecuador, Namibia, Brazil, South Africa, Peru, Argentina-Chile. If you wish to be kept informed about our future trips, please send email to Guillermo at [info@plantexpeditions.com](mailto:info@plantexpeditions.com) or [plantexpeditions@gmail.com](mailto:plantexpeditions@gmail.com) or visit website: [www.plantexpeditions.com](http://www.plantexpeditions.com)

### **11:15 - Refreshment Break and Show and Tell:**

Will the following members please provide refreshments this month: **those whose last name ends in D, E, F, G or and anyone else who has a snack they would like to share 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 <**

**Free Museum Day / Sat. & Sun. February 2 & 3, 2019**

**<https://www.cleverlycatheryn.com/local-events/2019-museum-free-for-all-days>**

## **Library Literary Listings**

**February, 2019**

A belated Happy New Year to all,

Over the Holidays, our library increased its holdings by a large percentage, mostly due to the generosity of Richard Kaz. His donation consisted of approximately 20 past BSI (Bromeliad Society International) Journals. I will bring a few each month for you to enjoy.

In addition, we have received the latest BSI Journal (Volume 67 (4), dated October-December, 2017. It contains articles on the WBC 2016 Seminar which includes “*Exploring for Bromeliads in Belize*” by Bruce K. Holst and “*Bromeliad Treasure Hunting in Peru – Part I*” by Eric & Renate Gouda.

The only book addition for this year (unless something really great becomes available) is titled “**Air Plants – The Curious World of Tillandsias**” by Zenaida Sengo. The first thought would be – what else is there to know? What else, indeed. This is a fantastic book written for everyone. The first part, “*A Tillandsia Primer*” covers the basics of understanding, caring and choosing your plant. This is not the same old, same old, same old..... You will find a new fact on each page! The second part is where most of us will learn a lot. “*Tillandsias on Display*” covers the how, why and where to display your plants. Exceptional photos on every page and easy descriptions of each and every topic. This is a must read for beginners and a refresher course for the advanced collector.

Be sure to check our Library for some exciting reading!! See you soon, Joyce

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 pay your 2019 Membership Dues

**NEED TO RENEW ?.....**

**Pay at the meeting to: Membership Chair – Stephanie Delgado or Treasurer - Mary Chan**  
**or Mail to: SFVBS membership, P.O. Box 16561 - Encino, CA 91416-6561**  
**Yearly Membership Dues - \$10 for monthly e-mail newsletters or \$15 for snail mail**

## **Please Put These Dates on Your Calendar**

Here is our 2019 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 March 2      | STBA                                   |
| Saturday April 6      | STBA                                   |
| Saturday May 4        | STBA                                   |
| Saturday June 1       | STBA                                   |
| Sat & Sun - June 8-9? | <b>SFVBS Bromeliad Show &amp; Sale</b> |
| Saturday July 6       | STBA                                   |
| Saturday August 3     | STBA                                   |
| Saturday September 7  | STBA                                   |
| Saturday October 5    | STBA                                   |
| Saturday November 2   | STBA                                   |
| Saturday December 7   | <b>Holiday Party</b>                   |

**STBA = 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

Joyce Schumann [ropojo@pacbell.net](mailto:ropojo@pacbell.net)

*This section is open for Member contributions  
of photos or articles....*

Mike Wisnev submitted the following photos .....

We saw this in the Philippines. I had no idea what it was, but it reminded me of a *Nidularium*. Derek suggested it might be a hybrid with *Aechmea nidularioides* in its parentage. Not sure of what the other non-bromeliad might be; could possibly be a heliconia.

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# Taxonomic Tidbits

## *The confusing tale of *Billbergia saundersii* and *Billbergia chlorosticta* – the longer story.*

By Mike Wisnev, SFVBS Editor ([mwisnev@gmail.com](mailto:mwisnev@gmail.com)) Photos by Wisnev unless noted.  
San Fernando Valley Bromeliad Society Newsletter – January 2019

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Earlier Newsletters had a lengthy series on *Billbergia*. One covered the fairly well-known *B. saundersii*. Oddly, Smith & Downs stated that its name was *B. chlorosticta*, yet FCBS and other sources used *B. saundersii*. Some research led to the initial answer that *B. chlorosticta* was the correct name, and then many more surprises. My recent article in Die Bromelie, the publication of the German Bromeliad Society, tells the tale of these names.

The article below is an earlier and longer draft of the article in Die Bromelie, with some minor modifications to reflect the final article.

### **The confusing tale of *Billbergia saundersii* and *Billbergia chlorosticta* – the longer story.** By Michael A. Wisnev

For a species, *Billbergia saundersii* W. Bull is reasonably well known in the bromeliad world. In contrast, most probably haven't heard of *B. chlorosticta* Saunders. Both were introduced into cultivation around 1870 and have always been treated as conspecific (the same species). For most of their history, the leading bromeliad authorities have treated *B. saundersii* as the right name. So you might be surprised to learn Smith & Downs (1979) treated *B. chlorosticta* as the correct name, and the World Checklist of Selected Plant Families (Kew) still did, at least until recently. So what is the correct name?



Fig. 1. A portion of a huge clump labelled *B. saundersii* at the Huntington Botanical Gardens. The HBG records state they received 13 pots from “B. Cole, Plant Shop’s Botanical Garden, Reseda, CA” in 1982.

This article has the hopefully complete story of these two taxa, including the correct name, the discovery of some previously unreported publications and some complete surprises. Rather than providing a purely historical narrative, it conveys how the article itself unfolded in various parts. Each new part was written only after new information was discovered, and most end with different answer than the previous part.

**Part I: Priority.** All leading bromeliad authorities treated *B. saundersii* as the correct name until McWilliams (1968) stated otherwise in the Bromeliad Society Journal. Smith & Downs (1979: 1994) described the name as follows:

“*Billbergia chlorosticta* Saunders Hortus, Gard. Chron. 1425. 1871.

*Billbergia saundersii* Bull Hortus ex K. Koch, Wochenschr. Gartn. 12: 116. 1869; nomen.

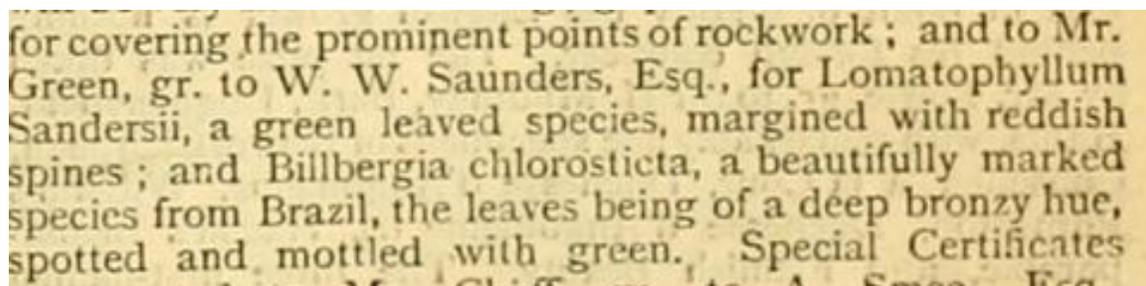
*Billbergia saundersii* Bull Hortus ex Dombrain, Floral Mag. II. pl. 106. 1871. Type. *Saunders Hortus s n*, undoubtedly a clonotype of *B. chlorosticta* Saunders Hortus.”

The International Code of Nomenclature (“ICN”) provides that the first validly published name for a taxa is generally given priority, and treated as the correct name. The other validly published names are treated as synonyms. Let’s look at the three publications cited by Smith & Downs to see how this works.

1. Loosely translated, the 1869 German publication said that Green, the head gardener for the plant lover Saunders, had *Bilbergia saundersi* [sic], an interesting species from Bahia, but nothing more can be said about it. In order to validly publish a name, a plant description is required. Thus, this name is invalidly published; it is called “nomen nudem” since it lacks a description.

Since Saunders and Green lived in London, it was odd that the first report was in Germany. Might there be an earlier publication, perhaps with a description? The author found two 1868 London publications but both stated only that Green had “sent a new *Bilbergia*, named *Saundersii*, from Bahia” to the Royal Horticultural Society (RHS) show on October 6, 1868. *J. of Hort. and Cott. Gard. n. s. Vol 15:262* (10/8/1868); *Gard. Chron.* (10/10/1868, p.1068). Since neither had a description, they are also nomen nudem.

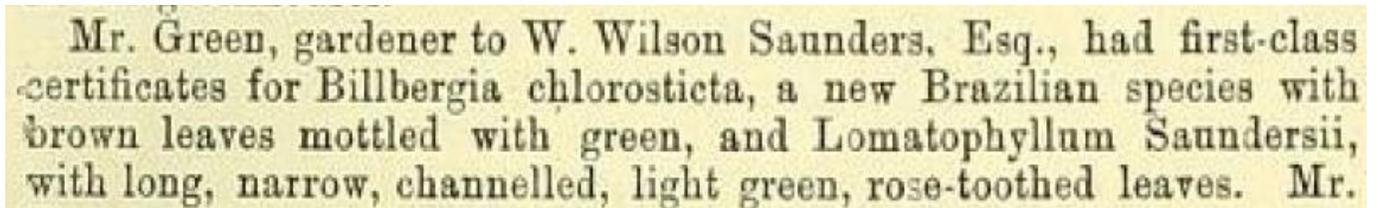
2. On November 1, 1871, Saunders and Green received an award at a RHS exhibit for *B. chlorosticta*. While the RHS minutes don’t have a description, a leading garden publication reported the news as shown in **Figure 2 below**.



for covering the prominent points of rockwork ; and to Mr. Green, gr. to W. W. Saunders, Esq., for *Lomatophyllum Sandersii*, a green leaved species, margined with reddish spines ; and *Billbergia chlorosticta*, a beautifully marked species from Brazil, the leaves being of a deep bronzy hue, spotted and mottled with green. Special Certificates

**Figure 2.** The previously first known description of *B. chlorosticta* appeared in Gard, Chron. (11/4/1871, p.1425). Image from the Biodiversity Heritage Library. Digitized by U. of Massachusetts Amherst Library. [www.biodiversitylibrary.org](http://www.biodiversitylibrary.org).

The author searched in vain for more descriptive information about this plant (call it *B. chlorosticta* 1871), especially its inflorescence. While nothing was found about the inflorescence, the name was actually published two days earlier. See Figure 3. The next month, The Gardener (December, 1871 p.573) also reported it had “brownish-purple leaves, blotched and spotted with green.”



Mr. Green, gardener to W. Wilson Saunders, Esq., had first-class certificates for *Billbergia chlorosticta*, a new Brazilian species with brown leaves mottled with green, and *Lomatophyllum Saundersii*, with long, narrow, channelled, light green, rose-toothed leaves. Mr.

Figure 3 – The first description of *B. chlorosticta* appears above in the J. of Hort. and Cott. Gard. n.s. Vol. 21:337 (11/2/1871), two days earlier than the report shown in Figure 2. Image from the Biodiversity Heritage Library. Digitized by New York Botanical Garden, LuEsther T Mertz Library. [www.biodiversitylibrary.org](http://www.biodiversitylibrary.org).

3. The final synonym noted by Smith referred to plate 106 of the 1871 Floral Magazine; however, the 1871 magazine neither mentioned *B. saundersii* nor had a plate 106! *B. saundersii* was in fact described in the 1874 Floral Magazine New Series, plate 106 (edited by Worthington B. Smith, not Rev. H. Honywood Dombrian). It stated that William Bull (one of the leading plant merchants in London) recently introduced *B. saundersii* from Bahia; it said it had dull green and purplish leaves with white blotches and described the inflorescence. The lovely illustration is shown in Figure 4. [Smith’s reference to 1871 is likely a typo – Smith (1956) cited it as ex Dombrian 1874 when he treated *B. saundersii* as the correct name. For the record, almost every other *B. saundersii* Floral Magazine citation has minor errors.]

Since both the 1871 and 1874 publications have descriptions, both *B. chlorosticta* and *B. saundersii* are “valid names” under the ICN. Because *B. chlorosticta* was published first, it is treated as the “correct name,” and *B. saundersii* is considered a later valid name for the same taxon and is treated as a synonym. So, Smith & Downs appears to have it right.

Interestingly, the first set of rules of nomenclature, published in 1867, stated that a name announced with no information as to its characters cannot be considered published; these rules apparently were not binding. However, Morren (1878) treated *B. saundersii* [sic] as the right name, citing the 1869 German publication of *Bilbergia saundersii* [sic] (without a description) as the earliest publication of the name. Later authors followed Morren, notwithstanding the fact the first binding ICBN (Paris, 1905) also required a description.

De Rebus Bromeliacearum I (1994)/Read and Philcox. The bromeliad world has generally followed this 1994 exhaustive update of name changes after the Smith and Downs monograph. It treated *B. saundersii* as the correct name, citing two 1985 articles. Read and Philcox (1985) stated the first valid publication of *B. saundersii* was an advertisement by Bull in *The Gardeners' Chronicle* on January 17, 1874, about 10 months before the publication cited by Smith. See Figure 6. They also designated plate 106 of the 1874 *Floral Magazine New Series* (Figure 4) as its neotype.

In a companion article, Read (1985) argued that *B. chlorosticta* was only incidentally mentioned when first reported in 1871 since it merely reported show results. In 1985, an incidentally mentioned name, defined as “mention by an author who does not intend to introduce the new name,” was not validly published. ICBN (Sydney 1981) Art. 34.1 and 34.3.

ICN. The problem is the International Botanical Congress didn't agree. The Congress almost unanimously rejected a proposal containing an example that *B. chlorosticta* was “published incidentally in a report of a Floral Committee (*Gard Chron.* 1871: 1421 (*sic*) 1871), accompanied with vague descriptions as plants for which certificates had been awarded to their nursery- gardeners. These names, which until recently have been ignored (see Read, *Taxon* 34: 341. 1985), were not validly published.” McNeill & Turland (2011: 219). However, the relevant committee disagreed with this position and stated the names were not incidentally published.



**Figure 4.** Illustration of *B. saundersii* hort. Bull shown in plate 106 of the 1874 publication of *Floral Magazine New Series*. Read & Philcox (1985) designated this plate as the neotype for *B. saundersii* W. Bull. Image from the Biodiversity Heritage Library. Digitized by New York Botanical Garden, LuEsther T. Mertz Library. [www.biodiversitylibrary.org](http://www.biodiversitylibrary.org).

Even if you think Read had the better arguments, the incidental mention rule was deleted in 1987, and ICN changes are generally retroactive. Accordingly, *B. chlorosticta* 1871 is a valid name and has priority over *B. saundersii*. Thus, Smith & Downs and the World Checklist gave priority to the correct name, but the complete citation looks different due to the newly found publications. At the end of this Part 1, the correct name is:

***Billbergia chlorosticta*** G.Johnson and R.Hogg, *J. Hort. Cottage Gard.* n.s. 21: 337. 1871.

*Billbergia [sic] saundersii* G.Johnson & J.Hogg, J. Hort. Cottage Gard. n.s. 15: 262. 1868.  
*Nomen nudum.*

*Billbergia saundersii* W.Bull, Gard. Chron. n.s. 1:78. 1874.

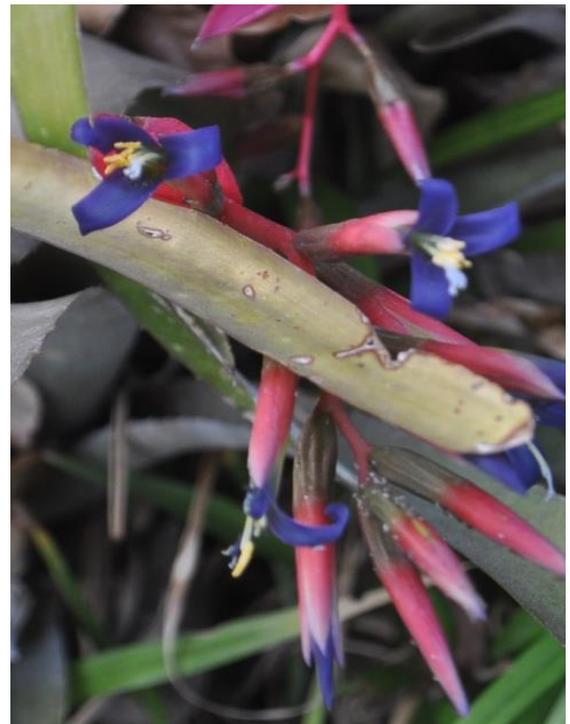
*Billbergia debilis* E.Pereira, Bradea 1: 279 (1972).

Some authorities treat *Billbergia fosteriana* L.B. Sm. as a synonym of *B. saundersii*, while others treat it as a different species. This is a taxonomic (as opposed to nomenclatural) issue as to which no opinion is expressed.

The author greatly appreciates the help and assistance provided by Derek Butcher, Eric Gouda and Rafaël Govaerts (Kew).

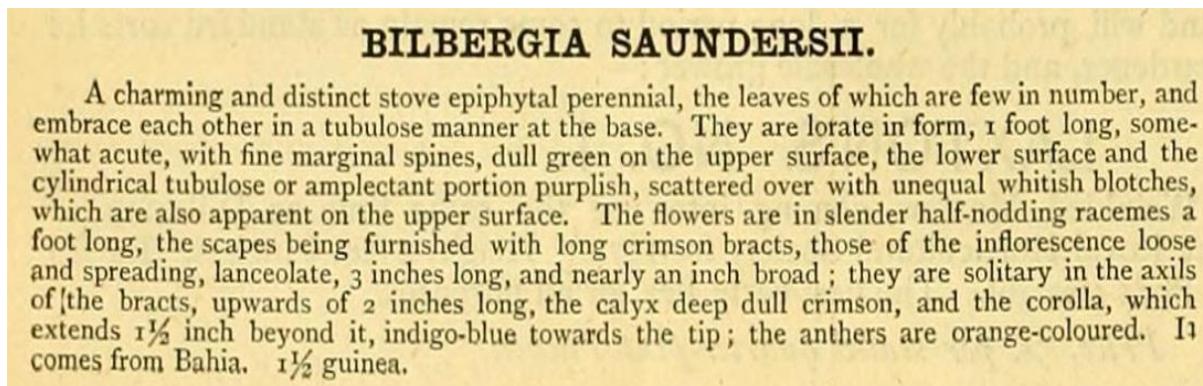
**Part 2: plants in cultivation:** This part relates to plants grown in cultivation with *B. chlorosticta* or *B. saundersii* labels. The petals of the author's plant labelled *B. chlorosticta* are green with blue margins, almost identical to those of *B. nutans* H. Wendland ex Regel. A Google search showed others with similar petals. According to an online 2008 online forum exchange in 2008, most cultivated plants labelled *B. chlorosticta* or *B. saundersii* in the U. S. are old hybrids with *B. nutans*. <http://mailman.science.uu.nl/pipermail/brom-1/2008-March/005124.html>.

**Fig 5.** Close ups of two flowers in the same clump of *B. saundersii* at HGB, blooming in March 2016. The one on the left seems to be hybrid with *B. nutans*. The one on the right has blue petals, but might be a hybrid as well.



**Part 3: are *B. chlorosticta* and *B. saundersii* conspecific?** All publications after 1877 treated *B. chlorosticta* and *B. saundersii* as conspecific, or don't mention *B. chlorosticta* (Mez, 1896). It would be sheer lunacy to seriously question synonymy, unless contradictory facts are known. So, this part didn't start out that way, but arose out of mild curiosity. First, Read (1985: 341) stated "there is still some question regarding taxonomic identification" of *B. chlorosticta*. Second, Smith said the type plant of *B. saundersii* was a clonotype of *B. chlorosticta*. It is easy to imagine that a single clone of a species circulating in Europe could end up with many names. But here both plants were owned by Green/Saunders. Given that, how could one clone start out as *B. saundersii* from Bahia in 1868, change to *B. chlorosticta* with green mottling from Brazil in 1871, and end up as *B. saundersii* with white blotches from Bahia in 1874? More generally, how does an author of a monograph with thousands of names determine which are synonyms? This seemed like a good case to try and find out.

Before continuing, the particular issues here couldn't arise for species named today. The ICN now requires that a new species have a type specimen indicated (using the word "type" or "holotype" when the name is published). This rule didn't exist in the 1870's, and there are no known illustrations or specimens of *B. chlorosticta* 1871 from the 1870's. In addition, the two names were synonymized very quickly, so that all later specimens with a *chlorosticta* name were made when it was thought the two were synonymous. For example, the Reflora Virtual Herbarium shows nineteen *B. chlorosticta* specimens, but the first was by Smith in 1967 and the rest are in 1979 or later after Smith had concluded it was the correct name.



**Figure 6** – excerpt from an advertisement by W. Bull in *The Gardeners' Chronicle* (1874), p78, containing the first description of *B. saundersii* Bull. Image from the Biodiversity Heritage Library. Digitized by U. of Massachusetts Amherst Library. [www.biodiversitylibrary.org](http://www.biodiversitylibrary.org).

Under the ICN, the starting point is to obtain the type specimen for *B. chlorosticta*. Smith said there are clonotypes at three herbariums, but they aren't available online. Without a specimen or illustration, it seemed the only alternative is a historical factual inquiry –was *B. chlorosticta* the same species as *B. saundersii*? This factual inquiry is generally irrelevant under the ICN, and in some cases the two approaches lead to different results. This article returns to the ICN approach later.

**Factual Approach.** Edouard Morren, a professor of botany who was working on a bromeliad monograph at the time of his death, appears to be the first to treat the two taxa as synonymous. *B. saundersii* “originates in Bahia, Brazil, and has been introduced in Europe around 1869 by Mr. William Saunders, whose gardener, Mr. Green, got the first flowering. It was first cultivated under the name of *Billbergia chlorosticta*. The species has been widespread in the horticultural trade by Mr. William Bull. [Internet translation].” Morren (1878, p.46). This publication had an illustration (see Fig. 10) that clearly shows the same species as that shown in Figure 3. The only question is the missing link – how did Morren know *B. saundersii* was first cultivated as *B. chlorosticta*? Unfortunately, the answer remains unknown. Perhaps there are notes of Morren or others which answer the question.

A second *B. chlorosticta* hort. In searching for a better *B. chlorosticta* description, a different *B. chlorosticta* showed up! *Neoregelia chlorosticta* (E. Morren) L. B. Smith was first described as *Nidularium chlorostictum* by Morren (1878). [Baker (1889) changed the name to *Karatas chlorosticta*. Smith made it *Neoregelia sarmentosa* var. *chlorosticta* in 1934, and renamed it *Neoregelia chlorosticta* in 1964.] Based on internet translations, it had just flowered for M. Massange de Louvrex, and “was cultivated before flowering, known as *Billbergia chlorosticta*. The plant is small in size, its leaves are red brown, dotted with green droplets.” Morren (1878, p.207-8). Call this *B. chlorosticta* 1878.

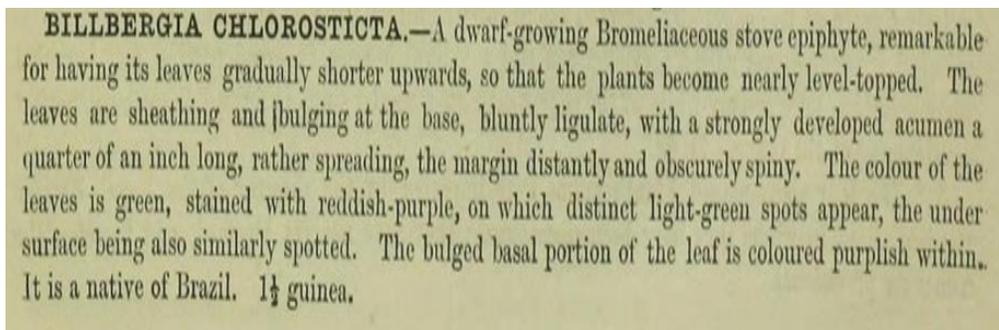


**Figure 7.** On left, labelled *N. chlorosticta* dark form. On right, labelled *B. chlorosticta*, though it may be a hybrid with *B. nutans* based on the flowers. Note it is impossible to tell if *N. chlorosticta* is in flower, since a *Neoregelia* inflorescence is very short.

We now know that within a few years after *B. chlorosticta* 1871 was cultivated in London, *B. chlorosticta* 1878 was cultivated in Belgium but it wasn't a *Billbergia*. In addition, the leaves of *B. chlorosticta* 1878 from Brazil "are red brown, dotted with green droplets" and *B. chlorosticta* 1871 from Brazil has "brown leaves mottled with green." In contrast, the leaves of *B. saundersii* from Bahia are green on the upper side and purplish on the lower side, both with white spots or blotches. Based on the descriptions alone, it sounds like *B. chlorosticta* 1871 might be a *Neoregelia*. However, Morren mentioned *B. chlorosticta* 1871 as a synonym of *B. saundersii* in the same 1878 publication that mentions *B. chlorosticta* 1878.

Advised that it was very unlikely that *B. chlorosticta* 1871 was a *Neoregelia* since Saunders was familiar with *Billbergia*, the author learned Saunders was a very serious student of both botany and entomology, and had even published books with Baker on South African plants. But some concerns lingered. Perhaps Saunders never saw an inflorescence of *B. chlorosticta* 1871? There isn't one mentioned, and in 1873-4, his business suffered a crisis and he disposed of his large collection of plants. Moreover, the genus *Neoregelia* wasn't given its name until 1934; in the 1870's they were known as *Nidularium* or *Billbergia*.

Yet another *B. chlorosticta*. If *B. chlorosticta* 1871 is a different clone than *B. saundersii* Bull, did Bull have that clone also? More research uncovered that Bull advertised *B. chlorosticta* for sale in 1875 (in addition to *B. saundersii*); this publication is not noted in any of the bromeliad literature. It was described as a dwarf plant from Brazil; its leaves get progressively shorter at the top and have light green spots. See Figure 8 below. Now things are really interesting – was *B. chlorosticta* 1875 a *Neoregelia* or a *Billbergia* (it sounds more like *N. chlorosticta*) and is it the same as *B. chlorosticta* 1871?



**BILLBERGIA CHLOROSTICTA.**—A dwarf-growing Bromeliaceous stove epiphyte, remarkable for having its leaves gradually shorter upwards, so that the plants become nearly level-topped. The leaves are sheathing and bulging at the base, bluntly ligulate, with a strongly developed acumen a quarter of an inch long, rather spreading, the margin distantly and obscurely spiny. The colour of the leaves is green, stained with reddish-purple, on which distinct light-green spots appear, the under surface being also similarly spotted. The bulged basal portion of the leaf is coloured purplish within. It is a native of Brazil. 1½ guinea.

**Figure 8** – Listing of *B. chlorosticta* in Bull's Retail List of Select Seeds and New Plants (1875), p.79. Image from the Biodiversity Heritage Library. Digitized by Cornell University Library. [www.biodiversitylibrary.org](http://www.biodiversitylibrary.org).

Another publication listed prizes at a Ghent show, including "twelve plants species or different varieties, imported and put into circulation by Mr. W. Bull, since 1873 -- Mr. Massange- Louvrex, at Liege: ... *Billbergia chlorosticta*." [Internet translation.] Les floralies de Gand en 1878. Recall that Morren (1878) stated *B. chlorosticta* 1878 (= *Neoregelia*) was owned by Mr. Massange- Louvrex. This confirms that *B. chlorosticta* 1875 offered by Bull was *N. chlorosticta*! Regal (1879, p. 283-4) also reports that *Nidularium chorostictum* was cultivated as *B. chlorosticta* in English and Belgium gardens, although it also notes *B. saundersii* was cultivated with that name.

Morren (1879) noted both taxa again with short descriptions. He repeated that *N. chlorosticta* had been grown as *B. chlorosticta* before flowering, but didn't mention this for *B. saundersii*. Given the short description, this omission is perhaps innocuous, but it also could mean Morren no longer thought *B. saundersii* was first cultivated as *B. chlorosticta*. There were many other publications before 1880 mentioning one of the names; all but one referenced an earlier publication. The other one had a report entitled greenhouse plant news included *B. chlorosticta*, with green foliage covered with purple and paler green spots on both sides. Rev. L'Hort. Belg. (1876, p35).

In the author's view, every piece of evidence indicates that *B. chlorosticta* 1871 is *N. chlorosticta*, except for Morren's comment that it is *B. saundersii*. Without finding the missing link for this comment, there are three alternatives, none of which are obviously correct. The first is *B. saundersii* and *B. chlorosticta* 1871 were the same clone. The second is that *B. chlorosticta* 1871 is conspecific with *B. saundersii* but not the same clone. The last is that *B. chlorosticta* 1871 is the same as *B. chlorosticta* 1875 and both are *Neoregelia*. The only clear point is that the answer is not 100% certain! Some may think the evidence makes it obvious Morren made an error, and others may think one has to rely on Morren.

**ICN Approach.** Every botanist would use the ICN approach, which is completely different than the factual inquiry above. In order to address whether two taxa are conspecific, the starting point is the type specimen. Many hobbyists are unaware of, or only vaguely familiar with, this concept. Under current rules the type must be an herbarium specimen designated when the species is first published. That specimen is forever linked with the name in order to preserve stability.

Smith & Downs (p. 1994) state the type of *B. chlorosticta* Saunders is "*Saunders Hortus s n* (clonotypes, MO, NY, US). Typified by the later equivalent *Billbergia saundersii* Bull Hortus." Under synonyms, it listed "*B. saundersii* Bull Hortus ... Type: *Saunders Hortus s n*, undoubtedly a clonotype of *B. chlorosticta* Saunders Hortus."

It isn't entirely clear if Smith meant the type is a plant that from Saunders' garden (and three herbariums have propagations) or three herbariums have specimens made from live plants. He presumably meant the latter, since live plants aren't currently allowed as a type and haven't been since the Montreal Code in 1960. The statement that *B. saundersii* is "undoubtedly" a clonotype of *B. chlorosticta* is likely based on Morren (1878) or a 1922 article (which presumably relies on Morren (1878)) that states *B. saundersii* W. Bull was first known in 1871 when plants were exhibited by Saunders. The illustration, which is clearly a *Billbergia*, was made from a plant at NYBG, "in which *Billbergia Saundersii* has been represented since 1902, when plants were brought here from Europe." Addisonia (p. 7).

The author requested information from all three herbariums and NYBG advised they had four cultivated *B. saundersii* specimens in the general herbarium. All four have a *Billbergia* inflorescence; none reference Saunders or have any notation by Smith. One was originally from Leiden seed, 1902 and originally *B. leopoldii*. The other three were labelled *B. saundersii* 16167 and said original from Berlin 1902; they were collected at different times (the last one in 1918 stated it was used for the colored illustration in Addisonia.). The NYBG log book

for 16167 simply listed *B. saundersii* as one of many plants from the Berlin Botanical Garden. Incredibly *saundersii* was crossed off with this annotation: – “Det. L.B. Smith Jan. 1949. *pyramidalis* x *saundersii*.” Presumably, Smith changed his mind when he stated NYBG had clonotypes in his monograph.

In any case, even without knowing what the other two herbariums have, it seems Smith didn’t validly pick a neotype because he either selected living material or more than one specimen collected at different times. The ICN requires that one specimen be selected as a neotype; three specimens from one plant collected at different times cannot be a type. This conclusion is consistent with the fact Read and Philcox (1985) designated plate 106 as the neotype for *B. saundersii* W.Bull.

Before proceeding, consider the result if Smith had validly designated one the NYBG specimens. Under the ICN, a neotype must be followed unless it seriously conflicts with the protologue, which in this case is the description of *B. chlorosticta* 1871 and other materials existing in 1871. Since it seems almost impossible to tell if the spots on a dried leaf are green or white, the NYBG specimen must be followed. Since the NYBG specimen shows a *Billbergia* inflorescence and is completely consistent with *B. saundersii*, *B. chlorosticta* is conspecific with *B. saundersii*, and the correct name would be *B. chlorosticta*.

The ICN approach is thus completely different than the Factual Approach; in fact, if there is a valid type, the Factual Approach is completely irrelevant. This appears true even if we later find notes or correspondence of Saunders that *B. chlorosticta* 1871 wasn’t really a *Billbergia*. Since that letter would not be part of the protologue, it would be irrelevant.

In this author’s view, the failure to allow a neotype to be changed in this situation is problematic. However, a proposal to allow a change in this situation was rejected; it appears that the botanists in charge of nomenclature care more about stability than correctness.

Selecting a neotype. A neotype now can be designated for *B. chlorosticta* 1871. ICN Recommendation 9B.1 states “particular care and critical knowledge should be exercised because the reviewer usually has no guide except personal judgment as to what best fits the protologue; if this selection proves to be faulty it may result in further change.” In the author’s view, this “particular care and critical knowledge” standard seems much like the Factual Approach. The Factual Approach may also be desirable if a type specimen does not readily permit one to determine which taxa it represents.

Note that this is just a recommendation. In fact, nothing precludes anyone from selecting any neotype, other than having to get the paper published. Based on the Factual Approach, any of these could be selected: (1) one of the specimens at NYBG; (2) a specimen from habitat, labelled *B. chlorosticta*, all of which seem to show *Billbergia* inflorescences, (3) plate 106, which is the neotype for *B. saundersii*, or (4) the type for *Neoregelia chlorosticta*. Since none of these seriously conflict with the description that the plant is brown-leaved with green spots, the selection of any as neotype would appear binding.

Before continuing, it is important to realize that this case differs from most selections of a neotype because the taxon is unclear. For example, while botanists might disagree, most hobbyists (including this author) probably think it doesn’t make all that much difference

whether the neotype for *B. saundersii* W. Bull (as opposed to *B. chlorosticta* 1871) is plate 106 or one of the NYBG specimens.

However, the selection for *B. chlorosticta* 1871 has huge significance. If plate 106 or a *B. saundersii* specimen is selected, *B. chlorosticta* 1871 is necessarily conspecific with that species, and the correct name is *B. chlorosticta*. Alternatively, if a *N. chlorosticta* specimen is selected, *B. chlorosticta* 1871 is not conspecific, and the correct name is *B. saundersii*. Interestingly, there is no way to keep the *B. saundersii* name (used for most (but not all) of its history) and also treat the two as conspecific. It is somewhat troubling that the ICN doesn't have more guidance in this type of situation, although perhaps this is a truly unique situation. The ICN does permit an application to reject or conserve a name, and the foregoing concerns led the author to consider if that might be the best approach.

Finally, consider the expectations of the original parties. Morren, who was the first to state they were conspecific, used *B. saundersii* as the correct name, based on the earlier 1869 publication noting that name. Saunders and Green also first called it *B. saundersii* in 1868. Even if the 1871 plant was in fact *B. saundersii* or even the same clone, it was nonetheless being offered for sale in 1874 as *B. saundersii*. Thus, at best, the name *B. chlorosticta* shows up for three years (and perhaps only one day!) before and after it was called *B. saundersii*. For the next century, the species plant was known as *B. saundersii*. What policy is served by selecting a neotype that makes the correct name *B. chlorosticta* where the actual taxon is unclear?

While favoring the selection of a *N. chlorosticta* specimen as the neotype, this may well be controversial in light of Morren's rather definitive statement that *B. saundersii* was first cultivated as *B. chlorosticta*. Some might argue that it is better to pick one of Smith's clonotypes as the neotype. There are alternatives: *B. chlorosticta* could be treated as a synonym of *N. chlorosticta* or *B. saundersii* (perhaps with doubt in either case), or the name could be treated as unsettled, or one could apply to reject the *B. chlorosticta* name.

While puzzling over which of these might best, the author for the first time realized Morren's statement that *B. saundersii* was first cultivated as *B. chlorosticta* appears to be wrong! The earliest publication known to Morren (and Smith & Downs) was the 1869 German report that simply mentioned *B. saundersii* and said nothing else could be said about it. But now we know that Saunders and Green had brought *B. saundersii* to an RHS show in 1868, just as *B. chlorosticta* 1871 was brought to a show in 1871. It was in fact first cultivated as *B. saundersii*. As a result, it seems quite unlikely that Morren corresponded with Saunders about this matter, or he would have realized this. It thus seems likely that Morren drew his conclusions from the earlier arguably similar descriptions of the plants and the fact both were owned by Saunders and Green. However, his comment that the plant first flowered for Green remains mysterious.

Given this development, it no longer seems desirable to defer to Morren. However, given the lack of a definitive answer, this author treats *B. chlorosticta* G. W. Johnson & R. Hogg as a synonym (with doubt) of *N. chlorosticta*. Part 3 was literally being rewritten to add this last point, when an email arrived ....

I would like to thank Rafaël Govaerts (Kew) for gently pointing out that a specimen needed to be found or designated, and Amy Weiss, Steven Sinon and their colleagues (NYBG) for providing specimens and accession listings

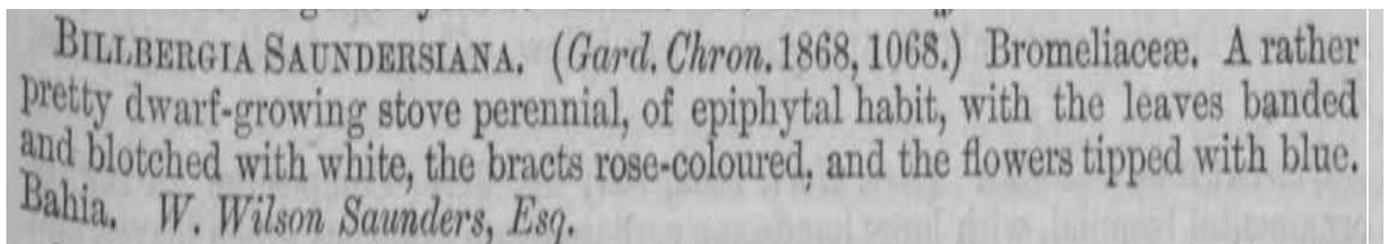
Part 4: Back to the very beginning! Morren (1878) noted 'The Gardeners' Year-Book (1872: 79) cited *B. chlorosticta* 1871. While this publication isn't online, Kew Library has them. The author inquired if they might be able to provide the relevant page, and almost as an after-thought, if they could check if *B. saundersii* (or some similar name) showed up in the years 1868-70.

The aforementioned email arrived, and said *B. saundersii* was mentioned in the 1869 Year-Book. This wasn't a surprise, since other 1868 publications noted it. However, the Year-Book had a description: it is a "rather pretty dwarf-growing stove perennial, of epiphytal habit, with leaves banded and blotched with white, the bracts rose-coloured, and the flowers tipped with blue. Bahia. W. Wilson Saunders, Esq." 'The Gardeners' Year-Book (1869: 75). This is a valid publication! It doesn't matter what *B. chlorosticta* 1871 is. Even if they are conspecific, *B. saundersii* now has priority over *B. chlorosticta*, and is the correct name.

This is great news in almost all respects – the matter is resolved, and the bromeliad world can continue to use *B. saundersii*, although a new author citation is needed. In contrast, the World Checklist needed to change the name as do other plant authorities. On a personal level, however, this author confesses to a bit of disappointment since this article lost some of its excitement. While here are lots of twists and turns and citation changes, as far as most readers are concerned, the name was *B. saundersii* and it still is.

I thank Craig Brough (Kew) for providing the descriptions noted above.

Part 5: the last surprise? There is a tiny bit (ok, maybe more than that) of artistic liberty in Part 4. Kew's email actually said the 1869 Year-Book had an entry for "*B. saundersiana*." That is the spelling used in the Year-Book. See Figure 9 below.



**Figure 9.** Excerpt from 'The Gardeners' Year-Book (1869: 75), graciously provided by Kew Library. © Royal Botanic Gardens, Kew. The reference to Gard. Chron. 1868 is one of the nomen nudem publications of *B. saundersii*.

After all the errors regarding the Floral Magazine publication, it seemed fitting to finish with a misspelling. However, this error was curious, since Robert Hogg wrote the Year-Book and was also a co-editor of one of 1868 publications that noted a new *B. saundersii* without a description.

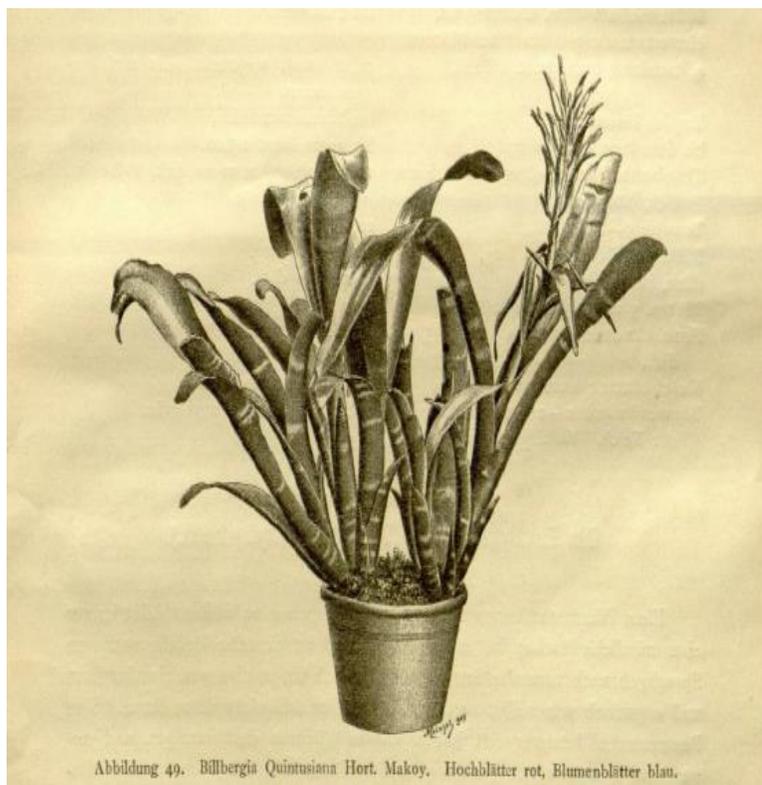
The ICN says the spelling used when the name was validly published (which is *B. saundersiana*, since the earlier 1868 publications are still invalid) is to be retained, unless there is an exception. There are exceptions for typographical errors and for plant names with the wrong Latin suffix (there are ICN rules about what suffix to use when naming a plant for a person.)

However, *B. saundersii* and *B. saundersiana* are both acceptable names! Hogg was free to use either name, and there is no exception to allow it to be corrected since it isn't a mistake. So, unbelievably, everyone (other than Hogg) has had the name wrong—the correct name is now *Billbergia saundersiana*. That is not a typographical error! The World Checklist and some bromeliad authorities have already corrected the name.

For those interested in the details, *saundersii* is a “substantival epithet,” *saundersiana* is an “adjectival epithet” and neither of these terms is defined under the ICN. Apparently, there is a tendency to use a substantival epithet if the name honors someone not involved with the plant, and an adjectival epithet if it honors someone who had some involvement. If this is right, “*saundersiana*” is the better name since Saunders presumably imported the plant. (Interestingly, the non-binding 1867 rules recommended that a plant not be named after a person not involved with the plant.) But none of this really matters since Hogg is permitted to decide which to use, and it can't be corrected without applying to the ICN authorities.

Part 6: Before publishing the article, it was essential to see if more had been published about *B. saundersiana*. Based on many lengthy internet searches, the name was found in four publications. The first ended up being the hopefully last huge surprise. Nicholson (1900) says *B. saundersiana* (without a citation to an author or publication) is the same as *B. quintutiana* (as described in Gartenflora (1890)).

While Baker (1889) listed *B. quintutiana* as a synonym of *B. saundersii*, Wittmack (Gartenflora 1890: 7, pl. 1316; 216, fig. 49) described *B. quintusiana/quintutiana* and stated *B. saundersii* is a different taxon altogether which it also discussed at the same time. See Fig. 10 and 11 for illustrations in Gartenflora. *B. quintusiana/quintutiana* are now considered synonyms of *B. macrocalyx* Hooker (see Fig. 10), a species with spotted and banded leaves and blue-tipped petals, just as Hogg had described *B. saundersiana*. *B. macrocalyx* had been described in 1859 and was sent to England, so it is quite possible Saunders had an unlabeled one or a different clone.



**Fig. 10.** On left, illustration of *Billbergia macrocalyx*, as *B. quintusiana* (Gartenflora, 1890). Image from the Biodiversity Heritage Library. Digitized by Missouri Botanical Garden (Peter Raven Library). On right, first illustration of *Billbergia macrocalyx*. Bot. Mag. 85: pI. 5114. 1859. Note the black and white leaf on the left shows banding.

Nicholson (1887) had treated *B. chlorosticta* as a synonym of *B. saundersii*; the 1900 publication is a supplement and didn't mention either, making it reasonably clear Nicholson, who was the curator of Kew Gardens, considered *B. saundersiana* as a different taxa. Hogg's 1875 Gardeners' Year-Book also lists *B. saundersii* Bull as a new plant of 1874 without mentioning *B. saundersiana*; this suggests Hogg thought they were different.. [On the other hand, Hogg may simply mention all new names (for example, he noted both *B. chlorosticta* 1871 and *B. chlorosticta* 1875), but in this case it seems clear he saw the 1868 *B. saundersiana* specimen, and there was a picture of the 1874 *B. saundersii* specimen.] Finally, while some clones of *B. saundersii* Bull apparently have banded leaves, the three illustrations of it from 1874 – 1890 (See Fig. 4 and 11) show no bands; it thus seems unlikely there was a banded *B. saundersii* clone in Europe at that time.



**Fig 11.** Illustrations of *Billbergia saundersiana* in *La Belgique Horticole* (Morren, 1878) and (*Gartenflora* 1890: 7, pl. 1316). Images from the Biodiversity Heritage Library. Digitized by Harvard University Botanical Library and Missouri Botanical Garden (Peter Raven Library), respectively. Note that neither shows any banding whatsoever on the leaves.

The index of second publication (Linsbauer (1927)) lists *B. saundersiana* in the index (p190, referencing p 102) and as a synonym of *B. saundersii* on page 198; page 102 isn't online. However, p. 102 is available in the Linsbauer (1929) and it makes passing reference to *B. saundersiana* with dull blue flowers without mentioning *B. saundersii*. We have no idea how they decided this, or if they knew about Nicholson's referral.

Friedman (1981) has a picture of *B. saundersiana* in an article on leaf pigmentation, but it isn't a very clear picture, and it is completely unclear how they came up with this name.

As stated before in connection with *B. chlorosticta*, it seems best to defer to contemporaneous experts unless the other facts seriously conflict with their position. In this case the facts (that is banding vs. no banding) don't seriously conflict with Nicholson's or Hogg's positions. Thus, it seems *B. saundersiana* is more likely a synonym of *B. macrocalyx*.

Recall the initial inquiry - how could one clone start out as *B. saundersii* from Bahia in 1868, change to *B. chlorosticta* with green mottling from Brazil in 1871, and end up as *B. saundersii* with white blotches from Bahia in 1874? One possible answer is that all three are different species, and Morren somehow assumed they were the same. But this is not certain – Morren could be right. Without finding records or letters from Morren, Bull, Saunders or someone else, the mystery may never be completely solved.

This author then had lengthy email discussions with two botanists about these matters. Both felt it unlikely that *B. saundersiana* was *B. macrocalyx*. They pointed out that Nicholson's referral was 32 years after the publication, and did not cite the publication or author. One thought it unlikely that there are two plants known as *saundersii*/*saundersiana* and the other as *saundersii* in England in a six year period. Finally, it they argued that banding might be the result of cultivated conditions.

What caused Nicholson to mention *B. saundersiana* 32 years after the name was published? One possibility is that he learned of the earlier 1868 publication after his own 1887 publication, which seems rather unlikely. In addition, if this is true, why wouldn't he refer to the earlier name by mentioning Hogg, its author? Thus, it seems more likely that he saw a cultivated plant labelled *B. saundersiana* and realized it was *B. quintutiana*. It is of course possible that this clone was different than *B. saundersiana* Hogg, but this seems unlikely given there are no other references to the name.

This author still thinks it is slightly more likely that *B. saundersiana* is *B. macrocalyx*. However, the strong views of the other botanists led to a conclusion that that *B. saundersiana* should be treated as a name of uncertain application. The other two botanists still felt that *B. saundersiana* was *B. saundersii*. We basically agreed to disagree! Based on more discussions with another ICN authority, it seemed preferable not to designate a neotype in this situation.

Before concluding, it is worth noting the various possibilities that exist by designating a neotype (or not):

|   | <i>B. saundersiana</i>                          | <i>B. chlorosticta</i><br>1871                  | <i>B. saundersii</i>                 | <i>B. chlorosticta</i> 1875 =<br><i>N. chlorosticta</i> |
|---|---|---|--------------------------------------|---|
| 1 | <u>Correct name</u> for<br><i>B. saundersii</i> | Synonym of<br><i>B. saundersiana</i>            | Synonym of<br><i>B. saundersiana</i> | Valid illegitimate name                                 |
| 2 | <u>Correct name</u> for<br><i>B. saundersii</i> | Basionym –<br><i>N. chlorosticta</i> .          | Synonym of<br><i>B. saundersiana</i> | Isonym without<br>status under ICN                      |
| 3 | Synonym –<br><i>B. macrocalyx</i>               | <u>Correct name</u> for<br><i>B. saundersii</i> | Synonym of<br><i>B. chlorosticta</i> | Valid illegitimate name                                 |
| 4 | Synonym –<br><i>B. macrocalyx</i>               | Basionym –<br><i>N. chlorosticta</i>            | <u>Correct name</u>                  | Isonym without<br>status under ICN                      |
| 5 | unsettled                                       | unsettled                                       | <u>Correct name</u>                  | Status not known?                                       |

Part 7: Correct citations and selection of neotypes. While the author believes the better analysis is that *B. chlorosticta* 1871 is *N. chlorosticta* and *B. saundersiana* is of uncertain application, neither conclusion is certain, and it is preferable to refrain from picking a neotype. If more information is ever discovered, neotypes can be selected. Notes or correspondence of Hogg, Morren or Nicholson etc. may resolve these issues. In addition it would be almost impossible to change a taxonomically incorrect neotype since the protologue is so brief.

As a result, the correct name for the *Billbergia* shown in Figure 4 and known as *B. saundersii* and/or *B. chlorosticta* for the last 150 years is:

*Billbergia saundersii* W.Bull, Gard. Chron. n.s. 1:78. 1874. Neotype: Plate 106 Floral Magazine n.s. 1874.

The neotype was previously designated by Read & Philcox (1985)

Correct citation and Type for *Neoregelia chlorosticta*. If a plant name is based on an earlier described taxon, the earlier name is the basionym. In this case, Smith correctly treated the basionym as *Karatas chlorosticta* Baker (1889) based on the information then available; the World Checklist later treated it to be *Nidularium chlorostictum* E. Morren (1878) when more information was uncovered.

Smith & Downs (p.1561) lists the type of *N. chlorosticta* as “Morren icon and Kew Hortus s n (holotype, K), cultivated from Brazil.” Smith seems to have followed Baker (1889, p.7) who stated *Karatas chlorosticta* was “described from Prof Morren’s drawing, made in 1884, and a living plant at Kew, which has not flowered.” Accordingly, the Morren icon is the best candidate for the neotype of *B. chlorosticta* Bull.

**Figure 10. Drawing of *Nidularium chlorostictum*** by Prof. E. Morren. Reproduced with the kind permission of the Director and the Board of Trustees, Royal Botanic Gardens, Kew. This is the type specimen of *Neoregelia chlorosticta*. Roughly half of the many drawings of Prof. Morren were donated to Kew by his widow shortly after his death.



***Neoregelia chlorosticta*** (E.Morren) L.B.Sm. *Phytologia* 15: 187 (1967).  
Basionym: *Nidularium chlorostictum* E.Morren, *Ann. Bot. Hort.* 28: 207  
(1878). Neotype: Icon, *Nidularium chlorostictum* E.Morren (K).

[Designated here.]

?*Billbergia chlorosticta* G.W.Johnson & R.Hogg, *J. Hort. Cottage Gard.*  
46: 337 (1871). [Synonym with doubt.]

*Billbergia chlorosticta* W. Bull. *Bull's Ret. List* 1875: 79 (1875). Neotype:  
Icon, *Nidularium chlorostictum* E.Morren (K). [Designated here.] This  
name is either an illegitimate (but valid) name or an isonym (that is, a  
name without status under the ICN since it is identical to *B.*

*chlorosticta* G.W.Johnson & R.Hogg), depending upon whether *B.*  
*chlorosticta* G.W.Johnson & R.Hogg is a *Billbergia* or *Neoregelia*,  
respectively.

*Karatas chlorosticta* Baker, *Handb. Bromel.*: 7 (1889).  
(Other synonyms are not mentioned.)

#### Uncertain names.

*Billbergia saundersiana* R. Hogg, *Gard. Year-Book.* 10: 75. 1869.

*Bilbergia [sic] saundersii* G.Johnson & R.Hogg, *J. Hort. Cottage Gard.* n.s. 15: 262. 1868.  
*Nomen nudum.*

Finally, the author would like to point out that the publications found here may be of use in other nomenclature matters. It appears that many plants shown at RHS meetings were reported in three different publications – the *Gardeners' Chronicle*, *The Gardener Magazine* and *Journal of Horticulture*, and each may report the matter slightly differently. Moreover, these names are then reported in the *Gardener's Year-Book*, with a description, which is not yet available online for years before 1874. Thus, many names previously thought to be *nomen nudum* may have a description and/or a different author citation than currently accepted.

I would like to thank Eric Gouda and Rafaël Govaerts (Kew) for all their assistance. Any errors, however, are all mine. I would also like to thank to my wife, Ana, for listening and helping with this article.

## OTHER ICN ISSUES.

### What is Basionym/replaced synonym of *N. chlorosticta*?

Is *B. chlorosticta* 1875 the basionym? Following is a very technical issue arising out of the discovery of newly found potential basionyms, and a rather unique old citation. In describing *Neoregelia chlorosticta*, Smith gives a complete reference to Baker (1889) who in turn describes “K. CHLOROSTICTA Baker. *Nidularium chlorostictum* E. Morren (M.D.). *Billbergia chlorosticta* Hort.” M.D. is a reference to Morren’s unpublished drawings acquired by Kew a few years earlier after Morren’s death. Baker described other species (like *K. leucophoea*) in an identical fashion; in all such cases, there is no published earlier Morren description and Baker’s *Karatas* species is treated as the basionym. In contrast, in other cases, like *K. ampullacea*, there is an earlier valid Morren publication, and Baker lists both the earlier publication and M.D.; in those cases, Morren’s *Nidularium* species is correctly treated as the basionym.

The problem here arises because Morren did in fact validly publish *N. chlorostictum* in Morren (1878), but as evidenced by Baker’s citation, Baker did not know about it.

This raises many technical questions. 1. Is the mention of *Billbergia chlorosticta* hort a reference to the basionym under ICN Art. 41.1? The name appears but the publication. 2. If it isn’t a reference, is Baker’s reference to E. Morren (M.D.) is an indirect reference under Art. 41.3? In this author’s view, it is simply a reference to the unpublished drawing (since that is how he cited similar species). 3. Does Art 41.4 (which says if there is no reference there is a basionym if it is the author’s presumed intent) apply? In this author’s view, if there isn’t a reference under Art. 41.1, then Art 41.4 necessarily applies.

If *B. chlorosticta* 1871 had never been published, then the basionym would become thus be *B. chlorosticta* 1875. However, the former is a valid name, even if it is a synonym with doubt. If the two are both *Neoregelia chlorosticta*, *B. chlorosticta* 1875 is an isonym without status under the ICN. If *B. chlorosticta* 1871 is a *Billbergia*, then *B. chlorosticta* 1875 is a valid illegitimate name under the ICN (and as such cannot be a basionym), although it seems to be a replaced synonym with *Nidularium chlorosticum* as the replacement name.

### What is correct author citation?

This part notes issues when a name is published in a newspaper article, without an obvious author, and the prior author isn’t clear either. For example, the author citation for the *B. chlorosticta* Gard. Chron. 1871: 1425 (1871) publication varied considerably in different sources:

- Saunders ex W.Marshall (Marshall was chair of the Floral Committee),
- hort. Saunders ex Mast. “According to GBIF remarks, authorship verified from original literature\; according to TL-2, M. T. Masters was the editor of Gardener's Chronicle from 1865-1907, so authorship of this name is attributed to him under Melbourne ICN.”

--- hort. ex Floral Committee Report.

--- Saunders Hortus.

Since it turns out there are two other publications with somewhat different wording, it seems best to treat each as written by a different reporter, who is unknown, thus requiring the editors of the entire publication to be cited.

We don't know the original authors of the name. One could argue it is Green, since he brought the plant in, or Green and Saunders. It is hort., but how one can cite that – a garden may well be the source, but it can't be an author.

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