

BROMELIANA

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HOW I MANAGED TO FIT MY PLANTS IN ONE ROOM

by Herb Plever

After Sylvia died in January I knew I needed to vacate our huge 3 bedroom apartment and be close to my daughter Terry who lives on the north fork in eastern Long Island. We managed to find a beautiful (and expensive) 700 sq. ft one-bedroom apartment in an Independent Living facility in South Setauket, only a 25 minute drive from where she lives.

I moved there in late February, and now I have both the comfort and able assistance of Terry and her husband Paul, who is an engineer and senior scientist at Brookhaven Laboratory. Paul has made time in his busy schedule to be available to help me. This became urgently necessary when I developed a tear to one or more tendons of my left rotator cuff, so I couldn't do the work I normally handle myself.

The large living room has no windows, but it has a wall to wall glassed in terrace which I can use as a work space to pot up and mount plants when the weather gets warmer (I live in hope).

The large bedroom has a double window facing WSW, and another window that faces WNW. They've been getting sunlight in the late afternoon, but this will steadily improve as we get into Spring. I



bought three large window boxes for those windows. As I reported in the April issue, I also bought a two-tier plant stand lighted by LED lights that put out 1240 lumens and have a color temperature of 6500° Kelvin. It came unassembled, but Paul managed the complicated job of putting that unit together without a problem.

On the back of each tray I have hung a Tillandsia log. I'm happy to report that the potted plants and tillandsias have been growing very well in that setup. I also bought a small but very effective humidifier that is so silent you can't hear it operating.

Paul bought wood boards (coated white like the woodwork in the room) 3½" wider than the sills which he screwed onto the three sills. Then he had 2½" window-wide valences cut and screwed them onto the widened sills, elevated ½ inch above the sill level to provide a lip that prevents the window boxes from sliding over the new sill.

The three window sills now hold the rest of the potted plants I brought with me; these broms are also growing well in their new setup. Many of them such as *Aechmea* 'Blue Tango' and *Hohenbergia correiaaraujoii* will need to be repotted to larger pots.

NEXT MEETING - Tuesday, May 1st, 2018 **promptly** at 7:00 pm at the Ripley-Grier Studios, 520 - 8th Avenue (betw. 36th & 37th Ave) **Room 16M**.

HOW TO ESTABLISH YOUR NEW PLANTS - Demonstrations of how to pot up a tissue culture, and how to grow Tillandsias without glueing them and where to place them. Please bring in plants for sale and for Show and Tell.

Reminder: you must pick up the plants you ordered.

I potted up a very large pup of *Guzmania* 'Orangeade' on April 4, 2017 and placed it high up in the back of my plant unit that faces south. It is a very fast grower and it surprised me with an inflorescence coming up in December. The bloom got larger as shown by the photo below taken in the beginning of March.



Guzmania 'Orangeade' in March G. 'Orangeade' April 19th

5 weeks later the inflorescence has two more tiers of bracts and it continues to grow taller and add more tiers of bracts orange bracts. I estimate it will not reach full height until July, and it will keep its bright orange color for at least another six months. Since it has been showing bract color since January, you can see that this is a great cultivar. (Like other great crosses, it is no longer available from the nurseries.)

So far, so good - but what to do with my tillandsia logs? We came up with the idea of mounting LED tubes on the undersides of the overhang of the new, enlarged window sills. I wanted to buy the same tubes as the ones that came with the light stand, but these were expensive (\$30+) - and they were not designed to fit together; there is a metal end that prevents the male and female ends from touching. I needed five 2ft. tubes that would connect to each other - three for the double window and two tubes for the side window, so we would have find and buy connectors that would fit those tubes.

An exhaustive search on the internet (you can't be lazy about doing this) paid off; we found an offer of a pack of six 2 ft. tubes with a color temperature of 6500° Kelvin that put out 1100 lumens of light at a price that was less than one-third of the other tubes. The other advantage to these tubes was that the male and female ends could engage without needing a connector!

A picture wire was strung across the undersides of the extended sills, and the logs are now hung on it to be lighted by the LEDs. This is a work in progress - I still have 30-40 loose tillandsias I want to mount on the logs, and I still have three more small logs that will be hung after I get to mount the tillandsias on them.

I use E6000 industrial glue which puts off strong, toxic fumes, so it has to be used where there is adequate ventilation. My glass-in terrace is an ideal place to do this work, but if I open some of the terrace windows for ventilation it would be much too cold and windy to work there during this perpetual cold weather. One of these days it may warm up enough to do the job.

In the meantime the loose tillies are being watered with the logs by running the shower on them in my stall shower for 15-20 minutes every 7-9 days. (I don't have a bathtub that could be filled to soak them.)

I've been so busy unpacking and settling in to my new place, I haven't had time to pot up three large pups I took off when I moved. And I still haven't split those four-in-a-pot 12 tissue cultures I've wanted to pot up individually. Fortunately they are all growing well, and they're getting too large to be growing four-in-one-pot. That is another chore I'm planning to do on the terrace when it gets warmer.

When I see how well my broms are doing despite getting very limited water during the 8 months I was caring for my wife, I can appreciate how adaptable and tough they are. They were just semi-hibernating and now they are growing rejuvenated.



Bromeliads on and under single window sill.

DILEMMAS IN IDENTIFICATION

by Herb Plever

(When Lyman Smith's Monograph on the *Bromeliaceae* was published 38 years ago, it created both interest and frustration on the part of growers who tried to use the new identification keys. I reprint here an article raising these and other species identification issues that appeared in the May, 1980 BROMELIANA. They are still pertinent even in our era of DNA based taxonomy. Note that at the end of the article I raised the issue of the mislabeling and selling unregistered hybrids entered in competitive shows. Derek Butcher and I have been waging a lonely battle on this issue for many years up to today. The article was prompted by my negative reaction to a series of articles by W.W. G. Moir in the BSI Journal.)

After decades of ceaseless work, Dr. L. B. Smith has now completed his monograph on the *Bromeliaceae*. We are all deeply indebted to him for this remarkable, monumental work.

And in the past few years, more and more people have become interested in identification and have started to study and use Dr. Smith's keys. To be sure they constitute but a tiny fraction of our international membership, but there is an evident potential for greater involvement by a larger section of our membership.

Many people who have attempted to key out a plant have been singularly unsuccessful, have become frustrated and have given up hope of ever mastering the use of the keys. They all have the capability, but lack educational materials, techniques and basic understanding of what the keys are.

We have failed to develop and make available such materials and instruction. The Monograph costs about \$150 to purchase all 3 volumes, a sum an amateur beginner is hardly likely to invest. I believe that a book with only keys and without the voluminous descriptions of the species would still be valuable to the general membership. Such a book would not be too costly to publish. It should be ascertained if there is sufficient interest in such a book to warrant BSI undertaking the project.

It was the total lack of educational material on taxonomy that prompted this dilettante to dare to write on identification in these pages and to share my "discoveries" at the risk of exposing my ignorance.

But the problem of successful identification lies not only with education and technique. First of all, the darn plants are so variable they just don't neatly fit the artificial framework of the keys. You need an open mind and a lot of ART. (Readers unfamiliar with the couplet structure of the keys are referred to the the May, 1979 Bromeliana.

Additionally, there are number of areas in the keys that will have to be reworked to accommodate the new data on variability within species populations acquired from studies by researchers like Sue Gardner. This seems particularly true of related *Tillandsias* like *utriculata/karwinskyana*, *nubis/dyeriana* or of the diverse plants with glabrous and lepidote leaves and with sessile to scapose inflorescences which all key out to *T. brachycaulos* (just to mention but a few of the many areas).

Secondly, Dr. Smith and his illustrious predecessors have devised the keys after studying only dried or pressed plants so the characters which are used to distinguish the different species may not be valid for live plants. But most if not all amateur collectors or growers ant and need to identify live bromels. Thus there is need for collateral keys based in whole or part on live characters and which can be used in conjunction with Dr. Smith's keys. This is work to which all amateur would-be taxonomists can contribute.

The new interest in identification seems to have sparked some controversy on "bastard" hybrids, and perhaps it motivated the writing of some questionable theses by W.W.G. Moir in articles in the Bromeliad Journal.

W.W.G. Moir is one of our most distinguished horticulturists. Based on 70 years of observation in his garden and the jungle, he has written 5 articles for the Bromeliad Journal (Vol. 28, Nos. 1, 4 & 6; Vol. 29, Nos. 3 & 6) in which he theorizes that environment exerts a dominant influence in producing rapid evolutionary changes in the form of "mutants" and "variants".

I am open to the idea of big leaps in evolution but I find trouble with the characteristics he chooses to denote such alleged changes. Unfortunately, his eccentric definition of the terms is at variance with

standard botany: "...mutants are asexually reproduced while in my terminology variants are from seed." (Mr. Moir's mutant is what would be botanically defined a sport.) He does not cite any specific proof of genetic change from seed and almost all of his examples of asexual mutants deal with leaf variegation. (*It should be noted that this was written long before changes could be shown to have been influenced by environmental epigenetic changes to the enzymes and hormones that carry out the genetic codes. Ed.*)

Having waited in vain for a response from our professional scientists, I presume to make the following comment on the articles, at least as they pertain to bromeliad identification.

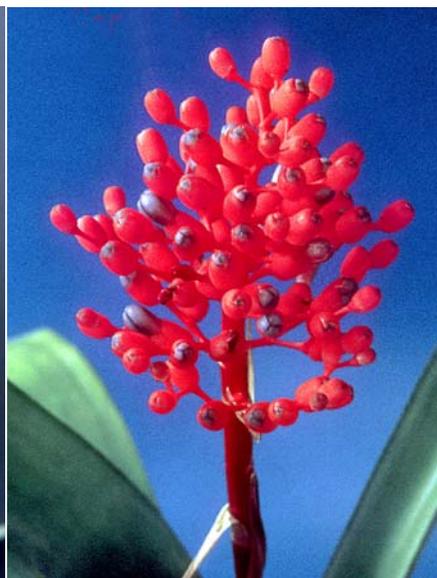
1. In emphasizing the high adaptability of bromeliads to environmental change and to their great variability within species populations in nature, Mr. Moir has rendered an invaluable service. Also important is his plea for taxonomists to study populations in nature - while we still have some.

2. Mr. Moir subjectively attempts to show that *Aechmea chantinii*, *A. zebrina* and *A. tessmannii* are one and the same species. He also includes "*A. amazonica*" and "Pink Goddess - Dark Goddess *chantinii*", but these are merely clones of *chantinii*" (today we'd call them cultivars - Ed.), they have never been designated as species. He does the same with *A. miniata* and *A. fulgens*. Lumping these similar species or revising their keys could be readily rationalized if a study show that their taxonomic characters gradated across the species.

Mr. Moir's approach, however, can seriously mislead the uninformed reader. It is meaningless to discuss as he does *Aechmea chantinii*, *A. zebrina* and *A. tessmannii*, or *A. miniata* and *A. fulgens* outside the context of the bromeliad keys. To avoid chaos we must have some authoritative source to define the species.



A. fulgens inflorescence



Aechmea miniata inflorescence

Mr. Moir give no sign that he is familiar with the keys, for he never mentions them and they play no part in his analysis. He seems to believe that *A. chantinii* was separated from *A. zebrina* because the latter is "twice as big as the type form with narrower leaves and without distinct bars on the upper surface and more distinct bars on the lower (side of) leaf"; that *A. tessmannii* is only a concolorous form of the the other plants; that *A. fulgens*' "glaucous covering and color of the undersides of its leaves" are why it has been separated from *A. miniata*.

But in the *Aechmea* key, *A. chantinii*'s exerted sepals distinguish it from *A. zebrina* or *A.*

tessmannii which have included sepals. Also: *chantinii*'s floral bracts are strongly nerved and lepidote; *zebrina*'s are even and only obscurely punctulate-lepidote; *tessmannii*'s floral bracts are even and lustrous. Also: *chantinii*'s primary bracts shorten abruptly toward the apex while *tessmannii*'s diminish evenly; *tessmannii*'s rhachis is flattened but *chantinii*'s and *zebrina*'s excavated.

And these aren't the only distinguishing characters between the three plants.

Moreover, *miniata*'s leaves are also glaucous and like *fulgens* it also has a discolor variety. They are distinguished in the key by the fact that *miniata*'s inflorescence is wholly bipinnate whereas *fulgens*' is bipinnate only at the base and simple from the middle to the apex. (See photos above.)

If by changing micro-climates Mr. Moir can cause an *A. chantinii* with exerted sepals to produce offsprings with inserted sepals, or an *A. miniata* to produce offsprings with partially simple inflorescences, we would have some objective basis to lump the plants as he proposes. Likewise, if it could be shown that there are variants in *chantinii* or *miniata* populations with characters like the other plants, a revision of the keys would be in order. Until

then we must continue to rely on the present keys; and before we call for changes, we should first study and understand the keys.

Nat DeLeon's article in the 3rd issue of *GRANDE* criticized nurseries for improper names in catalogs, mislabeling and selling unregistered hybrids without revealing the names of the parents. He proposed excommunication of so-called bastard hybrids by barring them from entry in competitive shows. (*Florida affiliates and judges please take note. Ed.*) Bert T. Foster sharply attacked this proposal in a letter that seems to have circulated around the world in which he defended the right of hybridizers to sell crosses without revealing (or knowing) the names of the parents.

Mr. DeLeon properly contends that more attention needs to be focused on correct identification - that buyers are entitled to correctly labeled plants. He further asserts that purchasers are entitled to know the parents of hybrid crosses, because identical crosses are being sold under different hybrid names. It is for this reason he has urged more rigorous attention to hybrid registration, a clearly praiseworthy goal.

But the proposal may not contribute much toward achieving this goal, and its implementation could create division and animosity at a time when we need to strengthen fraternal bonds between all members. Growers of many old time bastard hybrids (like Hummel's) will feel unjustly punished by the proposal, especially since one can find at least 20 to 30 incorrectly labeled plants at each competitive show with no points taken off for improper identification. We must candidly admit that most show judges are not yet equipped to challenge an identification label.

We should also consider the question from the commercial seller's point of view. Creating and growing hybrids requires a considerable investment of time and money. If he finally makes a successful cross, it's hard to expect the hybridist to reveal the pedigree to competitors by registering the cross at least until he's gotten a substantial lead in the market. In the final analysis, it will be the educated buyer insisting on purchasing only registered hybrids who will change the practice.

EDITOR'S NOTE: In reading this article again I realize that the issue of the use of formula names on

labels was not raised nor considered. Perhaps it was not a problem in the 1980s. As I reflect on what I wrote in this article in the context of the many hundreds of plants that are entered in competitive shows with only formula names, or with unregistered names that the label does not reveal they are unregistered, I realize I was much too considerate of the nurserymen's commercial concerns. I can see now that Nat DeLeon's more rigorous approach to bar entry of plants that are not registered was wholly correct.

Hybridists can be expected to act in their commercial interests, but correct identification and correctly labeled and registered show plants should be the primary concern of the judges for a competitive show. That goal overrides all commercial influence. I tried to lower that bar in my push for fraternal bonds and unity, and now we have hundreds of mislabeled, unregistered plants entered in shows, or shown in affiliate newsletters (a few even in the Journal), and not much unity nor support for BSI from affiliate members. Like Nat, I would bar unregistered entries.

BSI has lost many members in recent years, and our World Bromeliad Conferences are poorly attended in comparison with earlier years. Travel and hotel costs are quite high, and the expense of running a show in a decent hotel raises the registration cost - all of which inhibits attendance at a time when there are economic pressures just to meet living costs. Nonetheless, I urge all readers to consider attending the World Conference in San Diego, May 29th - June 3rd - even at this late date. Get the info on line at www.bsi.org.

At a WBC you get to meet bromeliad growers from around the world. The seminars and the plant show itself are very informative, and you are guaranteed to have a great time.

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