

Journal of The Bromeliad Society



VOLUME 42

•

MAY-JUNE 1992

•

NUMBER 3

Journal of the Bromeliad Society

©1992 by the Bromeliad Society, Inc.

Vol. 42, No. 3

May-June 1992

Editor: Thomas U. Lineham, Jr., 1508 Lake Shore Drive, Orlando, Florida 32803-1305

Editorial Advisory Board: David H. Benzing, Gregory K. Brown, Mark A. Dimmitt, Harry E. Luther, Robert W. Read

Cover photographs: Front: *Aechmea vanhoutteana*. This species and its synonyms are discussed on pages 103-108 by Elton Leme who took the picture. Back: The Tampa 1992 World Bromeliad Conference poster by Kiti Wenzel shows the brightly colored cultivar *Neoregelia* 'Big Bands'. Please see the back cover and pages 124 and 141 for details.

CONTENTS

- 99 A Well-Known New Species: *Tillandsia fuchsii* Walter Till
103 *Aechmea vanhoutteana* and Its Synonyms Elton M.C. Leme
109 The Relationship of the Bromeliad Bottom Leaves To the Potting Mix Maurice J. Kellett
114 *Vriesea lutheriana*, a New Species with Tripinnate Inflorescence from Costa Rica Jason R. Grant
118 A Colorful New *Vriesea* from Colombia Harry E. Luther
120 New Books and Old T.U. Lineham
122 Editorial: A Few Kind Words About Our Advertisers
123 George H. Anderson, Former BSI Director
124 Bromeliad Safari Tom Wolfe
126 *Bromelia humilis* Color Variations Ana and Pedro Rousse
128 Collection of Specimens of the Weevil *Metamasius callizona* Howard Frank
Chemical Control of *Metamasius callizona* in Bromeliads Donald Short
129 Questions & Answers Conducted by Derek Butcher

The *Journal*, ISSN 0090-8738, is published bimonthly at Orlando, Florida by the Bromeliad Society, Inc. Articles and photographs are earnestly solicited. Closing date is 60 days before month of issue. Advertising rates are listed in the advertising section. Permission is granted to reprint articles in the *Journal*, in whole or in part, when credit is given to the author and to the Bromeliad Society, Inc. Please address all correspondence about articles or advertising to the editor.

Subscription price (in U.S. \$) is included in the 12-month membership dues: single-\$20.00, dual (two members at one address receiving one *Journal*)-\$25.00, fellowship-\$35.00, life-\$750.00. Please add \$5.00 for international mail, except for life members. For first class or airmail add \$7.50.

Please address all membership and subscription correspondence to Membership Secretary Linda Harbert, 2488 E. 49th, Tulsa, OK 74105.

Back issues: All single copies \$4.50 1st class postpaid to ZIP addresses, international \$5.50 airmail postpaid. Per volume \$20.00 to ZIP addresses, \$25.00 to international addresses, 3rd class or surface postpaid. Order back issues from the editor; make checks payable to B.S.I. Please see page 132 for special sale.

Printed by Willis Printing Group, Orlando, Florida.

Typography by Sutherland Printing, Orlando, Florida.

Ballots are enclosed for voting members in the Louisiana and Texas regions for election of directors for the 1993-1995 term. One ballot per member must be completed and mailed to the teller in the envelope provided to reach her not later than 1 September 1992. Please tell the editor immediately if you did not receive a ballot. Since there was only one nominee for each of the other vacancies, no other ballots are required.

A Well-Known New Species: *Tillandsia fuchsii* Walter Till

One of the most beautiful, small tillandsias, much desired by growers, is generally known as *Tillandsia argentea*. The plants have a bulbous habit because of the succulent leaf bases. The leaves are slender, more or less cylindrical, and tapering to a fine, sharp point (subulate). They are densely covered with a grey, frostlike bloom. The lax, simple inflorescences are coral-colored and bear 5-10 flowers with radially symmetrical violet corollas. They are found on the western side of the Sierra Madre in Mexico and southward as far as Guatemala (fig. 1).

If one reads the different descriptions, red and violet can be found as the color of the petals, but nobody investigated this discrepancy. In addition, the other characters derive from two different taxa and, as a result, all descriptions are a mixture.

Grisebach founded his *Tillandsia argentea* on fruiting material from southeastern Cuba collected by C. Wright in 1859. The type specimen is deposited in the herbarium of the University of Göttingen, Germany. An additional specimen is kept in the herbarium of the Museum of Natural History in Vienna, Austria, and probably also represents a type. Both specimens strongly resemble the habit of the plants collected in Mexico and Guatemala but they do not form bulbs since their leaf sheaths are not succulent. Plants of this kind are found only in Cuba and Jamaica.

In the last few years, living material has been imported by various Austrian and Czechoslovakian collectors from Cuba when that country increased its efforts to attract tourists. The vegetative plants attracted my attention and when they flowered in the greenhouse of the University of Vienna garden it was clear that they were different from the Mexican and Guatemalan plants. A comparison with the type specimen from Göttingen revealed that the living samples were completely identical with Wright's collection of nearly 130 years earlier.

As there are no synonyms under *Tillandsia argentea*, the mainland plants had to be described as new. I named them in honor of Franz Fuchs, the chief gardener of the Botanical Garden at Linz, Austria, for his merits in cultivating tillandsias and other bromeliads.

Since the plant in question is well known by most growers, it is not necessary to give an extensive description here,¹ but it is introduced by the accompanying

¹ The complete description was published in *Die Bromelie*, 2/1990:30-33. A translation by R.W. Riedl appeared in *Bromeletter*, November-December 1991:9-11.



W. Till

Figure 1.
Tillandsia fuchsii. The bulbous base of this species with bright green, succulent sheaths and the violet petals present an obvious contrast with *T. argentea* shown below.



W. Willinger

Figure 2.
Tillandsia argentea
photographed in habitat in
Cuba. The loosely arranged,
brownish, not succulent
sheaths are clearly shown.



W. Till

Figure 3.
(left) *T. argentea*, detail of the flower. (center) *T. fuchsii* var. *stephani*, notable for the wine red to maroon colors of the inflorescence, the longer internodes of the rachis, the acute floral bracts and sepals. (right) *T. fuchsii* var. *fuchsii* forma *gracilis* inflorescence detail.

illustrations. For a quick comparison, the differences between *T. argentea* and *T. fuchsii* are given in Table 1.

Typical plants (fig. 1) are found in the southeast of the state of Oaxaca, Mexico, between the cities of Oaxaca and Tehuantepec at an elevation of about 1300 meters above sea level. They represent the coarse-leaved form.² Plants from the Mexican states of Michoacán and Guerrero obviously belong also to the typical form.

In the state of Chiapas in southern Mexico and in Guatemala, *Tillandsia fuchsii* tends to have thinner and more slender leaves. I have described it as forma *gracilis*.

More striking and interesting is a population from the western part of the state of Jalisco, Mexico, which I have named in honor of the collector, Stefan Schatzl, senior gardener of the Botanical Garden at Linz, as *Tillandsia fuchsii* variety *stephani* (fig. 3). It differs from the typical variety by its wine-red to maroon inflorescences, the longer internodes of the rachis, the acute floral bracts and sepals, and the violet stigmas. That variety settles at the northwestern end of the distribution of *T. fuchsii*.

² P.T. Isley, *Tillandsia* (reference 2), p. 17, fig. b.

It should be noted that *Tillandsia fuchsii* is endangered since it is over-collected for commercial purposes. Thousands of plants are ruined each year in florist shops where they are stuck on pieces of wood or stone. They are completely unadaptable to the average apartment climate. Trade in this species should be limited exclusively to material grown from seed by horticulturists.

Table 1. Comparison of the diagnostic characteristics

<i>Tillandsia argentea</i>	<i>Tillandsia fuchsii</i>
short-caulescent	stemless
leaf sheaths not succulent, castaneous, leaf blades involute at upper surface	leaf sheaths succulent, light green, leaf blades not involute but angled and succulent at base
inflorescence 4 (–6) flowered	inflorescence 5–10 (–14) flowered
floral bracts oblong-orbicular, 5.5–6.7 x 5.5–6.2 mm, laxly lepidote outside, with narrow hyaline margins	floral bracts ovate to oval, 7.5–10.5 x 6–7.1 mm, outside normally glabrous, with broad hyaline margins
corolla zygomorphic	corolla actinomorphic
sepals broadly ovate-elliptic, 12–13.5 (–16) x 6–7.1 mm	sepals narrowly elliptic, 13.3–16 x 4.9–5.9 mm
petals crimson, narrowly lanceolate, not constricted above base and unlobed, not hood-shaped at apex, 27–27.5 x 5.1 mm	petals violet, lingulate, somewhat constricted above base and with lateral lobes, distinctly hood-shaped at apex, 22–24.5 x 7 mm
filaments crimson like the petals	filaments chartreuse
style light crimson; stigma at same height as the anthers	style chartreuse; stigma mostly exceeding the longer stamens
distribution: Cuba, Jamaica	distribution: Mexico, Guatemala

Note that the Latin term *purpureus* (German: purpurrot) is identical with the English crimson (according to the color chart in Isley) but different from purple.

REFERENCES:

- Gardner, C.S. 1983. A systematic study of *Tillandsia* subgenus *Tillandsia*. College Station: Texas A&M Univ.; 1982. Diss.; Ann Arbor, MI: University Microfilms International.
- Isley, P.T. III. 1987. *Tillandsia*; the world's most unusual air plants. Gardena, CA: Botanical Press.
- Rauh, W. 1990. Bromelien: Tillandsian u.a. kulturwürdige Bromelien. 3. Aufl. Unter Mitarbeit von E. Gross. Stuttgart: Ulmer Verlag.
- Richter, W. 1978. Zimmerpflanzen von heute und morgen: Bromeliaceen. 4. Aufl. Wien: Neumann-Neudamm.

Editor's note: We thank Dr. Till for providing this English-language version of his original description and Klaus Ehlers, editor of *Die Bromelie*, for letting us borrow the color separations of Figure 3.

*Botanisches Institut der Universität Wien
Rennweg 14, A-1030, Vienna, Austria*

Aechmea vanhoutteana and Its Synonyms

Elton M.C. Leme

In 1881, when describing *Quesnelia vanhouttei* in *La Belgique Horticole* (fig. 4), Edouard Morren observed that this was a notable species flourishing for the first time in Europe during that May. Assumed to have originated in eastern Brazil, it had been cultivated since 1878 by M. Louis Van Houtte¹ under the name *Echinostachys vanhoutteana*, so named for its resilient thorns (*echinatus*, meaning covered with spines like a sea-urchin; *stachys*, meaning spike). In 1891, Wittmack transferred this species to the "*Machrochordium*" genus, and the following year, C. Mez began calling it *Aechmea vanhoutteana*.

The species *Aechmea vanhoutteana* (front cover) has a geographically restricted distribution. It is found most frequently at certain points along the coastal range of hills called Mantiqueira close to the borders of the States of Minas Gerais, Rio de Janeiro, and São Paulo. Abundant in the Itatiaia National Park region, it is found mainly on the ground or on rocks at altitudes over 800 meters. Medium-to-large in size, it is difficult to handle because of the plentiful, stiff-textured thorns along its leaves. The complete description follows:

Aechmea vanhoutteana (Van Houtte) Mez. *Mart. Fl. Bras.* 3(3):366; 1892.

Echinostachys vanhoutteana Van Houtte, *Catal*; 1878.

Quesnelia vanhouttei E. Morren, *Belg. Hort.* 31:163, 350; 1881.

Quesnelia vanhoutteana (Van Houtte) E. Morren, *Belg. Hort.* 31: pl. 18; 1881.

Machrochordium vanhoutteanum (Van Houtte) Wittmack, *Bot. Jahrb.* 13(Beibl.29):4; 1891.

Aechmea nervata L.B. Smith, *Smithson. Misc. Collect.* 126:17, 224, fig. 105; 1955, syn. nov..

Pothuava vanhoutteana (Van Houtte) L.B. Smith & Kress. *Phytologia* 66(1):77; 1989, as "*vanhoueteana*."

Machrochordion nervata (L.B. Smith) L.B. Smith & Kress, *Phytologia* 66(1):77; 1989.

Plant flowering to 100 cm high. *Leaves* 30–50 in a dense funnellform rosette; *sheaths* broadly ovate, densely brown-lepidote on both sides; *blades* long sub-linear-lanceolate, acuminate with a stout terminal spine, 60–110 cm long, 3–6 cm wide, green, suberect, rigid, covered beneath with a pale membrane of fused scales, glabrescent above, densely serrate with 2–5 mm-long, dark spines. *Scape*

¹The particle Van is capitalized as shown in the Smith and Downs monograph to avoid confusion.



Figure 4.
Aechmea vanhoutteana, a photograph of plate 18, Belgique Horticole 31, 1881.²

W. Till

Figure 5
Aechmea vanhoutteana, in habitat, Itatiaia, State of Rio de Janeiro.



Author

² The plate identified the species as *Quesnelia vanhoutteana* although the text called it *Q. vanhouttei*.

erect, stout. *Scape bracts* densely imbricate and completely covering the scape, the lower subfoliaceous and serrulate at apex, the other ones oblong-elliptic, apex acute and cuspidate, white-lepidote mainly toward apex, entire, papyraceous. *Inflorescence* simple, strobilate, cylindric or ellipsoid when young, obtuse, 7–24 cm long, 3–4 cm in diameter, very densely many-flowered, bearing an inconspicuous coma of sterile bracts at apex; *floral bracts* broadly ovate with a long, acuminate apex, strongly nerved, from slightly shorter than the sepals to exceeding them, about 15 mm long, entire or very obscurely denticulate, pink to red, densely white-lanate toward base, submembranaceous. *Flowers* 20–25 mm long; *sepals* subsymmetric, oblong-ovate, subacute and mucronulate, about 8–10 mm long, about 4 mm wide, connate at base for 1–2 mm, lanate toward base; *petals* ca. 18 cm long, ligulate, apex obtuse, remaining erect at anthesis, free, white except the blue apical zone, bearing 2 sublinear scales, 5 mm long (adnate to the petals for 3.5 mm), subdentate at apex, and 2 longitudinal calluses. *Stamens* included; *filaments*, the epipetalous ones adnate to the petals for ca. 8 mm, the episepalous free; *ovary* subellipsoid, about 7 mm long, white-lanate; *epigynous tube* about 1.5 mm long; *placentae* apical; *ovules* obtuse.

Type. Description and plate in E. Morren Belg. Hort. 31:163, 350, pl. 18; 1881.

Material examined: Rio de Janeiro: Resende, Serrinha, Elton M.C. Leme 1796, October 1991 (HB); *ibid.*, Visconde de Mauá, near Maringá, P. Paulo Jouvin 233, Sept. 23, 1978 (RH); *ibid.*, Itatiaia National Park, along Campo Belo River, G. Martinelli 3215 & Paul Maas, Oct. 10, 1977 (RB). Minas Gerais: Caparaó National Park, Vale Verde, M. Brugger *et al.* FPNC-361, Oct. 16, 1988 (UFJF, RB). Espírito Santo: on the litoral of Vitória (but probably from Itatiaia National Park, Rio de Janeiro), M.B. Foster 176-A, July 1939 (GH) (fig. 6).

On studying the type of this species, we note a close morphological resemblance to the type of *Aechmea nervata* L.B. Smith. In actual fact, we did not find in this latter, which should be reduced to a synonym, any features distinguishing it from *A. vanhoutteana*. The fact that in the Smith and Downs monograph (1979) they are placed in different subgenera—*A. vanhoutteana* in *Pothuava* (Gaudich). Baker; *A. nervata* in *Machrochordion* (de Vriese) Baker—is, we consider the mere result of a distortion prompted by various interpretations, mainly of the constitution and texture of the apex of the sepals. In comparative terms, both in the pattern that typifies *A. vanhoutteana* as well as in the type specimen of *A. nervata*, the sepals present a subacute and mucronulate apex, which is typical of *Pothuava*, although uncommon in the *Machrochordion* subgenus where the sepals are usually obtuse and without a conspicuous mucro. In addition, the inclusion of *A. nervata* by its author in this last-mentioned subgenus obviously breaks the homogeneity of the highly typical complex of species headed by *A. bromeliifolia* (Rudge) Baker. The same may be said also of the *A. turbinocalyx* Mez, considered by its author as a member of the *Pothuava*, but uncomfortably wedged by Smith and Downs into the *Macrochordion* subgenus.

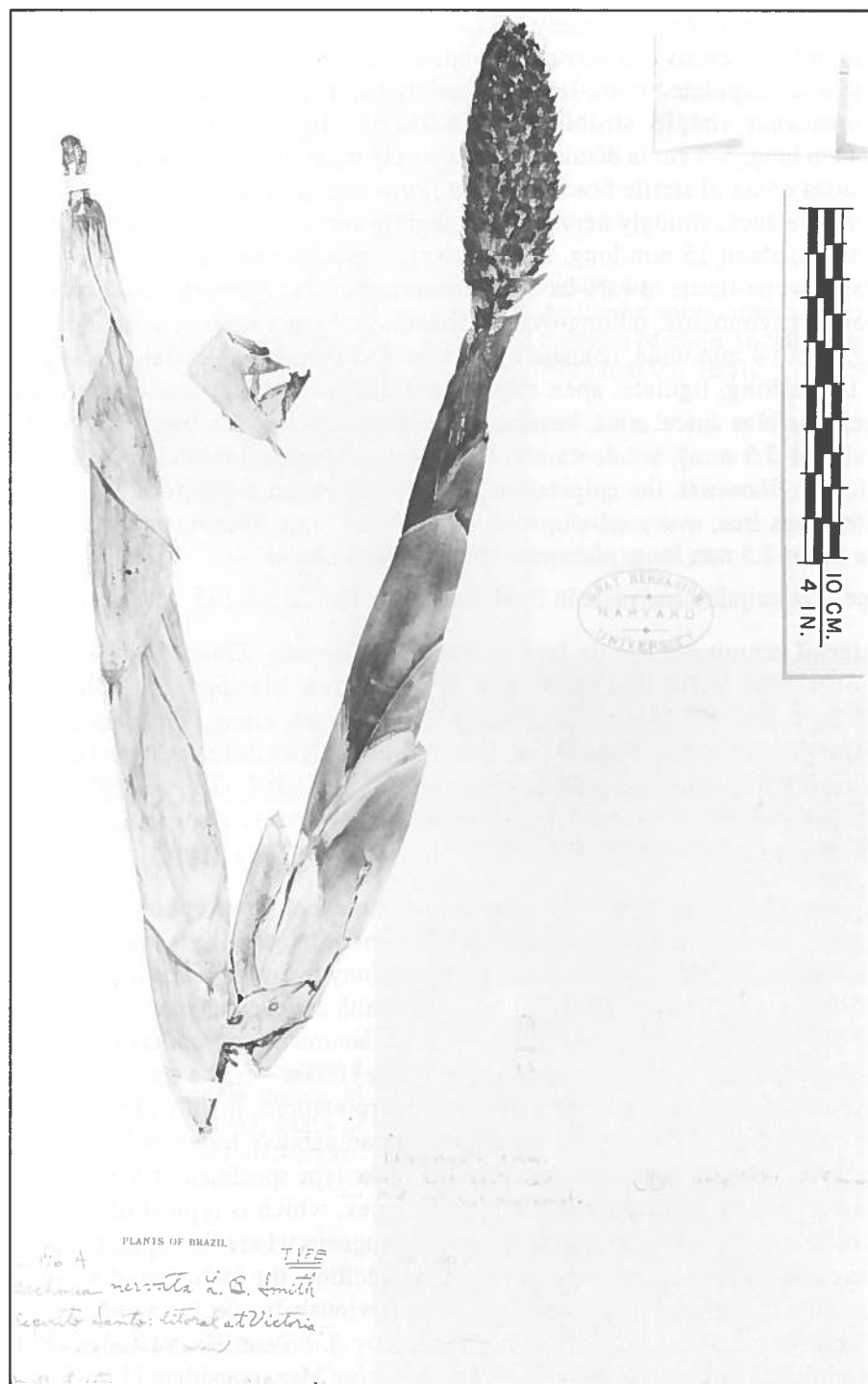


Figure 6

Aechmea nervata (*A. vanhoutteana*), photograph of the specimen in the Gray Herbarium of Harvard University.

Timely consideration should be given to the fact that *A. nervata* was described in 1955 on the basis of the specimen collected by M.B. Foster during his first excursion to Brazil, along the coastline of Vitória, State of Espírito Santo, in 1939. This type specimen, whose leaves are unknown, was then tagged with the number 176-A. The letter "A" may be explained here by Racine Foster, who edited the notes on each one of the materials collected: "There certainly was a mistake in giving two different plants the same number, and then later in an attempt to clarify we added A to *nervata* and B to *chlorophylla* (personal communication, Feb. 1989).

Before travelling through the State of Espírito Santo, M. and R. Foster, coming directly from the State of Bahia, visited the Itatiaia region in the State of Rio de Janeiro, during the second half of June 1939 (collection numbers 111 to 148). Although the route between these two states necessarily lies through the State of Espírito Santo, Racine Foster comments: "I can't justify our jumping around so much...except that transportation suddenly became available" (pers. comm.).

Bearing in mind that a few days before leaving for the State of Espírito Santo the Fosters had collected in Itatiaia where the *A. vanhoutteana* is common, and on the basis of the minor incident involving repetition of the number for two distinct plants, as well as the loss of the leaves of the type specimen of *A. nervata*, it is quite reasonable to consider the possibility that an error was made regarding the origin of the latter. We believe that this species was collected in June 1939 in Itatiaia, State of Rio de Janeiro, and not in July in the Vitória coastline in the State of Espírito Santo.

We should, therefore, concentrate on two new synonyms—apart from *A. nervata*—for *A. vanhoutteana*, originated from the new combinations proposed by L.B. Smith and W. John Kress in 1989. Those authors raised all the subgenera of *Aechmea* to the category of genus. With this, and in order to adapt the species to this new proposal, dozens of nomenclature alterations were made. We thus find *Pothuava vanhoutteana* (Van Houtte) Smith & Kress, and *Macrochordion nervata* (L.B. Smith) L.B. Smith & Kress.

In spite of this sweeping change, however, the above-mentioned authors failed to present the definition of each new or restored genus; neither did they pinpoint any taxonomic evidence or other scientific information on the need for the change put into practice. No information was given on any study specifying the particular characteristics of each species involved. The "logic" and "convenience" put forward in the preamble to their study cannot in themselves uphold the breadth of the transformations proposed. This is why, in a number of cases, we find ourselves puzzled. A typical example is that represented by the two species under study (*A. vanhoutteana* and *A. nervata*). Despite their synonymous condition

having been confirmed, they were handled by Smith and Kress under different "genera," which leads to the certainty that the morphological criteria that would have determined the identity of most of the "new or restored genera" are not self-sustaining.

As highlighted in the preamble to the International Code of Botanical Nomenclature, "the only proper reasons for changing a name are either a more profound knowledge of the facts resulting from adequate taxonomic study or the necessity of giving up a nomenclature that is contrary to the rules." In putting forward these new synonyms for *A. vanhoutteana*, we would like, honoring the "logic" more than the "convenience," to continue to adopt the treatment meted out to *Aechmea* by Smith and Downs (1979) until such time as convincing, fresh arguments prove the contrary.

ACKNOWLEDGEMENTS:

Our thanks go to Dr. Walter Till, of the University of Vienna, Austria, for his valuable help with bibliographical material and for photographing the original plate of *A. vanhoutteana*. We also express our grateful acknowledgment of the information supplied by Mrs. Foster. Her information contributed greatly to a partial reconstitution of the past.

REFERENCES:

- Mez, Carl. Martius Flora Brasiliensis 3 (3):366, 1892.
———. Das Pflanzenreich IV. 32:162–163; 1934.
Morren, Edouard. Description du Quesnelia Van Houttei, La Belgique Horticole 31:163, 350–351, pl. 18; 1881.
Smith & Downs. Bromelioideae Flora Neotropica, Monograph, no 14, pt. 2. New York. Hafner Press; 1979.
Smith, L.B.; Kress, W. John. New or restored genera of Bromeliaceae. Phytologia 66(1):70–79; 1989.
———. New genera of Bromeliaceae, Phytologia 69(4):265–270; 1990.

Rio de Janeiro

CORRECTION: The *Canistrum* shown in figure 9, March–April 1992, is probably *C. triangulare* and not *C. fosterianum* according to Harry Luther, director, M.B. Foster Bromeliad Identification Center.

The Relationship of the Bromeliad Bottom Leaves To the Potting Mix

Maurice J. Kellett

What a great little wonderland of activity appears before our very eyes but goes unnoticed as we survey our prized possessions as a whole presentation? Plants uprooted from the wilds, from their natural habitats of barren branches, moss-encrusted branches, rocks, and various types of soils are forced to conform to the standards of plastic and terracotta pots.

Back in the early days of the society I was privileged to visit one of the old plant collections in Casino, New South Wales. I was amazed to see plants which had overtaken their pots and were now masses of dead leaves overflowing the benches but providing a wealth of nutrient material of the newly emerging plantlets. Again, when visiting Kent's Bromeliad Nursery in Vista, California, neoregelia plants were presented in full flowering cycle with their immature leaves still intact, healthy, and showing no signs of the normal dead growth of bottom leaves.

During the late sixties and early seventies after collecting in the Americas and visiting many large collections in the United States, I observed plants of all different genera grown in pot culture with differing levels of deterioration in their bottom leaves. Unfortunately, in our accepted methods of culture, we like to see a well-balanced plant sitting like a soldier straight up in the pot and without a sign of unsightly dead leaves or leaf tips. While we pursue this unnatural growth presentation it is necessary to consider how it can be best achieved.

How easy it would be if we could grow our plants in a more natural container, say tree fern pots, with all the dead leaves, mosses, and ferns forming part of the whole presentation and to confront the judges with emerging spiders, snails, and the like? But this is not to be! What we need to consider is the little world between these leaves and the pot to find out what is going on.

1. *Leaf attack.* David Benzing's *The Biology of the Bromeliads*¹ provides some interesting thoughts on why our plants evolved from terrestrial habitats to epiphytic or atmospheric habitats. The development of leaf trichomes, of course, is more pronounced in extreme atmospherics with varying levels of leaf trichome cover as we come down the terrestrials. The authors have noted that in the wettest

¹ (Eureka, CA: Mad River Press, 1980).

epiphytic habitats, atmospherics do not exist; that the atmospherics may have evolved firstly from rosette-forming terrestrials to tank epiphytes and then naturally to atmospherics.

The upper and lower sides of leaves exhibit different percentages of trichome cover as you move from genus to genus, thereby indicating differing levels of moisture and nutrient uptake. Juvenile leaves quite often show a greater trichome cover than later-produced, adult leaves. Now, what have we done with most of our plants? We have gone against millions of years of evolution and tried to adapt all plants to one standard situation: the plastic or terracotta pot! No wonder we have troubles. The leaves are bombarded with water, splashes of nutrients, light reflection, different levels of dehydration, and we expect them all to conform to a clean-leaf appearance.

The secret of success at Kent's Nursery in growing *Neoregelia* with clean juvenile leaves even up to adult flowering stage may have been the combination of several factors. A potting medium that did not retain excess moisture (fir bark), a controlled light level, an even moisture level, and an even spacing of plants to allow air movement around the bottom leaves.

2. Animal attack. If you carefully study the inner pot rims, upper level potting mix, and the basal leaves you will find a multitude of insects and minor marsupials. Even though many will not harm the bottom leaves (spiders, for example) there are many which cannot resist a nibble of the bottom leaves and especially the basal union. I have observed many different species of slugs, snails, millipedes, slaters,² cockroaches, even the odd mouse having a nibble at night time and quietly encouraging deterioration of the bottom leaves. Luckily, many of these pests can be eradicated either physically, with chemicals, or by just good housekeeping. But we must remember that the close proximity of the potting mix to these leaves encourages more attacks by these pests.

3. Mix attack. Bromeliads can be potted into many different mixes. Quite often the mix depends upon the ingredients at hand. Plants can be seen potted into heavy clay soils, sandy loams, open mixes containing bark and other fibrous materials. Sometimes the plants end up in old mixes with just the clay, gravel, or bark intact. Into this mixture we bombard the roots with water, liquid chemicals, granulated fertilizers, and many other foreign materials. Many times salt-level buildup is far in excess of any levels that would be found in natural habitat.

As explained by Benzing, in many species of bromeliads the lower surface of the leaves show higher levels of trichome covering and, therefore, have the ability to absorb high levels of moisture, salt intake and, therefore, a higher reaction to salt burns caused by salt splashes from the potting mixes.

² "Any of various cursorial isopods." Read on.—Ed.

4. Pot attack. The last area to consider is the container. How many collections consist of orderly arrangements of 4–10 inch pots, nicely arranged and showing a preference for plastics rather than terracotta?

Although there is much debate on plastics vs. terracotta, the older professional grower would certainly not recommend modern plastics as earthenware pots breathe, are more insulated, and look better. Whereas this may be suitable for many varieties of indoor plants, we grow a plant that we want to keep relatively free from algae growth and salt damage.

But what do we see on the rim of earthenware pots? Lots of algae growth and salt encrustation all ready to attack the bottom leaves of our plants. Especially when these leaves are resting on the pot rims as many species would do.

Now, you may say that we know all this and debates such as the right mix, the right pot, and the rest will continue as long as plant collecting does.

If Kent's Nursery can grow a seedling plant from juvenile to adult still retaining good, clean bottom leaves then there must be some secrets we can learn or some new techniques we can try. As many of our collections are not housed in climate-controlled, commercial situations, there must be some extra thought we can give our plants before we pot them on.

Some recommendations covering the different areas discussed are as follows:

1. The leaf. When repotting plants we should endeavour to retain juvenile leaves undamaged as these are the leaves designed to give the plant a boost in growing.

Plants should be handled like babies perhaps with soft-covered tongs, rather than with coarse, old, gardening hands.

Watering plants in after repotting with a formulation such as Previcur will ensure reduction of fungal attacks and also this chemical contains a mild growth stimulant.

Try to ensure that outside leaf surfaces do not come in contact with any materials that can retain moisture and salt accumulations.

During the settling-in period ensure constant moisture levels to stop leaf desiccation and therefore irreversible damage.

As explained by Benzing, in many species of bromeliads the lower surface of the leaves show higher levels of trichome covering and, therefore, have the ability to absorb high levels of moisture, salt intake and, therefore, a higher reaction to salt burns caused by salt splashes from the potting mixes.

2. Animals. Most insects and animals can be moved into the open using a soap-based chemical to which a little ammonia has been added. Once they are in

the open they can be cornered and attacked. Growling at your plants occasionally may have the same effect. If this has no effect at least you may feel better.

There are many chemicals available but don't forget that these will leave residues in the leaf trichomes and the effect will be cumulative.

3. *The mix.* The more open the mix then the less the retention of chemicals. The fir bark used by Kents was very chunky and although initially mixed with fertilizer, this would have tended to leach out with subsequent watering. The same would happen with liquid fertilizer applied later.

To reduce salt burn from granulated, slow release fertilizers, add them to mixtures used in the lower area of the pot with the upper inch or so containing no fertilizer. Spreading teaspoons of fertilizer on the top surface helps only the manufacturing as the release stops as soon as the granules are dry.

Some commercial nurseries use coarse, crushed rock on the top of the mixture to retain moisture and reduce algae growth, this could of course reduce the splash effect when watering.

In some of the larger container-grown plants, a black plastic apron with a centre hole and a slit on one side is placed on top of the mix for moisture retention and weed reduction. What a great place for snails and slugs to hide.

4. *The pot.* Although we can try many old and new techniques with potting mixes, insect control and such it may be in this area where we can show the greatest improvement.

We can buy pots designed for bonsai mixes, designed for orchids, or chemicals prepared for African violets. But what have we for bromeliads? Nothing. We are stuck with the old plastic or terracotta pots that have to conform to manufacturers' specifications. What we need is some homework on various types of planters for different genera and species.

With a lot of reading we find that *Hechtia* needs a large root run to maintain constant moisture and to avoid leaf tip burning. What could be better than the old fashioned casserole dish, glazed, wide and flat, and with the right drainage pattern? The plant would smile for you.

For many plants that don't need a large root run, we need a pot that is squat and perhaps with the base wider than the top to provide stability for bench growth. They could even have a locking device on the base plate to stop their tipping over every time the wind blows or when the next-door neighbour's cat crawls in.

We could look at many different materials from tree fern fibre to cork and waste materials, tree roots, compacted wood chips, but this depends on what is available.

In studying the relationship of the bottom leaves to the mix, I found in many cases the overlapping leaves covered the top area of the pots, creating a hidden area that could not be easily supervised. To overcome this I studied ways to create air movement over the mix by drilling the rim with many air holes. This approach created many problems as the pot would no longer retain water during absorption, the top of the pot structure was weakened and it would be a manufacturers' nightmare.

Having recently had some light-gauge pot hangers manufactured consisting of a pot ring and wire hanger, I thought why not design something which is easily attached to the pot, is low cost, and will lift the bottom leaves above the pot for permanent inspection?

The resultant experimental design is a pot ring with three light legs which can be inserted into the mix, to keep the leaves above the pot rim permanently. The trial run is in painted metal but later could be easily manufactured in plastic. With different ring widths, these could be used to keep seedlings and newly potted offsets upright and could be adapted to many other indoor plant growth habitats.

Look, we are on the verge of making a fortune. I must rush now to put a deposit on a Rolls Royce, so I will leave you with endless opportunities and a lifetime in which to think about them.

A slightly edited version of a contribution to the 6th National Bromeliad Conference, Sydney, 1991

Mr. Kellett is a director of The Bromeliad Society, Inc.—Ed.

We are grateful to Anne and Dr. Gilbeart Collings of Fort Myers, Florida, for their gift to the *Journal* Color Fund. We appreciate their thoughtfulness. Color separations (negatives) for the March–April 1992 issue cost \$662.63. All camera work for volume 41 (1991) cost \$4,067.14. Even plain, old black and white reproductions cost ten dollars each. Just suppose we had to go back to 16 pages and no color. In those days, of course, Mulford Foster was the main contributor. We watch greedily the balance sheets in affiliate newsletters and keep hoping for \$\$.—TUL

We congratulate *The Bromeliad Society of Queensland, Inc.* on the occasion of its Silver Anniversary Year. That affiliate is well known to the other members of The Bromeliad Society for having provided two honorary trustees, Olwen Ferris and Grace Goode, for Peter Paroz, former director of the society and regular contributor to the *Journal*, and for the many other members whose articles have contributed to the value of the *Journal*.

Vriesea lutheriana, a New Species with Tripinnate Inflorescence from Costa Rica

Jason R. Grant

Abstract

A new species with a tripinnate inflorescence from Costa Rica, *Vriesea lutheriana* is different from other *Vriesea* species in Central America but closely related to several species from the Guayana Highlands and Andean regions of South America. The species and its taxonomic affinities are described.

1.3 *Vriesea lutheriana* J.R. Grant, sp. nov.

V. duidae (L.B. Smith) E.J. Gouda primo aspectu simile, sed foliis effusis crassis coriaceis multoque longioribus utrinque obscure atroviridibus differt, vaginaque minus lepidota, inflorescentia cylindrica confertim tripinnata, scapo robustiore atroviridi, bracteis primariis subviridibus, bracteis florigeris bicarinatis aurantiacis, petalisque longioribus caeruleo-griseis cum appendicibus irregularitatis incisus.

Type. Costa. Rica. Puntarenas, Angeles, between San Vito de Java and Agua Buena, Pacific side near Lanana, c. 1200 meters above sea level, 16 January 1991, C. Skotak s.n. preserved as J.R. Grant 91-01475 (holotype CR !; isotypes SEL !, WS !; paratype: Costa Rica without locality, 5 August 1988, J.M. Hall s.n. SEL !.

Plant epiphytic, acaulescent, 117–120 cm tall at anthesis. *Leaves* 25–30 in number, 79–110 cm long forming a rosette 90–120 cm wide; *sheaths* ovate, merging into the blades, 17–20 cm long, 10.5–11.5 cm wide, greenish brown (brown when dried), densely punctulate-lepidote, the scales gray on the edges and brown at the center (on dried specimens); *blades* lingulate to oblanceolate, arching, acuminate, 62–90 cm long, 3.5–5.5 cm wide at base, 5–10 cm wide at middle, coriaceous, thick, punctulate-lepidote, entire, dark green, without contrasting venation or other coloration. *Scape* erect, robust, 55 cm tall, 15–18 mm in diameter at base, hollow between nodes, dark green; *scape bracts* acuminate, erect, clasping the stem, the lower ones overlapping and covering the scape, the upper ones although longer than the internodes exposing the scape, light green. *Inflorescence* erect, 65 cm tall, cylindric, densely tripinnate with 15–18 primary branches; *primary bracts* erect, acuminate, clasping the scape, 2.5–5.5 cm long, 4.5 cm wide at base, blades densely appressed lepidote, light green; *primary branches* complanate, distichous, each 12–14 cm long, 1.8–2.2 cm wide, with 11–18 flowers, digitate with 2 secondary branches; *secondary branches* 6–8 cm long, with 11–15



Photos by C. Skotak

Figure 7.

Vriesea lutheriana, habit, from the collection of C. Skotak. The exceptional length of the scape of this new species and the intense orange color of the floral bracts are shown clearly.



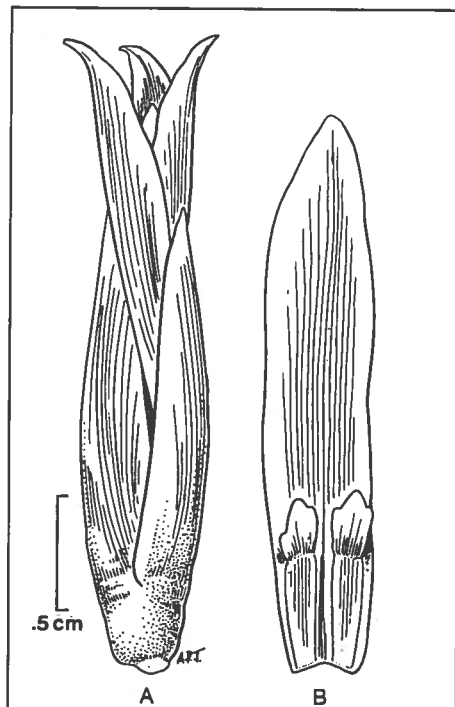
Figure 8.

Inflorescence detail of *V. lutheriana*, showing the three-branched inflorescence.

flowers. *Flowers* sessile, trigonal. *Floral bracts* erect, slightly cucullate, densely imbricate, glabrescent, with some scales at apex, 19–20 mm long and exceeding the sepals, elliptical in outline when pressed otherwise 3-sided, trigonal, the dorsal surface triangular in outline and 5 mm wide at base, the two lateral surfaces 4.5–5 mm wide at their middle, bicarinate and navicular, holding the floral parts in a neatly bound trigonal envelope, orange at anthesis. *Sepals* lanceolate in outline when pressed otherwise bifacial, 17–18 mm long, 4 mm wide at base, 5–5.5 mm wide at the middle, convolute-imbricate, free, minutely punctulate-lepidote, adaxial pair carinate forming 45 degree angles, apex obtuse-apiculate, keel fleshy at the base; abaxial sepal ecarinate, apex acute. *Petals* narrowly oblong and apically obtuse, 24–26 mm long, 4 mm wide at base, minutely lepidote, appendaged; adaxial pair angled, $\frac{1}{2}$ involute from base and hyaline, the upper $\frac{1}{2}$ recurved and light bluish gray; the abaxial rounded and involute from base to apex with same color pattern as in the adaxial pair; *appendages* basal, oblong, two per petal, 6–8 mm long, 1–1.2 mm wide, apically 2.1–2.3 mm free and irregularly notched. *Stamens* included, in two series of three each, 21–23 mm long, exceeding the pistil; *filaments* free, 15–16 mm long, 0.75 mm wide, hyaline; *anthers* linear-sagittate, 6–7 mm long, 1 mm wide, basally dorsifixed. *Pistil* 18–22 mm long; *ovary* ovate, superior, 4–6 mm long and 3 mm wide at anthesis, circular in cross-section; *style* 12–14 mm long; *stigma* conduplicate-spiral, 2 mm long, 0.75–1.0 mm wide.

Distribution. *Vriesea lutheriana* is known only from the middle elevation forests in the southeastern area of Costa Rica.

Discussion. *Vriesea lutheriana* is distinct from other *Vriesea* species of Costa Rica because it is the only known taxon with a tripinnate inflorescence in the region. Further, its distinctly orange bracts and light bluish gray petals easily distinguish it from others found in Central America. It is, however, related to a group of tripinnate and bipinnate taxa of the Guayana Highlands and Andean regions.



Drawing by Alice R. Tangerini

Figure 9.

Vriesea lutheriana J.R. Grant (Skotak s.n. as Grant 91-01475). A. flower showing calyx and corolla; B. petal and appendages.



Drawing by Alice R. Tangerini

Figure 10.

Vriesea lutheriana (Skotak s.n. as Grant 91-01475). Habit.

[Continued on page 125]

A Colorful New *Vriesea* from Colombia

Harry E. Luther

In 1983 I described *Vriesea ospinae*, a very pretty species that had been in the horticultural trade under a variety of names.¹ There was no information available concerning who collected the plant or where although at least five amateur and commercial growers provided flowering specimens to the Bromeliad Identification Center. The species became well known in private collections where it was sometimes allowed to develop into large clusters of offsets surrounding the mother plant. The light green leaves with delicate tracery form attractive specimens although hobbyists have noted that it is reluctant to flower.

A new variety of *Vriesea ospinae* has recently been discovered (fig. 11). Compared to the earlier collections of the species, which are native to Meta,² the plants of this new variety present a more robust, compact appearance, a distinction maintained under cultivation. According to the collector's notes, this plant forms well-rooted clusters on the ground in full sun under very damp and humid conditions. The description follows.

Vriesea ospinae Luther var. *gruberi* Luther, var. nov.

A var. *ospinae* Luther, cui similis, laminis foliorum latioribus et loratis vel lanceolatis (non triangulatis) et tessellatis castaneis (non atroviridibus) differt.



Vern Sawyer for Selby Gardens

Figure 11.

Vriesea ospinae var. *gruberi*. A clone of the type collection in early bud. Note the broad, distinctly marked, lingulate leaf blades.

Type. Colombia: Casanare (Boyaca); San Luis de Gacano, 3–500 m. Flowered in cultivation, 10 Oct. 1990, *Franz Georg Gruber s.n.* (SEL, holotype; HUA, isotype).

Plant short caulescent, flowering 35–65 cm tall. *Leaves* densely rosulate, 25–35 cm long. *Leaf sheaths* elliptic, 6–10 x 4–6 cm, densely ferruginous lepidote. *Leaf blades* lingulate to lanceolate, 20–45 mm wide, broadly acute with a reflexed, abruptly acuminate apex, pale green or pale yellow-green with dark reddish brown or purple tessellations. *Inflorescence* usually compound, yellow, similar to the type variety.

This new variety differs from the original in the following characters:

- 1) leaf blades lingulate to lanceolate vs. triangular.
- 2) leaf blades broader, 20–45 (mostly 35–40 mm wide vs. 18–35 (mostly 20–30) mm wide.
- 3) leaf apex broadly acute and abruptly acuminate vs. evenly tapering.
- 4) leaves tessellated dark reddish-brown or purple vs. dark green or reddish green.

Paratypes. Colombia: presumably from the type locality. Ex hort. Franz Georg Gruber via Dennis Cathcart, (sterile!), 1 Sept. 1990, *H.E. Luther s.n.* (SEL); ex hort. Franz Georg Gruber, flowered in cultivation SEL 90–728, 5 Jan. 1991, *H.E. Luther s.n.* (SEL).

This beautiful new vriesea is dedicated to Franz Georg Gruber who grows many native and exotic bromeliads in his nursery in Fusagasaga, Colombia. It is a spectacular ornamental sure to become popular in horticulture.

*The M.B. Foster Bromeliad Identification Center
The Marie Selby Botanical Gardens, Sarasota, Florida*

¹ J. Brom. Soc. 33:23–24 includes John P. Barbie's painting of *Vriesea ospinae* var. *ospinae*.

² Rolf Rawe, pers. comm., 1983. Meta is a department of Colombia south and east of Bogotá. The capital is Villavicencio.

New Books and Old

T.U. Lineham

NEW: *Bromeliads; a cultural handbook*, a BSI publication, compiled by Mark A. Dimmitt with the help of many BSI members and others. A 48-page, soft-cover booklet with many illustrations in color. This handbook is without question a beginner's guide and not to be confused with more comprehensive books such as the Bromeliad Society of Australia *Growing Bromeliads*, to which we refer frequently. It will replace, at least for some time, the 1977 BSI cultural handbook, now out of print and with stock nearly exhausted. This informally written guide of some 9,000 words gives basic information about how to identify the most common genera and general instruction on how to grow the various species. In a separate section of the book seven genera are discussed in greater detail.

The Bromeliad Society is planning to sell the book by means of an aggressive advertising campaign and through major plant growers. The latter avenue, if accepted, will tell Mr. and Mrs. Buyer what their plant is and how to take care of it (and, we hope, encourage them to begin a collection). Basic distribution will be made by BSI Publication Sales Committee Chairman Sally Thompson. We plan to have copies on hand at the Tampa World Conference in June. The price has not been assigned.

NEW: *A distributional check-list of the genus Tillandsia*, by Lloyd F. Kiff. Botanical Diversions, 5404 Encino Ave., Encino, CA 91316. 1991. 93 pp., 23 cm. Paper \$15 postpaid (U.S.); \$17 international. ISBN 0-935868-55-0.

The author-compiler states in his introduction: "This check-list is intended to provide a single source for currently accepted names of *Tillandsia* species and an outline of their ranges. In addition, brief taxonomic notes are inserted for clarification. Country-by-country lists of *Tillandsia* species based mostly on the published literature and an index of synonyms are appended."

This book will be very useful to growers, distributors, and purchasers of tillandsias who are conscientious about the accuracy of their plant name tags. It is a comprehensive yet quick reference that can save hours of searching for information about name changes, countries of origin, and synonyms. The synonym list may be nearly as important as the basic list. The annotations include formal citations and references to personal letters to provide current information stated in an informal style, for example: (concerning *T. tandapiana*) "Possibly synonymous with *T. multiflora* Benth (W. Till pers. comm.); Luther disagrees."

The author is a careful writer, his research has been comprehensive; the printing and paper are first class. We hope to present a thorough review soon. Please see the author's advertisement on page 140.

NEW: The 3rd edition (May 1992) of *An alphabetical list of bromeliad binomials*, compiled by Harry E. Luther and Edna Sieff. The Bromeliad Society, Inc. Publication Sales, 29275 N.E. Putnam Road, Newberg, OR 97132. 28 cm in binder. Prices to be announced. This new edition will expand the March 1991 edition of the List to include material published since 1991, corrections, and additions of previously omitted names. The genus *Pepinia* will be included. Mr. Luther plans to publish a revised list every two years. This third edition will be available from BSI Publication Sales after the June 1992 World Conference.

ALL OF THESE NEW BOOKS AND THE OLD BOOKS LISTED BELOW WILL BE AVAILABLE AT THE BSI INFORMATION TABLE AT THE TAMPA 1992 WORLD BROMELIAD CONFERENCE. THERE WILL BE ORDER FORMS ON HAND IF SUPPLIES RUN OUT.

- *A preliminary listing of all known cultivar and grex names for the Bromeliaceae*, compiled for The Bromeliad Society, Inc. by Don A. Beadle, registrar. June 1991. This compilation consisting of 239 pages of data is the most comprehensive yet produced. After the Tampa Conference it will be available from BSI Publication Sales instead of from Mr. Beadle.

- *Bromeliads*, by Walter Richter. This is the BSI-sponsored English translation of excerpts of his book *Houseplants of Today and The Future: Bromeliads*.

The book contains an illustrated discussion of bromeliad culture presented in detail but not with species-by-species analysis. It includes a very useful table of especially recommended species and hybrids together with information about flowering season, light, temperature and general comments. A still useful guide.

- *A bromeliad glossary*, compiled by Victoria Padilla. The stock of the 1977 edition is nearly gone but we hope to have a new edition available within 12 months time.

- *The colorful bromeliads: their infinite variety*, by Victoria Padilla. 1981. This heavily illustrated book supplements the author's earlier description of bromeliad genera and species. It looks like a fancy, coffee-table book, but it is full of useful information. Special conference sale price will be announced.

- *Bromeliads: a descriptive listing of the various genera and the species most often found in cultivation*, by Victoria Padilla. 1973. The basic guide for hobbyists

[Continued on page 130]

Editorial: A Few Kind Words About Our Advertisers

For more than eight years you have not been subjected to messages from the publisher or editorials by the editor, at least rarely. It now seems that I get worked up about things and tend to write about them. The latest is about advertisers.

Nice people. If you have ever had problems with a *Journal* advertiser you haven't described them in writing. Not during my tour. That is about as good an endorsement as most people can expect because any praise is hard to come by but blame is quickly given. It is almost as good as the acceptance of checks from perfect strangers for plant sales. Never a bum check from plant lovers. Enough to give one confidence.

Last year we sold about \$6,000 worth of advertising space, equaling nearly one-sixth of our production costs, or almost enough to pay for one issue of the *Journal*. We have averaged 10 pages of ads in the bimonthly issues. Many of our advertisers have been with us for a long time, through good and not so good years sometimes grumbling about poor sales but still willing to contribute to the cause.

It is natural for members to patronize the sales tables at their local meetings hoping for treasures at bargain prices or just plants for beginners, but many don't have the luxury of a local society and must depend on nearby nurseries. Why not branch out and learn what the advertisers offer?

Did you know that you may send a self-addressed, stamped long envelope for any of 17 price lists or buy three, different, larger, and illustrated catalogs. There are:

- 18 nurseries that offer one or many kinds of bromeliads at retail and wholesale prices;
- 7 booksellers;
- 4 suppliers of fertilizer, insecticides, cork, and pot hangers; and
- others who offer a calendar, BSI pins and culture leaflets.

Try them! Look for many of our advertisers at the Tampa World Bromeliad Conference in June. Tell them that you read their ads in the *Journal*.—TUL

George H. Anderson, Former BSI Director

We are indeed sorry to report that our friend George Harold Anderson died on 29 February 1992. He was born on 16 August 1922. George was a man of strong opinions backed up by years of experience in working with people and with plants. He accomplished a great deal for the bromeliad world.

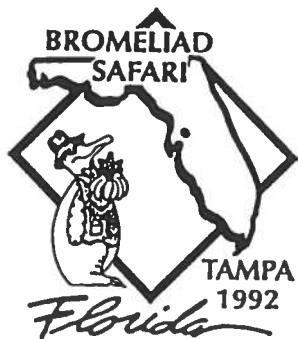
Mr. Anderson was a director of The Bromeliad Society, Inc. for four tours beginning in 1972. He served as chairman of the Nominations Committee in 1986. He was a founder of the Greater New Orleans Bromeliad Society and a leading contributor to standardized bromeliad judging with his writing about several genera and methods of judging them. His handbook, *Bromeliad Horticulture in The New Orleans Area*, published in 1974, was well received.

Hybridizing bromeliads was one of the great pleasures of Mr. Anderson's life. He is credited with 74 registered names. The latest compilation of bromeliad hybrids shows that his earliest registered cultivar was 'Ann Anderson' dated 1976. Many of those crosses were conducted in concert with Australian friends. One of the best is shown on the cover of the May-June 1986 *Journal* in which his article "Hybrids By Design or Chance" appeared. In another issue he wrote about his system for cataloging his many thousands of color slides of bromeliads. He used those slides both for teaching student judges and for providing instructional programs to neighboring societies.

In typical George fashion he concluded his article about hybridizing by saying how inflating to the ego it was when asked about a particularly outstanding plant to be able to say: "Oh, yes, that is one of our crosses."

We offer our sympathy on her loss to his wife, and most helpful assistant, Ann.—TUL

FINAL NOTICE OF 1992 MEETINGS: The annual meeting of the membership of The Bromeliad Society, Inc. will be held at 9:00 a.m. 10 June 1992, at the Saddlebrook Resort, site of the 1992 World Bromeliad Conference. It will be followed immediately by the annual Board of Directors' meeting.



BROMELIAD SAFARI

10TH WORLD CONFERENCE
JUNE 11 - 14, 1992
TAMPA, FLORIDA

Dear BSI Members:

"Safari" plans are in their final stages. The jeeps are loaded and the convoy is forming. We hope that you will be among the many hundreds to make the trip with us.

The Conference poster, as advertised on page 141, was painted by Kiti Wenzel, a well-known bromeliad artist from Fort Myers, Florida. The plant on the poster is *Neoregelia* 'Big Bands', also called Oeser hybrid #100, secured by Joe and Peggy Bailey many years ago in California. It was the only one of its kind and is no longer in existence. We selected it for the poster because it is both beautiful and unique. We are happy to share it with you.

Our judged show will be in a lagoon pavilion with plenty of natural light so as not to distort the plant colors. Please bring plants for judging. We need all we can get. This is your show, so please plan to participate and help us fill the lagoon with your beautiful bromeliads. Entries will be received all day Wednesday, June 19th and late entries from 7:00 a.m. to 8:00 p.m. on Thursday, June 11, 1992.

We are planning another "World-wide Show & Tell" for Sunday morning. Please bring a couple of your favorite slides to share.

Plan to meet your international trustees over tea and crumpets. This may be your only chance to meet these famous bromeliad people from around the world.

Our post-conference tours should be of special interest to all who attend. There will be at least 18 homes and nurseries throughout the state open for your touring pleasure. Maps and additional information will be provided in your registration packet.

A special tour is planned for Monday, June 15th. A bus will leave Saddlebrook at 9:00 a.m. and travel to Tropiflora (Dennis and Linda Cathcart's nursery) then to The Marie Selby Botanical Gardens where you will have lunch under the arbor and then get a behind-the-scenes tour by Harry Luther. Then on to Wally & Dorothy Berg's home to view their superior collection, and return to Saddlebrook by 5:00 p.m. The cost will be \$28.00 per person with advance registration required on a first come, first served basis.

Monday evening, June 15th, is the Bromeliad Guild of Tampa Bay, Inc. regular monthly meeting night. A "World Conference Celebration" is planned with all out-of-town registrants invited as special guests. Please plan to be there.

Pack your "Safari" gear, put on your pith helmet, and head for Tampa! I'll see you there.

Vriesea lutheriana, a New Species

[Continued from page 117]

The new species appears to be most closely related to *Vriesea duida* (L.B. Smith) E.J. Gouda, of the Guayana Highlands, with affinities to *V. elata* (Baker) L.B. Smith, *V. rubra* (Ruiz & Pavon) Beer, *V. rubro-bracteata* Rauh, and *V. zamorensis* (L.B. Smith) L.B. Smith.

This species falls within Subkey III of the genus *Vriesea* in Smith & Downs (1977) because of its compound inflorescence, lingulate leaves, and upper scape bracts that exceed the internodes. It is placed numerically directly after *Vriesea duida* as 1.3.

- A. Leaves 0.4–0.7 m long, lustrous green above, often maroon-purple beneath; inflorescence diffuse; scape slender, 5–9 mm in diameter; primary bracts red; floral bracts yellowish green to yellowish orange to red; petals blue; plants of the Guayana Highlands..... 1.2 *Vriesea duida*
- AA. Leaves 0.8–1.1 m long, dull dark green above and below; inflorescence dense, cylindric; scape robust, 15–18 mm in diameter; primary bracts light green; floral bracts orange; petals light bluish gray; plants of Costa Rica....
..... 1.3 *Vriesea lutheriana*

I am pleased to name this species in honor of Harry E. Luther, Director of the M.B. Foster Bromeliad Identification Center, The Marie Selby Botanical Gardens, Sarasota, Florida, for his contributions to our understanding of Bromeliaceae.

ACKNOWLEDGEMENTS:

I thank Chester Skotak for bringing my attention to this species, allowing me to take portions of his cultivated material for study, and providing alcohol-preserved flowers and photographs from which descriptions and illustrations were made. Barry Hammel, Christina Formoso, Cecilia Herrera, Pablo Sanchez Vindas, Marlon Valerio Vindas and the staffs of the Instituto Nacional de Biodiversidad, Santo Domingo, Heredia, and the Herbario Nacional, Museo Nacional, San Jose, Costa Rica, provided assistance and access to their collections. I thank the curators and staff of the U.S. National Herbarium for continued support: Alice R. Tangerini for line drawings. W.H. Skinner for help with the Latin diagnosis. R.B. Faden and W.J. Kress (US), H.E. Luther (SEL), R.W. Read (US emeritus), J.L. Reveal (MARY), J.R. Rundell, Maryellen Thirolf (U. of Md.), and Jonathon L. Worth reviewed the MS.

LITERATURE CITED:

- Gouda, E.J. 1987. Flora of the Guianas, ser. A. 189. Bromeliaceae: Tillandsioideae. Koenigstein, Fed. Republic of Germany: Koeltz Scientific Books.
- Smith, L.B.; Downs, R.J. 1977. Tillandsioideae. Flora Neotropica. Monograph no. 14, pt. 2. New York: Hafner Press.

Dept. of Botany, University of Maryland
College Park, MD

Bromelia humilis Color Variations

Ana and Pedro Rousse

Bromelia humilis is a stoloniferous plant that is saxicolous or terrestrial and capable of surviving high variations of temperature and altitude.

On a recent collecting trip to the island of Margarita, Venezuela, we found hundreds of these specimens widely spread in the northern regions of the coast and low hills. Some plants showed striking inflorescences. Near the town of Juan Diego, there is a big xerophytic natural park organized for artistic, educational, and touristic purposes. Its promoter is a Spanish man named Mr. Pepe who for many years has been collecting arts and crafts of native cultures, as well as antiquities, and plants. The park has an extensive area covered with *Bromelia humilis*, cacti and "cujies." Pepe told us he pays ten cents for each plant of "caracuey" (the popular name given here) to the natives for carrying plants to the park. It is very painful work when you realize they have to endure hot weather and the murderous punctures of the spines.



Figure 12

B. humilis. A close-up of two colors (rose-pink above), and salmon pink (right). Note the small blue and white flowers in the center of the rosette.



Photos by Pierre Rousse

Figure 13

Some of the plants show the red, brilliant characteristic inflorescence of this species, but only a few of them have a rose pink, a salmon pink, or an orange color.

Bromelia humilis is used to cover eroded land and the slopes of highways, and it is also commonly used as fences instead of other materials to prevent trespassing. *B. humilis*, *B. pinguin* and *B. chrysantha* are the common species in low rainfall regions of Venezuela and the Caribbean Islands.

Caracas, Venezuela

Mario Trovarelli wants to know where to find "Bromeliad Culture, No. 1." The answer is: *Journal* volume 40 (1990), pages 196–199, "Success with *Abromeitiella*."

Since that article we have discussed *Acanthostachys* species, (no. 2); *Aechmea fasciata*, (no. 3); *Billbergia* species and hybrids, (no. 4); *Canistrum*, (no. 5). We plan to write about *Nidularium* culture soon.—Ed.

Collection of Specimens of the Weevil *Metamasius callizona*

Howard Frank

Metamasius callizona now occurs in four counties in Florida and probably will spread to other counties.¹ Living specimens of the weevil are needed urgently for research purposes. I will gladly acknowledge receipt of them. One adult weevil may be mailed from anywhere in Florida in a used, plastic 35-mm film canister. Please include a moistened piece of absorbent paper towel or Kleenex, tape the lid shut with Scotch tape, and enclose in a business envelope (postage is 39 cents). It is likely that two or even three weevils will travel safely in one such canister or in a similar container such as a pill bottle. Weevil larvae or pupae will travel about as well using the same method.

If you think the insects you have found in bromeliads are weevil larvae, or pupae, or adults, but you are not sure, please send them in a small, screw-capped plastic bottle, but fill the bottle with a mixture of about seven parts of rubbing alcohol to three parts of tap water, and tape the cap securely. This same procedure applies to any weevil-like insects that might be found in bromeliads from anywhere in the United States, Mexico, or Central America. I will gladly examine them and send you an identification. Please include your name and address, where the insect was found (locality, county, state), the date of collection, and the identity of the bromeliad in which it was found.

Entomology/Nematology Department, University of Florida
Gainesville, FL 32611-0740

Chemical Control of *Metamasius callizona* in Bromeliads

Donald Short

Mix half an ounce of Dursban 50W per gallon of water and apply as a preventive spray every two to three months. Dursban 50W may be used also as a dip for bromeliads at a reduced concentration (a third of an ounce per gallon of water). Trials of chemicals against the weevil have not yet been performed, so these recommendations are made on general principles.

Entomology/Nematology Department, University of Florida
Gainesville, FL 32611-0740

¹ Please see Journal vol. 41 (1991), pages 107–108; 253–255 for reports on this pest.

Questions & Answers Conducted by Derek Butcher

All readers are invited to send their questions and observations about growing bromeliads as a hobby to the editor. Answers will be sent directly to you and some questions will be published.

Q. If I were a purist I believe I would be a raving maniac trying to keep up with all the changes of names. When this happens, my question is, "Why." I see no need for sudden change without explanation. How could they have been so misidentified in the first place?

A. This is a fascinating question because it revolves around human frailties and a breakdown in communication. A purist would say a change of name can never happen with a cultivar because once named and registered there would be no reason to change it. There might be the accidental loss of a label but the registration would remain.

So the problem must be with species. The only certain way of knowing if a collected-in-the-wild plant is correctly named would be to name it yourself and publish it in accordance with the international code (complete with a Latin diagnosis). There are two hard steps before publication: to establish how your plant is different from others by making a comparison with already identified plants and by searching botanical literature for related plants. You have seen many instances in the *Journal* of descriptions that begin: "differs from..." Even if you follow these procedures somebody might find enough similarities between your discovery and another described and published earlier. Seniority rules. In that case, your cherished plant could keep its name but with the notation: "synonymous with" and who wants that tag when you thought you had a "sp. nov.?"

The relationships among the species, and even more important, among the genera are still being searched. It has been only a few years (in terms of science) since the Smith and Downs monograph was published so it is natural that what seemed to be an acceptable rule in 1979 may not be so obviously natural now. This fact says that if you object to change, just wait a little.

A change, to be valid, must be published, just as a description must follow certain rules. Don't we all wish that we had a reliable single source to consult on these matters? My sympathy is with you. The calming factor is that bromeliads well known to hobbyists are rarely affected by these changes. The *Journal*, with the indispensable help of Harry Luther, will try to keep you informed. Names are important however this answer may sound. Just try to have a conversation at your next bromeliad meeting using no names be they of humans or plants.

New Books and Old

[Continued from page 121]

and out of print. A small quantity is still available from Sheldance Nursery. Please see their ad on page 136.

• *Cumulative index to the Bulletin and Journal of the Bromeliad Society, Volumes I-XXX (1951-1980)*, by Clyde F. Reed. 1981. Write to Dr. Reed for prices of single and multiple copies: 1222 Main Street, Darlington, MD 21034.

• *The bromeliads*, Léon Duval. Edited by Michael Rothenberg and Robert W. Read, 1990, a translation of the classic 1896 edition. It includes tables of *Vriesea*, and *Pitcairnia* hybrids. Please see ad on page 131.

• *Garden plants of the tropics (Venezuela)*, by F. Oliva-Esteva and *Bromeliaceae of Venezuela*, by F. Oliva-Esteva and J.A. Steyermark. Both of these illustrated books will interest bromeliad hobbyists. The text is not technical and the color pictures are especially good. The *Bromeliaceae of Venezuela* is especially interesting because of the maps and photographs of the table mountains and the unusual plants found on them. Please see ad on page 132.—TUL

Advertising space in the *Journal of the Bromeliad Society* is available at the following rates:

	Rates ¹	One Issue	Six Issues
ALL ADVERTISING PREPAID.	Full Pages	\$125.00	\$625.00 ²
	½ Page	70.00	350.00 ²
Advertisers to provide any art work desired.	¼ Page	45.00	220.00 ²
	⅛ Page	25.00	125.00 ²

¹ Cost for color ad furnished on request. ² Plus \$25.00 per ad change.

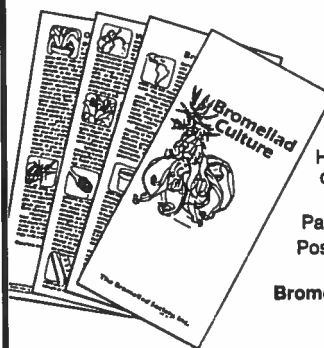
Advertising is presented as a service to our membership and does not necessarily imply endorsement of the product. Please address all correspondence to: Editor—Thomas U. Lineham, Jr., 1508 Lake Shore Drive, Orlando, FL 32803.

Bromeliad Society, Inc.

SEEDS For Sale or Trade

HARVEY C. BELTZ, SEED FUND CHAIRMAN
6327 South Inwood Road
Shreveport, LA 71119-7260

Send stamped, self-addressed envelope for listing of available seeds.



Bromeliad Cultural Tips

Answers the most frequently asked questions by the general public.

Hand out at shows, displays and sales.
8-fold, self-mailer.
Packet of 100—\$3.50.
Postage will be billed.

Order early from:
Bromeliad Society, Inc.
2488 E. 49th
Tulsa, OK 74015



Bird Rock Tropicals

Specializing in Tillandsias

6523 EL CAMINO REAL
CARLSBAD, CA 92009
(619) 438-9393

Send SASE for price list

THE BROMELIADS

by Leon Duval

Edited and Annotated by

Dr. Robert W. Read and Michael Rothenberg

"Duval demonstrates in this book his desire to share the details of growing bromeliads from seed to maturity, giving tricks of the trade and clues to success such as had not appeared in print anywhere earlier or even in such detail since."

Copies are \$60.00. Individual orders must be accompanied by payment in full, plus sales tax for California residents. Institutions may submit a standard purchase order. Dealer discounts furnished on request. Prospectus available.

United States Distributor:

Big Bridge Press
2000 Highway One
Pacifica, California 94044
415—355-4845

Overseas Distributor:

Universal Book Services (U.B.S.)
Dr. W. Backhuys
Warmonderweg 80
2341 KZ Oegsgeest
The Netherlands
(071) 170208

Cactus & Succulent Society of America

Invites You to Join!

As a member you will receive:

- A Subscription to the *Cactus and Succulent Journal* (6 issues)
- Voting Privileges
- CSSA Newsletters

To begin your membership, send a check or money order for \$30 (U.S., Canada, Mexico) or \$35 (other countries) in U.S. dollars drawn on U.S. bank to:

CSSA, P.O. Box 35034
Des Moines, IA 50315-0301 U.S.A.

New



Bromeliads; A Cultural Handbook
Compiled by Dr. Mark A. Dimmitt

To be released at
TAMPA 1992

WORLD BROMELIAD CONFERENCE
Please see page 120 for description.

**NOTICE OF SPECIAL SALE
JOURNAL OF THE BROMELIAD SOCIETY
(through December 1992)**

Journal volumes 26–36 (1976–1986) postpaid cheapest rate
 U.S. addresses.....\$13.00 per volume
 All other addresses.....\$14.00 per volume
 Three or more volumes to any address.....\$10.00 per volume
Journal separate issues (1976–1986) postpaid
 cheapest rate.....\$2.50 each

PLEASE NOTE:

- (1) *The Bromeliad Society Bulletin* volume 1 (1951) is still available at \$10.00 plus postage and insurance. **There are no other complete volumes of the Bulletin** but many scattered issues 1952–1958 available. In groups of 6, \$10.00 plus postage and insurance.
- (2) There are no volumes or separate issues of the *Bulletin* or *Journal* available for the years 1959–1975.
- (3) Processing of 1976–1983 volumes may take up to 6 weeks.

PAYMENT in United States dollars to BSI must accompany all orders for the *Journal*. Inquire for availability and cost of the *Bulletin*.

ORDER FROM or address inquiries to:

Editor, The Bromeliad Society, Inc.
 1508 Lake Shore Drive, Orlando, FL 32803-1305
 Telephone: 407-896-3722

AVAILABLE AGAIN

GARDEN PLANTS OF THE TROPICS (VENEZUELA)

by Francisco Olivia-Esteva; introduction by Dr. Julian A. Steyermark.

430 pages, extensively illustrated in color; 27–24 cm (10½" x 9½"). Reviewed in the *Journal*, November–December 1987. "Includes 23 bromeliads...a work of reference value." \$70.

BROMELIACEAE OF VENEZUELA

by Francisco Olivia-Esteva and Julian A. Steyermark.

10½" x 9½", 397 p., 466 color photos; 223 bromeliads including 29 genera, many new to science. Reviewed in the *Journal*, March–April 1988. "A lavish quantity of color pictures and other illustrations." \$65.

Both books postpaid in the United States. If ordering from outside the U.S. please add \$5.00 and allow 6–8 weeks for delivery.

Order from: Elisenda Andrews
 16 Willow Lane
 Cumberland, ME 04021

THINKING OF A HOT NEW ITEM?

...Think of Air Plants (Tillandsias)

- * Air Plants are most suited for live arrangements ! Plants are beautiful ! Versatile ! Sturdy and long living !
- * Neither soil nor water is required to make your arrangements...
- * All Plants are Nursery grown !
- * Low, low prices and volume discounts !
- * Extraordinary high profit potential !
- * Quick air deliveries to anywhere !

Please: telex, fax or phone. We will be most happy to hear from you !

 **Bromelifolia**
Tillandsias... Our Speciality !

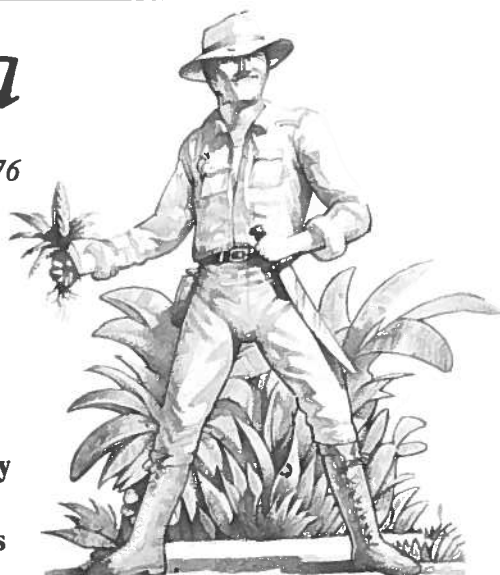
P.O. Box 165 "A" / Guatemala City / Central America
 TELEX: 5450 BROMEL-GU Fax: (5022) 313907
 Tels.: 314195, 347166, 313907

Tropiflora

A Tradition of Quality Since 1976

**Catering to Collectors
and the Wholesale Trade**

**Hundreds of varieties of
greenhouse-grown
Bromeliads in stock and a
constantly changing inventory
of new, collected and
imported species and hybrids**



**Tillandsia Specialist, Largest Selection in the U.S.
Wholesale and Retail Catalogs FREE • Shipping Worldwide**

**3530 Tallevast Road, Sarasota, FL 34243
Phone (813) 351-2267 • Fax (813) 351-6985**

You are invited to join
THE CRYPTANTHUS SOCIETY
the largest affiliate of The Bromeliad Society, Inc.

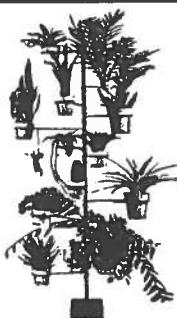


*learn how to grow the
dazzling Earth Stars
and make new friends
all over the world.*

Membership (\$10 USA) (\$15 International) includes
four colorful issues of *The Cryptanthus Society Journal*
Ongoing Research and Plant Identification • Cultivar Publication
Slide Library • Cultural Information Exchange • Registration Assistance
International Shows with exhibits, seminars, tours, and plant sales

Send SASE for cultural information
or \$3.00 for a sample Journal to:

**Kathleen Stucker, Secretary
3629 Bordeaux Court Arlington, TX 76016 USA**



**BRAND NEW 84-PAGE
COLOR CATALOG**

\$5
185 PLANTS
IN GLORIOUS
FULL COLOR
Cryptanthus
Bromeliads & Tropicals

Grow three times as many plants
in the same amount of space.
ADJUSTABLE™ POT HANGERS increase
light distribution, air circulation and
drainage. Durable plastic coating prevents
rust. Sizes to fit 3 to 8-inch pots in 6, 9
& 12 inch lengths. Grow better plants.
Send SASE for information, today!

SOUTHERN EXPOSURE
35 Minor Beaumont, TX 7702 USA (409) 835-0644

Since 1978
COLIN'S NURSERY, INC.
CRYPTANTHUS ONLY

12,000 square feet of greenhouses
with over 200 of the best varieties.

Call (407) 886-2982 and come visit us at
448 N. LK. PLEASANT RD.

APOPKA, FL 32712

You will be glad you did!

Mail orders welcome.
S.A.S.E. will bring a descriptive price list.

Michael's Bromeliads

Providing an outstanding selection
of quality Bromeliads for the collector.

Send stamp for list of over
800 varieties from 30 genera.
Specializing in Neoregelias.

Order by mail, or contact for appointment.

Michael H. Kiehl
1365 Canterbury Rd. N.
St. Petersburg, FL 33710
Phone: (813) 347-0349



BROMELIAD SAFARI

10TH WORLD CONFERENCE
JUNE 11 - 14, 1992
TAMPA, FLORIDA

FEATURED SPEAKER:

Harry E. Luther, Director
Mulford B. Foster Bromeliad Identification Center,
Marie Selby Botanical Gardens, Sarasota, Florida

CONFERENCE HIGHLIGHTS:

- * JUDGED PLANT SHOW * SEMINARS * POOLSIDE PARTY * PLANT RAFFLES *
- * PLANT SALES BY FOREIGN & DOMESTIC GROWERS * CRYPTANTHUS AUCTION *
- * HOME GARDEN TOURS * OUTSTANDING EXPERT SPEAKERS * DISPLAYS *
- * RARE PLANT AUCTION * HONORARY TRUSTEES * TEA & CRUMPETS * EXHIBITS *
- * WORLD WIDE SHOW & TELL * EDUCATION * RECREATION * FUN *
- * BANQUET SPEAKER—World Famous Landscape Architect —ROBERTO BURLE MARX

REGISTRATION DETAILS:

Adult Regular —\$120.00—per person (Nov. 2, 1991 to April 1, 1992)
Adult Late —\$145.00—per person (after April 1, 1992)
Children 16 & under —\$ 45.00—per person without bus tours (no deadline)
Children 16 & under —\$ 60.00—per person to include bus tours
Social —(accompanied by registrant —\$10.00 less than registrant's fee)

All full registrants are entitled to attend ALL functions,
plus early entrance to the show and sales area.
Social registrants must accompany a full registrant and
are entitled to reception, show, banquet and rare plant auction.

AIRLINES: 40% Discount - Special Fares
DELTA AIRLINES
1-800-241-6760
File No. L0573

AUTOMOBILE RENTAL:

Special Low daily & weekly rates—
AVIS 1-800-331 1600
Rate Code: A/B 786401
Cars available at Saddlebrook
location & Tampa Airport.

HOTEL RESERVATIONS:

Saddlebrook Golf & Tennis Resort
5700 Saddlebrook Way,
Wesley Chapel, FL 33543-4499
Phone: 1-800-729-8383 -or-
(813) 973-1111
Fax: 813-973-1312
Conference Rates to April 1, 1992
Deluxe guest room—\$70.00
(Single, or double occup.)
1-Bedroom Suite—\$85.00
(Single or double occup.)
2-Bedroom Suite—\$120.00
(Single, double, triple or quad.)

**Specify Bromeliad
Conference rates.**

REGISTRATION FORM:

TENTH WORLD BROMELIAD CONFERENCE

Please make checks payable to: BGTB World Bromeliad Conference

Mail to: **Mrs. Gwen Carnegie, Registrar**
1734 Magnolia Road
Belleair, FL 34616 Ph.(813)584 7749

Name: _____
Address: _____
City _____ State _____ Zip _____
Please list any Bromeliad Clubs to which you belong:

* Direct hotel registrations to Saddlebrook and indicate that you are attending the World Bromeliad Conference
to qualify for special rates and a rare plant seedling.

PINEAPPLE PLACE

3961 Markham Woods Rd.
Longwood, Florida 32779
(407) 333-0445



Open 1-5
Daily
Sunday by
Appointment

Mail orders invited. We cater to
purchasers of specimen plants.
Special prices to BSI Affiliate
Societies for bulk purchases. SASE
for listing or come see us.

Carol & Jeff Johnson

WANTED

Aechmea discordiae

Aechmea graziellae

John Anderson
Epiphitmy Extension Station
P.O. Box 5202
Corpus Christi, TX 78465-5202

WHOLESALE BROMELIAD SEEDLINGS

Tillandsia cyanea & *Vrieseas*
Bareroot and Liners



Hawaiian
Sunshine
Nursery

2191 Ainaola Dr.
Hilo, Hawaii 96720-3542

(808) 959-4088

Fax 959-4089

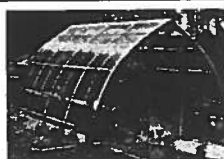
Tillandsias From Guatemala

(Retail & Wholesale)

Arthur Boe Distributor

P.O. Box 6655
New Orleans, LA 70114

Enclose stamped, self-addressed
envelope for flyer.



Catch
The
Sunshine!

- Hobby to Commercial Sizes
- Environmental Systems & Accessories
- Fully Warranted
- Free Color Brochure and "Practical
Guide To Greenhouse Selection."

**Gothic Arch
Greenhouses**

A DIVISION OF TRANS-SPHERE CORP.
P.O. Box 1564-THC • Mobile, AL 36633-1564
CALL TOLL-FREE 800-628-4974

Shelldance



The most complete Bromeliad Nursery in the United States

Featuring exclusive Yamamoto hybrids • Wholesale/Retail

A limited quantity of Victoria Padilla's *Bromeliads*, a soft-cover reprint,
1986, available at \$14.95 + \$2.00 first class postage and handling.

Open to the public Monday - Friday 9:00 to 4:30

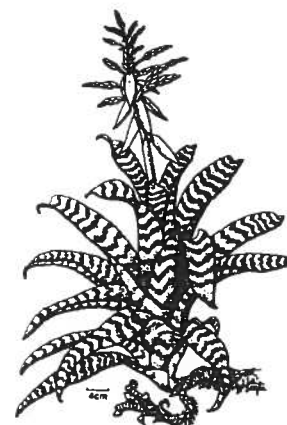
Weekends by appointment only.

2000 Cabrillo Highway, Pacifica, CA 94044 (415) 355-4845

We ship anywhere • Send \$1.00 for catalog

Located ten minutes south of San Francisco.

The Bromeliad Page



What?

A 1993 Bromeliad
Calendar just for
Bromeliad lovers!!!

When?

June 11-14, 1992

Where?

Bromeliad Safari
10th World Conference
Tampa Florida.

Visit our booth at the Great Tampa show
and place your order for the 1993 Bromeliad
Calendar. Support the Bromeliad Identification
Center when you order this beautiful calendar.
This large full color format calendar will
have something for everyone. We will include any
special club dates for FREE in this 1993
calendar.

Don't miss us at this very special event
that is happening in June of '92.

SEE YOU THERE!!!

For advance order forms or to submit your
special club dates, write to:

The Bromeliad Page

P.O. Box 1762

Venice, Florida 34284 USA

GROWING BROMELIADS

by
The Bromeliad Society of Australia Inc.

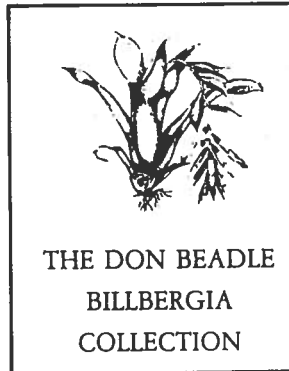
A most useful handbook
for the bromeliad hobbyist
2nd ed., 112 p., 95 color plates plus b&w illus.

Available from
International Specialized Book Service,
5602 N.E. Hassalo St., Portland, OR 97213.
Phone: 800-547-7734.
\$14.95 + \$3.00 shipping
Credit cards accepted
Outside USA & Canada, contact Kangaroo Press P/L,
P. O. Box 75, Kenthurst, NWS, 2156, Australia

BROMELIAD BOOKS

Send for free catalog

Myron Kimmach
5508 N. Astell Ave.
Azusa, CA 91702
(818) 334-7349



Send self-addressed stamped envelope for list.
1205 HARBOR LIGHTS
P. O. BOX 81464
CORPUS CHRISTI, TEXAS 78468
(512) 993-3928

Holladay Jungle

For the Finest in Tillandsias

Call Barbara
We Ship Everywhere

P.O. Box 5727, Dept. Q
Fresno, CA 93755

(209) 229-9858



Tillandsias
our Specialty

P.O. Box 15283
Plantation, FL 33318
(305) 584-7590

Send S.A.S.E. for price list
Retail list also available

TREEBORNE GARDENS



GRAPEVINE
AND
MANZANITA
CRAFTWOOD

503-469-6539

99211 BLACKBERRY LANE
BROOKINGS, OR 97415

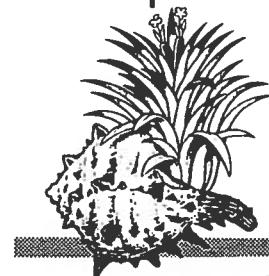
Welcome to TILLANDSIALAND

Growing only Tillandsia since 1977.

Largest Tillandsia Nursery in
North America.

All our plants are Greenhouse grown.

Prompt, Professional Service
North America's Largest Inventory.
Wholesale Only



Tillandsia
INTERNATIONAL

43714 ROAD 415-A / COARSEGOLD, CA 93614
(209) 683-7097 / FAX (209) 658-8847

"Schultz-Instant"



The
Natural
Way to
Bug-Free
Plants.

the
**NATURAL
PYRETHRINS**
Insecticide

Kills: Aphids • Whiteflies • Gnats
• Mealy Bugs • Red Spiders • Moths
• Spider Mites • Mosquitoes Etc.

Available at leading Garden Centers and Plant Departments
Garden Clubs: SEND FOR OUR FUND RAISING OFFER
Schultz Co. 14090 Riverport Drive, Maryland Heights, MO 63043



**VIRGIN
CORK
BARK!**

Super for all plagued species

By the piece or by the bale.

Ask about CORK NUGGETS, too!

Call for the Dealer or
the Distributor nearest you!

Maryland Cork Company, Inc.

Toll Free: (800) 662-CORK
Inside MD: (301) 398-2955

P.O. Box 126, Elkton, MD. 21921



BSI Emblem Pins

with either clutch back or
pin back are again available.
Same price—\$6.00 postpaid

Sally Thompson, BSI Publication Sales
29275 N.E. Putnam Road • Newberg, OR 97132

We will have pins and publications

or sale at the
BSI hospitality booth at the
1992 World Bromeliad Conference
in Tampa, June 11–14, 1992.

Blooming Bromeliads

by

Ulrich & Ursula
Baensch

The book is now ready for
printing and will be available
before long.

Ask for pamphlet and
information.

TROPIC BEAUTY, PUBLISHERS
P.O. Box CB 11317
Nassau / Bahamas



**Rainforest
Flora
Inc.**

GROWERS AND DISTRIBUTORS OF
TILLANDSIAS AND BROMELIADS

1927 W. ROSECRANS AVE.
GARDENA, CA 90249
(213) 515-5200
FAX (213) 515-1177

Quality Tillandsia Since 1974

- GREATEST NUMBER OF SPECIES
- BEST PRICES AND QUALITY
- 98% OF PLANTS ARE PRODUCED AT
OUR 10 ACRE GROWING FACILITIES.
- FULL LINE OF PROMOTIONAL MATERIALS:
 - 270 PAGE, FULL COLOR, TILLANDSIA
BY PAUL T. ISLEY, III
 - 24 PAGE GENUS TILLANDSIA BOOKLET
 - HIGHLY PRAISED EPIPHYTES DELIGHT
FERTILIZER
 - COLOR POSTERS AND LAMINATED PLACARDS

SASE FOR PRICE LIST
PAUL T. ISLEY III • JERROLD A. ROBINSON



Boggy Creek Bromeliads

*Specializing in
Neoregelias*

3615 Boggy Creek Rd.
Kissimmee FL 34744
Call (407) 348-2139
Betsy, Audrey & Bill McCrory

JUST PUBLISHED!

A DISTRIBUTIONAL CHECK-LIST
OF THE GENUS *TILLANDSIA*
by Lloyd Kiff

A list of currently accepted names of
Tillandsia species with their ranges,
country-by-country lists, and an index
of synonyms. 93 pp.

\$15 postpaid (U.S.); \$17 international
Order from: BOTANICAL DIVERSIONS,
5404 Encino Ave., Encino, CA 91316

The Bromeliad Guild of Tampa Bay announces the 1992 WORLD CONFERENCE POSTER

by Kiti Wenzel

BROMELIAD SAFARI



10TH WORLD CONFERENCE
JUNE 11 - 14, 1992
TAMPA, FLORIDA

Actual poster size: 18" x 25"

The cost of \$15.00 each includes postage, mailing tube, shipping & handling.
Additional posters mailed at the same time to the same address are \$10.00 each.

Checks are payable to BGTB World Conference.

Mail request and check to: Herb Gramstroff 813-985-3403
7110 Lauder Place
Tampa, Florida 33617

ORCHIDS AND BROMELIADS

Nursery-Grown Plants

Our Catalog No. 83 offers approximately 3,000 different Orchids and Bromeliads, species and hybrids. The Catalog also offers seeds of Orchids, Bromeliads, Philodendrons, Palms, and other greenhouse plants.

If you are interested in a copy of it, please send us US \$5.00 for airmail expenses (Cash only). We cannot accept checks of such small value.

SPECIAL PLANT OFFERS FOR BEGINNERS

We offer the following collections of orchid and bromeliad species, all carefully selected and correctly named, our choice. These are blooming-size plants. We guarantee their safe arrival and delivery by E.M.S. (Express Mail). All shipments listed will be accompanied by phytosanitary certificates. U.S. and Canadian customers must include import permit numbers with their orders. Shipments of orchid plants must be accompanied by the CITES certificate that costs \$5.00 for each order and often takes 2-3 months to be obtained. Please consider this when sending us your order.

	FOB	Inclusive EMS Mail expenses
50 different Orchid species	US \$190.00	US \$250.00
100 different Orchid species.....	375.00	450.00
50 different Bromeliad species	90.00	150.00
100 different Bromeliad species.....	250.00	325.00

Larger quantities may be sent by air freight collect.
If you are interested, please write for our Wholesale Price List No. 90.

Make checks for orders payable to: Alvim Seidel, any bank in U.S.A.

ALVIM SEIDEL ORQUIDEARIO CATARINENSE

P.O. Box 1, 89280 CORUPA - S. Catarina, Brazil

Tel. (0473) 75-1244
Rua (Street) Roberto Seidel, 1981

Founder: Roberto Seidel, 1906
Telex 474 211 ORKI BR

INT. FAX NO. 55 473 75 1042
Since 1906 - One of the world's most complete nurseries

The Bromeliad Society, Inc.

The purpose of this nonprofit corporation is to promote and maintain public and scientific interest in the research, development, preservation, and distribution of bromeliads, both natural and hybrid, throughout the world. You are invited to join.

OFFICERS AND DIRECTORS

President - Jack Burton Grubb, 10008 Hyde Pl., River Ridge, LA 70123.

Vice-president - William E. Frazel, 12500 12th St., Davie, FL 33325.

Editor - Thomas U. Lineham, Jr., 1508 Lake Shore Drive, Orlando, FL 32803-1305.

Membership secretary - Linda Harbert, 2488 E. 49th, Tulsa, OK 74105.

Secretary - Thomas W. Wolfe, 5211 Lake Le Claire Road, Lutz, FL 33549.

Treasurer - Clyde P. Jackson, 3705 Shadycrest, Pearland, TX 77581.

1990-1992 Directors - T.A. Calamari, *Louisiana*; Clyde P. Jackson, *Texas*; Geoffrey Johnson, *Florida*; Dutch Vandervort, *California*.

1991-1993 Directors - Mark A. Dimmitt, *Western*; Sharon Garcia, *Southern*; Enrique Graf, *International*; Al Hodes, *Northeast*; Thelma Mean, *Central*; Frank Messina, *California*; Jerrold A. Robinson, *California*; Jaqui A. Watts, *International*; Thomas W. Wolfe, *Florida*.

1992-1994 Directors - Maurice Kellett, *Australia*; Polly Pascal, *Florida*; Charlien Rose, *Texas*.

HONORARY TRUSTEES

Roberto Burle Marx, *Brazil*; Olwen Ferris, *Australia*; Grace M. Goode, *Australia*; A.B. Graf, *United States*; Roberto A. Kautsky, *Brazil*; Marcel Lecoufle, *France*; Elmer J. Lorenz, *United States*; Harold Martin, *New Zealand*; William Morris, *Australia*; Werner Rauh, *Germany*; Robert W. Read, *United States*; Walter Richter, *Germany*; Lyman B. Smith, *United States*.

DIRECTORY OF COMMITTEE CHAIRMEN AND SERVICES

Affiliate Shows; Charlien Rose, 4933 Weeping Willow, Houston, TX 77092.

Affiliated Societies: Mary Jane Lincoln, 1201 Waltham St., Metairie, LA 70001.

Conservation: Mark A. Dimmitt, The Arizona-Sonora Desert Museum, 2021 N. Kinney Rd., Tucson, AZ 85743.

Cultivar Registration: Don Beadle, P.O. Box 81464, Corpus Christi, TX 78412.

Finance & Audit: Odean Head, 7818 Braes Meadow, Houston, TX 77071.

Judges Certification: Geoffrey Johnson, 3961 Markham Woods Rd., Longwood, FL 32779.

Membership and subscriptions to the *Journal*: Please see inside front cover.

Mulford B. Foster Bromeliad Identification Center: Send specimens and contributions to Harry E. Luther, at the Center, The Marie Selby Botanical Gardens, 811 South Palm Ave., Sarasota, FL 34236. FAX: 813-366-9807.

Nominations: John Anderson, P.O. Box 5202, Corpus Christi, TX 78465-5202.

Publication Sales: Sally Thompson, 29275 N.E. Putnam Rd., Newberg, OR 97132.

Research Grant: David H. Benzing, Dept. of Biology, Oberlin College, Oberlin, OH 44074.

Seed Fund: Harvey C. Beltz, 6327 South Inwood Road, Shreveport, LA 71119-7260.

Slide Library: Weston K. Furukawa, 3763 Monteith Dr., Los Angeles, CA 90043.

World Conference: William E. Frazel, 12500 12th St., Davie, FL 33325.



This is the poster picture for the Tampa World Bromeliad Conference of 1992. The artist is Kiti Wenzel of Fort Myers, Florida. The plant is *Neoregelia* 'Big Bands', a cultivar registered by Joe and Peggy Bailey also of Fort Myers. The parentage is unknown and the plant is no longer available except as remembered in this painting. Please see page 141 for poster sales information.

Calendar of Shows

- 16-17 May Bromeliad Society of South Florida Annual Show and Sale. Fairchild Tropical Garden, 10901 Old Cutler Road, Coral Gables, FL 33156. Thursday, entries 12 noon to 8 p.m.; Friday, judging, 9 a.m. to 4 p.m.; show hours Saturday and Sunday, 9:30 a.m. to 4:30 p.m. Milt Lesser 305-865-0020.
- 4 June-7 Sept. "Epiphytic Jewels; Canopy Dwellers of the Tropical Rain Forest," by Ms. Bonnie Arant Ertelt. Museum of Botany and the Arts, The Marie Selby Botanical Gardens, 811 South Palm Avenue, Sarasota, Florida. This show has been scheduled to coincide with the 1992 World Bromeliad Conference.
- 11-14 June 1992 World Bromeliad Conference sponsored by The Bromeliad Guild of Tampa Bay, Inc., The Florida Council of Bromeliad Societies, Inc. and The Bromeliad Society, Inc. Saddlebrook, Tampa, Florida. Tom Wolfe, General Chairman, 813-961-1475.
- 1-2 August South Bay Bromeliad Associates 25th Annual Bromeliad Show & Sale. South Coast Botanic Garden, 26300 South Crenshaw Blvd., Palos Verdes Peninsula, CA. Saturday noon to 4:30 p.m.; Sunday 10 a.m. to 4:30 p.m. Judged show, demonstrations. Admission \$3.00, students and seniors over 61 \$1.50.

Please send all copy and 1992 show and related notices to reach the editor at least 60 days before publication date of the *Journal*. The deadline for September-October is 1 July 1992.