

JOURNAL

OF THE BROMELIAD SOCIETY

Volume 59(3): 97-144



MAY-JUNE 2009



CONTENTS



p. 103



p. 117



p. 133

- 102 ***Guzmania leonard-kentiana*, Another New Species from Eastern Peru.** Harry E. Luther and Karen F. Norton.
- 104 ***Cryptanthus ferrarius*, a New Species from the Iron-Rich Soils of Minas Gerais, Brazil, on the way to Extinction.** Elton M.C. Leme & Claudio Coelho de Paula.
- 109 **A New Species of *Racinaea* (Bromeliaceae) from the Province of Azuay in Southern Ecuador.** José M. Manzanares and Walter Till.
- 115 **Under *Aechmea*, *A. vallerandii* is the Correct Name for *Streptocalyx poeppigii*.** Walter Till.
- 116 **New Bi-generic Genus: *X Racindsia*.** Geoff Lawn.
- 117 **Creating *X Racindsia* 'La Mano Magica'** Hiroyuki Takizawa.
- 122 **Call for Nominations for BSI Officers.** Larry Giroux.
- 124 **Call for Nominations for BSI Directors 2011-2013 Term.** Larry Giroux.
- 126 **Nat Deleon.** Moyna Prince.
- 132 **Bromeliad Icons in Old Publications, part 4.** Leo Dijkgraaf.
- 138 **World Bromeliad Conference 2010**
- 140 **Meet Two New 2009-2011 BSI Directors.**
- 142 **Events Calendar, Member-only Seedbank**

Covers

Front—*X Racindsia* 'La Mano Magica' photographed by its creator, Hiroyuki Takizawa. Read the fascinating story of his work on page 116.

Back—*Encholirium horridum* photographed under a Brazilian sunset by Elton Leme.

Publication Information: The Journal is published bimonthly by the Bromeliad Society International. All scientific articles are peer reviewed, and author guidelines are available from the Editor. Authors are requested to declare any article they have already, or intend to, publish elsewhere.

Editorial Advisory Board: David H. Benzang, Gregory K. Brown, Jason Grant, Elton M.C. Leme, Thomas U. Lineham Jr., Harry E. Luther, Walter Till.

Permission is granted to reprint articles from the Journal, in whole or in part, provided credit is given to the author and to the Bromeliad Society International.

In This Issue

Scientific

Harry Luther and Karen Norton introduce another new guzmania, *Guzmania leonard-kentiana* named for the late Leonard Kent. This interesting new species is from Eastern Peru and is visually similar to *G. pennellii*.

On page 104 Elton Leme and Cladio de Paula describe a large new cryptanthus, *Cryptanthus ferrarius* from the iron-rich soils of Minas Gerais, Brazil. This habitat is shared with *Dyckia rariflora* and *Vriesea longistaminea*.

A really strange new racinaea that grows a huge stem to raise itself up to the light has been named *Racinaea strobiliorum* by José M. Manzanares and Walter Till, page 109. This taxon has been described from a cultivated plant obtained from the garden of the late Elizabeth Strobel in Cuenca, Ecuador, who said it was collected by her late husband José Strobel somewhere in the province of Azuay. The plant seems to have been transported to the garden of José Manzanares where it flowered and was then turned into a dried herbarium specimen before it had a chance to produce seed. One hopes that the plant survives to flower again and maybe produce seed so it can be preserved and perhaps re-introduced to a natural habitat. Unfortunately, though, many bromeliad species do not self pollinate from a single clone.

Streptocalyx poeppigii was widely known for many years, but in 1992 it was re-classified as *Aechmea beeriana* by L.B. Smith and M.A. Spencer. On page 115 Walter Till reports the Smith & Spencer re-classification was invalid, due to a pre-dating synonym, and the correct name is *Aechmea vallerandii* (Carrière) as validated by Erhardt, Götz & Seybold, in *Der große Zander* [2]: 1825 (2008).

Cultivation

On page 116 BSI Cultivar Registrar Geoff Lawn validates a new taxonomic name, the notogenus "*Racindsia*" to denote hybrids between *Racinaea* and *Tillandsia*. This is a necessary precursor to enable hybridist Hiroyuki Takizawa to have his new bi-generic *Racindsia* 'La Mano Magica' registered in accord with International rules. The story of 'La Mano Magica' (Spanish for "magic hand"), Hiroyuki's cross between *Racinaea crispa* and *Tillandsia dyeriana*, starts on page 117. Those of you interested in raising bromeliads from seed will enjoy the detailed account of his flasking techniques.

General Interest

Page 122 the BSI Nominations Chair, Larry Giroux, formally calls for nominations for the offices of President and Vice President for the 2010-2013 terms, and Secretary for the 2010-2012 term. The current Vice President and Secretary are available to continue in office, hence further nominations are acceptable but not necessary. President Joyce Brehm has served two terms already and so is ineligible to stand again. A new President must be nominated, and members are urged to think carefully about

their candidate(s). Our society has been declining in membership for years, and we need a new leader who will shake off the cobwebs and rebuild the society into a more inclusive and relevant organization for a wider group of members.

Moving on, page 124 the Nominations Chair also calls for members to nominate new directors for the 2011-2013 term representing Florida, Louisiana, Texas, Western and International regions. In recent years members have been apathetic regarding nominations for BSI Director, and existing Board Members have been forced to get out and search for volunteers.

Nat DeLeon has been an integral part of the Florida, and BSI, scene since the BSI was first formed, and we are fortunate to be able to bring you Moyna Prince's interview with Nat on page 126. A fascinating insight into the early days when bromeliad societies started in the USA.

Still in historical mode, on page 132 we have the fourth installment of Leo Dijkstra's monumental review of early European illustrations of bromeliads.

Preparations for the 2010 World Bromeliad Conference are progressing well, and since it has been such a long time between issues of the Journal details are repeated for you on page 138. Another two new BSI Directors for the 2009-2011 term are introduced on page 140: Luiz Felipe Nevares de Carvalho representing the International region, and Steven Provost for Florida.

Feed your Babies Iron

Are your bromeliads getting enough Iron? Leme and DePaula's article on page 104 advises that *Cryptanthus ferrarius*, *Dyckia rariflora* and *Vriesea longistaminea* come from the iron-rich soils of Minas Gerais, Brazil.

In 2001 I started analysing the composition of the tillandsias I cultivated, with a view to designing the optimum nutrient solutions I should water them with. In his iconic 1980 work *The Biology of the Bromeliads*, David Benzing reported the dry-matter analyses of a number of wild tillandsias, ranging between 153 and 196 ppm. I took leaf samples from a wide range of my tillandsias, and the testing laboratory reported they had much lower iron levels - between 42ppm in our greenhouse plants and 70ppm in tillandsia aeranthos growing outdoors.

It seemed to me that iron may play an unusually high role in bromeliad metabolism, so I began adding 2 mls iron per 250 litres of the water used for every spraying of the plants. Within 9 months the iron levels in my plants reached 160ppm and I have kept it up at that level ever since.



Dyckia, photographed by Oscar Ribeiro of Bromeliário Imperialis, Rio, Brazil

Bromeliad Society International. Membership Rates

United States Membership (includes bulk mail rate—first class add \$5 per year)

International Membership (includes Airmail delivery)

	1 Year	3 Years
Individual	\$40	\$110
Dual	\$40	\$110
Affiliate Society	\$25	\$75
Institutional	\$45	\$125
Commercial	\$60	\$170
1st class mail	+\$5	+\$15

	1 Year	3 Years
Individual	\$45	\$125
Dual	\$45	\$125
Affiliate Society	\$30	\$90
Institutional	\$50	\$140
Commercial	\$65	\$185

Life Membership (*one time only fee*) \$900.

Payment by check or money order payable to The Bromeliad Society International, USA members US Banks and US funds only. International members US funds only; US domestic checks, international money order, or foreign bank cheques. Credit card payments and sign-ups/renewals may be made online at www.bsi.org.

Please send mail transactions to: Dan Kinnard, BSI Membership Secretary, 6901 Kellyn Ln, Vista, CA 92084-1243, USA.

Guzmania leonard-kentiana, Another New Species from Eastern Peru.

Harry E. Luther & Karen F. Norton

The stereotyped cultivated guzmania usually presents a simple (*G. lingulata*) or pseudosimple, compactly branched (*G. 'Rana'*) inflorescence but many species of the genus have openly branched and laxly flowered inflorescences like the new species described below.

Guzmania leonard-kentiana, H. Luther & K. Norton, sp. nov.

A *G. pennellii* L.B. Smith, cui affinis similisque, planta perminore, bracteis florigeris, sepalis et petalis longioribus differt.

TYPE: Peru; San Martin, vic. Yurayacu, 1200 m., *J. Kent legit.* Flowered in cultivation SEL 2008–04, 3 Feb. 2008, *H.E. Luther s.n.* (Holotype: SEL).



Figure 1. *Guzmania leonard-kentiana* flowering at the Marie Selby Botanical Gardens.

Plant a terrestrial, flowering 70 – 80 cm tall, clustering. **Leaves** 12 to 18 in number, laxly spreading, thin coriaceous, 30 – 45 cm long, dark punctate-lepidote throughout; **sheaths** elliptic, 3 – 5 x 2 – 4 cm, dark castaneous especially abaxially, slightly nerved; **blades** lingulate, acute to attenuate, pungent, 1 – 3 cm wide, thin coriaceous, green tinged purple or reddish striate. **Scape** erect, stiff, 30 – 45 cm x 3 – 5 mm, stellate-lepidote, dark purple-red; **scape bracts** erect, imbricate and surpassing the internodes toward the base, becoming lax above, acute to attenuate, pungent, densely punctate-lepidote, dark purple-red. **Inflorescence** laxly 2 or 3-pinnate, 25 – 35 x 10 – 18 cm; **primary bracts** like the upper scape bracts, exceeding the 1-bracteate sterile peduncle, pungent, dark purple-red; **branches** 5 – 10 cm long, spreading at 45° - 90° from the main axis, the ultimate branches 3 to 10-flowered; the rachis flexuose, covered with pale stellate trichomes, pale green to white tinged purple; **floral bracts** ovate to broadly elliptic, broadly acute, 8 – 11 x 8 – 10 mm, thin, nerved, cucullate, sparsely-lepidote, pure white. **Flowers** with a 2 – 3 mm slender pedicel, polystichously spreading at ca. 45° from the rachis, opening during the day, becoming somewhat secund-pendant postanthesis; **sepals** broadly elliptic, acute, 12 – 14 mm long, the adaxial pair slightly carinate, 1 – 3 mm connate, nerved, becoming rugose when dried, pure white; **corolla** erect with spreading lobes; **petals** lanceolate, broadly acute, 18 – 22 mm long, naked, conglutinated into a tube for 8 – 10 mm, pure white; **stamens and style** included. **Fruit** not known.

Paratype: Peru; San Martin, same clone as the holotype collection, flowered in cultivation, 4 March 2007, *H.E. Luther s.n.* (USM).



Figure 2. *Guzmania leonard-kentiana*, inflorescence.

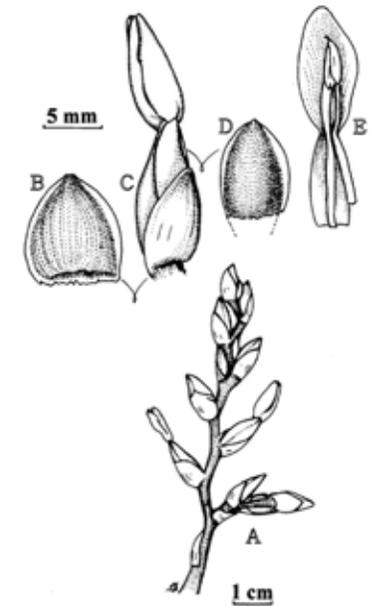


Figure 3. A. Branch of inflorescence; B. Floral bract; C. Flower and bract; D. Sepal; E. Petal and stamens. Drawing by Stig Dalström

From the related and somewhat similar *Guzmania pennellii* this new species can be distinguished by being much smaller (flowering to .8 m not 1.5 – 2. m tall) with longer floral bracts (8 – 11 vs. 5 mm), sepals (12 – 14 vs. 8 mm), and petals (18 – 20 vs. 15 mm). In addition the coloration of the inflorescence axis, bracts and sepals differ: red to orange in *G. pennellii*; purple-red and white in *G. leonard-kentiana*. Both have semi-spreading white corollas. The attractive, almost formal appearance of this new species is both distinctive and very ornamental.

At the request of the collector, we name this new species in honor of his father, the late Dr. Leonard Kent, founder of the Kents Bromeliads Nursery, Inc. in Southern California.

Acknowledgements

We thank Jeffrey Kent of Vista, California for providing fresh, flowering plants, Stig Dalström for the drawing, and Dr. Phil Nelson for the photography.

Authors

Mulford B. Foster Bromeliad Identification Centre, Marie Selby Botanical Gardens, 811 South Palm Avenue, Sarasota, FL 34236, USA

Cryptanthus ferrarius, a New Species from the Iron-rich Soils of Minas Gerais, Brazil, on the Way to Extinction.

Elton M. C. Leme & Claudio Coelho de Paula

In continuation of the study of the subgenus *Hoplocryptanthus* Mez of *Cryptanthus* Otto & A. Dietr., of the Espinhaço range of Minas Gerais State, a comparatively large new species of the complex “*C. schwackeanus*” is described from the iron-rich soils of the domain of the Campos Rupestres.

Cryptanthus ferrarius Leme & Paula, sp. nov. **Type:** Minas Gerais, Mariana, on the road to Catas Altas, ca. 1,000 m elev., saxicolous in iron-rich rocky soil “Canga”, 6 Dec. 2004, E. Leme 6544 & C. C. Paula, fl. cult. Dec. 2006. Holotype: HB. Isotype: RB

Species nova a *C. regius* Leme, cui proxima, sed laminis foliorum longioribus, marginibus laxe spinosis, spinis longioribus, floribus longioribus, petalis longioribus apice obtusis vel leviter emarginatis differt; a *C. schwackeanus* Mez, affinis, sed laminis foliorum longioribus latoribusque, marginibus laxe spinosis, fasciculis floribus plus numerosis, floribus longioribus differt.

Plant saxicolous in iron-rich rocky soil, flowering ca. 11 cm tall, slightly if at all caulescent, propagating by short basal shoots. **Leaves** ca. 12, suberect to spreading at anthesis, forming a laxly round rosette; **sheaths** subreniform, 2-2.2 x 4 cm, pale whitish-green, densely and coarsely white-lepidote toward the apex abaxially, glabrous adaxially, spinulose at apex; **blades** sublinear, attenuate in an acuminate-caudate apex, not narrowed toward the base, 24-26 x 1.3-1.8 cm, coriaceous but not at all succulent, strongly canaliculate toward the base with a broad U-shaped channel mainly under water stress, without any distinct thicker median zone, green to bronze colored, upper and lower sides contrasting, abaxially densely and coarsely white-lepidote, nerved, adaxially glabrous and sparsely nerved, margins straight, laxly spinose, spines 1.5-2.5 mm long, 8-25 mm apart, acicular, spreading to slightly antrorse, yellowish-castaneous toward the apex. **Inflorescence** sessile, bipinnate, ca. 4 cm long, ca. 3 cm in diameter (not including the primary bracts); **primary bracts** foliaceous, suberect to

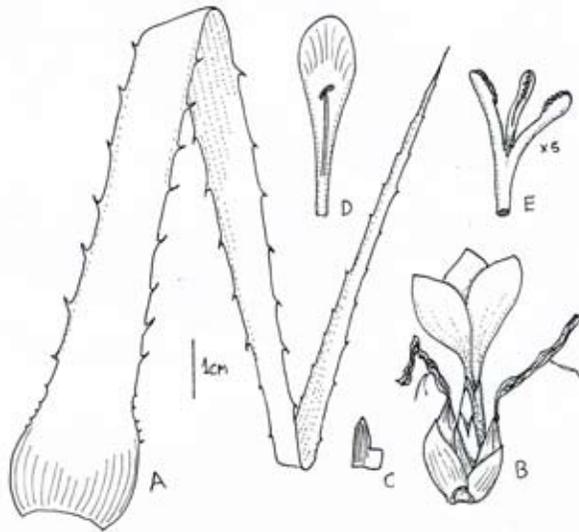


Figure 1: *Cryptanthus ferrarius* Leme & Paula (Leme # 6544 & Paula): A) leaf; B) basal fascicle; C) sepal; D) petal; E) stigma blade (drawing E. Leme).



Figure 2: Habit of *Cryptanthus ferrarius* (Leme # 6544 & Paula), which flowered in cultivation (photo E. Leme).

spreading; **fascicles** ca. 11 in number, 18-20 x 12-15 mm (excluding the petals), 3 to 4-flowered, flabellate to subpulpinate, densely disposed; **floral bracts** broadly triangular to triangular-ovate, acute and apiculate, submembranaceous toward the base



Figure 3: Floral details of *Cryptanthus ferrarius* (photo E. Leme).

and margins, greenish, abaxially densely and coarsely white-lepidote toward apex and margins, trichomes with lacerate-fimbriate margins, adaxially glabrous, distinctly shorter than the sepals, entire to remotely spinulose, carinate, cymbiform, 9-11 x 8-12 mm. **Flowers** all perfect, sessile, 38-41 mm long (with extended petals), fragrant; **sepals** ovate-lanceolate, subobtusate and distinctly apiculate, 7 x 2-2.5 mm, connate at base for 2-3 mm, entire, greenish, subdensely and coarsely white-lepidote, the posterior ones carinate with keel slightly decurrent on the ovary, the anterior one obtusely if at all carinate; **petals** broadly spatulate, 31-33 x 9 mm, connate at base for 2-4 mm in a common tube with the filaments and style, white, the free lobes broadly obovate, obtuse to slightly emarginate, suberect at anthesis, distinctly exceeding the stamens, bearing 2 longitudinal callosities ca. 15 long, basal tube very narrow; **filaments** terete, white, 21-22 mm long, adnate to the common tube with the petals and style; **anthers** sublinear, ca. 2.5 mm long, dorsifixed near the base, base sagittate, apex obtuse; **pollen** broadly ellipsoidal, sulcate, exine microreticulate, lumina irregularly polygonal; **ovary**

6-7 x 3-4 mm, subtrigonus, greenish-white, glabrous or nearly so; epigynous tube lacking; placentation apical or nearly so; ovules numerous, globose, obtuse; **style** slightly exceeding the anthers; **stigma** conduplicate, white, the styler lobes terete, suberect, ca. 2 x 0.3 mm, not contorted nor spiral, margins entire except for the inconspicuous papillose apical portion. **Fruits** unknown.

Paratypes: Minas Gerais, Mariana, road to Catas Altas, ca. 1,000 m elev., em campo ferruginoso, 6 Dec. 2004, E. Leme 6540 & C. C. Paula, fl. cult. Dec. 2006 (HB); Catas Altas, way to the Pico de Catas Altas, 20°05'05"S 43°25'95"W, 1,180 m elev., 29 Jul. 2006, E. Leme 6890 & C. C. Paula, fl. cult. Jan 2007 (HB); Ibidem, 20°05'04"S 43°26'03"W, 1,222 m elev., 29 Jul. 2006, E. Leme 6893 & C. C. Paula, fl. cult. Jan 2007 (HB).

The name chosen for this new species is from the Latin "*ferrarius*", meaning "related to iron", is a reference to the typical habitat of *Cryptanthus ferrarius* which lives in iron-rich rocky soils called "campo ferruginoso" or "campo de canga" in the domain of the Campos Rupestres vegetation, Minas Gerais State. It shares the habitat with a very specialized bromeliad flora, including *Dyckia rariflora* Schultes f. and *Vriesea longistaminea* Paula & Leme, among an extensive *Vellozia* sp. population.

Despite being comparatively larger than all closer related species, *Cryptanthus ferrarius* is a typical member of the complex "*C. schwackeanus*" which comprises subtle but consistently distinct species (Leme, 2007). Its closest relative is *C. regius*, but this new species differs from it by the longer leaf blades (24-26 cm vs. 14-17 cm long), with marginal spines laxly arranged (vs. margins subdensely to densely spinose), spines 8-25 mm apart (vs. 2-6 mm apart), spines longer (1.5-2.5 mm vs. 0.5-1.5 mm long), flowers longer (38-41 mm vs. 29-30 mm long), petals longer (31-33 mm vs. 23-24 mm long), with apex obtuse to slightly emarginate (vs. apex broadly acute).

Cryptanthus ferrarius was once identified as a large form of *C. schwackeanus* (Leme, 1992). However, after observing different populations of all involved species, it became clear that it is a distinct species, which can be distinguished from *C. schwackeanus* by the much longer and wider leaf blades (24-26 x 1.3-1.8 cm vs. 4-11 x 0.7-1.3 cm), margins laxly spinose (vs. subdensely to densely spinose), spines 8-25 mm apart (vs. 3-7 mm apart), floral fascicles 3- to 4-flowered (vs. ca. 2-flowered), and by the longer flower (38-41 mm vs. 25-35 mm long).

The main population of *Cryptanthus ferrarius*, along the road Mariana to Catas Altas, will be extinct in few years due to the large number of iron-mining activities carried out in the whole area. This mining activity, despite being economically important for the country in providing thousand of tons of iron required for the so-called "world development", is responsible for an unprecedented large-scale devastation of the mountains of the Espinhaço range of Minas Gerais and its unique flora and fauna.



Figure 4: The iron-rich soils of the type-locality of *Cryptanthus ferrarius* is covered by amazing fields of *Vellozia* sp. The area will be completely destroyed in a few years due to an intense iron-mining exploration (photo E. Leme).

Literature Cited

- Leme, E. M. C. (1992). “*Cryptanthus schwackeanus* in scenery.” *Cryptanthus Soc. J* 7(3): 12-17.
 Leme, E. M. C. (2007). “Three Subtle New *Cryptanthus* Species from Espinhaço Range, Minas Gerais, Brazil.” *J. Bromeliad Soc.* 57(6): 259-272.

Authors

Elton M. C. Leme: Herbarium Bradeanum, Rio de Janeiro, Brazil

email: leme@tj.rj.gov.br

Claudio Coelho de Paula: Coordinator of the Unidade de Pesquisa e Conservação de Bromeliaceae - UPCB, Departamento de Biologia Vegetal, Universidade Federal de Viçosa, DBV/UFV, 36570-000, Viçosa - MG.

email: ccpaula@ufv.br

A New Species of *Racinaea* (Bromeliaceae) from the province of Azuay in southern Ecuador

José M. Manzanares and Walter Till

Abstract. The authors describe and illustrate *Racinaea strobiliorum* Manzanares & W. Till as a new species of Ecuadorian Bromeliaceae, and also provide morphological data that distinguishes it from related taxa, *R. quadripinnata* (Mez & Sodiro) M.A. Spencer & L.B. Smith and *R. pectinata* (André) M.A. Spencer & L.B. Smith. The most important morphological character of *Racinaea strobiliorum* is the long stem which can grow to 2m. This is an unusual character for the genus *Racinaea*, since the majority of the species are stemless, or have a stem reduced to a short stolon.

Key words: Ecuador, Bromeliaceae, *Racinaea*, new species.

Resumen. Los autores describen e ilustran *Racinaea strobiliorum* Manzanares & W. Till como una nueva especie de Bromeliaceae ecuatoriana, también proporcionan la información morfológica que la distingue de las especies más relacionadas, la *R. quadripinnata* (Mez & Sodiro) M.A. Spencer & L.B. Smith y la *R. pectinata* (André) M.A. Spencer & L.B. Smith. La característica morfológica más importante que presenta la *Racinaea strobiliorum* es un tallo que puede alcanzar hasta 2 m de largo, algo inusual en el género *Racinaea* carentes de tallo en la mayoría de las especies, en el caso de poseerlo se reduce a un corto estolón.

Palabras clave. Ecuador, Bromeliaceae, *Racinaea*, nueva especie.

Introduction

In 1997 Elizabeth Patterson showed to the senior author a photograph of a bromeliad cultivated by Elizabeth Strobel in Cuenca, Ecuador. The species was growing up the trunk of *Eucalyptus globulus* (Fig. 1). Its long stem reached approximately 1.5 m, which is unusual for most species of bromeliads. Initially I commented that it could have been a species belonging to the genus *Greigia*. In May 1998 we made a trip to Cuenca and went to see the species in the photograph; its leaves had entire margins that indicated an unusual species of *Tillandsia*. Finally, in March 2001, it flowered in Quito in the senior author collection. The plant displayed the typical flowers of the genus *Racinaea*, resulting in it being named as a new species:

***Racinaea strobiliorum* Manzanares & W. Till, sp. nov.**

TYPE: Ecuador, province of Azuay: without exact locality, collected by José Strobel (deceased), cultivated by his wife Elizabeth Strobel in Cuenca, flowered in cultivation in Quito by José M. Manzanares, Mar. 2001, *José M. Manzanares 6961* (holotype: QCNE; isotype: WU).



Figure 1. *Racinea strobiliorum* Manzanares & W. Till growing up the trunk of *Eucalyptus globulus* in the garden of Elizabeth Stobel in Cuenca. (Photo Elizabeth Patterson).

A *Racinea quadripinnata* (Mez & Sodiro) M.A. Spencer & L.B. Smith, cui versimiliter affinis, statura majore, caulibus 1.5-2.0 m longis, vaginis foliorum duplo majoribus, laminis foliorum attenuatis apicibus recurvatis, inflorescencia bipinnata usque ad tripinnata, bracteis florigeris 7 mm longis orbicularibus et sepalis 6 mm longis, paullo asymmetricis differt. A *Racinea pectinata* (André) M.A. Spencer & L.B. Smith, cui per inflorescentiam similis, caulibus perlongis et floribus non secundis recedit.

Plant terrestrial, caulescent, stem 1.5-2.0m long, covered by old, dried leaves, flowering to 2.66 m, forming dense groups, propagating by 4 to 6 shoots produced at the base of the inflorescence after anthesis. **Leaves** spreading, forming a rosette at the end of the stem, suberect, subcoriaceous, green; **sheaths** ca. 10 x 8 cm, ovate, adaxial surface purple, abaxial surface green, subglabrous; **blades** ca. 17 x 4.5 cm, light

green, lepidote, lingulate-triangular, with an attenuate recurved apex. **Inflorescence** ca. 44 cm long, ca. 8 cm wide, lax, the lower and upper parts branched, the middle 2-branched, narrowed, subglabrous, with 10 to 12 branches, rachis green. **Peduncle** ca. 40 cm long, ca. 0.4 cm wide, longer than the leaves, subglabrous, erect, green; **peduncle-bracts** with an attenuate recurved apex, the lower ones foliaceous, 10-15 cm long, imbricate, green, subcoriaceous, the upper ones ca. 5.5 x 1.6 cm, elliptic, nerved, ecarinate, membranous, light brown, exposing the peduncle. **Primary bracts** 2-3 x 1 cm, ovate, acuminate, membranous, nerved, ecarinate, light brown, subglabrous, much shorter than the axillary branches; **primary branches** ascending-recurved, up to 6 cm long, with 3 to 4 secondary branches, at the apex 3 or 4 spikes; **secondary branches** 2-3 cm long, ca. 1.5 cm wide, with a sterile base 1-5 cm long bearing a single sterile bract at the base, with sterile bracts at the apex, slightly recurved; **rachis** green, strongly geniculate, lepidote, laxly and distichously 8 to 12-flowered; **floral bracts** ca. 7 x 6 mm, orbicular, apex rounded, strongly nerved, carinate, punctate lepidote, brown,



Figure 2. Type of *Racinea strobiliorum* Manzanares & W. Till (*J.M. Manzanares 6961*) flowering in cultivation. (Photo J.M. Manzanares).

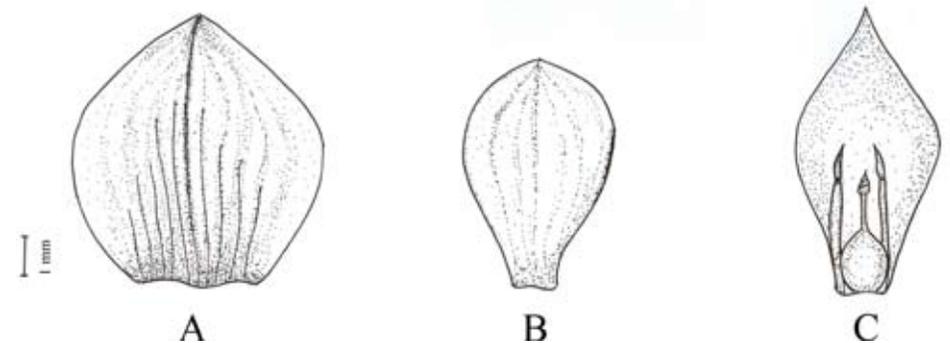


Figure 3. *Racinea strobiliorum* Manzanares & W. Till (*J.M. Manzanares 6961*): A) floral bract, B) sepal, C) petal, pistil and stamens. (Drawing J.M. Manzanares).



Figure 4. Inflorescence of *Racinea strobiliorum* Manzanares & W. Till (J.M. Manzanares 6961). (Photo J.M. Manzanares).

green at the base, erect, with a hyaline margin, not imbricate, not concealing the rachis. **Flowers** subsessile, with a delicate fragrance, not secund; **sepals** ca. 6 x 3 mm, ovate, slightly asymmetric, apex obtuse, free, green with purple spots, laxly lepidote abaxially, subcoriaceous, the adaxial ones slightly carinate; **petals** ca. 6.5 x 4.0 mm, pale yellow, the lower part concave, enfolding the ovary, the plate acute and recurved; **stamens** included, ca. 3 mm long, exceeding the pistil; **filaments** white, ca. 2.3 mm long, lower part ca. 1.0 mm wide, upper part ca. 0.5 mm wide; anthers triangular, ca. 0.7 mm long, basifixed, forming a tube around the stigma; pollen bright yellow. **Pistil** ca. 2.8 mm long; **ovary** ca. 1.7 mm long, green, ovate; **style** ca. 1 mm long, green; stigma ca. 0.1 mm long, yellow, with three lobes spirally twisted. **Fruit** unknown.

Discussion

Racinea strobiliorum is similar to *R. quadripinnata*, which is endemic to the central and northern Ecuadorian Andes. It differs from *R. quadripinnata* by the following characteristics: *R. strobiliorum* is larger in overall size (2.66 m vs. 1 m), with long stems of 1.5-2.0 m covered with dry leaves (vs. stemless), leaf-sheaths are much larger, the apex of the leaves is attenuate and recurved (vs. acute and erect), the inflorescence is branched to 2-branched (vs. 3-branched), floral bracts are larger (7 mm vs. 5 mm long) and orbicular (vs. subreniform), sepals are longer (6 mm vs. 5 mm long) and slightly asymmetric (vs. strongly asymmetric). *Racinea strobiliorum* also resembles *R. pectinata*, but can be easily distinguished by its long stem (vs. stemless) and flowers that are not secund (vs. secund).

It is the first species found in the genus *Racinea* with a long stem. The stem cannot support the weight of the plant, but thanks to the plants around it can reach the upper part of the vegetation and have sufficient light. It was noted that in cultivation the plant does not initiate flowering until it reaches a bright area above surrounding vegetation. If the apical section dies or flowers, 4 to 6 new shoots are emitted in the superior part of the stem, where the green leaves are found (most of the stem is covered with dried leaves). The fruits are unknown because the only inflorescence was used to make a dry specimen.

Little is known about the habitat of this species. Sra. Strobel mentioned that her husband José found it on one of his expeditions to an Andean forest in the province of Azuay. He collected it because of its unusual growth habit, which allowed it to rise above the surrounding dense shrub vegetation. Since then no collection has been made to concretely ascertain the habitat locality.



Figure 5 *Racinea strobiliorum*. Drawing by Carlos Sanchez Montoya.

It is named after the Germans José Strobel (deceased) who discovered the bromeliad, and Elizabeth Strobel (deceased), his wife who cultivated it in Cuenca, Ecuador.

Acknowledgments

The first author thanks Elizabeth Patterson who introduced this plant to him during a visit to the garden of Elizabeth Strobel in Cuenca, capital of the Azuay province, in southern Ecuador. The authors thank David Neill for reviewing earlier drafts of this paper, Jason R. Grant, Jason Bradford, and the anonymous reviewers, and David Neill and Elizabeth Patterson for the translation from Spanish.

References

- Luther H.E., 2002. *An Alphabetical List of Bromeliad Binomials*. Eighth edition. The Marie Selby Botanical Gardens, Sarasota, Florida.
- Smith L.B. & Downs R.J., 1977. Bromeliaceae (Tillandsioideae). *Flora Neotropica Monograph* 14(2): 663-1492. Hafner Press. New York.
- Spencer M.A. & Smith L.B., 1993. *Racinea*, a new genus of Bromeliaceae (Tillandsioideae). *Phytologia* 74: 151-160.

Authors

José M. Manzanares: Herbario Nacional del Ecuador, Museo Ecuatoriano de Ciencias Naturales, Casilla Postal 17-09-7518, Quito, Ecuador. manzanar@interactive.net.ec

Walter Till: Herbarium, Faculty Center of Biodiversity, Faculty of Life Sciences, University of Vienna, Rennweg 14, A-1030 Wien, Austria. walter.till@univie.ac.at



Figure 1: Original color plate of *Lamprococcus vallerandii* (as „Vallerandi“) from *Revue Horticole*.

Under *Aechmea*, *A. vallerandii* is the correct name for *Streptocalyx poeppigii*.

Walter Till¹

While treated as a separate genus in the latest monograph (Smith & Downs 1979) *Streptocalyx* Beer was transferred to *Aechmea* Ruiz & Pav. by Smith & Spencer (1992) giving up the single distinctive character: the absence of petal appendages in the former versus presence in the latter. This view had already been adopted by Baker (1889: 30 „... scarcely worth separating generically“) and in fact *Streptocalyx poeppigii* Beer and *Aechmea woronowii* Harms have much in common but had to be placed in different genera due the petal appendage character. However, recent molecular data find *Streptocalyx poeppigii* as sister to *Hohenbergia stellata* (Schulte & Zizka 2008) and clearly demonstrate that *Aechmea* in a wide sense is not a natural group. Therefore it seems likely that *Streptocalyx* is taxonomically and nomenclatorically not yet settled.

Smith's & Spencer's (1992) re-classification had made necessary numerous new combinations under *Aechmea*. For *Streptocalyx poeppigii* they proposed the new name *Aechmea beeriana* L. B. Sm. & M. A. Spencer as the combination under *Aechmea* was blocked by the already existant *Aechmea poeppigii* Baker (1889). They overlooked, however, the synonym *Lamprococcus vallerandii* Carrière (1877; fig. 1) which they should have used as the oldest legitimate epithet bringing name. This was recently formalised by combining *Lamprococcus vallerandii* under *Aechmea* (Erhardt et al. 2008):

Aechmea vallerandii (Carrière) Erhardt, Götz & Seybold, *Der große Zander* [2]: 1825 (2008).

≡ *Lamprococcus vallerandii* Carrière, *Rev. Hort.* 49: 129, figs. 23, 24, pl. (1877), Type: Barraquin in Mus. Paris Hort. s. n.: P? (holo);

≡ *Streptocalyx vallerandii* (Carrière) E. Morren, *Belgique Hort.* 33: 13, pls. 1, 2 (1883);

= *Streptocalyx poeppigii* Beer, *Fam. Bromel.*: 141 (1856), Type: Poeppig s. n.: B (lecto);

≡ *Aechmea beeriana* L. B. Sm. & M. A. Spencer, *Phytologia* 72(2): 97 (1992), nom. nov. superfl. for *Streptocalyx poeppigii* Beer non *Aechmea poeppigii* Baker, *Handb. Bromel.*: 37 (1889);

= *Streptocalyx juruanus* Ule, *Verh. Bot. Vereins Prov. Brandenburg* 48: 133 (1907), Type: Ule 5616: B (holo), MG (iso).

This recently published two volumen encyclopedia for gardeners is written in German language and the valid combination made therein is likely to escape the attention of taxonomists and bromeliad growers. It is the purpose of this short note to make it widely known.

¹ Herbarium, Faculty Center of Biodiversity, Faculty of Life Sciences, University of Vienna, Rennweg 14, A-1030 Wien, Austria. walter.till@univie.ac.at

New Bi-generic Genus: *X Racindsia*

Geoff Lawn, BSI Cultivar Registrar

In February, 2009 a nothogenus, *X Racindsia* (*Racinaea* x *Tillandsia*), was recorded in the Bromeliad Cultivar Registry under ICBN rules (Vienna Code 2006). Hybridist Hiroyuki Takizawa of Tokyo, Japan coined this combination name from:

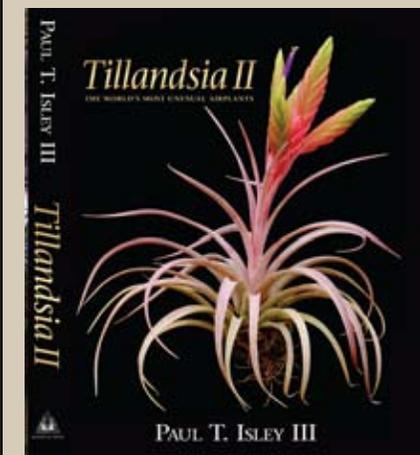
Racinaea M A Spencer & L B Smith, *Phytologia* 74(2): 151-160. 1993 and
Tillandsia L., Sp. pl.:286. 1753

The registered cultivar is *X Racindsia* 'La Mano Magica,' bred in 2001.

Seed parent: *Tillandsia dyeriana* Andre. Refs: Enum. Bromel. 8. 13 Dec. 1888; *Revue Hort.* 60: 568. 16 Dec. 1888.

Pollen parent: *Racinaea crispa* (Baker) M.A. Spencer & L.B. Smith. *Phytologia* 74 (2); 151-160. 1993.

This tillandsioid cultivar has tubular clustering rosettes 6 cm. wide to 18cm. tall at maturity. The semi-pendant or arching inflorescence can reach 12cms. long. In the following article Hiroyuki Takizawa's personal story explains in detail his quest in breeding this unique hybrid.



It's Here!

Paul T. Isley's
Tillandsia II

updated, revised and enlarged.

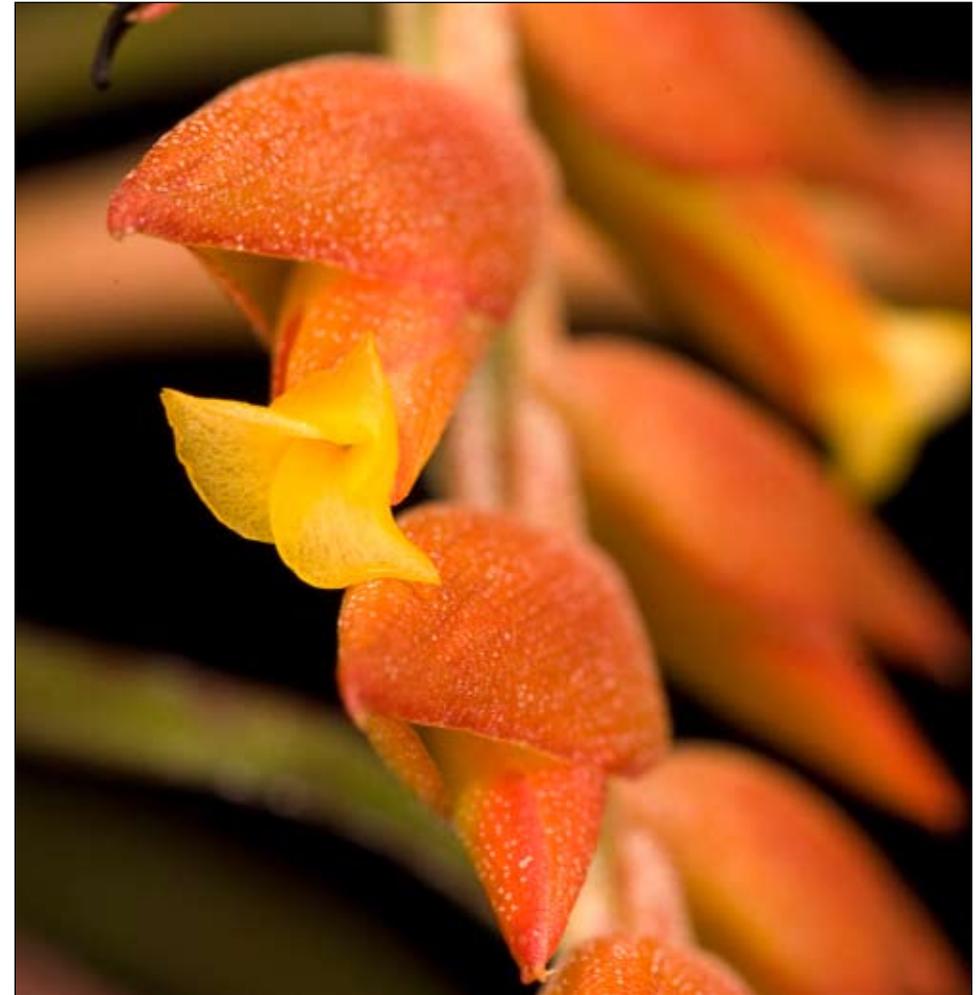
The long-awaited sequel to Paul Isley's *Tillandsia* will soon be available. Same size 8½" x 11" with 300 pages including updated and increased species pages and a new chapter with 30 pages of hybrids.

Cost is \$70 plus \$6 shipping in the USA (California residents add \$6.83 tax). Worldwide orders from www.Botanical-Press.com, by check to P.O. Box 1356, Redondo Beach CA 90278, or through Anwyl Bromeliads at www.anwyl.com. Australian orders should be made through Gil Teague, sales@florilegium.com.au

Special Collector's Edition of 100 signed and numbered premium quality leather-bound copies will be available at US\$285.

Creating x *Racindsia* 'La Mano Magica'

Hiroyuki Takizawa M.D. and Ph.D. photos by the author.



X Racindsia 'La Mano Magica' inflorescence.

Many years ago I fell in love with *Tillandsia dyeriana* for its truly beautiful inflorescence and it has remained my favorite bromeliad species. However, I wanted to make the green, black-spotted foliage on my *T. dyeriana* more attractive by hybridizing. So I first thought of crossing it with *Racinaea crispa* (formerly *Tillandsia crispa*), admired for its attractive, wavy, dark brown leaves. Although once classified in subgenus T. Pseudo-Catopsis, the flower structure of *R. crispa* looks close to *Tillandsia* sub-genus Phytarrhiza, where *T. dyeriana* is classified, with its short, stout style and conspicuous petal blades. Therefore to me a pairing of these two species seemed possible.

Here in Tokyo, under my growing conditions, both species bloom in February to April, our northern late Winter and Spring. I had built up mature stock numbers of the proposed parents. Starting my challenge in 1999, I tried cross-pollinating many flowers, using *T. dyeriana* as seed parent and *R. crispa* as pollen parent. I could not pollinate during the daytime due to my demanding clinic duties, so night after night I spent countless hours pollinating. The stigma of *T. dyeriana* is very fragile so I used surgical tools. Another difficulty is that the flower of *R. crispa* is so small that it is not easy to extract enough pollen. Despite my efforts all the matings failed that year.

I reported the negative results to my very good bromeliad friends Harry Luther and Pamela Koide who commented that it might be impossible to breed such a bi-generic hybrid. However my passion was too strong to just give up my goal. In early 2000 my enthusiasm saw me preparing as many parent plants as possible. My pollination skills were getting better and I crossed about 40 flowers.



Seed pod on parent *Tillandsia dyeriana*.

A few weeks later I was delighted to see that several seed pods had started to develop. Then came the long wait of nearly 1 year for the seed pods to mature and ripen. In my greenhouse I tried some traditional seed-raising with 100% germination. However these slow-growing hybrid seedlings were very prone to die from damping off, algae and moss. At this point my other good bromeliad friend Atsushi Sato helped me. He was a university student doing research on sterilised cultures. So Atsushi agreed to put the precious seeds in sterilised culture and he taught me the basic method.

From my 3 seed pods possibly 1,000 seeds were sent to Atsushi. His first try was on 23rd. February, 2001. The sowings were staggered over several different times for risk management purposes. There was almost 100% germination after about 3 days on a modified weak Murashige & Skoog growing medium. The seedlings grew very fast on this gel-like growing mixture, uncharacteristic of most Tillandsioideae seedlings which grow very slowly under normal conditions. In a strong solution there are plenty of sugars, amino acids, nutrition etc. but one risks burning or even killing the seedlings. At 2 or 3cms. tall these seedlings, with no pests or diseases to contend with, started pupping strongly, even though no hormones were applied. As the seedlings grew they tended to stop producing offsets. Within several months thousands of seedlings and attached offsets were produced. Later on, Atsushi's culture boxes got contaminated with a fungus and he lost most of the stock. Only a few seedlings survived. However, Atsushi kept growing these survivors which in turn multiplied by pupping easily. Eventually all these plants were sent to me.



The author's culture stand.

Before this disaster occurred, luckily I had moved 4 advanced seedlings to my clinic to keep a closer eye on them. As per Atsushi's methods I set up a sterile growing unit. The culture stand had 3 fluorescent 20 watt light tubes per shelf, positioned 25cms. above the culture boxes. These tubes produced blue/purple light suited to aquarium plant culture and were switched on 16 hours daily. Later I discovered normal fluorescent tubes for indoor plants worked just as well. Room temperature was regulated at 24 degree C. all the year round. It is important to keep a stable temperature to avoid contamination. I changed the medium in the culture boxes every 2 weeks for 6 months



Pollination of *Tillandsia dyeriana*.

and then monthly, as recommended by my orchid sterilised culture textbook. At one stage I felt the modified M.&S. medium was still too strong, so I changed the dilution level and concentration of sugars. The growth rate seemed to increase.

To avoid introducing any bacterial microbes or fungal spores a super clean bench and surroundings were imperative for these constant transplants. I used a special chamber box (same as for tissue culture) and wearing plastic gloves sterilised everything with ethanol spray. My new bi-generic produced almost no roots and in these pathogen-free conditions regular transplanting was neither a setback nor stressful. Providing the solution touched at least some part of each seedling, such as a leaf tip, stem or root, the seedlings thrived. Later I observed with my other hybrid sowings by this method that sometimes late-germinating seedlings got crowded out and lifted up off the solution. These I repositioned upright and back touching the solution. To my surprise the batch of 4 grew an incredible 1mm every day in the beginning, then each started throwing 3 to 5 pups simultaneously. These tiny 5mm. pups were removed and transferred to other culture boxes, keeping each clone separate. Such a procedure is not risky and was repeated when these propagules had their own pups. This potentially-endless cycle soon produced hundreds, but after reaching 8-10cms. tall, growth slowed.

Oxygen, humidity and CO₂ levels within these closed boxes may have been excessive or insufficient but did not present problems. Although it's unproven yet, some scientists theorise that under these tissue-culture-like conditions, the seedlings and offspring do not photosynthesise light energy (despite strong light) but rather just absorb water and nutrients through their foliage.

Only 8 months after seeding, I transferred most of the plants from the sterilised culture boxes to the "outside world" of my home greenhouse. They were potted and

rooted normally into an epiphytic mix, hardened off and acclimatised very easily but the growth rate slowed down. Foliar feeding with Hyponex regular liquid type, diluted 1000 times, was applied monthly as a booster.

Then at the age of only 18 months the first mature rosette finally bloomed in August, 2002. Flower petals were lemon yellow and the inflorescence was a lovely pastel orange colour. The beautiful brown wavy leaves with many dark spots showed the best of both parents. Later I found that occasionally mature rosettes would flower in other seasons also outside the parents' blooming period.



Seedlings of x *Racindsia* 'La Mano Magica'

I was so happy that at last my dream had come true. My chosen cultivar name of 'La Mano Magica' is Spanish, meaning "Magic Hand". All clones appeared identical hence only one cultivar name was registered. This bi-generic looks like a mesic plant but under my conditions grows even better when mounted, pupping well after blooming. *Racinaea crispa* is a cool-loving forest epiphyte from Panama to Peru at 300-1800m. altitudes. Epiphytic *Tillandsia dyeriana* inhabits warm lowland Ecuadorian mangrove forest. *x Racindsia* 'La Mano Magica' is tough and adaptable to warm humid climates (or simulated conditions) near sea level.

This cultivar was my very first hybrid bred by me and since then many more crosses are following, including other bi-generics using my beloved *T. dyeriana*. My unorthodox methods of cross-pollination and combined seed-raising/tissue culture had some major complications along the way but they fast-tracked the successful end results.

Acknowledgements

Many thanks to Atsushi Sato for his help in raising my hybrid and to Geoff Lawn for manuscript advice and goodwill support.

References

- Smith, L. B. and R. J. Downs (1977). Flora Neotropica Monograph No. 14, Part 2: Tillandsioideae (Bromeliaceae). New York, Hafner Press.
- Tomiyaana, M. (1998). Clonal Propagation of Orchids. Tokyo, Tombow Publishing Co. Ltd. .

Call for Nominations for BSI Officers

Dr. Larry Giroux

Periodically as determined by the BSI Bylaws, the BSI Nominations Chair asks BSI members to nominate BSI Officers to service on the BSI Board Of Directors. If more than one candidate is nominated for a position, the BSI Board of Directors (which consists of the officers and directors of the society) vote on the nominees. Below is the list of BSI Officers' positions up for election or re-election. Instructions regarding who can be nominated and how to nominate follow.

President for the 2010-2013 term
 Vice-President for the 2010-2013 term
 Secretary for the 2010-2012 term

Please note that the incumbent President has served 2 terms and is not eligible for a third term per the BSI Bylaws. Any nominees for the Vice-President and Secretary positions will be running against the incumbents. The names of current Officers can be found on the inside back page of this Journal.

The following are excerpts from the BSI Bylaws concerning BSI Officers and their election:

1. Enumeration. The officers of this society shall be the president, the immediate past president, the vice-president, the editor, the membership secretary, the secretary, and the treasurer. They shall be elected by a majority vote of the Board of Directors (the board) at its annual meeting or as provided otherwise.

2. Eligibility requirements. Each candidate for office shall be a member in good standing of BSI and agree to remain in good standing during tenure if elected. Candidates for the offices of president and vice-president shall have served at least one term as director.

3. Nomination and election.

a) The chairman of the Nominations Committee shall ascertain the individual membership status of the candidates from the membership secretary and make the nominations to the board 30 days before the annual meeting of the board. Any director may nominate from the floor at that meeting.

b) Elections shall be by ballot. If there is only one nominee for an office, a voice vote shall suffice.

4. Terms of office.

a) The president and vice-president shall serve three years or until their succes-

sors are elected. Their tenures shall begin at the conclusion of the meeting at which elected. Neither may serve more than two terms in those offices.

b) The immediate past president shall serve for a one-year term.

c) Other officers shall serve two year terms or until relieved by the board of their duties either at their own request or by the board for cause.

Who may nominate? Any voting member of the BSI. Who may be nominated? A nominee must have the following credentials: (1) be a voting member of BSI and agree to remain in good standing during tenure if elected. (2) for President or Vice-President--have served a least one term as a director. (3) agree to being nominated; and (4) agree to serve as an Officer if elected and to remain a member of the BSI for the duration of his/her term.

Procedure for nominating: (1) obtain the consent of the prospective nominee and verify compliance with the qualification criteria; (2) mail or email nominations to the chairman of the Nominations Committee between January 1, 2010 and March 15, 2010, inclusive. (Nominations must reach the Chair of the Nominations Committee by March 18, 2010.) Nominations by telephone will be accepted through March 15, 2010, but must be confirmed in writing within two weeks; (3) supply with each nomination the full name, address and telephone number and e-mail address, if applicable, of the nominee, the position for which the nomination is being made, the local society affiliation, and a brief "bromeliad biography" of the nominee.

Please mail nominations to:
 Larry Giroux, BSI Nominations Chair
 3836 Hidden Acres Circle N
 North Fort Myers, Florida 33903 USA
 239-997-2237
 or email to: nominations@bsi.org

Call for Nominations for BSI Directors 2011-2013 term.

Dr. Larry Giroux

Each year, the BSI Nominations Chair asks BSI members to nominate BSI Board of Directors representatives from their respective regions. If more nominations are made than are open positions for a region, the BSI members in that region are asked to vote on the nominees. The first important step is to nominate people for the directors' open positions. Below is the list of open positions for the 2011-2013 three-year term. If you are a member of a district with an open position, please help your district by finding a willing person to nominate for your district's open position. Instructions regarding who can be nominated and how to nominate follow.

The regions for which directors are up for re-election or there are new vacancies for the 2011-2013 term and the numbers of directors needed are as follows:

1 director to be elected from each of the following regions: International, Florida, Louisiana, Texas, Western.

Please note that the incumbent International Director has served 2 terms and is not eligible for a third term per the BSI Bylaws. Any nominees for the Florida, Louisiana, Texas and Western positions will be running against the incumbents, who are up for re-election for second terms. The names of current Directors can be found on the inside back page of this Journal.

Nominations to serve on the BSI Board of Directors for the three-year 2011-2013 term will open January 1, 2010. Serving on the BSI Board is both fun and interesting. The Board makes decisions that influence the direction and activities of the BSI. Board meetings are held annually, usually sometime during the northern hemisphere summer. Board members, except International Directors, are expected to attend these meetings and do so at their own expense. The cost need not be prohibitive because Board members can share hotel rooms. One of the Board's activities is to actively participate in the semiannual World Bromeliad Conferences. All BSI members are encouraged to participate in the nomination and election process for Board members.

Who may nominate? Any voting member of the BSI 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 have the following credentials: (1) be a voting member of BSI and have been a voting member for the three consecutive years prior to nomination; (2) reside in the region for which he/

she has been nominated; (3) not have served two consecutive terms as a director immediately preceding nomination; (4) agree to being nominated; and (5) agree to serve as a director if elected and to remain a member of the BSI for the duration of his/her term.

Procedure for nominating: (1) obtain the consent of the prospective nominee and verify compliance with the qualification criteria; (2) mail or email nominations to the chairman of the Nominations Committee between January 1, 2010 and March 15, 2010, inclusive. (Nominations must reach the Chair of the Nominations Committee by March 18, 2010.) Nominations by telephone will be accepted through March 15, 2010, but must be confirmed in writing within two weeks; (3) supply with each nomination the full name, address and telephone number and e-mail address, if applicable, of the nominee, the position for which the nomination is being made, the local society affiliation, and a brief "bromeliad biography" of the nominee.

Please mail nominations to:
 Larry Giroux, BSI Nominations Chair
 3836 Hidden Acres Circle N
 North Fort Myers, Florida 33903 USA
 239-997-2237
 or email to: nominations@bsi.org

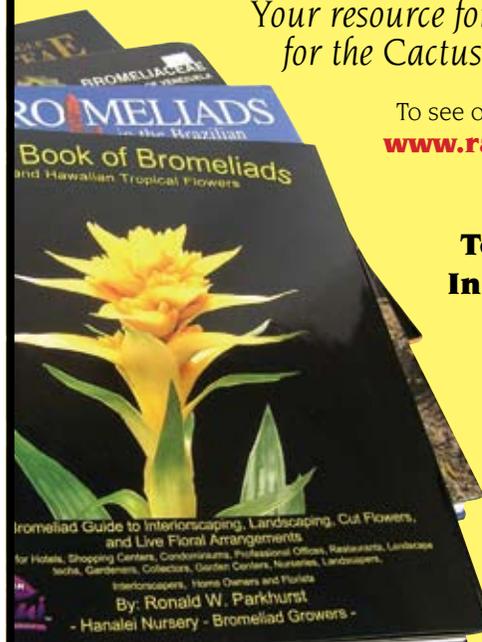
RAINBOW GARDENS BOOKSHOP

*Your resource for Bromeliads and other books
for the Cactus and Succulent Enthusiast*

To see our online booklist visit us on the web at:
www.rainbowgardensbookshop.com

If you prefer you can send for a
free catalog by calling

Toll Free (866) 577-7406
In Arizona (520) 577-7406




**RAINBOW GARDENS
BOOKSHOP**
 3620 W. Sahuaro Divide, Tucson, Arizona 85742

Nat Deleon

Moyna Prince

Late last year I sat down with Nat DeLeon, one of the founding members of the Bromeliad Society of South Florida. I was curious about the early years, when these exotic plants were first arriving from Latin America and sometimes from Europe. And I also wanted to hear about the beginnings of the Bromeliad Society of South Florida (BSSF) and the people who got it started.

Like most people in South Florida, Nat came from elsewhere. I asked him what brought him to Miami. He told me that he got out of the navy following WWII service and wanted to go to college, but all the colleges around Pennsylvania were already filled. "I sent letters all over the state and wasn't able to hook up with anything. Then I had a friend who played quarterback for our high school. He came down to University of Miami (UM) to play quarterback, then transferred to West Point. He always raved about the climate in Miami. So in 1947 I sent a letter and got information about enrolling in the University of Miami and that's where I went. I didn't want any more of the northern cold and I thought going to a warmer climate would be just right for me. Even before I enrolled I knew this was the place I was going to stay after I graduated.

"After I graduated I took a job at the Miami Daily News in advertising but I wound up in circulation. Circulation meant having a lot of spare time. And I met a fellow who was doing a lawn business on the side so I went to work with him building up a clientele. After a year or so - he was not the working type - he intimated to me that he was thinking of getting out. I said, 'I'll buy you out.' And I did. I quit the newspaper and decided to do this full time.

"I felt I needed to learn about these plants. I went to Fairchild Tropical Garden a couple of times a week. I also sent away for all kinds of catalogues. In those days some of the better nurseries had catalogues and sold a lot of things besides orchids. I did a lot of self-studying. There were no societies at that point.

"I met my wife Eileen at UM when we were in a marketing class together. I think by that time I knew a fair amount and there was an opening at Parrot Jungle. It may have been a long courtship because at that time Parrot Jungle was at the end of the world and whenever I had a date with her I made sure my tires were in good shape, because it would have been a long walk to go anywhere else - probably in the dark. Parrot Jungle was at the point of expansion and they needed somebody and I dove into tropical plants, even more so because I didn't want anyone saying I got the job because I married the boss's daughter. There was plenty of room to make the grounds of Parrot Jungle as interesting as the birds. It was at the time when there was a boom in tourism and that put Parrot Jungle on the map. What they had there were mostly

birds. The grounds were waiting to be worked on."

I asked Nat how he got started in bromeliads. He replied that he wanted Parrot Jungle to have interesting plants. "Most of the other tourist attractions used annuals and I wanted something different. I wanted people to stop in their tracks and say, 'Gee, what's that? That's beautiful.' The first bromeliad I found was *Aechmea fasciata*, and it lasted so long and was so easy to grow. I said 'Gee, I've got to get into this group of plants.' Then I heard about Mulford Foster and some of the other people who were collecting bromeliads. I used to get up at daybreak and drive up to Orlando and be with Mulford by 9 o'clock and listen to him talking for most of the day. Finally when it was starting to get dark I'd say I'd come up there to get some plants! He knew that the plants I'd get from him would be used in a landscape setting and that would help popularize bromeliads. I think we were the first to use bromeliads in the landscape. However, I couldn't get a lot of plants from him. He was in the process of moving from Orlando where he had a rather small place to the larger place he had in the country. But I would bring plants back. Julian Nally grew *Vriesea mariae*, which at that time was hot, but he said he wouldn't sell more than a couple until he had 50 thousand. He wanted to grow *Vr. mariae* as a cut flower. He was interested in other bromeliads that I was able to buy. So Mulford's was the center. He was the guy who did all the hybridizing. Hardly anyone else I knew did hybridizing at that time, with the exception of Ralph Davis and myself.

Ralph came to the Jungle one time because he'd heard I was using bromeliads in the landscape, and we had a pretty good friendship. Ralph was more interested in staghorn ferns and crotons. But when he got the bromeliad bug, crotons took a back seat. He had a lot of oak trees up in North Miami and had enough room for his bromeliad benches. He and I started to do some joint ventures, importing from South America, mostly Brazil. We tried not to duplicate. If I did something, he would do something different. I would go up to his place at least once a month. We both started hybridizing. What I wanted to do was have masses of bromeliads. Not onesies and twosies. To do that it would be almost impossible unless you grew a lot of your own. Bromeliads were pretty scarce. Bob and Catherine Wilson's Fantastic Gardens nursery was only five minutes away and anything they had I got, within reason. But they still didn't want to sell in any quantity either."

Nat is famous for his hybrids and it took a farsighted person to realize what the future could hold for a commercial grower, with an attraction like Parrot Jungle requiring a constant supply of colorful, showy plants. Nat told me he spotted blooming X *Neophytum lymanii* on a visit to Mulford Foster. Nat could see there was a wide variation in the colors, ranging from red to green and everything in between. But Mulford wouldn't sell those hybrids. However, he did part with an *Orthophytum navioides*, one of the parents of X *Neophytum lymanii*. Driving home Nat was puzzling over what he

could hybridize the *Orthophytum* with, and *Neoregelia carolinae* was the plant he came up with.

“It wasn’t that long before the *Orthophytum* showed signs of coming into bloom and I had to find something that was also in bloom. Luckily Ralph Davis had several *Neo. carolinae* that were also coming into bloom and I told him what I wanted to do. He said ‘Come on up. It’s yours.’ I brought some home and hybridized and got lots of plants and gave some to Ralph. Because of our partnership and because I got the *carolinae* from him I named *Neophytum* ‘Ralph Davis’ after him. I made *Neophytum* ‘Gary Hendrix’ too and several other *Neophytum* hybrids.”

On a 1959 visit to Fantastic Gardens, the famous nursery run by Bob and Catherine Wilson, Nat encountered Alex Hawkes who had just returned from a bromeliad society meeting in St. Petersburg. As the three men talked, they wondered if there was enough interest in the Miami area to form their own society.

Said Nat: “We each called some people and set up the first meeting at Fantastic Gardens. There probably weren’t more than a dozen people at that first meeting but we started a society. We grew too big for meeting in each other’s homes and started meeting in South Miami Savings and Loan.” Alex Hawkes became the temporary chairman of the board and in 1960 Nat was named the first president, a position he also held in 1978-79 and 1986-87.

In 1970 the BSSF put on a show at Fairchild Tropical Garden. The Nov.-Dec. 1970 issue of *The Bromeliad Society Bulletin* describes it: “The entire auditorium was filled with mulch and arranged into islands illuminated by overhead spots. A thousand or more bromeliads were shown in the beds, including the hybrids of Nat Deleon and a spectacular blooming *Vriesea* [now *Alcantarea*] *imperialis* lent them by Tom Mentelos of Fantastic Gardens.” This show was followed by annual events at Fairchild which have always featured dozens of Nat’s spectacular blooming and variegated *Vrieseas* and *Guzmanias*. Education was emphasized, with card tables set up in the show room, each featuring a different bromeliad genus.

Nat had always been interested in palms, which to him denoted the tropics. He describes those early years: “Whenever I thought about the tropics I thought about palms. Whenever I went to Fairchild, so I could speak intelligently to the people I was working for, I memorized the labels on the palms. I used to write different people. There were maybe three different nurserymen in Belgium I used to correspond with. One was interested in palm seeds and in return I wanted *Neo. carolinae* tricolor. Mulford Foster had said it would be a couple of years before he had any to sell.” He became acquainted with Georges DeMeyer, a well-known Belgian bromeliad grower. They sent seedlings back and forth while they were evaluated for commercial qualities depending on their different growing conditions. But the DeMeyers were strictly commercial, while Nat was looking for showy landscaping plants.

He also started corresponding with people in the tropics and the only way he could get their names was through the orchid journals. “I wrote to an orchid man in Cali, Colombia, and we corresponded and even traded certain plants. And then I thought, if I’m going to do a really nice job at Parrot Jungle, it would be nice if I could go into the jungle and see what it was all about. I asked the Colombian about meeting him and the two of us going on a collecting trip. I brought back some heliconias and other plants from Colombia. In some ways my first trip was a disaster, but it was a learning experience. I actually went on three collecting trips to Colombia. I learned that altitude was critical so I always went to the lower areas. I collected in Colombia, Costa Rica, Venezuela, Panama and Ecuador. I was more interested in *Guzmanias*, anything that looked really colorful. Parrot Jungle had plenty of shade and *Guzmanias* needed plenty of shade.

“By that time I’d moved from a small house in South Miami to Old Cutler Road, where I had an acre and a half. I did not have real facilities at Parrot Jungle but I was able to use my own place for hybridizing.” Hardiness also had to be considered. Nat persuaded Parrot Jungle to build a couple of Quonset type shade houses for protection of ornamental but cold-tender plants - not only bromeliads. These would be displayed in the grounds while they bloomed, pot and all, and returned to the protective huts when they finished flowering.

Nat made the acquaintance of California growers and swapped plants back and forth. He started acquiring orchids from Fred Fuchs, a Homestead orchid grower who was making frequent collecting trips to Latin America. Nat attached the orchids to tree limbs, and placed portable signs that said “Orchids [or bromeliads] in bloom” with an arrow pointing straight up.

By then it was obvious that many visitors went there because of the beautiful gardens. In recognition of his landscaping work, Parrot Jungle renamed the garden “Parrot Jungle and Gardens.”

I asked Nat about his involvement with the BSI. He told me: “I became a member of the BSI about the time I became interested in bromeliads. I guess the involvement had more to do with expanding my interest. There were a number of growers in California, among them David Barry. He was very wealthy and would go over to Europe. He was interested in many plants, not only bromeliads, and it was another way of getting new things. We corresponded some. He was also interested in palms and cycads. I think my first trip to California was to accept the presidency of the Palm Society. I was the third president of that society, and David Barry was the second president. So I went out to California and spent a week or so there. That’s when I met Bill Paylen and Victoria Padilla. Slowly but surely people were finding out what was happening here. Don’t forget, the BSI was almost all California at that time, but I joined because I was interested in the bromeliads. I became a director. Florida was becoming a big

bromeliad-growing area. There were more societies in Texas and New Orleans that were on the wane. That seems to be happening in Florida now. I think it's due to the changing of the times, with computers becoming more common and the mass information age. A lot of societies are having difficulties. I worry about these societies that are combining bromeliads with other plant groups."

Nat told me the Florida Council of Bromeliad Societies was formed following a meeting with Carol Johnson, a nursery owner in central Florida. Carol was concerned about having accepted the 1980 World Conference, and getting enough involvement from other societies. Nat's position was that all societies needed to help each other. By then he felt the societies were getting a little rusty and needed ideas from other people and places.

At about this time, Nat started his famous nursery. He told me he started DeLeon's Bromeliads in 1979 for his sons. "At first we were a retail and mail order nursery. Then we learned about chemicals to induce blooming, and tissue culture was just coming into being. Before that, we used to order plants from the Bak nursery in Belgium and they would send us the plants in flower, which we'd pot up and sell. Having a retail nursery and mail order business is not the easiest thing, because we'd have people come in and spend an awful lot of time and not an awful lot of money. We knew who the big buyers were. For instance, when we got in *Aechmea* 'Samurai,' my sons got on the phone and had ready buyers. It still was a tough deal. Eileen and I spent a lot of time feeding our kids because they weren't making a lot of money. So when tissue culture and the chemicals to induce flowering came in, I talked my sons into going wholesale. We bought a five-acre nursery at the present site on 216th Street which is a main road and very accessible. We had a one-acre shade house to start with, which has expanded to 28 acres presently."

I asked Nat which of his hybrids is his favorite. He told me: "One of my favorite bromeliads is *Vrieslandsia* 'Ultima.' Unfortunately it's not the best plant for Florida because it likes it cool. But I'm not sure I really have a favorite bromeliad. The most sold individual bromeliad would be *Aechmea fasciata*, and in general *Guzmanias* are probably the most important genus commercially. *Aec. fasciata* will probably always be the best seller because it has such a long-lasting inflorescence, and *Guzmanias* are important because they do well indoors. Part of the early problem was educating people in caring for bromeliads and not over-watering them."

Over the years Nat has seen a lot of changes for the bromeliad hobbyist. He pointed out that while there used to be more nurseries, they were more like back-yard growers. Now we have the Home Depots and K-Marts, but unless you get to the store when the plants are first put out, you may buy something that's been neglected.

Finally, Nat said:

"While the Journal has been the voice of bromeliads for so many years, I have to mention the everyday voice of bromeliads that has been available for some time now, and that is the Florida Council of Bromeliad Society's web site, <http://fcbs.org/> Michael Andreas and his wife Karen have done a tremendous job. The web site covers just about every facet of bromeliads and includes the most up to date photos of hybrids made by bromeliad lovers from all over the world. It is truly a work of art!!"

Brom-L SeedBank

Over 150 different species!

Brom-L is the WWW Bromeliad Society, started in 1993. It has the largest bromeliad seedlist and several other activities like the floraPix Bromeliad Gallery, plant ID pages and an email discussion list. Membership is free, but you can also participate without membership.

<http://brom-l.florapix.nl/>

email: info@floraPix.nl

Michael's Bromeliads

Providing a unique selection of quality Bromeliads

Our **free** catalog offers thousands of varieties from over forty genera

Specializing in varieties of Neoregelia and Billbergia

Mail order, by appointment

or visit us online at

michaelsbromeliads.com

Michael & Donna Kiehl

973 First Dirt Road

Venice, FL 34292

(941) 488-4011

Fax: (941) 488-1002

info@michaelsbromeliads.com

Shipping Worldwide since 1986

Advertising Rates *Journal of The Bromeliad Society*

	One issue	Additional issue	One year
full page (b&w/color)	\$125/200	\$100/150	\$625/950
half-page	\$70/100	\$55/75	\$350/475
quarter page	\$45/60	\$35/50	\$220/310
eight-page	\$25/40	\$20/30	\$125/190

Send bookings to

The Editor, Bromeliad Society International,

P.O. Box 57-021, Mana

PORIRUA 5247, NEW ZEALAND.

email: editor@bsi.org

Bromeliad Icons in Old Publications, part 4

Leo Dijkgraaf

Continuing my quest for drawings of bromeliads in 19th century Germany I came across several botanists having “Friedrich” as one of their first names. Professor of philosophy, botany and zoology in Leipzig was Eduard Friedrich Poeppig who traveled between 1827 and 1832 in Chile, Peru and Amazonian Brazil from where he sent thousands of plants to the herbaria of Leipzig, Berlin and Vienna. Descriptions and illustrations of the plants were published at Leipzig by Poeppig and Austrian botanist Stephan Endlicher in 1835, 1838 and 1845 in a work titled *Nova Genera ac Species Plantarum*, 3 volumes with 100 copper engravings each. The drawings were made by Poeppig and among the plates were 4 bromeliads, including several new species. There are monochrome and coloured copies of it. One plate has been printed in this Journal illustrating an article with the biography of Poeppig (Weber 1981).

Heinrich Friedrich Link, Friedrich Klotzsch and Friedrich Otto were the authors of a very attractive work in 8 parts, bound in 2 volumes dated 1841 and 1844 and published in Berlin: *Icones Plantarum Rariorum Horti Regii Botanici Berlinensis*. Link was the successor of Karl Ludwig Willdenow as professor of botany in Berlin. Klotzsch and Otto were also botanists from Berlin. This publication contained 48 handcoloured lithographed plates of high quality - drawing and lithography by Carl Friedrich Schmidt - from rare plants in the royal botanic garden of Berlin. That garden was situated in the Potsdamer Strasse and had at the time with 14000 plant species the biggest collection in Europe.

Puya altensteinii (Figure 1) was a newly described bromeliad collected by M. Moritz and named after secretary of state von Altenstein; Charles Lemaire later made the new combination *Pitcairnia altensteinii*. This species is endemic to northern central Venezuela where it grows terrestrially in moist cloud forests at altitudes from 1000-1900 m. Large quantities of this plant can be found at some point along the road from Maracay to Choroni in National Park Henri Pittier. The larger variety *Puya altensteinii* var. *gigantea* described by W. Hooker some years later is known only from the type collection and is probably a luxuriant cultivar according to Lyman Smith (Smith & Downs 1974), who described in 1966 a variety with an inflorescence smaller in size: *Pitcairnia altensteinii* var. *minor*.

The other bromeliads in *Icones Plantarum Rariorum* were *Pitcairnia ringens*, also a new species, *Acanthostachys strobilacea* and *Tillandsia vitellina* (Figure 2), the latter a plant imported from Venezuela by E. Otto (not the same as Friedrich Otto) in 1840. The colour of the flower of this *Tillandsia* was described as that resembling the marsh marigold, the latin word “vitellinus” meaning egg-yolk yellow (Stearn 2004). As so often happened, the new species bit the dust; it turned out to be the same as *Tillandsia nutans* Swartz from 1788 and is currently known as *Catopsis nutans* (Swartz) Grisebach..



Figure 1. *Pitcairnia altensteinii* (Link, Klotzsch & Otto) Lemaire. Published as *Puya altensteinii* Link, Klotzsch & Otto. Drawing and lithography C.F. Schmidt, Pl. Rar. Hort. Berol. vol.1 plate 1 (1841).



Figure 2. *Catopsis nutans* (Swartz) Grisebach. Published as *Tillandsia vitellina* Link, Klotzsch & Otto. Drawing and lithography C.F. Schmidt, Pl. Rar. Hort. Berol. vol.2 plate 40 (1844).

A very ambitious publication came from David Nathanael Friedrich Dietrich, who because of his high graphic productivity was called the “polygraph of Jena”. From 1831-1854 he made text and plates for the 15 volumes of *Flora Universalis in colorierten*



Figure 3. *Billbergia vittata* Brongniart ex Morel. Published as *Billbergia rohaniana* de Vriese. Drawing A.J. Wendel, lithography A. Riocreux, Tuinbouw-flora van Nederland vol.2 page 33 (1855).

Abbildungen. It contained 4760 plates (some bromeliads) and was followed in 1849 and 1861 by two more series with 110 plates.

Of greater importance is the treatment of the Bromeliaceae by Carl Mez in *Flora Brasiliensis* from 1891-1894. The complete flora (1840-1906) was edited by C. F. Ph.



Figure 4. *Bromelia antiacantha* Bertoloni. Published as *Bromelia commeliniana* de Vriese. Drawing J. Gaykema, lithography L. Stroobant, *Annales d'horticulture et de botanique* vol.2 page 177 (1859).

von Martius, later A. W. Eichler and I. Urban, and was published in 40 volumes in 130 parts with a total of 20733 pages and 3811 monochrome plates. In volume 3(3) the 405 species of Brazilian bromeliads were described, illustrated with 64 plates. This work has been reprinted recently by Cramer Verlag in Germany. That same publisher reprinted *Nova Genera ac Species Plantarum* and also the first 3 volumes of *Flora Peruviana et Chilensis* (annotated by F. Stafleu), by H. Ruiz and J. A. Pavón originally published

from 1798-1802 in Madrid. Of the 325 monochrome plates in this flora of plants from Peru and Chili there are 17 of bromeliads (in volume 3). Many drawings from these and other classic works were used by Lyman Smith to illustrate his *Flora Neotropica Monograph on Bromeliaceae*.

We leave Germany now and cross the border into The Netherlands. Two long-term periodicals in that country were *Sempervirens* and *Floralia* but in respect of coloured plates of bromeliads they had little to offer. Thanks to Willem Hendrik de Vriese however there are some plates of bromeliads published in The Netherlands to report on. De Vriese was professor of botany at the universities of Amsterdam and Leiden and his name lives on in the genus *Vriesea*. He has sometimes been confused with Hugo de Vries, also a professor of botany in Amsterdam, but half a century later and famous for his genetic research of plants and the resulting theory on mutations. Both men have worked at the Hortus Botanicus of Amsterdam, also known as the Plantage Hortus, a botanical garden still in existence today. De Vriese edited the 3 volumes of *Tuinbouwfloora van Nederland en zijne overzeesche bezittingen* (Agricultural flora of the Netherlands and its overseas territories) published in parts in Leiden from 1855-1857. It contained descriptions and illustrations of new and remarkable plants, flowers and fruit, with instructions for their culture. The 38 plates were made by 4 different artists, the plate of *Billbergia rohaniana* (Figure 3) is from A.J. Wendel. De Vriese writes that this species "has never been described but can be found under different names; I named it after the great advocate of culture Prince Camille de Rohan, who honored us with a visit to our herb garden last year". The description of this species by de Vriese was published in 1853 in the German journal *Linnaea*. It turned out to be the same as *Billbergia vittata*, described in 1848 in the French journal *Portefeuille des Horticulteurs*.

De Vriese was together with P.F. von Siebold editor of *Annales d'horticulture et de botanique, ou flore des jardins du royaume des Pays-Bas*, in 3 volumes from 1857-1860 published in Leiden and written in French. From the 3 plates of bromeliads in this work I chose *Bromelia commeliniana*, a species named by de Vriese in 1844 after Caspar Commelin, a professor of botany in Amsterdam at the end of the 17th and beginning of the 18th century. This species flowered in Amsterdam in 1844, but as the model for this illustration (Figure 4) stood a plant in the Leiden Hortus. That plant had a diameter of 1,5 meter and attracted much attention and admiration when in full flower; in fact it can grow to sizes more than twice as large. However it too had already been described earlier, by Bertoloni in 1824 under the currently still valid name of *Bromelia antiacantha*. The species originates from southeastern Brazil and Uruguay.

Literature cited

- Smith, L. B. and R. J. Downs (1974). *Flora Neotropica Monograph No. 14 (Pitcairnioideae) (Bromeliaceae)*. New York, Hafner Press.
- Stearn, W. T. (2004 4th ed. paper). *Botanical Latin*. Devon, UK, David & Charles Publishers.
- Weber, W. (1981). "An early essay by Poeppig on "Epiphytism"." *J. Bromeliad Soc.* 31(6): 249-254.



Catch the Fun July 26 – August 1, 2010

19th World Bromeliad Conference

Hosted by BSI & GNOBS

**Astor Crowne Plaza Hotel
New Orleans, LA USA**

**For Conference Schedule and Registration Information
visit our website: GNOBromeliads.com**

**For Hotel reservations contact the Astor Crowne Plaza
at (504) - 962-0500 or visit www.astorneworleans.com.**



World Bromeliad Conference 2010

Preliminary Schedule – Subject to Change

Monday, July 26th, 2010 All Day	Hotel check in, rooms available
Tuesday, July 27th, 2010 9:00AM - 3:00PM 9:00AM - 5:00PM 9:00AM - 5:00PM 12:00PM - 1:00PM 1:00PM - 5:00PM 6:30AM - 8:00PM	Registration BSI Board Meeting Setup: Displays & Exhibits BSI Board Luncheon Optional Tours Meet & Greet / Cash Bar / Light Appetizers
Wednesday, July 28th, 2010 9:00AM – 3:00PM 9:00AM - 5:00PM 11:00AM - 4:00PM 2:00PM 3:00PM - 5:00PM 5:00PM - 6:30PM 7:00PM - 10:00PM	Registration Setup: Show & Sale Registration of Show Plants Welcome to the Big Easy, Conference Official Opening Seminar International Attendees Reception Optional City Night Tours
Thursday, July 29th, 2010 8:30AM - 9:00PM 9:00AM – 3:00PM 9:00AM – 5:00PM 9:00AM - 12:00Noon 12:00PM - 1:00PM 12:30PM - 1:30PM 1:00PM - 5:00PM 5:00PM - 6:30PM 6:00PM - 9:00PM	SHOW DAY Judges & Clerks Continental Breakfast Registration Judging of Show Seminars Judges & Clerks Buffet Luncheon Registrant Buffet Luncheon Optional Tours Cash Bar Show & Sale Opens to Registrants Only
Friday, July 30th, 2010 9:00AM – 3:00PM 9:00AM - 5:00PM 9:00AM – 12:00 Noon 1:00PM - 5:00PM 6:00PM - 10:00PM 6:00PM - 7:30PM 7:30PM - 10:00PM	Registration Show & Sales Area Open to Public Seminars Workshops Cash Bar Optional Buffet Rare Plant Auction
Saturday, July 31st, 2010 9:00AM - 5:00PM 9:00AM – 12:00Noon 1:00PM - 5:00PM 6:00PM - 7:00PM 7:00PM	Show & Sales Area Open to Public Seminars Home Tours – Registrants Only Cash Bar Banquet
Sunday, Aug 1st, 2010 9:00AM - 3:00PM 9:00AM - 12:00Noon 1:00PM - 3:00PM 3:00PM	Show & Sales Area Open to Public Optional Tours Packing Room Open Break Down of Show & Sales Area

Meet Two New 2009-2011 BSI Directors

Brazilian born Luiz Felipe Navares de Carvalho, is a 72 year old Electronics Engineer with post graduate training in nuclear engineering. He is currently the President of his own company involved with the Environmental Control Sciences in Brazil. With his wife Vera of 49 years, they have three children and five grandchildren.



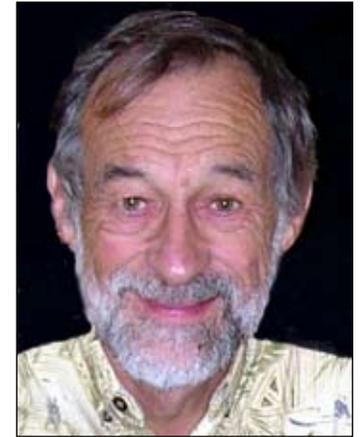
Luiz Felipe's connection with Nature began at an early age while roaming his family property in the mountainous Atlantic Rain Forest. Later he shared this love of the environment with his family by visiting National Parks in Brazil, the United States and in Africa.

Luiz Felipe started growing plants personally when he was given a collection of a variety of orchid genera by his father-in-law in the 1970's. At orchid society meetings he also became familiar with bromeliads. It was in the early 1980's, at the recommendation of his son that he attended a program entitled "Birds and Bromeliads" given by a very young, eloquent and knowledgeable Elton Leme. Through their friendship, he became familiar with Roberto Menescal, Renato Bello and Luiz Correia Araujo and started his study and growing of bromeliads.

He started his collection at a weekend retreat in Petropolis, at a place called Vale Bonsucesso; around 800 meters above sea-level, with cool nights and warm days with minimum temperatures in the winter around 5° C. On his relatively small 1 ½ acres, his collection has grown to about 1000 species and many colorful hybrids. He has around 15000 plants and has recently completed a new "bromeliarium" with good light and an automatic irrigation system; included is an office where he can do his studies and keep the records of his collection.

Since 1985 his involvement with bromeliads has included the discussion and plans of action to remedy the ominous situation of the native Brazilian Bromeliads-including the removal without any criteria, the illegal commerce and the deforestation. In 1993 during the Congress of Botany in Serra dos Orgãos National Park the "III Simposio Brasileiro de Bromeliaceas" was held. At this Seminar, were many influential Brazilians involved with conservation as well as U.S. Americans- Harry Luther, David Benzig, Wally Berg and Thomas Lineham, among others. At this conference the Brazilian Bromeliad Society was founded and Luiz Felipe served as its first President until 2001. From 2000 to 2002 and from 2003 to 2005 he was the International Regional Director of the Bromeliad Society International.

Steven Provost's interest in gardening began as a young boy growing up in Connecticut where his mother was an avid gardener. He recently retired from a 40-year career as a civil engineering consultant and during that time his family has lived in the Washington, D.C. area, Southern California and Central Florida where in each area I regularly explored the botanical gardens in the vicinity.



Steven's interest in bromeliads began in the mid-1980s when living in the Orlando, FL area and he became actively involved in building a collection of bromeliads when his family moved to New Smyrna Beach in the mid-1990s. At that time he joined the Florida East Coast Bromeliad Society and BSI, and recently become a member of the Cryptanthus Society. He also has an active interest in palms and cycads and is a member of the International Palm Society and the Cycad Society.

While he have a small greenhouse and small shade house, he is truly a plant hobbyist and since retiring has been working to find a broad range of bromeliads to use in landscaping my yard. He is also a Volusia County Master Gardener and serve as a bromeliad information resource for our members. Steven and his wife enjoy traveling particularly to Central and South America and have been able to observe bromeliads in the wild in Costa Rica, Belize, Mexico and Peru.

Steven says he appreciates the nomination and hopes that his contribution from a hobbyist's viewpoint will contribute to the continued success of BSI.



You are invited to join

The Cryptanthus Society

One of the largest affiliates of the Bromeliad Society International.

Learn to grow the dazzling Earth Stars and make new friends all over the world.

Membership: International \$25, Dual \$30 - USA \$20, Dual \$25, Affiliates \$30 . Includes 4 Journal issues per year,

Write to Carole Richtmyer, 18814 Cypress Mountain Dr., Spring, TX 77388, or planobrom@aol.com

EVENTS CALENDAR

Australia

October 25-26 2009, Bromeliad Society of NSW Spring Show, Concord

United States of America

August 1-2, 2009 South Bay Bromeliad Associates Bromeliad Show and Plant Sale. Rainforest Flora Nursery, 19121 Hawthorne Blvd., Torrance, CA. Sat. non-4:30pm, Sun 10:00am-4:30pm. Contact Bryan Chan (818) 366-1858 or bcbrome@aol.com

November 13-15, 2009. Florida Council of Bromeliad Societies Bromeliad Extravaganza, hosted by Bromeliad Society of Central Florida. Renaissance Orlando Hotel Airport, Orlando FL. Sales, Seminars, Tours, Banquet, Rare Plant Auction.

December 4-6, 2009. Caloosahatchee Bromeliad Society Show & Sale. Terry Park, Fort Myers FL. Judged Show on Friday, Public Show & Sale Sat-Sun.

July 26 - August 1, 2010. BSI World Conference to be held at the Astor Crowne Plaza in New Orleans.



MEMBERS-ONLY SEEDBANK

Acanthostachys strobilacea.

Aechmea aquilega • *aquilega* • *bracteata* • *carvalho* • *kuntzeana* • *fuerstenbergeri* • *lueddemanniana* • *recurvata* • *smithiorum*.

Alcantarea imperialis green form & giant green form • *Billbergia rosea* • *zebrina*.

Fosterella penduliflora • *Guzmania membranacea* • *sanguinea*

Hohenbergia stellata • *Pepina caricifolia*.

Pitcairnia altensteinii • *atrorubens* • *oliva-estevae* • *sceptrigera*.

Tillandsia butzii • *dasyliirifolia v. vivipara* • *stenoura*

Ursulaea macvaughii

Werauhia sanguinolenta

Packets, at least 20 seeds, US \$1 each. Seed supplied only to BSI members, and limit 2 packets per species.

Send orders & make checks payable to: Harvey C. Beltz, 6327 South Inwood Road Shreveport, LA 71119-7260. USA

The Bromeliad Society International

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

President.....Joyce Brehm, 5088 Dawne Street, San Diego, CA 92117-1352. president@bsi.org
Vice-President.....Jay Thurrott, 713 Breckenridge Dr., Port Orange, FL 32127, USA. vicepresident@bsi.org
Editor.....Andrew Flower, P.O. Box 57021 Mana, Porirua 5247, New Zealand. editor@bsi.org
Membership Secretary.....Dan Kinnard, 6901 Kellyn Ln, Vista CA 92084-1243, USA
Secretary.....Carole Richtmyer, 18814 Cypress Mountain Dr., Spring, TX 77388, USA. secretary@bsi.org
Treasurer.....Edward Doherty, 4039 Herschel Avenue, Dallas, TX 75219. treasurer@bsi.org

DIRECTORS

(To e-mail Directors, write "firstname@bsi.org," Not all Directors have e-mail)

2007-2009California: Rodney Kline, Keith Smith
 2008-2010..... Florida: Jose Donayre. Louisiana: Bonnie Boutwell. Texas: Gene Powers. International: Francisco Oliva-Esteve
 2009-2011.....Australia: Lynn Hudson, Greg Aizlewood, Olive Trevor. New Zealand: David Anderson. California: Holly Mena. Central: Penrith Goff. Florida: Steven C. Provost, Gary Lund, Vicky Chirnside. Northeast: Leslie Graifman. Southern: Rei Irizarry. Western: Hannelore Lenz. International: Eric Gouda, Luiz Felipe Nevaes de Carvalho.

STANDING COMMITTEES

Affiliated Shows.....Theresa M. Bert, 9251 13th Ave. Cir NW, Bradenton, FL 34209, USA. shows@bsi.org
Affiliated Societies.....Martha Goode, 826 Buckingham Ct, Crystal Lake, IL 60014-7601. affiliates@bsi.org
Archives and Historical.....Robert and Janet LaRoe, 401 Oakford Road, Sarasota, FL 34240
Conservation.....Pierre Ibisch, University of Applied Sciences, Alfred-Moeller Str 1, Eberswalde, Brandenburg 16225, Germany. conservation@bsi.org
Cultivar Registration.....Geoff Lawn, 31 Greenock Ave., Como, Perth WA 6152, Australia. cultivars@bsi.org
Finance & Audit.....Elizabeth Patterson, 4205 Gloster Road, Dallas, TX 75220
Judges Certification.....Betty Ann Prevatt, 2902 2nd St., Ft. Myers, FL 33916
Mulford B. Foster Bromeliad Identification Center Harry E. Luther, Marie Selby Botanical Gardens, 811 South Palm Ave., Sarasota, FL 34236-7726. bic@bsi.org
Nominations..... Larry Giroux, 3836 Hidden Acres Circle N, North Fort Myers, FL 33903, USA. Larry@bsi.org
Publications Sales.....Robert & Karen Kopfstein, 6903 Kellyn Ln., Vista CA 92084, USA. publications@bsi.org
Research Grant.....Gregory K. Brown, University of Wyoming, P.O. Box 3165, Laramie, WY 82071-3165. grants@bsi.org
Seed Bank.....Harvey C. Beltz, 6327 South Inwood Rd., Shreveport, LA 71119-7260
Media Library.....Keith Smith, 1330 Millerton Rd., Auburn CA 95603-1243, USA. slides@bsi.org
Web Site.....Nick Bethmann, 726 Forsyth St., Boca Raton, FL. 33487-3204 USA, webmaster@bsi.org
World Headquarters.....Tom Wolfe, 5211 Lake Le Claire Rd., Lutz, FL 33549-4833, USA.

HONORARY TRUSTEES

David H. Benzing, <i>USA</i>	Roberto A. Kautsky, <i>Brazil</i>	Harry E. Luther, <i>USA</i>
Nat DeLeon, <i>USA</i>	Marcel LeCoufle, <i>France</i>	William Morris, <i>Australia</i>
Grace M. Goode OAM, <i>Australia</i>	Elton M.C. Leme, <i>Brazil</i>	Herb Plever, <i>USA</i>
Peter Waters, <i>New Zealand</i>	Elmer J. Lorenz, <i>USA</i>	Derek Butcher, <i>Australia</i>

Members-only web site access:

username: your bsi membership number (this is printed in the first line of your journal mailing label) **password:** bsi

