

JOURNAL

OF THE BROMELIAD SOCIETY

Volume 58(5): 193-240



SEPTEMBER-OCTOBER 2008



Journal of the Bromeliad Society

Volume 58(5): 193-240

September-October, 2008

Editor: Andrew Flower, PO Box 57-021 Mana, Porirua 5247, New Zealand

tel: +64 4 2399-659, fax: +64 4 2399-671, email: editor@bsi.org

Printed November, 2008 by Fidelity Press, Orlando, Florida, U.S.A.

© 2008 by the Bromeliad Society International ISSN 0090-8738

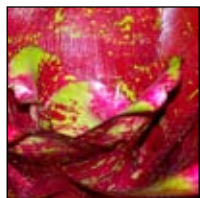
CONTENTS



p. 203



p. 224



p. 231

- 197 **Book Reviews:** *Fragments of the Atlantic Forest of Northeast Brazil*, and *Flowering Plants of the Neotropics*.
- 199 ***Puya bravoii* (Bromeliaceae) a New Species From North-Western Argentina.** Ezequiel Araújo and Alfredo Grau.
- 203 ***Guzmania vinacea*, a New Species From Northeastern Peru.** Harry E. Luther and Karen F. Norton
- 205 **Three New Alcantarea Species from Espírito Santos and Minas Gerais, Brazil.** Elton M.C. Leme, Claudio Nicoletti de Fraga, Ludovic J.C. Kollmann et. al.
- 217 **Conservation Initiative.** Derek Butcher
- 218 **Monitoring of the Critically Threatened Epiphyte *Tillandsia hondurensis*.** P. R. House.
- 220 **Misnamed Bromeliads 21: *Neoregelia camorimiana* vs. *fluminensis*.** Harry E. Luther.
- 221 ***Tillandsia* ‘Aeranthos Major’** Derek Butcher.
- 225 **Don’t Confuse Sphagnum Moss with Peat Moss.** Gerry Hood.
- 227 **WBC 2008 Cairns, Show Report.** Larry Giroux.
- 234 **The Greater New Orleans Bromeliad Society,** Gary Simon.
- 237 **The Rainbow Gardens Bookshop.** Andrew Flower.
- 238 **Events Calendar, Donations**
- 238 **Welcome New Members**

Covers

Front—*Tillandsia hondurensis* in cultivation. This species is reported to be critically threatened in habitat, see article on page 218. Photo by Andrew Flower.

Back—newly described *Alcantarea longibracteata* in habitat (see article on page 205). Photo 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. Benzing, 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.

Webmaster Required

We are in urgent need of a new Webmaster for the BSI site. Ken Marks has done a great job getting our new site operational, but increasing pressure of his “real life” (ie., paying) job has meant he can no longer continue donating his time to our website.

Bearing in mind that my opinions are my own, and don’t necessarily agree with anyone else in the BSI executive, here are my thoughts. We have been trying for some time to upgrade member benefits through the website, and Ken has started putting them in place but the job urgently needs finishing. The members-only shopping cart needs to be re-designed with genuine discounts for members, and the member password system needs to be changed from the old system of published codes in the journal to one based on membership numbers (so you get to use the same password as long as you remain a member, and non-members cannot merely copy passwords out of our journals.) We are now putting pdf files of current journals on the website. There are several other projects “on hold.”

The current website has been hard-coded by Ken, who writes the HTML himself. A replacement webmaster who can write all the code would be great, but I suspect such a person may be hard to find. As long as we remain a small society, this is likely to remain a problem whenever we are forced into a personnel change. An option is to change the site over to one engineered by a web design program like “Expression Web” or “DreamWeaver” that has a user interface not unlike an advanced word processor and automatically generates the XHTML, CSS or HTML code for you. So please do not be put off volunteering if you don’t know HTML but you can use code-generating programs. I am currently converting my own commercial site from FrontPage to Expression Web, and by about February next year I could help rebuild the BSI site in Expression Web with you if you need assistance.

A volunteer is needed - please contact Joyce Brehm or myself if you are interested.

This Issue

Scientific

We start off with a couple of book reviews. Elton Leme’s latest book, *Fragments of the Atlantic Forest*, was co-authored with José Alves Siqueira Filho and is a broad history as well as a description of the remaining flora and fauna of this once magnificent area now fragmented by human enterprise. A must read for anyone seriously concerned with conservation. *Flowering Plants of the Neotropics* covers 284 plant families, and includes a 4 page chapter on bromeliaceae written by Harry Luther and Bruce Holst.

Ezequiel Araújo and Alfredo Grau describe a new strobiliform puya species from North-west Argentina, *Puya bravoii*. A medium sized puya at 2 m high in flower, it is

interesting to see mature specimens dwarfed by a giant condor (picture on page 202). Harry Luther and Karen Norton describe a new *guzmania* from northeast Peru, *Guzmania vinacea*, on page 203. Then we move to Brazil where Elton Leme et al describe three new *alcantarea* species found growing on the rocky slopes (inselbergs) whose inaccessibility has kept agriculture at bay.

Conservation

Derek Butcher has obtained a new hat, this one as a committee member of the Committee for Endangered Bromeliads in Central America. On page 217 Derek describes how he has tagged the species database held on the Florida Council website fcbs.org (why not one on the BSI website?, one might ask) so you can search for endangered, critically endangered, vulnerable or extinct species. He also slips in a suggestion that publicity of endangered species might lead to increased public demand and prompt commercial growers to propagate rare species, and maybe even donate a small percentage of their sales to our Conservation fund.

In an attempt to rescue this suggestion of his from the usual oblivion of silence, if Derek and Pierre put a list of qualifying bromeliad endangered species on the BSI website Conservation Corner and at least one other nursery agrees to contribute a percentage of its sales of those species (propagated ex-habitat) to the conservation fund, I will donate 5% of my sales revenue of endangered species. Interested propagators can contact derek at tillands@senet.com.au

Tillandsia hondurensis is now critically threatened in habitat, and on page 218 Derek Butcher has translated a note about this from Paul House, Herbarium Director at the National University in Honduras (the plant on our front cover is in my nursery, and being propagated from seed).

Cultivation

The Brazilian group of *Tillandsia aeranthos*, *T. bergeri*, *T. stricta* and *T. tenuifolia* has been very popular in cultivation and with his fading Cultivar Registrar's hat on, Derek discusses, on page 221, the tangled history of some of the hybridizing that has gone on with this group. Page 225 we reprint an article describing the difference between sphagnum moss (sometimes used around the base of plants fixed to mounts) and peat moss (sometimes used in potting mixes). The nasty fungal disease potentially caused by a fungus living in sphagnum moss is very rare, but sterilising the sphagnum moss with boiling water before using it is a useful precaution.

General Interest

Dr Larry Giroux reports on the WBC 2008 Show results, and we are indebted to him for his excellent organising of the competitive show in Cairns.

Moving on with the World Conference schedule, on page 234 Gary Simon introduces the 2010 hosts the Greater New Orleans Bromeliad Society (also known as GNOBS), and reports briefly on their 2008 local Show & Sale. Preparations are already underway for the third WBC to be hosted by the GNOBS, and we look forward to future updates. Finally, the Rainbow Gardens Bookshop has been something of an icon over the past 35 years, especially for us bromeliad enthusiasts in remote places. We introduce the new owners on page 237.

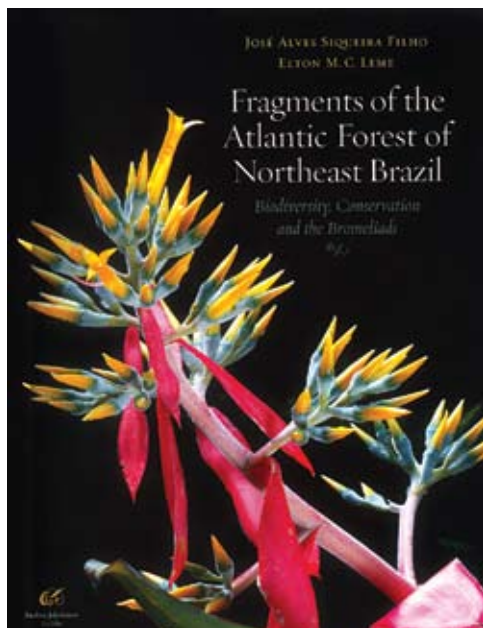
Book Reviews.

Eric Gouda

Fragments of the Atlantic Forest of Northeast Brazil: Biodiversity, Conservation and the Bromeliads by José Alves Siqueira Filho & Elton M.C. Leme, 2007 (Apr.) ISBN 85-88742-19-5 (The original Portuguese version was published a few months earlier, in December 2006)

A heavy (2 kg), 416 page beautiful café table book about the well known fragments of the Atlantic Forest of Northeast Brazil along the coast. The format is 31 x 24 x 3.5 cm, hard bound with golden text and a nice dust cover around it. It holds over 200 excellent Bromeliaceae pictures, most of them taken in the field, but also some of the famous “Morren paintings”.

The main authors are Filho & Leme, who contribute 6 of the 8 chapters, thus you would expect that the book would be mainly about Bromeliads. It is a totally different concept than the last 3 books written by Elton Leme (*Canistropsis*, *Cansitrum* & *Nidularium*), which are about the same forest (area) but which are more monographical taxonomic works. There is no overlap between those works and this new book.



The book starts with the history of the “Atlantic Forest” that covers an area from Rio Grand do Sul to Rio Grande do Norte in the Northeast of Brazil, but the main forest is in the southeast along the Serra do Mar and Serra da Mantiqueira in the states of Sao Paulo, Rio de Janeiro, Minas Gerais and Espirito Santo. It handles the influence of the colonization and slavery period on the disappearance of the forest, which is the second-largest forest on the continent after the Amazon forest. But it is not a continuous forest any more. The second chapter describes the fragmentation of this forest and the disappearance of habitats north of the Sao Fransisco River, where this forest is more like a “patch work” between the cultivated land.

The fourth chapter is about the diversity and distribution of Bromeliaceae in the States of Pernambuco and Alagoas. Beautiful Bromeliad habitats are described and illustrated, very much inviting us to visit the area once if we have the opportunity. It is not only a book for plantsman, but also animal lovers will be thrilled to see the beautiful inhabitants of this forest in the next chapter. This handles the fauna in the Atlantic Forest Fragments of the Northeast of Brazil. Pictures of birds, mammals, insects and snakes illustrate what is living there. The following chapter handles plant-animal relations, especially the pollination biology of Bromeliaceae in the very same area (NE Brazil). We see that humming birds play a major role here.

In several extended tables we find the flowering times in relation to the dry and wet periods of the year of the different species of Bromeliaceae occurring in the forest.

Finally, the book includes an important and interesting taxonomic study. Chapter 7 starts with the *Aechmea* complex formerly in the genus *Gravisia*, where some new species are introduced. An overview of the group is given and nicely illustrated. Related species are clearly recognized starting with the very compact inflorescence of *Aechmea chrysocoma* and *A. aquilega*, up to the open paniculate inflorescence of the gigantic *A. eurycorymbus* and *A. leptantha* (a new combination for *Portea leptantha*) and several in between. Next is the *Aechmea lingulata* complex that includes several species that are not easy to distinguish. Several other Bromelioidae genera are handled with notes and illustrations of *Araeococcus*, *Ananas*, *Fosterella*, *Billbergia*, *Bromelia*, *Canistrum*, *Cryptanthus*, *Hohenbergia*, *Orthophytum* and others. In Tillandsioideae, *Tillandsia* and *Vriesea* are focused on.

Chapter 8 includes several keys, including a key to the *Aechmea lingulata* complex and to the species of *Araeococcus* for Northeast Brazil. The book concludes with a series of miniature type-pictures (35 illustrations on 3 pages) and line drawings of flower details of the newly described species in the book (23 illustrations on 3 pages) and an index of course.

Jason Grant

Flowering plants of the Neotropics. Eds. Nathan Smith, Scott A. Mori, Andrew Henderson, Dennis Wm. Stevenson, & Scott V. Heald. 2004. 28 cm, 594 pages, hard cover. ISBN 0-691-11694-6, English. Princeton University Press in association with the New York Botanical Garden. <http://www.nybg.org/bsci/spub/catl/>

This is perhaps *the* important reference to Neotropical plant families. It authoritatively describes 284 families of angiosperms each with paragraphs on key characters, numbers of genera and species, distribution and habitat, family classification, features of the family, natural history, economic uses, and references. Each family is illustrated by at least one representative species in a black and white line-drawing (mostly by Bobbi Angell), as well as one to several excellent color photos (mostly by Carol Gracie) in a separate section on colored plates. The 4-page chapter on Bromeliaceae is written by Bruce Holst and Harry Luther. While Gentry's *Woody plants of Northwest South America* is probably the best field guide in this category, *Flowering plants of the Neotropics* is certainly the best desk and teaching reference where a great amount of information can be found and easily accessed.

Puya bravoï (Bromeliaceae), a New Species From North-Western Argentina

Ezequiel Aráoz and Alfredo Grau.



Figure 1. Mature *Puya bravoï* before inflorescence growth. Photo by Alfredo Grau.



Figure 2. *Puya bravoï* blooming in its native habitat. Photo by Ezequiel Aráoz.

Abstract: *Puya bravoï* is described as a new species of Bromeliaceae, Pitcairnioideae, from north-western Argentina. Diagnostic characteristics are given to distinguish it from its closest related species; *P. weberiana*, *P. fosteriana*, *P. cardenasii* and *P. tristis*.

Puya Molina (Bromeliaceae, Pitcairnioideae) includes approximately 200 species distributed from Costa Rica to Chile and Northwest Argentina along the Andean cordillera. A main diversification area of the genus extends in the Paramo and high Andean grasslands region from Colombia to Bolivia, where several species with strobiliform inflorescence are present. The purpose of the present paper is to describe *Puya bravoï* as a new species, monocarpic and with strobiliform inflorescence, found in the northermost part of north-western Argentina. Three species corresponding to this group are present in Argentina (*P. yakespala*, *P. volcanensis* and *P. weberiana*), all of them easily characterized and identifiable. *Puya bravoï* is also clearly different from any of the much larger group of strobiliform *Puya* species present in Bolivia and Peru, using the available key (Smith and Downs 1974) or more recent checklists (Krömer, Kessler et al. 1999; Ibisch and Vásquez 2000).

Puya bravoï Aráoz & A. Grau, sp. nov. TYPE: Argentina, Provincia de Salta. Dep. Santa Victoria, arriba de Toldos, alt. 3100 m, 64°W 22°S, 23-November-2006, E. Aráoz, L. Rustige & A. Grau 1596 (holotype, LIL; isotype, MO, LPB).

Foliis multis, densissime rosulatis, laminis angustissime triangularibus, longe acuminatis, 6 cm latis, inermibus vel paucispinosus; inflorescentia densissime cylindrica, primo intuitu simplici sed vera bipinnatim paniculata, 1 m longa, 11 cm diámetro, lanata; bracteis primariis amplis, membranaceis, fragilibus; ramis dense paucifloris; bracteis florigeris parvis, sepala non superantibus; pedicellis obconicis, 12 mm longis; sepalis late lanceolatis, acutis, dense lanigeris, 35 mm longis; petalis azureis, sepala ad 3 cm superantibus; capsula 35 mm longa, 15 mm lata.



Figure 3. Detail of *Puya bravoii* flowers.
Photo by Ezequiel Aráoz.

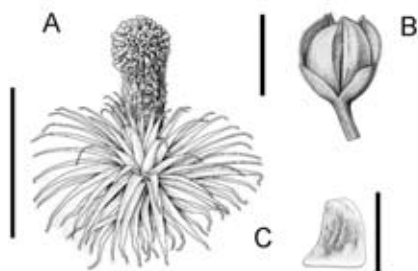


Figure 4. *Puya bravoii*. A flowering, B capsule, C seed. Bars are 1m, 2cm and 0.5mm respectively.

Plant flowering up to 1.5-2 m high, monocarpic. **Leaves** numerous, very densely rosulate, ca. 60 cm long; **sheaths** suborbicular, 9 cm in diameter; **blades** 6 cm wide at the base, glabrous above, minutely pale-lepidote beneath, without spines, or very few (1-20 per leaf) placed at the blade base and sheaths apical portion. **Scape** up to 60 cm high, when very short, concealed by the leaves. **Inflorescence** cylindrical, very densely bipinnate, up to 1 m long, ca. 11 cm in diameter, round at the apex, densely brown-lanate; **scape bracts** never exceeding the flowers; **inflorescence branches** much abbreviated, 3-5 flowered; **floral bracts** small, at the base of the pedicels; **pedicels** thick, 1.2 cm long and 0.3 cm wide; **sepals** broadly lanceolate, densely lanate, ca. 3.5 cm long, 0.8 cm wide, with acute apex; **petals** broadly elliptic, ca. twice the length of sepals, ultramarine; **stamens** included; **filaments** linear, flattened, ca 1.6 cm long, 0.2 cm wide; **stigma** conical, 1.7 cm long, 0.6 cm wide, attaining the same height as the stamens. **Capsule** dark brown, 3.5 cm long, 1, 5 cm wide; **seeds** dark brown, numerous per capsule, winged and triangularly shaped, body of the seed ca. 0.2 cm long and 0.1 cm wide, complete seed 0.4 - 0.5 cm long and 0.25 - 0.35 cm wide at the base of the triangle.

Puya bravoii grows on rocky and grassy slopes above the timberline. Only one population comprising a few hundred individuals has been found. Flowering plants were observed in late October 2005, and no flowering occurred during spring and early summer of 2006.

Puya bravoii is closely related to *P. weberiana* E. Morren ex Mez, *P. fosteriana* L. B. Smith, *P. cardenasii* L. B. Smith and *P. tristis* L. B. Smith, having a cylindrical lanate inflorescence.



Figure 5. Fruiting *Puya bravoï*. Photo by Alfredo Grau.

Unlike these species, and most other *Puya* species, *P. bravoï* almost completely lacks spines which, if present, are restricted to the base of the blades. Furthermore, the primary bracts are long and reflexed at anthesis in all these other species, whilst in *P. bravoï* they are shorter than the flowers.



Figure 6. Typical *Puya bravoii* habitat, rocky slopes with condors. Photo by Ezequiel Aráoz.

Puya bravoii is dedicated to Orlando Bravo, a distinguished physicist, mountaineer and conservationist of Northwestern Argentina.

Literature Cited:

- Ibisch, P. L. and R. Vásquez (2000). Illustrated catalogue of the Bromeliaceae of Bolivia. Illustrated biodiversity of Bolivia Vol 1, Santa Cruz, Editorial F.A.N., CD-ROM. 1.0.
- Krömer, T., M. Kessler, et al. (1999). "Checklist of Bolivian Bromeliaceae with Notes on Species Distribution and Levels of Endemism." *Selbyana* 20(2): 201-223.
- Smith, L. B. and R. J. Downs (1974). *Flora Neotropica Monograph No. 14 (Pitcairnioideae) (Bromeliaceae)*. New York, Hafner Press.

Authors:

Laboratorio de Investigaciones Ecológicas de las Yungas (LIEY), Facultad de Ciencias Naturales, Universidad Nacional de Tucumán, CC 34, (4107) Yerba Buena, Argentina. graualfredo@gmail.com

Guzmania vinacea, a new species from northeastern Peru

Harry E. Luther & Karen F. Norton

The bromeliad genus *Guzmania*, with more than 200 species, has a primarily Andean distribution at moderate elevations (500–1500 m). Within the Tillandsioideae subfamily, they have been distinguished by a suite of characters including a usually polystichous arrangement of flowers, and joined (fused or conglutinated) petals which are white, cream, green, and yellow to orange (never blue!). Species are most diverse in mesic to pluvial forests.

The new species described below appears to belong to a complex of taxa centered in the Northern Andes with a simple, cone-like inflorescence (rarely branched), with colorful bracts and generally diurnal, semi-tubular flowers. With its cylindrical inflorescence and reddish foliage, this new species seems closest to *Guzmania bipartita*.



Figure 1. *Guzmania vinacea* flowering at Marie Selby Botanical Gardens. Photo Dr. Phil Nelson.

Guzmania vinacea H. Luther & Norton, sp. nov.

TYPE: Peru; Amazonas, Alto Mayo, 1800–1900 m elev., 2005, J. Kent legit, fl. in cult. SEL 2008-012, 30 March 2008, H. E. Luther s.n. (Holotype: USM; Isotype: SEL).

A *Guzmania bipartita* L.B. Smith, cui similis affinisque, bracteis florigeris ellipticis acutisque et sepalis minoribus differt.

Plant an epiphyte, flowering 0.5–1 m tall. **Leaves** rosulate, spreading, 15 to 25 in number, 30–75 cm long; **sheaths** elliptic, 8–20 x 4–10 cm, moderately coriaceous, usually paler than the blades, somewhat reddish striate, appressed dark punctate-lepidote, more so adaxially; blades ligulate, broadly acute to acuminate, 3–6 cm wide, coriaceous, nerved, scattered punctate-lepidote throughout, abaxially dark purple-red, adaxially dark green. **Scape** erect, 30–45 x 1 cm, scattered pale punctate-lepidote; **scape bracts** erect, densely imbricate, the lowest elliptic, rounded and apiculate; the upper broadly elliptic and attenuate, all punctate-lepidote, dark purple-red abaxially,

green tinged purple-red adaxially. **Inflorescence** simple, ellipsoid to cylindric, 8 – 12 x 4 – 5 cm, 45 to 60 flowered; **floral bracts** narrowly elliptic, acute, 35 – 55 x 12 – 18 mm, thin coriaceous, ecarinate, somewhat rugose, scattered punctate-lepidote, dark red, drying castaneous. **Flowers** with a stout 1 – 4 mm pedicel, spreading at ca 15° from the axis at anthesis, opening during the day; **sepals** elliptic, acute, 12 – 19 mm, the adaxial pair carinate and 3 mm connate, green, drying castaneous; **corolla erect**, the lobes spreading; **petals** narrowly oblanceolate, obtuse, 35 – 40 mm long, conglutinated into a tube for ca 20 mm, naked, creamy-yellow to yellow; **pistil and stamens** included.

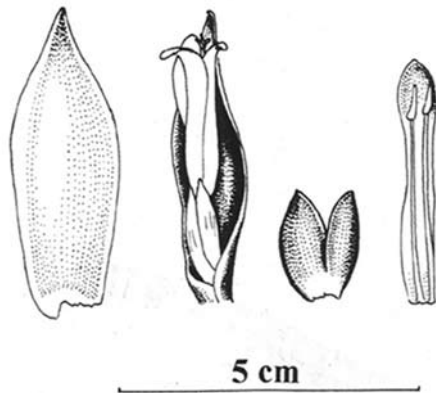


Figure 2. *Guzmania vinacea*. Floral bract, flower and bract, adaxial sepals, petal and stamens. Illustration by S. Dalström.

From the related and similar *Guzmania bipartita* from Ecuador, Peru and Bolivia, this new species differs by its narrowly elliptic and acute (vs. suborbicular, rounded and apiculate) floral bracts, and shorter (12 – 19 vs. 22 mm long) sepals. From *G. conifera* this new species maybe distinguished by an ellipsoid to cylindric (vs. globose), narrower (4 – 5 vs. 6 – 8 cm in diameter) inflorescence, with shorter sepals (12 – 19 vs. 30 mm long), and petals (35 – 40 vs. 60 – 70 mm long).

PARATYPE: Peru; Amazonas, Chachapoyas, Leimebamba – Lajasbamba trail. 29 June 1977, Jef D. Boeke 2061 (SEL).

The paratype collection represents a xanthic color form with the “perianth white” and the “inflorescence golden yellow” (! J.D. Boeke). Plants from the type population were uniformly and deeply colored (! J. Kent). This sort of color variation is not uncommon in the genus.

The epithet “vinacea” refers to the wine-colored abaxial surfaces of the leaves and scape bracts of the type (and cultivated) collection.

Acknowledgements

I thank Jeffrey Kent of Vista, California, for providing fresh, flowering plants of this beautiful ornamental for description and documentation; 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. Email hluther@selby.org

Three New *Alcantarea* Species from Espírito Santos and Minas Gerais, Brazil.

Elton M. C. Leme, Claudio Nicoletti de Fraga, Ludovic J. C. Kollmann & André Paviotti Fontana. Illustrations by E.M.C. Leme.



Figure 1. *Alcantarea longibracteata* Leme & Fraga at type locality

The north and northwest region of Espírito Santo state, mainly the area close to the boarder of Minas Gerais State, are outstanding due to the presence of hundreds of isolated granitic inselbergs which are covered by quite well preserved typical vegetation, sheltering in most cases a flora with rich biodiversity, scientifically unexplored, and full of endemic elements. As a matter of fact, rock outcrops usually do not attract much agricultural interest, and have frequently been preserved from human impact, keeping their refugial character (Porembski et al., 1998).

These inselbergs form a breath-taking landscape, making the exploration task an extraordinary field experience (albeit arduous), usually requiring climbing techniques to reach the uppermost sites. This explains why many new species of different plant families have recently been discovered in that region, as exemplified by Alstroemeriaceae, *Alstromeria capixaba* M. C. Assis (Assis, 2003); Araceae, *Anthurium gomesianum* Nadruz (Nadruz, 2006); Begoniaceae, *Begonia aguibrancensis* L. Kollmann, *B. lossiae* L. Kollmann (Kollmann, 2008); Orchidaceae, *Bulbophyllum arianeae* Fraga & Smidt, *B. boudetianum* Fraga (Fraga & Smidt, 2004; Fraga, 2004), *Pseudolaelia brejetubensis* M. Frey, *P. freyi* Chiron & V. P. Castro, *P. maquijiensis* M. Frey and *P. pavopolitana* M. Frey (Frey, 2003; Chiron & Castro, 2004; Frey, 2005a; Frey, 2005b); Ochnaceae, *Luxemburgia mysteriosa* Fraga & Feres (Fraga & Feres, 2007); Scrophulariaceae, *Otacanthus fernandesii* Ronse (Ronse, 2001).

Bromeliaceae is no exception. From time to time, new species from this region are coming to light, including *Alcantarea roberto-kautskyi* Leme (Leme, 1999), *A. distracta* Leme & Paula (Leme & Paula, 2008), *A. patriae* Versieux & Wand. (Versieux & Wanderley, 2007), *Orthophytum zanonii* Leme (Leme, 2004), *O. pseudovagans* Leme & L. Kollmann (Leme & Kollmann, 2007), *Vriesea vellozicola* Leme & J. A. Siqueira (Leme & Siqueira-Filho, 2007) to name few. The genus *Alcantarea*, with its 23 known species (Luther, 2008), reveals a great potential of study in the region, as indicated by the three new taxa proposed below, with many others to come.



Figure 2. Details of the terminal branch of *Alcantarea longibracteata*.

Alcantarea longibracteata Leme & Fraga, sp. nov. Type: Espírito Santo, Águia Branca, Santa Luzia, propriedade de Ciro Ferreira, Pedra da Bandeira, 18°58'77"S

40°39'84" W, 297 m elev., 26 Apr. 2008, E. Leme 7346, L. Kollmann, A. P. Fontana, O. Ribeiro & M. Zanoni. Holotype: RB. Isotype: MBML.

A. A. odorata (Leme) J. R. Grant, cui affinis, sed foliis perpaucis, haud albo-cretaceis, bracteis scapalibus quan internodia distinct superantibus, haud albo-cretaceis, supernis subpatentibus, inflorescentia pauce ramosa, bracteis floriferis majoribus, altitudinem sepalorum vix brevioribus, prope apicem per anthesim nigrescentibus differt.

Plant rupicolous, flowering ca. 230 cm high. **Leaves** 10 in number, laxly rosulate, suberect, forming a narrow funnellform rosette; **sheaths** inconspicuous, ovate, ca. 18 x 11 cm, inconspicuously and minutely brown lepidote on both sides, coriaceous, outside brown colored near the base and purplish-wine spotted toward the apex, inside pale colored; **blades** linear-attenuate, not narrowed at base, 120-160 x 4.7-7.5 cm, thinly coriaceous, strongly nerved mainly adaxially, inconspicuously and sparsely white-lepidote to glabrescent, green, distinctly canaliculate mainly toward the base, apex acuminate-caudate, recurved. **Scape** stout, ca. 160 cm long, 1.5-2 cm in diameter, erect, glabrous, bright red, internodes 8-13 cm long; **scape bracts** green except for the red base, glabrescent, the basal ones foliaceous, suberect, several times longer than the internodes, not hiding the scape, the upper ones subfoliaceous, to long ovate-lanceolate, caudate, subspreading with recurved apex, 16-25 x 5.5 cm, 1.8 to 2.5 times longer than the internodes, not hiding the scape, its basal portion enfolding the scape, bearing water-holding capacity. **Inflorescence** shortly paniculate, bipinnate, ca. 75 cm long (including the terminal branch), 30-40 cm in diameter, erect, rachis stout, 1-1.4 cm in diameter, straight, red, glabrous; **primary bracts** ovate (basal ones) to suborbicular (upper ones), 4-13 x 3.5-6 cm, apex acuminate-caudate and recurved (basal ones) to broadly acute, apiculate and straight (upper ones), distinctly exceeding the sterile bases of the branches, red; **branches** 13 to 16 in number (including the terminal one), the lateral branches 21-24 cm long (basal ones) to 15-18 cm long (upper ones), spreading or nearly so, densely flowered in late anthesis, 9 (upper ones)- to 17 (basal ones)-flowered, rachis slightly flexuous, angulose, 0.8-1.5 x 0.3-0.6 cm, glabrous, green, stipes 1.5-7 x 0.5 cm, subterete to slightly complanate, reddish to green, glabrous, bearing 1 to 2 sterile bracts exceeding the internodes and arranged at the apex of the stipes, carinate, the terminal branch resembling the lateral ones, suberect, ca. 20 cm long, ca. 17-flowered, stipe inconspicuous, without sterile bracts; **floral bracts** suborbicular, 32-35 x 30-32 mm, apex obtuse, yellow except for the apex turning blackish during anthesis, nerved, inconspicuously and sparsely castaneous lepidote inside, glabrous outside, almost completely enfolding the sepals and equaling 3/4 of its length, cymbiform and convex, ecarinate or the basal ones sometimes obtusely carinate. **Flowers** distichous, divergent, suberect, not secund, densely arranged in late anthesis, pedicels comparatively slender, ca. 10 mm long, ca. 7 mm in diameter at apex and 5 mm in diameter at base, green, glabrous; **sepals** elliptic to obovate, subsymmetrical, apex rounded, 30-32 x 16-19 mm, inconspicuously and sparsely brown lepidote inside, glabrous outside, free, ecarinate, yellow toward the apex, thick-coriaceous near the base, thinly coriaceous toward the apex; **petals** immature, linear or nearly so, apex rounded, at least ca. 55

x 8 mm, golden yellow, bearing at base 2 narrowly subspatulate, rounded to shortly obtuse bidentate, at least ca. 16 x 3.5 mm appendages adnate to the petals for at least ca. 12 mm; **stamens** immature; **filaments** terete, white, free; **anthers** linear, 9-10 mm long, base sagittate, apex obtuse, fixed near the base; **pollen** ellipsoid, sulcate, exine reticulate, lumina polygonal, muri distinctly narrowed; **style** about equaling the petals in immature state, white; **stigma** conduplicate, erect, densely papillose, white, blades ca. 3 mm long; **ovules** long caudate. **Capsules** narrowly ovoid, acuminate and beaked, ca. 45 x 9 mm (not including the pedicel); **seeds** ca. 25 mm long (with extended apical coma), apical coma ca. 4 mm long, basal appendix ca. 13 mm long.

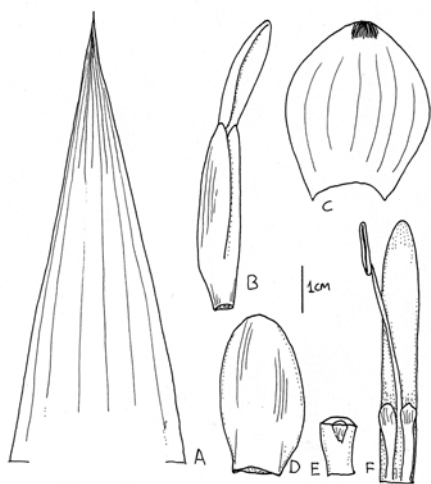


Figure 3. *Alcantarea longibracteata* Leme & Fraga: a) leaf apex, b) immature flower, c) floral bract, d) sepal, e) longitudinal cross-section pedicel, f) immature petal.

Alcantarea longibracteata is morphologically related to *A. odorata*, but differs from it by the leaves reduced in number and forming a laxly rosulate rosette (vs. forming a densely rosulate rosette) green and not white cretaceous (vs. glaucous and white cretaceous) scape bracts several times exceeding the internodes, not white cretaceous (vs. distinctly white cretaceous at least toward the apex), the upper ones subspreading (vs. suberect-recurved), inflorescence with smaller number of branches (13 to 16 vs. 20 to 25 in number), floral bracts larger (32-35 x 30-32 mm vs. 20 x 18-25 mm), equaling 3/4 of sepals length (vs. equaling 1/2 of sepals length), and with apex turning blackish during anthesis.

This new species was found growing on inclined rock surface among herbaceous to shrubby vegetation, in Pedra da Bandeira, county of Águia Branca, in the north-western region of Espírito Santo State. In the higher parts of the habitat of *Alcantarea longibracteata* grows together with a large populations of the new *Alcantarea* described below, as well as *Vriesea amadoi* Leme, and two undetermined *Pitcairnia*, while in the lower parts of the habitat scattered specimens of *Orthophytum pseudovagans* were observed. In the nearby border of the Atlantic forest, we also observed a large population of *Orthophytum foliosum* L. B. Sm. and *Aechmea chlorophylla* L. B. Sm.

The name chosen for this new species is a clear reference to the unusually long and narrow scape bracts, which are the most striking distinctive characteristics of *Alcantarea longibracteata*.

Paratype: Espírito Santo, Águia Branca, Santa Luzia, propriedade de Ciro Ferreira, 18°58'40.5"S 40°39'56.1"W, 170 to 600 m elev., 27 Apr. 2006, V. Demuner 2267, L. F. S. Magnago, T. Cruz & E. Bausen (MBML).



Figure 4. Habit of *Alcantarea simplicisticha* Leme & A.P. Fontana at type locality.

Alcantarea simplicisticha Leme & A.P. Fontana, sp. nov. Type: Espírito Santo, Águia Branca, Santa Luzia, propriedade de Giro Ferreira, Pedra da Bandeira, 18°58'76"S 40°39'93" W, 362 m elev., 26 Apr. 2008, E. Leme 7355, L. Kollmann, A. P. Fontana, O. Ribeiro & M. Zanoni. Holotype: HB. Isotype: MBML.

A *A. distractila* Leme & Paula, cui affinis, sed inflorescentia simplissicima, bracteis floriferis late ellipticis vel late ovatis, angustioribus, floribus plus numerosis, sepalis anguste elliptico-lanceolatis, angustioribus, apice subacutis, appendicis petalorum acutis vel acuminatis differt.

Plant rupicolous, flowering 200-240 cm high with inflorescence extended. **Leaves** ca. 10 in number, densely rosulate, suberect, forming a narrow crateriform rosette; **sheaths** ovate, ca. 15 x 11 cm, inconspicuously and minutely brown lepidote on both sides, coriaceous, outside dark brown colored near the base, inside pale colored; **blades** linear, not narrowed at base, 35-40 x 6-7 cm, thinly coriaceous, green, chartaceous, inconspicuously and sparsely white-lepidote to glabrous, apex acute and shortly apiculate. **Scape** stout, 95-100 cm long, 1-1.3 cm in diameter, erect, glabrous, green to purplish-wine colored; **scape bracts** the basal ones foliaceous to subfoliaceous, distinctly exceeding the internodes, the upper ones broadly ovate, acute and apiculate, 4.5-8 x 3-5 cm, suberect toward the apex to erect, the basal portion of the median ones enfolding the scape and with water-holding capacity the upper ones not holding water, from exceeding (median ones) to distinctly shorter (upper ones) than the internodes, not hiding

the scape, green (median ones) to wine colored (upper ones), inconspicuously and sparsely brown lepidote inside, glabrous outside. **Inflorescence** simple, linear or nearly so in outline, ca. 80-110 cm long, 10-12 cm wide (excluding the petals), suberect, 30 to 40-flowered, rachis stout, 0.4-0.8 cm in diameter, terete, flexuous to slightly geniculate toward the apex, green to wine colored, glabrous, internodes 1.5-4.5 cm long; **floral bracts** broadly elliptic to broadly ovate, 40-46 x 32-33 mm, apex subacute to obtuse, pale castaneous centrally and near the base and wine colored toward the apex and margins, inconspicuously and sparsely brown lepidote inside, glabrous outside but covered by white epicuticular white wax, not completely enfolding the sepals and equaling 2/3 of its length, convex, longitudinally sulcate in late anthesis and afterwards, ecarinate, the upper ones imbricate in early anthesis. **Flowers** distichous, divergent, suberect, not secund, nocturnal, laxly (basal ones) to subdensely to densely (upper ones) arranged, ca. 11 cm long (with petal extended, including the stamens), pedicels stout, 10-12 mm long, ca. 10 mm in diameter at apex, green; **sepals** narrowly elliptic-lanceolate, apex subacute, 40-42 x 15-18 mm, inconspicuously brown lepidote inside, glabrous outside, free, ecarinate, greenish-yellow toward the base and wine toward the apex and apical margins, thick-coriaceous near the base, thinly coriaceous toward the apex; **petals** linear or nearly so, apex narrowly obtuse-eremarginate but appearing acute due to the enrolling margins, ca. 85 x 8 mm, yellowish adaxially except for the wine-suffused apical margins, wine suffused toward apex abaxially except for the yellowish margins, strongly recurved at anthesis and completely exposing the stamens, becoming pendent-flaccidescens afterwards, bearing at base 2 linear, acute to acuminate, entire, ca. 34 x

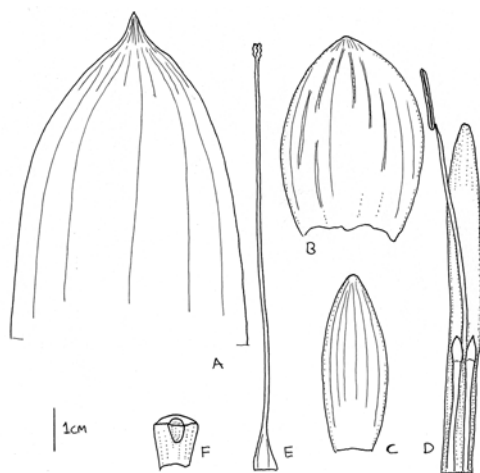


Figure 5. *Alcantarea simplicisticha* Leme & A.P. Fontana: a) leaf apex, b) floral bract, c) sepal, d) petal, e) pistil, f) longitudinal cross-section ovary.

2.5 mm appendages adnate to the petals for ca. 27 mm; **stamens** exerted at anthesis, suberect and radially disposed, exceeding the petals; **filaments** terete, white, the free; **anthers** linear, ca. 14 mm long, base sagittate, apex obtuse, fixed near the base; **pollen** broadly ellipsoid, sulcate, exine reticulate, lumina rounded, muri narrowed to slightly thickened; **style** distinctly exceeding the petals, white; **stigma** conduplicate, erect, densely papillose, white, blades ca. 4 mm long; **ovules** long caudate. **Capsules** narrowly ovoid, acuminate and beaked, ca. 50 x 13 mm (not including the pedicel); **seeds** 31-33 mm long (with extended apical coma), apical coma inconspicuous, ca. 5 mm long, basal appendix ca. 16-17 mm long.

Alcantarea simplicisticha is very closely related to *A. distractila*. However, it can be distinguished from it by the simple inflorescence (vs. inflorescence bearing 2 to 4 branches), which is a characteristic observed in all flowered specimens in the studied wild population. Other distinctive morphological features are: floral bracts broadly elliptic

to broadly ovate (vs. suborbicular), narrower (32-33 mm vs. 38-40 mm wide), flower more numerous (30 to 40 vs. 22 to 31 in number), sepals narrowly elliptic-lanceolate (vs. narrowly elliptic), narrower (15-18 mm vs. 20-22 mm wide), apex subacute (vs. narrowly obtuse-emarginate), and petals bearing appendix with apex acute to acuminate (vs. apex subacute to obuse).

This new species forms large and dense populations in the higher parts of the Pedra da Bandeira, where *A. longibracteata* was also encountered. Apparently, there is a third sympatric *Alcantarea* species in the area, with larger rosette and distinctly compound inflorescence, but all flowered specimens presented old, completely dried inflorescences, most of them in disintegration process, not allowing full observation. In contrast, the new species presents a comparatively small stature due to its narrowly crateriform rosette and short leaf blades, and its basal portion is very often elongate, being covered by old leaves remains.

Paratype: Espírito Santo, Águia Branca, Santa Luzia, propriedade de Ciro Ferreira, Pedra da Bandeira, 18°58'76"S 40°39'93" W, 362 m elev., 26 Apr. 2008, L. Kollmann 10940, E. Leme, A. P. Fontana, O. Ribeiro & M. Zanoni (MBML); ibidem, 18°59'9"S 40°40'16"W, 180 to 300 m elev., 4 Apr. 2007, V. Demuner 3551, T. Cruz, M. Belizário & E. Bausen (MBML).



Figure 6. Distal portion of the lateral branch of *Alcantarea nigripetala* Leme & L. Kollman.

Alcantarea nigripetala Leme & L. Kollmann, sp. nov. Type: Minas Gerais, Nova Belém, road Santa Luzia do Córrego Azul to Nova Belém, 18°29'86"S 41°07'43" W, 613 m elev., 28 Apr. 2008, E. Leme 7381, L. Kollmann, A. P. Fontana, O. Ribeiro & M. Zanoni. Holotype: HB. Isotype: MBML.



Figure 7. Habit of *Alcantarea nigripetala* Leme & L. Kollmann at type locality.

A *A. extensa* (L. B. Sm.) J. R. Grant, cui affinis, sed laminis foliorum longe acuminatis vel breviter caudatis, ramis brevioribus, rache manifeste geniculata, bracteis floriferis distincte brevioribus, floribus per anthesim manifeste unilateralibus et petalis apicem versus subtus atropurpureo-vinosis.

Plant rupicolous, flowering ca. 250 cm high; **Leaves** 18 in number, densely rosulate, suberect, forming a funnellform rosette; **sheaths** ovate, 23-25 x 15-16 cm, inconspicuously and minutely pale brown lepidote on both sides, coriaceous mainly near the base,

dark brown outside and toward the base, greenish inside; **blades** sublinear-lanceolate, not narrowed at base, 73-75 x 8-8.5 cm, thinly coriaceous, strongly nerved, glabrescent, green, apex long acuminate and shortly caudate. **Scape** stout, ca. 135 cm long, 1.5-2 cm in diameter, erect, glabrous, green; **scape bracts** the basal ones subfoliaceous, the upper ones subtriangular-ovate, acuminate-caudate, 11-15 x 5-6 cm, suberect with recurved apex, its basal portion enfolding the scape, without water-holding capacity, distinctly exceeding the internodes but not completely hiding the scape, green, inconspicuously and sparsely white-lepidote to glabrous. **Inflorescence** paniculate, bipinnate, ca. 105 cm long (including the terminal branch), 45-60 cm in diameter, erect, rachis stout, 0.8-1.5 cm in diameter, distinctly flexuous, green with irregular purplish-wine spots, glabrous; **primary bracts** distinctly shorter than the sterile bases of the branches, soon stramineous, the basal ones resembling the upper scape bracts but smaller, the upper ones broadly ovate, acute and apiculate, 2.5-5 x 2.5-3 cm; **branches** ca. 13 in number (including the terminal one), the lateral branches ca. 40 cm long (basal ones) to 28 cm long (upper ones), subspreading-arcuate, laxly flowered in late anthesis, 8 to 12-flowered, rachis distinctly geniculate, subangulose, 1.5-4 x 0.3-0.5 cm, glabrous, green, stipes 11-23 x 0.6-0.8 cm, slightly complanate, green with irregular purplish-wine spots, glabrous, bearing 2 to 3 sterile bracts distinctly shorter than the internodes and equally arranged along the stipes, apparently carinate toward the apex when dry, the terminal branch resembling the lateral ones, suberect-recurved, ca. 30 cm long, ca. 12-flowered, stipe ca. 5 cm long, without sterile bracts; **floral bracts** orbicular, 25-28 x 26-28 mm, apex obtuse, greenish-yellow toward the apex and the apical margins, castaneus toward the base and centrally, inconspicuously and sparsely brown lepidote inside, glabrous outside, not completely enfolding the sepals, equaling ca. 1/2 of sepals length, cymbiform and distinctly convex, irregularly longitudinally sulcate at late anthesis, ecarinate. **Flowers** distichous, divergent, suberect, strongly upwardly secund and laxly arranged in late anthesis, ca. 11 cm long, pedicels stout, 10 mm long, ca. 10 mm in diameter at apex, green, glabrous; **sepals** elliptic to narrowly obovate, apex subacute, 30-36 x 17-20 mm, inconspicuously and sparsely



Figure 8. Details of the inflorescence of *Alcantarea nigripetala* Leme & L. Kollmann.

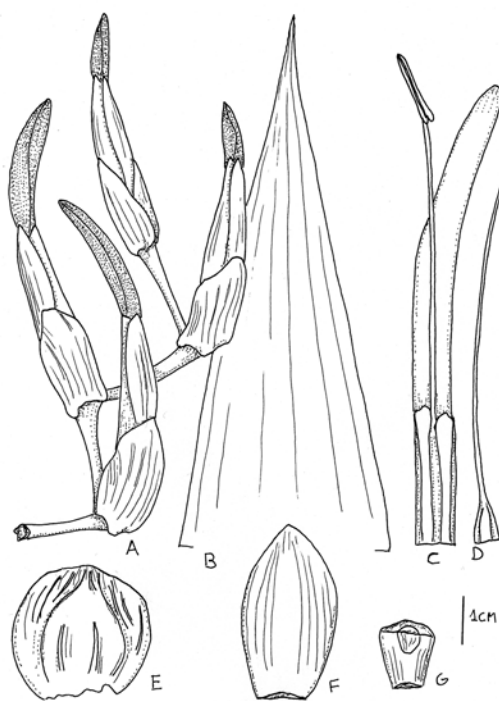


Figure 9. *Alcantarea nigripetala* Leme & L. Kollman. a) distal portion lateral branch, b) leaf apex, c) petal, d) pistil, e) floral bract, f) sepal, g) longitudinal cross-section ovary

mm (not including the pedicel); **seeds** ca. 23 mm long (with extended apical coma), apical coma ca. 5 mm long, inconspicuous, basal appendix ca. 10 mm long.

This new species, despite being morphologically distinctive, somewhat resembles *Alcantarea extensa*. The characteristics that differentiate *A. nigripetala* from the closer relatives are: leaf blades with apex long acuminate to shortly caudate (vs. acute), branches distinctly shorter (28-40 cm vs. to 65 cm long), rachis distinctly geniculate, with internodes forming an angle of ca. 90° (vs. forming an angle of ca. 135°), floral bracts distinctly shorter (25-28 mm vs. ca. 40 mm long), flowers strongly upwardly secund mainly in late anthesis, and by petals dark purple-wine to nearly blackish outside and toward the apex.

Alcantarea nigripetala was found growing on inclined granitic rock surfaces along the road from Santa Luzia do Córrego Azul, a district of the County of Água Doce do Norte (Espírito Santo), to Nova Belém (Minas Gerais), very close to the states border, where it forms a sparse population already affected by the surrounding pastureland activities, which isolated the studied population and makes it more vulnerable to fire episodes. Some of the outstanding botanical elements observed in the same area are

white-lepidote inside, glabrous outside, free, ecarinate, yellowish-green toward the apex except for the wine colored margins and apex, thick-coriaceous near the base, thinly coriaceous toward the apex; **petals** linear or nearly so, apex narrowly obtuse, ca. 100 x 8 mm, dark purple-wine to nearly blackish outside and toward the apex, greenish-yellow inside and toward the base and dark purple-wine near the apex and along the margins, bearing at base 2 sublinear, obtuse to subacute, 27-30 x 2.5-3 mm appendages adnate to the petals for ca. 20-23 mm; **stamens** exerted at anthesis, slightly exceeding the petals; **filaments** terete, white, free; **anthers** linear, ca. 14 mm long, base sagittate, apex obtuse, fixed near the base; **pollen** ellipsoid, sulcate, exine reticulate, lumina polygonal to rounded, muro slightly thickened; **style** about equaling the petals, white; **stigma** conduplicate, erect, densely papillose, white, blades ca. 3.5 mm long; **ovules** long caudate. **Capsules** narrowly ovoid, acuminate and beaked, ca. 48 x 8

Encholirium horridum L. B. Sm. (Bromeliaceae), *Pseudolaelia canaanensis* (Ruschi) F. Barros (Orchidaceae), *Mandevilla fistulosa* M. Sales, Kin.-Gouv. & A. O. Simões (Apocynaceae) and the columnar Cactaceae *Coleocephalocereus buxbaumianus* Buining.

Paratype: Minas Gerais, Nova Belém, 18°29'48.6"S 41°07'28.4"W, 627 m elev., 28 Apr. 2008, *A. P. Fontana 5117, E. Leme, L. Kollmann, M. Zanoni & O. Ribeiro* (MBML).

Acknowledgements

We would like to thank the Museu de Biologia Prof. Mello Leitão and the “Prefeitura Municipal” of the county of Água Doce do Norte, for their logistical support, as well as Marcos Zanoni and Otávio Ribeiro for support, companion and encouragement during field activities.

Literature Cited

- Assis, M. C. (2003). “Duas novas espécies de *Alstroemeria* L. (Astromeriaceae) para o Brasil.” *Acta Bot. Brasil* 17(2): 179-182.
- Chiron, G. R. and V. P. Castro (2004). “Contribution à la connaissance des orchidées du Brésil: V – Une nouvelle espèce de *Pseudolaelia* (Orchidaceae: Laeliinae) d’Espírito Santo.” *Richardiana* 4(4): 156-162.
- Coelho, M. A. N. (2006). “New species of *Anthurium* (Araceae) from Brazil.” *Aroideana* 29: 91-103.
- Fraga, C. N. (2004). “*Bulbophyllum boudetianum* (Orchidaceae) a new species from the Brazilian Atlantic Forest, Espírito Santo.” *Novon* 14(1): 40-42.
- Fraga, C. N. and F. Feres (2007). “*Luxemburgia mysteriosa* (Ochnaceae), a new species from the Atlantic Rain Forest of Espírito Santo, Brazil.” *Harvard Papers Bot.* 12(2): 405-407.
- Fraga, C. N. and E. C. Smidt (2004). “*Bulbophyllum arianae* (Orchidaceae) a new species from the Atlantic Forest of Espírito Santo, Brazil.” *Harvard Papers Bot.* 9(1): 7-9.
- Frey, M. (2003). “*Pseudolaelia brejetubensis* M. Frey (Orchidaceae), uma nova espécie do Espírito Santo, Brasil.” *Bradea, Boletim do Herbarium Bradeana* 9(8): 1-4.
- (2005). “*Pseudolaelia maquijensis* M. Frey, une nouvelle espèce d’Orchidaceae de l’Espírito Santo, Brésil.” *Richardiana* 5(1): 39-45.
- (2005). “*Pseudolaelia pavopolitana* M. Frey (Orchidaceae), une nouvelle espèce d’Orchidaceae de l’Espírito Santo, Brésil.” *Richardiana* 5(4): 203-209.
- Kollmann, L. J. C. (2004). “Studies on *Orthophytum* – Part II, Two New Scapeless Species.” *J. Bromeliad Soc.* 54(2): 66-74.
- (2008). “Duas novas espécies de *Begonia* (Begoniaceae), do Estado do Espírito Santo, Brasil.” *Rodriguésia* 59(1): 155-160.
- Leme, E. M. C. and L. J. C. Kollmann (2007). “Studies on *Orthophytum* – Part VI, Three New Species from Espírito Santo, Brazil.” *J. Bromeliad Soc.* 57(4): 149-158.
- Leme, E. M. C. and C. C. Paula (2008). “Two new *Alcantarea* species from Minas Gerais, Brazil.” *J. Bromeliad Soc.* 58(1): 5-11.
- Leme, E. M. C. and J. A. Siqueira-Filho (2007). Taxonomic Considerations Correlated with Bromeliaceae of Pernambuco and Alagor. *Fragments of the Atlantic Forest of Northeast*

Brazil, Biodiversity, Conservation and the Bromeliads. J. A. Siqueira-Filho and E. M. C. Leme. Rio de Janeiro, Andrea Jakobsson Estúdio: 383-407.

Luther, H. (2008). An alphabetical list of bromeliad binomials. Eleventh Edition. USA, Bromeliad Society International.

Porembski, S. G., R. Martinelli, et al. (1998). "Diversity and ecology of saxicolous vegetation mats on the inselbergs in the Brazilian Atlantic rainforest." *Divers. Distrib.* 4: 107-119.

Ronse, A. (2001). "A revision of *Otacanthus* Lindl. (Scrophulariaceae)." *Brittonia* 53(1): 137-153.

Versieux, L. M. and M. G. L. Wanderley (2007). "A new species of *Alcantarea* (E. Morren ex Mez.) Harms, Bromeliaceae." *Hoehnea* 34(3): 409-413.

Authors

Elton M. C. Leme; Herbarium Bradeanum, C. Postal 15005, Rio de Janeiro, RJ, 20.031-970, Brazil. E-mail: leme@tj.rj.gov.br

Claudio Nicoletti de Fraga; Instituto de Pesquisa Jardim Botânico do Rio de Janeiro, Rua Pacheco Leão, 15, Jardim Botânico, Rio de Janeiro, RJ, 22.460-030, Brazil. E-mail: cnfraga@jbrj.gov.br

Ludovic J. C. Kollmann; Museu de Biologia Prof. Mello Leitão, Av. José Ruschi, 4, Santa Teresa, Espírito Santo, 29.650-000, Brazil. E-mail: ludovic@limainfo.com.br

André Paviotti Fontana; Projeto CORES – Conservação das Orquídeas em Risco de Extinção, Av. José Ruschi, 4, Santa Teresa, Espírito Santo, 29.650-000, Brazil. E-mail: andrepaviotti@yahoo.com.br

Bromeliad Society International. Membership Rates

United States Membership (includes bulk mail rate—first class add \$10 per year) **International Membership** (includes Airmail delivery)

	1 Year	2 Years	3 Years		1 Year	2 Years	3 Years
Individual	\$30	\$58	\$85	Individual	\$40	\$78	\$115
Dual	\$35	\$68	\$100	Dual	\$45	\$88	\$130
Society	\$30	\$58	\$85	Society	\$40	\$78	\$115
Institution	\$30	\$58	\$85	Institution	\$40	\$78	\$115
Commercial	\$60			Commercial	\$70		
Fellowship	\$45			Fellowship	\$55		
1st class mail	+\$10	+\$20	+\$30				

Life Membership (*one time only fee*) \$800.

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.

Conservation Initiative

Derek Butcher, Cultivar Registrar

More and more Bromeliaceae are being placed as endangered plants under the criteria set out by the IUCN (International Union Conservation of Nature). Anyone who has visited their website will be astounded as the breadth of the problem and conservation of Bromeliads tends to get swamped. I am one-eyed in that I believe we as a Society, should be investigating our own problems and try to do something about them.

We have decided to bring the problem closer to home so you can appreciate where we are involved. An ideal place to start is the Species data base held on <http://fcbs.org> where we will be adding the following data

CITES ALERT for plants under CITES

CR ALERT for plants under the IUCN code for Critically Endangered

EN ALERT for plants under the IUCN code for Endangered

VU ALERT for plants under the IUCN code for Vulnerable

EXTINCT for plants thought to be extinct in the wild

Not many people searching our species data base use a key word search under **Search Options**, and now you have a chance to do so! If you enter 'ALERT' you will get a list of all endangered species. If you enter 'CR ALERT' you will only get a list of those Critically Endangered. And so on! Although not much help in Conservation in the wild you can enter EXTINCT to find those that are past the point of no return. If the plant is in cultivation, and properly identified, there is all the more reason to see it survives. If you are aware of any additions to these lists or amendments please let me know.

Why am I telling you all this? I hope it will raise the awareness of endangered species so that perhaps this will raise their retail price. A higher price means more people will want to have one which in turn will encourage the propagators of the world to sow seed, take offsets and even meristem. This will take pressure off the plants in the wild and with the increased profits the sellers may well give a small percentage to the BSI Conservation Fund, A win-win situation. Our prime aim must be to try to conserve these plants in the wild, but if we can, encourage the cultivation of them rather than using them to create even more hybrids.

We recently received advice of a critically endangered tillandsia species. My translation of the advice by Paul House, Herbarium Director of the School of Biology at the Universidad Nacional de Honduras, follows on page 218.

Monitoring of the Critically Threatened Epiphyte *Tillandsia hondurensis*

P.R.House¹ translation by Derek Butcher.



Figure 1. *Tillandsia hondurensis* in habitat.

Tillandsia hondurensis is an epilithic species, with an extremely restricted distribution. One we are aware of, in the wild state is at a single place near the capital City in the municipality of Valle de Angeles that consists of a cliff of about 50 m high and 300 m long. The place is at 1400 m and the forest is within the Bosque de Pino Montano. The species is threatened by fire, collections, and climbers.

The University of Zamorano (EAP) and the School of Biology of the Universidad Nacional Autonoma de Honduras (UNAH) arranged a monitoring trip to the area on August 7 2008. The access route is along the high part of the cliff. The walk of 3 km from the highway, showed that the Bosque de Pino was being divided up for possible urban development for deluxe houses.

¹ Director of the Herbarium (TEFH) School of Biology UNAH. admi_redmesnorte@yahoo.com



Figure 2. Section of the cliff at Bosque de Pino.

This activity has meant burning to clear the area. These burns have extended to the cliff, eliminating the possibility of finding *Tillandsia hondurensis* on the stones at the bottom of the cliff. It was possible to collect 5 specimens of *Tillandsia hondurensis* above 10 m on the rocks.

The total population of *Tillandsia hondurensis* may be in the hundreds of individuals. But the urban development of the place is a serious threat, by not taking into account the importance of the conservation of this species. It is recommended that this area is declared as an Important Site for Conservation, by the ICF, as soon as possible. This cliff also has a population of the endemic tree *Symplocos molinae*, several examples of the orchid *Sobralia macrantha* that grow to 20cm high and a variety of *Tillandsia fasciculata* is common.



Figure 3. *Tillandsia fasciculata* on the cliff at Bosque de Pino.

Misnamed Bromeliads 21: *Neoregelia camorimiana* vs. *fluminensis*

Harry E. Luther¹



Figure 1. Holotype specimen of *Neoregelia fluminensis* from the Grey Herbarium, Harvard University.



Figure 2. All-red cultivar of *Neoregelia camorimiana*. Widely cultivated in Florida, USA.

I continue to find a bright red stoloniferous neoregelia labeled as *Neoregelia fluminensis* in Florida bromeliad collections. *Neoregelia fluminensis* L.B. Smith, was collected by Mulford and Racine Foster in 1940 near the mountain city of Teresópolis in Rio de Janeiro State. It has not been recollected. In addition, it has scurfy green leaves not at all like the shiny red cultivated plant. Now that we know what it isn't, do we know what the red plant is? *Neoregelia camorimiana* Pereira & Penna, was collected in 1983 by the well known bromeliad explorer and restraints extraordinaire, Luis Corrieia de Araujo on the southern coast of Rio State. It was compared to *N. indecora* but with highly colored foliage and slightly different floral bracts, neither character inspiring much confidence in the highly plastic genus *Neoregelia*. At any rate, the red plant can be identified as *N. camorimiana* or even *N. indecora* or *N. olens* depending on ones "splitter" or "lumper" tendencies.

¹ Mulford B. Foster Bromeliad Identification Center, Marie Selby Botanical Gardens, 811 South Palm Avenue, Sarasota, FL 34236 USA.

Tillandsia ‘Aeranthos Major’

Derek Butcher, Cultivar Registrar

This all started in March 2007 when newcomer Marc Turner from St Petersburg, Florida asked me about the differences between *T. aeranthos* and *T. bergeri*. He was having some difficulty with a problem specimen and needed assistance in telling the difference between the suspected species and some of their hybrids. He was not fully aware that hybridising between these species has been a favourite game of hybridists for many years. Few, if any attempts had been made to register their efforts and only two entries, both of Australian origin are in the Register, namely, ‘Bergos’ and Bob Whitman’. Most of the hybrids tend to retain more of the traits of *T. aeranthos* than *T. bergeri*, and it is important to remember that the close relationship of these species is indicated by their side-by-side location in *Flora Neotropica* illustrating their close relationship!



Figure 1. *Tillandsia* ‘Aeranthos Major’ submitted by Marc Turner.

You may wonder about my combination heading. On learning about a *T. aeranthos* var. *major* growing in Florida, I started checking and found a *Tillandsia* ‘Major’ and ‘Minor’ in the Cultivar Register. Shock! Horror! These are names that should be rejected under the ICNCP rules and I will be deleting them. The two words concerned were really nurseryman’s names linked to *T. disticha*. We know that ‘major’ and ‘minor’ are favourite terms in a nurseryman’s list but don’t tell you much about identity, i.e., “How long is a piece of string?!”

Let us look at what Lyman Smith has to say in *Flora Neotropica* 1977. Under *T. aeranthos* we find as a synonym *T. aeranthos* var. *major* Marnier-Lapostolle Hortus, ined? that indicates Smith did not know where this name was published. Therefore, this varietal name is invalid, but the plant can be named as a cultivar. We also find *T. dianthoidea* as a synonym (more on this subject later).

Now for the crunch because I have said that *T. aeranthos* and *T. bergeri* are botanically very similar and yet in *Bulletin du Museum National d’Histoire Naturelle* 2 e serie, 19:352-353. 1947 we find (my translation!):

continued over...

"118. *Tillandsia dianthoidea* Rossi var. *grisea* Guillaumin. var. nova.

The scape bracts and the floral bracts are noticeably the colour of those of the type, the petals, instead of being an intense purplish blue (cfr. LOISELEUR - DES-LONGCHAMPS: *Herbier general de l'amateur*, V, t. 304, *Botanical Register*, XVI, t. 1338, *Revue horticole*, LXXVII, p. 463), are of a dull slate grey, when one regards in minute detail, the many, and minuscule purple points on a white base very lightly tinted with blue (Marnier, f. 15, 1947) who had it at the Villa Thuret in Antibes for 7 or 8 years".

Therefore, both var. *major* and var. *grisea* originated horticulturally with Marnier-Lapostolle.

T. dianthoidea var *grisea* was treated by Smith as a synonym of *T. bergeri* and yet, if you read this description carefully, it seems more likely to be a hybrid with close ties to *T. aeranthos*. The name 'Grisea' does not seem to have been used horticulturally in the USA but has been in Europe where it became attached to *T. aeranthos* confirming my view that this cultivar has more links with *T. aeranthos*, albeit, with 'grey' flowers. And to add to our woes there is a larger form in Europe with 'grey' flowers called *T. aeranthos* var. *major*. We have reason to believe that 'Grisea' lives on in Australia as 'Nez Misso' because of its links with Germany!

Now to the translucent, pale-blue petalled plant in Florida called *T. aeranthos* 'Major' which is either linked to the species or a hybrid involving *T. bergeri* or even *T. tenuifolia*. As you will have seen, problems have been caused by the lazy use of 'Major'. To encourage the use of proper cultivar names I would seriously consider removing this name but, through the years, its use has become entrenched in grower's minds. As such, I am recording a *Tillandsia* 'Aeranthos Major' in the Register only as a reference tool for people seeking to identify such a plant. AND that's not all! Marc Turner in trying to find a photo on <http://fcbs.org> to match his plant came across 'Confusion'. Was this a coincidence? Let me relate what happened in Australia in 2004.

At the *Tillandsia* 'Conference' at Albury, Australia, Easter 2004 we were all agreed that 'Nez Misso' was the non-caulescent, sturdy leaved, grey petalled plant that Ken Woods was calling 'Grisea'. The caulescent one with finer leaves and more bluish petals was known as 'Nez Misso' by Ken Woods but known as 'Bergeranthus' by Chris Larson! Ken decided it was appropriate to call this plant 'Confusion'.

If there is a moral to this story it is that identification of cultivars can be a harrowing experience when you cannot prove clonal links!

T. aeranthos v. *major* was in Kent's (California) catalogue for the 1970's but is not sold in the current catalogues of tillandsia sellers in California although there are other nurseryman's names used! It is not in Seidel's (Brazil) catalogues for the 1970's either. All roads seem to lead to Europe. While we have no proof, the plant grown in the USA could well be *T. aeranthos* x *T. tenuifolia*.



Figure 2. Clonal links. Top, *Tillandsia aeranthos* x *T. tenuifolia*; centre, seed parent *T. aeranthos*; bottom, pollen parent *T. tenuifolia*. Vegetative descendants of plants crossed 1991, and the resultant offspring. Photo by Andrew Flower, November 2008.

Editor's note: Derek is fond of issuing challenges, so I have added an example of how carefully us hybridists keep records of our nefarious activities. In the early 1990's I made



Figure 3. Top, *Tillandsia bergeri* x *T. aeranthos*; bottom *T. aeranthos* x *tenuifolia*. Vegetative descendants of crosses made in 1991 and 1992. Photo by Andrew Flower, November 2008.

a number of crosses using tillandsias that I originally imported in 1971. They were in a package of 250 mixed bromeliads and orchids costing US\$25 from Lotis Osiris in Brazil. The bromeliads were multiples of *Tillandsia aeranthos*, *T. bergeri*, *T. stricta* and *T. tenuifolia* plus *Aechmea nudicaulis* and a bilbergia full of large, angry ants.

Not having anything else to do during the 1990's, I made a series of 39 first, second and third generation crosses between these Lotis Osiris tillandsias. Luckily for the cultivar registrar most haven't been released to earn me lots of money - they are for some research I hope to do one day. Maybe! (I think Derek will call me a "Gunna" !)

Don't Confuse Sphagnum Moss with Peat Moss

Gerry Hood¹

You may have read about a fungal disease called *Cutaneous sporotrichosis*, a chronic infection identified by skin lesions. The fungus which causes this disease has been found in several kinds of organic material and, because in extremely rare cases this disease can cause death, gardeners are rightfully concerned about protecting themselves from contracting it. Unfortunately, however, some of the information circulating about how gardeners can contract this disease has been inaccurate. It confuses two separate products; one of which is known to carry the fungus and one of which does not.

One of the materials known to carry the sporotrichosis fungus is sphagnum moss. Most frequently used by the floral industry to line wire baskets, this product frequently is being confused with sphagnum peat moss, a soil conditioner known for its ability to bind sandy soils, loosen clay soils and retain water [and for its acidity that benefits bromeliads - Ed]. The difference is an important one. While there have been cases of sporotrichosis resulting from handling sphagnum moss, I'm aware of no cases as a result of handling sphagnum peat moss. Sphagnum moss and sphagnum peat moss are not the same product, as many avid gardeners know.

Sphagnum moss is the living moss that grows on top of a sphagnum bog. The fungus *Cutaneous sporotrichosis* is known to live in this growing moss.

Sphagnum peat moss is the dead material that accumulates as new live material grows on top and exerts pressure on the peat moss below. The fungus is not known to live in the levels of a sphagnum bog where peat forms. Harvesters of horticultural peat moss remove the top few inches of the live sphagnum moss and only harvest the peat from the lower layer.

"Living" sphagnum moss is used in the floral industry to make wreaths and to line hanging baskets. Workers in that industry have been warned to protect themselves with gloves and heavy clothing to avoid puncture wounds or scrapes. Gardeners wishing to use sphagnum moss to create their own baskets or for other uses should simply follow the same advice: wear gloves and long sleeves to prevent coming into contact with the dried moss. No similar warning appears on Material Safety Data Sheets (MSDS) for handling sphagnum peat moss...

Peat moss is not only effective, it's organic and safe to use.

¹ President, Canadian Peat Moss Association, 2208-13 Mission Avenue, St. Albert, Alberta, Canada T8N 1H6. Reprinted from *J. Bromeliad Soc.* **44(5)** September-October 1994.



Advanced Bromeliad Culture

*With 100 Hybrids Registered
over the past year!*



Jason Mellica

Sarasota, Florida

Since 1995

Guzmania Vriesea Neoregelia

www.level21nrg.com

theloraxelf@hotmail.com

(941) 957-3414

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



You are invited to join

The Cryptanthus Society

The second-largest affiliate 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

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

WBC 2008 Cairns, Show Report.

Dr. Larry Giroux. Photographs by the author.

Much to the Conference and Show organizers' surprise, on Wednesday June 25th, Classification was overwhelmed with an unexpected number of exhibitors and Show entries. The limitation of space for the Australians and overseas visitors trying to enter their plants and the lack of adequate show hall table space, may have hindered us, but the coping abilities of the different committees, the judges and the exhibitors allowed for a very successful outcome. Before giving the statistics and the winners of the Show, let me thank those who contributed to the first BSI WBC Show outside the United States.

Committee Chairs and Assistants

Show Chairs- Larry Giroux, Betty Ann Prevatt; Judges Chairs- Steve Hoppin, Betty Ann Prevatt; Classification-Geoff Lawn, Maureen Johns; Computer Work- Eileen Killingley, Larry Giroux; Computer program- Dean Fairchild; Computer equipment and supplies- Lynn Hudson, Bob Hudson, Larry Giroux; Placement- Narelle Aizlewood, Emma Basic, Gary Pittman, Connie Pittman, Steve Hoppin; Awards- Lynn Hudson, Bob Hudson and Patrick Robertson; Show Schedule-Larry Giroux, Betty Ann Prevatt; Clerks Chairs- Olive Trevor, Larry Giroux; Headtable- Larry Giroux; Judges' Luncheon and Tea- Lynn Hudson; Judges- Terrie Bert, Oscar Allen, Carolyn Hurst, Robert Kopfstein, Nina Rehak, Lynn Grubb, Ed Doherty, Olive Trevor, Narelle Aizlewood, Jay Thurrott, Jose "Pepe" Donayre, Cheryl Basic, Mollie Sheffield, Joann Hanson, Deborah Hurst, Richard Cornale, Ann McBurnie, Alice Williams, Ken Woods; Clerks- Greg Aizlewood, Kathleen Greenway, Gloria Wegner, Diane Cornale, Barry Cable, Liz Caddy, Nigel Thomson, Barbara Davies, Linda Ruschin, Elaine Asher, Barry Osborne, Kim Chipper, Glen Bernoth; Recording Team- Emma Basic, Gary Pittman; Tabulation Team- Calandra Thurrott, Bonnie Boutwell, Ann Jenkins; Gifts for judges- Lynn Hudson. Photography - Larry Giroux. Artistic Arrangements materials - Lynn Hudson, Olive Trevor and the Cairns Bromeliad Society. And all those attendees from around the World who brought items for exhibition.

Results

There were 300 total exhibits of which there were 6 floor exhibits submitted by 2 businesses and 4 by Australian societies or organizations.

5 Commercial exhibitors and 44 Hobbyists exhibitors

There were 82 commercial entries and 218 hobbyists' entries.

99 AM ribbons, 109 Blue ribbons and 72 Red ribbons awarded with the remaining "judged"

225 Horticultural entries and 49 Decorative Containers and Artistic Arrangements

Winner of	Winner's Name	Exhibit's Name
Hobbyist MB Foster (Best in Show Horticulture)	Greg Oldano	<i>Guzmania</i> 'Gisela Don Pepe' (reverse form)
Hobbyist MH Hobbs (Best of Show Artistic)	Pat Coutts	<i>Neoregelia</i> 'Red Waif' & 'Chiquita Linda' on Wood Artistic Arrangement – "The Outback"
Hobbyist Sweepstakes	Pat Coutts	
Commercial MB Foster (Best in Show Horticulture)	The Olive Branch (Olive & Len Trevor)	<i>Guzmania</i> 'Georgia'
Commercial Sweepstakes	Dandaloo Valley (Nigel Thomson)	
Hobbyist Div I	Bob Paulsen	<i>Cryptanthus</i> 'Zonatus Silver'
Hobbyist Div II	Dave Weston	<i>Aechmea chantinii</i> 'Samurai'
Hobbyist Div III	Len Waite	<i>Cryptanthus</i> beuckeri
Hobbyist Div IV	Dave Weston	<i>Dyckia</i> 'Betty Farnhill'
Hobbyist Div V	John Pullin	<i>Tillandsia tectorum</i>
Hobbyist Div VI	John Pullin	<i>Tillandsia bulbosa</i>
Division VII has only Section Winners		
Division VIII	Janine Varley	Various bromeliads Artistic Arrangement – "Our Stash"
Division VIII Sec A	Janine Varley	<i>Billbergia</i> , <i>Puya</i> and <i>Aechmea gamosepala</i> Mini-arrangement- "Somewhere Out There"
Division IX	Greg Aizlewood	<i>Cryptanthus sinuosus</i> 'Imposter Red' in decorative bowl
Div IX Sec A	Greg Aizlewood	<i>Cryptanthus</i> 'Elaine' in a decorative bowl
Commercial Div I	Dandaloo Valley (Nigel Thomson)	<i>Tillandsia fasciculata</i>
Commercial Div I Sec A	Dandaloo Valley (Nigel Thomson)	<i>Neophytum</i> 'Galactic Warrior'
Commercial Div II	Dandaloo Valley (Nigel Thomson)	<i>Neoregelia</i> 'Yang'
Commercial Div II Sec A	Dandaloo Valley (Nigel Thomson)	<i>Vriesea</i> 'Tiger Tim'
Commercial Div III	Dandaloo Valley (Nigel Thomson)	<i>Guzmania</i> 'Cavado'
Commercial Div III Sec A	No Winner	
Commercial Div IV	The Olive Branch (Olive & Len Trevor)	<i>Vriesea erythrodactylon</i> 'White Cloud'
Commercial Div IV Sec A	The Olive Branch (Olive & Len Trevor)	<i>Neoregelia sarmentosa</i>

Commercial Div V	The Olive Branch (Olive & Len Trevor)	<i>Tillandsia gardneri</i>
Commercial Div V Sec A	No Winner	
Commercial Div V Sec B	No Winner	
Commercial Div VI	Dandaloo Valley (Nigel Thomson)	<i>Tillandsia heteromorpha</i>
Commercial Div VI Sec A	Dandaloo Valley (Nigel Thomson)	<i>Tillandsia tectorum</i>
Hobbyist Div I Sec A	Barry Kable	<i>Guzmania</i> 'Vulcan' x <i>gloriosa</i>
Hobbyist Div II Sec A	Harold Cooper	<i>Neoregelia</i> 'Yin'
Hobbyist Div III Sec A	Pat Coutts	<i>Aechmea recurvata</i> var. <i>benrathii</i>
Hobbyist Div IV Sec A	Len Waite	<i>Deuterocohnia brevifolia</i>
Hobbyist Div V Sec A	No Winner	
Hobbyist Div V Sec B	Greg Aizlewood	<i>Tillandsia gardneri</i> var. <i>rupicola</i>
Hobbyist Div VI Sec A	No Winner	
Hobbyist Div VI Sec B	Pat Coutts	<i>Tillandsia stricta</i>
Div VII Sec A (Best Judges)	Nina Rehak	<i>Cryptanthus</i> 'San Juan'
Div VII Sec B (Best Novice)	No Winner	
Div VII Sec C	No Winner	
Div VII Sec D	No Winner	
Div VII Sec E	Karen Cross	<i>Aechmea dichlamydea</i> v. <i>trinitensis</i> inflorescence
Div X – Floor Exhibits	Dandaloo Valley Nursery	AM Ribbon
	Sunshine Coast Bromeliad Society	AM Ribbon
	Gold Coast Succulent and Bromeliad Society	AM Ribbon
	Mackay Bromeliad Group	AM Ribbon
	Bromeliad Society of Queensland	AM Ribbon
	The Olive Branch	AM Ribbon
Div XI Sec A Original Art	Ann Jenkins	<i>Aechmea fasciata</i> inflorescence photo
Grace Goode Mini-neoregelia Award	Len Waite	<i>Neoregelia</i> 'Small Wonder'
CS Awards		
Best Species	Len Waite	<i>Cryptanthus beuckeri</i>
Best Hybrid	Nina Rehak	<i>Cryptanthus</i> 'San Juan'
Best Individual	Bob Paulsen	<i>Cryptanthus</i> 'Zonatus Silver'



The Olive Branch, M.B. Foster Best of Show, Commercial. *Guzmania* 'Georgia'



Bob Paulson, Hobbyist Div. I and Cryptanthus Society Best Individual Blooming. *Cryptanthus* 'Zonatus Silver'



Greg Oldano, M.B. Foster Best of Show, Hobbyist. *Guzmania* 'Grisela Don Pepe'



Len Waite, Grace Goode OAM Best mini-neoregelia. *Neoregelia* 'Small Wonder'



A. *Cryptanthus beuckeri*, Len Waite



B. *Deuterochnia brevifolia*, Len Waite



C. *Tillandsia fasciculata*,
Dandaloo Valley Nursery



D. *Aechmea chantinii* 'Samuri'
Dave Weston



E. *Tillandsia stricta*, Pat Coutts.



F. *Cryptanthus sinuosus* 'Imposter Red,'
Greg Azelwood



G. *Neoregelia* 'Yang,'
Dandaloo Valley Nursery.

Winners: **A.** hobbyist Div. III best multiple blooming, best cryptanthus species; **B.** hobbyist Div. IV multiple non-blooming; **C.** commercial Div. 1 individual blooming; **D.** hobbyist Div. II best individual non-blooming; **E.** hobbyist hort. display two or more blooming; **F.** hobbyist Div. IX best decorative container, Crypt. Society best artistic, Crypt. Society best decorative container; **G.** commercial Div. II best individual non-blooming.



Wholesale

Bromeliad and Orchid production site

available for sale



This business has been established for fifteen years in the Naples/ Ft Myers area of Florida.

It resides on 2.5 acres of filled ground that is well treed on the borders . In the interior of the property there are 25,000 square feet of steel frame greenhouses.

.The business produces hundreds of varieties of Bromeliads and Orchids that are all consumed locally annually . The site offers plenty of room for expansion as well . It also has a very nice 1/1 house with a large deck over looking the greenhouses . For more information contact Robb Ross at 239 992 8613 at Gulf Coast Bromeliads Inc.

E mail is Robbrnfl@aol.com I can furnish more pictures upon request.



MEMBERS ONLY SEEDBANK

Acanthostachys strobilacea

Aechmea aquilega • *bracteata* v. *pacifica* • *distichantha* v. *schlumbergeri* • *fendleri* • *melinonii* • *recurvata* v. *benrathii*.

Alcantarea glaziouana • *glaziouana* • *Araeococcus flagellifolius*

Billbergia magnifica • *rosea* • *Dyckia brevifolia* • *Fosterella villosula*.

Encholirium magalhaesii • *Guzmania butcheri*

Neoregelia pascoaliana

Tillandsia australis • *gardneri* • *Ursulaea macvaughii*.

Vriesea gigantea • *racinaea* • *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 Greater New Orleans Bromeliad Society

Gary Simon, GNOBS Editor

On July 21, 2006 the BSI Board held its annual meeting in New Orleans. The following day the Greater New Orleans Bromeliad Society (GNOBS) took BSI members on a tour of greenhouses north of the city. GNOBS enjoyed having BSI and is grateful to the group for choosing its hospitable city.

Historically, GNOBS has been one of the more influential bromeliad societies since its inception on February 4, 1971. If numbers are any indication, GNOBS was off to a great start with 58 members already in attendance. The following year GNOBS held its first show and two years later it kicked off its second show. Tim Calamari was elected president in 1975 and was re-elected in 1977, the year of the BSI World Conference. Thirty years later in 2006, Tim accepted his third term as GNOBS president.

In 1976 GNOBS sponsored the first judging schools in the BSI for nationally accredited bromeliad judges. First certified judges were issued certificates that year. In 1977 New Orleans hosted the BSI World Conference and the theme of that event was "All That Jazz." Over 600 bromeliad enthusiasts from 27 states and various countries converged on the Big Easy. Membership in GNOBS was limited to 200 and at that time there was already a waiting list.

New Orleans hosted the big event again in 1986 under the title "One Mo' Time." Membership was still holding steady, although these numbers were starting to dwindle by the next decade. Today, its membership stands at 40.

While GNOBS can't blame hurricanes, and especially Katrina, for its lower numbers, it's true that the storm did have some impact on the club. However, following the big extravaganza in Australia, "Bromeliads Down Under," in 2008, GNOBS will have an ace in its pocket, and that card will be the 2010 New Orleans World Bromeliad Conference. For the third time, "The City That Care Forgot" will have the privilege to show-off its non-traditional city. Already GNOBS members are talking and planning for this prestigious event. With any sort of luck, news of the upcoming conference might even attract would-be-bromeliad hobbyists and help reestablish the city's love for bromeliads. Shows, exhibits and popular speakers will be planned around the occasion.

An intriguing, one-of-a-kind novel inspired by true events is jolting the Bromeliad world

"A wonderfully written fable, laced with great humor and I suspect some fact. A very different writing style. I would recommend reading this book even if you don't collect things." H.D.D.

"Searching for Miss Fortuna" by Chester Skotak, world-renowned hybridizer

Experience this phenomenon. \$19.95 plus shipping.
877-311-5100, Amazon.com bsi.org.. A great gift!

www.ChesterSkotak.com



GNOBS Show & Sale A Big Winner

The Greater New Orleans Bromeliad Society presented its 34th Show & Sale over the May 3-4 weekend at the Lakeside Shopping Center Mall. The Show was of excellent quality with 11 exhibitors showing 134 plants, of which 45 won AM's out of the 99 blues awarded. The Mulford B. Foster Best in Show was won by Mal Mele with a multiple 'Curly Slim' *Tillandsia*. The best artistic was won by Alex Holmes with an intergeneric hybrid xPuckia (*Puya laxa* x *Dyckia fosteriana* x *platyphylla*). Alex also won the Genera Sweepstakes award with blue ribbons in ten different genera.

There was a tie for the Sweepstakes Award with both Tim Calamari and Gary Simon winning 19 blue ribbons each. Tim won the tie-breaker with 11 AM's to Gary's 5. The best *Cryptanthus* species was won by Tim with a *Cryptanthus microglazioui*. The best *Cryptanthus* hybrid was won by Steve Hoppin with a 'Lum's Delight.' Steve likewise won for the best judge's entry with that same *Cryptanthus*. The Show was judged by Dean Fairchild, Eloise Beach, Larry Giroux, Charlie Birdsong, Steve Hoppin and Michael Young. All awards were donated anonymously in honor of Fred Ross.

As an added special event, Chester Skotak of Costa Rica presented an excellent seminar on some of his very unusual hybrids. This was well received by the audience who also got a chance to get an autographed copy of Chester's new book, "Searching for Miss Fortuna."



Mal Mele with his Mulford B. Foster "Best of Show" awarded *Tillandsia* 'Curly Slim'.

WANTED TO BUY

Terrestrial Hohenbergia seeds

Seeds of *Ho. burle-marxii*, *Ho. catingae*, *Ho. edmundoi*, *Ho. leopoldo-borstii*, *Ho. pennae*, *Ho. ramageana*, *Ho. utriculosa*, *Ho. vestita* and other gray or silver leaved species.

Atsushi Sato

Situations Vacant

Small, usually friendly International Plant Society has vacancies for

Cultivar Registrar Webmaster

Need a challenge? No pay but lots of fun!

contact: president@bsi.org

Corporate Donations 2008 to date

Generous donations have been received from The Cryptanthus Society, Caloosahatchee Bromeliad Society, Florida West Coast Bromeliad Society, Saddleback Bromeliad Society, North County Bromeliad Society, Bromeliad Society of Central Florida, Hawaii Bromeliad Society and Olive Hill Greenhouses Inc.

The North County Bromeliad Society donation included \$500 in memory of Dorothy Byer, for use related to the study of species terrestrials.

Thank you all for continuing to support the BSI.

RAINBOW GARDENS BOOKSHOP

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

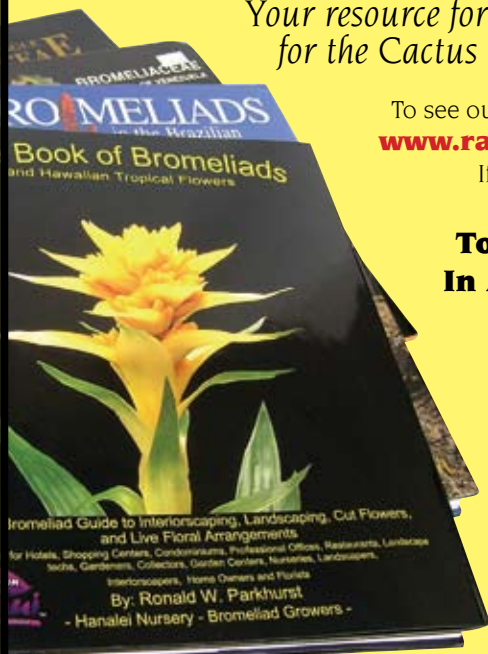
To see our online booklist visit us on the web at:

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

The Rainbow Gardens Bookshop

Andrew Flower, Editor.

When I first became interested in bromeliads in the late 1960's, there was virtually nowhere to buy specialist bromeliad books. Through a shared interest in epiphyllums, hoyas and succulents we found a book store in California - Rainbow Gardens and Nursery started in 1972 by Chuck Everson and Gerry Williams in Vista. Their annual catalogs were eagerly awaited, and they always gave wonderful service. They still operate their nursery in Vista, but retired from the bookstore business and sold it to Kevin and Helen Barber in Tucson, Arizona, who have continued the tradition of great service to their customers. I asked Helen to give us an introduction to their new business:

“Kevin has been a gardener since he was a young child when he helped his grandmother back in Ohio. His passion for plants has only grown over the years and he keeps expanding his collection of plants as well as trying different, new methods of cultivation. I helped my mother with her garden, but was not as heavily involved in the botanical studies as he was. We are both very much in love with books and our home has always been full of them. We moved to Tucson in the early part of this century from Baltimore, Maryland (I have a very aggressive form of osteoarthritis that responds quite well to heat). We immediately became involved in the hobby again. We had purchased books from the previous owners of Rainbow Gardens Bookshop and as we attended some shows and sales in California it was very obvious that they wanted to sell the store and retire from the business. Several of our friends pushed us very hard to purchase the store and move it to Tucson, which we did in the early part of 2005. Our very first customers were Steve and Martha Goode....even before the books were unpacked from the trip. They have since become very dear friends.

The infra-structure of the store was quite antiquated and we have been putting a lot of time and effort into bring the store into the 21st century. We have installed a POS system, which did not exist before. Inventory was done on paper with tic marks!! We have replaced the index card files with computer files and an inventory and purchasing system. The web-site is being updated and totally revamped. We will soon be adding an integrated shopping cart to make life easier for our customers. We have added a catalogue in color which can be downloaded or searched at will. We will still be more than willing to send out paper catalogues, but are producing them on a print-on-demand format to keep things more up to date. We have added a translation facility to the web-site so that full pages of the web-site can be translated into many languages. We are continually updating the inventory with books on various plants, but are always looking for suggestions or ideas from our customers. It has been a rough road to walk so far, but we are hoping that with some of the improvements life will become easier. We have met a lot of very wonderful people through the bookstore, which really makes the entire thing more than worthwhile.”

EVENTS CALENDAR

Australia

April 10-13, 2009, XV Australian Bromeliad Conference, Adelaide. Contact (08) 8356 7728 or www.bromeliad.org.au/BROMADELAIDE2009.htm

May 2-3, 2009 Bromeliad Society of NSW Autumn Show, Concord

May 16-17 2009, Bromeliad Society of Australia Autumn Show, Burwood

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

United States of America

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

Individual Donations 2008 to date

Christie Brenner, CA	Roy Gussow, NY	Thomas Rea, CA
Ed Brinkkemper, Netherlands	Paul Isley III, CA	Patricia Reinmuth, FL
Greg Brown, WY	Maurice Kellett, Australia	Rose Marie Rockwell, CA
Jennifer Buckner, TX	Elanor Kinzie, FL	Jurg Rutschmann, Switzerland
Doris Bundy, MA	Stephen Lenberger, FL	Panom Santanasuk, Thailand
Heather Burch, FL	Marilyn & George Long, CA	Judy Shaw, FL
Tim Calamari, LA	Thomas Lucero, CA	Louis Spielman, HI
Kevin Campbell, TN	Bruce McKoy, CA	Alexander Stoddart, Venezuela
Sathitvong Chayangsu, Thailand	Kevin McIntosh, MD	Calandra & Jay Thurrot, FL
Nels Christianson, CA	Laura Mesko, LA	Dorothy Tuthill, WY
Marilyn Cohen, CA	Lee Miller, DC	Lynette Wageman
Anne Collings, FL	Jack Percival, CA	William Wilson, AL
Inez & Leonard Dolatowski, FL	Gene Powers, TX	Robert Wright, CA
Margaret Draddy, Australia	Moyna Prince, FL	Kazuko Yamauchi HI
Louise Epperson, TX	Kay & Joseph Quijada, CA	
Dana Field, FL	Stephen Randorf, WI	We do appreciate your help,
Robert Griffith, CA	Charles Ray, FL	thank you!

A Warm Welcome to New Members

Robert & Paula Benway, Temple Terrace, FL	Gerald & Teresita Krulik, San Clemente, CA
Joanne Emmerth, Orlando, FL	Bradley & Marilyn Rauch, Pt. Orange, FL, Susan & Larry Sousa, Madera Beach, FL
Lloyd Etters, Brandon, OR	Rick & Joanne Rector, Apopka, FL
Mary & John Cargill, Niceville, FL	Lisa & Raleigh Robinette, Land O'Lakes, FL
Dr Olga De Castro, Napoli, Italy	Elizabeth Schambeau, San Antonio, FL
Michael & Cynthia Cole, Panama City, FL	Stuart Shim, Rancho Santa Margarita, CA
John Charles Grande, Huntingdon, UK	Neal Sinnen, Victoria, MN
Marylynne Jones, Clearwater, FL	Elvira De Suger, Guatemala
Ken King, San Clemente, CA	

We hope you enjoy your membership with us, welcome aboard!.

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)

2006-2008Australia: Lynn Hudson. New Zealand: David Anderson. California: Jack Percival. Central: Penrith Goff. Florida: Michael Andreas, Theresa Bert, Lawrence Giroux. Northeast: Leslie Graifman. Southern: Rei Irizarry. Western: Hannelore Lenz. International: Renate Ehlers, Eric Gouda.
2007-2009California: Rodney Kline, Keith Smith
2008-2010.....Florida: Jose Donayre. Louisiana: Bonnie Boutwell. Texas: Gene Powers. International: Francisco Oliva-Esteve

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.....Derek Butcher, 25 Crace Rd., Fulham, SA 5024, 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
NominationsLarry 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.....Ken Marks, 22690 Lemon Tree Ln., Boca Raton, FL 33428-5514, 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) username : last password: time

