JOURNAL

OF THE BROMELIAD SOCIETY

Volume 59(4): 145-192 JULY-AUGUST 2009

Journal of the Bromeliad Society

Volume 59(4): 145-192 July-August, 2009

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Printed January, 2010 by Fidelity Press, Orlando, Florida, U.S.A.

ISSN 0090-8738

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Covers

Front— *Tillandsia atroviridipetala* var. *longepedunculata* Ehlers, var. nov. flowering in cultivation. Photographed and grown from seed by Andrew Flower, seed supplied by Renate Ehlers from the paratype K & R Ehlers EM941402 collected 4.12.2000 in Jalisco, Mazamitla, Mexico growing at 2,000m. Plant descibed in Renate Ehlers' book reviewed here on page 182.

Back—*Vriesea Pseudoatra g*rowing near the summit of the previously unexplored mountain Pedra dos Pontões in Brazil. Photograph by Elton Leme. See article on page 152.

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 delare any article they have already, or intend to, publish elsewhere.

Editorial

In This Issue

Five years ago a BSI Membership Survey Committee, chaired by Michael Andreas, conducted an extensive survey of BSI members. One recurring request from members was for more reporting on bromeliad habitats. Those of you who are interested in where bromeliads live in nature should take a look at one of our scientific articles, the report (page 152) on bromeliads found on a previously unexplored mountain in Brazil. Senior author Elton Leme kindly sent us quite a number of habitat photos, including our first centerspread, and I have decided to include them all so you can see a number of excellent habitat illustrations. Please feel free to let me know if you enjoyed these, and whether you want more!

Scientific

First up in this issue, Harry Luther and Karen Norton bring us a new species, *Aechmea gentryi* from Eastern Ecuador, that is closely related to *A. chantinii*. Following this is the article I mentioned in the introduction above, introducing a couple of new species from the previously unexplored mountain Pedra dos Pontões in Brazil.

CVG-Bauxilum is a Venezuelan mining company that is making efforts to preserve the local bromeliad habitats, and have even organized a small herbarium to assist with the identiication and preservation of local species. On page 170 Angel Fernández introduces a new species from this area, Los Pijiguaos and named it *Aechmea bauxilumii* in dedication to the efforts made by this mining company.

Cultivation

Our new Cultivar Registrar, Geoff Lawn, sheds some light on the origins of a seedling once thought to be a dyckia species, but now thought to be a cultivar, *Encholirium 'Angelita'* - see page 174. *Aechmea roeseliae* has not appeared in the Journal before, and a very nice specimen has come to light in Europe thanks to the efforts of Reginald Deroose. One of his plants found a home in Eric Gouda's collection in The Netherlands, and Eric's photos are featured on page 175.

Rounding off our cultivation section are some notes by your editor discussing the merits of moving on from single temperature thermostats to maintain a minimum night-time temperature to a system that sets a succession of daytime temperature minimums to give cultivated bromeliads a decent diurnal range during cold, grey winters.

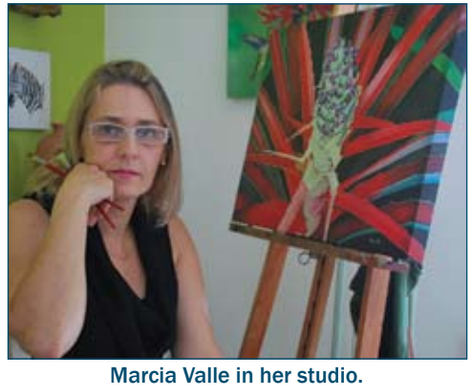
General Interest

It is time again to send in your nominations for the next Wally Berg Award of Excellence - see page 180. Don't forget that if your nominee failed to win in a previous Award you can put their name forward again.

Editorial

On page 182 Bob Reilly from Australia reviews a new publication from the German Bromeliad Society, *The green-blooming, small, grey Tillandsias from Mexico* by Renate Ehlers (one of her new descriptions is pictured on our front cover). A great read, and full of valuable botanical information as well as a wealth of detail about the plants habitats.

We have been honoured to receive a biography from Brazilian artist Marcia Valle Ribeiro de Oliveria together with permission to reproduce a number of her startlingly bold oil paintings of bromeliads, starting on page 183.



Marcia Valle in her studio.

The Bromeliad Society of New South Wales (Australia) held a very successful Autumn Show last May, and we bring you their report on page 188.

FOR SALE - COMPLETE SET OF JOURNALS 1951-2000

One of our members has donated the proceeds of the sale of her collection of BSI Journals to one of our Affiliate Societies. We think US$750 is a fair price, could interested parties please contact the Editor to discuss purchase.

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

Scientific

A New *Aechmea* from Eastern Ecuador.

Harry E. Luther & Karen F. Norton[1]

Figure 1. *Aechmea chantinii* forma *amazonica*.

The relatives of ***Aechmea chantinii*** (Carr.) Baker are concentrated in warm and wet lowland Amazonian forests from southern Venezuela to Peru and Brazil, and are particularly abundant in eastern Ecuador. The following appears to be a widespread but uncommon species as it has taken several decades to accumulate enough material to confidentially distinguish it from its closest relatives.

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

Figure 2. *Aechmea gentryi*, holotype plant.

Aechmea gentryi H. Luther & K. Norton, sp. nov.

TYPE: Ecuador, Zamora-Chinchipe, vic Chucumbaza, *C. Skotak legit*, flowered in cultivation SEL 96-108, 27 April 2009, H.E. Luther s.n. (SEL).

A ***A. chantinii*** similis affinisque sed ramis florigeris brevioribus paucifloribusque et floris minoribus differt.

Plant an epiphyte, flowering 40 – 70 cm tall, spreading by stout stolons. ***Leaves*** erect to spreading, 50 – 65 cm long, densely punctate-lepidote. ***Leaf sheaths*** ovate to broadly elliptic, 12 – 16 x 8 – 10 cm, densely brown punctate-lepidote, castaneous especially adaxially. ***Leaf blades*** ligulate, acute to acuminate, apiculate, 3 – 6 cm wide, serrate with dark straight to antrorse 2 – 4 mm long spines, the leaf margins variably punctate-lepidote, grey-green to reddish. ***Scape*** erect, 25 – 40 cm x 2 – 4 mm, subdensely pale lepidote, reddish. ***Scape bracts*** narrowly elliptic, acute, laxly and variably serrate, laxly arranged distally, becoming dense proximally, red to orange-red. ***Inflorescence*** bipinnate, densely 6 to 24-branched, 5 – 18 x 5 – 8 cm. ***Primary bracts*** narrowly elliptic to ovate, very laxly serrate to entire, the lowest like the upper scape bracts and

exceeding the branches, the upper abruptly reduced, red or orange-red. ***Branches*** with a 0.5 – 2 cm peduncle, erect to spreading, the fertile portion 3 – 5 cm long distichously 4 to 12-flowered, the rachis broad and excavated, variably pale lepidote. ***Floral bracts*** broadly elliptic to ovate, 8 – 14 x 6 – 8 mm, from about equaling to much shorter than the sepals, thin coriaceous, cucullate, carinate, nerved, green to reddish tipped yellow. ***Flowers*** 23 – 28 mm long, opening during the day, 1 – 2 mm pedicellate. ***Sepals*** asymmetrical, 8 – 13 mm long, acute with a broad lateral wing, short connate, nerved, green or yellow-green. ***Corolla*** slightly spreading. ***Petals*** lingulate, obtuse, 17 – 19 mm long, each with a pair of fimbriate basal appendages, pale yellow tipped with white. ***Ovary*** ellipsoid, glabrescent, 5 – 6 mm long.

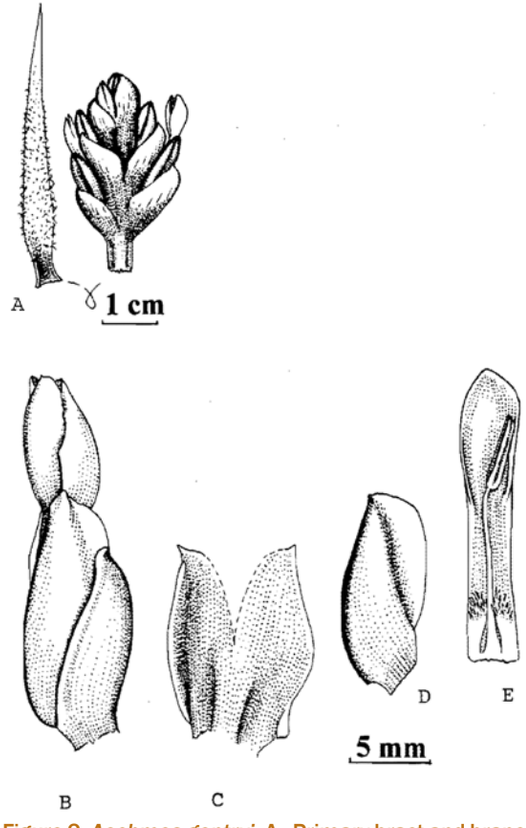

Figure 2. *Aechmea gentryi*: A. Primary bract and branch. B. Floral bract and flower. C. Floral bract, flattened. D. Sepal. E. Petal and antepetalous stamen.

Paratypes: Ecuador. Morona-Santiago, 9 – 10 km SE of San Juan Bosco, 1540 – 1600 m. 27 Jan 1981, *A. Gentry, C. Bonifaz & Jorge Loor C* 30900 (MO); Zamora-Chinchipe, along the Rio Machinaza east of Paquisha, 1500 m. March 1993, *C. Skotak s.n.* (SEL); Sucumbos, near El Reventador, 1500 m. 1993, *C. Skotak s.n.* (SEL).

This new species can be distinguished from ***Aechmea chantinii*** by its inflorescence with shorter, very densely arranged branches with smaller (23 – 28 vs 28 – 35 mm long) flowers. In addition most collections show a rather narrow erect rosette and collection sites, where known, are above 600 m, to over 1600 m. Most collection sites for ***A. chantinii*** are from 100 to 600 m, generally from the lower part of the elevational range. The specific epithet honors the late Dr. Alwyn Gentry, Neotropical botanist extraordinaire, who first collected this species nearly 30 years ago.

Two New Species from Pedra dos Pontões, an Unexplored Mountain in Espírito Santo, Brazil

Elton M. C. Leme, Ludovic J. C. Kollmann & André P. Fontana.

Figure 1: General view of Pedra dos Pontões in early morning, with the summit, about 1,400m. elevation, still covered by fog.

In September 2008, during a field trip to the unexplored mountain called Pedra dos Pontões, in the locality of Conceição do Muqui, county of Mimoso dos Sul, south region of Espírito Santo state, two new bromeliad species were found together with many other interesting taxa. The Pedra dos Pontões is in most part situated inside the property of Roberto Bellato, who is trying to find an optional use of the land compatible with environment conservation, in substitute of the traditional, not at all profitable agriculture micro-business. This paper is an attempt to call the attention to the high biodiversity of the area, as well as the need of a continued botanical investigation and forest conservation.

The mountain of Pedra dos Pontões is typically covered by humid, montane Atlantic Forest. In these forested sites, between 900 to 1,150 m elevation, large bromeliad populations cover the forest floor, predominantly "fields" of *Aechmea chlorophylla* L. B. Sm. and *Edmundoa lindenii* var. *rosea* (E. Morren) Leme, sparsely distributed *Aechmea aff. coelestis* (K. Koch) E. Morren, *A. aff. ramosa* Mart. ex Schult. & Schult. f. with white petals (instead of the regular yellow), *A. roberto-anselmoi* E. Pereira & Leme, *Nidularium antoineanum* Wawra, as well as dense clumps of *Bromelia* sp.

Figure 2: *Edmundoa lindenii* var. *rosea* covering the forest floor at about 1,000 m elevation.

In the epiphytic strata, eye-catching populations of a new *Neoregelia* species, subgenus *Longipetalopsis* Leme, described in the sequence, and an atypical *Vriesea carinata* var. *flavominiata* Leme, with prevailingly yellow floral bracts instead of the usual red, dominate the scenery. Other epiphytic species are *Aechmea nudicaulis* (L.) Griseb., *Billbergia horrida* Regel, *Tillandsia usneoides* (L.) L., *T. stricta* Sol. ex Ker Gawl., *V. ensiformis* (Vell.) Beer, *V. lubbersii* (Baker) E. Morren, and *V. pardalina* Mez.

Figure 3: *Aechmea* aff. *ramosa*, with white petals, forming a rich bromeliad community.

Figure 4: An atypical population of *Vriesea carinata* var. *flavominiata* with yellow floral bracts instead of the usual red color

Figure 5. *Vriesea fosteriana* in partial shade, at the edge of the forest transition zone; from this point plants grow in full sun

The higher parts, between 1,250 to 1,400 m., comprise altitude fields surrounded by breathtaking rock abysms ornamented by large populations of bromeliads, orchids and cacti. The saxicolous and rupicolous bromeliads start to occur in the transition zone between the cloud forest and the rock outcrops which form a narrow inclined pass which gives access to the harder, final part of the way to the pick.

The first taxon to attract our attention was the ornamental *Vriesea fosteriana* L. B. Sm., with irregularly banded leaves, followed by two *Alcantarea* species, one of it probably related to *A. patriae* Versieux & Wand., since its type locality is not far from there. Other rupicolous species found in the area, growing in fully exposed niches, are *Pitcairnia* aff. *decidua* L. B. Sm., the rare *P. glaziovii* Baker, until now considered an endemic species from Rio de Janeiro state, *Tillandsia gardneri* Lindl., and *V. pseudoatra* Leme.

The summit, about 1,400 m elevation, is characterized by one somewhat rounded rock and two sharply pointed ones just accessible by the use of alpinism equipment. Despite the risk, it is possible to arrive at the top of the main rounded rock by means of a very narrow way that surrounds the rock, which is sided by a 50 m rock wall you can not look up and a precipice of 500 m which is impossible to look down. At this point our group was divided: Ludovic and Elton stayed to explore the denser and more shaded vegetation at 1,300 m elevation; André and Dayvid continued to the very top, leaving behind all the equipment and any extra weight. They took 2 hours to go up and down despite the short distance. However, the best surprise of the expedition was not at the very top, but at the more shaded and densely vegetated steep hillsides: a bizarre, long-caulescent, yellowish-white flowered *Pitcairnia*, which is completely different from all putative relatives, as described below.

Pitcairnia abyssicola Leme & L. Kollmann, sp. nov. **Type**: Brazil, Espírito Santo, Mimoso do Sul, Conceição do Muqui, prop. Roberto Bellato, Pedra dos Pontões, 20°56.29'S 41°33.33'W, 1,290 m elev., 5 Sept. 2008, *E. Leme 7573*, *L. Kollmann*, *A. P. Fontana* & *D. R. Couto*. (Holotype: MBML, Isotypes: HB, SEL).

A *P. suaveolens* Lindl., cui affinis, planta longe caulescens, foliolis propagulorum marginibus spinosis sed foliis integris, bracteis floriferis brevioribus, sepalis minoribus, carinatis, petalis brevioribus, recurvatis, corollis distincte curvatis differt; a *P. aequatorialis* L. B. Sm., cui similis, planta longe caulescens, bracteis scapalibus superioris internodia leviter superantibus, sepalis brevioribus, petalis distincte brevioribus et corollis distincte curvatis differt.

Plant terrestrial or saxicolous, forming sparse groups hanging in a perpendicular-ascending angle in very steep to nearly vertical shaded slopes, long caulescent and propagating by short aggregated shoots sparsely distributed along the naked portion of the stem, flowering 140-250 cm tall, including the naked portion of the 60-180 x 1-1.5 cm stem solely covered by disintegrated old fragments of the leaf sheaths; ***Leaves*** fasciculate, persistent and concentrated in the distal portion of the stem, apparently monomorphic except for the shortly triangular, spinose, paleaceous reduced leaves

Figure 6. The unusual long caulescent habit of *Pitcairnia abyssicola*

Figure 7. Flower details of *Pitcairnia abyssicola*

of the renovation shoots; ***sheaths*** narrowly oblong-ovate, ca. 6.6 x 3.5 cm, green but becoming castaneous toward the base with age, membranous, nerved, nerves becoming prominent in dry leaves, glabrous adaxially, sparsely and inconspicuously brown-lepidote to glabrous abaxially, entire, enfolding and completely covering the elongated stem; ***blades*** very narrowly lanceolate, attenuate-caudate, narrowed toward the base but not petiolate, suberect-arcuate, 32-42 x 2.2-2.5 cm, distinctly nerved mainly adaxially, thin in texture, canaliculate toward the base, green, sparsely and inconspicuously pale lepidote near the apex adaxially to glabrous, margins entire. ***Scape*** spreading, indistinct when compared with the distal elongated portion of the stem, 40-50 cm long, 0.5-0.7 cm in diameter, glabrous, green, inconspicuously sulcate; ***scape bracts:*** the basal ones foliaceous to subfoliaceous and not distinguishable from the leaves, distinctly exceeding the internodes, the upper ones lanceolate, acuminate-caudate, suberect to erect, slightly exceeding the internodes, 3.7-7 x 1.2-1.7 cm, inconspicuously and sparsely pale lepidote near the apex to glabrous, entire, green. ***Inflorescence*** racemose, simple, suberect-ascending, distinctly exceeding the leaves, 18-24 cm long, rachis straight, subangulose, 2-5 mm in diameter, green, glabrous; ***floral bracts*** lanceolate, acuminate, 13-40 x 3-10 mm, entire, thin in texture, green, suberect, adaxially sparsely but coarsely brown lepidote at the apex to glabrous, equaling 1/3 to 3/4 of

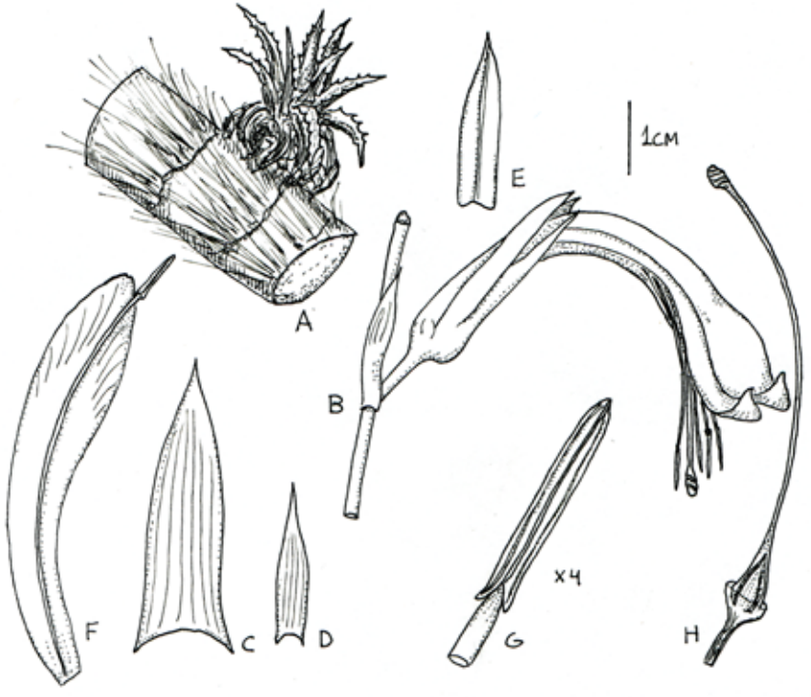

Figure 8. *Pitcairnia abyssicola* Leme & L. Kollmann. A) propagation shoot on the naked old part of the stem bearing remains of leaf fibers; B) upper floral bract and flower; C) basal floral bract; D) upper floral bract; E) sepal; F) petal; G) anther; H) ovary longitudinal-section, style and stigma

the sepals length but not hiding them. ***Flowers*** 24 to 40 in number, 75-77 mm long (including the pedicels and stamens), sparsely to subdensely arranged at the base to densely arranged toward the apex, suberect with strongly curved petals at anthesis, fragrance not detected, pedicels 5-20 x 1-2 mm, terete toward the base, subtrigonous at the apex, green, glabrous, suberect; ***sepals*** narrowly lanceolate, apex acuminate, erect, 23-27 x 4.5-6 mm, the adaxial ones alate-carinate, apex slightly incurved, the abaxial ones carinate, slightly shorter than the adaxial ones, green, glabrous; ***petals*** narrowly subspathulate, apex narrowly emarginate but appearing acute, ca. 58 x 10 mm, yellowish-white, unappendaged, glabrous, at anthesis the apex slightly recurved, convergent over the stamens and forming a strongly curved zygomorphic corolla; ***stamens*** slightly exceeding the petals; ***anthers*** linear, ca. 7.5 mm long, fixed near the base, base sagittate, apex acute; ***pollen*** oblong-ellipsoid, sulcate, exine reticulate, lumina subrounded, muri narrowed; ***stigma*** subcapitate, conduplicate-spiral, slightly exceeding the anthers and completely exposed at anthesis, yellow, margins papilose; ***ovary*** subpyramidate, ca. 4/5 superior; ***ovules*** many, caudate.

Paratype: Brazil, Espírito Santo, Mimoso do Sul, Conceição do Muqui, prop. Roberto Bellato, Pedra dos Pontões, 4 July 2005, *L. Kollmann 7873*, *R. L. Kollmann* & *D. R. Couto* (MBML).

Figure 9. Close up of the inflorescence of *Pitcairnia abyssicola*

It is possible to recognize in the Atlantic Forest domain of Rio de Janeiro and Espírito Santos States a complex of white to yellowish-white flowered *Pitcairnia* species originally comprising *P. albiflos* Herb. and *P. suaveolens* Lindl. According to Tatagiba (2003), the latter one includes *P. flammea* var. *pallida* L. B. Sm. as a synonym. More recently, Tatagiba et al. (2004) added two new taxa to this complex, *P. insularis* F. Tatagiba & R. J. V. Alves and *P. wendtiae* F. Tatagiba & B. R. Silva, both growing on rocky walls facing the ocean on oceanic islands or along the coastline of Rio de Janeiro State.

Despite being chromatically similar to the complex headed by Pitcairnia *albiflos*, this new species shows an unusual combination of morphological characters not shared by any known taxon. However, when compared to *P. suaveolens*, *P. abyssicola* differs from it by its long caulescent habit, with stems 60-180 cm long (vs. ca. 25 cm long), the propagation by short aggregated shoots sparsely distributed along the naked portion of the stem and bearing shortly triangular, spinose, paleaceous reduced leaves, shorter floral bracts (1.3-4 cm vs. 4-7 cm long), sepals shorter (23-27 mm vs. 32-41 mm long) and carinate (vs. ecarinate), petals shorter (ca. 58 mm vs. 67-75 mm long), recurved (vs. more or less straight), and by the corolla distinctly curved (vs. slightly if at al curved), which is an unusual feature for a Pitcairnia from southern Brazil.

Curiously, it is possible to recognize some resemblance of *Pitcairnia abyssicola* with *P. aequatorialis*, which is a white-flowered, endemic species from the low montane coastal rainforest of Ecuador (Manzanares, 2005). However, the new species differs from it by its long caulescent habit, with stem 60-180 cm long (vs. acaulescent), upper scape bracts slightly exceeding the internodes (vs. shorter than the internodes), shorter sepals (23-27 mm vs. ca. 30 mm long), distinctly shorter petals (ca. 58 mm vs. 90 mm long), and by the strongly curved corolla (vs. slightly curved).

In contrast to *Pitcairnia suaveolens*, which is a typical species of the Órgão Mountains in Rio de Janeiro and lives on rocks along mountain rivers, mainly in the limits of the Órgãos Mountains National Park, the new species was found hanging in a perpendicular-ascending angle on very steep to nearly vertical shaded abysms – which inspired its name, with sparsely distributed individuals. On the other hand, the resemblance of this new species to *P. aequatorialis* opens new perspectives on the biogeography of the group and requires further investigation.

Neoregelia dayvidiana Leme & A. P. Fontana, sp. nov. **Type**: Brazil, Espírito Santo, Mimoso do Sul, Conceição do Muqui, prop. Roberto Bellato, trilha para a Pedra dos Pontões, ca. 1,045 m elev., 20°56.04'S 41°33.13'W, 5 Sept. 2008, *E. Leme 7566, L. Kollmann, A. P. Fontana* & *D. R. Couto* (Holotype: HB, Isotype: MBML).

A *N. bragarum* (E. Pereira & L. B. Sm.) Leme, cui affinis, laminis foliorum apice rubris, sepalis apice obtusis, leviter longioribus, basi 15-17 mm connatis, prope apicem rubris, petalis longioribus, apicem versus atropurpureis et antheris brevioribus differt; a *N. inexspectata* Leme, cui proxima, laminis foliorum subtus inconspicue et sparse albolepidotis, prope apicem rubris, apice apiculis perennibus, sepalis obtusis, basi 15-17 mm connatis, petalis longioribus, apicem versus purpureis et laminis stigmatum duplo longioribus differt.

Figure 9. Detais of the flower of *Neoregelia dayvidiana.*

Plant epiphytic, stoloniferous, stolons 4-5 cm long, ca. 1 cm in diameter, very rigid, bearing subtriangular-ovate cataphylls, acuminate, straminaeous, coriaceous, entire, forming an inconspicuous crest. ***Leaves*** 10 to 14, suberect-recurved, forming a funnelform rosette, the outer ones narrowed and inconspicuously dimorphic mainly in young specimens; ***sheaths*** elliptic to ovate-elliptic, 10-13 x 5.5-7.5 cm, subdensely pale-brown lepidote on both sides, dark wine-purple inside and toward the apex, green with irregular purple spots; ***blades*** linear, inconspicuous if at all narrowed toward the base, inconspicuously and sparsely white lepidote on both sides, green except for the semicircular red spot at the apex, margins subdensely to densely spinulose, spines 1-2 mm long, 3-7 mm apart, castaneous, the outer blades 22-30 x 1.5-2.5 cm, apex acuminate, the inner ones 14-20 x 4.7-5.3 cm, apex acute to rounded or obtuse and distinctly apiculate, apiculus ca. 0.8 cm long, slightly pungent; ***Scape*** 20-30 mm long, ca. 15 mm in diameter, white, glabrous; ***scape bracts*** obovate, distinctly concave and inflated toward the apex, apex rounded to obtuse and apiculate, erect, entire, whitish-hyaline in the basal 3/5, red in the apical 2/5, inconspicuously and sparsely white-lepidote inside, glabrous outside, membranous, the upper ones somewhat involucral, 35-45 x 25 mm,

Figure 10. *Neoregelia dayvidiana* Leme & A. P. Fontana. A) plant habit; B) leaf apex; C) outer floral bract; D) inner floral bract; E) flower; F) petal; G) sepal.

about equaling 2/5 of the sepals length. ***Inflorescence*** subcylindric, simple, umbellate, sunk in the center of the rosette, 50-55 mm long (excluding the petals), 22-27 mm in diameter, 11 to16-flowered; ***floral bracts*** entire, subobtuse and minutely apiculate, cucullate, white-hyaline except for the red apex, membranous, finely nerved, ecarinate, inconspicuously and sparsely white-lepidote inside, the outer ones subspathulate, 20-22 x 4-5 mm, equaling to slightly exceeding the ovary, the inner ones sublinear-lanceolate, acute, 15-17 x 2.5-3 mm, equaling the pedicels to slightly shorter than the ovary. ***Flowers*** 95-105 mm long, strongly fragrant, pedicels 7-15 x 2.5-4 mm, white, glabrous, the outer ones slightly complanate and dilated toward the base, the inner ones terete; ***sepals*** subsymmetric, narrowly subspathulate, 36-38 x 6.5-7 mm, apex obtuse, connate at the base for 15-17 mm, ecarinate, white in the basal half and red in the apical half, glabrous, membranous; ***petals*** sublinear-lanceolate, acuminate, 78-84 x 8-9 mm, connate at the base for 28-30 mm, white except for the purple apical portion, suberect and twisted-recurved at anthesis, strongly spirally-recoiled afterwards, bearing 2 short longitudinal callosities at the base of the free blades; ***filaments*** ca. 45 mm long, terete, white, the antepetalous ones adnate to the petals for 32 mm, the antesepalous ones adnate to the petals for ca. 29 mm; ***anthers*** linear, 8-9 mm long, dorsifixed for ¼ of its length above the base, base sagittate, apex apiculate, slightly recurved; ***pollen*** globose, biporate, exine appearing insulate?? to microreticulate; ***stigma*** cylindrical, conduplicate-spiral, blades 10-12 mm long, ca. 2 mm in diameter, white, margins minutely lacerate-papillose; ***ovary*** broadly elliptic, 8-10 x 5-6 mm, white, glabrous, slightly sulcate, epigynous tube lacking; ***placentation*** apical; ***ovules*** obtuse. ***Fruits*** unknown.

Figure 11. Habit of *Neoregelia dayvidiana*, an epiphytic species

According to the identification key provided by Leme (1998), this new species is closely related to *Neoregelia bragarum* but can be distinguished by the leaf blades with red apex (vs. green), obtuse sepals (vs. broadly acute and apiculate) which are slightly longer (36-38 mm vs. 29-35 mm long) and higher connate at base for 15-17 mm (vs. connate for 6-10 mm), and red near the apex (vs. green), longer petals (78-84 mm vs. 65-75 mm long) which are purple toward the apex (vs. sky-blue), and by the shorter anthers (8-9 mm vs. ca. 13 mm long). On the other hand, *N. dayvidiana* is also related to *N. inexspectata*, differing by the inconspicuously and sparsely white-lepidote leaf blades (vs. densely white-lepidote) with the apex red (vs. green) and bearing a persistent apiculus (vs. apiculus deciduous), obtuse sepals (vs. acuminate) which are higher connate at the base for 15-17 mm (vs. connate for 7-10 mm), longer petals (78-84 mm vs. ca. 67 mm long) which are purple toward the apex (vs. blue), and by the twice longer stigma blades (ca. 10 mm vs. ca. 5 mm long).

Neoregelia dayvidiana is a typical epiphytic species of the Atlantic Forest, living from the moderately illuminated stratum to the highest, much sun exposed tree branches, where the plant rosettes become more compact and colorful. However, even in the shaded niches, the leaf apex remains red as an easy distinctive character when compared to the closer relatives.

Neoregelia dayvidiana honors one of its collectors, Dayvid R. Couto, a biologist from Alegre, Espírito Santo State, nowadays deeply involved in botanical surveys in the region where he lives.

Acknowledgments

We thank Dayvid R. Couto from Espírito Santo State, for his valuable support, expertise and companionship during the field activities in the county of Mimoso do Sul, Espírito Santo State. All illustrations by Elton M.C. Leme.

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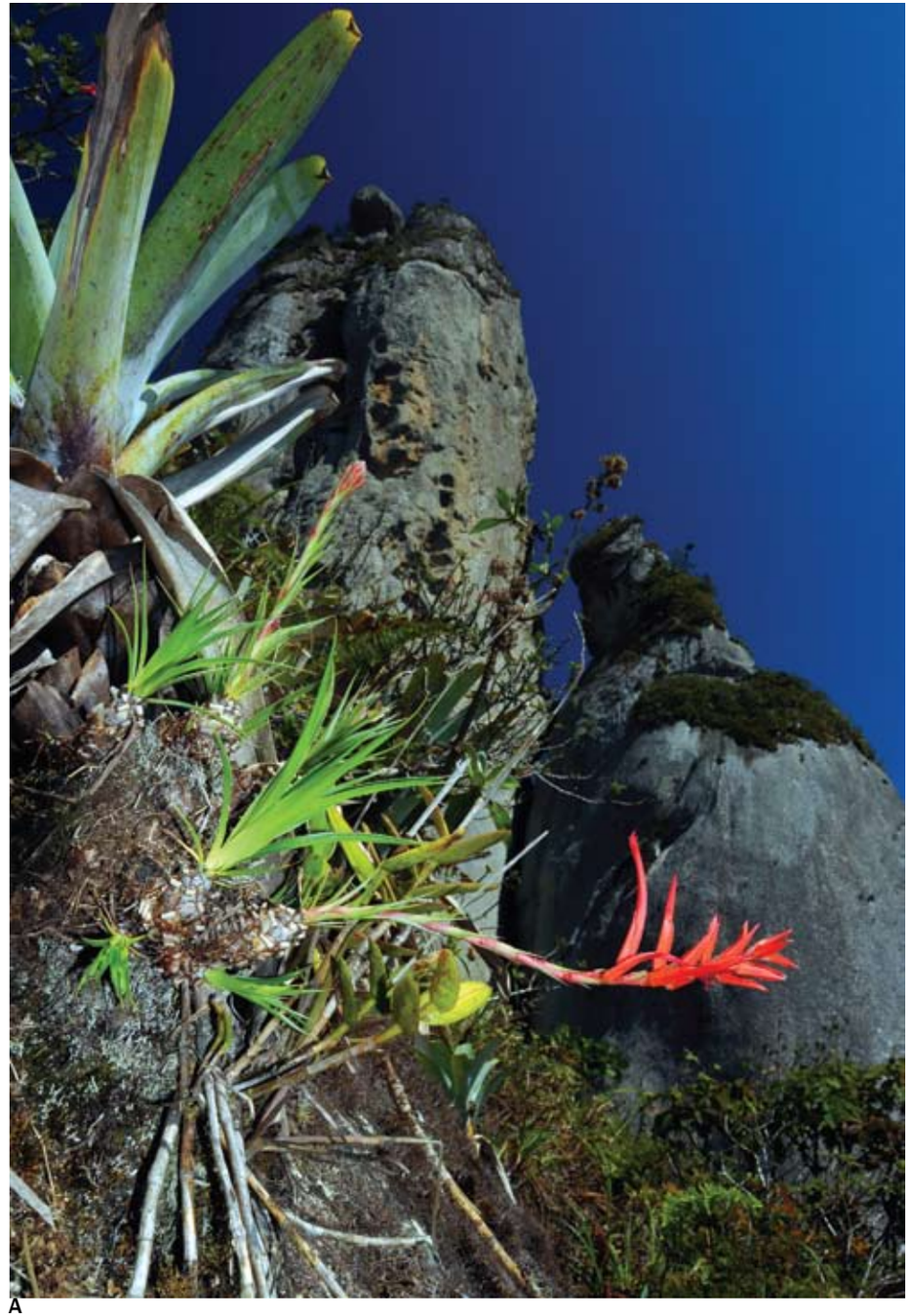

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Figure 12. The rare *Pitcairnia glaziovii* for the first time documented in the boundaries of Espírito Santo; it was considered an endemic species of Rio de Janeiro State.

Figure 13. Landscape vision near the top of the Pedra dos Pontões.

Scientific Two New Species from Pedra dos Pontões.

Aechmea bauxilumii (*Bromeliaceae*), A New Species from Los Pijiguaos, Venezuelan Guyana

Ángel Fernández.[1]

Summary

The description and illustrations of a new species of *Aechmea* Ruiz & Pav. from Los Pijiguaos area, state of Bolívar, Venezuela, is submitted. *Aechmea bauxilumii* is related to *A. castelnavii* Baker, but it differs in its terrestrial habit, non bulb-shaped leaf base, greater number of scape bracts, looser frutescence, and reflexed leaf tip.

Key words:

Aechmea, Bromeliaceae, Los Pijiguaos, Guayana, State of Bolívar, taxonomy.

Aechmea Ruiz & Pav. belongs in the subfamily *Bromelioideae* for its non- appendaged seeds, inferior ovary, bay-shaped fruit and leaves generally with spiny or saw-like margins. It is a polyphyletic and artificial genus, after Smith and Down (1979), and Holst (1997); it is endemic to the Neotropics, with about 200 species, of which 19 were reported for the Venezuelan Guayana (Holst, 1997). The species of this genus are terrestrial, lithophytic or epiphytic, generally stout, with a rosetted habit, leaves with spiny or saw-like margins, elongated scape, generally with colored bracts and small showy flowers arranged in simple or compound inflorescences, sepals free or united, asymmetric, mucronated, petals free and equal, inferior ovary, fruit a berry. Smith (1971) in his monography of the family Bromeliaceae in the Neotropics reported for Venezuela 200 genera and 274 species, 27 of them belonging to *Aechmea*.

Aechmea. bauxilumii was found while conducting a field research for the project Flora del Área de Los Pijiguaos (Flora of Los Pijiguaos Area), supported by the bauxite mining company CVG-Bauxilum, which is supporting plant collections in its operation area, as well as organizing a small herbarium. The rocks of the area include massive granitic outcrops of the batholith of Parguaza, of Precambrian age, whose weathering produced layers of bauxite, with acid, poor and very evolved soils. The area is located in the North-western border of the Guayana region, where three phytogeographic units join: the Caribbean, the Amazonian (Hylaea) and the Guayana regions (Huber & Guánchez, 1988; Huber, 1995).

1 Proyecto Biomedicinas del Bosque Tropical. Instituto Venezolano de Investigaciones Científicas (IVIC), Centro de Biofísica y Bioquímica. Carr. Panamericana km 11, estado Miranda, Venezuela. <afernand@ivic.ve>

Figure 1. *Aechmea bauxilumii* in its habitat in the wild. Photo by Luis Ruiz.

This new species grows on the wet evergreen forested slopes leading to the mining area, and is included in the tall to medium size, semi-caducifolious to evergreen forests reported by Huber (1995). The species grows in the border of the primary forest along the road, and is noticeable for the intense dark purple color of the scape bracts, and the non-bulbous shape habit of the plant.

Aechmea bauxilumii Ángel Fernández, sp. nov.

Type: Venezuela, Estado Bolívar, municipio Cedeño, Los Pijiguaos, entre el campamento de CVG-Bauxilum y la mina de bauxita, 6° 31' 05" N – 66° 44' 52" W, 80-620 msnm. 13-15 Oct. 2006, Ángel Fernández, Luis Ruiz, Bruno Manara 22958. Planta terrestre. Escapo 1 m de largo. Brácteas del escapo fucsia, frutos verde-amarillentos. Hojas verde grisáceo pálido. En laderas a orillas de la carretera en la vía a la mina. (Holotype VEN; Isotype SEL). Figs. 1, 2, 3.

Affinis A. castelnavii *Baker, sed differt: bracteis numerosioribus et angustioribus, saturatius purpureis, foliis mucrone reflexo (non ascendenti), habitu basi non bulboide.*

Plant stout, 1,3-1,5 m long. ***Leaves*** erect, curved at apex, acute to somewhat apiculated, lustrous green above, somewhat dull below, 60-70 cm long, 6,4-7 cm wide, leaf sheath 11,5-12 cm long, glabrous, margins with dark antrorse, straight or retrorse thorns to 5 mm long, leaf apex with a reflexed mucro. ***Scape*** erect, 1,20-1,30 m long, 1 cm wide in the middle, glabrescent in the youngest portion; ***Scape bracts*** narrowly elliptic to narrowly triangular, dark purplish, 10,2-13,5 cm long, 3-3,4 cm wide, the lowest ones more or less applicate and enveloping, the upper ones reflexed, longer than the internodes, margins with thorns 2-2,5 mm long. ***Infructescence*** paniculate, elongated, conical, 9,5 cm in the widest portion, with fruiting branchlets 4, 2-5 cm long, minutely puberulent; ***floral bracts*** flat in the base of the fruit, 3 mm long, ca. 4 mm wide, ***sepals*** 3, persistent, equal, 1,5-2 mm long, with longitudinal nerves, soon twisted leftward, upper mucronate, asymmetric, winged in the right lobe, clearer than the fruit; ***Berries*** sessile, 15 mm long, 4-7 mm wide and somewhat longitudinally striate when dry, minutely puberulent, scale-like hairs, dull yellow. ***Seeds*** elongated.

Figure 2. *Aechmea bauxilumii*, detail of the scape. Photo byLuis Ruiz.

Due to the compound infructesence, with sub-sessile fruits, the flat floral bracts, the sepals almost free and apically armed, *Aechmea bauxilumii* belongs to the subgenus *Aechmea*. For its panicled erect inflorescence and its mucronate sepals it looks related to *A. castelnavii*, but at first sight both the living plant of *A. bauxilumii*, as well as the dry material from *A. castelnavii* for its terrestrial habit, the non bulb-shaped leaf base, the greater number of bracts of the scape, and their narrowly triangular shape and dark purple color (against the fewer, pink, wider and concave ones of *A. castelnavii*), for its looser frutescence and the down looking apical mucro of the leaves, as can be seen in figures 3 and 4.

This species is known only from its type collection. In addition the area was accidentally burned.

This new species is dedicated to the mining company CVG-Baxilum for encouraging botanical research of the area below its responsibility, supporting the elaboration of a plant checklist of this little known portion of Guayana, which is biologically interesting and apparently with a great biodiversity, and for its efforts in recovering the areas spoiled due to the mining activity.

Acknowledgements

We thank CVG-Bauxilum for allowing us to share in the botanical collections for the Flora del Área de Los Pijiguaos project, to the Ing. Luis Ruiz, who leads the project and was co-collector of *A. bauxilumii*, together with Prof. Bruno Manara, who prepared the latin diagnosis and the drawings for this article, and Bruce Holst for his comments about the taxon here described.

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Encholirium 'Angelita'

Geoff Lawn, BSI Cultivar Registrar

It's not unusual for some species to circulate in cultivation for some years prior to being officially described from the wild. Some specimens escape botanists' attention entirely because the taxon in question cannot be relocated in habitat. In this situation, registering a cultivar name is desirable in this interim period as a temporary link for identification purposes. Only in exceptional cases such as Neoregelia 'Fireball' does this become a permanent solution.

Encholirium 'Angelita'
Photo by Terry Couthard.

In the late 1990s. Louisiana grower Terry Couthard raised a seedling batch of an unknown Dyckia from the BSI Seed Bank. One seedling matured enough to flower at an astounding 5 months old, but enquiries failed to positively identify it. This miniature matures at 10cms. diameter and pups easily, with a simple upright spike to 30cms. tall of yellow bell-like flowers . Several years later one learned suggestion was that it was a bigeneric, namely X *Dylirium* (Dyckia x Encholirium), but then Tropiflora Nursery in Sarasota, Florida announced that it had a uniform batch of self-set seedlings ready for release, which indicated this mystery plant was indeed a species which later proved breeds true to type .

In September, 2003 Terry Couthard registered this Dyckia as D. 'Angelita' until such time as it is botanically described. Brazilian botanist Rafaela Forzza decided two Dyckia species, *D. biflorum* and *D. heloisae* were better treated as Encholiriums in her 2001 Doctorate. This meant that all remaining Dyckia species had lateral flowering, a treatment nobody has challenged yet.

However, *Dyckia* 'Angelita' has terminal blooming spikes, so in March, 2009 (Uncle) Derek Butcher registered this distinctive "cultivar" as *Encholirium* 'Angelita', but there is a commentary link in the Bromeliad Cultivar Registry to the former name. .

Aechmea roeseliae in Cultivation

Photos by Eric Gouda.

Harry Luther advised us that *Aechmea roeseliae* is a small understory epiphyte from Eastern Ecuador (Napo area), related to *A. contracta* and *A. abbreviata*, and very cold tender. Eric Gouda obtained the plant shown here from Reginald Deroose (info@derooseplants.com), who grows this species in a warm greenhouse.

Aechmea roeseliae flower (above) and habit (left).

Controlling Greenhouse Heating

Andrew Flower, BSI Editor.

When I started growing bromeliads, orchids and cacti in the 1960's, our climate in Wellington necessitated providing additional heating to maintain most of the plants in my collection. In those days, all the growers I was in touch with used the same basic control system: a thermostat that turned on the heating whenever the temperature fell below the temperature you set it to. Twenty five years on, I moved on to a new home and built new greenhouses and decided it was time to do something about the heating arrangements. Tillandsias were now my main interest, and I decided that our winter climate was less than ideal, because the bromeliads were not getting a sufficient daytime temperature lift.

Despite heating my main growing-on house to a minimum 11°C (52°F) we had lengthy spells of cold cloudy weather where the daytime temperature never got higher than 11°C. It seemed that the plants needed more than just a minimum temperature, so I set up a system that gives a decent daytime temperature lift during day-long cold spells. Otherwise, on these dull days the heated house would flat-line at 11°C all day.

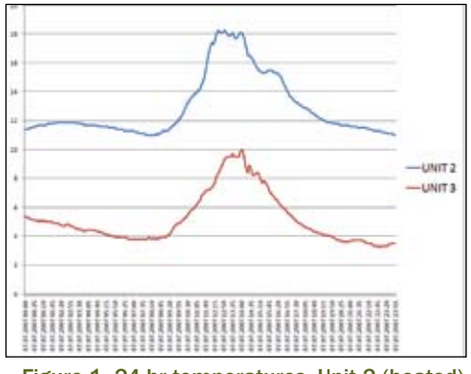


Figure 1. 24-hr temperatures, Unit 2 (heated) and Unit 3 (unheated) July 7, 2007

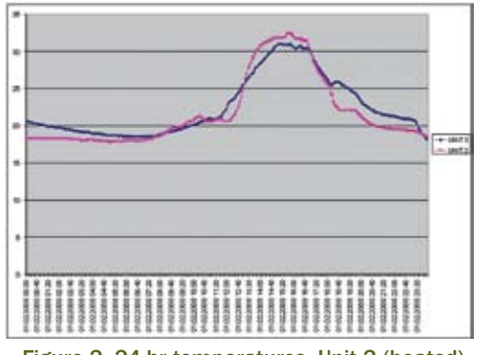


Figure 2. 24-hr temperatures, Unit 2 (heated) and Unit 3 (unheated) February 1, 2008

The solution had to lie in a thermostat that could set a number of different temperatire levels over a 24-hour period: leaving aside high-priced commercial controllers, the only thing I could find in the $300-400 range was a thing called a "7-day Chronotherm" (fig. 3) operates on a 7 day cycle, allowing up to 6 different temperature settings each day. Make and model: Honeywell T6651.

Using this device, I was able to get a decent temperature-rise on cold, overcast days, see example in Fig 1 (our mid-winter) where the heated Unit 2 on top line reached 18°C and the unheated house, Unit 3 bottom line, only briefly reached 10°C. By comparison, during our summer when no heating is required, the same two units had virtually identical temperature patterns through the day - see fig. 2.

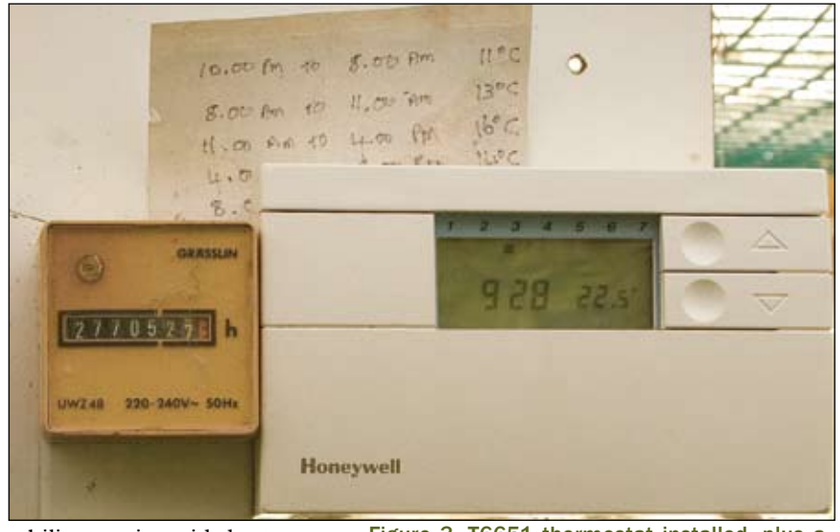


Figure 3. T6651 thermostat installed, plus a counter to record Kw hours electricity used.

The ability to raise mid-day temperatures using the multi-switching thermostat has resulted in significantly improved tillandsia growth over winter (Unit 2 is a growing-on house for seedlings).

From 10:00pm through 8:00am minimum temperature is set at 11°C; 8:00am thru 11:00 set at 13°C; 11:00am thru 4:00pm 16°C; 4:00pm thru 8:00pm set 14°C; 8:00pm thru 10:00pm set at 12°C.

Other 7-day thermostats I saw on the internet are the Ferroli TP99 and TG44.

Call for Nominations for the Wally Berg Award of Excellence

Theresa M. Bert

Introduction

The Wally Berg Award of Excellence was initiated in 1999 to honor the late Wally Berg (1927-2000) of Sarasota, Florida. Wally and his wife Dorothy were extraordinary bromeliad growers. Their private collection was one of the most diversified and unique in the world. The garden-and-waterfall setting of their bromeliad gardens was magnificent and immaculate. Wally was an enthusiastic supporter of the BSI. He donated many rare plants for sales and auctions that benefited the BSI, the Bromeliad Identification Center at Selby Botanical Gardens, research on the "Evil Weevil", and other worthy causes. He volunteered many hours of service at Selby Gardens. He had a broad knowledge of bromeliad horticulture and science and frequently spoke to bromeliad societies on a variety of topics, especially about his adventures exploring and collecting bromeliads in Central and South America. Wally also served the Sarasota Bromeliad Society by holding many offices and donating plants for the society's activities and sales. He introduced several *Aechmea* taxa into culture and created several hybrids. He frequently won top awards, including Best in Show at World Bromeliad Conferences and at Florida local and regional bromeliad shows. For his contributions to the "bromeliad world," a number of bromeliad species were named for him.

For a more information about the BSI Wally Berg Award of Excellence, see http://www.bsi.org under Judging and Awards. Some of Wally and Dorothy Berg's achievements and adventures are featured on the Florida Council of Bromeliad Societies' website: http://fcbs.org under Photo Index--Programs--see "Berg Cage" and "Bromeliads in Habitat."

Following are the award criteria and procedures for nomination. Individuals, couples, or members deceased within the past two years, are eligible. Nominees must be past or present members of the BSI and nominators must be present BSI members in good standing.

Award Criteria

The individuals must be past or present members of the BSI.

The individuals should be bromeliad growers who are nationally or internationally recognized for diversity of species cultivated and excellence of cultivation.

The individuals should actively pursue one of the following activities:

collecting and identifying bromeliads in natural environments, including collecting new species/varieties/cultivars; the members of the various bromeliad societies and organizations, including the BSI and the BIC, should benefit from this activity; promoting the appreciation and cultivation of bromeliads at the international level,

including such activities as organizing and participating in collecting trips with international representation, giving presentations and seminars to national and international audiences, and writing manuscripts for publication in national or international books, journals, or other media (e.g., Internet, CD ROMS).

The individuals should actively support efforts to further the scientific, taxonomic, or cultural understanding of bromeliads through donation of time, effort, or money to recognized organizations, institutions, or groups of individuals (e.g., the BSI, BIC, Selby Botanical Gardens, bromeliad clubs or councils).

The individuals should be active in a local, regional, or national bromeliad society and be recognized by other members of that society for their contributions to the functioning of that society and its activities.

If the individuals are bromeliad hybridizers, they should be internationally recognized for excellence in one or more of the following categories: innovation in creating bromeliad hybrids, success in cultivation of bromeliad hybrids, promotion and distribution of bromeliad hybrids.

The individuals should be generally recognized as experts in one or more of the following aspects of bromeliads: ecology, evolution, or taxonomy, cultivation or hybridization, display or exhibition.

The individuals should be generally recognized for their generous nature in sharing knowledge of bromeliads and for personal giving for the benefit of other people interested in bromeliads and for bromeliad organizations at all levels.

Procedures for Nomination

Nominators must be present members of the BSI.

The nominator should submit the nomination in writing, preferably by electronic mail. The nominator should provide a brief resume of the accomplishments of the nominee(s) in bromeliad-related activities (e.g., service, offices held, major awards won) and a letter describing the way in which the nominee(s) meets at least four of Criteria 2-8 listed above.

Past nominees may be re-nominated if they meet the current award criteria. Previous award winners are ineligible for re-nomination.

Please send nominations to Theresa Bert, 9251 13th Ave. Cir. NW, Bradenton, FL 34209-8305. E-mail: Theresa.bert@myfwc.com or (because some messages are inadvertently blocked) webmaster@bsi.org. Thank you.

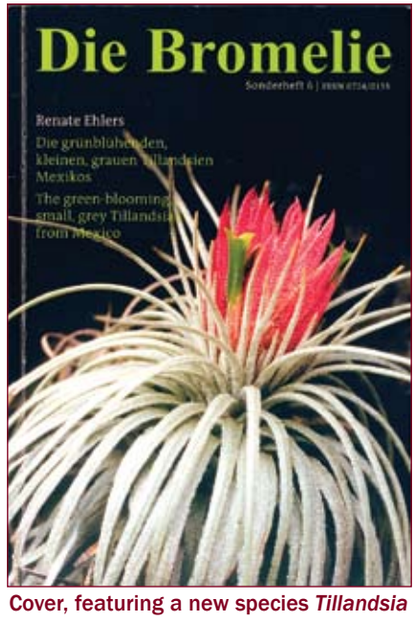
**** Nominations must be received by *April 1, 2010* ****

The winner's name will be published in the BSI Journal and posted on the BSI website. The winner or his/her representative will receive the award at the 2010 BSI World Conference in New Orleans, Louisiana, USA. One award is made every two years, at each BSI World Conference.

Book Review

Bob Reilly

The Green-Blooming, Small, Grey Tillandsias from Mexico by Renate Ehlers, published by Deutsche Bromelien-Gesellschaft e.V. in 2009. The English translation was done by Derek Butcher and Dr. Klaus Eistetter. (The book's complete text is in both English and German). The book is 144 A5 pages and has over a 100 excellent, colour photographs. Maps illustrating the distribution of the tillandsias covered in the book are also provided.



Cover, featuring a new species *Tillandsia grandispica*. Photo of cover by Andrew Flower.

The tillandsias' range and natural growing conditions form the opening component of the book. Information on growing conditions is particularly useful, as it provides insights as to how best to grow the plants in cultivation.

Renate describes the botanical inter-relationships between the various species which have strong linkages to *Tillandsia plumosa* and then provides botanical descriptions, habitat information, and growing tips (for German growing conditions) for the following species: T. *plumosa, atroviridipetala, atroviridipetala v. yagulensis, atroviridipetala v. longepedunculata, mauryana, mauryana fo. secundifolia, ignesiae, caballosensis, grandispica, boqueronensis, penasconensis, teloloapanensis, lepidosepala, tortilis and curvifolia.* (The species underlined are botanically described for the first time).

In all cases, there are excellent, close-up, colour photographs of flowering plant(s) of these tillandsias. Habitat photographs are also often provided. The book concludes with distribution maps, a botanical key, list of references, and acknowledgements.

This book is similar in style to *The Tillandisa Tectorum Complex* by Leiselotte Hromadnik. (It was published in 2005 by the same publisher).

This book is worth reading by anyone interested in bromeliads. If you are a tillandsia collector, it is well worth buying.

Bromélias: Oil on Canvas.

Márcia Valle Ribeiro de Oliveira[1]. Illustrations by the author.

Bromelia serra.

I was born in the state of Minas Gerais in a small town named Rio Novo. Ever since I was a small child, I was familiar with paints and brushes, as my mother always enjoyed painting. As such, when I was 13–in 1971–I took a few classes with an Italian nun who worked at the school that I attended. After that, I never stopped again. I sold my first painting at age 15. I graduated in journalism from Federal University in the city of Juiz de Fora. This is a large city with approximately half a million inhabitants. Despite being an important industrial center it is also known as a center for regional culture where all the arts are valued. When I was 25 I had my first exhibition of drawings (graphite) and paintings. One year later–in 1984–I had another individual exhibition this time with drawings only.

In 1985, my husband was assigned to work for 3 months at a town along the coast in southern Bahia state. We ended up being there for 13 years! In this place, a small fishing village named Caravelas, bromeliads grow in the sand under strong sunlight. While there I taught painting for 12 years. I also taught myself to sew during this time. In 1996, I did an individual exhibition of paintings (watercolor and oils) with the sea as the theme.

1 Juiz de Fora–MG, Brasil, marciavalle2001@yahoo.com.br

Edmundoa lindenii.

Orthophytum pictum.

Neoregelia cruenta.

Nidularium atalaiense.

In 1998, we returned to Juiz de Fora. There I combined my sewing skills with my artistic vision and started a career in fashion design. I currently produce made-to-order accessories and bridal costumes on exclusive basis. Recently, I began teaching painting again–holding oil on canvas classes once a week.

I have always admired Impressionist painting. I used to try painting that way but I ended up including too many details, using thin brushes, and escaping from the style. Because of that, I decided to let my hands "do whatever they wanted", and they led me to the Realist style. Now, I am very happy with the choice.

Regarding bromeliads as subjects, while flipping through a magazine, I saw a beautiful *Orthophytum burle-marxii*, and decided to paint it. I wrote to the photographer, Araquém Alcântara, a great photographer of Brazilian nature. He approved my idea, and authorized me to use his picture as model. When I finished that painting, I started to look for other bromeliads through the Internet and I also took my own pictures. After a little over two years, I feel that now is the right time to show the results of all my efforts. I would like to highlight that BSI's website was a great source for my research and the amazing support you all gave me was also extremely helpful. I also must mention Mr. Elton Leme, the renowned researcher and taxonomist from Brazil, who offered me important information on the theme.

Orthophytum burle-marxii.

***Nidularium* 'Amabilis'**

Bromeliad Society Of New South Wales Autumn Show, May 2009 .

Howard and Debbie Martin, BSNSW Editors.

With a change of our President and Secretary and the dramatic financial downturn of recent times, some of us were a little nervous before the show! The mad Saturday rush started with a bus-load of 65 friends from the Central Coast and Hunter Valley Bromeliad Societies arriving at 8:30am, and with the regular bromeliad enthusiasts it proved to be a very hectic morning only easing at noon when our visitors departed for lunch.

Congratulations to Alice Williams for her *Tillandsia tectorum* which won Grand Champion, Best Specimen and Best Tillandsia in Show. Alice has grown this plant for about ten years and it has yet to flower. She has another *T. tectorum* about 15" (40cm) that also hasn't flowered (is this usual? her other varieties have flowered normally.)

Other noticeable exhibits were 'The Bromeliad Bug' from Donna La Surdo, best Decorative Arrangement with Embellishment, and Neoregelia 'HDT 4606' (unreg) bred by Howard, Debbie & Tamara Martin. With more entries in Novice than usual, some exceptional plants were shown. Peter Lowe's *Tillandsia xerographica* in bloom won Best Bromeliad and Best Tillandsia and Dianne Cowgills won a first place with a beautiful mound of *Deuterochnia brevifolia*.

Neoregelia 'HDT 4606' (unreg).

"The Bromeliad Bug"

Thanks must go to our judges Eileen Killingly and Richard Cornale, and to all of our reliable helpers who helped make the Show a success.

Our Autumn and Spring Shows are always a very positive experience that promot these special and beautiful plants to the public.

EVENTS CALENDAR

Australia

May 1-2, 2010. Bromeliad Society of Australia Autumn Show. First floor, Burwood RSL Club, 96 Shaftesbury Road, Burwood, NSW. Free Entry.

United States of America

April 17-18, 2010. Sarasota Bromeliad Society Annual Show and Sale at Marie Selby Botanical Gardens 811 South Palm Avenue, Sarasota, Florida 34236. 10am to 4pm each day. Bromeliad sales each day and noon-5pm Friday April 16. Contact Theresa M. Bert 941-795-6012 for information.

May 1-2, 2010. La Ballona Valley Bromeliad Society 55th Annual Show & Sale at the Culver City Veteran's Memorial Complex, 4117 Overland Ave., Culver City CA. Sat 12-5:00 and Sun 10-4:00. Free admission and parking, contact Don Misumi 323-2949830 or dgmisumi@aol.com. Sales plants from members and vendors.

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* ● *lueddemanniana v. variegata* ● *mulfordii* ● *recurvata* ● *smithiorum.*
Alcantarea imperialis green form Billbergia rosea. Deuterocohnia brevifolia.
Fosterella penduliflora ● *Guzmania membranacea* ● sanguinea
Hohenbergia stellata ● Neoregelia *pascoaliana Pepina caricifolia.*
Pitcairnia altensteinii ● *atrorubens. Portea petropolitana v. extensa.*
Tillandsia capillaris f. hieronymi ● *gilliesii* ● *stenoura* ● *utriculata*
Ursulaea macvaughii
Werauhia sanguinolenta

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

to: **Send orders & make checks payable 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.

Members-only web site access: **username:** your bsi membership number (this is printed in the first line of your journal mailing label) **password:** bsi