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Back Cover: Inflorescence of *V. guttata*. Article on page 232.

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Revision of the Lithophytic *Vriesea* Species from Minas Gerais State, Brazil - Part V: a new species from Grão Mogol State Park and rediscovering *Vriesea segadas-viannae*

Elton M. C. Leme[1]

Figure 1. General view of the "Campos Rupestres" habitat of *Vriesea portentosa* in Grão Mogol State Park, northern of Minas Gerais.

In the study sequence of the lithophytic *Vriesea* of Minas Gerais State, a new species from the Grão Mogol State Park is described and the mysterious *V. segadas-viannae* L.B.Sm. is presented after rediscoreved in the region of Serra do Lenheiro, São João Del Rey. Concerning the new species, its discovery is the result of a systematic survey, with field expeditions carried out in 2007 and 2008, under the support of the Instituto Estatual de Florestas of Minas Gerais (IEF-MG). The first conclusions of this field investigation (i.e., the description of *Orthophytum graomogolense* Leme & Paula and *O. piranianum* Leme & Paula), as well as more information on this State Park are available in Leme (2008).

Vriesea portentosa Leme. nov. **Type**: Brazil, Minas Gerais, Grão Mogol, P. E. Grão Mogol, Trilha da Tropa, ca. 1,195 m elev., 16º32.21'S 42º55.22'W, 22 June 2008, *E. Leme 7443*, *C.C.Paula, T.Coser, R. Moura* & *O.Ribeiro* (Holotype: RB. Isotype: HB)

A *V. nanuzae* Leme, cui affinis, foliis plus numerosis, suberecto-arcuatis, laminis foliorum longioribus apicem versus virido-purpureis, apiceque breviter apiculatis, bracteis scapalibus infernis quan internodia superantibus, ramis lateralibus longioribus

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pedunculis bibracteatis, bracteis floriferis majoribus et petalis majoribus appendicibus basalibus acuminato-caudatis differt; a *V. medusa* Versieux, cui proxima, inflorescentia longiora, bracteis floriferis majoribus, virido-purpureis, floribus longioribus et petalis anguste ellipticis distincte majoribus, basi 5-6 mm connatis differt.

Plants often saxicolous, sometimes terrestrial in sandy soils or accidentally epiphytic, flowering ca. 2.7 m high. ***Leaves*** ca. 36 in number, densely rosulate, forming a broad crateriform rosette; ***sheaths*** broadly ovate, ca. 17 x 16 cm, densely and minutely brown lepidote mainly abaxially, dark castaneous toward the base on both sides, coriaceous; ***blades*** sublinear, 30-40 x 9.5-10 cm, not narrowed at the base, suberect-arcuate, apex rounded and shortly apiculate, greenish-purple toward the apex, with inconspicuous darker green irregular cross-veins by transmitted light, coriaceous, sparsely and inconspicuously white-lepidote, covered by a conspicuous layer of white wax forming sometimes broad and irregular crossbands. ***Scape*** stout, ca. 145 cm long, 1.4-1.8 cm in diameter, erect, glabrous, dark purple, smooth; ***scape bracts*** the basal ones subfoliaceous, the upper ones narrowly to broadly ovate, acute and apiculate, 7-11 x 4.5-5 cm, erect and enfolding the scape with a suberect apex, exceeding to distinctly shorter than the internodes, dark purple, inconspicuously and sparsely white lepidote and covered by a thin layer of white wax. ***Inflorescence*** paniculate, laxly bipinnate, ca. 95 cm long, erect; ***primary bracts*** resembling the upper scape bracts but smaller, suborbicular, subacute and shortly apiculate, 4-6 x 3.5-4.5 cm, dark greenish-purple, distinctly shorter than

Figure 2. The holotype specimen being collected by the botanists Ricardo Moura (just bellow the plant) and Thiago Coser (standing). Photo Otávio Ribeiro.

Figure 3. Holotype of *Vriesea portentosa* which flowered in cultivation.

the stipes, bearing inside a glutinous substance; ***branches*** ca.7 in number (including the terminal one), the lateral ones 35-45 cm long, suberect-ascending, densely flowered at the anthesis, 15 to 19-flowered, stipes 10-12 cm long, ca. 0.8 cm in diameter, slightly complanate, dark purple, glabrous, bearing ca. 2 sterile bracts from shorter to equaling the internodes, dark greenish-purple, the terminal branch ca. 55 cm long, ca. 22-flowered, stipe ca. 20 cm long, straight, bearing ca. 4 sterile bracts slightly shorter than the internodes, ecarinate; rachis flexuous, 1.5-2 cm long, 0.6-0.8 cm in diameter, greenish-purple, glabrous, slightly angulose; ***floral bracts*** broadly ovate to suborbicular, 32-35 x 30 mm, apex obtuse, greenish and irregularly tinged with purple as well as bearing purple spots, inconspicuously and sparsely white lepidote inside, glabrous and lustrous outside, not completely enfolding the sepals and about equaling 1/2 of its length, distinctly convex, unilaterally secund with the flowers, ecarinate. ***Flowers*** distichous, nocturnal, garlic-scented, distinctly secund at the anthesis, densely arranged at least in the beginning of the anthesis, 79-82 mm long, pedicels stout, ca. 14 mm long, 10-12 mm in diameter at apex, green, glabrous; ***sepals*** elliptic-obovate, apex rounded, 35-36 x 18-20 mm, inconspicuously white lepidote inside, glabrous outside, free, ecarinate, green, coriaceous and thick mainly toward the base; ***petals*** narrowly elliptic, apex narrowly emarginate, ca. 65 x 25 mm, yellow, connate at base for 5-6 mm, forming a campanulate corolla 40 mm in diameter at apex, bearing at base 2 sublinear-lanceolate, acuminate-caudate, 14 x 2-2.7 mm appendages adnate to the petals for 5-6 mm; ***stamens*** included; ***filaments*** complanate and dilated toward the apex, pale yellow, adnate to the petals tube and freen above it; ***anthers*** linear, ca. 13 mm long, base sagittate, apex obtuse, fixed near the base; ***style*** about equaling the petals; ***stigma*** convolute-bladed, densely papilose, yellow, ca. 2.5 mm in diameter; ***Ovules*** long caudate.

Figure 4. Details of the inflorescence of *Vriesea portentosa*.

This new species is morphologically related to *V. nanuzae*, but differs from it by the more numerous (ca. 36 vs. ca. 20 in number) and suberect-arcuate (vs. suberect) leaves, longer leaf blades (30-40 cm vs. 25-30 cm long) which are greenish-purple toward the apex (vs. red toward the apex), with apex shortly apiculate (vs. distinctly apiculate), basal scape bracts exceeding the internodes (vs. shorter than the internodes), longer lateral branches (35-45 cm vs. 12-18 cm long) bearing stipes with 2 sterile bracts (vs. naked), larger floral

Figure 5. Close up of the flower of *Vriesea portentosa*.

Figure 6. Terrestrial habit of *Vriesea portentosa* in sandy soils among the rock outcrops.

bracts (32-35 x 30 mm vs. ca. 17 x 18 mm), and by the larger petals (ca. 65 x 25 mm vs. 45 x 20 mm) with acuminate-caudate basal appendices (vs. acute to bidentate). On the other hand, *V. portentosa* can be compared to *V. medusa* Versieux, differing by the longer inflorescence (ca. 95 cm vs. ca. 50 cm long), the larger floral bracts (32-35 x 30 mm vs. 18-29 x 19-30 mm), which are greenish-purple (vs. purplish-castaneous), longer flowers (79-82 mm vs. ca. 53 mm long) which are comparatively more sparsely arranged, and by the narrowly elliptic (vs. narrowly obovate-spatulate) and distinctly larger petals (ca. 65 x 25 mm vs. 39-45 x 15-19 mm), connate at base for 5-6 mm (vs. free).

Vriesea portentosa usually lives as a saxiculous, sometimes as terrestrial in sandy soils or seldom as an accidental epiphyte species in the higher elevated parts, about 1,200 m, in the "Campos Rupestres" vegetation, inside the limits of the Grão Mogol State Park, situated in the northern region of Minas Gerais. It forms a sparse population with few specimens spread over the area, growing side by side with other bromeliad species like a broadly leafed form of *Aechmea bromeliifolia* (Rudge) Baker, a red leaf form of *Neoregelia bahiana* (Ule) L.B.Sm and *Vriesea oligantha* (Baker) Mez. As far as known, *V. portentosa* is an endemic species of the northern part of the Espinhaço range, while its closer relatives, *V. nanuzae* and *V. medusa* are endemic from the central part of the Espinhaço range, at the Diamantina plateau, distant ca. 200 km southwest in straight line. *Vriesea nanuzae* was originally described from the neighborhood of the Biribiri State Park (Leme, 1997) at the Diamantina region, being recently registered in the Rio Preto State Park, in the county of São Gonçalo do Rio Preto (about 35 km northeast of Diamantina in straight line), together with *V. medusa* (Versieux et al. 2010), which was originally described from the Pico do Itambé State Park (Versieux, 2008), at the county of Santo Antonio do Itambé, situated 42 km southeast of Diamantina or 52 km south of São Gonçalo do Rio Preto, in straight line.

The epithet of *V. portentosa* came from the Latin word "portentosus", meaning "portentous", "prodigious", "wonderful" or "monstrous", as a reference to its huge and showy stature when in bloom.

Vriesea segadas-viannae

L.B.Sm. *Smithsonian Misc. Collect. 126*: 35, 120, fig. 40. 1955. **Type**: Brazil, Minas Gerais, Serra do Cipó, Jaboticatubas, Palacios, ca. 1,200 m elev., 19º10'S 43º35' W, 28 Apr. 1952, *L.B.Smith 6755, F. Segadas-Vianna, L. Dau & T. Ormond* (**Holotype**: US).

Plant rupicolous, flowering 60-95 cm high, propagating by basal shoots and sometimes by abundant adventitious offsets. ***Leaves*** 14 to 20 in number, densely rosulate, nearly erect, thinly coriaceous, forming a narrow funnelform rosette; ***sheaths*** ovate-elliptic, 12-16 x 6.5-8 cm, subdensely and inconspicuously lepidote on both sides, greenish or purple adaxially; ***blades*** sublinear-lanceolate, slightly attenuate, 15-30 x 3.7-4.7 cm, not narrowed at base, apex acuminate-caudate, green to reddish, nerved, sparsely to subdensely and inconspicuously white-lepidote abaxially, glabrescent adaxially, margins involute toward the base and revolute near the apex mainly under water stress. ***Scape*** 30-45 cm long, 0.5-0.7 cm in diameter, erect, glabrous, greenish to red; ***scape bracts*** subfoliaceous, acuminate, erect except for the slightly suberect apex, partially enfolding the scape but not completely hiding it, distinctly shorter than the internodes, green to red toward the base. ***Inflorescence*** shortly paniculate, bipinnate, 17-44 x 7-9 cm, erect; ***primary bracts*** narrowly ovate-lanceolate to ovate, long acuminate-caudate to acute and apiculate, 40-70 x 18-22 mm, greenish to red toward the base, suberect, equaling to exceeding the stipes but distinctly shorter than the branches; ***branches*** 6 to 10 in number (including the terminal one and the abortive terminal flower), the lateral ones 8-15 cm long, erect or nearly so, laxly flowered at the anthesis, bearing 3- to 8-flowered, rachis flexuous, 1-1.7 x 0.2-0.3 cm, greenish-yellow to red, glabrous, angulose, distinctly exposed by

Figure 7. Close up of the flower of *Vriesea segadas-viannae*.

Figure 8. *Vriesea segadas-viannae* from Serra do Lenheiro, which flowered in cultivation.

Figure 9. Details of the inflorescence of *Vriesea segadas-viannae*.

the bracts even before the anthesis, stipes 2-3.5 x 0.3-0.4 cm, complanate, reddish, glabrous, naked (or bearing 1 to 2 sterile bracts according to the protologue), the terminal branch not notable distinct from the lateral ones, to 10-flowered; ***floral bracts*** ovate, 24-25 x 16-17 mm, apex acute and slightly incurved, greenish-yellow except for the basal ones sometimes reddish at the base, glabrous, nerved, almost completely exposing the sepals and about equaling 1/3 of its length, thin in texture, unilaterally suberect-secund, carinate toward the apex. ***Flowers*** distichous, anthesis diurnal, without any fragrance or odor, strongly secund at the anthesis, laxly arranged, 45-53 mm long, pedicels slender, ca. 8 mm long, ca. 6 mm in diameter at apex, green, glabrous; ***sepals*** narrowly obovate, apex obtuse-emarginate, (20-) 24-29 x 11 mm, glabrous outside, free, ecarinate, greenish-yellow, thinly coriaceou. ***petals*** sublinear, apex rounded-emarginate, 43-44 x 6 mm, greenish-yellow, connate at the base for ca. 3 mm, erect, forming a tubular, bearing at base 2 obovate, subacute, ca. 7 x 2 mm appendages adnate to the petals for ca. 3 mm; ***stamens*** included; ***filaments*** terete, pale yellow, adnate to the petals for ca. 3 mm anf free above it; ***anthers*** linear, ca. 5 mm long, base distinctly sagittate and apex obtuse, fixed near the base; ***style*** exceeding the anthers but shorter than the petals; ***stigma*** convolute-bladed, densely papillose, green, ca. 1 mm in diameter; ***ovules*** long caudate. ***Capsules*** unknown.

Figure 10. Details of the leaf apex of *Vriesea segadas-viannae*.

Material examined:

Brazil: Minas Gerais, São João Del Rey, Serra do Lenheiro, área de treinamento militar de montanha, lado sul da formação rupestre atrás da sede, 21º08.66'S 44º18.09'W, ca. 1,192 m elev. 31 July 2008, *E. Leme 7503* & *T. Trindade-Lima* (RB); ibidem, 21º08.59'S 44º17.94'W, ca. 1,188 m elev. 31 July 2008, *E. Leme 7506* & *T. Trindade-Lima* (RB, HB).

Vriesea segadas-viannae was originally described from the region of Palácios, Serra do Cipó, ca. 1,200 m altitude, without any habitat information, despite the collected site

Figure 11. Habit of *Vriesea segadas-viannae* at the summit of Serra do Lenheiro, São João Del Rey.

is dominated by vast areas of "Campos Rupestres" with portions of riparian forests. According to the type-specimen and another collection reported by Smith and Downs (1977), *V. segadas-viannae* was only known from the type-region. The type specimen deposited in the herbarium of the Smithsonian Institution (US) is in fruit stage, showing capsules and abundant plumose seeds, thus without preserved petals, which explains why the petal apparatus was not described in the protologue (Smith, 1955). Even so, it was morphologically associated in the protologue to *V. penduliflora* L.B.Sm., an epiphytic species from the Atlantic forest of the Mantiqueira range.

Figure 12. First sheet of the holotype of *Vriesea segadas-viannae* deposited in the herbarium of the Smithsonian Institution (US).

Recently, the original concept of *V. segadas-viannae* was profoundly altered by Coffani-Nunes et al. (2010), who explicitly associated it to *V. procera* (Mart. ex Schult. & Schult. f.) Wittm. and *V. vagans* (L.B.Sm.) L.B.Sm. and presented a line drawing which clearly portrayed something related to the *V. altodaserrae* L.B.Sm. group. This new interpretation is in frontal collision with the protologue of *V. segadas-viannae*, since they took into consideration distinct inflorescence structures. It is considered here a misidentification of the taxon.

During the investigation at the type locality of *V. saxicola* L.B.Sm at Serra do Lenheiro, county of São João Del Rey (Leme et al., 2010), a vegetatively unusual *Vriesea* population, with narrow and acuminate-caudate leaf blades, was found in post-floral stage, but the sampled specimens flowered in cultivation months later, revealing to be the mysterious *V. segadas-viannae*.

Vriesea segadas-viannae was found at Serra do Lenheiro as a rupiculous species under full sun exposure, where it assumes a reddish leaf coloration. It forms dense clumps with a very similar habit to its morphologically closer relative, *V. stricta* L.B.Sm., which is an endemic species from the region of Alto Palácios, Serra do Cipó (Leme, 1997). However, *V. segadas-viannae* differs from *V. stricta* by its general slender leaf and inflorescence conformation, due to its sublinear-lanceolate leaf blades (vs. sublinear), which are narrower (3.7-4.7 cm vs. 7-8 cm wide), bearing an acuminate-caudate apex (vs. acute and distinctly apiculate). Its inflorescence is also narrower (7-9 cm vs. ca. 14 cm in diameter),

Figure 13. Second sheet of the holotype of *Vriesea segadas-viannae* deposited in the herbarium of the Smithsonian Institution (US).

with primary bracts equaling to exceeding the stipes (vs. distinctly shorter than the stipes), branches erect or nearly so (vs. suberect), which are laxly flowered at the anthesis (vs. densely flowered), with more slender rachis (2-3 mm vs. 3-4 mm in diameter), narrower petals (ca. 6 mm vs. 10-12 mm wide) and subacute basal petals appendages (vs. obtuse), and by the included stamens (vs. slightly to distinctly exserted).

The new studied population is concentrated in the higher parts of the Serra do Lenheiro, sharing its habitat with some other bromeliad species already reported by Leme et al. (2010). Now, with this new population, the next research step is to locate *V. segadas-viannae* in its type locality in order to compare with the specimens of Serra do Lenheiro to establish eventual habitat and morphological variations.

Acknowledgments

We would like to thank the Instituto Estadual de Florestas de Minas Gerais – IEF-MG, for providing the research permit and logistical support for the investigation conducted in the Grão Mogol State Park. We are also grateful to the Director of Grão-Mogol State Park, Carla Cristina de Oliveira Silva, for her valuable support during field activities, as well as the botanists Claudio C. Paula, Otavio Ribeiro, Thiago Coser and Ricardo Moura for their support and companion during field work.

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Figure 14. Holotype of *Vriesea stricta* with immature inflorescence, the closer relative of *Vriesea segadas-viannae* deposited in the herbarium of the Smithsonian Institution (US).

Contributions To The Resolution Of The Core Bromeliodeae: The Case Of *Ronnbergia* E. Morren & André (Bromeliodeae: Bromelioceae)

Julian Aguirre-Santoro[1]

Introduction

In 1874, E. Morren and André described the genus *Ronnbergia* based on the discovery of *Ronnbergia morreniana*, a species with a unique appearance that did not resemble the other Bromeliaceae genera known at that time. In one of the first taxonomical treatments of Bromeliaceae, Mez (1956) proposed the combined presence of simple and lax inflorescences, asymmetrical sepals, and the absence of epipetal appendages as the diagnostic characters to differentiate the genus *Ronnbergia* from other genera within the subfamily Bromelioideae. Based on these simple criteria, 14 species have been described within this genus so far. The majority of species of *Ronnbergia* (10 spp.) are found in the rainforests of the northwestern regions of South America and Central America (Smith and Downs 1979, Manzanarez 2002). The remaining four species, recently described, are restricted to fragments of Atlantic rainforests in southeastern Bahia, Brazil (Leme 2003) (Figure 1). Due to the similarity between *Ronnbergia* and other groups in the subfamily Bromelioideae, such as *Aechmea,* it is likely that the geographic disjunction pattern of the *Ronnbergia* species is a result of erroneous taxonomic placement.

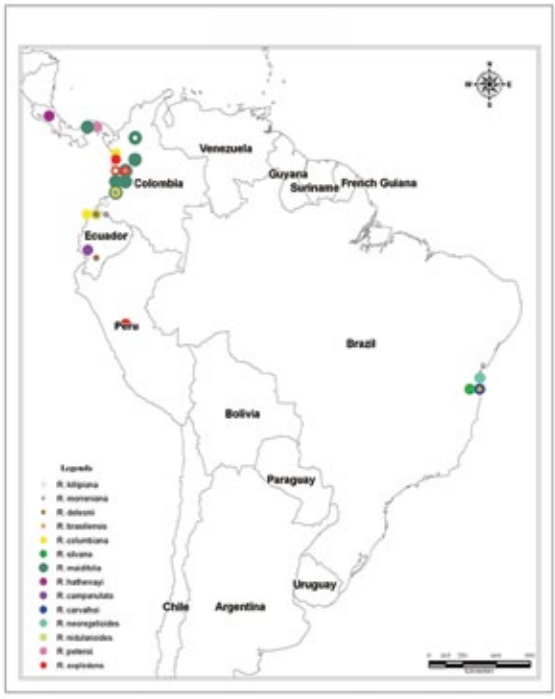

Figure 1. Geographic distribution of *Ronnbergia*.

In *Bromeliodeae* circumscribing genera has long been a problem due to the lack of a defining set of morphological characteristics (Smith and Downs 1979, Faria et al. 2004, Schulte et al. 2005, 2009). Several authors have attempted solutions by focusing their research on the phylogenetic value of traditional morphological characters used to delimit genera within *Bromelioideae* (e.g., Brown and Gilmartin 1984, Brown and Terry 1992, Faria et al. 2004, Sajo et al. 2004). These studies often called for redefinition of generic limits and promoted new taxonomical changes (e.g., Read 1984, Smith and Kress 1989, Smith and Spencer 1992, Brown and Leme 2005). Species of *Aechmea* subgenus *Pothuava,* and the "*Aechmea lingulata* complex" show strongest taxonomic and phylogenetic affinities with

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Ronnbergia (Smith and Downs 1979, Leme 2003, Leme and Siqueira Filho 2007, Aguirre-Santoro 2009). This correspondence, however, has not been supported in formal taxonomical treatments because the absence of epipetal appendages in *Ronnbergia* has traditionally isolated it from *Aechmea* (Mez 1956, Smith and Downs 1979).

In the last five years, several phylogenetic approaches have advanced our understanding of how *Ronnbergia* evolved. A highly-supported molecular-based study by Givnish et al. (2004) hypothesized that *Bromeliodeae* emerged from the same ancestor

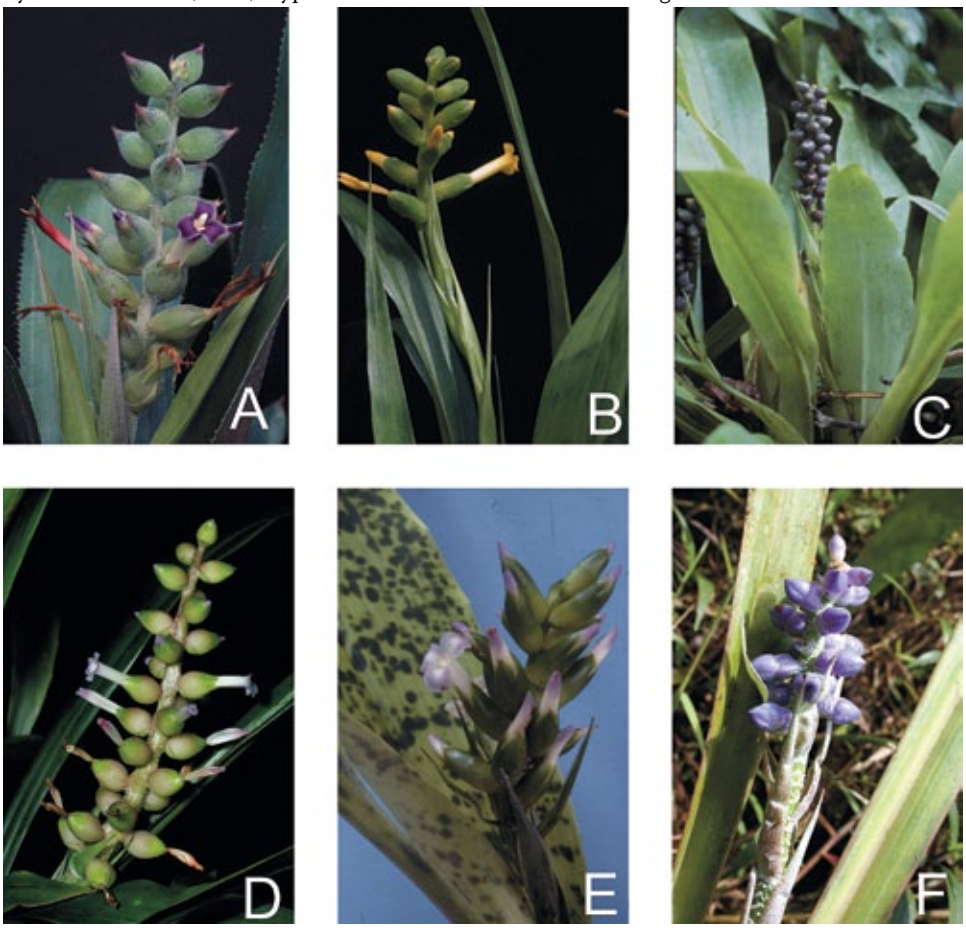

Figure 2. Species of the subgroup 1 of *Ronnbergia*. A. *Ronnbergia columbiana* (Vern Sawyer); B. *R. killipiana* (Vern Sawyer); C. *R. explodens* (T. Croat), D. *R. hathewayi* (Phil Nelson); E. *R. morreniana* (Vern Sawyer); F. *R. maidifolia* (J. Betancur).

as the largely Andean genus *Puya*. Faria et al. (2004) evaluated the unclear relationships and phylogeny of the conflictive genus *Aechmea,* based on morphological data. Their results showed the polyphyly of the genus and its close relationship with other genera like *Acanthostachys*, *Billbergia*, *Hohenbergia*, *Lymania*, *Quesnelia*, *Neoregelia* and *Ronnbergia*. Schulte et al. (2009) used molecular data to reconstruct the phylogeny of the subfamily. By showing that Bromeliodeae is a sister group of *Puya* and highlighting the basal position of Andean genera like *Greigia*, *Bromelia, Ochagavia*, *Deinacanthon* and *Fascicularia,* they

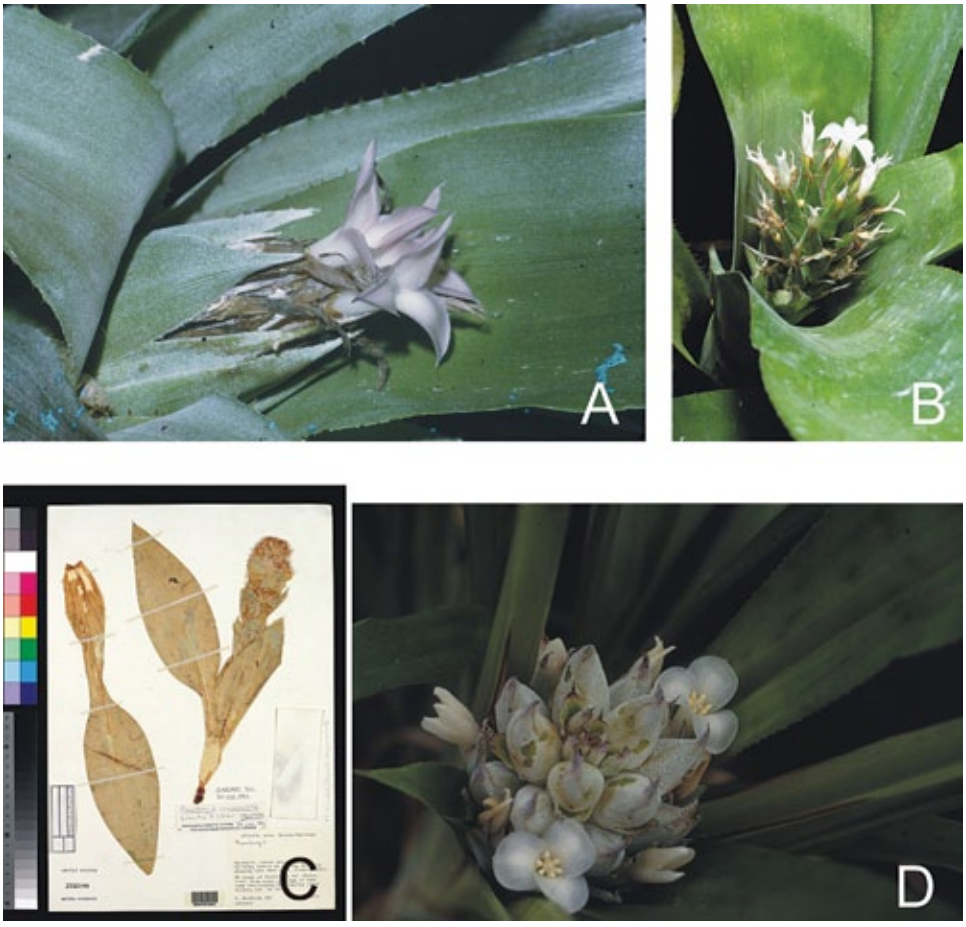

Figure 3. Species of the subgroup 2 of *Ronnbergia*. A. *Ronnbergia nidularioides* (Nat DeLeon); B. *R. petersii* (J. Aguirre-S.); C. *R. campanulata* (US herbarium), D. *R. deleonii* (Vern Sawyer).

confirmed *Bromeliodeae* likely has an Andean origin. They also suggested *Aechmea*-related genera (also called "core Bromelioids") evolved from an ancestral stock that migrated from the Andes to Central America and to cool, humid high altitude habitats of the Brazilian rainforest known as "campos de altitude". Subsequently, these taxa continued to diversify successfully in lowlands of southeastern Brazil. These studies have increased the resolution of the evolution of Bromeliodeae, however hypotheses of the relationships between "core Bromelioids" still remain unclear and poorly supported.

Classification changes will come with advancement of phylogenetic, developmental and morpho-anatomical studies in *Bromelioideae*, particularly within the genus *Aechmea* and related genera such as *Ronnbergia.* I hope to contribute to the understanding and resolution of *Ronnbergia*, with a project investigating phylogenetic relationships and taxonomy of this genus. Initially, I compiled the information from herbaria, living collections and literature sources in order to present a taxonomical review. Subsequently, I assessed the phylogeny and relationships of this genus with the remaining "core Bromelioids" through a combined analysis using external morphological data and

nucleotide sequences from three different regions of the chloroplast genome (*matK*, *trnL-trnF*, and *psbA-trnH*).

Results

Ronnbergia currently has 14 recognized species disjunctly distributed in two main geographical areas of tropical America. Ten species (*R. campanulata, R. columbiana, R. deleonii, R. explodens, R. hathewayi, R. killipiana, R. maidifolia, R. nidularioides, R. morrenina* and *R. petersii*) occur in three interconnected biogeographical areas in Central America and northwestern South America: Mesoamerican rainforest, biogeographic Choco, and northeastern Andean forests. A second range of distribution is represented by four species (*R. brasiliensis, R. carvalhoi, R. neoregelioides* and *R. silvana*) endemic to fragments of the Atlantic rainforest of southeastern State of Bahia, Brazil (Figure 1).

Morphologically, *Ronnbergia* can be subdivided in three different groups (Table 1). Subgroup 1 is represented by species from Central America and northwestern South

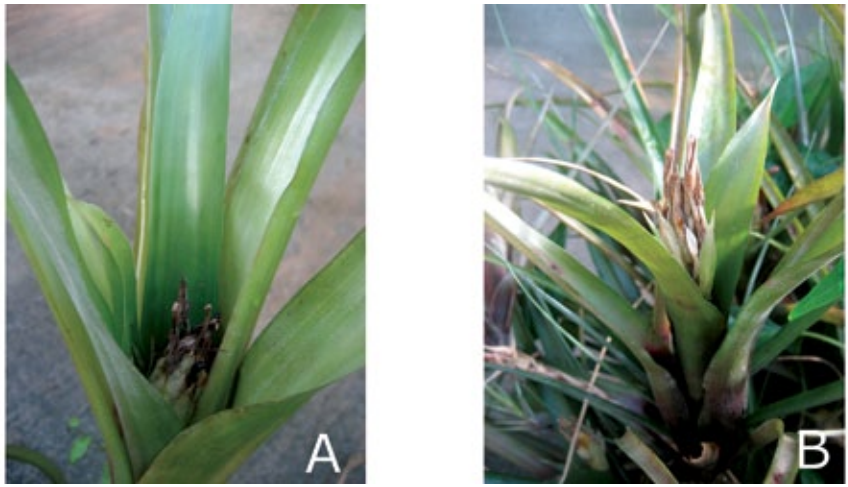

Figure 4. Species of the subgroup 3 of *Ronnbergia*. A. *Ronnbergia carvalhoi* (J. Aguirre-S.); B. *R. neoregelioides* (J. Aguirre-S.).

America with visible scape, slightly inclined and lax inflorescences, fleshy sepals when the fruit is ripe, and dark blue fruits (*R. columbiana, R. explodens, R. hathewayi, R. killipiana, R. maidifolia* and the type species of the genus; *R. morreniana*) (Figure 2). Subgroup 2 includes four species from Central America and northwestern South America with concealed scape, involucrate scape bracts, subcapitate and erect inflorescences, scape and floral bracts serrate, and generally yellow fruits (*R. campanulata, R. deleonii, R. nidularioides* and *R. petersii*) (Figure 3); Subgroup 3 includes the four Brazilian species of *Ronnbergia,* characterized by their entire and non-pseudopetiolated leaves, small and simple (rarely compound) subcapitate inflorescences (except *R. brasiliensis*), and small elliptic fruits (*R. brasiliensis, R. carvalhoi, R. neoregelioides,* and *R. silvana*) (Figure 4).

Coincidentally, definitions of the three subgroups of *Ronnbergia* match with the geographical distribution patterns and the diagnosis of some complexes of species within the genus *Aechmea*. If the absence of epipetal appendages were excluded as the diagnostic character to delimit *Ronnbergia,* it would be clearly possible to include species

from *Aechmea* subg. *Pothuava* and *Aechmea lingulata* complex within the three subgroups of *Ronnbergia*. Table 1 shows the species of *Aechmea* that clearly fit in those subgroups.

Table 1. Species and subgroups of *Ronnbergia*. The asterisk (*) refers to the non-*Ronnbergia* species that have close morphological affinities with the subgroups of *Ronnbergia*.

SUBGROUP 1	SUBGROUP 2	SUBGROUP 3
Ronnbergia columbiana	*Ronnbergia campanulata*	*Ronnbergia carvalhoi*
Ronnbergia explodens	*Ronnbergia deleonii*	*Ronnbergia neoregelioides*
Ronnbergia hathewayi	*Ronnbergia nidularioides*	*Ronnbergia silvana*
Ronnbergia killipiana	*Ronnbergia petersii*	**Ronnbergia brasiliensis*
Ronnbergia maidifolia	**Aechmea allenii*	**Aechmea amorimii*
Ronnbergia morreniana	**A. drakeana*	**A andersoniana*
**Aechmea tonduzii*	**A. fraseri*	**A. bicolor*
**A. aciculosa*	**A. involucrata*	**A. canaliculata.*
	**A. mariae-reginae*	
	**A. subpetiolata*	
	**A. weberbaueri*	
	**A. welfinghoffii*	

These results show that the similarities between *Ronnbergia* and *Aechmea* are conspicuous. For this reason, a phylogenetic study was conducted by combining DNA sequences (*mat*K, *trn*L-F, and *psb*A) and morphological data, in order to find the existence of the three subgroups of *Ronnbergia* and their relationships with *Aechmea* (Aguirre-Santoro 2009). Obtained phylogenetic hypotheses showed that *Ronnbergia* is a polyphyletic group, and all the species of *Ronnbergia* are related to *Aechmea* subg. *Pothuava* and *Aechmea lingulata* complex.

Within the phylogenetic tree, three subclades are clearly defined:

1) Subclade A is a monophyletic group defined as *Ronnbergia sensu stricto,* containing the type species of the genus (*R. morreniana*) and its related species (*R. columbiana, R. explodens, R. hathewayi, R. killipiana, R. maidifolia*);
2) Subclade B comprising *R. petersii, R. deleonii,* and *R. nidularioides* grouped with species of the *Aechmea* subg. *Pothuava* such as *A. allenii, A. drakeana, A. fraseri,* and *A. involucrata;*
3 Subclade C, formed by four Brazilian species of *Ronnbergia* and two species of the *Aechmea lingulata* complex: *A. lingulata* and *A. turbinocalyx.*

To date, the resolution and support of the nodes in the phylogenetic tree are not strong enough to propose taxonomical changes. In an effort to better define the relationships of *Ronnbergia* and *Aechmea,* new taxonomical and DNA data have been added to the last phylogeny of *Ronnbergia* and results will be published soon. I hope this research on *Ronnbergia* contributes to the efforts to identify natural complexes in the core Bromelioideae, so that further phylogeny-based classifications will be constructed based on adequate taxa sampling.

Acknowledgments

I thank Marie Selby Botanical Gardens, The Bromeliad Society International, The National Museum of the Federal University of Rio de Janeiro (UFRJ), and the "Conselho Nacional De Desenvolvimento Científico E Tecnológico/Df (CNPq)" for supporting my research on the taxonomy and phylogeny of *Ronnbergia*. I extend my gratitude to Tânia Wendt, Harry E. Luther, Bruce K. Holst, Julio Betancur, Jennifer Timm, Laura Clavijo, Alejandro Zuluaga and Ghennie Rodríguez for the guidance and support during this study. I also thank Julio Betancur, Vern Sawyer, Nat DeLeon, Phil Nelson, and the US herbarium for the photographs used in this article.

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Bromeliad Icons In Old Publications: Part 10

This article is a continuation of a series last published in JBS 61(4)

Leo Dijkgraaf

Figure 1. *Bromelia serra* Grisebach. Drawing A.V. de la Torre, Genera et Species Plantarum Argentinarum plate 24 (1945)

This instalment is dedicated to icons originating from Spain and Latin America. From these regions comes some interesting material that has never been published in print, left aside the occasional illustration in books on botanical art. Many drawings were made after plants collected by botanical expeditions and have only recently become available more widely by means of publication on internet.

Between 1783 and 1816 a very large expedition led by José Celestino Mutis has been undertaken in what is now Colombia and areas of adjacent countries. It was known as the *Real Expedición Botánica del Nuevo Reino de Granada*. The graphical result of this expedition was produced by many illustrators and amounts to thousands of predominantly colored plates on folio format which have been preserved in the archives of the botanical garden in Madrid. There are about 10 bromeliads among them, belonging to the genera *Puya, Pitcairnia, Racinaea* and *Tillandsia*. They can be viewed on the website of the Real Jardín Botánico at http://www.rjb.csic.es/icones/mutis/paginas.

Between 1787 and 1803 an expedition has been executed by Martin de Sessé and José Mociño in New Spain, a territory covering present day Mexico and Central America. About 1800 botanical subjects were illustrated and also many zoological ones. Some images, part of the so-called Torner collection, are added now to the catalogue of the botanical art collection of the Hunt Institute for Botanical Documentation. Some 10 bromeliads are included from the genera *Aechmea, Catopsis, Hechtia, Pitcairnia* and *Tillandsia*. The resolution on internet is low, but there is a CD for sale at the Hunt Institute with images in larger format. For more information see their website at http://huntbot.andrew.cmu.edu/HIBD/Departments/Art/Torner.shtml.

Now that I am dealing with digital resources: for those interested in old botanical books and magazines there is a wealth of information to be found in the digital libraries at http://www.botanicus.org and http://www.biodiversitylibrary.org.

Back to printed matter now.

Hipólito Ruiz and José Pavon were the authors of *Flora Perruviana et Chilensis*, in 3 volumes published in Madrid between 1798-1802. In volume 3 we find 17 black and white drawings of bromeliads (including several new species). A grand total of 325 engravings were made for this flora. Many illustrations were used by Lyman Smith in the monograph on Bromeliaceae for Flora Neotropica; this appplies also to the drawings depicted in the works treated hereafter.

Where the title of this article speaks of “old publications” and the publications treated untill now were from the 19th century, a work like *Genera et Species Plantarum Argentinarum* dated 1943-1956 seems out of place here. But as age is a relative concept and given the high quality of this production commisioned by president Juan Peron, it seems justified to give it ample attention. In 5 volumes (7 tomes) edited for the first 3 volumes by H. R. Descole of the Instituto Miguel Lillo and published in Buenos Aires, the plantspecies from Argentina are described and illustrated on folio format, 810 plates of which 156 in color. In volume 3 of the year 1945 the Bromeliaceae and some other families of plants are treated by Alberto Castellanos. The bromeliads are presented on 99 plates, 57 of them in color. Here is a selection of them.

Figure 2. *Tillandsia duratii* var. *saxatilis (Hassler)* L.B. Smith. Published as *Tillandsia decomposita* Baker. Drawing M.L. Valdez del Pino, Genera et Species Plantarum Argentinarum plate 96 (1945)

Bromelia serra (Figure 1) is a thorny stoloniferous species with leaves over 1,50 meter from the arid zones of Argentina, Bolivia, Brazil and Paraguay. It was described by Grisebach in 1879. From the same countries comes *Tillandsia duratii* var. *saxatilis* (Figure 2). Originaly it was called *Tillandsia decomposita* in Baker's Handbook of the Bromeliaceae. This is an epiphyte growing in dry woods, although the name of the variety suggests it is dwelling on rocks. The spikes of this plant are growing curved-spreading, as opposed to the erect form in the var. *duratii*.

Tillandsia australis (Figure 3) is a huge plant clinging to steep rocks in Argentina and Bolivia, where it has to endure periods of both dry and rainy weather. With its pending darkred colored inflorescence it measures about 2 meter. This species has long been known as *Tillandsia maxima*, but this name proved to be invalid as it was already in use for an obscure bromeliad from Central America. Also from Argentina and Bolivia is *Puya dyckioides* (Figure 4), a 40-70 cm high species growing on rock and sandy soil at higher altitudes.

Figure 3. *Tillandsia australis* Mez. Published as *Tillandsia maxima* Lillo & Hauman.Drawing A.E. Avila, Genera et Species Plantarum Argentinarum plate 74 (1945)

In part 8 of this series I already mentioned from Brazil the *Florae Fluminensis icones* authored by Vellozo. From the same country, but more than a century later, a number of drawings of bromeliads were published by Lyman Smith in *Arquivos de Botânica do Estado de São Paulo*. In the volumes 1 and 2 dated from 1941 to 1952, Smith published several articles titled *Bromeliaceas novas ou interessantes do Brasil* with the descriptions of many new species. The drawings were in black and white, only a few were in color, like that of *Aechmea distichantha* (Figure 5). This species of about 30-100 cm grows in different types of habitat as an epiphyte and also terrestrial in Argentina, Brazil, Paraguay and Uruguay.

This was the last part of this series dedicated to bromeliad icons, most of them from the 19th century and made with the techniques of lithography or engraving. Starting in the 20th century other methods of colorprinting became available and nowadays botanical artists mainly use watercolor or gouache to make illustrations. Particularly in Brazil there are many contemporary artists occupied with botanical art, following the the examplary work of the late Margaret Mee who became famous for her drawings of many Amazonian species.

Figure 4. *Puya dyckioides* (Baker) Mez. Drawing E. Chimale, Genera et Species Plantarum Argentinarum plate 53 (1945)

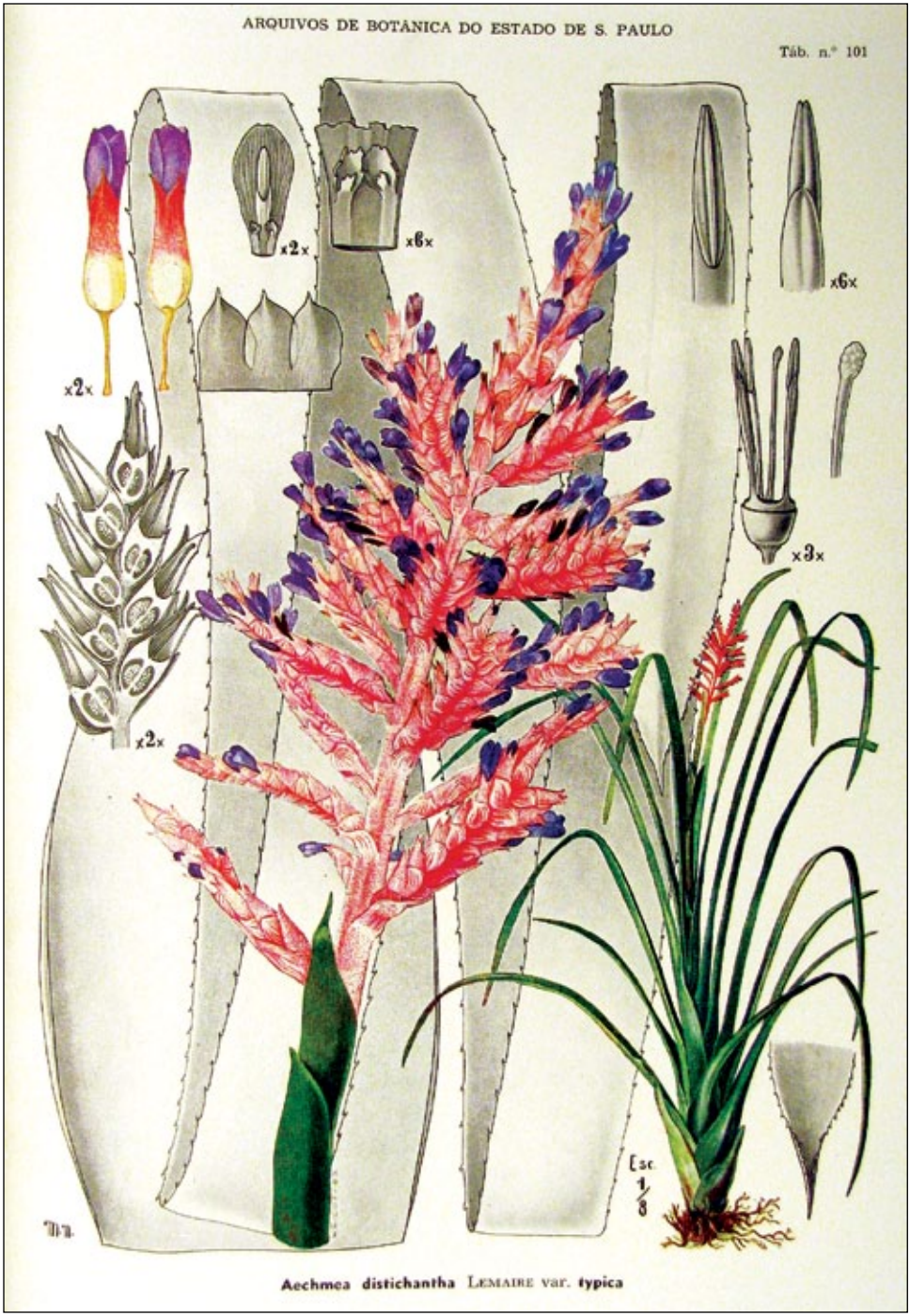

Figure 5. *Aechmea distichantha* Lemaire. Arquivos de Botânica do Estado de São Paulo vol.1 plate 101(1943)

Vriesea skotakii, A New Ornamental Bromeliad From Panama

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

This very interesting Vriesea (***Vriesea S.L.***) belongs to a group of species centered in northern South America. Its closest relative appears to be the poorly known ***V. soderstromii*** L.B. Smith of Venezuela, but it has characteristics in common with ***V. monstrum*** (Mez) L.B. Smith, ***V. glutinosa*** Lindley, and ***V. splendens*** (Brongniart) Lemaire. From all the above, it differs by a combination of characters: richly branched inflorescence, shorter floral bracts, sepals and petals, with the latter bright green.

A ***V. soderstromii*** L.B. Sm. affinis sed bracteis florigeris brevioribus (35 – 40 vs 60 mm), sepalis brevioribus (20 –25 vs 37 mm) et petalis viridis (non roseus) differt.

Vriesea skotakii, H. Luther & K. Norton, sp. nov.
TYPE: Panama; Darien, Serrania de Jungurudo, slopes of Mt. Garagara, 600 m, June 2003, *Chester Skotak et al*. Flowered in cultivation. Sept. 2009 *Chester Skotak s.n.* (Holotype: SEL, Isotype: PMA).

Plant flowering 1. – 1.5 m tall. ***Leaves*** spreading and arching to recurving, 20 to 30 in number, 60 – 80 cm long, coriaceous but rather soft, pliable and succulent when living. ***Leaf sheaths*** elliptic, 10 – 12 x 8 – 10 cm, densely brown punctate-lepidote, nerved. ***Leaf blades*** ligulate, broadly acute and apiculate to attenuate, 6 – 8 cm broad, punctate-lepidote, more densely so abaxially, grey-green, somewhat glaucose. ***Scape*** very short and stout from about equalling the leaf sheaths to exserted 6 – 10 cm, rose. ***Scape bracts*** subfoliaceous to triangular, very densely imbricate and covering the internodes, grey-green, glaucose, the uppermost tinged rose. ***Inflorescence*** very densely bipinnate, 8 to 15-branched, 80 –100 x 60 cm. ***Primary bracts*** triangular, attenuate, like the upper scape bracts, much exceeded by the sterile, bracteate base of the branch. ***Branches*** nearly linear, complanate, stipitate with 10 to 15 sterile, narrowly elliptic sharpely carinate bracts, 65 – 90 x 2 – 3 cm; 30 to 50 distichous-flowered. ***Floral bracts*** imbricate, elliptic, acute, sharpely carinate, 35 – 40 x 15 – 20 mm, densely appressed inconspicuously pale punctate-lepidote, even, rose toward the branch base shading to yellow-green toward the branch apex. ***Flowers*** semi-erect, spreading at ca 15° from the axis at anthesis, 2 – 3 mm pedicellate, opening during the day. ***Sepals*** very narrowly lanceolate to elliptic, acute, 20 – 25 mm long, nerved, fugaciously pale lepidote, green. ***Corolla*** semi-tubular, slightly spreading at the apex. ***Petals*** lingulate, acute, 32 – 38 x 3 – 4 mm, each with a pair of 5 mm basal appendages, bright green. ***Stamens*** & ***Style*** included.

Paratype: Same collection as holotype, Flowered in cultivation 2006, *Chester Skotak s.n.* (SEL).

The name honors the collector, Chester Skotak of Costa Rica, who has discovered many interesting bromeliads during his travels in Central and South America.

Acknowledgements:

I thank Peter Tristram for the photography and Eloise Beach for transporting the type material to me.

[1]Gardens By The Bay, National Parks Board Headquarters, 1 Cluny Road, Singapore 259569

Figure 1. *Vriesea skotakii*. Photo by Peter Tristram

Introducing *Vriesea pardalina*

Eric J. Gouda, Utrecht University Botanic Gardens

Figure 1. Closeup of inflorescence of *Vriesea pardalina*.

There is a lot of confusion about the identity and differences between *Vriesea pardalina* (1894: 523) and *Vriesea guttata* Linden & André (1875: 43), see for example the cover of Bromeliaceae XLIV(6) Nov/Dec 2010 (The Bromeliad Society of Queensland) and the marvellous website of the Florida Council of Bromeliad Societies (http://fcbs.org/). For some time I thought it was one and the same species, because the later is quite variable and has several forms with different spotting on the leaves with subdense inflorescences or with the flowers more remote. *Vriesea guttata* is far more common in collections than the rare *V.pardalina*.

Vriesea pardalina is a much larger species with a very long inflorescence, hanging much below the plant base, with many flowers (>40) and the flowers more spreading (flexuous rachis) and remote at anthesis and the bract coloration is more reddish and less waxy (pink in V.guttata) and relatively broader, showing as deltoid imbrication before anthesis and with much overlapping margins afterward (partly covering the rachis).

The plant is much larger, about twice the size of *V.guttata*, and with less obvious spotting, but often with a broadly rounded and apiculate reddish leaf apex. The only plant I have ever seen was at the nursery of a friend of my, Bert Westerman in Germany and I was happy that I could make some nice pictures of it and collect material for identification purposes (see figures).

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Figure 2. *Vriesea pardalina*.

Figure 3. *Vriesea pardalina*

Figure 4. *Vriesea guttata*

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 Research 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 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

1. The individuals must be past or present members of the BSI.
2. The individuals should be bromeliad growers who are nationally or internationally recognized for diversity of species cultivated and excellence of cultivation.
3. The individuals should actively pursue one of the following activities:
    a. 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;
    b. 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).

4. 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).
5. 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.
6. If the individuals are bromeliad hybridizers, they should be internationally recognized for excellence in one or more of the following categories:
    a. innovation in creating bromeliad hybrids,
    b. success in cultivation of bromeliad hybrids,
    c. promotion and distribution of bromeliad hybrids.
7. The individuals should be generally recognized as experts in one or more of the following aspects of bromeliads:
    a. ecology, evolution, or taxonomy,
    b. cultivation or hybridization,
    c. display or exhibition.
8. 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

1. Nominators must be present members of the BSI.
2. 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.
3. Past nominees may be re-nominated if they meet the current award criteria. Previous award winners are ineligible for re-nomination.
4. 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.
5. ****Nominations must be received by *April 1, 2012*.**

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 2012 BSI World Conference in Orlando, Florida, USA. One award is made every two years, at each BSI World Conference.

Contact Theresa M. Bert:
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New bigeneric Genus: *x Orthoglaziovia*

Geoff Lawn, BSI Cultivar Registrar

Figure 1. *x Orthoglaziovia* 'Rosita', inflorescence, photo D Cathcart

In November, 2011 the nothogenus *x Orthoglaziovia (Orthophytum x Neoglaziovia)* was first recorded in the BSI's Bromeliad Cultivar Register under ICBN Rules (Vienna Code 2006). Its breeder is Ray Lemieux, employee at Tropiflora Nursery in Sarasota, Florida who created this cross in May, 2006 and he also coined this new bigeneric genus name *x Orthoglaziovia*.

Seed Parent: *Orthophytum albopictum* Philcox. Kew Mag. 2:354. 1985; Hofacker, Die Brom. 3:83-4, 1998.

Pollen Parent: *Neoglaziovia variegata* (Aruda da Camara) Mez. Mart. Fl. Bras. 3(3):427, pl.80, fig. 1. 1894.

Ray Lemieux named the first registered cultivar in this new genus *x Orthoglaziovia* 'Rosita'. Tropiflora Nursery owner Dennis Cathcart took all the photos featured here.

Figure 2. *x Orthoglaziovia* 'Rosita', juvenile growth, photo D Cathcart

New Cultivar: *x Orthoglaziovia* 'Rosita'

Geoff Lawn, BSI Cultivar Registrar

It's usually the case that bigeneric progeny from 2 ornamental but totally different parents are an unpredictable mixture of genes. In May, 2006 Florida breeder Ray Lemieux crossed the seed parent *Orthophytum albopictum* with the pollen parent *Neoglaziovia variegata*. By mid-2011 the matured seedlings had begun to flower and the first blooming cultivar in the grex was named 'Rosita', (Mexican for "little rose"), but not honouring anyone in particular.

This *x Orthoglaziovia* 'Rosita' resulted in an almost, grass-like 90cms. diameter rosette of long, arching, bronze red, glabrous leaves (obverse), with scurfed silver reverse, leaf length to 70cms. tapering to a point, from 5cms. wide at its base. Small, irregular 6mm brown spines edge the stiff leaves, more hooked towards the centre. Summer-blooming, the sunken, cone-like inflorescence has a short scape, green floral bracts and pink or pale lavender petals. Multiples form tight, semi-upright clumps from short stolons.

Seed parent *Orthophytum albopictum* is a terrestrial or rock-dwelling, sun-loving Brazilian species from Chapada Diamantina National Park and Municipal Park, Bahia State at 700-1500 metres altitude. The distinctive red rosette, 30-70cms. diameter, is renowned for its striking lanuginous white halo of inner leaves (a temporary denseness of foliar scales) surrounding the pincushion-like inflorescence. The species name "*albopictum*" means "white painted". In the wild, often this xerophyte grows near river rapids, indicating it prefers high humidity.

Pollen parent *Neoglaziovia variegata* hails from north-eastern Brazil where as a terrestrial xerophyte it inhabits dry, open or rocky areas and low thorn forest ("caatinga"). The few-leaved, glabrous, grey-green tight rosette up to 1-1/2 metres tall has vivid silver crossbands and propagates by underground rhizomes. The erect spike of 10-60 flowers has pinkish red ovaries and purple petals.

Many xerophytes in cultivation thrive better with regular moisture, humidity and some extra feeding at least, in which category *x Orthoglaziovia* 'Rosita' falls. Its parentage indicates tolerance or being adaptable to some low Winter temperatures and needing strong light if not direct full sun. Probably those bromeliad growers who specialize in the prickly genera will embrace 'Rosita' as unique.

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Figure 1. *x Orthoglaziovia* 'Rosita', fl. clump, photo D Cathcart

Vriesea 'White Lightning'

Geoff Lawn, BSI Cultivar Registrar

Figure 1. *Vriesea* 'White Lightning' infloresence

iegata (Guillon) Reitz. Its distinction from the other 7 varieties of *Vriesea platynema* is described as "leaf blades red-violet beneath, green above, pale striate near apex." Its habitat range is quoted as "Parana in eastern Brazil, Curitiba to Paranagua." (ref: Tillandsioideae Monograph, Smith & Downs [1977]).

For many years this description fitted Brazilian plants in cultivation there and abroad. However, by 2002 Bromelairio Imperialis Nursery in Rio de Janeiro had posted on fcbs.org website a photo specimen of *V. platynema* var. *variegata* with better defined, whiter and bolder, irregular foliage striations. Prior to this, around 1992 Costa Rica breeder Chester Skotak acquired from Brazil a special clone of *V. platynema* var. *variegata* with vivid central white stripes and solid green edges, plus the usual redddish black leaf tip "fingernails".

Was this special clone wild-collected, or bred in cultivation as a seedling mutant, or did the variegation arise as a vegetative sport? Chester got a different story each time he asked over the years,

The International Code of Nomenclature for Cultivated Plants (ICNCP Rules) was formulated in 1952 and adopted thereafter to name all manner of species cultivars and hybrid grexes found in horticulture. Prior to this, the few variegates found in the wild were botanically described as species varieties or formas under the International Code of Botanical Nomenclature (ICBN), such as with *Neoregelia carolinae* forma *tricolor* (M.B. Foster) or *Bromelia serra* forma *tricolor* (M.B. Foster).

Thus, botanically described in 1952 was *Vriesea platynema* var. *var-*

Figure 2. *Vriesea* 'White Lightning' infloresence

so its origin remains a clouded mystery. Regardless, by November, 2011 Chester chose to name and register this cultivar as *V.* 'White Lightning'. This variegate seems softer-leaved and the rosette matures smaller (to 50cms. diameter) than the original var. *variegata* forms. 'White Lightning' has that hint of red leaf reverse and a typically erect *V. platynema* spike up to 1.4 metres tall. All photos featured here are by Peter Tristram. .

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Figure 3. *Vriesea* 'White Lightning' infloresence

BSI JUDGES SCHOOL I AT THE 2012 WORLD CONFERENCE

School I for World Conference Judges School series will be held on Tuesday, September 25,in Orlando, Florida. There are six schools in the series and are held at each conference. Thelast series finished in New Orleans, therefore it starts over with School I in Orlando.

If anyone is interested in attending, they should contact Betty Ann Prevatt, Judges Certification Committee Chairman, before September 1st.

Contact below:

Email: bprevattpcc@aol.com
Telephone: 239-334-0242

Events Calendar

AUSTRALIA / NEW ZEALAND:

MARCH 15-18, 2013. Cool Broms Conference, Auckland, NZ. Info by emailing coolbroms@bsnz.org or check out www.bsnz.org for conference news.

UNITED STATES OF AMERICA:

SEPTEMBER 24 - OCTOBER 1, 2012. 20th World Bromeliad Conference, Caribe Royale Hotel, Orlando, Florida. Contact bbout@aol.com

MAY 5-6, 2012: La Ballona Valley Bromeliad Society will have its 57th Annual Show & Sale. It will be at the Culver City Veterans' Memorial Complex at 4117 Overland Dr, Culver City, CA. Show hours: Sat 12:00 - 5:00; Sun 10:00- 3:00; Sale hours: Sat 10:00 - 5:00; Sun 10:00-3:00. Free entrance and free parking. Demonsttation on bromeliad cutlure on each day at 2:00pm. Contact: Don Misumi, phone 323-2949839 or dgmisumi@aol.com

CONFERENCE CORNER

ORLANDIANA 2012
20TH WORLD BROMELIAD CONFERENCE
ORLANDO, FLORIDA

Orlandiana'12 is only one short year away – have you made your reservations?

Registration information and hotel rates can be found on the web site, www.bsi.org. Check the site often for conference updates.

The Florida Council is planning an outstanding event at a beautiful resort, so make plans now!

In case you haven't heard, Harry Luther has accepted an invitation to speak and will present a seminar on Bromeliad Diversity. Dean Fairchild is Seminar Chairman and promises educational and informative sessions – don't miss them!

It's almost time to choose a site for WBC 2014 and we would like your input! Where would you like to go for the next WBC?

There is more to this decision than you might think: can the local club support the effort, does the immediate area have supplemental tours and entertainment for significant others? Are there enough vendors in the area and enough local interest in bromeliads to support a sale?

As a point of reference, WBC 2010 returned nearly $6,000 to the New Orleans Treasury and the Plant Sale reported gross sales of $100,000. Could your affiliated society use a shot of cash? It's worth thinking about!

If you or your club would like to learn more about what it takes to host a conference, just e-mail: vicepresident@bsi.org.

Bonnie Boutwell, BSI Vice President

The BSI Seed Fund has found a new chairman! Many thanks to Bryan Windham of Kenner, Louisiana for taking on this responsibility.

More information to follow soon!

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.

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