# JOURNAL

## OF THE BROMELIAD SOCIETY

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# JOURNAL OF THE BROMELIAD SOCIETY

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Front Cover: x *Ursulepis* 'Sam Smith'

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# Submissions & Guidelines

*Evan Bartholomew*

Article submission guidelines and photo guidelines have previously been outlined by Andrew in this publication, but due to varying amounts of adherence to guidelines I am going to outline those again below.

All material will be considered for submission, whether it is related to cultivation, community, travelogues or scientific in nature. Many of the articles that have been published are submitted by the same few authors, but this does not mean that new authors are not welcome to submit.

General submission guidelines are as follows:

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

Please take the time to spell and grammar check your articles. Check your references and plant identifications meticulously. I do edit for grammar and spelling, but articles that are unfinished and not publication ready are much less likely to make it into the journal.

Article proofs will be submitted to the author before publication, so take the time to double check all details when you receive this proof. If a proof has been signed off, and errors are present in print, this is not my responsibility. Things get missed, which is why there is a proof process so that we can work together to do our best to avoid errors. Perfection is a lofy ideal, but rarely attainable.

Photos *must* be in proper print quality. If you are shooting for an article, use the highest setting on your camera, and do not compress the images before sending. 72 DPI photos are fine for publishing on the web, but will print approximately 1/4 of their original size when I do the conversion. You can always make a picture smaller to look good in print, but you can never increase the resolution of a photo once it has been compressed or reduced in size. Many automatic photo import softwares will compress images, so if in doubt, double check your settings and make sure that your images are at least 300 DPI in the size that is suitable for printing.

Photos should never have a date stamp. If this is an automatic function of your camera or software, turn it off. It may help you organize photos, but it is not suitable for printing.

Unless you are an experienced digital photo manipulator, do not edit your photos. I do a conversion process from RGB to CMYK to make photos print ready, and if you've heavily edited color, light levels, saturation, etc. then oftentimes the conversion ends up looking incorrect. Most images need some touching up in order to look proper in print, and since I have a standard working method for everything that is printed in the journal, I am responsible for that editing. A unified aesthetic and consistency in design is important to me, so I edit photos to work well together and present a standard throughout the issue.

If an article is very large, it will most likely be split into 2 or more journals. This allows for a wide range of content per issue. If this is not suitable for you, then perhaps the article should be revised.

There is a large archive of articles that have not yet been published. If you have previously submitted and not received a response, it does not mean that the article will not be published. There is quite a lot of catching up to do in taking over this position, so I am slowly working through materials and planning out what articles will fit the best in various issues. I politely ask that all authors who have sent in articles or are planning to send in articles have patience with me as I work through the materials.

All articles should be sent to editor@bsi.org

I would like to put it out there that I am looking for great content that seems to be under emphasized in this publication. Conservation is very important to me, and I would like to see more articles related to various projects around the world that are working to preserve endangered habitat of bromeliads. Many habitats are critically endangered, and we have the opportunity to make a difference. This journal can be a great source of information and calls to action for how people can contribute or get involved in conservation projects.

If you have been involved in conservation projects, or are aware of projects which are deserving of publicity, please send that information my way.

I am in the beginning stages of preparing an article on traditional and ethnographic uses of bromeliads, and am searching for more information. If you have any information or can recommend source material related to the use of bromeliads as fiber, food, medicine, ceremonial tools or art, please send them my way.

So far I have only seen various short references to possible ethnographic uses, and do not have enough material to create a proper piece. Most indigenous communities have varied uses for plant materials in their vicinity, and I know that bromeliads are no exception. Being aware of the cultural significance of species increases their value, and provides more impetus for conservation.

I'd really like to see more interviews and features about some of the highly respected people who occupy the landscape of international bromeliad culture. I am working on some pieces in this direction, but am very welcome to see more.

If there are things you want to see more of in this publication or you have feedback about the content published so far, don't hesitate to reach out and let me know.

There are many exciting articles in the works for the journal, and as I continue the uphill climb towards getting back on track with the publication schedule, I thank you for sharing the journey with me.

# Two New Species from Alto Cariri State Park, Minas Gerais, Brazil

*Elton M. C. Leme*[1] *& Ludovic J. C. Kollmann*[2]
*Photos By Elton Leme*

Figure 1. Bromeliad community in the altitude Atlantic Forest of Alto Cariri State Park

Alto Cariri State Park is a public conservation unit established in 2008 and maintained by the Instituto Estadual de Florestas of Minas Gerais state (IEF-MG). It is situated at the northeastern region of Minas Gerais, along the border with Bahia state, in a mountainous terrain with an elevation of 600 to 900 m, under the hydrological influence of Jequitinhonha river, occupying an area of 6,151 hectares in the counties of Santa Maria do Salto and Salto da Divisa. The hygrophilous Atlantic Forest vegetation predominates over the area with a rich epiphytic flora. On the higher parts of the hills an altitude forest takes places providing ideal condition for the development of a varied bromeliad community which is spread over the forest ground to the higher tree branches. In some areas there are granitic outcrops where rupicolous species find out the ideal condition to thrive.

Figure 2. *Neoregelia viridovinosa* flower details

The park shelters a rich bromeliad flora not yet fully studied, typical of the Atlantic Forest domain, with a great potential for botanical investigation. So the authors initiated in 2010 a systematic survey on the Bromeliaceae of the park under the official support of the Instituto Estatual de Florestas of Minas Gerais (IEF-MG). As a preliminary result of that investigation three new species were recently published, *Aechmea altocaririensis* Leme & L. Kollmann, *A. recurvipetala* Leme & L. Kollmann, and *Hohenbergia loredanoana* Leme & L. Kollmann (Leme & Kollmann, 2011). A complete checklist of the bromeliads of the park and surrounding areas will be available soon, but before that we anticipate here the discovery of two other outstanding new species.

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## *Neoregelia viridovinosa* Leme & L. Kollmann, sp. nov.

TYPE: Brazil, Minas Gerais, near the border with Bahia, Santa Maria do Salto, Talismã, RPPN Fazenda Duas Barras, border of the State Park of Alto Cariri, ca. 841 m elev, 16º24.80'S 40º03.21'W, 23 March 2010, *E. Leme 8165 & L. Kollmann* Holotype: RB. Isotype MBML.

A *N. pernambucana* Leme & J. A. Siqueira, cui affinis, laminis foliorum latioribus, bracteis floriferis apicem versus vinosis, sepalis brevioribus, vinosis, petalis apicem versis totaliter viridibus, ovario vinoso, fructibus rubrovinosis differt.

***Plant*** epiphytic, propagating by short basal shoots. ***Leaves*** 16 to 18 in number, suberect-arcuate to spreading, forming a broad crateriform rosette; ***sheaths*** broadly elliptic-ovate, 18-23 x 16-16.5cm, subdensely pale-brown lepidote on both sides, greenish to wine colored mainly abaxially and toward the margins; ***blades*** linear, not narrowed toward the base, 30-45 x 8-9.5 cm, subdensely to densely and inconspicuously white lepidote mainly abaxially, green toward the base and dark red to vinose toward the apex and along the margins, bearing dark green, sparsely arranged irregular spots, apex broadly acute to rounded and long apiculate, apiculous ca. 1 cm long, margins subdensely spinulose, spines 4-6 x 3-4 mm, 3-12 mm apart, wine colored. ***Scape*** ca. 3 cm long, ca. 2.5 cm in diameter, whitish, glabrescent; ***scape bracts*** broadly triangular (the basal ones) to subtriangular-ovate (the upper ones), apex acute and long apiculate, suberect, spinulose at the apex to entire, wine colored, inconspicuously and sparsely white lepidote to glabrescent, thin in texture, the upper ones involucrate, 4-5.5 x 4-4.5 cm, to equaling 1/3 of sepals length, distinctly longitudinally sulcate mainly near the apex. ***Inflorescence*** broadly capitate, simple, umbellate, apex nearly flat, sunk in the center of the rosette, ca. 7 cm long (excluding the petals), ca. 11 cm in diameter, ca. 60-flowered; ***floral bracts*** entire, white hyaline near the base and wine colored toward the apex, membranaceous, distinctly nerved, longitudinally sulcate, sparsely and inconspicuously white lepidote to glabrous, ovate-lanceolate, narrowly acute to acuminate, ecarinate, about equaling 1/2 of petals length, 45-54 x 13-19 mm, longitudinally sulcate. ***Flowers*** 75-85 mm long, fragrance not detected, pedicels 7-15 x 5-10 mm, white, sparsely and coarsely white lepidote to glabrous, strongly complanate mainly the outer ones and dilated toward the base; ***sepals*** subsymmetric, narrowly sublinear-lanceolate, 42 x 8-8.5 mm, suberect at anthesis with 2/5 of their distal portion not imbricate, apex acuminate, connate at the base for ca. 3 mm, ecarinate, red-wine, glabrous, thin in texture except for the membranaceous margins; ***petals*** sublinear-lanceolate, acuminate, ca. 51 x 8 mm, connate at the base for ca. 7 mm, white at the base, green toward the apex, erect except for the slightly suberect-recurved apex at the anthesis, distinctly spirally twisted afterwards, bearing 2 longitudinal callosities about equaling the anthers; ***filaments*** ca. 34 mm long, slightly complanate, white, the antepetalous ones adnate to the petals for ca. 20 mm, the antesepalous ones adnate to the petals for ca. 7 mm; ***anthers*** linear, ca. 9 mm long, dorsifixed ca.1.5 mm above the base, base sagittate, apex acuminate; ***pollen*** broadly ellipsoidal, biporate, exine reticulate, lumina polygonal to rounded, muri slightly thickened; ***stigma*** ellipsoid, conduplicate-spiral, ca. 5 mm in diameter, blades white, margins minutely lacerate; ***ovary*** obovate-ellipsoid, 18-20 x 8 mm, wine colored, glabrous, distinctly sulcate; placentation central-apical; ovules cylindrical, obtuse; epigynous tube lacking. ***Fruits*** enlarged from the ovary, red-vinose.

Figure 3. Habit of *Neoregelia viridovinosa*

According to the identification key to the species of *Neoregelia pernambucana* complex provided by Leme et al. (2010), *N. viridovinosa* is closely related to *N. pernambucana*, differing by the broader leaf blades (8-9.5 cm vs. 6-7.5 cm), floral bracts wine colored toward the apex (vs. green), shorter sepals (42 mm vs. 48-52 mm long), which are wine colored (vs. green), the completely green petals (vs. green toward the apex with lilac or whitish apical margins), wine colored ovary (vs. whitish to green), and by the reddish-wine fruits (vs. orange). Its unique feature is the completely green petals, which is a characteristic for the first time reported in the genus.

*Neoregelia viridovinosa* has a similar habitat when compared to some other species of the *Neoregelia pernambucana* complex. It is a typical epiphytic taxon of the Alto Cariri State Park and surrounding areas, where it presents a scattered distribution, growing from the median strata of the forest to the canopy . The most colorful specimens can be observed right at those intensely iluminated spots.

Despite preliminary field observation suggests that *N. viridovinosa* do not share the same habitat with any closely related species, the presence of *N. retrorsa* Leme & L. Kollmann, another member of the *Neoregelia pernambucana* complex, was documented in a neighbouring area at the Santa Maria do Salto county.

Figure 4. *Neoregelia viridovinosa* in habitat

Figure 5. Close up of the inflorescence of *Neoregelia viridovinosa*

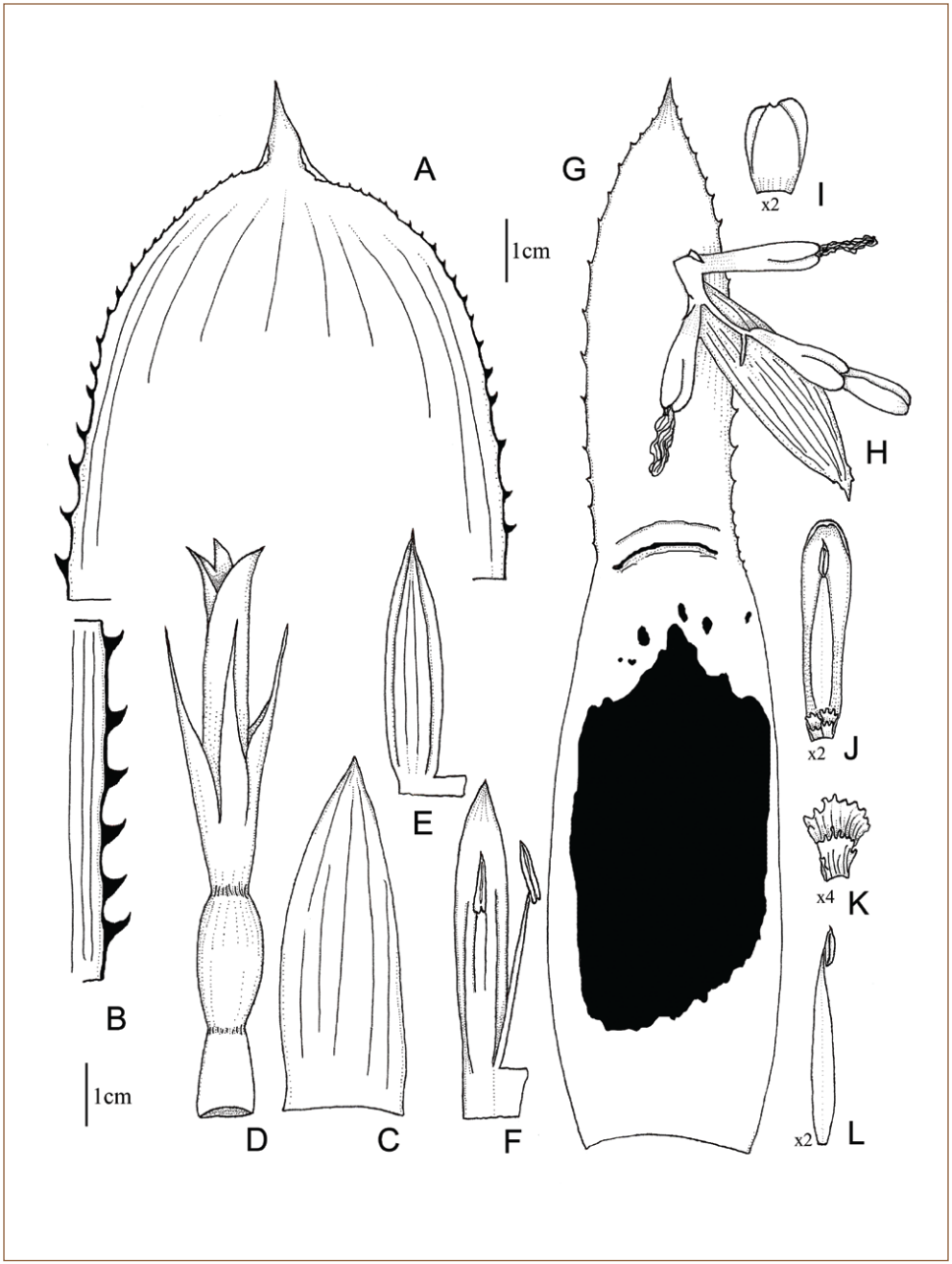


Figure 6. (A-F) *Neoregelia viridovinosa* Leme & L. Kollmann: A) leaf blade apex; B) basal segment of leaf blade margin; C) floral bract; D) flower; E) sepal; F) petal. (G-L) *Quesnelia tubifolia* Leme & L. Kollmann: G) leaf; H) basal branch; I) sepal; J) petal; K) petal appendage; F) antesepalous filament and anther. Drawings by E. Leme

## *Quesnelia tubifolia* Leme & L. Kollmann, sp. nov.

**TYPE:** Brazil, Minas Gerais, near the border with Bahia, Santa Maria do Salto, Talismã, RPPN Fazenda Duas Barras, border of the Alto Cariri State Park, 16º 24.16' S, 40º 03.43' W, 920 m elev., 23 March 2010, *E. Leme 8210 & L. Kollmann*. Holotype RB.

Species nova ab *Q. alvimii* Leme, cui affinis, foliis manifeste plus numerosis, laminis foliorum apice acuminatis vel acutis apiculatisque, inflorescentia laxe florida, floribus ramulorum minus numerosis inconspicue pedicellatis, sepalis obtuse-emarginatis et antheris brevioribus et distincte apiculatis differt.

***Plant*** epiphytic, slightly caulescent, propagating by 7-10 cm long spreading stolons, flowering ca. 32 cm tall. ***Leaves*** 50 to 60 in number, densely rosulate, erect except for the basal ones sometimes suberect to abruptly spreading, coriaceous, forming a tubular rosette; ***sheaths*** oblong to oblong-elliptic, 7-9.5 x 3-4.7 cm, green abaxially, dark purple-nigrescent adaxially and toward the apex, inconspicuously and subdensely white lepidote on both sides; ***blades*** broadly ovate, oblong or lingulate, not narrowly to slightly narrowed at the base, bearing a transversal fold in the transition zone with the sheaths, 3.5-8 x 2-3.5 cm, green, inconspicuously and subdensely white lepidote abaxially with the trichomes arranged in rows along the intercostals areas, adaxially inconspicuously and sparsely white lepidote, apex acuminate to broadly acute and distinctly apiculate, margins densely spinulose, spines yellowish to castaneous, narrowly triangular, flat, 0.5-1.5 mm long, 0.5-1 mm wide at the base, 2-7 mm apart, spreading to slightly antrorse. ***Scape*** erect, 15-17 cm long, ca. 0.4 cm in diameter, rose towards the apex, glabrous; ***scape bracts*** sublinear-lanceolate, acuminate and apiculate, 5.5-6 x 1.4 cm, erect, nerved, inconspicuously and sparsely white lepidote at the apex to glabrous, equaling to slightly exceeding the internodes and partially enfolding the peduncle, but not imbricate, thin in texture, rose, spinulose at the apex. ***Inflorescence*** bipinnate except for the simple apical portion, sparsely flowered, distinctly exceeding the leaves, erect, ca. 8 cm long, ca. 6.5 cm in diameter at the middle, rachis ca. 4 mm in diameter at the base and ca. 1.5 cm in diameter at the apex, straight near the base to geniculate near the apex, glabrescent, terete, rose; ***primary bracts*** narrowly oblanceolate, acuminate and apiculate, spinulose at the apex (basal ones) to entire, finely nerved, glabrous, rose, membranaceous, reflexed, 3-4 x 1-1.1 cm, equaling to exceeding the branches; ***primary branches*** ca. 8 in number, polystichously and subdensely arranged, subspreading or nearly so, 3-3.5 x 2.5-3.5 cm (including the petals), subsessile to shortly stipitate, stipes stout, 3-5 x 2-4 mm, bearing 2 to 3 flowers sparsely and distichously arranged, rachis 1-3 mm in diameter, glabrous, rose; floral bracts inconspicuous, ovate-triangular, acuminate, membranaceous, 2-3 x 1.5-2 mm, entire, rose, ecarinate. ***Flowers*** ca. 25 mm long (including the petals), odorless, erect, inconspicuously and shortly pedicellate with the pedicels mergins into the ovary without any contrast, pedicels ca. 2 x 2 mm; ***sepals*** obovate, asymmetrical, rose at the basal 2/3 and lilac at the apical 1/3 of their length, glabrous, ecarinate, free, ca. 7 x 4 mm, apex obtuse-emarginate, slightly cucullate, and bearing a membranaceous and inconspicuous apiculus only observed under lens; ***petals*** sublinear-spatulate, obtuse-cucullate, 17-18 x 4 mm, free, purplish-rose toward the base and lilac at the apex at the anthesis, reddish afterwards, erect and forming a tubular corolla, bearing at the base 2 spatulate, obtusely crenulate-scalloped appendages, ca. 3 x 1.2 mm, without any callosities; ***filaments*** 14-15 mm long, distinctly complanate and dilated, purplish-rose, the antesepalous ones free, the antepetalous ones adnate to the petals for ca. 10 mm; ***anthers*** 2.5-3 mm long, dorsifixed near the middle, white, base obtuse, apex distinctly apiculate; ***pollen*** oblong-ellipsoid, biporate, exine reticulate, lumina rounded, muri slightly thickened; ***stigma*** conduplicate-spiral, capitate, purple, ca. 1 mm long, margins shortly crenulate and inconspicuously papillose; ***ovary*** narrowly subclavate, sybcylindrical, ca. 5 mm long, ca. 3 mm in diameter at the apex, lilac, bearing inconspicuous and sparsely filamentous trichomes but soon glabrous; epigynous tube funnelform, 0.5-1 mm long; placentation central to apical; ovules obtusely apiculate to obtuse. ***Fruits*** unknown.

*Quesnelia tubifolia* is a member of subgenus *Billbergiopsis* Mez, and it is the first known taxon very closely related to the unusual *Q. alvimii*. However, the new species differs from *Q. alvimii* by the more numerous leaves per rosette ( 50 to 60 vs. 25 to 30 in number), leaf blades with acuminate or acute and apiculate apex (vs. obtuse-truncate and apiculate), the laxly flowered inflorescence (densely flowered inflorescence), the less numerous flowers per branch (2 to 3 vs. 3 to 8 in number), the inconspicuously pedicelate flowers (vs. sessile), obtuse-emarginate sepals (vs. obtuse), and by the shorter anthers (2.5-3 mm vs. 4-4.5 mm) which are distinctly apiculate (vs. not apiculate).

*Quesnelia tubifolia* is a rarely seen species in the Bromeliaceae community of the Alto Cariri State Park because it is an exclusive epiphyte growing on the uppermost horizontal or slightly inclined branches of 30-40-meters-tall trees that make up the local Atlantic Forest canopy. This new species is difficult to be identified from a distance due to its comparative small size, the presence of few individuals per clump, and the rich epiphytic flora that covers the higher strata of the forest. Its discovery was possible only because a huge old tree fell down the night before as a consequence of a tropical storm. The sound of such an impressive natural accident was heard a few kilometers away from the place we spent the night. The next morning we checked the forest glade caused by the "monster" fall and found such a completely unusual tubular bromeliad.

Figure 7. The stoloniferous habit of the tubular-leafed *Quesnelia tubifolia*

## 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 here. We are also grateful to the owner of the private reserve RPPN Fazenda Duas Barras, Loredano Aleixo, for his valuable support during field activities, as well as the Park Ranger Antonio Souza (Toninho), for guiding us to the most hard-to-reach sites of the park and for field assistance.

Figure 8. Floral details of *Quesnelia tubifolia*

Figure 9. The canopy habitat of *Quesnelia tubifolia* 30-40 m above the forest ground, at the Alto Cariri State park, forming a dense bromeliad community composed by *Aechmea* spp. *Hohenbergia* spp., *Neoregelia* sp. and *Tillandsia* spp.

## Literature Cited:

Leme, E. M. C, H. E. Luther, W. Till & H. Halbritter. 2010. A new ornamental *Neoregelia* species from Serra dos Índios, Bahia, Brazil. *J. Bromeliad Soc. 60* (5): 197-208.

Leme, E. M. C. & L. J. C. Kollmann. 2011. New species and a new combination of Brazilian Bromeliaceae. *Phytotaxa 16*: 1-36.

Figure 10. *Quesnelia alvimii* is the closer morphological relative of *Q. tubifolia*, but has a very distinct leaf conformation and a much denser inflorescence when compared to the new species described here. Photo by E. Leme

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# Bromeliad Icons In Old Publications: Part 7

*This article is a continuation of a series last published in JBS 61(1)*

*Leo Dijkgraaf*

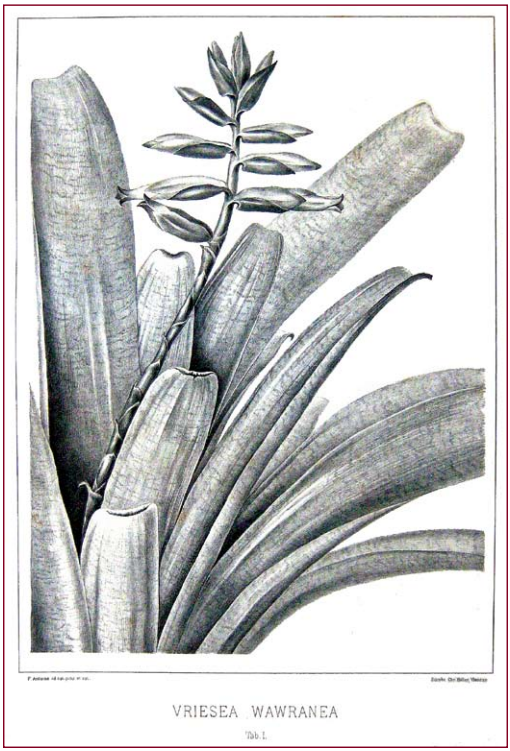


Figure 1. *Vriesea wawranea* Antoine. Drawing F. Antoine jr., lithography C. Höller, Phyto-Iconographie der Bromeliaceen plate I (1884).

In this part the focus is on publications from Austria. Dutch-born Nicolaus Joseph von Jacquin became professor of botany and chemistry at the University of Vienna in 1769 and produced a number of sumptuously illustrated works to which many artists contributed. Titles featuring some illustrations of bromeliads are: *Selectarum stirpium americanarum historia* (1763), *Hortus Botanicus Vindobonensis* (1770-1776), *Icones plantarum rariorum* (1781-1793), *Plantarum rariorum horti caesari Schoenbrunnensis descriptiones et icones* (1797-1804) and by his son Joseph Franz von Jacquin *Eclogae plantarum rariorum* (1811-1844). The number of coloured engravings in those works adds up to over 1600. The species of bromeliads depicted belong to the genera *Bromelia* and *Pitcairnia*.

Anton Hartinger was a Viennese artist specialized in flower painting and a pioneer in the field of chromolithography. Between 1844 and 1860 he published in Vienna the *Paradisus Vindobonensis. Abbildungen seltener und schönblühender Pflanzen der Wiener und anderer Museen*. There are few collections who have the complete work of 20 installments, probably only the libraries of Vienna and the British Museum. Hartinger made drawings and lithos for 81 plates on format 56x42 cm, among them *Bromelia antiacantha* under the name of *Bromelia sceptrum*. The collection has no explanatory text. The average price for an individual plate is 3000 US dollar in the antiquarian circuit (2008).

Some important botanical publications originating from Austria have been dealt with in the past in the BS Journal (Lineham 1993); I allude to the description of the travels and discoveries in Brazil by Heinrich Wawra, Ritter von Fernsee. *Botanische Ergebnisse der Reise seiner Majestät des Kaisers von Mexico Maximilian I nach Brazilien* (1859-1860), published in 1866, was illustrated with drawings by Josef Seboth on 32 coloured and 72 monochrome plates, including some bromeliads. *Itinera principum S. Coburgi, Die botanische Ausbeute von den Reisen ihrer Hoheiten der Prinzen von Sachsen-Coburg-Gotha* (1872-1873, 1879), published in 2 volumes in 1883 and 1888, contained 57 colourplates, 20 of bromeliads, the drawings were made by W. Liepoldt. All the plates were lithographs.

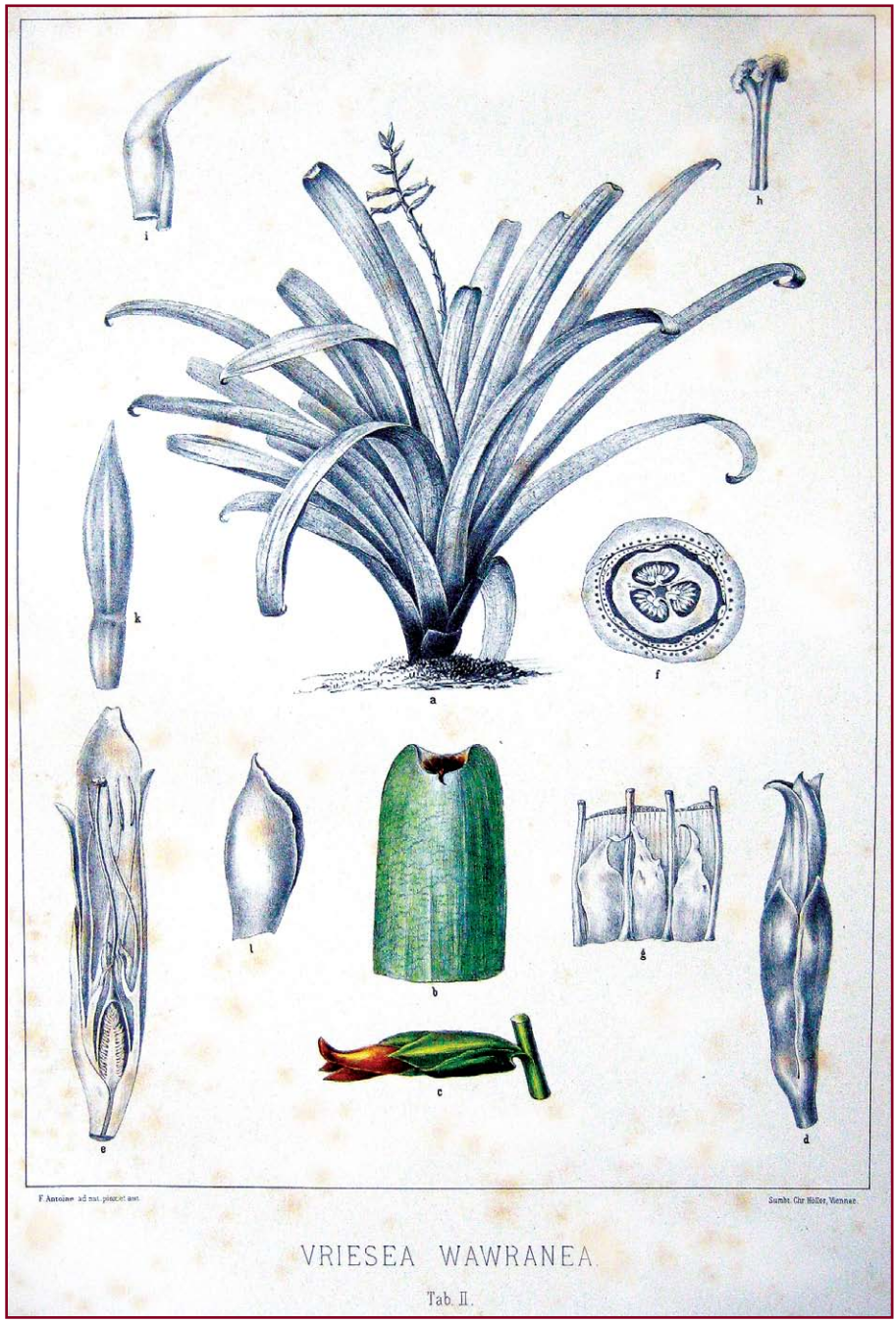


Figure 2. *Vriesea wawranea* Antoine. Drawing F. Antoine jr., lithography C. Höller, Phyto-Iconographie der Bromeliaceen plate II (1884)


Figure 3. *Alcantarea glaziouana* (Lemaire) Leme. Published as *Vriesea regina* sensu auct. anon. Drawing F. Antoine Jr., lithography C. Höller, Phyto-Iconographie der Bromeliaceen plate IX (1884)

In 1884 Franz Antoine Jr., horticulturist and director of the Schönbrunn gardens in Vienna, wrote and illustrated *Phyto-Iconographie der Bromeliaceen des kaiserlichen königlichen Hofburg-Gartens in Wien*. An atlas was published in 7 parts with 35 lithographs of bromeliads from Brazil cultivated at Schönbrunn and there was a separate volume of 54 pages containing the descriptions. The format of the atlas was very large (about 50x80 cm), the plates were monochrome, on most of them some details like a flower or a part of a leaf had been coloured. Antoine described one new species: *Vriesea wawranea*, illustrated on plate 1 (Figure 1) and plate 2 (Figure 2). This species is relatively common in the Serra dos Órgãos National Park in the state of Rio de Janeiro. It is very close to *Vriesea platynema*.

The plant on plate 9 (Figure 3) and plate 10 is named Vriesea regina. There has been much confusion in the past on the identity of this and related large species, now all accomodated in the genus *Alcantarea*. Only relatively recently Elton Leme brought clarity in this matter (Leme 1995, 1997). The plant on the two plates was in 1867 described as *Vriesea glaziouana* by Lemaire in *L'Illustration Horticole* and that name has later for a long time been treated as a synonym of *Vriesea geniculata*. The correct name now for the plant is *Alcantarea glaziouana*; it honors Auguste Glaziou, a French landscape architect who was director of the public gardens in Rio de Janeiro and who did send many plants to John Baker in London. The flowers are milk-white, as can be seen on the photograph taken from a specimen in the botanical garden of Rio de Janeiro (Figure 4). Antoine gave the shadows in the flower detail on plate 9 a hue of blue (indicating clear skies over Vienna!). Related species like *Alcantarea regina* and *Alcantarea geniculata* have yellow flowers, with Alcantarea imperialis the flowers are also white but more cream coloured (ivory-white); of course there are more characters that differentiate these species. *Alcantarea glaziouana* is endemic to the rocky cliffs in and close to Rio de Janeiro, growing near sea level.

Antoine also made the drawings for the here reproduced coloured plates that were published in *Wiener Illustrierte Garten-Zeitung*, a periodical with 30 volumes from 1876-1905. The

first 3 volumes were titled *Wiener Obst- und Garten-Zeitung* and after 1905 it continued as *Österreichische Garten-Zeitung*.

The plate of *Vriesea gladioliflora var. purpurascens* (Figure 5) is introduced by Antoine with the following lines: "With lesser splendour than nature otherwise equips its children's flowers, is the bromeliad from this illustration furnished. The beauty of colours with which in this family often the inflorescence and in particular the bracts are shown, is reduced here to a modest pale green colour of the flowers and a slight transition to red at the points of the sepals". Hermann Wendland had described *Tillandsia gladioliflora* in 1863 in the *Hamburger Garten- und Blumen-Zeitung* from a plant collected in Costa Rica. Antoine treated his plant - received from a source in Belgium but of unknown origin - as a new variety because of the purple underside of the leaves and the purple-red flowerstalk, differing in his opinion from the type-variety. At present both varieties are presented in the taxonomical records under the name *Werauhia gladioliflora*.

*Hoplophytum aureo-roseum* (Figure 6) was a new species by Antoine, to be treated later by Lyman Smith as the variety aureorosea of the very common Aechmea nudicaulis, a species with a distribution from Mexico to Peru and Brazil. *Aechmea nudicaulis var. aureorosea* however, with its dirty red sepals and petals tinged with red, is limited to central eastern Brazil where it grows terrestrial, epiphytic and saxicole; it is (or was) quite common around Rio de Janeiro. Antoine reports that it is a slow grower and rhizomes are scarce; he had to wait 19 years to see the plant in flower and when it did in 1881 the normally green leaves turned purple-red, particularly on the underside. There is also a Morren Icon of this taxon (Smith 1987).

Figure 4. *Alcantarea glaziouana*. Photo Leo Dijkgraaf

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Figure 5. Werauhia gladioliflora (H. Wendland) J.R. Grant. Published as *Vriesea gladioliflora var. purpurascens* Antoine. Drawing F. Antoine jr., lithography E. Sieger, Wiener Illustrierte Garten-Zeitung vol.5(3) page 97 (1880)


Figure 6. *Aechmea nudicaulis var. aureorosea* (Antoine) L.B. Smith. Published as *Hoplophytum aureo-roseum* Antoine. Drawing F. Antoine jr., Wiener Illustrierte Garten-Zeitung vol.6(3) page 97 (1881)

# Bromeliads In Ecuador

*Bruce Dunstan*
*photos by Bruce Dunstan*

Figure 1: Habitat In Ecuador - the road down from Central valley into Zamora Chinchipe

In October 2009 I was lucky enough to travel in Ecuador again for the first time in 19 years. Back then was my first trip to South America and I was a part of a Heliconia Society International organised trip, which made travelling around for a gringo like me, with no Spanish, much easier. My travelling companions this time were Carla Black, Angel Rodriguez and Dave Skinner.

This time around we did some serious homework beforehand, looking at collection data from species publications, talking to experts and getting some very detailed information on where to find some plants that we were keen to try and find. Without this information we would have spent days driving around wasting precious time. Plans were made and over a 3 month period we worked out an itinerary to try to go to some areas that Carla, Angel, Dave and myself hadn't been to before.

In our 14 days we travelled over 3400 km, with Angel at the wheel driving like a machine with a Zen like calm that I've never seen, over some good roads, some bad roads and even some roads that required major earthmoving equipment to allow us to pass. Twice we had to alter our planned routes due to landslides, turning around and finding another way to get to planned habitats we were interested in visiting. Since this was the end of the dry season I'm sure we picked a good time of year to get around too. Angel had to put up with lots of 'Oooh, aaahhh, look-at-that!' type of behaviour from inveterate plant fanciers, but the only

way to stop the car was to say 'Stop!' He also had to put up with people trying to get out of the moving car to try to get to plants that were spied as we motored around this beautiful country, as well as dealing with cities, towns and rural areas that bore absolutely no similarity to our two maps purchased to find our way around, not to mention the Ecuadorian traffic that had no interest in going slow to look at their native plants. So Angel had to relax, move to the right and allow all manner of traffic to overtake, as we trawled our way slowly along, in places with very narrow, steep dirt and sometimes rough, river-rock roads.

Figure 2: *Racinaea tetrantha*

The first region we travelled to was Zamora Chinchipe Province, situated at the far south Eastern edge of Ecuador, bordering Peru. This took us the best part of two days' driving, to get from Quito, the capital city, our starting point, to our jungle lodge in Las Orqideas, deep in the forests of Zamora Chinchipe. A landslide on the Gualaceo-Gualaquiza road on our second day meant we had to back track and head to Limon instead, adding 3-4 extra hours to our journey. The upside for me was seeing flowering *Racinea tetrantha*, *Guzmanias* and *Pitcairnia trianiae* (see back cover photo) as we came down twice through the cloud forest area elevations .

Figure 3: *Guzmania melinonis*

We had places to go before it got dark. The need to keep going meant stopping was difficult - guaranteed to spoil all plant enthusiasts' fun.

My interest, or some would say serious addiction, to bromeliads over the past 10 years, meant that we had plenty of extra stops to photograph all manner of these plants, as well as *Heliconias* and Dave's passion, Costaceae. As we were interested in seeing mid to higher elevation Heliconia species we managed to keep Dave hostage in these higher elevations where his *Costus* were thin on the ground. It wasn't until we went below 900m that they became more common.

The Rio Nangaritza region was base for our

Figure 4: *Guzmania weberbaueri*

first 3 days in the bush. Two Ecuadorian orchid aficionados, Don Carlos and his son Carlos Jr. from Zamora, who joined us to explore the Rio Nangaritza, met us here. The dominant feature of the area we wanted to spend time in was the Cordillera del Condor, the 'Mountain of the Condor'. This sandstone mountain range divides Ecuador and Peru. The two countries fought a war over this area in the '90s and I remember buying a patriotic tee shirt while I was in Peru in '96 that showed the area with planes flying over dropping bombs, not really friendly neighbours stuff. A good thing the tee shirt didn't last the distance and wasn't brought along to this side of the border. This conflict has meant the remote area has had limited scientific exploration, although bromeliad people have been spending time recently. Jose Manzanares wrote a great article in the BSI journal about his travels here. This is further borne out by us coming across two species that were published later in the same year of our trip. We were obviously in the right areas to find new plants, just a little late.

Jason Grant, a taxonomist from the University of Neuchâtel in Switzerland who regularly studies in Southern Ecuador, kindly provided some accommodation tips on nice places to stay in that part of the world, so we could come back to comfort, great food and cold beers, after slogging through the torrid jungle by day. Don Carlos was also an avid fisherman and went off one night to the Rio Nangaritza, which flowed right past our lodge, to provide us with delicious, deep fried catfish for breakfast one morning.

Around the lodge the forest is still fairly untouched and across the Rio Nangaritza the tall range towers over all. On our first day of exploration, we walked through the forest and climbed to the top of the sandstone hills on our side of the river. This was pretty hard going in the hot, humid conditions , with lowish forest growing on the bare, impoverished sandstone, surface roots running everywhere.

Bromeliads were common, particularly *Guzmanias*, in this forest - *G. asplundii*, *G. claviformis*, *G. melinonis*, *G. weberbauri*, *G. teuscheri*; the recently described *G. nangaritzae* was also spotted, a lovely small plant to only 20 cm tall with pink undersides to its thin foliage and a small, thin-branched, pink and white inflorescence. I imagined it would fit happily in some European nurseryperson's *Guzmania* breeding program with its small size and in-

Figure 5: *Racinaea parviflora*

teresting flower. No doubt we may see it in the years to come in a slightly different guise. Unfortunately my images of this newly described 'baby' were a little out of focus much to the horror of Uncle Derek, but as I tried to explain as an excuse – 'It was tough!'; not really an excuse though and I promise to spend more time in future photographic endeavours, after all, we spent days getting to the plant so I should try to do it justice.

Also spotted in this area were *Pitcairnia arcuata*, *Tillandsia brenneri*, *T. truncata*, *T. tuescheri* another *Guzmania* that has some affinity to *G. conifera* or *G. bessae* or it has me thinking even *G. vinacea*, as well as another couple of *Guzmanias* that were either too immature or too past flowering to determine their identity. As I have to rely on some very helpful taxonomists to make identifications from my out of focus images, sometimes plants remain unidentified. Further up the hill I came across what I thought was *Tillandsia bulbosa* and it wasn't until I'd laid it down to photograph it that I noticed it had a completely different inflorescence; definitely not *Tillandsia*. This turned out to be *Racinaea parviflora*, a variable species that we saw in other localities.

After poking around this area we crossed the river and wandered through forest that was being cleared for cultivation. *Tillandsia fendleri* were also common in this area growing on the remaining palms that are left behind when the forest is cleared. Often the palms are spared so they can be used for flooring in future house building. The *T. fendleri* had red and yellow inflorescences, more than 1.5 m tall and the full sun exposure turned the foliage a beautiful pink to red colour. The fact that they grow at 700-900 m elevation means they are more likely to tolerate hot summer temperatures than the individuals I have in

Figure 6: *Tillandsia fendleri*

was growing on sandstone so lots of surface roots and limited soil depths, nutrition only due to composting organic matter that has fallen from the forest . As we wandered along the path in the forest more *Guzmanias* were spotted. One peculiar plant that was obviously a *Guzmania* had a multi-branched inflorescence. It was well past flowering but held seed in its 3-branched inflorescence. This was later identified as *G. lemeana*, usually a higher elevation grower than where we found it by the Rio Nangaritza. Images of plants in cultivation in Europe show the inflorescence is canary yellow, quite a stunning *Guzmania*.

Further along the path we came to a low sandstone cliff and growing on it in the overhang, so out of the regular rain, was *Pitcairnia condorensis*, a small growing plant with green foliage only 20-30 cm long. It had flower spikes of a similar height with tubular orange flowers. I have since checked the description for the species and the authors note the plant they described had red flowers and the size cultivation that were collected at Machu Pichu as seed at much higher elevations.

One of the big crops after the forest is partly cleared, including most of the lower stratum, was Naranjilla, a *Solanaceae* fruit that is pulped for its juice. We saw more of the same bromeliads growing there, as there was no real change in elevation. Later that afternoon we boarded a boat to head off further up the Rio Nangaritza. To do this we needed to go through the Nangaritza Gorge where the river narrows to 20-30 m wide and is flanked by tall, sheer, stone cliffs of 100 m height. It was quite a thrilling ride through the canyon as the constriction to the river creates an increase in flow rates and waves.

We pulled to the side afterpassing through it, to explore an area known as Miasi, an old camp from the war years. Once again the forest

Figure 7: *Pitcairnia condorensis.* Photo by Carla Black

is related to how much humidity they are exposed to. Obviously the ones we saw were smaller due to their dry growing conditions and, as usual, colour isn't such a good indicator of species as plants vary, out in their natural habitat; this is something *Heliconia* enthusiasts have to come to grips with regularly.

Figure 8: *Aechmea gentryii*

After spending a productive time along the Rio Nangaritza it was time to move north and look at different locations along the major mountain range of the Andes. As we drove north along the Oriente Highway, we would take side roads to the left and begin heading uphill on the lookout for more mid-to-high level *Heliconias* and other interesting plants. Around the town of Guyazimi we found a great road that went into areas that had obviously been cleared for farming but still had some forest clinging to the mountainsides. Large flowering *Aechmeas*, *Tillandsias* and *Guzmanias* could be seen clinging to the last remaining trees left standing in cattle pastures. Usually they were a long way away, so stopping and getting to them was difficult as we all had our own particular plant interests and no one likes a plant hog - time on the road is precious.

One plant that did cause us to stop was the newly-described *Aechmea gentryii*. This new *Platyaechmea* grows at altitude and as we were looking for mid-to-higher elevation *Heliconias* we were in the hills at around 1000 m. It appears very close to *A. chantinii forma amazonica* but its inflorescence is shorter and has more densely arranged branches. *A. chantinii* usually grows in the hotter lowlands ranging from 100-600 m elevation. The bright orange stem bracts and yellow floral bracts when in flower, really created a visual attractant for potential pollinators - it certainly got our attention.

As we kept heading north we came to the Province of Morona-Santiago and its capital Macas. We had hoped to travel through the Cordillera de Cutucu but the only way these days is with an organised tour group and we definitely didn't want to be led around looking at tourist sites. Heading North along the Oriente Highway we stopped in places with remaining forest and found *G. melinonis* again as well as a couple of forms of *Racinaea parviflora* that were more grey, with textured foliage, much more squat-shaped plants than the ones we found in the south; more work for some taxonomist with some time on their hands.

Figure 9: *Pitcairnia hitchcockiana*

These plants looked nothing like *Tillandsia bulbosa*.

One productive road, that headed up into the mountains from near Macas, took us towards the Sangay Volcano and its National Park. As we gained altitude *Pitcairnia hitchcockiana* was spotted growing on the grassy banks along the side of the road. I'm a big believer of trying to get to a plant when I see it, as you may never see it again or get the opportunity. Needless to say, I stopped the car and set off up a precipitous slope, holding on to the grassy vegetation to avoid rolling back down and ending up on the road. So, for about 5 minutes I struggled 30 m up towards the prized clump of flowering *P. hitchcockiana* with just my bare hands, while my travel companions yelled encouragement/laughed and took photos. I finally made it to the plants and collected a couple of flowers to photograph in a safer position. Also on the plant was an amazing, bright orange preying mantis, which needed its photo taken as well. I tucked the flowers into my waistband at the back so I had two hands free to attempt the climb back down the steep slope. After another 5 minutes' exertion I was back on safe ground, in one piece, with my flowers to photograph on the road.

We got back into the car and began the drive further up the mountain - within 500 m and around the next corner of that stop, the hillsides were lined with flowering *Pitcairnia hitchcockiana*; they were everywhere. Also spotted growing in these higher elevations were *Guzmania bipartita*, *Guzmania squarrosa* with its lurid yellow and red bracts, *Tillandsia buseri*, *T. tovarensis* and some other large *Tillandsias* that have some affinity to *T. fendleri* but don't resemble the *T. fendleri* we saw at lower elevation along the Rio Nangaritza. *Tillandsia longifolia* and *Tillandsia bartlothii*, with its pendant, yellow inflorescence and green flowers, were also spotted growing on the last remaining trees in cleared cattle pastures. Since the *Heliconias* tend to top out at around 1800-2200m, we headed back down towards the highway again. As we crossed the Rio Pastaza and entered Pastaza state, we were back down in the Amazonian elevations. Plentiful along the road were *Aechmea retusa* growing in the trees; their bright orange red inflorescences attracting the eye as we sped by. Another landslide stopped our progress just south of the town of Tena. This was the dry season so you could imagine what wet season would be like. Tena was an area I had been to 19 years previously and I had been really looking forward to getting back to again - maybe next time.

The Ecuadorian people are very used to landslides blocking their roads; everyone gets off their bus and walks (or picks) their way over the slide to the buses trapped on the other side, gets on and the buses quickly turn around and go back to the towns they came from,

with minimal disruption to services for their passengers, until the earthmoving equipment shows up to clean away the roadway. For us it meant turning around and heading up the hill back into the Andes, via Baños. We were headed for the Atlantic side and we couldn't wait for the earthmoving equipment to arrive and clear the highway.

After spending the night in the inter Andean valley in the lovely old town of Latacunga, with views of the famous Cotopaxi volcano, we headed back down the hill towards the Pacific Ocean, towards Santo Domingo de Los Colorados. From here, down into the warmer, humid lowlands, we then headed back up the hill on the old road to Quito. The new road was being upgraded and carries huge amounts of traffic; the old road is still dirt and these days only caters to local farmers, a much nicer place to look at plants than the multilane highway.

Starting at the bottom we spotted *Aechmea angustifolia*, stopped at a roadside truckdriver's girliebar, AKA brothel, to photograph *Pitcairnia sceptrigera* and further along we saw *Pitcairnia nigra*, with its petiolate leaves and bright red inflorescences. Growing alongside it was *Pitcairnia palmoides*, a caulescent species with a faint, marbled pattern to its leaves. Growing in trees along the roadside were *Guzmania alborosea* with its pink and white inflorescence, *Guzmania wittmackii* in full flower; this variety had lilac bracts and to see a plant more commonly seen in its thousands in nurseries happily flowering in its natural habitat was pretty special. Not to be outdone was a flowering clump of *Tillandsia cyanea* happily growing on some farmer's fence post. Obviously plant collectors travelled this road in the past collecting these attractive plants and taking them home and introducing them to the rest of the world. Other plants we noticed as we gained altitude were *Guzmania teuscherii* and *Mezobromelia capituligera*. At the higher end of things, we came across *Pitcairnia dendroidea* and the magnificent *Mezobromelia lyman-smithii*; this monster grows to over 1 m wide and, when flowering, can get close to 3 m tall. We were lucky to find some individuals that had fallen from the steep stony hillsides where they were naturally growing, saving yet another dangerous climb to get close enough to photograph them.

Figure 10: *Pitcairnia arcuata*

The next day we headed towards San Miguel del los Bancos on two missions: Firstly Dave was keen to relocate a *Costus* he saw briefly a couple of years ago when he was able to coax a bus

driver to stop quickly so he could jump out and take a photo before the bus took off. Seeing the work of Ecuadorian bus drivers, Dave is either very persuasive or lucky. I'll leave it to Dave to one day document his discoveries and his captivity at high elevations. The second reason for this locality was to find another rare, high elevation *Heliconia*.

Figure 11: *Guzmania sp.* - Rio Nangaritza

On the drive up to San Miguel del los Bancos it was pretty much the same, plant-wise, as the old Santo Domingo-Quito road, although I spotted a flowering plant of *Pitcairnia barrigae,* a massive *Pitcairnia* with large 1.5-2.0 m leaves, climbing up a tree. From this emerged a huge, club-like, 1 m inflorescence of black bracts sprouting bright orange flowers that must be very attractive to passing hummingbirds.

It took us a while asking lots of locals as to where the old road to Santo Domingo and our *Heliconia* locality was and we found that we needed to be asking people over 60 to be getting the right answers. In the meantime the cloud cover was getting to the point that Angel had between 5 and 10 m of visibility as we headed off down the old steep dirt road. Judging the size of an oncoming vehicle by the distance between their headlights can be fraught with danger as we found huge trucks emerging out of the gloom with just two fog lamps closely spaced on their bumpers. We took this road to find the very rare *Heliconia*, that has patterned leaves: *Heliconia willisiana*, and luckily for us we found it growing in a tiny forest remnant that was obviously too steep to be worth clearing. After tripping over a single strand of barbed wire hiding amongst the undergrowth, we came across the plant we were after, with much excitement.

Our next locality was the mythical Lita region, close to the Colombian border, in Carchi Province, home to many *Guzmania* species. It joins the Choco region just across the border in Colombia which is one of the wettest spots on Earth, as well as being very close to the equator.

To get there from San Miguel del los Bancos meant another huge drive through the back blocks, although there was the tantalising sound of a new road up to Otovalo. We travelled over some very rough, deserted roads, often down steep canyons. The areas we travelled through were pretty arid and appeared to have been cleared for agriculture. We could see large *Tillandsia secunda* in flower, growing on the steep scree slopes above the road.

The new road to Otavalo turned out to be quite a construction-in-progress. Bulldozers carrying beautiful, pink sausages of explosives, tied up with canary yellow detonation cord, made way to more bulldozers clearing rock falls that could be used as road base. Needless to say, our little 4WD, with minimal ground clearance, just made it through without needing a push from the dozers, or all of the passengers to get out as we had to in other sections and some creek crossings.

We had the pleasure of staying with a Belgian gentleman and his Ecuadorian wife, at Carolina, just down the road from Lita, which meant it was an easy drive to do day trips in and around Lita and Alto Tambo. The forests close to the road had been cleared and we were in the area chasing *Heliconia lutheri*, a rather large hairy, red-brown, pendant species, originally collected by Harry Luther and John Kress in the late '80s. Plenty of *Guzmanias* were spotted growing in the wet forests, but by this stage we had tunnel vision and the thought of seeing *H. lutheri* meant we were concentrating on *Heliconia* foliage with white undersides rather than anything else that may have been growing in the area. We saw plenty of *Calathea lutea* with white leaf reverses, but none of the plant we were all keen to find; we now have an excuse to head north of the border and into Colombia one day.

After poking around Lita and Alto Tambo for a couple of days, we headed back to Quito thoroughly exhausted. A quick stop had to be made to wash and clean our hire 4WD then back to Casa Bamboo, the best cheap little hotel in Quito. For me the huge flight home loomed, with an 18 hour layover in Santiago Airport, Chile, to look forward to. I used my time wisely and wrote a journal article, with plenty of caffeine to keep me going.

As I mentioned early in the story, this trip was a huge undertaking and we saw large parts of this beautiful country all in two weeks. I'd like to thank my travelling companions, Carla Black, Angel Rodriguez and Dave Skinner, for allowing me to stop the car and disappear into the forest whenever something caught my eye.

Figure 12: *Tillandsia buseri*

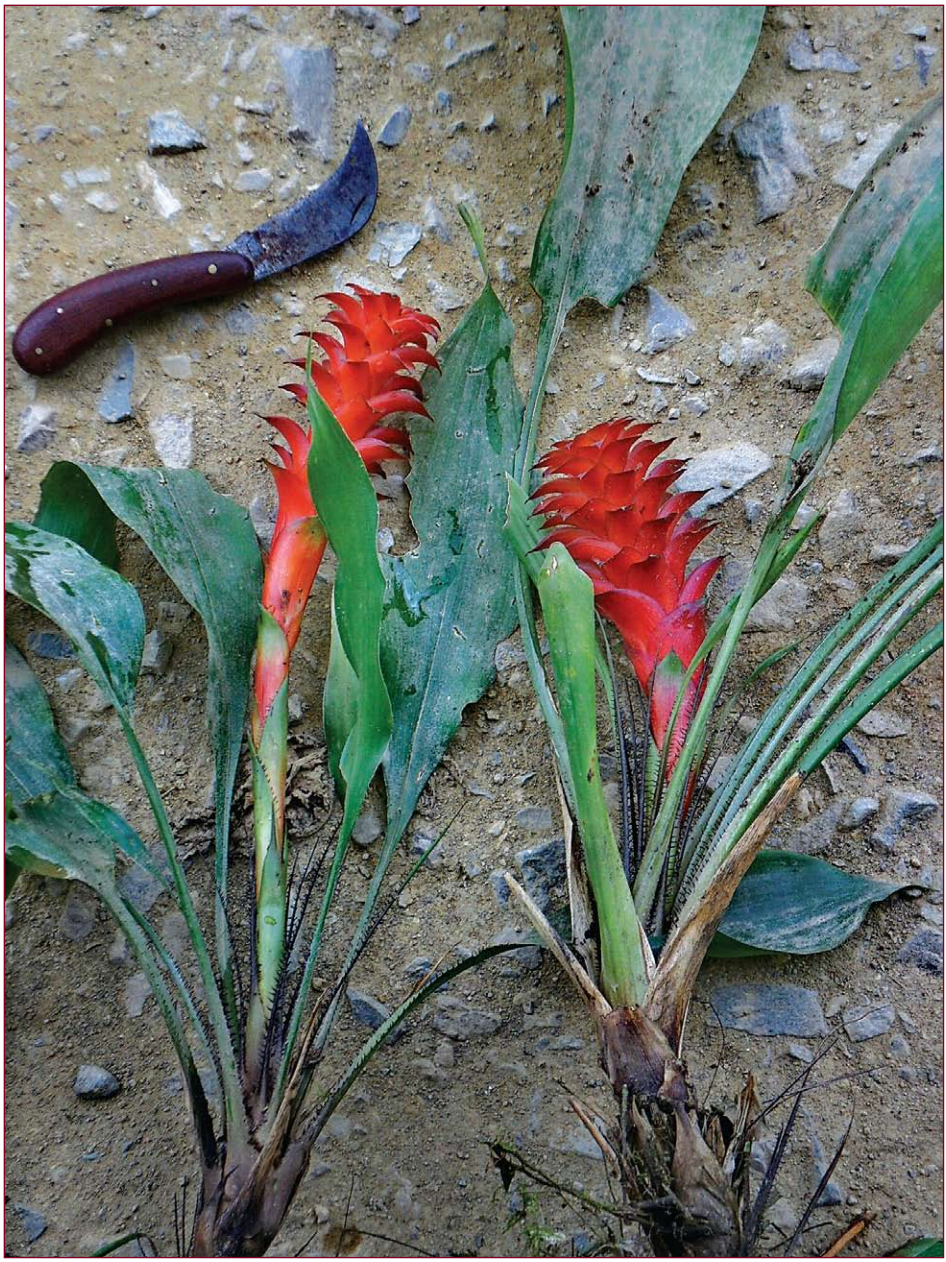

Figure 13: *Pitcairnia nigra*

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# *Tillandsia* 'Hondurensis'

*Derek Butcher*

Figure 1. *Tillandsia* 'Hondurensis' habitat

In 1975 with Werner Rauh, Enrique Kamm found a colony of plants growing on rocks near Jacaleapa, Francisco Morazán, Honduras, quite near Tegucigalpa. There is also a colony near the airport. On the same expedition he found *Tillandsia hondurensis* which Werner Rauh described in 1981. This species is on the endangered list and has nothing to do with the plant here under discussion. Werner did not take any taxonomical interest in the plant with affinities to *T. fasciculata*.

On the other hand, Enrique saw horticultural benefits and he saw similarities with the ubiquitous *Tillandsia fasciculata* and called his find *T. fasciculata* var. hondurensis. Over the years he sent specimens to Tropiflora and Dennis Cathcart kept propagating them and selling them as *T. fasciculata* 'Hondurensis'. Such is the popularity of this plant it is now being grown in many countries by *Tillandsia* enthusiasts. Recently a large shipment went to Singapore to be part of their huge 'Gardens by the Bay' project.

In July 2011 Matthias Asmuss of Venezuela flowered his 'Hondurensis' and when he wanted to know more about his plant he could find no reference to this name either in any species listings or the Cultivar Register. This is understandable because nobody had bothered to formally identify this plant. Most striking-looking plants find their way to a taxonomist and eventually get formally identified and sometimes given a new name according to the ICBN rules. This takes time. Here we strike a problem. In 2010 there was a paper published under the heading "Herbaria are a major frontier for species discovery" (PNAS 107 (51): 22169-22171. 2010) where it was revealed that only 16% are described within

5 years and 84% much much longer. It would seem better that living plants be given a non-Latinised name so they can be released via the nursery trade. Here the Bromeliad Cultivar Register can play a vital role because crucial data can be recorded.


Figure 2. *Tillandsia* 'Hondurensis'

Anyway, Matthias in his zeal for information placed a photo on the Florapix section of Brom-L asking for comments. I was somewhat surprised when Dr Walter Till suggested this may well be the 'old' *Tillandsia pungens*. I knew that it was treated as a synonym of *T. fasciculata* var. *fasciculata* in Flora Neotropica (1977) and this had me checking old records. This was what I found in Mez in Das Pflanzenreich, Bromeliaceae 1934/5:

32. ***T. pungens*** Mez in DC. Monogr. Phaner. IX. 684. (1896).
To 0.4 m high.
***Leaves*** 0.4 m long, above the sheath to 23 mm wide then gradually narrowing to a clearly subulate subpungent tip, when dried involute channelled, white lepidote drying grey.
***Scape*** thick, erect, dense very rigid scape bracts, long triangular acute, strongly pungent involute.
***Inflorescence*** digitate with a few spikes at the most, to 0.2 m long & 35 mm wide, densely flabellate, lanceolate, to 14-flowered, subsessile compound;
***Primary bracts*** much shorter than the spikes;
***Floral bracts*** dense imbricate, the back glabrous becoming smooth, from wide ovate becoming blunt, towards the tip the upper part is very clearly incurved acute carinate, to 50 mm long, very clearly exceeding the sepals.
***Flowers*** strictly erect, definitely 55 mm long;
***Sepals*** anterior one free, posterior pair to 23 mm connate, back glabrous with fine prominent veins, lanceolate, very acute, to 36 mm long.


Figure 3. *Tillandsia* 'Hondurensis'

***Petals*** 14 mm longer than the sepals, tubular erect, shorter than the stamens.
Mexico: Oaxaca, in the Sierra de Misteca, Cerro Potrero (Schenck Mex. n.226).
Panama (Wagner n. 53). [ Holotype. Wagner 53 (GOET, M, GH photo) – Butcher!]

Lyman Smith in Phytologia 20(3): 177. 1970 placed this species under *T. fasciculata* var *fasciculata* and this was again published in Flora Neotropica (1979). Nobody has challenged this move in the intervening years. Mez was of the opinion that *T. pungens* was closer to *T. tricolor* because its spikes were flatter in cross section. But then, when does flat become convex?

Matthias has found that his plant is very close to the description of *T. pungens* but he would also find it very close the description of *T. fasciculata* var. *fasciculata*. Such is the dilemma.

We know that *T. pungens* was found in Panama and Mez says that second find occurred in Mexico so it is feasible our plant from Honduras could be the same. However, that is a taxonomists decision, and horticulturists may well consider that it is still different from the concept of *T. pungens*!

Thus it seems prudent to add *Tillandsia* 'Hondurensis' to the Bromeliad Cultivar Register. For those who consider it a special form of *T. fasciculata* reference can be made to http://botu07.bio.uu.nl/bcg/taxonList.php under *T. fasciculata* var. *hondurensis*

## Acknowledgements:

Thanks to Matthias Asmuss for asking questions, Dr Walter Till for giving a different slant on the matter, and Dennis Cathcart, so that another cultivar naming problem can be laid to rest!

Figure 4. *Tillandsia* 'Hondurensis' habitat

Figure 5. *Tillandsia* 'Hondurensis'

# New Bigeneric Genus: x *Ursulepis*

*Geoff Lawn, BSI Cultivar Registrar*

Figure 1. x *Ursulepis* 'Sam Smith'. Photo by Rick Cairns

In July, 2011 the nothogenus x *Ursulepis (Ursulaea* x *Androlepis)* was first recorded in the BSI's Bromeliad Cultivar Register under ICBN Rules (Vienna Code 2006). This "new" parental combination has been in cultivation 19 years but came to my attention only several months ago when featured online at the Bromeliad & Airplant Forum found at the following link: http://www.bromeliadforum.za.net/forum/index.php? where it was discussed under the parentage *Ursulaea macvaughii* x *Androlepis skinneri*.

I coined both this bigeneric genus name x *Ursulepis* and cultivar name 'Sam Smith' to honour it's breeder and long-time bromeliad grower Samuel Smith MD of Fort Myers, Florida.

Seed Parent: *Ursulaea macvaughii* (L.B. Smith) R.W.Read & H. U. Baensch. J. Brom. Soc. 44:205-11. 1994.

Pollen Parent: *Androlepis skinneri* (K. Koch). Brongniart ex Houllet. Revue Hort. 42:12. 1870.

X *Ursulepis* 'Sam Smith' is featured and photographed here blooming in the Brisbane, Australia garden of Rick Cairns who took all these images. See the cover image of the journal for a closeup of the inflorescence.

# x *Ursulepis* 'Sam Smith'

*Geoff Lawn, BSI Cultivar Registrar*

It transpires that the bigeneric *Ursulaea macvaughii* x *Androlepis skinneri* has been cultivated in Australia for at least a decade, having been imported by the Olive Branch nursery (and possibly other growers) from U.S.A., but the original source was unknown. My enquiries led to grower and breeder Sam Smith of Fort Myers, Florida who acknowledged that he bred this cultivar in 1992, but it was never named or registered. Sam says that he and wife Hattie Lou still grow it on their rural property as tree epiphytes, and appreciate the long-lasting, attractive inflorescences in Winter, despite the overall large rosette's size.

The quest to photograph a blooming specimen was met by Brisbane grower Rick Cairns who in early 2011 had ground-planted a huge advanced rosette in his garden landscape. This bigeneric can reach 2 metres diameter or more with a water-holding tank ,maturing to at least 1 metre high. The green foliage reddens or turns pink in strong light, taking after it's pollen parent *Androlepis skinneri*, which is a unisexual epiphytic species (with separate male and female plants) hailing from Mexico, central America and through to Peru.

The arching or semi-pendant inflorescence of x *Ursulepis* 'Sam Smith' resembles it's seed parent *Ursulaea macvaughii*, a Mexican epiphyte inhabiting mixed tropical forest at 500-600 metres altitude. Flamboyant shell pink scape bracts enclose the dense raceme to about 80cms. long of white lepidote stems and ovaries tinged pink. The petals of x *Ursulepis* 'Sam Smith' are tawny gold, evidence of the purple flowers of *Ursulaea macvaughii* combined with the yellowish petals of *Androlepis skinneri*, the male parent of which extended the inflorescence length in this bigeneric progeny.

No hybrids from x *Ursulepis* 'Sam Smith' have been reported, but possibly it may prove to be sterile like most other registered bigenerics to date.

Figure 1. x *Ursulepis* 'Sam Smith'. Photo by Rick Cairns

# New Cultivar: *Aechmea* 'Mild Chilli'

*Geoff Lawn, BSI Cultivar Registrar*

Figure 2. *Aechmea* 'Mild Chilli' inflorescence. Photo by Bob Hudson

During the Cairns World Bromeliad Conference in June, 2008 I photographed a stunning berried *Aechmea* with the curious label "1449" in Lynn & Bob Hudson's bromeliad collection in Cairns, Queensland. I didn't recognise it and nearly 3 years later requested information with a view to registration if it was "new" and unrecorded.

This distinctive cultivar was imported into Australia in 2000 by the Olive Branch nursery, Brisbane from Paul Deroose at Deroose Nursery's Florida branch. Enquiries led to it's breeder Reginald Deroose, manager of the Belgium branch of Deroose nursery. Together with my research and Reginald & Marjolein Deroose's breeding records (coded entry A1449 = A2 x 405), this cultivar's parentage is Ae. 'Reginald' (the variegated form of 'Maginali') x "*ramosa* hybrid", bred circa 1991. Reginald advised that this latter pollen parent was probably either *Ae. ramosa x fulgens* var. *discolor* or *ramosa x fulgens* var. *fulgens*, 2 clones which were not named (Nat Deleon hybrids) but tissue-cultured by Deroose nursery until a few years ago. A1449 was never named but commercially released under code number only, briefly around 2000, then this production line was discontinued. Lyn Hudson nominated to call this hybrid *Aechmea* 'Mild Chilli' which Marjolein Deroose agreed to put on their nursery's cultivar name records.

*Aechmea* 'Mild Chilli' is largish at 50cms. diameter and 60cms. tall in spike. The open vase-shaped rosette with pliant, lustrous red-spined foliage is discolor, here meaning a green leaf obverse and reddish maroon reverse. The upright, red-stemmed, densely-branched panicle of coral red ovoid berries has cream petals which turn black once spent. Blooming over Summer and Autumn like many hybrids with ancestry of *Ae. miniata* var. *discolor* and/or *Ae. fulgens* var. *discolor*, the long-lasting inflorescence eventually turns a burnished red.

This attractive hybrid seems semi-hardy for sheltered-garden planting in filtered shade or as a potted shadehouse specimen in tropical or sub-tropical climates. More Winter protection in a glasshouse or indoors may be necessary in cool temperate or colder climates.

Figure 2. *Aechmea* 'Mild Chilli'. Photo by Bob Hudson

## Events Calendar

AUSTRALIA / NEW ZEALAND:

SEPTEMBER 10-11, 2011. Bromeliad Society of Australia Spring Show, Burwood RSL.

OCTOBER 29-30, 2011. Bromeliad Society of New South Wales Spring Show, Concord Senior Citizens Centre, 9-11 Wellbank Street Concord.

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:

NOVEMBER 4-6, 2011. Florida East Coast Bromeliad Society hosting the Florida Extravaganza at the Plaza Spa and Resort in Daytona Beach. The Cryptanthus Society's International Show will be held at the same venue on the same dates.

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

## CONFERENCE CORNER

ORLANDIANA '12
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 is currently in need of a chairman. Many thanks to Harvey Beltz for his years of service keeping the seed fund alive. The seed fund is an important and valuable offering to members, and a service that benefits the whole community.

Looking for a bromeliad lover willing to volunteer free time to manage the BSI Seed Fund. If you have an interest, please contact Jay Thurrott (president@bsi.org) for further details.

# 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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# JOURNAL

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