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Cover photographs. Front: *Aechmea spectabilis* normally produces a great inflorescence. For a discussion on bromeliads as cut flowers see pages 258–260. Photo by G. Samyn. Back: A specimen of *Ananas comosus* "Negrita." Variations in *Ananas* species are described in pages 246–249. Photo by F. Leal.

CONTENTS

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Nominations Open for the 1991 Election of Directors

Nominations are now being requested for the office of director of The Bromeliad Society, Inc. for the 1992–1994 term. Directors are elected by region.

Regions having openings for the 1992–1994 term:

Australia–1 director Florida–1 director Texas–1 director

Who may nominate? Any voting member of the society who resides in a region for which there is an opening may nominate a candidate for an opening in that region.

Who may be nominated: A nominee must: (1) be a voting member of the society currently and have been a voting member for the three consecutive years prior to nomination; (2) reside in the region for which nominated; (3) not have served two consecutive terms as a director immediately preceding nomination; (4) agree to being nominated; (5) agree to serve as a director if elected.

Procedure for nominating: (1) obtain the consent of the prospective nominee and verify compliance with the qualification criteria; (2) airmail nominations to the chairman of the Nominations Committee between 1 January and 18 March 1991 inclusive. Nominations by telephone will be accepted through 15 March but must be confirmed in writing; (3) supply with each nomination the full name, address and telephone number of the nominee, the position for which the nomination is being made, local society affiliation (if any), and a brief autobiography of the nominee.

Responsibilities of the nominees: (1) to accept the nomination and agree to serve if elected; (2) to attend all annual Board meetings at own expense (attendance commitment not required of nominees outside the United States); (3) to carry out the duties of director as outlined in the current bylaws of the society; (4) to provide to the nominator the information listed in item 3 of the preceding paragraph.

Mail nominations to:

Dutch Vandervort
Chairman, Nominations Committee
25 Encinal Place
Ventura, CA 93001
Telephone: 805-643-2506

A Sensational Bromeliad

Racine Foster

Due to the nature of the beast, not too many people grow *Bromelia balansae*. It has somewhat savage qualities and if you get hooked by its spines, you might agree that it seems to be aggressively belligerent. The spines, curved in both directions, mean to keep an intruder away from its magnificent inflorescence and tasty fruit.

Some of us who live in a warm climate and are foolish enough to grow *Bromelia balansae* outside, soon learn to grumble at it. By sending out long stolons, this bromelia propagates rapidly, creating an interlocking mass of moss green, three-foot leaves edged with hooked barbs often described as vicious. If a finger or a leg gets caught on a barb, inevitably, as you try to extricate yourself, the neighboring barb catches you from the other direction. To work with it you must wear heavy, long gloves and stout boots. For tools you need an axe, mainly, as well as long-handled loppers. Equipped in this manner you may feel very belligerent yourself as you try to stop its rampant growth!

And then, when you see a plant in bloom, all anger dissipates. You are spellbound with wonder at the amazing spectacle. The "heart of flame" is quietly, but sturdily thrusting upward a tower of "cotton" filled with maroon flowers which are protected by its bracts that look like red darts in the middle of a leaf-fountain splashed with scarlet. A dazzling display! A sensational bromeliad!

The accompanying illustration (Fig. 1) is a photograph of a painting done by Mulford B. Foster in 1950. In 1972 it was purchased by the Hunt Institute for Botanical Documentation, Pittsburg, PA as part of their permanent collection of botanical paintings. It was hung in their 3rd International Exhibition of Botanical Art and Illustration of 1972.

To make this painting botanically complete, the artist has included the mature inflorescence with flowers (in right hand corner) and the fruiting scape in the background. Thus giving a glimpse of the complete life cycle of *Bromelia balansae*.

Orlando, Florida

Harry Luther, after reviewing both the text and the illustration adds: "The slide probably represents B. balansae. *You might add that not all material cultivated in Florida as* B. balansae *represents that species.*—Ed.

Hunt Institute

Figure 1
Photograph of a painting of *Bromelia balansae* by Mulford B. Foster.

A HOPED-FOR BROMELIAD CULTURE SERIES

You will have read the article about growing **Abromeitiella** in the 1990 September–October issue of the *Journal* and what better place to begin a series of articles on basic bromeliad culture. Carol Johnson is writing on *Acanthostachys,* Kathy Dorr is selecting her genus. Dutch Vandervort has already contributed to the *Abromeitiella* article. Is it possible that anyone could improve on the three-part discussion of *Tillandsia* presented by Mark Dimmitt this year? Surely Don Beadle is writing bravely about the best billbergia culture methods. We have 20 other BSI board members who promised faithfully at the June meeting to fulfill their assignments in this series.

Some thinking author could discuss cultivating *Androlepis.* Why? See the Luther List of Bromeliad Binomials, available from the editor. We truly need definitive statements to answer the plea: "Please, send me any information on this plant (usually *Aechmea fasciata*) that you have available. I love it and don't want to kill it." We have had no fewer than 97 letters pleading for just that information in the past two years and have attempted to answer each one. What are your techniques for growing bromeliads? Write them down and mail them to the editor.—Ed.

On the Validity of *Ananas monstrosus*

Freddy Leal[1]

In Flora Neotropica, Bromelioideae, (Bromeliaceae) Smith and Downs (1979) considered the genus *Ananas* to be composed of eight valid and legitimate species: (1) *A. monstrosus;* (2) *A. ananassoides;* (3) A. nanus; (4) *A. parguazensis;* (5) *A. lucidus;* (6) *A. bracteatus;* (7) *A. fritzmuelleri;* (8) *A. comosus.*

In the key to the species of *Ananas* (Smith & Downs, 1979), *A. monstrosus* is identified as: "Foliaceous coma completely lacking at apex of syncarp."[2] Literature review and the study of live material, introduced doubts into the validity of *A. monstrosus* as a good species (Leal, 1987).

Camargo (1956) published a preliminary note in which he classified material found close to Tefé, Amazonas State, Brazil, locally called "cabeza de onca," as *Ananas lyman-smithii* Camargo, a new species dedicated to Dr. Lyman B. Smith. According to the description it is identical to the common pineapple but the syncarp lacks the crown, the leaf spines are oriented towards its apex, slips are present at the base of the syncarp, and it is without stolons. At that time, Camargo did not complete the diagnosis because the flowers were never seen, but he stated, "independent of the new species petal type, its taxonomic rank will be of an *Ananas* species." Also, he considered this new species as an intermediate from between *Pseudananas* and *Ananas,* "the new species of *Ananas lyman-smithii,* even without crown, represents a more evolved botanical form, close to the table pineapple, because its fruit is voluminous and of a good taste." Samples of this species were introduced to different experimental stations and to the Rio de Janeiro Botanical Garden where the type species is supposed to be deposited. Since this paper, no diagnosis has been found. Thus, Camargo presented a *nomen nudum,* invalid according to Article 36 of the International Code of Botanical Nomenclature, 1988.

Smith in his Notes on Bromeliaceae XVII (1961), and with references to Brazil, proposed a new combination: *Ananas monstrosus* (Carrière) L.B. Smith comb. nov. instead of *Ananas lyman-smithii,* which went into synonymy. According to that author, the species is based on *Ananassa monstrosa* of E. A. Carrière (1870), without Latin diagnosis, and using Camargo's arguments, he considered it the most primitive species of the genus.

According to Carrière, "*Ananassa monstrosa* is a simple form of *Ananas sativus* with all its characteristics but the terminal crown," and he never had the intention to publish a new species. The use of the *monstrosa* epiphet came from

Carrière's arguments that "everything that does not conform with the rules established by science is an anomaly or a monstrosity."

In his description, Carrière pointed out that: "by its general aspect and growth development, *Ananassa monstrosa* is nothing special, its growth is normal, and in regard to the fruit, it is regular, nothing abnormal except that the traditional crown tends to disappear."

Ananas monstrosa was obtained by J.E. Lafont, an amateur horticulturist from Bordeaux, by seed of a fruit of *Ananas* coming from Bahía that weighed 4 kilograms. Even though it was a potted plant and poor care was given (as it suffered from water stress), its fruits were perfectly developed reaching 14 cm in diameter and 18 cm in height; its quality was perfect.

In methodically searching for pineapples and relatives in Venezuela since 1978 (Leal, García and Cabot 1986), many samples of *Ananas comosus* without crown were found. These discoveries caused some doubts about the validity of *Ananas monstrosus.*

A sample from the variety "Negrita" (Leal and Antoni 1981) without crown was found in a pineapple plantation close to Valera, Trujillo State (back cover) with only that plant and its fruit, and using the Smith and Downs' key, it would be concluded that it was a specimen of *Ananas monstrosus,* without considering the presence of crown alterations of variations in this population. Slips from that plant were taken and planted at Maracay, Aragua State. Fifteen months later these plants produced normal fruits with crowns; that is, the crownless character did not hold, as it should have as a specimen of *A. monstrosus.*

Crownless examples of 'Smooth Cayenne' and 'Valera' (Figs. 2 and 3) are occasionally found, as in most *A. comosus* varieties, showing that the crownless type is not a stable characteristic.

Dewald (1987) conducted electrophoretic studies in *Ananas comosus* and related species, with material mostly from Venezuela, and by the distribution of isoenzymatic bands showed that *A. monstrosus* is a simple crown mutation of *A. comosus* that occurs in many cultivars.

From all the preceding discussion, it is concluded that:

1) the crownless fruit characteristic is not stable, and could be present occasionally in most *Ananas comosus* varieties.

2) the crownless characteristic being variable, with a low percentage incidence, it could not characterize a species as was proposed.

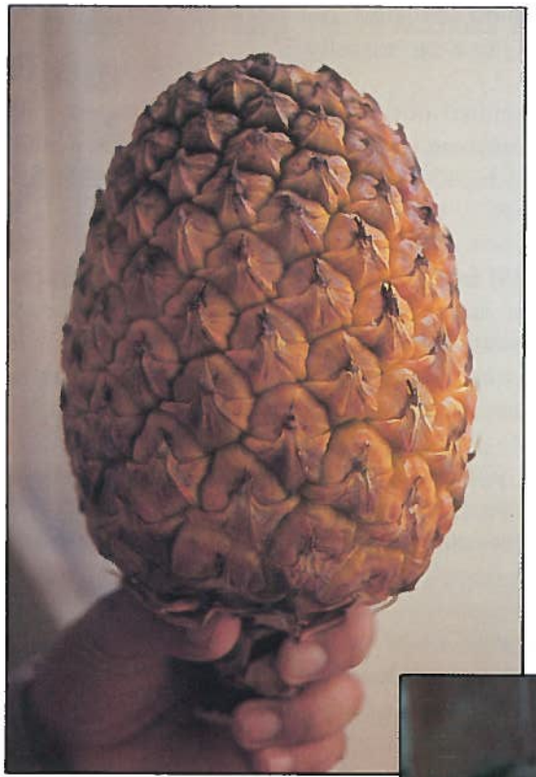

Figure 2
A crownless pineapple from a 'Smooth Cayenne' farm.

Photographs by the author

Figure 3
A 'Valera' crownless pineapple.

3) the species name of *Ananas monstrosus* is illegitimate because it was neither proposed nor described by Carrière.

4) the species name of *Ananas lyman-smithii* being a *nomen nudum* is also illegitimate, according to Article 36 of the International Code of Botanical Nomenclature.

5) the species names *Ananas monstrosus* and *Ananas lyman-smithii* used to identify samples exactly like the common pineapple but crownless, must go into the synonymy of *Ananas comosus,* because they are nothing but varients of it, as Carrière pointed out in 1870. It is considered to occur as occasional anomalous forms in different *A. comosus* varieties, thus, *A. monstrosus* must go into synonymity.

Maracay, Venezuela

NOTES:

1. Instituto de Agronomía. Facultad de Agronomía. U.C.V., Maracay, Venezuela.

[2. Syncarp. United carpels; a fruit consisting of many cohering or consolidated carpels. Victoria Padilla, comp., A bromeliad glossary.. BSI; 1977.]

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We are very grateful to the **Caloosahatchee Bromeliad Society** of Fort Myers, Florida for the very generous gift to the *Journal* color fund. Such gifts are gratifying to the editor, who takes a very personal interest in the reaction of *Journal* readers, and encouraging to the treasurer, who must pay the bills.—TUL

Miscellaneous New Taxa of Bromeliaceae (VII)

(Continued from July–August Issue)

Harry E. Luther

Drawings by Barbara H. Culbertson

***Tillandsia nervibractea* Gilmartin & Luther, sp. nov.** (Figure 4)

A. *T. pardinae* L.B. Smith cui affinis, floribus laxioribus, foliis angustioribus, vaginis pallidis, bracteis primariis longioribus, capsulis brevioribus.

Plant flowering ca. 50 cm tall. *Leaves* 30 cm long, appressed lepidote throughout, purple spotted; *blades* 12 cm long, 3–4 cm wide, apex rounded and apiculate; *sheaths* 1/3 to 1/2 the length of the leaves, pale. *Scape* slightly exceeding the leaves, erect; *scape bracts* strict, imbricate, thin. *Inflorescence* 45 cm long, 18 cm wide, tripinnate, lax. *Primary bracts* 1–4 cm long, exceeding the sterile bases of the branches. *Branches* 5–12 cm long, spreading, each with up to 6 spikes. *Spikes* 2–6 cm long, 8 mm wide, laxly 4- to 12-flowered, distance between flowers 5–6 mm. *Floral bracts* 5–7 mm long, the proximal exceeding the sepals and incurved, the distal equaling or exceeded by the sepals and more or less straight, thin, nerved, broadly ovate. *Sepals* 5–6 mm long, obovate, asymmetrical. *Capsules* to 1.5 cm long.

Type: Ecuador. Without locality, flowered in cultivation at the Brooklyn Botanic Garden, July 1975, *G. Kalmbacher s.n.* (Holotype: US).

Tillandsia nervibractea differs from the related *T. pardina* L.B. Smith by having narrower leaf blades, pale leaf sheaths, thin, nerved floral bracts, more laxly arranged flowers and shorter capsules.

***Tillandsia pseudotetrantha* Gilmartin & Luther, sp. nov.** (Figure 5)

A. *T. tetranthae* R.&P., cui affinis, laminis angustioribus, mollibus; inflorescentia cinereis lepidotis differt.

Plant 23–40 cm tall. *Leaves* 14–25 cm long; *blades* 1–2 cm wide, appressed lepidote throughout, narrowly triangular, soft, flexible; *sheath* ca. 5 cm long, 5 cm wide, pale reddish-brown within. *Scape* about equaling the leaves; *scape bracts* with caudate apices, their sheaths equaling to exceeding the internodes. *Inflorescence* ca. 10 cm long, 4 cm wide, bipinnate, with few spikes each to ca. 1 cm wide. *Primary bracts* much exceeding the spikes, ovate to triangular, cinereous-lepidote, divergent to reflexed. *Spikes* ca. 2 cm long, each with 3 to 5 flowers, spreading to divergent. *Floral bracts* 5 mm long, broad ovate, cinereous

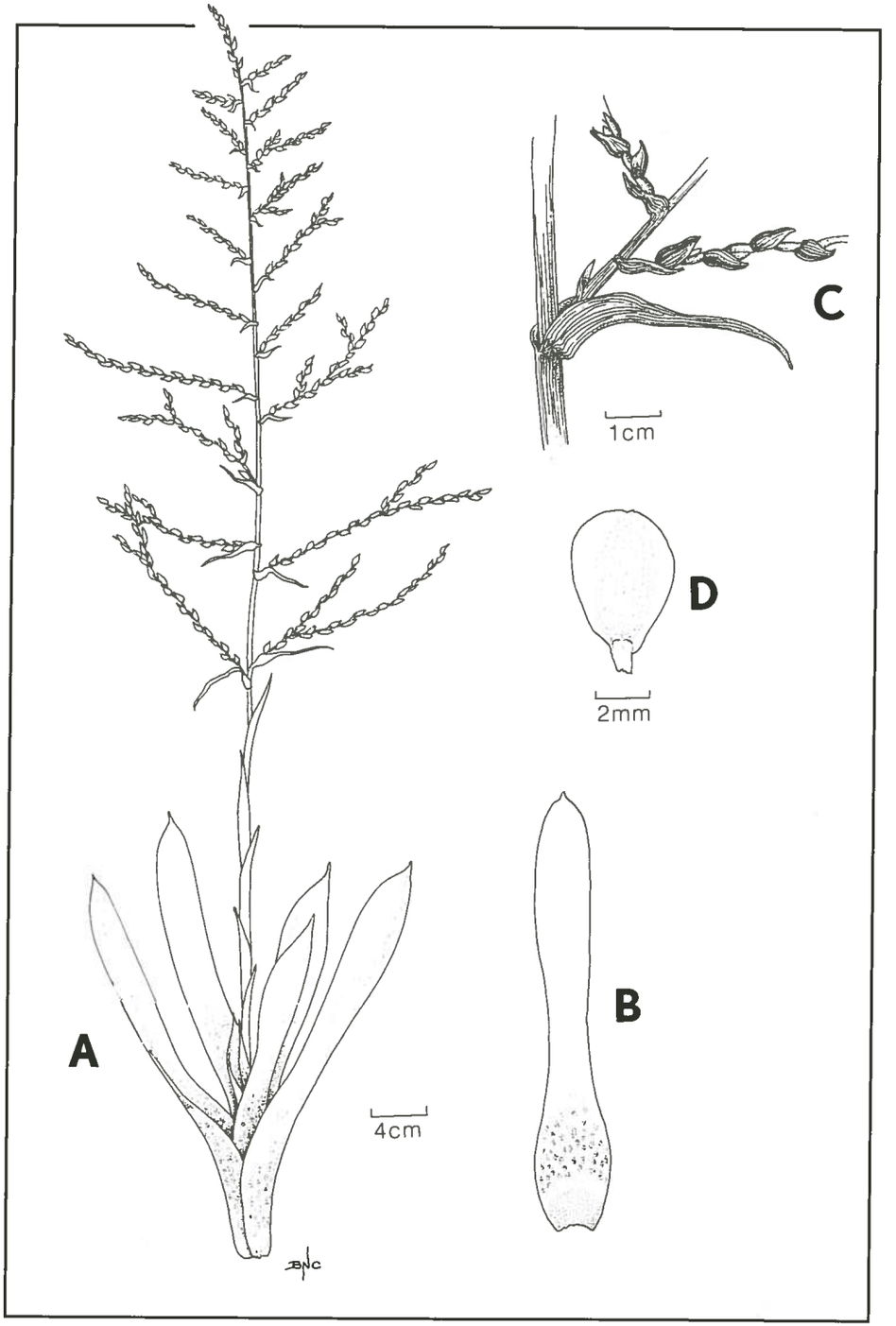


Figure 4

Tillandsia nervibractea. A) habit; B) leaf; C) branch of inflorescence; and D) sepal.

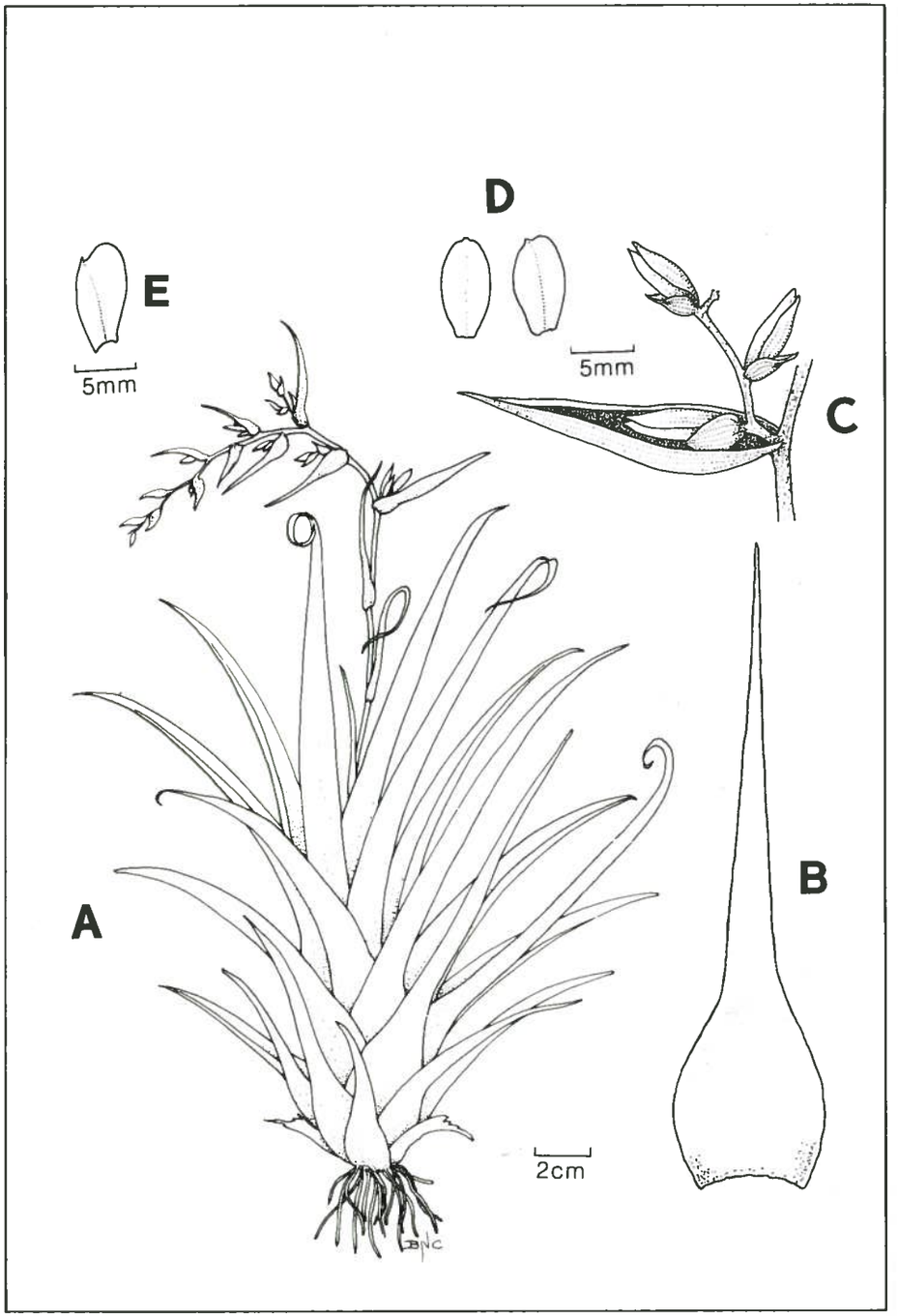


Figure 5
Tillandsia pseudotetrantha. A) habit; B) leaf; C) branch of inflorescence; D) sepals; and E) sepal of *Tillandsia tetrantha.*

lepidote, much exceeded by the sepals, orange. *Sepals* ca. 1 cm long, 5 mm wide, obovate, slightly asymmetrical, the posterior sepals carinate. *Petals* barely exceeding the calyx, orange.

Type: Ecuador; El Oro, 11 km W of Pinas, road to Sta. Rosa ("new road"), 850 m elev., 8 Oct. 1979. *Dodson, Gentry & Shupp 9075* (Holotype: SEL).

This new species is most closely related to *Tillandsia tetrantha* R.&P. but differs by its more exserted sepals that are only slightly asymmetrical, paler leaf sheaths, narrower, more flexible leaf blades and cinereous lepidote inflorescence.

"Miscellaneous New Taxa of Bromeliaceae (VI)" appeared by Selbyana 11, 1989.

M.B. Foster Bromeliad Identification Center
Marie Selby Botanical Garden
Sarasota, Florida

A Wish for the New Year

. . . that the mail box be filled daily with articles for the *Journal.* As long as we're wishing, we might as well wish for a lot. After several months of plenty we are faced with scarcity of material for the January–February issue not to mention the five to follow that. Our faithful taxonomists supply copy regularly and we fulfill our scientific mission by publishing their work. We hope that hobbyists will learn by reading that material even though it may be somewhat difficult. We are really short of accounts of success and failure by growers—hobbyists and small and large commercial growers. That is how we share our experience and attract new people to an interest in bromeliads. We're not too proud to borrow from newsletters, but we like new articles.

Fear not the editor and his slashing word-processor. He casts an increasingly tender eye on the work of the members. An outline or roughed-out description is enough to begin. Members of the editorial board will help authors complete their work. Plainly stated sentences expressing basic ideas will do the work. "Oh, I can't write." Of course not. You have yet to sit down and try. Tell us how you got started, how you grow bromeliads indoors or out of doors, the materials that you use, what you have learned, write as if you are talking to your local bromeliad society members.

Don't wait until next week. We work at least 60 days ahead of the next deadline. Write the word; share the wealth.—TUL

Book Review

Rainforests; A Guide to Research and Tourist Facilities at Selected Tropical Forest Sites in Central and South America., by James L. Castner. 416 p., 35 black and white photos, 32 line drawings, 9 maps, 22 cm; 1990. ISBN 0-9625150-2-7, LC89-81847. Order from Feline Press, P.O. Box 7219, Gainesville, FL 32605. Price: $21.95 (Florida residents add $1.32 sales tax) plus $1.50 shipping U.S., $2.50 Canada, $3.50 surface mail to other countries.

Because the on-going, on-site research in the remote rainforest regions of the Americas is very important to the future of mankind, Dr. Castner does a great service to the potential field researcher in this book. While he never mentions the flora or fauna of any of the areas he reports upon, he does describe the living and working conditions which can be expected at each site. He also categorizes each site as tropical wet forest, tropical moist forest, subtropical moist forest in Peru, Ecuador, French Guiana, Venezuela, Trinidad, Costa Rica and Panama. Please remember the book describes only rainforest sites in selected areas of these countries, so collectors of dry-growing bromeliads will find little information of use to them.

The logistics of each location are carefully set forth in the following format:

Contact (Name)
Address
U.S. representative (if any)
Description (the bad & good news, research facilities & who supports it).
Location
Logistics (how to get there)
Forest type
Seasonality (wet and dry seasons)
Facilities (toilet, bath, eating, sleeping)
Trail systems
Costs (and what is covered)

There are black and white photos of many of the living facilities, several of which are familiar to me since I have spent time there. At the end of each chapter there are comments on the country, a list of related publications and maps, and tourist information sources.

Specific information about selected sites takes up about two thirds of the book. There is then an extensive portion devoted to rainforest information sources including publications, maps and organizations devoted to rainforest research.

The portion of the book (Chapter 3) regarding "Hands On" organizations and "Sources of Funding" (Chapter 4) should be of interest of those desiring assistance in conducting research in these areas. *(continued on page 256)*

My Favourite Aechmeas

Don Woods

With the genus *Aechmea,* we have a class that can display highly attractive leaf colour and markings and showy flower spikes, which later may set colourful berries. Some of the aechmeas have all of these attributes and are prized and expensive. Others have varying combinations of foliage and flowering characteristics. In general, however, aechmeas have long-lasting flowers, berries, and colourful bracts. They also are known for their variegated varieties. I am growing some twenty of the latter and have seen or read of another twenty, or so.

Here are my favourites:

• *Aechmea chantinii* 'Samurai'. A highly prized foliage cultivar with the characteristic *A. chantinii* silver banding on stiff leaves bordered with prominent brown spines. Added to this, on each leaf is a broad band of vertical yellow lines that highlight the silver banding.

• *A. fulgo-ramosa.* An outstanding hybrid of *A. fulgens* var. *discolor* with *A. ramosa* made by Louis Dutrie.[1] The foliage consists of twelve to sixteen handsome, discolor leaves about 45 cm long when grown in optimum light. The large, mainly upright, many-branched inflorescence, up to 70 cm tall, has white petals. The flowering can last from four to six weeks and then colourful berries are set and remain in colour for many more weeks.

• *A. fulgens* var. *discolor,* a parent of *A. fulgo-ramosa,* has a white-margined form that is rewarding in spite of its need for special care. during cold months, the water level in the rosette should be kept at a minimum level (just above drying out). It should be grown in a semishaded area for optimum leaf colour. It has the typical *fulgens* inflorescence of grape-like, red berries with blue flowers.

• *A. lueddemanniana* 'MEND'. A handsome rosette of cream-margined leaves that take on a red hue when grown in optimum light. Watch for the tall, many-branched inflorescence with delicate, purple petals that later turn to berries, first white and then a shiny purple when ripe.

• *A. orlandiana* 'Ensign' [En-SIGN]. A striking variety of *A. orlandiana* with rich, white marginal bands on the leaves that are maroon-spotted when grown in a very bright light. The typical red flower spike has yellow petals

• *A. fasciata.* Of this old favourite, we have three varieties. My favourite, *A. fasciata* var. *purpurea* is a stunning, medium-sized, upright rosette of broad leaves with random, horizontal, silver banding on a background colour of deep plum red when grown in strong light. It has the typical *A. fasciata* inflorescence with pink bracts and blue flowers.

• *A. magdalenae* var. *quadricolor.* Here is an outstanding species. The leaves are longitudinally striped with red, white, and green. I have found it hard

to grow. Extra care must be taken in the cold winter months to ensure that cold water is not allowed to collect in the center of the rosette and that it is given the warmest and sunniest spot in your hothouse. In summer, keep the plant regularly watered and misted. I found that it responds favourably to a large pot of well drained and humus-rich soil.

• *A. bracteata* has two variegated forms. The leaves of *A. bracteata* var. *bracteata* have stunning, vertical stripes of green and yellow. There is another *A. bracteata* called "rubra" in horticulture that has similar vertical stripes on the leaves. The leaves become suffused with red when grown in optimum light conditions.

Willetton, West Australia

[*Adapted from* Bromeletter, *July/August 1986, Bromeliad Society of Australia, Inc., with the author's permission.*]

NOTE:

[1. Louis Dutrie introduced two varieties from this crossing: *A. fulgo-ramosa* and *A. fulgo-ramosa discolor*. J. Brom. Soc. 37:202, 205; 1987.]

Book Review *(continued from page 254)*

The appendix includes names and addresses of travel agencies.

If you are used to traveling in style and staying at the best hotels, this book will be of little help. Very few of the facilities listed even have flush toilets and at some you must bring and cook your own food and furnish bedding. Some of the sites are run by specific foundations and are available only to researchers.

I was impressed with the book for several reasons:

1. The author obviously planned the book and *then* visited each area. With most travel books the information is retrospective and I know from experience that memory is not always reliable.

2. The information is up to date. The author visited all of the sites during 1988 and 1989, so we can be sure that little, if anything, has changed. I have little faith in "revised" handbooks or those written 15 to 20 years ago, especially as regards Central and South America.

3. The book is exactly what its title says it is: "A Guide to Research and Tourist Facilities at Selected Tropical Forest Sites in Central and South America." There are no anecdotes of personal experience, no blatant endorsements or rejections. It is packed cover to cover with information and statistics.

My copy will occupy space alongside my three volumes of Monograph 14.

Carol M. Johnson
Longwood, Florida

Tillandsia muhriae or *muhrii*– A Question of Priority

Walter Till

In March 1986, two new species of *Tillandsia* were described, both dedicated to Mrs. Dorothea Muhr of Buenos Aires, Argentina. Wilhelm Weber published *Tillandsia muhrae* in Feddes Repertorium 97 (3–4), pages 101–103, Abb. 6 a–h, while Werner Rauh issued *T. muhrii* in Die Bromelie 1/86, pages 1–2, with cover illustration, Abb. 1 & 2. Although both were correctly and validly published in accordance with the International Code of Botanical Nomenclature (ICBN) and represent two different species belonging to different alliances, the question of priority remained to be solved.

In a letter to the author, dated 6 July 1986, the editor of Die Bromelie, the late Aja Coester, confirmed the exact date of issue of no. 1/86 to be 22 March 1986. Walter Vent answered for Feddes Repertorium in a letter of 8 May 1990 that no. 97 (3/4) was issued on 3 March 1986. These letters[1] indicate that Weber's publication was first and mandate the priority of his name use.

According to Article 75.1 of the ICBN, the named used in the original publication must be kept unless an orthographic error appears. Article 75.3 specifies: "the orthographic variants of a name are to be automatically corrected to the validly published form of that name." Article 73.10 states: "the wrong use of the [Latin] terminations...is treated as an orthographic error to be corrected." Recommendation 73 C. 1 (b) explains how to form substantive epithets with personal names ending in a consonant. This means that Weber's plant must be spelled *Tillandsia muhriae*. It also means that Werner Rauh's *T. muhrii*, a later, and illegitimate, homonym, was incorrectly spelled since it has the masculine instead of the feminine ending. This problem of nomenclature is solved rather easily.

Questions concerning the systematic position of *Tillandisa muhriae* Weber and the now illegitimate *T. muhrii*[2] Rauh are being researched by Carlos A. Palací, Dept. of Botany, University of Wyoming.[3]

Institut für Botanik der Universität Wien
Rennweg 14, A-1030, Vienna

REFERENCES:

International code of botanical nomenclature adopted...August 1981. 1983. Voss, E.G.; Burdet, H.M.; Chaloner, W.G.; et al., eds. (Regum Vegetabile, v. 111). Utrecht:Bohn, Scheltema & Holkema.

Rauh, W. 1986. *Tillandsia muhrii* Rauh, spec. nov. Die Bromelie 1/86: 1–2.

Weber, W. 1986. Species novae Bromeliacearum V. Feddes Repertorium 97 (3.4): 101–103.

1. Photocopies of both letters are in the editor's file.
2. Described and illustrated on pp. 78–79. P.T. Isley's *Tillandsia*.
3. His study of the subgenus *Anoplophytum* will include the relationships of *T. muhriae, T. guasamayensis* Palací & Gilmartin, and *T. alberi* R. Ehlers.

Bromeliads–As Cut Flowers?

G. Samyn

Why not? In recent issues of the *Journal* you will have read how well bromeliads do as hanging plants or which varieties have attractive inflorescences with berries for weeks after flowering, repeated examples that illustrate the family's abundance of forms.

Quite another, and still almost unexplored, territory is the specific use of certain types of inflorescence as cut flowers. There is, however, one problem: who among bromeliad collectors will want to cut off the beautiful flowers of his plants and put them in a vase where their life will be so sadly shortened?

In Europe, and in Belgium and Holland especially, several commercial growers now breed fast-growing hybrids that will surely enable them to compete successfully with other breeds by bringing bromeliads as cut flowers onto the market at prices the average consumer still can afford. This activity is in sharp contrast with recent practice that concentrated on potted plants.

Author

Figure 6
Aechmea leucocarpa is a good example of characteristics demanded of cut flowers.

Author

Figure 7
A romantic arrangement obtained with small bromeliad inflorescences: *Guzmania* 'Empire', *G.* 'Minor', *Vriesea psittacina.*

It is our aim through our research commission to ensure bromeliads a fixed place among the various more sophisticated cut flowers such as anthuriums, orchids, and the like.

It is not all that easy in a northern European country to produce cut flowers and to keep up a normal commercial return. Nevertheless, high quality products such as bromeliad inflorescences are an acceptable challenge for the future. Both our knowledge of the present botanical assortment and our experience in plant breeding will, however, contribute to any decision if we want to produce a sound and saleable product.

What are the requirements?

Bromeliad inflorescences are regularly to be found in Belgian and Dutch florists' shops. They are usually flowers from potted plants that could not be sold because they were poorly shaped, the leaves had spots, or there were other such defects. We are still searching for a truly profitable production of inflorescences. They must meet the following requirements:

- a stable vase life
- a long and firm stalk
- a graceful form
- an appealing and/or unusual coloration
- a sizeable production per square metre.

The presence of long and thin leaves involves no impediment and even constitutes an excellent criterion for selection. Our past research has made it abundantly clear that selections of cultivars with these characteristics, which proved to be unsuitable for pot culture, also proved to be excellent alternatives for cut flower growing. A fair number of botanical choices conform with these criteria and can be of excellent use.

Aechmea, surely. *Portea,* maybe. Why not *Pitcairnia?* Although our first observations in the direction of commercial cut flower growing have shown an excellent outlook, the combination of the criteria listed above has excluded quite a number of plants.

At the Research Station for Ornamental Plant Growing, we are currently working on the basis of two or three *Aechmea* selections that were the subject of several crossings: *A. leucocarpa, A. servitensis* 'Exigua' and *A. pubescens.* These are small *Aechmea* specimens with rapid growth. They also allow a sizeable production per square metre. As to other crossings such as *Aechmea spectabilis* and even *Portea petropolitana* var. *extensa,* which normally show a strong development before flowering, we are checking whether dependable inflorescences can be induced into even younger plants. One cannot exclude the fact that certain selections of the pitcairnia family may offer possibilities in that direction. Rapid growth, rapid and prolific sprouting seem assured.

Conclusion.

These suggestions, made from the viewpoint of a Belgian researcher, and with a definite commercial background, may have a strong foundation in reality. At the same time, a fair amount of research work remains to be done. Thus, several exemplary characteristics present in slow-growing plants or others not suitable for pot culture will see new applications and make the bromeliad family more widely known to the public.

Station of Ornamental Plant Growing
Centre of Agricultural Research–Ghent
Caritasstraat 21, B-9090-Melle, Belgium

Notes on *Aechmea flavo-rosea*

Elton M.C. Leme

Since Edmundo Pereira described *Aechmea flavo-rosea*[1] there has been some discussion about the validity and the maintenance of such an interesting bromeliad in the rank of species. The description was based on a specimen that bloomed in cultivation in Roberto Burle Marx's collection and he does not know the exact place where it was collected.

Being so, we must stress here that the pictures printed in this *Journal*[2] were not taken in the habitat of *Aechmea flavo-rosea.* In fact, they show a vigorous clump from which the type specimen was selected. That clump can still be observed thriving in full sun along the back path of Burle Marx's mansion.

As was reported in the *Journal* (1980), Dr. Lyman B. Smith did not consider the characteristic mentioned by Edmundo Pereira good enough to assure to *Aechmea flavo-rosea* the status of distinct species when compared with its closest relative *A. caesia* E. Morren ex Baker. Concerning the same problem, Harry Luther recently stated[3] that, in his opinion, the Pereira species would be better positioned from the taxonomic viewpoint in an infraspecific category, as a variety or subspecies of *A. caesia.*

Without doubt, before any future conclusion can be reached, it is necessary to accumulate more field data on these two species. With *Aechmea flavo-rosea,* the first step can be represented by a well-documented collection of the specimen shown in figure 8. It was found by Carlos Eduardo de S. Carvalho, a bird watcher, in the County of Santa Maria Madalena, Rio de Janeiro State, growing epiphytically in a humid and forested area about 600 meters high.

In contrast with the white cross-banded leaves of the type plant of *Aechmea flavo-rosea,* the new collection shows entirely dark green leaves forming a funnelform rosette, as well as more intensely colored bracts with visible loss of concentration of white scales; at least the yellow color of the petals remained unchanged, differing from the reddish lilac petals presented by *A. caesia.*[4]

On the basis of this newly collected specimen we can better understand the degree of variation of *Aechmea flavo-rosea* and realize how close it could approach to *A. caesia.* On the other hand, of the two known collections of *A. caesia*[5] one of them was made in Santa Maria Madalena (or just Madalena) by Mello Filho, showing that both species are sympatric or just a case of misidentification (but not in Dr. Smith's point of view).

Figure 8
Aechmea flavo-rosea

EMC Leme

Now we know, at least where to start looking for *Aechmea flavo-rosea* in order to obtain other information, besides that presented here, which is not enough for a definitive conclusion, although I earlier agreed with Mr. Luther's suggestion to transform the Pereira species to a subspecies or variety (or even a form) of *A. caesia.*

Herbarium Bradeanum, Rio de Janeiro

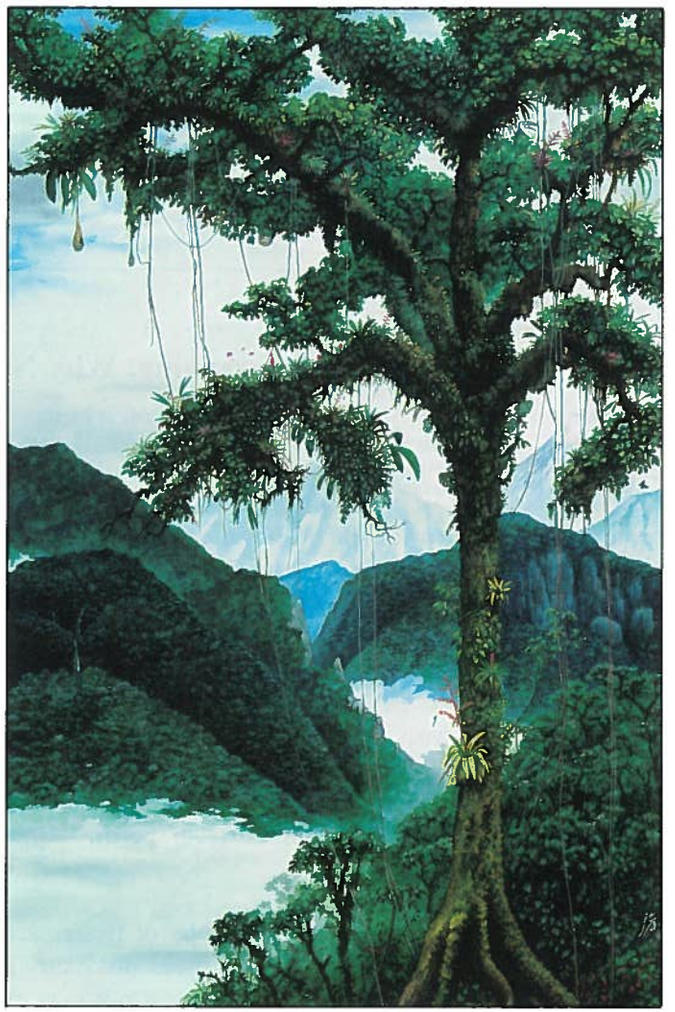
NOTES:

1. Bradea 2(40): 321–323; 1979.
2. Victoria Padilla. What's in a name? J. Brom. Soc. 30: 24–25, 1980.
3. Kathy Dorr. Questions & answers. J. Brom. Soc. 39: 133, 1989.
4. J.G. Baker. Handbook of the Bromeliaceae. (London: G. Bell, 1889), p. 43.
5. Lyman B. Smith and Robert J. Downs. Bromelioideae. Flora Neotropica, v. 14, pt. 3 (New York: N.Y. Botanical Garden, 1979), p. 1886.

Announcement of Symposium

"THE BIOLOGY AND CONSERVATION OF EPIPHYTES"

Selby Botanical Gardens, Sarasota, Florida
5–8 May 1991



Selby Gardens

Figure 9

The Marie Selby Botanical Gardens in celebration of its fifteenth anniversary will hold an international symposium in Sarasota, Florida, on May 5–8, 1991. The goal of the symposium is to foster the exchange of information on epiphytes across lines of individual disciplines, geographical areas, and plant

[*continued on next page*]

fuddy-duddy class, the pursuit in this direction was considered to be the privilege of the female crowd and very much the sissy class for the male. This attitude has changed like so many other things to the extent that today men have joined the ranks and have proved to be the equal of the faint and fair sex.

Since many members have tropicals other than bromeliads alone, the hobby has the potential of becoming a major activity. Since one may use anything he wishes in the arrangement, the field is vast. Of excellent utility are such items as: dried twigs, live or dried branches, live or dead flowers, yucca pods, driftwood, stones and rocks, pine cones, podocarpus or broom, sage and other herbs, bamboo, berry branches, pebbles, shells, pieces of flag, coconuts, coral, cork, pieces of sculpture, and figurines. One great joy related to this hobby is the collecting aspect. Wherever you go, take along a sack and collect items that you may be able to use when you are creating your arrangement. A walk in the forest or at the beach will reward you. So here we have a hobby that allows you to use whatever material you wish, and to combine any plant with another and to create your own theme. The sky is the limit! Except—there are rules or guidelines which are recommended in an effort to keep this pastime under control. We, of course, must not loose our equilibrium and create monsters or freaks. Or we should say in another way—try to do this in a high-class manner. On the other hand, it might shake up a few diehards if we did pull off a monster or a freak now and then!

There are three types of flower arranging. Line arrangements (like the Japanese style), mass arrangement (full bouquet, like the Victorian), and line-mass arrangements (a compromise between the first two).

For an arrangement to be interesting and attractive, the following rules are presented to help assure success:

1. DESIGN. At the very first, decide on a pattern or design. Draw it or sketch it out. It can take any shape (triangular, oval, etc.) as long as it represents a picture or something recognizable. Place a "skeleton" or framework in the container and secure it with clay or a needle-pad. Follow this with plants, leaves, twigs, flowers, etc. and attach them to the skeleton with wire.

2. FOCAL POINT. Each exhibit must have a center of interest. A point which leads the eye to it. The focal point should be the first thing the viewer notices when he first sees the arrangement. To create the focal point, in your mind draw a line from the top to the bottom of the arrangement and another line drawn from one side to the other at its widest point. The focal point is the spot where the lines cross. Fill in with material (plants, flowers, etc.) leaving some vacant spots along the outside edges of the arrangement to give it spaciousness. This is known as a void.

(continued on page 271)

A Wonderful, Huge, New Species from Mexico

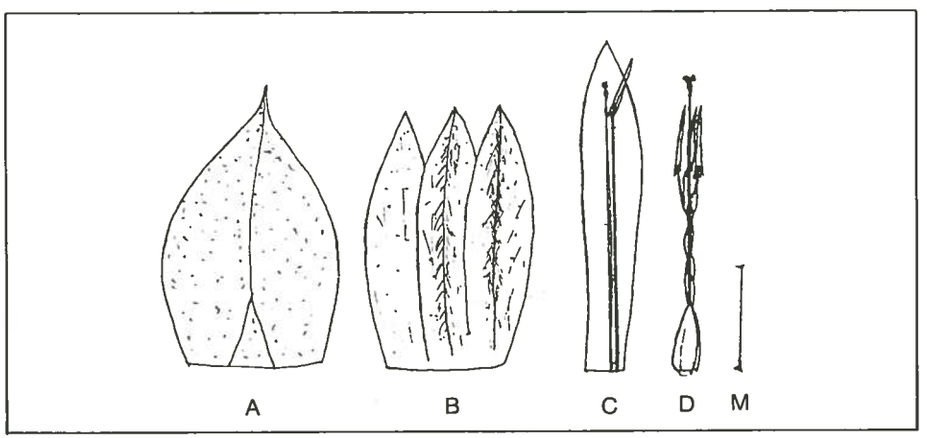
Renate Ehlers

At the end of our trip to Mexico in April 1989, we arrived in Tlaxiaco in the state of Oaxaca where we had been many times before because of the numerous interesting plants that grow in that area. In front of the small hotel we walked through the market where Indian women with heaps of wonderful, big, white onions made interesting photo subjects. But we wondered who in that little town might buy so many onions. While looking for a restaurant, a big station wagon suddenly went by and, what a surprise, there was Mr. Alfred Lau with a number of his Indian boys and a Swiss gentleman.

We had tried to visit Mr. Lau in Fortin de las Flores, Cordoba, at the beginning of our trip but missed him. His wife said that he was in the north collecting cactus seed. Since we have known him for 20 years we were sorry that we could not see him, but now here he was.

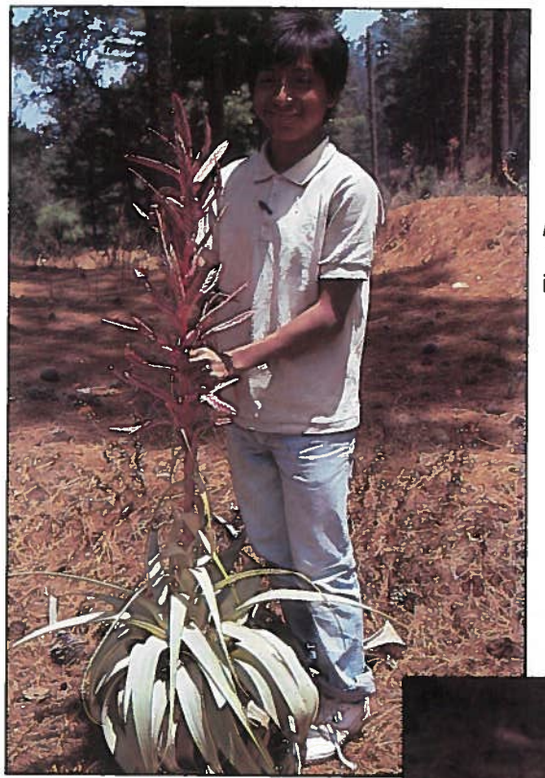
Mr. Lau asked us to come along with them to Yerba Santa the next day saying, "it might be interesting for you in case we find a new tillandsia." But we were short of time and said, "if you really find a new species your Swiss friend can bring it to our hotel in Mexico City." It seemed like a good joke.

The next morning, we realized that the little market had become a really big and crowded market spreading from in front of our hotel to all the narrow streets. We found out that the onion women came early from very great distances and slept there during the very cold night to keep a good place in the



Author

Figure 10.
T. yerba-santae R. Ehlers. A. floral bract; B. sepals; C. petal with stamens; D. stamens; and M. mark: 1 cm.



Photographs by Alfred B. Lau

Figure 11
Tillandsia yerba-santae
in habitat.

Figure 12
Tillandsia yerba-santae
inflorescence.

market. We spent the day trying to re-collect a big, nice tillandsia near Nuyoo where we had collected it in 1982. But the area had changed entirely as in many other places in Mexico because so much of the wooded areas had been cut. There were no more green-leaved tillandsias where we had found thousands of them. We were very disappointed. We found the plant, at last, near St. Martin. In the meantime it had been named *Tillandsia nuyooensis* after the place where we had found it earlier.[1]

We were amazed that evening when we walked into the dining room of our hotel in Mexico City to meet the Swiss gentleman who smiled as he gave me a parcel, "here is the new species that we promised you."

It was already very late at night when I started to study the details of the inflorescence to find that it *was* a new tillandsia that Alfred B. Lau had discovered near Yerba Santa.

***Tillandsia yerba-santae,* R. Ehlers, sp. nov.**

A *Tillandsia calothyrsus* Mez in DC, cui affinis, vaginis foliorum multo longioribus latioribusque, laminis foliorum latioribus, inflorescentia longiora latioraque, spicis paulo latioribus sed multo longioribus floribus plurimis (usque ad 25 versus 8), bracteis florigeris peracutis et sepalis postico solum breviter connatis differt.

Typus: Mexico, Estdo. Oaxaca, in pago Yerba Santa prope Yucuyú viciniis Tlaxiaco, circa 1600 msm, epiphytica, leg. *A. Lau, s.n.*, 22.4.1989 (holotypus: pars inflorescentiae et folium et icones, et isotypus: folia, in WU).

Plant flowering to 1.4 m high, stemless. *Leaves* forming a funnelform rosette, to 65 cm long, light green, densely covered by white, appressed scales and nerved on both sides. *Sheaths* elliptical to 20 cm long and to 12 cm wide, adaxial brown especially in upper part, abaxial pale brown and merging into the green blades. *Blades* to 6 cm wide above the sheaths, to 45 cm long, narrow triangular, linear, attenuate, recurved. *Scape* erect, stout, longer than the rosette; *scape bracts* like the inner rosette leaves, their sheaths imbricate and concealing the scape, the elongated blades recurved or decurved. *Inflorescence* erect, to 65 cm long and 20 cm in diameter, bipinnately compound (tripinnate in a few branches), of more than 25 spikes the basal ones spreading at an angle of 90 degrees, the apical ones spreading to 40 degrees, internodes of the inflorescence axis 1–3 cm long. *Primary bracts* much shorter than the spikes, rose lepidote, the lower ones foliaceous with long, recurved blades, the upper ones much reduced, apiculate and only slightly longer than the floral bracts. *Spikes* 12–20 cm long, 1.5–2.5 cm wide, linear, dorso-ventrally compressed, short 1 cm stipitate, 15–25 flowered, with 1–3 sterile bracts at the base. *Flowers* odorless, sessile, erect, their

bracts densely imbricate, the angled spike rachis at anthesis not visible but postanthesis slightly visible. *Floral bracts* ovate, acuminate, 2.5–2.7 cm long, to 1.8 cm wide, adaxial green, nerved and sparsely lepidote, abaxial bright rose, densely white lepidote, strongly carinate, often bicarinate towards base, equaling the sepals. *Sepals* lanceolate, acute, 2.5–2.7 cm long, 5–7 mm wide, coriaceous with hyaline margins, nerved towards apex, abaxial greenish, rose toward apex, sparsely lepidote to subglabrous, the posterior ones connate for 3–5 mm and strongly carinate. *Petals* 3–3.4 cm long, 6 mm wide, lingulate-acute, forming an erect tube, the tips not at all recurved, light green. *Stamens* equaling the throat of the corolla, erect, appressed to the style, *filaments* to 2.8 cm long, flat, broadest near apex, twisted and very thin toward base, yellowish-brown, equal in length, *anthers* dorsifixed in lower third, to 7 mm long, 1 mm wide, linear, brownish, *pollen* yellow. *Style* to 2.2 cm long, narrow, greenish, *stigma* very small, green, lobes erect, slightly twisted. *Ovary* 7 mm long, 2.5 cm wide, conical, green.

Type: Mexico, Estdo. Oaxaca, at Yerba Santa near Yucuyu, ca. 1600 m, epiphytic; *Alfred B. Lau, s.n.*, 22.4.89 (holotype in WU).

Dr. L.B. Smith's key[2] leads to *T. calothyrsus* Mez from which *T. yerba-santae* differs by much longer and broader leaves, much bigger and broader inflorescence, slightly broader but much longer spikes with more flowers per spike, acuminate floral bracts, only short connate sepals, smaller green petals and included stamens.

NOTES:

1. Die Bromelia 3/1989: 53–55.

2. L.B. Smith; R.J. Downs. Tillandsioideae. Flora Neotropica, v. 14, pt. 2. New York: Hafner Press: 812.

ACKNOWLEDGMENT:

With thanks to Dr. Walter Till for his cooperation and the Latin differential diagnosis.

NEW DIRECTORS, 1991–1993

California: Frank Messina, 43714 Road 415, Coarsegold, CA 93614; Jerry Robinson, 1747 Ruhland Ave., Manhattan Beach, CA 90266. *Central:* Thelma Mean, 2691 E. Carleton Road, Adriana, MI 49221. *Florida:* Tom Wolfe, 521 1 Lake Leclaire Road, Lutz, FL 33549. *International:* Jaqui A. Watts, Grove Goch Bodfari, Denbigh Clwyd, LLA6 4DE, United Kingdom; Enrique Graf, Aptdo. 68033, Caracas, Venezuela. *Northeast:* Al Hodes, 35 Sunderland Road, Tenafly, NJ 07670. *Southern:* Sharon Garcia, 8761 Zeeland Drive, Mobile, AL 36609. *Western:* Mark A. Dimmitt, 4331 N. Oxbow Road, Tucson, AZ 85745.

Congratulations to the new directors.

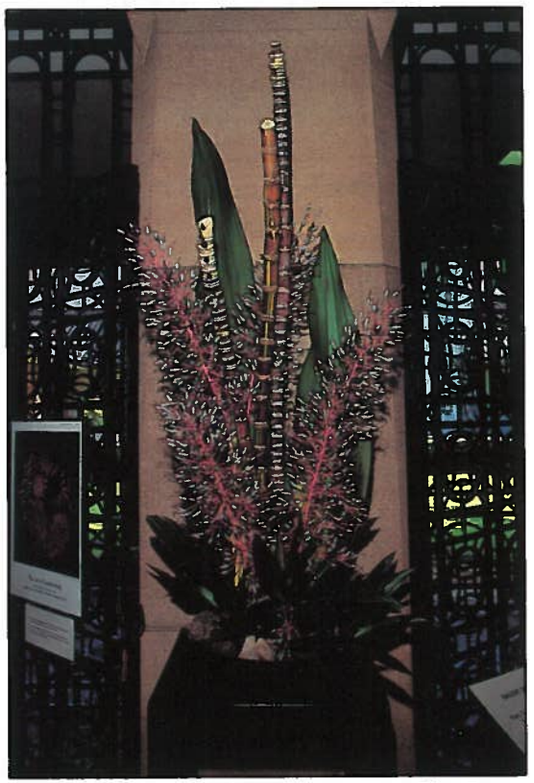
Bromeliad Arrangement

May A. Moir

I did not intend to write any more bromeliad arrangement notes but when the slides came back I felt they were good enough for reproduction and I thought the unusual combination might interest some of the *Journal* readers.

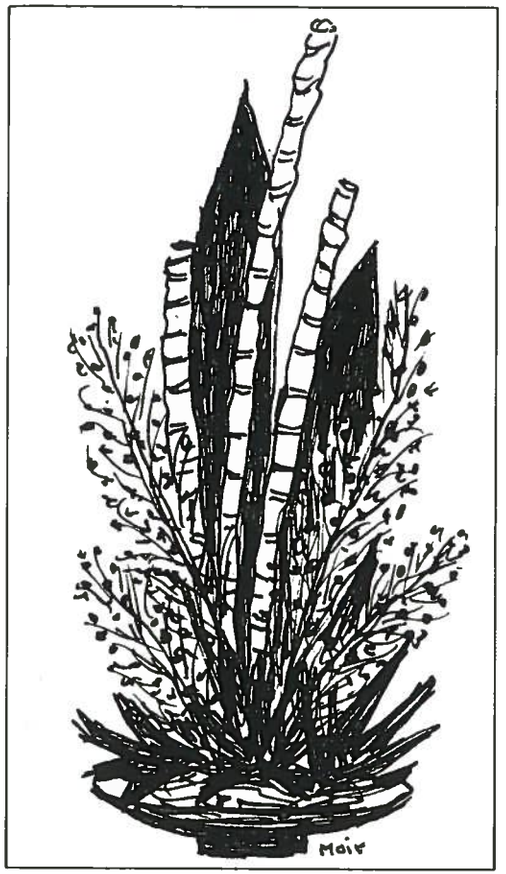
We seldom have red sugar cane to use and when we do we really get mileage out of it. The cane in this arrangement had already been in use for two weeks with other plant material. By the third week it had grown roots in the kenzan (needle holder).

One of my coworkers at the Honolulu Academy of Arts grows a mass of *Portea petropolitana* variety *extensa* under a coconut palm and the tree trimmers were about to come and cut off old fronds and nuts and when that happens they make hash of everything under the tree. She very kindly cut all ten spikes for the pair of arrangements.



Tibor Franyo

Fig. 13
An arrangement of *Portea petropolitana* var. *extensa* with red sugar cane, large, purple leaves of "Queen Emma" spider lily, and leaves of Moses-in-the-boat.



We used pieces of slender flowering banana, *Musa rosea,* to hold the large purple leaves of "Queen Emma" spider lily in place. As the sugar cane had its roots in most of the kenzan, we added extra kenzans to hold the portea and the *Rhoeo spathacea* (discolor) used at the base. All the dark red-purple color of cane and leaves made a great background for the lavender and pink of the portea. The container was a large, shallow, copper bowl.

Honolulu, Hawaii

A Recommended Hobby *(cont. from page 265)*

3. PROPORTION. This is an important item as it presents the overall picture to the viewer. It is the "whole" aspect. All plant material (live, dried, dead, etc.) should be taller than the container. Flowers should be one and a half to two times as tall as a tall container or one and a half twice the width of a low container.

4. BALANCE. Remember here to make certain that the arrangement does not look like it will fall over. If it looks top heavy, correct the balance. To aid in the balancing, place the larger, darker parts of the arrangement in the middle.

5. SCALE. Make sure that the flowers and the container are in proper relation to each other in size. Common sense is the best help here.

6. RHYTHM. This is not the easiest by a long shot! It is accomplished by repeating the form or color that makes the lines of the arrangement flow into each other. Try to prevent a sharp end to a color by attempting to make it appear as if it were slowly fading into the nearby color. This takes practice.

7. SUITABILITY. In quality and texture, the flowers and the container must have a noticeable relationship. For example, the smooth leaves of an anthurium would not have a relationship to a container of rough driftwood. A smooth container would be more relative.

8. COLOR. Most important is this rule! The colors of the flowers should blend with the colors in nearby areas of other flowers. This gives the necessary image of gracefulness, smoothness and calmness.

9. TEXTURE. Here strive for a relationship between the flower and the container. Rough-looking flowers such as the sunflower would have a relationship with a container with a rough surface such as a basket or a piece of driftwood.

Remember these nine principles are merely guides. Don't allow them to intimidate. Be yourself and express yourself even if you slip a little on one or two of the rules. the main thing is—while the hobby does have its serious moments and some devotees will cringe at the suggestion that it is better to have fun than it is to go bananas trying to be the expert—by all means let the hobby serve you, have fun and enjoy the challenge of creating your own arrangement! Now that you've waded through this monologue, throw care to the winds, grab some wire, gather a few twigs and various plants and include some bromeliad leaves and flowers (live or dead)—jump in! The water's fine.

Reprinted from the Newsletter, March, April 1990
The San Diego Bromeliad Society

Recommended reading: Handbook for Judges, Exhibitors, and Affiliates, *2nd ed. Order from BSI Publications Sales Committee. May A. Moir.* The Garden Watcher. *Rev. ed. Harold L. Lyon Arboretum, Univ. of Hawaii. Order from: Order Dept., U. of Hawaii Press, 2840 Kolowalu St., Honolulu, HI 96822.*—Ed.

Name That Plant

Carol M. Johnson

The subject of this piece is labelling plants. Many, many times, growers have come to me and described a plant, complete with gestures, and with every expectation of my instant identification. Usually the tag has been lost or the plant name has faded away altogether. Another happenstance is a perfectly legible tag lying on the ground—now which pot did it come from?

If you are a serious bromeliad collector and plan to exhibit your plants in the future, it is important that you tag your plants correctly and that you keep a record of your source of supply and the date of purchase.

Tags and markers come in all shapes and colors. If there is not enough room on the tag for all the information there is no law saying you cannot use two tags. Shops like K-Mart or White Rose rarely carry plant name tags in

stock, so go to a nursery shop to buy them. In a pinch, an old Clorox jug cut into tag-size pieces does very well. The plastic is just about the right thickness and rigidity, and being white, takes the print well, although the Clorox smell lingers for a long time. The ultimate in plant tags is the kind made with soft aluminum upon which the plant name is impressed forever with a sharp writing utensil. These tags are very expensive. The latest wholesale listing is $10.00 per hundred.

The biggest problem in tagging plants is not the label but the marking pen or pencil. Some #1 soft lead pencils are ideal, but the wrong one is disaster. Laundry marking pens such as Sanford, which are available nearly everywhere, fade badly after one season. The most permanent of the inked marker pens is the Pilot permanent SC-UP, available at office supply stores. Intense sunlight and heavy rains cause the printing on plant tags to fade. Mounted plants suffer the worst, so turn the printing inward away from the weather. I have noticed that printing does not fade on tags buried in the pots.

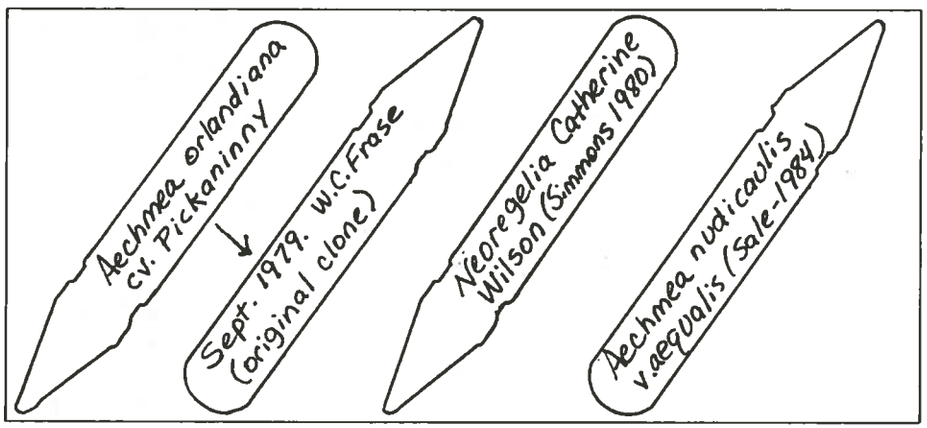


Figure 14

Taking pups? Make the tags and insert between the leaves before cutting off the pup. Especially with vriesea and guzmania offsets since it is difficult to tell which is which away from the mother plant.

Plants entered for competition should have the tags removed but if the entry tags are a good indicator, about one in every six plants is tagged wrong.

To be perfectly correct:

1) Genus *(Aechmea)* should be capitalized.
2) Species *(orlandiana)* should be in lower case.
3) Cultivar name (cv. Pickaninny or 'Pickaninny') should be capitalized. You may use the abbreviation cv. or single quotes to identify a cultivar.
4) Hybrid names *(Neoregelia* Catherine Wilson) should be capitalized.
5) Varieties of species *(Aechmea nudicaulis* var. *aequalis)* should be in lower case.

The illustration shows completed tags. Why is it important to keep dates and sources? For several reasons. The source because if you have been sold a misidentified plant, the error can be traced and corrected. Also, it is generally required that an exhibitor own a plant for a given period of time before it is eligible for entry into a show. Lastly, the tags are constant reminders of friends, past and present.

Tags and proper plant marking were the subject of a recent society workshop and I was amazed at the interest shown in the subject and the many questions asked. There are a lot of new members in our various societies and this is a subject taken very much for granted by our long-time members.

Longwood, Florida

LETTERS

Editor:

In conjunction with fall show, "Bromeliad Fantasy IV," the Seminole Bromeliad Society has named and awarded its first honorary membership to Mrs. Ella Kelley, a resident of the DeLand Convalescent Center in DeLand, Florida. This distinguished lady is 102½ years old and has a keen interest in bromeliad culture. As vice-president of the society, I presented the award to Mrs. Kelley, who commented: "This was one of the greatest days in my life." She was truly pleased and proud of the award.

Figure 15
Mrs. Ella Kelly, 102½ years old, of DeLand, Florida, happily displays her honorary membership award in the Seminole Bromeliad Society.

I wonder if Mrs. Kelley is not the oldest member of any bromeliad organization?

Chuck Tait, Deltona, Florida

Editor:

I'm very sorry that it has taken me so long to get copies of the greenhouse pictures. My greenhouse is a small version of the one in the plans I got from you.[1] The plants are in pot hangers made by Southern Exposure. The hangers allow me to get good air circulation and a lot of plants in a small space.

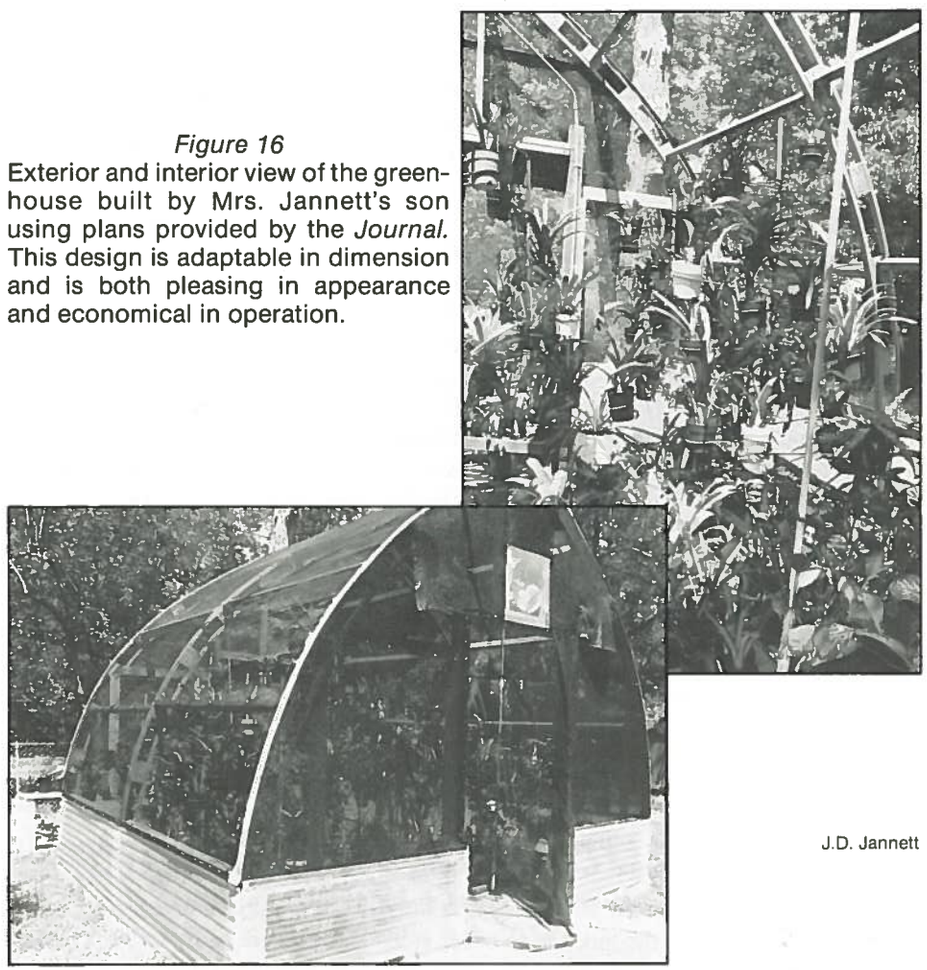
The greenhouse has a ceiling fan in the center that circulates the warm air back down on the plants. It also has an exhaust fan set on 85 degrees. Both of these fans are used only when the greenhouse is covered with 6 mil plastic for the winter. I also use a kerosene heater in it to insure the temperature staying above freezing, for example our December 22, 1989 nine degree weather. I did not lose a plant at all in the record-breaking cold spell.

I really thank you for offering copies of the plans to us through the *Journal.*

Sincerely,

Jewel D. Jannett
Beaumont, Texas

Figure 16
Exterior and interior view of the greenhouse built by Mrs. Jannett's son using plans provided by the *Journal.* This design is adaptable in dimension and is both pleasing in appearance and economical in operation.



J.D. Jannett

1. Please see J. Brom. Soc. 39:20–23 where we described Ed McNulty's greenhouse built on plans derived from a VPI (now Virginia Tech. Univ.) circular. Copies of the plans are available from the editor at $1.00 each.

Minutes of the Annual Meeting of the Board of Directors The Bromeliad Society, Inc., Houston, Texas, 5 June 1990

This meeting was called by the president and approved by the board to discuss the relationship of the BSI with the affiliated societies and to consider a revision of the bylaws. The president called the meeting to order at 1:00 p.m.

Officers and directors present:

Don Beadle	Odean Head	Robert Maddox
Harvey P. Bullis, Jr.	Albert M. Hodes	Stan Oleson
Tim A. Calamari	Paul T. Isley III	Polly Pascal
Mark A. Dimmitt	Clyde P. Jackson	William A. Soerries
Jack B. Grubb	Geoffrey Johnson	Dutch Vandervort
Linda Harbert	Thomas U. Lineham, Jr.	Thomas W. Wolfe, acting secretary

Absent: Gerald Raack

Excused: William A. Frazel, Connie Johnson, Maurice Kellett, Charlien Rose.

1. **Election of acting secretary.** On motion by Linda Harbert the agenda was set aside to accept the resignation of Bob D. Whitman, recording secretary, and to elect Thomas W. Wolfe acting secretary. The resignation was accepted and the election was unanimous.

2. **Relationship with affiliated societies.**

a. Motion by Polly Pascal that the secretary inform Mrs. Sherry Galceran of the Saddleback Bromeliad Society (CA) by letter that the tax-exempt status of the BSI does not extend to its affiliated societies. Approved.

b. Motion by Al Hodes that 24 months before an approved world bromeliad conference the editor reserve at least one-fourth page of each issue of the *Journal* for conference publicity; that the host society provide the publicity material. Approved.

c. Motion by Odean Head to elect Jack Grubb to form and chair a special committee with two other voting members to formulate ideas to stimulate increased membership and to report at the next meeting of the Board. Approved.

3. **Bylaws.** Tom Lineham presented a draft revision of the bylaws with associated annex and standing rules. The draft was amended to add the commercial class of voting membership with annual dues of $50.00. Since the draft in other respects was primarily a clarification of the 1988 bylaws and the proposed standing rules state procedures currently in effect or record earlier board decisions, the draft was approved for publication on motion by Polly Pascal. The 1988 bylaws were rescinded.

The meeting was adjourned at 5:06 p.m. to be reconvened on 6 June, 1990.

/s/t/ Thomas W. Wolfe, acting secretary

Minutes of the Annual General Meeting of the Bromeliad Society, Inc. Houston, Texas, 6 June 1990

The president called the meeting to order at 9:00 a.m. There being no proxy votes received or business proposed in person, the meeting was adjourned at 9:05 a.m.

/s/t/ Thomas W. Wolfe, acting secretary

Minutes of the Annual Meeting of the Board of Directors of the Bromeliad Society, Inc., Houston, Texas, 6 June 1990.

The president called the meeting to order at 9:15 a.m.

Officers and directors present: attendance was the same as for the meeting held on 5 June 1990 with the addition of William A. Frazel.

Absent: Gerald A. Raack.

Excused: Connie Johnson, Maurice Kellett, Charlien Rose, Harvey P. Bullis, Jr.

1. **Approval of the minutes of the 1989 meeting:**

Motion by Tom Lineham to correct the minutes as follows:

(1) Item 18 F should state that Gerald Raack moved that the Board approve Tom Lineham's recommendation to forego registering the society name and insignia as a trademark because of cost and lack of demonstrated need.

(2) Item 19 A & C. Delete item A since item C supersedes it.

(3) Item 19 S should be removed. the procedure is now covered in the Standing Rules.

(4) Item 20 A and 21 J concerning the election of Paul T. Isley III and Mark A. Dimmitt did not state terms of office and should state: until 1990 or until their successors are elected.

The corrections were accepted and the minutes were approved.

2. **Officers' reports.**

Reports were received and accepted from the president, editor, and membership secretary. There was no report by the secretary. Other reports were considered:

a. Vice-president. Bill Frazel moved that the proposal by the Bromeliad Guild of Tampa Bay to host the 1992 world bromeliad conference be accepted. Approved.

b. Treasurer.

(1) Clyde Jackson stated that there is a five-month gap in the records prior to his taking office. Bill Frazel moved that the president be authorized to contact all involved financial institutions and obtain the records during the period in question. Approved.

(2) Mr. Jackson reported that the BSI accounts are as follows: Texas Commerce Bank, Friendswood, TX, Account #0055517; Merrill-Lynch, Houston, TX, Account #582-07J70.

(3) Paul Isley moved that the treasurer be empowered to sell two shares of UNISYS stock held by the BSI. Approved.

(4) Jeff Johnson moved to approve the financial report for the period ending 31 December 1989 submitted by the treasurer with the attachment of Mr. Jackson's letter concerning the missing or unknown assets. Approved.

(5) The 1990/1991 budget was approved as amended.

(6) Linda Harbert moved to publish the treasurer's report in the *Journal* as soon as a more concise report is available. Approved.

3. **Standing Committee reports.** Reports by the standing committee chairmen were approved with the following exceptions:

a. Finance and Audit. Odean Head stated that the records were not available for audit.

b. Seed Fund. Tim Calamari moved that the practice of reporting finances be continued.

c. Cultivar Registration. Don Beadle has compiled a tentative list of bromeliad cultivars to be published as soon as possible. Dutch Vandervort moved acceptance of the list as submitted. Approved.

d. Research Grant. No report was submitted.

4. **New business.**

a. Advance of $50.00 to the chairman of the Affiliated Societies Committee chairman. Moved by Tim Calamari. Approved.

b. Advance of up to $500.00 for publication of the tentative list of bromeliad cultivars; that any increase in that amount be considered later. Moved by Don Beadle. Approved.

c. Special committee to plan a replacement for the 1977 edition of Bromeliads; a Cultural Handbook. The board elected Dutch Vandervort to chair the committee.

d. Alphabetical list of bromeliad binomials. Tom Lineham moved that the board accept from Harry Luther, Director of the Bromeliad Identification Center, his compilation of an alphabetical list of bromeliad binomials and to publish the list on demand at $10.00 per copy. Approved.

e. Future Board meetings. It was the consensus of the board that a one-day meeting be held on the Wednesday preceding all future world bromeliad conferences.

f. Enhancement of BSI computer system. Linda Harbert requested $600.00 to purchase a hard disk drive for the purpose of improved membership record-keeping. Approved.

g. Amendment of Handbook for Judges, Exhibitors, and Affiliates. Bill Frazel moved the approval of Tom Lineham's recommendation to direct the Judges Certification Committee to draft, for board approval, two changes in the handbook:

(1) to require the chairman to keep the membership secretary informed of the names and status of judges and student judges for directory purposes and to do so immediately on an interim basis.

(2) to provide for recruiting judges, society-wide, and to commence this action without delay on an interim basis.

5. **Election Results.** Dutch Vandervort presented the slate and noted that Weston Furukawa had volunteered to become the slide librarian. Bill Frazel moved the acceptance of the slate. Approved.

Please see Directory, inside back cover, this issue.

Special Committee Chairmen. Nominations: Dutch Vandervort; Membership Recruiting: Jack Grubb; Cultural Handbook: Dutch Vandervort.

6. **1991 Board Meeting.** Jack Grubb announced that the 1991 board meeting will be held in New Orleans on 15 June 1991.

s/t/ Thomas W. Wolfe, secretary

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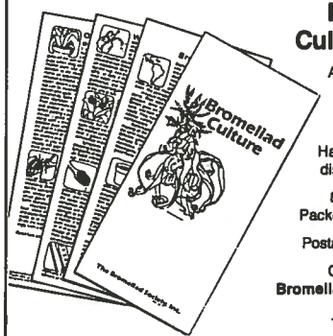

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New Luther List of Bromeliad Names Is Available

Harry Luther, director of the Bromeliad Identification Center, has compiled a 55-page, alphabetical list that includes all currently named genera, species, varieties, and forms of bromeliads. It does not contain hybrid and cultivar names. It is an invaluable reference for:

- Judges and student judges
- Show classification committee members

The Luther List will help you to avoid the embarrassment of allowing plants to be tagged with wrong names and wrong spellings.

The list comes in a binder with title page and introduction, 8½ x 11 (23cm x 29cm). Price: $10.00 each, postpaid 3rd class or surface rate. For **airmail** in the United States, Mexico, and Canada please add $1.00; for all other countries add $4.00. Send your orders to: Editor, 1508 Lake Shore Drive, Orlando, FL 32803, USA; telephone 407-896-3722. For information about the tentative list of bromeliad cultivars, write to Don Beadle, P.O. Box 81464, Corpus Christi, TX 78468-1464.

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.

F. Leal

A crownless pineapple called "Negrita." The author describes various examples in pages 246–249.

Calendar of Shows

10–11 November	Caloosahatchee Bromeliad Society exhibition and plant sale. Fort Myers-Lee Co. Garden Council Bldg., 2646 Cleveland Ave., Fort Myers, FL. Saturday, 9 a.m. - 5 p.m.; Sunday, 10 a.m. - 4 p.m. Betty Ann Prevatt, 813-334-0242.
23–24 February	Bromeliad Guild of Tampa Bay annual show and sale in conjunction with Tampa Federation of Garden Clubs and American Guild of Flower Arrangers National Show. Tampa Garden Center, 2629 Bayshore Blvd., Tampa, FL. Plant entries Thursday 21 Feb., 5–9 p.m.; late entries Friday 22 Feb., 9 a.m.–12 noon; judging, 22 Feb., 1–5 p.m.; show, Saturday 10 a.m. –9 p.m., Sunday, 11 a.m.–6 p.m. Mike LaVasseur 407-349-2214.
4–7 April	3rd International Cryptanthus Show and Plant Sale held in conjunction with the 2nd Annual Festival des Fleurs de Louisiane. Lafayette, Louisiana. Michael Young 504-355-5408.