





The word bonsai is often used in English as an umbrella term for all miniature trees in containers or pots. The purposes of bonsai are primarily contemplation (for the viewer) and the pleasant exercise of effort and ingenuity (for the grower). Grown over a rock, this bonsai (above) was displayed at the Montreal Botanical Garden.

Photo by Linda Tamblyn.

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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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Cover photo: B. thomsonii. Photo by Randy Montes Kerr See story on page 217.

Back cover: Begonia austrotaiwanensis Chen & Peng in natural habitat. Photo by Ms. Pi-Fong Lu See page 211.

President's Message

season and our wonderful "Begonia Magic Convention" for 2016 have finally concluded on a high note, many of us can now, hopefully, take a deep breath and relax. I know that our memories of magnificent plants, the friends we met, and all that took place will remain with us for a long time to come. I'd like to congratulate the entire Convention Planning Committee and our ABS Chairs, all of whom volunteered to help make the Convention a great success. There are so many persons to thank, I would likely miss more than a few names if I tried, but if you helped in any way, our Society thanks you.

The invariably successful, well-attended events that our Society and its many Branches arrange prove that the ABS can function as a well-honed organization, made possible by incredible volunteers. Members willing to give time, effort and hard work to make the Society the successful organization it is today. This level of commitment and involvement is what keeps the ABS moving forward. Please be proud of your successes, as I'm proud to be a fellow member of the American Begonia Society.

In Friendly Contact,

Martin E. Delgado, President American Begonia Society

ow that the peak growing



2016 Holiday Greetings

PLATINUM Astro Branch Austin Area Begonia Society Begonia Society of the Palm Beaches **Bob Brooks Buxton Branch** Frances Drescher James & Linda Lawson Long Beach Parent Chapter Mabel Corwin Branch Richard & Wanda Macnair Margaret Lee Branch Malcolm McCorquodale III Carol & Peter Notaras Potomac Branch Rudolf Ziesenhenne Branch Southwest Region, ABS

GOLD

Alamo Begonia Club Branch Fred A Barkley Branch Thomas Cootz & Stephanie Rose Houston Satellite Branch Louisiana E Branch Brad Neugebauer Palos Verdes Begonia Society South Bay Begonia Branch

SILVER

Janet B. Brown
Dallas Area Branch
Doug Frost Branch
Joan Coulat - Sacramento Branch
Orange County Branch
San Francisco Branch
San Gabriel Branch
Santa Clara Valley Branch
Westchester Branch

BRONZE

Delaware Valley Branch Florida West Coast Begonia Society Greater Atlanta Begonia Society Whittier Branch

Proceedings of the ABS Annual Business Meeting

Hawthorne, California

resident, Martin Delgado, called the meeting to order. Members recited *The Pledge of Allegiance*. The Aims and Purposes of the American Begonia Society (ABS) were read by 1st Vice President, Carol Orozco.

The proceedings of the May 2016 ABS board meeting in Richardson, Texas were approved as published in the July/August 2016 *Begonian*, and thus were upgraded to minutes.

Treasurer, Carol Notaras, presented the fiscal year financial report for August 1, 2015 to July 31, 2016. The checking account beginning balance was \$8,894.90 and ending balance was \$13,571.74. The savings account started with \$241,712.73 and ending balance was \$244,941.33. During this period, income was \$67,974.87 and disbursements totaled \$63,298.03. A complete year-end financial report is available upon request. This report will be submitted for fiscal review.

Reports of Officers and Directors

National Directors (ND) in attendance were recognized by President Delgado. Annual branch activity reports were submitted from 11 ABS branches to the Branch Director and are available upon request. Priscilla Purinton presented an oral report for the Rhode Island Branch.

Report of the Executive Board

The Executive Board approved the following actions:

- Revisions to ABS Point Score Sheets, newly developed Score Sheets, and the addition of newly developed Score Sheets for Education, Exhibits and for Terrariums (Mixed Plantings) at the recommendation of the ABS Judging Committee
- To approach the Alamo Begonia Branch of San Antonio, Texas, the confirmed host branch for the 2017 Southwest Region

September 10, 2016

Get-together, as well as the Board of the Southwest Region, with the possibility of combining both the 2017 Get-together and the ABS National Convention. This is due to a lack of a volunteer branch to serve as host for the American Begonia Society's 2017 Convention

- A special donation of \$12,000.00 to the Ft.
 Worth Botanical Gardens to aid in the upcoming construction of a new greenhouse to shelter and protect the Begonia Species Bank collection. With the further approval of the Executive Board, the 2nd Vice President of the ABS, Sally Savelle, will spearhead a campaign to raise additional funds to support the efforts to construct the muchneeded greenhouse for this invaluable collection
- A research grant in the amount of \$2,000.00 to support a research and collecting trip by Jacky Duruisseau to Gabon, Africa in June 2017
- A research grant in the amount of \$2,500.00 to support a research and collecting trip by Dr. Mark Tebbit to Argentina, South America, in January 2017
- A grant in the amount of \$200.00 for the maintenance of the International Database of the Begoniaceae, overseen by Ross Bolwell of Australia

Reports of Special Committees

Annual written reports were received from the Co-Directors of the Unidentified Species ("U" Numbers), ABS Judging Co-Directors and Audit Committee Chairman. Reports are available upon request.

Fort Worth Botanic Gardens (FWBG): Don Miller presented a report on the Begonia Species Bank housed at the Ft. Worth Botanic Gardens.

continued on next page

He thanked the ABS for their continuing support of the collection. The new Director has hired a consulting company to assist in the implementation of the Master Plan which will include the Begonia Collection. Deborah Garrett and the volunteers at the Begonia Species Bank are conducting tours, workshops and plant sales as a means of providing information to the public on begonias. He added that they have met with the Botanical Research Institute of Texas (BRIT) to possibly collaborate on conducting scientific research on species begonias.

ABS Holiday Greetings Report: Frances Drescher announced that \$2,058 in contributions, which included \$302 in commitments, has been raised for the 2016 ABS Holiday Greetings ad. The Holiday Greetings page listing donors by category will appear in the November/December issue of the *Begonian*. Ms. Drescher asked that she be contacted if additional donations are to be made. Next year, she will introduce a "Champagne Level" starting at \$301.00, a higher tier set to increase donations.

The ABS Bookstore Chair, Janet Brown, recognized Wendy Corby of the ABS Publication Committee for her contributions in compiling two recent best selling books *Brad's Begonia World* and *Begonias of the Month*. She added that ABS Publication Committee Chair, Freda Holley, is the all-time best-selling author with her book *Begonia Hybridizing: By The Hybridizers*. Next year, Ms. Brown hopes to add a new book on begonias by Rekha Morris to the bookstore inventory.

Ms. Brown will submit a formal inventory report after the convention.

ABS Publication Committee Chair, Freda Holley, reported that Greg Sytch from Florida is working on a book on rex begonias. She added that funds from the Millie Thompson Publication Fund for New Publications and Thelma O'Reilly Reprint Fund are available to support and encourage authors who want to write and publish books about begonias.

New Business

Charles Jaros, Co-chair of the U-Committee, proposed that up to \$2,000 from the Morris Mueller Foundation fund be used to support researchers in the classification and identification of U-number begonias. Researchers would have to apply to the Grants Review Committee. Approved.

Janet Brown proposed to we produce an updated DVD to include the continuation of the last five-years of *The Begonian* on DVD. Discussion followed. Tabled for further review.

Cynthia Moran from the Louisiana E-Branch invited everyone to the 2018 ABS Convention to be held in New Orleans, LA. This will be the first ABS Convention held in New Orleans and will coincide with the 300th Anniversary Celebration of the Founding of the City of New Orleans. Convention hosts will be the Louisiana E-Branch and the Southwest Region.

President Delgado read a proposal submitted for setting an advertising allotment for advertising in major magazines (other than plant magazines) in order to attract new members to the ABS. It was also proposed that a committee be formed to explore avenues for advertising. Tabled for further review.

Adjournment:. There being no further business, the September 10, 2016 Annual Business Meeting of the American Begonia Society was adjourned.

Respectfully submitted, Connie Saenz, Secretary

Got an idea for a The Begonian article?

Send your ideas: begoniaskc@yahoo.com





A picnic and tour of Al Schaffer's grounds were highlights at the 2016 ABS Convention. A group photo was taken to commerate a lovely day. A tasty lunch and then wandering the grounds guaranteed a good time was had by all.

Photos by Donald B. Schaffer

Look for more details from the convention - including show results, photos, and the service award winners - in the 2017 January/February *The Begonian*.

New Cultivar: Begonia 'Billie Jean'

From Priscilla Purinton, Hybrid Registrar

Official International Registration #1017

Begonia 'Billie Jean'

Seed parent: *B*. 'Juanita Jewel'

Pollen parent: B. maculata

Hybridized by Walter Dworkin, 8 Rugby Rd., Westbury, NY.

Developed in 1992 and first distributed in 1994. Mentioned in the October/November 2014 Southwest Region Leaflet. Registration applied for August 10th, 2016 and approved September 18th, 2016.

Begonia 'Billie Jean' is an upright cane-like plant that grows to about 15". The leaves (10" x 3.5") are a medium green with a maroon blush on the underside and a moderately scalloped edge. They have one main vein. The smooth

oval leaves have a soft gloss, are pointed at both ends and are liberally covered with bright silver dots in various sizes and silver drip tips. The seed parent has contributed wider leaves and shorter internodes, resulting in a compact plant.

The smooth green petioles are hairless and 1.5" long. The apple green stipules are 1.5" x .5".

B. 'Billie Jean' is a strong grower and blooms easily and generously from late spring till fall. The medium pink flower clusters are held on 4" peduncles. The female flowers are in clusters of 12 (males 24). Flowers of both sexes are 1.25" in diameter. The five tepals of the female



flowers are identical in size and shape, a rounded oval. Of the four tepals on the male flowers two are thin and oval and two are larger and more rounded. Ovaries are pink with a white center.

This hybrid was tested by Dominique Permingeat at her nursery in Viviers, France. She was fascinated by the bright white spots on the leaves when she saw it at an ABS convention and now has grown it for several years. She feels it deserves to be more widely known in the US. The Fort Worth Botanic Garden added B. 'Billie Jean' to its collection about a year ago so let's hope that more of us will be able to enjoy this fine hybrid. The plant was named after the song by Michael Jackson.



Begonia 'Billie Jean' (above and opposite page).
Photos by Walter Dworkin

Hybridizing and Registering Your Begonia

Wouldn't you like to casually say to someone - "Yes, that is a pretty begonia. It's one of my hybrids." Perhaps you already have a mysterious seedling that is different from anything you've ever seen before. Maybe you're just curious about an article listing an official hybrid registration for a plant you've known for years.

The ABS bookstore has all the information you need! Freda Holley has written "Begonia Hybridizing: A Primer" which is a great place to start. Brad Thompson has given us the excellent "Brad's Begonia World" which has lots of good hybridizing advice. These prolific hybridizers can get you pointed in the right direction and you will have a whole new way to enjoy begonias!

If you have a hybrid you would like to register contact the Registrar of Hybrids, Priscilla Purinton (information on back inside cover of *The Begonia*).

Siamese Cane Begonia Flower

By Walter Dworkin, Westbury, NY

s the female flowers finally emerged on my cane begonia, B. 'Dolly' (Irene Nuss' hybrid), I had all my hybridizing plans laid out to begin pollinating it. I gathered a cluster of mature female blooms, tied them together, and labeled

them with the intended cross. As I began to pollinate the blooms I noticed something very unusual: a Siamese bloom! At first I thought the two blooms were just sticking to each other, but upon further examination they were definitely joined together forming one flower.

As many of you know, a Siamese bloom is one where two flowers are joined together (i.e.: Siamese twins) to form a much larger flower. It was exciting to see so many flower tepals decorating the base of the bloom in perfect "petticoat type" fashion. There were 8 tepals on one flower. The bloom also contained 5 ovary compartments (two were a little larger than the other three), and double the number of stigmas and anthers. I knew that I must go ahead and pollinate this bloom with the hope that some recessive genes might produce a new generation of a few double flowering offspring - hey, ya never know! When something unusual like this shows up a hybrizer's begonia fantasies and dreams can become a reality!

One side of the 5 ovary compartments (Fig 1). The other side of ovary compartment and 8 tepals on one bloom (Fig 2).





A Word with You:

Hastate

By Claudia Goodridge, New Haven, CT

Togy: the term begtets in a description of a recently not

saw the term hastate in a description of a recently patented begonia, Patent US PP24377 P2, named BKP-BEEGW. How is that for a warm and fuzzy name? The idea of a patented begonia cultivar was intriguing enough, so I

looked further and found Patent US PP25216 P2, named BKPBEEVR, and USPP22518 'Have02' (so 2016) also using hastate. While I could read most of the "Summary of the Invention," and the "Detailed Botanical Description," hastate in the leaf descriptions popped out as unknown to me.

Tebbit says hastate is "arrowhead shaped with the basal lobes turned slightly outward." The Thompsons say "basal lobes turned outward; arrow shaped head." I also found it in

Brad Thompson's .pdf Begonia Registration Handbook, http://www.begonias.org/registered/registration_book.pdf which is worth perusing even if you're not registering a begonia. I couldn't find it in Golding.

Hastate...that's a long ā at the end. Mr. Webster says it comes from the Latin hasta, and is "spear-shaped; resembling the head of a halberd; triangular, with the angles spreading; as a hastate leaf." Cassell's defines a hasta as "a spear, a pike, javelin." Is this getting repetitive? Another bit of Botanispeak from a Latin word for an ancient tool of conflict. The other that comes to mind is a peltate (from shield) leaf, my first skirmish with Botanispeak.

Since spears and arrows are uncommon in my home, my own mnemonics move to my Spanish classes and hasta, meaning 'until.' Not warlike, but it helps. Hasta la proxima vez.

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The *Begonia* of Bosque de Proteccion Alto Mayo, Peru

- Part 1

Article and photos by Peter Moonlight,

am an herbarium botanist, and as such I spend more of my time working with dead plants than living ones. So what is an herbarium? For centuries, botanists have been going on field trips around the world, pressing the plants they find, and sending their specimens to herbaria. These buildings act as libraries for specimens and the information attached to their labels (Fig 1).

An herbarium specimen is a piece of data, detailing a plant and its location. For many species, especially in large tropical groups like *Begonia*, they are the only data we have. By identifying those specimens, we begin to understand the range and variation of the species. Sometimes though, we become unstuck. Some specimens do not fit our definitions of any species in our group. Sometimes this is because our definitions are

wrong. Sometimes it is because those specimens represent new species. A recent study estimated that two-thirds of undescribed species have already been collected and lie, undiscovered in herbarium cupboards. It is at times like this we need more information. and therefore more specimens. The herbarium botanist has to leave the comfort of their herbarium and become a field botanist for a while.

It was for this reason

Peruvian specimens of Begonia monadelpha (Fig 1. Also see Fig 5,6) in the herbarium of the Royal Botanic Garden Edinburgh. The earliest of these collections was made in 1836.









that I found myself in January 2016 in the Bosque de Protección Alto Mayo of northern Peru with Aniceto Daza, a botanist from Universidad Nacional Agraria La Molina in Lima, and Josh Richards of Muddy Boots Peru. I had seen two specimens from the area, each seemingly representing a new species of *Begonia* but I needed more information (and preferably their DNA) to confirm. Alto Mayo is one of the best-preserved areas of cloud forest in northern Peru so I was very excited to see what we could find.

We started our first day in Bagua Grande, which is only around 50 miles from Alto Mayo by road but in very unpromising Begonia territory. We spent the morning driving through dry but spectacular landscapes (Fig 2), slowly climbing the mountain roads into wetter and wetter territory. Soon, at about 2000m, we began to hit patches of cloud forest and find Begonia species. These started with the "usual suspects", species like the scandent Begonia peruviana (Fig 3) are common in cloud forest throughout Peru, while Begonia fischeri (Fig 4) is even more common from Argentina to Mexico. Our first "special" species of the trip followed shortly. Begonia monadelpha is a stunning species from Peru and probably Ecuador with vivid pink-red hanging flowers probably adapted for hummingbird pollination (Fig 5, 6). The leaves

The seasonally dry forest of Amazonas, Peru, looking towards the cloud forests of the Bosque de Proteccion Alto Mayo (Fig 2).

Male flowers of the widespread and common *Begonia peruviana* (Fig 3). *Begonia fischeri* (Fig 4), native to large parts of central and south America. Known to many Begonia enthusiasts as a vigorous glasshouse weed.



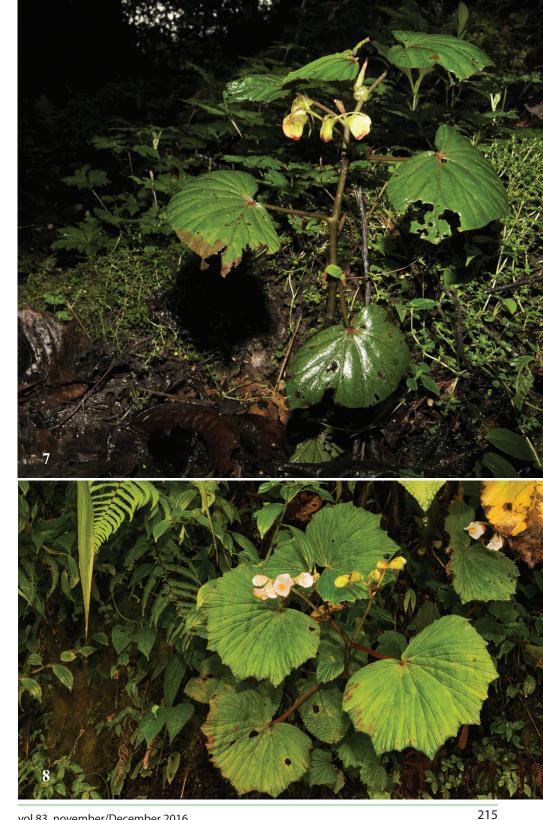


The flowers of Begonia monadelpha (Fig 5) are red, tubular and pendulous, which is typical of hummingbird pollinated plants.

The young leaves of *Begonia monadelpha* are often patterned and iridescent (Fig 6), but older leaves typically lose these features

A fruiting plant of a new species in Begonia sect. *Cyathocnemis* (Fig 7).

A flowering and fruiting plant of a new species in Begonia sect. *Cyathocnemis* (Fig 8), photographed growing by the main road.







Flowers and fruits of a new species in Begonia sect. *Cyathocnemis* (Figs 9-10)

of this species are equally special, with deep green leaves flushed silver around the veins, often iridescent-blue and with a beetroot-purple underside.

This was not quite what I was looking for though, and soon we had to take shelter in the car from a huge thunderstorm, one of the perils of collecting in the wet season. After lunch in a layby, we explored one of the small paths leaving the road into cloud forest. Almost immediately, Josh returned with a medium-sized *Begonia* (Fig 7). I could see that this was a member of section *Cyathocnemis*, which comprises of Andean upright "canetype" *Begonia* species. This one though did not match any I knew or either of my two unidentified specimens. It was new and completely unexpected!

Around the next corner, things got even better. Everyone in the car shouted "stop", some in Spanish, some in English. We had

all seen a *Begonia* with huge, white flowers by the road. We all hurried out the car and recognised another member of section *Cyathocnemis* (Fig 8–10). This one did match one of my two unidentified specimens but was also new! Its huge flowers reached almost 5 cm across and its leaves grew to over the size of an outstretched palm.

After a great first day in Alto Mayo, and one where we had found two new species just by the roadside, we called in at the national park headquarters to arrange to hike into and collect deeper in the park. By now it was going dark, so would have to wait for another day (continued in part two).





B. thomsonii

Article and photo by Randy Montes Kerr, West Hollywood, CA

B. thomsonii, Section Platycentrum, from north west India, including the Khassi Hills and Manipur, is an iridescent beauty. I love its red-furred new leaves.

Begonia thomsonii is also much appreciated in its range. As with many begonias, it is a traditional medicine. Members of the Shakhuk Tribe boil new growth, and enjoy it with rice. Let's hope it doesn't come to that end!

Begonia thomsonii is native to damp low hills and marshes, and is adapted to deeply shaded and humid conditions. These conditions are much the same as those preferred by more commonly grown *B. microsperma* and *B. staudtiii*. I grow them all under the same cultural conditions.

As plants of each of these species can take up quite a bit of space, I often grow them individually in "clam shell" terrariums made from two 2-gallon salad bowls, purchased from a local restaurant supply store. They receive ambient light; near, but not beneath, artificial lights or off to the side of a sunlit window. There, they keep company with *B. burkillii, B. pavonina, B. thelmae*, and other shade loving relations.

Happy growing!





In Search of Ecuador's Climbing Begonias – Part 1

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

alarm and barking dog in Quito. Upon waking it takes three cups of strong Ecuadorian coffee to make life good again. After breakfast, my guide, David, arrives at the hotel and we leave together to pick up our rental car. David and I get along instantly and I can tell that he will be a great person to travel with. Soon we have our rental car and are heading out of Quito towards the mountains. I have made arrangements to collect at El Pahuma Orchid Reserve

Fig 1. The never before documented female flowers of *B. pululahuana*.
Fig 2. *Begonia tiliifolia* growing at El Pahuma Orchid Reserve.

Quito late last night – now, waking up the next morning, I can't wait to get out into the forest and start collecting begonias. However, before I can do that I need to spend a day visiting the university at which Dr. Álvaro Pérez, my Ecuadorian host, teaches botany. We need to finalize my collecting plans and I have to pick up my collecting permit and borrow a plant press from their herbarium. Then after that I'll go shopping for the supplies that we will use during the almost three weeks that I plan to spend looking for begonias.

Wednesday - I need coffee... There was a small earthquake at 2 am this morning. It shook the whole building and set off every car

today. From Quito it only takes two hours to get to this private reserve. Upon arriving we meet with the reserve's onsite manager and then set out for a short walk in the forest. In less than two hours we find six species of begonias. I'm particularly happy to find a plant of B. pululahuana that has female flowers (Fig 1) - these have never before been described for this poorly known species. A good start to the trip! We leave the reserve around 3 pm and head 30 miles down the road to the Mindo Forest Reserve. Here we add one more species - B. glabra - to our day's list. Mindo turns out to be a really pleasant town geared towards tourists so we decide to find a place to stay for the night. After dinner I sit on a bench outside of our hostel and spend a relaxing evening writing botanical descriptions and then pressing plants. Two young Americans stop on their way to the hostel to ask what I'm doing. They are college students and leave shocked to learn that professors

Thursday - We start at 6 am today since we aim to hike to the top of the trail system at El Pahuma Reserve. It soon becomes obvious that this reserve's pristine forest is full of begonias. The climbing begonias that I have come here to study are particularly abundant. Three climbing species, B. maurandiae, B. geminiflora, and B. pululahuana grow here and together are found on roughly half of the trees in the forest. This is a surprise - the last two have rarely been collected as herbarium specimens and are known only from a small area around this reserve. I suspect that they only occasionally produce flowers and for this reason are not often collected. Certainly, out of the multitude of individuals that we see today, just one plant of B. maurandiae and one of B. pululahuana are in flower and despite

exist outside of classrooms.

plant of B. geminiflora with flowers. I have even timed this trip to coincide with the peak flowering of these species. It's no surprise that the naming of these climbing begonias is such a mess; with their infrequent flowering they really present a challenge to study. Of the three climbing species at El Pahuma B. maurandiae is especially beautiful. It usually climbs to the top of a small tree before producing a mass of orangey-red flowers. It's widely grown in the United States but I have never seen it flower in cultivation. It probably needs to reach a certain height and then hang downwards before it's stimulated to flower. In addition to these climbing begonias we also find three additional begonias not seen yesterday giving us a total of nine species from this reserve – quite a high level of diversity but nothing compared to the spectacular array of orchids or gesneriads found in this wonderful forest. Two of the begonias that I am especially thrilled to collect are B. tiliifolia (Fig. 2) and B. microcarpa, both of which I have never seen before. When I was in Ecuador two years ago I visited several sites where B. tiliifolia was supposed to grow but each time the plants would turn out to be a different species. So finally, now that I wasn't particularly looking for it, the real species turns up! I admit that it's not the world's most beautiful begonia but I'm really pleased to find it at last. We arrive back from our hike at 2 pm and after a wonderful lunch of fresh organic chicken and rice we drive to the town of San José de Alluriquin. I had hoped to collect another climbing species, B. dodsonii, along the roadside on the way to this town, the area immediately to the northeast of San José de Alluriquin being this species' only known locality. However, most of the forest along the

an extensive search we find not a single



Fig 3. Pasochoa Wildlife Reserve - a 1200-acre remnant patch of forest located in an ancient volcanic cone. Fig 4. Leaves taken from two plants of *B. sodiroi* growing side by side at Pasochoa Wildlife Reserve. Fig 5. A new begonia species growing on a dry hillside near Huigra.

Fig 6. *Begonia octopetala* is a common species throughout much of the Ecuadorian and Peruvian Andes. Fig 7. Cajas National Park is one of the prettiest natural areas in all of Ecuador. Fig 8. Stunning displays of the tree-like *B. parviflora* near Podocarpus National Park.

road has been converted to farmland since it was last collected here in the 1980's and the species must now be quite rare. Unfortunately I do not have enough time available to make a thorough search of the remaining forest patches. We find a hostel and after dinner I write botanical descriptions based on the many plants we have collected. The plants are then put in the plant press and eventually will be made into herbarium specimens.

Friday - Today's highlight is a visit to Pasochoa Wildlife Reserve - a 1200 acre patch of forest located in an ancient volcanic cone (Fig 3). Upon arriving we check in with the reserve's staff, show them our collecting permit and ask permission to collect B. sodiroi. They are very friendly and are able to tell us exactly where this begonia grows. We walk for ten-minutes arrive at a small stream and find its banks covered with this climbing begonia - almost too easy, except that none of the plants are in flower. I am, however, able to document the considerable variation in leaf shape found in this species (Fig 4) and which, I suspect, has caused a great deal of taxonomic confusion in the past. Having found our plant much quicker than I had expected we have some extra time available. We decide to spend the rest of the day driving to the town of Ambato, this will put us close to prime begonia habitat, ready for tomorrow morning.

Saturday – Today I'm botanizing near the mountain town of Huigra, one of my favorite places in Ecuador. Our goal is to relocate a begonia that Jacky Duruisseau sent me photos of three years ago. He has given me a description of where he found the plants as well as the altitude at which they were growing. I want to relocate this plant since it was photographed very close to the site where the very

rare B. triramosa was collected. This species was discovered in 1918 and hasn't been collected since. It looks like Jacky might have rediscovered it. The plants were exactly where Jacky said they would be, but they are not B. triramosa – they are a related species that is new to science! [A search of the herbaria in Quito later showed that this species had never before been collected so kudos to Jacky for discovering this rare new begonia!] The same mountain on which it grows is also home to two other begonias, B. piurensis and B. ludwigii but both occur in much more humid locations than the new species. It appears to be restricted to a single very dry hillside (Fig 5). In the afternoon we drive to higher elevation in search of tuberous begonias. Begonia octopetala (Fig 6) is common here and I make lots of collections as I wish to document its variation. Then we head to the beautiful city of Cuenca, where we stay the night. I really want to walk around and admire the city's stunning colonial architecture but since I collected all those tuberous begonias I now have work to do...

Sunday - Well Cuenca may be one of the most beautiful cities in Ecuador but it's not my favorite place this morning. We just cannot seem to leave the city. Apparently, there is a marathon race just about to start and almost all of the city's roads have been cordoned off during the night. Eventually after driving around in circles for over an hour the police take pity and let us drive through part of the course and eventually escape. We visit Cajas National Park, a place that at the end of my last trip to Ecuador I was told I must see. I can't wait and I even have an excuse to visit - this park is the location where B. aeguatorialis, one of the species that I'm working on, was first described and to get to it you have

to drive through the whole park. And what a drive, the landscape is beautiful – high mountains dotted with small alpine lakes (Fig 7), and on the cliffs the scarlet flowers of B. froebelii. We visit the site where B. aequatorialis was collected and I conclude that this species is no more than a variant of the widespread and very variable B. octopetala. From Cajas National Park we drive 100 miles south to the location from where B. xerophyta was described. This species is extremely poorly known having only been collected once and then described based on this single fragmentary herbarium specimen. Once we reach the site the species is easy to find but it's obvious that it's not distinct from the widespread B. erythrocarpa. So, after today's fieldwork, there are now two less begonia species in the world... An hour later we are in the city of Loja where we will stay the night. The usual routine...eat, write, press plants, and bed. Exhausted, I fall asleep immediately.

Monday - From Loja we drive south, past the entrance to Podocarpus National Park, to the small town of Palanda just 10 miles from the Peruvian border. Then from Palanda we take a dirt road east into the Sierra del Condor mountain range. Today we are searching for a new species from Begonia section Semibegoniella that a Colombian botanist asked me to collect. This section is an instantly recognizable group of begonias with scarlet flowers, horned fruit, and a love for really wet places. I am excited to explore the Sierra del Condor since this is new territory for me. It's also a place renowned for having lots of new species. Until very recently it has been difficult to access these mountains and even today it is one of the last remaining wilderness regions of Andean Ecuador. Sadly it's a wilderness in jeopardy -valuable mineral

resources have been discovered here and recently mining has begun in earnest. The local government, to give access to these riches and also provide local communities with land suitable for cattle ranching, built the road we are travelling. Unfortunately the result has been massive deforestation and now, just a few years after the road was built, hardly any forest can be seen along its margins. In one of the few small remaining patches of forest we find two species of begonia, neither is the species I am looking for and neither is in flower. This is frustrating, particularly since one of them looks like it might be new to science but without flowers I can't be certain. On the whole it's been a long, tiring day, especially given the bumpy dirt road we have driven for six hours coupled with the less than happy condition of my stomach today. I'm also sad to witness that so much of the forest has recently been destroyed. I would love to return to this area another year and with more time available explore the forest that the local people tell me still remains at the end of the road. However, today all I want to do is get an early night and catch up on sleep.

Tuesday - We drive back to Loja, once again climbing up the mountain towards the entrance to Podocarpus National Park. Stunning displays of *B. parviflora* can be seen from the car window along much of the way (Fig 8). It's been raining in the mountains here for several days and everything is thoroughly soaked. This morning the rain is so heavy that we drive along with the side window down so that I can see well enough to find good places to stop and explore the forest. I sit in the car with a poncho on over my raincoat trying to keep as dry as possible. When we reach the highest point there are hundreds of

continued on next page







small waterfalls running off the mountainside as far as I can see. In some places the larger permanent waterfalls have brought down so much debris from the hillsides that the recently paved road is now covered in mud and rock. Luckily we have a 4 by 4 vehicle or we would be stranded. At the highest and wettest part of the road I spot a small patch of climbing begonia – B. rubrotincta, as well as a single plant of the scarlet flowered B. urticae. The female flowers of B. rubrotincta are among the strangest of any begonia I have ever examined (Figs 9 and 10). We stop for lunch in Valladolid and then continue on to Loja. From there we take the road east towards Zamora. Before the expedition I made arrangements to visit and collect at the San Francisco Private Reserve located along this road. We plan to visit the reserve and then stay the night in Zamora. However, with the torrential rain we miss the reserve and almost reach Zamora before we realize our mistake. By now the road has become really treacherous, with landslides starting to come down in several places. As we round one corner we meet a two-foot high pile of mud on our side and a bus on the other side of the road. We plough through the mud losing visibility for what seems like ages. David's driving skills (he's a racing car mechanic who drives fast cars for fun) save us from hitting either the bus or the roadside cliff. From here on conditions deteriorate... mud and rocks are all over the road and more boulders can be seen rolling down from the surrounding hillsides. In one place half a house has been swept away and carried down to the side of the road (Figure 11). Enough is enough - the El Niño rains are creating really dangerous conditions. If we continue along the road and stay the night in Zamora a landslide could cut us off from our collecting sites to the west, so we turn around and drive back to Loja. Both of us are relieved to arrive safely. We change into dry clothes and walk around town

Wednesday - From Loja we drive west to revisit some sites where I collected tuberous begonias two years ago. Conditions here are completely different - we were now in the dry montane forest zone and it's hot and sunny. In fact, it's so dry that the tuberous begonias have gone dormant and are not to be found. After much searching though we do find a non-tuberous species, *B. erythrocarpa* (Figure 12). It is growing in a humid river

to relax before dinner. It was an interesting day.

valley and is in full flower. In the afternoon we drive to Balsas and from here take the old dirt road to the mountain town of Piñas. There are still large patches of tropical forest along this road and there are birds and butterflies everywhere. Close to the road we find a population of a new species with grape-like clusters of fruit. I'm in the process of describing this species with colleagues and stop to collect samples (Figure 13). There is also lots of *B*. glabra hanging from the trees, and, in the drier areas, large populations of B. ludwigii. We reach Piñas at 5 pm just in time for dinner (or maybe lunch since we haven't eaten since 7:30 am). After dinner I process the day's collections and work on the description of the new species that we collected today. I aim to finish early and get a good night's sleep. Tomorrow we will search for a new begonia species that a botanist sent me photographs of several years ago. It's important that I locate this plant since I want to include it in my almost finished monograph of the tuberous begonias. I anticipate a long day ahead as this plant will probably be a challenge to find.

To be continued...

Acknowledgement:

This expedition was made possible by the generous financial support of the American Begonia Society, as well as several ABS members. I am especially grateful to Lula Leonard whose contribution made this expedition possible. I also wish to thank Dr. Álvaro Pérez of the Pontificia Universidad Católica del Ecuador and David Gutierrez both of whom were also essential to the success of this expedition.





Fig 9. The unusual flattened stigmas of *B. rubrotincta*. Fig 10. Side view of a female flower of *B. rubrotincta* showing bracteoles at the base of the ovary and rather dowdy petals that are fused together at their bases. Fig 11. A home near Zamora in southern Ecuador devastated by the El Niño rains. Fig 12. *Begonia erythrocarpa* is a sun-loving begonia common at higher elevations in southern Ecuador. Fig 13. A new species of begonia characterized by grape-like clusters of fruit.



The Hardy Begonia: Begonia grandis

Article and photos by Eric Larson, Manager of Yale University's Marsh Botanical Garden, New Haven, CT

well-maintained garden is often a matter of staging, solving a tem-Aporal puzzle. Yes, you want to be aware of color combinations, textural effects, architectural contrasts and other design elements. But if along the way you can think about staging a perennial garden in such a way as to provide interest, cover and complimentary relationships, you can create quite a stir esthetically, but also remove some of the labor needed to keep the garden looking good. A plant that comes up and covers the dying foliage of another plant that has completed its life cycle for the season is a very useful plant indeed, and if it prefers shade, then you can use that fact to help work out a bit of a spatial as well as temporal puzzle.

This time of year is a bit difficult for me here at Yale University's Marsh Botanical Garden, partly because the summer help has moved on to other things (the NERVE!), and partly because so much of the end of summer is about just that, the end of summer.

So when I find a plant that does what a perennial begonia does, WOW! Why wouldn't I have it in the garden? It comes up late in spring, grows quietly in the shadiest part of the garden while the spring bulbs finish up, and the columbines do their thing, the early hostas have bloomed (have you noticed that these are all shadeloving perennials?), the astilbe has poked its colorful spiky heads up and then dried out, and even the late hosta flowers have come and gone. THEN and only then, the lovely perennial begonia starts to bloom.

White to pink flowers on nodding stems held above bright green foliage make a charming display that this plant shares with us for late August, September, and even into October. Like all begonias, some flowers on the plant are male and some are female. They are not fragrant, but seem to attract pollinators, because bumble-bees and honeybees were working the patch while I was trying to take a picture.

The important thing with *Begonia* grandis is that it does come up late, so you can't get too rigorous with your weed removal: in late May and early June, when the mugwort and knotweed are starting to exert themselves, no hoe or other mechanical device should be used near the hardy begonia patch as these would damage the emerging leaf crown. Hand pull the obvious weeds, and give your patch of hardy begonias a little organic fertilizer, but just a little.

or even deep shade. So plant them on the north side of the house or other structure. They also love deep rich humus-heavy soil, but it must be well drained. So perhaps under the Norway Maple, you won't have as much luck as near the house: yes, you have shade but the maple will suck the moisture and nutrients out of the soil before the begonias have had a chance to get what they need. All shade is not created equal, and even all tree-shade is not created equal. You might have better luck growing hardy begonias beneath a Stewartia than a maple, a dogwood than a beech. Don't let the soil dry out for hardy begonias. They don't tolerate drought, and won't be thrifty. If you have them sited correctly, you shouldn't have too much of a problem with water issues, but sometimes a spritz with a hose is needed to keep them looking spiffy. A heavy layer of mulch in the winter will ensure their survival, especially in colder areas. They are reliably hardy here in Connecticut, but my guess is that you won't have the same experience further north, say in the colder range of Zone 6 USDA.

You can find hardy begonia plants in the



little organic fertilizer, but just a little.

Hardy Begonia, if it is happy, will propagate by vegetative 'pups' coming off the roots. This patch (Fig 1) was rather sparse when I planted three little plants in 2011, but has grown in nicely. I think it's happy! What a lovely display for the late summer! A cheery reminder that its not over till the frost hits the structure. They also love deep rich

better garden centers, and of course online. Plant them in spring after all danger of frost passes, in a shady location in good rich well-drained soil. Deadhead after the first flush of bloom and you will have an extended bloom. Mulch well in the fall. Enjoy the lovely display that will cover the dying foliage of spring bulbs and early season shade-loving perennials. That was what I meant by 'staging.'

For you thespians out there, my apologies for the false premise at the start. I trod the histrionic boards myself in an earlier life, and would like nothing more than to find a way to wed the Bard's art with a garden.

Eric Larson is a generalist regarding his love of plants. Finding ways to counteract the apparent divorce of humans from the natural world is part of his mission in life, and in particular his focus when writing his plant of the week articles for Yale Marsh Botanical Garden, an activity he has engaged in since 1988. His bachelor's degree is from Skidmore College, and his continuing education includes travel, playing music and finding new wonders every day.

Neomarcia longifolia: The Yellow Walking Iris

By Walter Dworkin, Westbury, NY

thought everyone might be interested in knowing that there is also a yellow variety of the walking Iris. (See articles on the blue and white variety in *The Begonian* May/June 2016, pg. 108 and July/August 2016, pg. 146).

For many years I had grown the blue and white variety. When we took a vacation to Puerto Vallarta Mexico I discovered this cheery yellow variety growing in restaurant window boxes, on terraces in pots, and on long walkways everywhere. At present the yellow variety appears to have a little thinner leaf than the blue and white variety, but it's really hard to make a judgment call at this point because I have not been

growing the yellow variety for that long.

Neomarcia longifolia is the Latin
name for the yellow
walking iris and Neomarcia gracilis is the
name for the blue
and white. It is also
has a religious alias
and is known as the
apostle's plant. Both
varieties are also
fragrant. Neither is
hardy up north.

Like the blue and white variety, once the flower is spent the stem leans down to the ground and forms a new baby plant and continues to walk across your garden for a long time! This reproductive process is the same way the Spider plant reproduces.



Moniliform or Rugose?

Begonia austrotaiwanensis Chen & Peng was discovered in southern Taiwan. In the Section Platycentrum, this plant grows on steep, rocky slopes and has a pink, fragrant flower. (See additional photo on back cover.)

Does the arrow point to a feature of Begonia austrotaiwanensis that is moniliform

or rugose?
Photos and information from Dr. Ching-I Peng

Watch for the answer in your next *The Begonian* brought to you by A Word With You!

Last month's answer to Picture Quiz

2016 September/October, page 195

Arachnose or Alae?

ANSWER: Alae, or wings, located on the begonia fruit. Arachnose is a cobwebby type of hair or vestiture.

See *The Begonian*, Vol. 82, November/December 2015, p. 214.

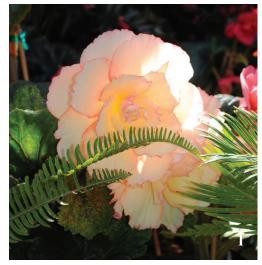
The Tuberhybrida Begonia Elegant And Beautiful

Article and photos by Bill Schramm, Salinas, CA

imple as species plants in nature, but elegant as beautiful hybrids, the Tuberous Begonia can truly be called the King of Begonias. Available as both upright and hanging basket plants in a wide variety of colors and flower forms with blossoms as large as dinner plates there are tuberous begonias for every taste.

The story of tuberhybrida begonia culture in the United States begins in California. Over 100 years ago James Brown moved his family from San Francisco to the shores of Monterey Bay to try his hand at farming. In 1920 he travelled to Europe and returned with more than 750,000 tubers and bulbs of different kinds and in short order became one of the first commercial grower of tuberous begonias in the United States. Today the 4th and 5th generations of the Brown family run the business known as Golden State Bulb Growers. Golden State is the largest grower of begonia tubers in the world and the only commercial grower left in the United States. Over the years the Brown family has developed many of the 50 varieties they grow and sell and which we enjoy. Each

230





Figs 1 & 2 Examples of the showy flowers of Tuberhybrida begonias.



These indoor fields of green are the new crop tuberhybrida seedlings (Fig 3).

year they produce close to 1,000,000 begonia tubers. They sell the tubers and in some cases seeds, to a wide variety of customers. Some buyers will package and retail the tubers, others will plant the tubers and later sell the plants. One of their biggest customers grows and markets the begonias on the QVC channel.

Each year in December and January the seeds for the new crop are planted. The photo of the seedlings (Fig 3) shows the young plants in one of several greenhouses that Golden State uses for this purpose. In addition some of the varieties, such as the scented variety, are grown by tissue culture and leaf cuttings. The seeds and leaf cuttings come from selected mother plants that are grown for this purpose.

In late April and early May the seedlings are taken to the growing fields. The photo of the begonias in the field (Fig 4) shows just a part of the 50 acres in Marina CA where Golden State grows their crop of tubers. The fields are about a mile from the ocean and the plants love the cool sea breezes. These breezes bring with them low clouds which are common along the central California coastline. The plants also benefit from the sandy soil which is a result of being near the seashore. In essence, Monterey Bay is a perfect place to grow tuberous begonias.

By late summer the begonias are grown and flowering. Golden State donates the flowers to the city of Capitola where they are used to decorate floats for the annual Capitola Begonia Festival. At this Festival the floats really do float as they are created on boats that float down the local river.







Growing close to cool sea breezes offers these fields of begonias very favorable growing conditions (Fig 4).

More examples of gorgeous Tuberhybrida begonias (Fig 5 & 6)

As December arrives it is time to harvest the tubers which are then taken back to the processing facility. First they are washed on a conveyor belt that reminds me of a car wash. Then racks of the wet tubers are put in drying rooms where very large fans help dry them. Next they are sorted by size because the bigger the tuber the more it is worth. During all this processing the tubers for a particular variety have to be kept separate from the other tubers because they all look alike. Finally, they are stored in a



very large warehouse (Fig 7) awaiting shipment to buyers around the world.

The local Chapters of the ABS in Monterey, Santa Clara and San Francisco are fortunate in the sense that we get the opportunity to visit the Golden State facility each year. Moreover the Brown family has been very supportive and generous with the local ABS Chapters over



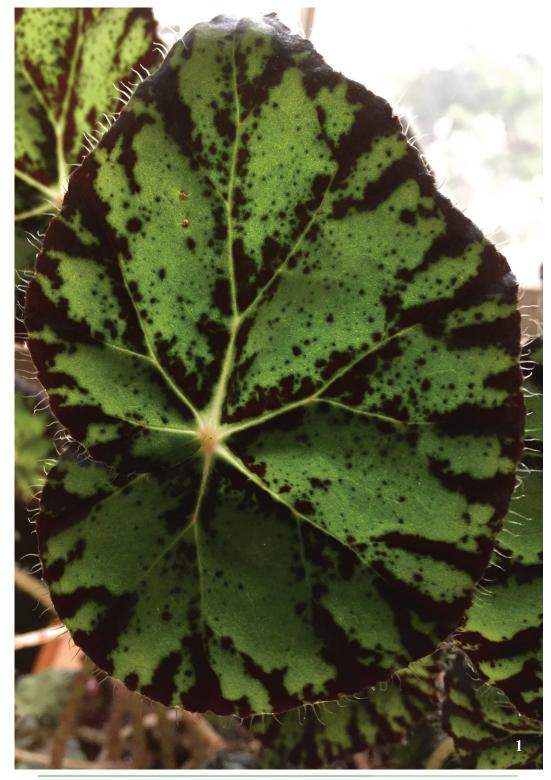
Thousands of tubers stored in the warehouse and being readied for shipping. (Fig 7).

Tuberhybrida blossoms (Fig 8).

the years. They give bags of tubers to our members when we visit their facility, they give the Chapters additional tubers to distribute at local garden events and they come and speak at our meetings.

If you would like to learn more about growing tuberous begonias please visit the web site at GoldenStateDirect.com.

The individual begonias shown in figs 1, 2, 5, 6, and 8 were all grown by Mimi Schramm - the gardener in our family.



Begonia 'Grandma'

By Kingsley Langenberg, Nomenclature Editor

Degonia 'Grandma' is **D** my own bowerae type rhizomatous hybrid. is a cross between B. bowerae and a rhizomatous hybrid with black starshaped leaves which I had grown from ABS Seed Fund seed contributed by Mickey Meyer of Australia. I harvested the seeds of my cross on my grandmother's birthday, hence the name. My plant bears 6-winged seed capsules each Spring. Unusual, I think. B. 'Grandma' certainly is a survi-

An easy to grow and very attractive plant, Begonia 'Grandma' (Fig 1) has been around for over 36 years. Photo by Linda Tamblyn Even the unusual 6 winged seed capsules are attractive. Photo by Kingsley Langenberg

vor, since it is now 36 years old. I have distributed it to family and friends, who have reported it in favorable terms. However, I have not registered this cultivar because it looks - except for the seed capsule - like countless other similar hybrids.



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by Freda Holley, August, 2016. Freda introduced this amazing book at her seminar at the convention, Sept. 8. You will learn how she creates her stunning hybrids, scientifically, and see the beautiful results in many full color photos. This is the third book in her hybridizing series and a 'must have' for beginning & established hybridizers as well as collectors. Proceeds go to the ABS Millie Thompson Publication Fund.

Domestic: \$25.00; International: \$35.00

Begonias Of The Month

Written by ABS members. Compiled by Wendy Corby, 2015, 116 color pages sponsored by the Sacramento Branch and published through the ABS's Thelma O'Reilly Reprint Fund.

This booklet is a compilation of monthly writeups by ABS members from 2000 through 2010. *Begonias Of The Month* includes a variety of begonias with information on the plant's origin and growing tips from that grower's experiences and locale.

Domestic: \$20.00 International: \$30.00

The first new ABS pin in many years

is now available just in time for your holiday giving. It was designed and produced by Cheryl Lenert. Surprise and delight begonia lovers on your list with this beautiful pin.

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Brad's Begonia World

by Brad Thompson. Edited & Compiled by Wendy Corby, 2015.

A compendium of Brad Thompson's web page with 189 color pages of photographs, published through the ABS's Thelma O'Reilly Reprint Fund. The first section is on the different types of begonias. The second section is on the growing and care of begonias. The book is a wonderful set of articles to provide begonia enthusiasts with information and delight them with incredible full color photographs of your favorite begonias.

Domestic: \$35; International: \$45

ABS Bookstore

NEW: Understanding Begonia

by Samuel Kennedy, Photographs & Art Work by Elizabeth Kennedy

Published in the United Kingdom, 2015, ISBN #978-0-9932897, 95 pages, full color photographs. First half of the book covers begonia history, types, sections, growing, fertilizing. Second half is devoted to growing tuberous begonias. A glorious book containing valuable information from the Jack Golding archives.

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book by Freda Holley is filled with articles
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includes articles by Ross Bolwell, Walter
Dworkin, Freda Holley, Gregory Sytch, Chuck
Ades, Brad Thompson, Patrick Worley and
Rudolf Ziesenhenne. The pictures are many and
stunning.

Domestic: \$21.00;

International \$26.00 (Includes postage)

Tuberous Begonias and How to Grow Them

by the late Howard Siebold, 1998, published with the support of the ABS Millie Thompson Publication Fund. Library of Congress Catalog Card No. 98-74824 ISBN: 0-9628251-2-3 \$15.00

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.

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Raising Cane: Experiences in Growing the Species Cane Begonias

by Freda M. Holley A wonderful work on the cane species with color photographs.

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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

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by Jack Golding 2003, Revised 2005. Jack's last work. "...dedicated to the many who look at their Begonia but do not see the details." \$15.00

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by Freda M. Holley, 2007

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

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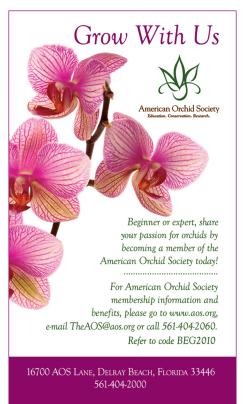
The Association for people who grow plants & flowers in greenhouses, windows, and under lights!

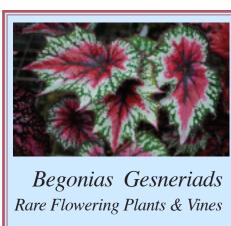


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