



THE

BEGONIAN

May/June 2013

The Begonian

Publication of the American Begonia Society

American Begonia Society

Founded January 1932

by Herbert P. Dyckman

Aims and Purposes

To stimulate and promote interest in begonias and other shade-loving plants.

To encourage the introduction and development of new types of these plants.

To standardize the nomenclature of begonias.

To gather and publish information in regard to kinds, propagation, and culture of begonias and companion plants.

To issue a bulletin that will be mailed to all members of the society.

To bring into friendly contact all who love and grow begonias.

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Cross-section of an unusual six-winged (as opposed to the normal three wings) seed capsule that I found on my own *B. bowerae* hybrid. I saved some seeds and recently sowed some of them to see if this is a heritable character.
From Kingsley Langenberg

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The scented flower of *Begonia elisabethae* pg. 90



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Front cover: A wasp gets its head dusted with pollen grains while visiting a male flower of a new Bolivian begonia species. Photo by Mark Tebbitt. Read more on pg. 105.

Back cover: An unidentified epiphytic begonia from Ecuador. Photo by Jacky Duruisseau. Details of Jacky's trip on pg. 96.

President's Message

Well spring is definitely here, the trees and flowers are blooming across the U.S. What a better way to spend spring than at the ABS Convention/Southwest Region Get-Together in Austin, TX. One of the tours is to the Lady Bird Johnson Wildflower Center and it should be lovely. An additional highlight of this convention will be another convention; the African Violet Society of America will be hosting their convention in Austin at the same time as ours and we are going to get to see their beautiful show and sale. How exciting! You will have your *Begonian* before the convention and if you haven't registered please do so and plan to attend. For those who have never been to a convention before, why not start with this one? Once you attend you're hooked and you'll start looking forward to the next one which will be in Tampa in 2014.

I had the great opportunity to attend and judge the Philadelphia International Flower Show held in Philadelphia in early March. This is the premier indoor flower show in the world and was celebrating its 185th year. There were many, many beautiful begonias that were shown. Kudos

go to members of the Delaware Valley Branch for their participation on the show. Congratulations to all of you who exhibited. If you ever get the chance I highly recommend visiting this spectacular show.

Well, my begonias are outside from their winter porch home and are growing like champs. One of my favorites is *B. U484* and a sport of *B. U484*, *B. 'Nancy Cohen'* - this beautiful rhizomatous does well as a container plant and as a landscape plant, its silver streaked leaves lend compliments to anyone's collection. For those of you who might not know what "sport" means it's that a different looking plant came from a leaf cutting/wedge from the original plant; this new begonia is then grown and propagated to see if the new begonia holds true. If it does hold through several propagation attempts a new begonia is developed. *B. 'Erythrophylla Helix'* and *B. 'Erythrophylla Bunchii'* are both sports of *B. 'Erythrophylla'*. Be sure to look at what comes up from your cuttings as the plant may be different from its parent.

Be sure to spread the word around about begonias and the American Begonia Society. You - the members - are our best publicity.

Good Begonia Growing,
Charles Jaros, President



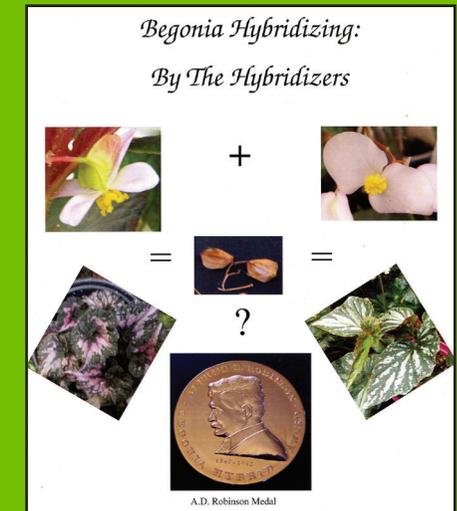
B. U484 (top) and *B. U484* sport 'Nancy Cohen' (bottom). Photos by Doris Happel

New Publication Available

ABS's Millie Thompson Publication Fund brings us a new publication, *Begonia Hybridizing by the Hybridizers*. This is an international collection of articles by some of today's best begonia hybridizers and is edited by Freda Holley. All types of begonias are covered and articles are amply illustrated with a multitude of color photographs. This is a companion volume to the earlier volume *Begonia Hybridizing: A Primer*.

Order the book from:
Ann Salisbury
Box 452
Tonkawa, OK
74653-0452

Cost will be \$21 which includes priority postage. Checks should be made out to the American Begonia Society. All proceeds from its sale go to the Millie Thompson Publication Fund. For other information call Ann Salisbury at 1-580-628-1332.



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Convention 2013 Update

The plant sale and show will open at 7pm on Friday. The business lunch is at noon with ABS and SWR meetings to follow. The cocktail hour is at 6pm followed by the banquet at 7pm. The hospitality room will be open as much as possible and I'm sure there will be plenty to eat and drink.

When we finalize the itinerary Dean Turney will post it on the website. He has done a great job of getting all the other information posted. If you have a question you can still send us an email at absswr2013@yahoo.com. See you in Austin!
~Doug Byrom

We are still working to line up a couple more speakers, and then we can work out when they will speak. So far we have Dr. Freda Holley, Wanda Macnair, Dr. Rekha Morris and Dr. Mark Tebbitt.

The itinerary of the convention will be the same as most you have attended. There will be a seminar(s) on Wednesday and Thursday nights and one or two on Saturday morning.

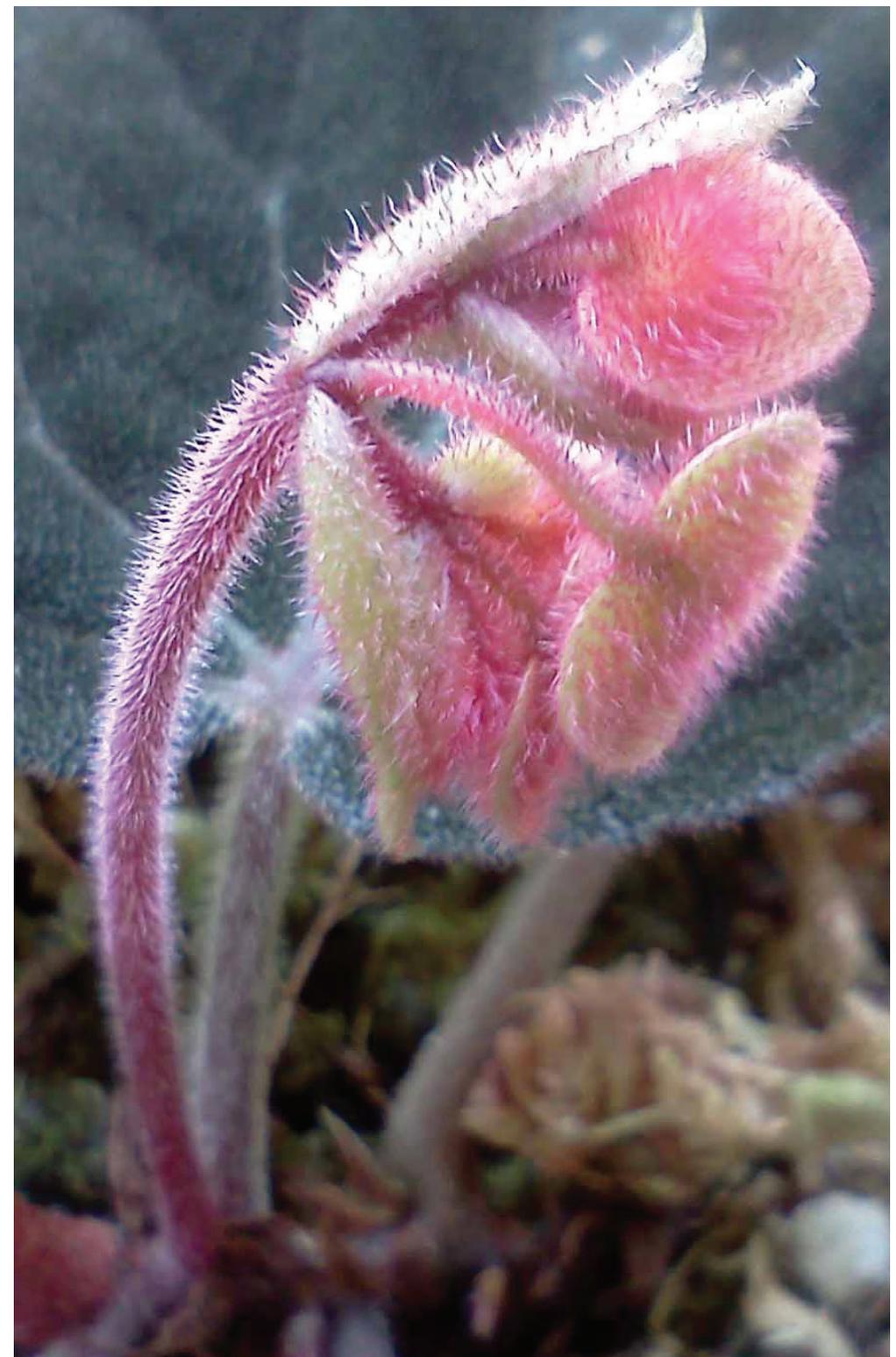
Again the time has come to mention our Holiday Greetings plan, which is a way for individuals and branches to offer holiday greetings. These benefit ABS by

Holiday Greetings Request 2013

paying for at least one issue of *The*

Begonian. We can do this without using more than one page of our magazine by listing the categories of donations. The categories are **Bronze, \$1-\$50; Silver, \$51-\$100; Gold, \$101-\$150; Platinum,**

\$151, plus. In order to handle everything in a timely manner, we need to have a deadline of **September 15** so that no donation gets left out. The tax-deductible donations may be sent to **Wanda Macnair, 59 Walker St., Cambridge, MA 02138**, also listed on the back inside cover of *The Begonian*. Checks should be made out to *ABS Holiday Greetings*. Thank you so much for your cooperation and generosity. -Wanda Macnair



Buds of *B. imperialis* Photo by Madeline Woodward

Self-Layering in Begonias

Article and photos by Peter Sharp, Tasmania, Australia

We are all familiar with propagation by layering, I am sure, but just to remind us: it is simply the treatment of stems or branches of growing plants so that they will produce a new one whilst still part of the living parent. We have often used this method of propagating begonias and the accompanying photos show the result of this with *B. venosa*.

However, the opportunity to grow begonias as landscape plants on a large scale in the Sydney Royal Botanic Garden has enabled us to observe how begonias, and many other plants I have no doubt, reproduce through self-layering when they are allowed to grow in an environment as near to natural as possible. We have been able to let many of them grow without benefit of secateurs to keep them in trim – I have often wondered for instance whether the tall growers



Figs. 1 & 2 – *B. venosa* as layered, and resultant root development of three new plants.

ever stopped growing, or the shrubbies had a limit to expansion or the rhizomes just kept creeping, and how did they reproduce themselves in the wild (was seed the only way?) and when, if ever, did they die of natural causes like old age or arthritis? So many questions without the expertise to answer them, so experience instead must come to the rescue, and so it did, firstly with the thick-stemmed beauties that we grow.

One in particular, given us as *B. umbraculifera* although the name has been questioned, provided one of the answers. We allowed it to grow unmolested, and it continued upward until it got too tall (about 1.5 metres or five feet) and simply collapsed. The end of it? No way – it simply produced roots where a node contacted the soil so that the growing tip became,

in effect, a new plant and continued to grow upwards. As a bonus, a new plant grew from the original root system as, in falling, a portion of this system remained active, producing in fact two plants where only one had been before. We have seen this happen twice to the same plant so far, producing in effect a stem of some considerable length, even though two pieces of it now lie flat upon the garden bed. And this was not an isolated experience. Since the first of these events we have had similar experiences with *B. luxurians* and some of the cane-likes which we have left to their own devices and I suspect that this is no rare occurrence in wild populations of begonias. At times other nodes along the length of the fallen stem will produce roots and corresponding shoots depending upon the contact those nodes have with the ground.

The collapse of the tall ones is apparently caused by them being simply too heavy for the root system to hold upright, or as is more likely in many cases, becoming so tall that the wind blows them over. And if they should not contact the ground when fully collapsed, but rest upon a fellow plant, the tip will continue to develop, growing upward until it is again too tall and falls once more, or simply drooping until it finds a patch of soil in which to put down new roots from a convenient node.

This self-layering is apparently a most common and very successful means of reproduction and we have since noticed its occurrence amongst the shrub-likes and the semperflorans as well, especially when they are not pruned but left to their own devices. They are, after all, more or less succulent by nature and do not need the baring of cambium tissue as is done with their woody cousins to encourage root development during the layering process. Layering can of course be encouraged very easily by bending a suitable stem to the ground and pinning it down where a length of it is buried. A piece of medium size wire bent to a U shape makes a useful pin for this purpose.



Fig. 3 – *B. umbraculifera* self-layered
Fig. 4 – Result of self-layering of *B. luxurians* var *sampaioana*

Begonia elisabethae, The First Record of a Scented Begonia from Malaysia

Article and photos by
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Begoniaceae is a large family with more than 1,500 species but amongst these many species only 11 begonias are recorded with scented flowers (Tebbutt, 2005). Their scent had been described as sweet and spicy. Cross pollination of some scented begonia species has successfully developed many scented begonia hybrids with large colorful flowers. Now there are many scented hybrids and varieties available in many web-stores owned by western commercial growers available as tubers and seeds.

There are 52 native species in Peninsular Malaysia (Kiew, 2005) but until now there has never been a report of a scented begonia, so the flowers of *Begonia elisabethae* are the first report for Peninsular Malaysia.

I have been growing native begonia species primarily for *ex-situ* conservation in a nursery of the Forest Research Institute of Malaysia (FRIM). *Begonia elisabethae* is relatively difficult to cultivate being a rather delicate species.

So I hand-pollinate the flowers in order to obtain seeds. On 28th December 2012, a plant of *B. elisabethae* bloomed in the nursery with both male and female flowers and while hand-pollinating, I was excited to notice a sweet scent from the white flowers of this begonia. To be certain, I took a closer sniff at the flowers and found it has a light, jasmine-like scent. Both male and female flowers emit this pleasant fragrance.

The flowers last for 2 to 3 days and the sweet scent is strongest in the morning. After 12 noon, a close sniff is needed to experience the fragrance of *B. elisabethae*. Within 4 days after hand pollination, the female flower wilts and drops

Fig. 1 - White flowers of *Begonia elisabethae* with dense hairs on the outer surface of tepals.

Fig. 2 - Hand pollination - Bend the tepals of male flower backwards to fully expose the anthers and for better handling of the male flower. Gently brush the anthers to the stigma a few times, a little yellow dust (pollen) can be seen during the process.

Fig. 3 - Pollination successful!





Fig. 4 - Ripening capsule of *Begonia elisabethae* after the tepals have shed.

its tepals, at the same time the white-coloured ovary was observed getting slightly bigger and turning into a pale green capsule. The seed capsule takes another 2 weeks until it is ripe and can be harvested.

Begonia elisabethae is named after the collector Elisabeth Eber-Chan, who discovered this species and brought it to the attention of Dr. Ruth Kiew, author of *Begonias of Peninsular Malaysia*. Although it is a fairly common species in Thailand, it is, however, extremely rare and critically endangered in Peninsular Malaysia with only two wild populations recorded in Langkawi Island and Bukit Weng, both in the northern state of Kedah. There is, therefore, a need to conserve this species in Peninsular Malaysia.

Begonia elisabethae is a succulent, low-growing plant with ordinary-looking, pale green asymmetric leaves. Its leaves are very thin and delicate and they are often damaged by fluctuations in their

micro-habitat or just by coming into light contact with the edge of the planting pot. The species is very unusual in its elongated leaf tip that often naturally arches downwards to the soil surface, where it forms a small tuber-like tissue with some roots. From this soon grows a new plantlet from the tip.

At first glance Elisabeth's Begonia is just an ordinary-looking plant, but if you come close you can enjoy the pleasant scent of its flowers that more than 99% of begonia species do not have.

Acknowledgements

The author would like to thank Dr. Ruth Kiew for her comments on the article and to Ms. Chan Yoke Mui for providing planting materials collected from a wild population for *ex-situ* cultivation.

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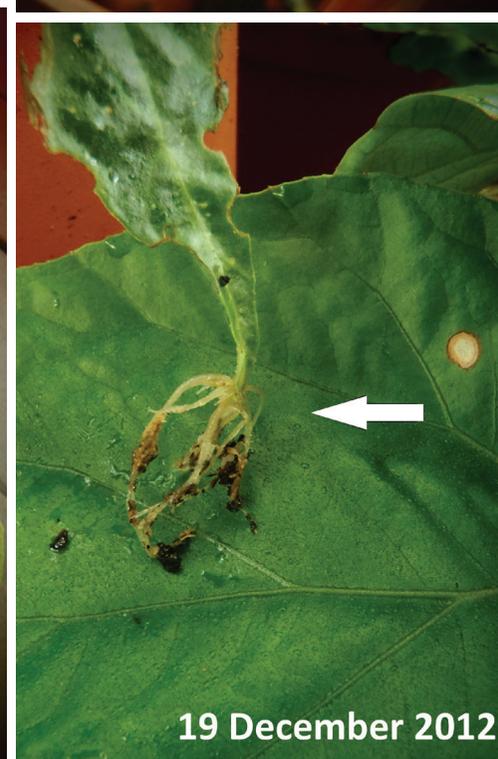


Fig 5 - 8 Tip of the elongated asymmetric leaves naturally tend to curve downwards to touch the soil surface, resulting in rooting at the leaf tip.

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About the author

Joanne Tan is a researcher at the Forest Research Institute Malaysia (FRIM), under the Flora Malaysiana Centre Project funded by the Ministry of Plantation Industries and Commodities Malaysia.

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The Begonias of Ecuador - Part 2

2012 March 7 /
2012 April 2

Article & photos by
Jacky Duruisseau, Bois France

On March 20th, we go down to a more comfortable altitude and we find again the Pan-American Highway towards Riobamba. On the banks of the road, Sebastian spots red flowers: *B. froebelii* (Fig 10) is in blossom. The slope is almost vertical and we are in fog at an altitude of about 2300m! This tuberous begonia grows here with another one (photo 11), with pink flowers and many tepals, maybe a begonia of the *B. octopetala* group (according to Mark Tebbitt via Ludovic Kollmann in Brazil). We change direction and take the Zhud road westward; Sébastien Guillot, a horticulturist friend who knows this area well, told us we can see many begonias here: again we find *B. froebelii* and another species, not tuberous, in blossom. I have never seen quite so many begonias of the same species in the same place, in blossom. The slope is white! (photo 12). Further, Sebastian finds the species at 15° N and he is very proud and glad! It is a very tall one with palmate leaves, unfortunately without flowers, and only two plants. We descend again and near 1800 m, find another begonia with very



large leaves and with petioles that start from a “trunk” covered with moss. A hairy crown surrounds the ombo under the blade. I know this begonia! It’s *B. ludwigii* (photo 13).

The next two days will be without begonias. Actually, we move between 3000 and 4000 m with wonderful Andean plants in Cajas Park and many orchids on the Loja road. Loja is an important town where we can visit the botanical garden. Unfortunately, no begonias in this garden, but a good idea of the local flora - with many orchids.

On March 23th we go toward Zamora, on the east side of Ecuador, at the edge of Podacarpus Park, in the Amazon area. At an altitude of 1000m, near the road, we find a new species, but a common one, *B. fischeri*. On the return, we drive on a track, the old road from Zamora to Loja. We cross a forest where we find another well-known species (photo 14) at 1600m. We arrive in the evening at Vilcabamba, the “hundred-years-old town” (many retired people here) in a nice hotel run by two French people. It is hot and close. Thunderclaps during the night with a lot of rain. The next day, we visit Podacarpus Park where we find two very interesting begonias. The first one (photo 15) is in blossom. A very nice species, its palmatilobed and green leaves have silver stains. It grows in large quantities on the edge of the track, in the sun [when it is shining... but we are at 2600 m and temperature is about 20°C (68°F)]. We get some fruits with seeds. The second one is certainly a begonia of the *Gobenia* section, close to the one we had seen at El Chaco. It is an epiphytic one,

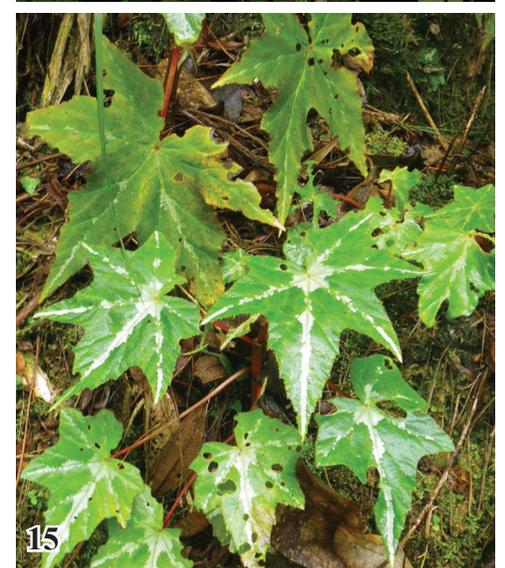


Fig. 10 - *B. froebelii* is in blossom. Fig. 12 - *B. froebelii* with pink blossom. Fig. 13 - *B. ludwigii*. Fig. 14 - *B. guaduensis*. Fig. 15 - Unidentified Ecuadorean species.



2500m, but a welcoming hot wine from the receptionists really warms us! Here, temperatures are between 7°C (44°F) and 23°C (73°F). It is not a problem for many and multicolored hummingbirds that drink in the drinking troughs put out for them. These birds are really incredible and it is a true exhibition when we see them stay in stationary flight before rushing at the other ones. The Tapichalaca Reserve was created by the Jocotoco Foundation for protecting a very rare and strange bird, the Jocotoco. Walking in the “clouds forest” on next morning with a guide who shows us the Jocoto-



co. This park is in fog 8 days out of 10! Many orchids here and we meet the same begonias. There’s a new one however, close to *B. longirostris* with the same red flowers but with hairy leaves and nerves less visible (Fig. 17). At evening, we come back to the hotel in Villcabamba: we plan on starting early tomorrow because we have a lot of kilometers to go towards the west. On the road, after a bridge on a

too (Fig. 16 – see back cover), and the leaves are very variable, the nicest with white spots. But no flowers yet, just some buds. Of course, no fruit! Further, still in the park, at the same altitude, we again see *B. longirostris* in blossom and one that may be *B. maurandiae*. Two great days with five species!

Sunday March 25th: We start towards Tapichalaca Reserve and it is cold at

small river, we see again *B. froebelii* on rocks and the species in picture 11 on the slope. We drive towards Puyango and its petrified woods. A new begonia on the edge of the road is like *B. nelumbiifolia* (but it is not this species) with very large peltate leaves (Fig. 18). Another one we see near Puyango, on the slope near the river, a rhizomatous species (Fig. 19). A pelting rain accompanies us during the visit of the place! Many landslides and road repairs and so we arrive at Piñas, the next stop, at night: the power is out here after the thunderstorm and we must go to bed without eating!

We arrive on March 29 at the Buenaventura lodge, near Piñas. Here it is warm and damp because we are only at an altitude of about 500m. A wonderful forest but no new begonias (but many butterflies!). We can still see *B. parviflora* and *B. glabra* and a very nice patch of *B. tilliifolia* at about 700m (Fig. 20) with the leaves of this species like hornbeam ones, not lime ones! Is it really *B. tilliifolia*? This species

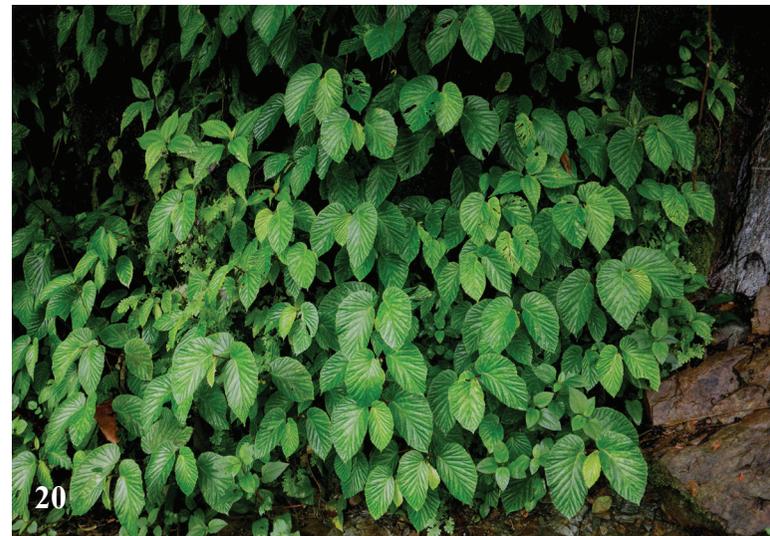


Fig. 17 - Another unidentified species - close to *B. longirostris*. Fig. 18 - A very large leaved unidentified species. Fig. 19 - And yet another unidentified begonia. Fig. 20 - *B. tilliifolia*.

has unisexual inflorescences located at the intersection of stems. Male and female flowers are separated, and the staminate ones are above the pistillate ones.

They will be our last begonias. We are lucky: about twenty species in three weeks during this trip! We’ll have other ones to find next time on another trip to this very nice country that offers extraordinary biodiversity.

Buxton Branch at the Boston Flower Show

By Sally Savelle, Concord, MA, and
Wanda Macnair, Cambridge, MA.

Congratulations to Buxton Branch for their showings at the Amateur Horticulture Competition at the recent Boston Flower Show. Buxton received a blue ribbon for their Plant Room thanks to the talents of Phyllis Savage and Sharon Rosenzweig, who designed and arranged the Plant Room. Begonias for the plant room were contributed by many talented growers, including Phyllis, Sharon, Stuart Hammer, Wanda and Dick Macnair, Henrietta Light, and Bob and Dee Stewart.

Judges commented that Buxton's Plant Room had a stellar collection of plants with a wonderful use of color. Attendees could not help but stop and admire the begonias, in particular a stunning *B. phthoensis* and *B. 'Chocolate Crème'* contributed by Stuart Hammer. These plants led to engaging conversations about species, cultivars, Buxton's ongoing conservation/adopt-a-species program and Buxton's upcoming annual show and plant sale in September!

Buxton members also entered an impressive array of begonias in the individual Amateur Horticulture Competition, receiving numerous awards, ribbons, and cultural certificates. Gloria Utzig received many ribbons and cultural certificates for her begonias as well as three special awards for her *Begonia bogneri*: the Thompson Begonia Award, Corliss Knapp Engle Award, and the Bennett Award. Sharon Rosenzweig received numerous ribbons and cultural certificates, and also the Libby Stephenson Award for her *Begonia imperialis*. Other Buxton members receiving ribbons and cultural certificates were Wanda Macnair, Tony Pinto, and Stuart Hammer. Dee Stewart received the Anne Crowley Award for best gesneriad.

It was such an extraordinary and exciting collection of begonias. Many thanks to the Buxtonians who made the show and competition so successful and enjoyable.



Fig. 1 - *B. bogneri*, entered by Gloria Utzig.
Photo by Gloria Utzig

Fig. 2 - Gloria Utzig and her award winning *B. bogneri*. Photo taken by Sally Savelle

Fig. 3 - Buxton's plant room at the Amateur Horticulture Competition.
Photo taken by Gloria Utzig

Fig. 4 - Sharon Rosenzweig and her award winning *B. imperialis*.

Photo taken by Paul Rosenzweig



A Word with You: *Caudex*

By Claudia Goodridge, New Haven, CT

It was the standout oddity in my mother's collection of houseplants – the climbing onion, *Bowiea volubilis*. Over at least 25 years it got massive and produced pups, one of which I now enjoy.

But what about that bulbous base? Curiosity never pushed me hard enough until I saw Michael Kartuz' *Begonia ludwigii* in the last issue of *The Begonian*, (March/April 2013). "Note the interesting caudex" he said. Off to my dictionary and voila; so that's what the

onion has, as does my desert rose, and my pony tail palm. We adopted the Latin word *caudex*, meaning tree stem/trunk, whose plural is *caudices* in my Webster Dictionary, or the less elegant *caudexes*. A *caudex* is really a stem, but a thickened woody one, usually above ground, though it can be partially submerged. It's perennial, and does not participate in photosynthesis. In begonias it does look like a tree trunk – a fat trunk.

Living in lands with periods of drought, these *caudiciform* plants' survival strategy required some way to retain water, or succulence, and the *caudex* was the answer. The best known begonia of this type is *B. dregei*, which hails from South Africa and is apparently the only African *caudiciform* begonia. Mark Tebbitt both describes *B. dregei* and details the art of cultivating it in his *Begonias*. Exemplifying convergent or parallel evolution (another research project some day), there are a couple others from South America, *B. aconitifolia* and *B. leathermaniae*.

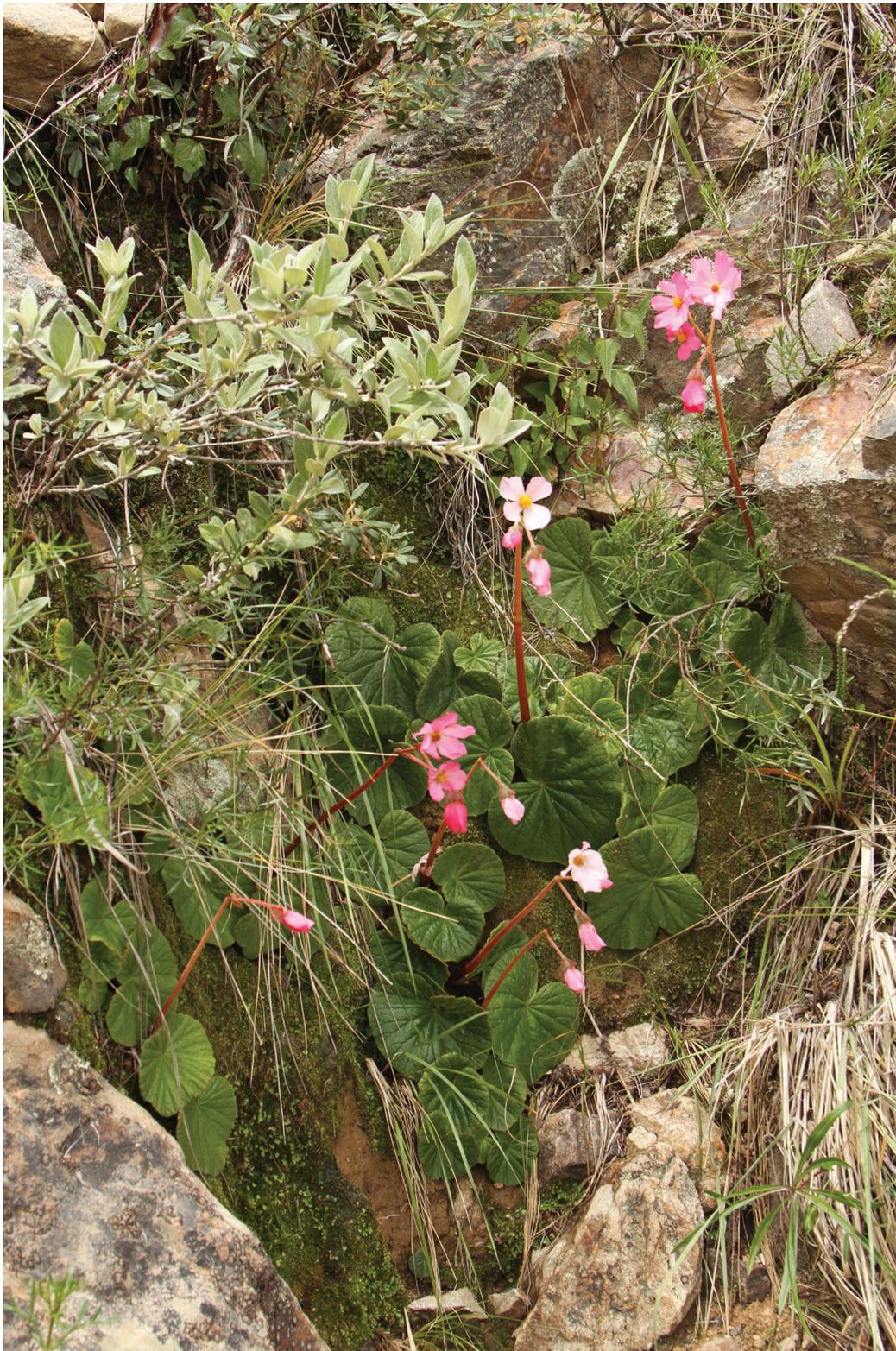
My research shows that most *caudiciform* begonia hybrids come from *B. dregei*, which is named after Franz Johann Drège (1794–1881), a German plant collector working in southern Africa. Some of these are *B. dregei* (syn. *partita*), *B. dregei* 'Glasgow,' and *B. dregei* (syn. *richardsiana*).

I gather that *B. dregei* and some other begonias are called semi-tuberous in begonia literature, but really should be classified as *caudiciform*. Semi tuberous, or *caudiciform* begonias, have no tuber, but do have a *caudex*. Got it? Their leaves are small.

The Kartuz webpage says, "Begonias in this group form a thickened basal stem called a caudex. These caudex-forming begonias may show a seasonal growth pattern when grown in natural light. They should be treated as succulents and allowed to dry out thoroughly between watering. All are varieties of *Begonia dregei*. Excellent bonsai subjects." Internet research says that one gets a *caudex* more quickly when growing from seed than from cuttings. Tebbitt concurs. I'll try one; it should make an interesting companion for my other *caudiciform* plants.



Fig. 1 & 2 - *B. dregei* 'Glasgow' caudices. Fig. 3 - Various *dregei* plants.
All plants grown by Laurel and Paul Carlisle; photos by Laurel Carlisle.



A New Tuberos *Begonia* Species from Andean South America

Article and photos by Mark C. Tebbitt, California University of Pennsylvania, PA

One of the most beautiful begonias that I have ever encountered in the wild was a new tuberous species discovered during my January 2012 expedition to Bolivia's Santa Cruz Department. This species has particularly large bright pink flowers up to 2.5 inches across, an unusually high number of petals (up to 11 in the female flowers), dense white hairs on the lower surfaces of its leaves, and lacks a stem. It is also very unusual in that its petals do not fall off but are retained even in the fully mature fruit. That such a striking species had not previously been collected in this relatively well-explored region of Bolivia

illustrates just how poorly we know the begonias of Andean South America. In fact the species was locally common, although it was found only in a very small portion of the roughly 50 square mile region that I explored in 2012. I observed it on a single mountain range about 15 miles south of the town of Vallegrande. Its discovery occurred at the end of my expedition and after I had returned home I was left wondering if the species really was as locally distributed as it appeared to be or whether further exploration in the neighboring mountains to the west of my collection site would have located additional populations.



Figure 1 - A new species of *Begonia* photographed in Bolivia's Chuquisaca Department. **Figure 2** - Reflective hairs on the undersurface of the species' leaves protect against harmful solar radiation.

This past January I returned to Bolivia and explored several mountain ranges that run parallel to the ones that I had visited in 2012. This new species was one of the very first begonias that I located. I found it early on in two places, both of which were southwest of where I had discovered it the previous year. The most distant of these populations was 60 miles from my original collection site indicating that the species is indeed more widely distributed than first impressions had suggested. Discovery of these two new sites in Chuquisaca Department demonstrate why detailed fieldwork is necessary before drawing conclusions about begonia distributions, especially in regions where relatively few botanical collections have been made.

Another reason why fieldwork is helpful when describing new begonia species is that dried herbarium material, while invaluable for the naming and classification of plants, can sometimes be difficult to work with. This is because in some begonia species important characteristics may be lost or distorted upon drying. For example, prior to visiting Bolivia I had studied three herbarium specimens that had been collected in the mountains of the far south of Bolivia and neighboring Argentina. These collections appeared to represent my new species but lacked some of the key information needed to identify them. I was therefore particularly keen to revisit these wild populations in order to study the living plants.

This search took me to a little visited National Park, the Reserva Nacional Flora y Fauna Tariquía, located in the far south of Bolivia's Tarija Department along the border with Argentina. This park is situated in a rugged landscape consisting of tall

mountains that rise up to 11,000 feet and which are surrounded by valleys cloaked in dense tropical forest. The forests are home to jaguar, puma, and spectacled bear but it was at 8,000 feet along the open mountain ridges that 24 years earlier the begonia had been collected. My first goal upon reaching the park was, therefore, to gain access to these mountain peaks. This was no simple task. Few roads enter the reserve and fewer still go up into the mountains, and it appears that no map of the park exists that includes the locations of these minor roads. I, therefore, resorted to driving along the western margin of this vast reserve and asking local people if they knew of a road up into the mountains. Eventually I found someone who not only knew of a road but was also travelling in that direction and could therefore come along and help provide guidance as to which of the various branches of the narrow dirt road would eventually reach the mountain peaks. Two hours later I was hiking at 10,000 feet in a location close to where the herbarium material had been collected, and begonias were in abundance. One of these species was the same new species that I had first collected 250 miles further north.

Despite the considerable area over which I have now observed this species, in every case it was growing in remarkably similar conditions. All the populations were on open mountainsides at an altitude of 7,200 to 11,800 feet. At this altitude, without a protective tree canopy above them, the plants often receive far higher levels of sunlight than most begonias will ever experience. The species needs its reflective white hairs on the undersurfaces of its leaves because this high intensity light could damage the



Figure 3 - Male (upper) and female (lower) flowers of the new species.



delicate photosynthetic pigments and cause its leaves to become bleached. The mountainside habitat typically consists of steep, well-drained, grassy slopes that are kept moist (at least during the rainy season) by frequent rains. In the far south of its range this species will also experience winter snows, though at that time of year it will be

safely dormant underground.

While working among these beautiful plants the past two years I have now seen a wide variety of bees and wasps pollinating their flowers. As with all begonias, pollination in this new species involves deceit on the plant's part. Deceit is necessary because all begonias have separate male

and female flowers but only the males offer a reward to pollinating insects, they provide edible pollen. Female begonia flowers lack pollen or even nectar and therefore have to trick insects into visiting them so that they receive the pollen that is necessary for seed production. They mislead potential pollinators by pretending to be male flowers. The reproductive styles and stigmas of female begonia flowers resemble the pollen producing stamens of the male flowers. In most species the resemblance is not particularly close but the illusion works since insects are easily duped as long as key features such as the size and color of the male and female parts coincide. However, in this new

species the female flowers have taken the illusion to an extreme and the styles are highly dissected so that, even to a human eye, they closely resemble a cluster of stamens. I plan to allude to this remarkable deception when naming the new species.

Acknowledgement:

These expeditions were made possible by the generous financial support of the ABS and its members. I also wish to thank Mr. Luis Huaylla Limachi and Mr. Alexander Parada (USZ) for assistance in the field, and Mr. Luiz Fracassi Gelin (University of Vermont) for help with insect identification.



Figure 4 - Ovary of the new species showing bracteoles (paired small leaf-like structures at base of ovary)

Figure 5 - Mature fruit of the new species showing dried petals attached.

Figure 6 - (See front cover) A Crabronidae wasp collecting pollen from a male flower of the new species.

ABS Book Store

NOTE: Price changes on U Number books and Begonians on DVD.

NEW: Unidentified Species Listing, Update, August 2012

by Mary Bucholtz & Charles Jaros,
Co-Directors

Second Edition includes U Numbers 001 through 621. Looseleaf format for easy addition of new material. Notebook not included.

Domestic: \$33.00
International: \$42.00

NEW: B. U 604-621 to add to the August, 2010 Unidentified Species Listing

\$7.00

NEW: 2013 Calendar

by Dr. Rekha Morris (limited number)
\$25.00

Raising Cane: Experiences in Growing the Species Cane Begonias

by Freda M. Holley

A wonderful work on the cane species with color photographs.

\$15.00

Note Cards from the Jack Golding Collection

Eight cards with envelopes, each card a different begonia species. This collection of botanical illustrations is part of a series of renderings by Jack's daughter, Marilyn Golding White. The cards were used as Jack's Season's Greetings cards to his friends and associates.

\$15.00

Begoniaceae, Edition 2, Part I: Annotated Species List, Part II: Illustrated Key, Abridgement & Supplement

Jack Golding & Dieter C. Wasshausen, 2002,
Smithsonian Institution,

Volume 43: 1-289
\$55.00

Seeing Begonia

by Jack Golding

2003, Revised 2005. Jack Golding's last work.

"...dedicated to the many who look at their Begonia but do not see the details."

\$15.00

Begonia Hybridizing: A Primer

by Freda M. Holley, 2007

An invaluable source book for the beginning or advanced begonia hybridizer.

\$15.00

Begonia Notes

by Rudolf Ziesenhenn

Reissued by the Thelma O'Reilly Reprint Fund. Originally printed in the Santa Barbara Branch, La Begonia Barbareña.

\$15.00

Begonias – 1984 Update

by Mildred L. Thompson

Reissued 2009, "An addendum for particular portions of *Begonias: The Complete Reference Guide* (Times Books, 1981). Includes species and hybrids and many pictures.

\$18.00

Begonias of Peninsular Malaysia

by Ruth Kiew

A magnificent work with glorious pictures.

\$55.00

Constitution of the ABS

Revised & Approved, 2008

\$2.00

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#2 1959-1979

#3 1980-2005

#4 2006-2011 (Jan/Feb. 2012 2011 Index)

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To order: Prices include domestic shipping. Send check payable to the [American Begonia Society](http://www.americanbegoniasociety.org) and your order to **Carol Notaras, 2567 Green St., San Francisco 94123** or order online at begonias.org by PayPal. For questions and availability, email or call Book Store Chairman Janet Brown, begoniabrown@yahoo.com 310-670-4471.

Westchester Begonia Society 54rd Annual Begonia Show & Sale

The Westchester Branch of the American Begonia Society is proud to present its 54th Annual Begonia Show and Sale this coming summer on Saturday, July 20, 2013. The exciting Westchester event is the only judged begonia show in Southern California and will not only showcase begonias but ferns, orchids, bromeliads, aroids and other shade loving plants.

The Show Honoree for 2013 will be Senior Judge and former President of the American Begonia Society, Ms. Mary Sakamoto of Orange County – her many years of diverse and ongoing contributions to the ABS make this a well-deserved recognition for Ms. Sakamoto.

An excellent selection of rare and beautiful begonias - species & hybrids - and other plants and gifts will be available for purchase.

Admission is Free, and free Date: Saturday, July 20, 2013 - Hours: 9:00 am - 4:00 pm Place: Covenant Presbyterian Church, 6323 W. 80th Street (north-west corner of Sepulveda & 80th), Los Angeles, CA 90045 Contact: Martin E. Delgado, Show Chairman, (562) 310-8380, mdlibrarian@consultant.com



Amorphophallus titanum

The *Amorphophallus titanum* (titan arum) originates in the moist shaded rainforests of Sumatra on steep hillsides. The first European botanist to encounter it was the Italian, Odoardo Beccari, who was travelling in the region in 1878. He sent back seeds to Italy. One of the young plants that germinated from them was sent to Kew Gardens, London, where it flowered in 1889, exciting great public interest. In 1926, when it flowered again, the crowds attracted by the phenomenon were so large that the police were called to control them.

The titan arum produces one of the largest flowering structures and one of the foulest odors in the plant kingdom. With its huge flowering structure rising up to nearly 10 feet tall, and its single immense leaf, it certainly is a giant among plants, as its name suggests. Courtesy Kew Gardens <http://www.kew.org/visit>



Two views of *B. malachosticta* (above).
B. 'Millie Thompson' (opposite page).



Two for Terrariums

Article and photos by Charles Henthorne, Plano, TX

This beautiful species, *B. malachosticta* (left), is sometimes difficult to grow and is definitely for the advanced grower. I have found that it does require almost 100% humidity. However the beautiful colors of the leaves do not seem to be affected by the amount of light the plant receives. This plant was grown in a north window with no artificial light, and the temperature has been kept at 60° all winter. Of course it was grown in an enclosed terrarium, and I have not been able to grow it outside of the terrarium. It does grow tall so requires a container that is both tall and wide.

B. 'Millie Thompson' (above) is also another rex type hybrid, which is uncommon and somewhat difficult for the novice grower. It requires high humidity, low temperature, and moderate light to attain and keep its color. It has been around for some time but is rarely seen and rarely available.



Rhode Island Branch Wins Best Vignette

By Priscilla Purinton
West Kingston, RI.

The Rhode Island Branch of the ABS has once again won an award for Best Vignette at the 2013 RI Spring Flower & Garden Show. With a 1950 Dodge pick-up truck as the center of attention, the 25,000 attendees voted overwhelmingly for the popular exhibit. This is the second time the RI Branch has won the award. Calling on the artistic talents of VP David Harrington to design and build the "Keep on Truckin'" display resulted in smiles and positive comments from all who viewed it.

The mini-terrarium that dangled from the rear-view mirror and the bushel baskets everywhere that overflowed with cane and rhizomatous begonias showed the beauty and variety of begonias. We had postcards made up with our branch information and we also have bookmarks with our web address that we gave out to interested people. Although this is a big undertaking we feel that it is an effective way to put ourselves in the public eye and have fun, too!

Top: Begonia label created by Kathrine Lovelle. Bottom: Priscilla Purinton with vignette designer David Harrington. Photo by Candis Dixon. Inset: Bushels of begonias! Photo by Priscilla Purinton



WHAT I'VE LEARNED

by Greg Sytch, Horticultural Correspondent

Over the years, I have learned the following things about begonias. I have learned they come in so many shapes, sizes, colors and textures that I can never get bored. I've learned that they come from almost every corner of this Earth, except perhaps Antarctica! I've learned that they take neglect, abuse, and yet still keep on growing. I've learned that they are surprisingly cold hardy, with tropical varieties that can take winter nights to near freezing. I've learned that there are cold hardy begonias that go winter dormant and cannot grow well here in Tampa Bay. I've learned that I am jealous of my fellow Begoniacs in Thailand, who grow begonias so well in a climate that is nearly perfect! I've learned that begonias do not like wet feet - yet will die if they dry out too long. I've also learned that begonias make stunning hanging baskets and require much less care when grown so.

I've learned that there are Begoniacs just like me - dedicated and perhaps a little touched - who grow more begonias than they should yet still want a few more. I've also learned that these Begoniacs will also travel to most ends of this earth looking for new begonias to bring back to cultivation, and those same Begoniacs will share those begonias found so that everyone has a chance to grow, or kill, those same plants. I've learned that not every new species will grow in Tampa Bay. I've also learned that Begoniacs are some of the nicest people.

Q: I am going to grow begonias by seed and want to know what is the best soil mix to use?

A: While potting mixes vary from area to area, and are highly dependent on your conditions, growing begonias from seed can be a little tricky. What has worked for me is using the seed starting mixes and adding 1/3 perlite. These mixes are light and airy, and by adding perlite you lighten them just enough. They hold moisture without being too wet, yet will dry out just a little as begonias prefer. I am fond of the Jiffy product, and it is organic. Jiffy's seed starting mix also comes lightly enhanced with a wetting agent to keep precious seedlings settled. Once seedlings are large enough, transplant them in the same mix in small pots.

When seedlings have begun growth, I spray the seedlings and mix with 1/2 strength plant food once per week (spray bottle) and leave the cover on so the fertilizer is absorbed. I will then keep the cover slightly ajar to allow air in and humidity to drop ever so slightly in anticipation of their first transplant. This method has always worked for me.

In the Mailbox



Achimenes, Aeschynanthus, Chirita, Columnnea, Drymonia, Episcia, Kohleria, Nematanthus, Petrocosmea, Sinningia, Streptocarpus... These and many other gesneriads are excellent plants for the greenhouse hobbyist.

Purchase our 56-page manual "How to Know and Grow Gesneriads" for US\$10 postpaid anywhere, or join The Gesneriad Society for one year for US\$25 in USA, US\$30 elsewhere. Go to www.gesneriadsociety.org or send check or credit card number with expiration date and CVV code to The Gesneriad Society, Dept AVM, PMB 637, 1122 E Pike Street, Seattle, WA 98122 USA. New members receive a copy of "How to Know and Grow Gesneriads," two back issues and the next four quarterly issues of our journal *Gesneriads*, a package of mixed gesneriad seed, access to the world's largest source of gesneriad seed, and many other benefits.

Clayton M. Kelly Seed Fund

The Margaret Lee Branch
San Diego County, CA

The seed fund is a service to members only. It is a privilege of your membership. Please self-pollinate your species begonias, collect the seeds and send them to the seed fund. We depend on your contributions of seeds to make a wider variety of species available to the members.

The Seed Fund now offers a PayPal option. This option is available through the ABS Website. Go to the Seed Fund Page and select the link "Current Seed Listing pay with PayPal". There is a small "PayPal" fee plus the "shipping and handling" fee to cover the cost of using PayPal. Choose the fee amount in the drop down menu at the bottom of the page as with the shipping and handling drop down menus. By policy, new seed additions are made after they are first published in *The Begonian* and updated as supplies vary while filling orders. This is the best source for the current available seed list. By policy, new seed additions are made after they are first published in *The Begonian* and updated as supplies vary while filling orders. This is the best source for the current available seed list. Packets of seeds are \$2.00. Very rare seeds and newly collected seeds will be \$3.00 or more per packet when noted. California residents please add 8.75% sales tax. All orders must be accompanied by check or money order, payable in US funds ONLY to the Clayton M. Kelly Seed Fund.

American Begonia Society,
Clayton M. Kelly Seed Fund,
Dean Turney, 467 Fulvia Street,
Encinitas, CA 92024.

E-address: dean@deansmail.us

Cost of mailing: US only: 1-12 packets \$1; 13-24, \$1.35; 25-36, \$1.71; 37-48 (2 cans), \$2.30; 49-60, \$2.66. Canada only: 1-12 packets, \$1.10; 13-24, \$1.46; 25-36, \$1.82; 37-48 (2 cans) \$2.35; 49-60, \$2.71. Mexico only: 1-12 packets, \$1.15; 13-24,

continued on next page

New Seeds from Jacky Duruisseau (Limited \$3.00):

B. lyallii var. *lyallii*

A creeper from the Makira [Madagascar] forest. A very nice species (pink flowers). Jacky thinks that it will be easy to grow.

B. sambiranensis

(very limited packets will contain only a few seeds for \$3.00)

A tuberous begonia that grows on limestone cliffs near a cave in Ankarana, in the north of Madagascar. It disappears (except for the tuber) during the dry season. It is better to prevent it from going into dormancy, (grow it under lights, with humidity and warmth).

Correction: Seeds listed in the March/April 2013 issue as *B. mayensis* x *rex* hybrid are *B. moysesii* x *rex* hybrid.

Save the date for the Annual Begonia and Gesneriad Show & Plant Sale of the Buxton Branch

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Seed Fund continued

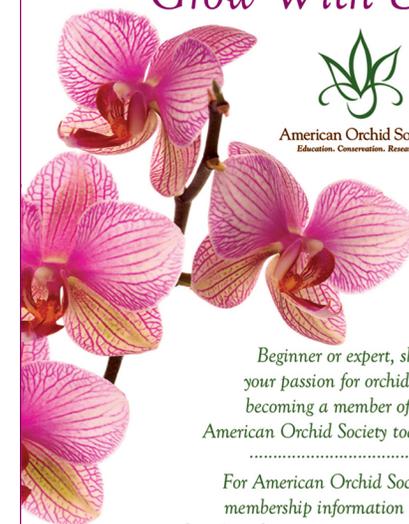
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DISCLAIMER: The seeds distributed by the seed fund are identified as received from the donors. The species names (in italics) reported here are correct based on the latest information from *BEGONIA-CEAE*, Ed. 2; Golding, and Wasshausen. Hybrid names are made consistent with the *ABS Check List of Begonia Hybrids* edited by Howard Berg dated 9/13/2005.

The Begonians on DVD

The fourth installment of The Begonians on DVD is now available. This DVD includes the years 2006 through 2011, and Jan/Feb., 2012 with the 2011 Index. You will find "searching" very easy and efficient on this new DVD. Price is \$25.00 including shipping. Order at begonias.org by PayPal or send a check to Carol Notaras, 2567 Green St., San Francisco, CA 94123. A complete listing of the Book Store items will be found online and in the next issue of The Begonian, May/June, 2013.

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The Begonian July/August 2013

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Horticultural Correspondent... Gregory Sytch, 6329 Alaska Avenue, New Port Richey, FL 34653-4301; Phone 727-841-9618; gsytch@cs.com

Judging...Maxine Zinman, 2770 Kimble Rd., Berryville, VA 22611; Phone 540-955-4555; begonia@visuallink.com



This is a cross between a black star-shaped leaved rhizomatous seedling from Australian Mickey Meyers and *B. bowerae* var. *major*. I made it in 1981 and have distributed it to many friends over the years. However, I have not registered it because it looks just like many other *bowerae* hybrids. From Kingsley Langenberg

Members-at-Large... Sandy Boyd, 5 Walnut Circle, Chico, CA 95973; Phone 530-891-5760

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Research... vacant

Save Our Species Coordinator... Rekha Morris, 318 Woodland Cir., Pendleton, SC 29670; shivavana@gmail.com

Seed Fund...Dean Turney, 467 Fulvia Street, Encinitas, CA 92024; dean@deansmail.us

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