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The BEGONIAN



The BEGONIAN

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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 which 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 Photos:

Front - Welcome to Shirley Armstead's back yard in New Jersey, where begonias have gone to her head(s)!

Back - Jacques Jangoux photographed his plant of B. U003, purchased at a market in Brazil. Watch for two articles on this begonia, coming soon.



INSIDE THIS ISSUE

Begonias Olé! Convention News	
Olé! Snapshots	164
Conservation of the Rainforest	166
My First Convention	167
Articles	
Begonias in Malaysia, part 3	168
To Bring into Friendly Contact	174
Begonia Edibility	175
Unidentified Begonias List	176
Epiphyllous Growths	178
Update: Tissue Culture Project	183
Book Review	185
Regular Features	
Coming Events	182
In the News	186
Judges' Corner	186
Bulletin Board: ABS News	187
Seed Fund Notes	188
Seed Fund Listing	190
Round Robin Notes	191
ABS Book Store	193
Around ABS	193
Begonia Societies Directory	195
ABS Minutes	198

The photograph above of her B. 'Essie Hunt' won the Division Trophy for best photograph, judged horticulturally, for Janet Welsh at Begonias Olé!

Quick! Check your mailing label! If it reads 9/90 or 10/90, your membership is about to expire. Please renew - we don't want to lose you!

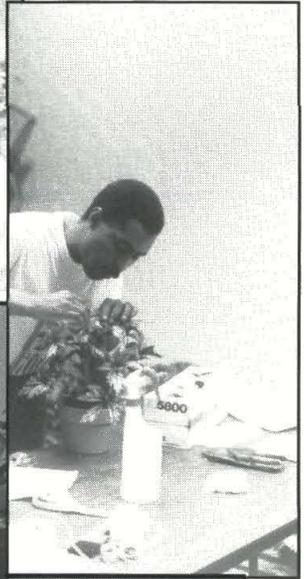
Moving? Please remember to notify the Membership Chair of your change of address.

Olé! Snapshots

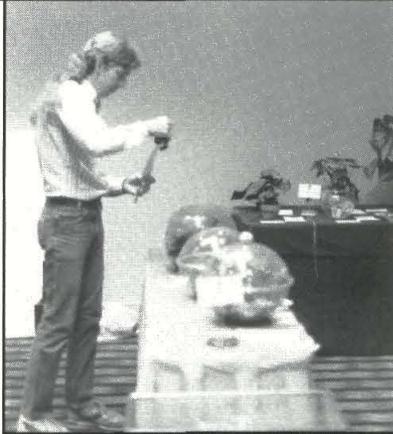
putting on the show:
here's a look behind the scenes on Thursday, May 17
registration of entries



grooming



placement, an
all-night job



On Friday the
judges had
some hard
decisions



plant sale workers
were busy, too



Special Events

Members at Large Meeting



Round Robin Party



B. 'Joy Porter' (center plant) was auctioned for the Conservation Fund



dancers were among the special entertainment

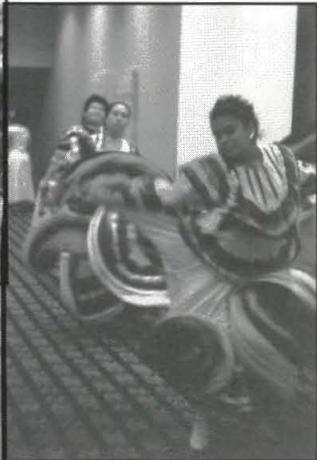


exhibit of Mae Blanton hybrids



Conservation of the Rainforest: A Matter of Life or Death

Banquet speech by Roberto Brin
Part 2

Do you know where the major part of the tropical rainforests of our planet are located? Right here on the American continent, but in the southern portion called Latin America, lands of singular beauty that have been blessed by nature.

About a third of the earth's plants, animals, and microorganisms occur in Latin America. Of these, only about 1/6 have been catalogued. Tropical America has around 42% of the world's tropical rainforest, 31% of the fresh water world reserves, and 17% of the pasture lands.

The major part of the Latin American resources are in South America, a land of spectacular beauty, from the Andes to the mighty Amazon and from the Orinoco to the Patagonia. South America has an estimated 5,000 fresh water fish species, only about 3,000 of which have been named. On the eastern slope of the Andes 80 or more species of frogs exist within a single square mile, almost as many as in all of temperate North America. It also has 20,000 species of plants and about 4,000 of them are endemic. Ecuador alone harbors 1,300 species of birds, 20,000 species of flowers (four times more than California, and this country is only about the size of Colorado). Also, it has about 800 species of reptiles and amphibians, and of those some 200 have been discovered since 1970. Colombia, Ecuador, and Peru together are home to about 1/6 of all the earth's biota.

But the most controversial part of South America is the Amazonia, the huge green land that Chico Mendez defended and died for. If the Amazonia were considered as a nation it would be the 7th largest country in the world. It contains more than 1/3 of all the

forest reserves of our planet and 10% of all the vegetable and animal species.

Through Amazonia runs the Amazon River, with a length of more than 4,200 miles and the biggest basin in the world, with about 2,800,000 square miles. It can be navigated for 2,400 miles. Amazonia's mineral richness in gold, bauxite, copper, manganese, silver, nickel, and precious stones is enormous, but the exploitation of her deposits of petroleum and her hydroelectric potential are threatening the survival of this important part of our planet with an *intensity never before registered in her history*.

Add political difficulties and the conditions imposed by the international economic systems on the countries of the Amazonia, and this combination of negative forces constitutes a great danger. Many politicians and ecologists predict the creation of great deserts in the region.

During centuries, Amazonia has been exploited intensely. The extraction of the natural resources has led to brutal exploitation of the original inhabitants of the Amazonia. When Europeans arrived in the 16th century, it was calculated that Amazonia was inhabited by 7,000,000 Amerindians. Violence, illness, exploitation, and hunger have reduced that number to merely 500,000 scattered along the Amazon River. As leader Chico Mendez said, "The exploitation is no thing of an infamous past, this is something that actually exists with all intensity."

A few days after Christmas of 1988 Chico Mendez was murdered because he dared to fight that exploitation. It is sad, and

hard to imagine, that in the 20th century humans still exploit their human brothers. But let me tell you that this is not exclusive to our third world countries; in some developed countries the exploitation is merely more sophisticated.

Expert calculations about the annual destruction of the Brazilian Amazonia have varied from the official 5% to 20%, which would represent an extension of 500,000 kilometers, or something more than 1/2 the territorial area of Venezuela. The conservation of the Amazonia, an extremely fragile habitat, will have to consider the social, economic, environmental, and political problems all together, or any attempt to save it will be sterile.

But Amazonia is not the only area of rainforest that is in danger. Even though we humans know that our continued survival will depend on our ability to use plants, animals, and microorganisms wisely, tropical vegetation worldwide is modified or eradicated at an alarming rate. The FAO estimates that 44% of the tropical rainforest had already been degraded or destroyed by 1980.

Roberto Brin's address is Apto. 7470, Panamá 5, República de Panamá. In our next issue: causes of destruction, and some remedies.

My First Begonia Convention

by Lee Van Epps

I am an at-large member of the American Begonia Society, since I live in Mexico, and *Begonias Olé!* was my first, and definitely not my last, convention. Although I was only able to attend one day of the convention (May 18th), that day was wonderful: seeing the hospitable *Zwirns'* beautiful yard, the amazing San Antonio Botanic Gardens, the most interesting plant sale - but mainly just looking at the healthy specimen plants (both winners and others) all but took my breath away. I'm now inspired to turn my feeble results into raging successes.

But the best part of the whole convention was meeting people that I had read about and practically knew from the **Begonian**. What a great bunch of people!

I was very anxious while driving across the border at Reynosa back into Mexico with three cardboard boxes holding twenty-four begonia plants I had acquired at the

plant sale. But the Mexican officials were more interested in registering my car than what was in it. My station wagon was full to the brim with plants (begonias and cacti), bags and bags of goodies from K-Mart, Wal-Mart, and the supermarkets, three ceiling fans, shade cloth (for my future begonia atrium), blocks of sharp cheese (unavailable in Mexico) and some new clothes. No one even looked inside the car, so home I went to the dry, high desert where Guadalajara sits.

Now I mist all the begonias three times a day, and immediately spray with Captan. Even so, I've lost a couple of tender ones. I'll write again in six months and tell you what's survived.

Thanks to everyone who had anything to do with *Begonias Olé!* It was a smashing success as far as I was concerned.

Lee Van Epps lives at Calle Dos 65, Colonia Seattle, 45150 Zapopán, Jalisco, Mexico. He promises we'll get to meet him in Washington, D.C. in 1991.

In the last two issues, we followed as Jacques Jangoux visited Bako, Gunung Mulu, and Lambir Hills National Parks in Sarawak, a Malaysian state on the island of Borneo. Here he takes us to Mount Kinabalu National Park in the Malaysian state of Sabah, home to more beautiful begonias.

Begonias in the National Parks of Malaysian Borneo

Part 3

*The nation of
MALAYSIA
is cross-hatched*



From Miri, a short flight took me to Kota Kinabalu, the capital of the Malaysian state of Sabah. As the plane started its descent, I had a magnificent view of my next destination, massive, imposing Mount Kinabalu, a granite intrusion or pluton, at 4101 meters (13,455 ft.) the highest mountain in southeast Asia. On its slopes Nature is preserved in a National Park where a fascinating change in vegetation and corresponding changes in life forms can be observed: from tropical rainforest at the base of the mountain through lower montane forest and cloud forest to bare rock at the summit. Park Headquarters is reached from Kota Kinabalu by car in an hour and a half. Coming from the tropical lowlands one feels the coolness of the air as the Headquarters is at an altitude of 1554 meters (5100 ft.). A variety of accommodations are found here, from hostels to individual chalets.

On the first, second, and fourth days here I took excursions along little-visited trails starting at Park Headquarters and going through lower montane rainforest dominated by species of oaks, which replace the dipterocarps of lowland forests. Here many epiphytic orchids can be seen, mostly small to medium-flowered, generally whitish to cream in color. Here I found, in lush streamside forest, a low-growing begonia with medium-size glabrous leaves hiding the solitary flowers.

Photo taken looking down on glabrous leaves



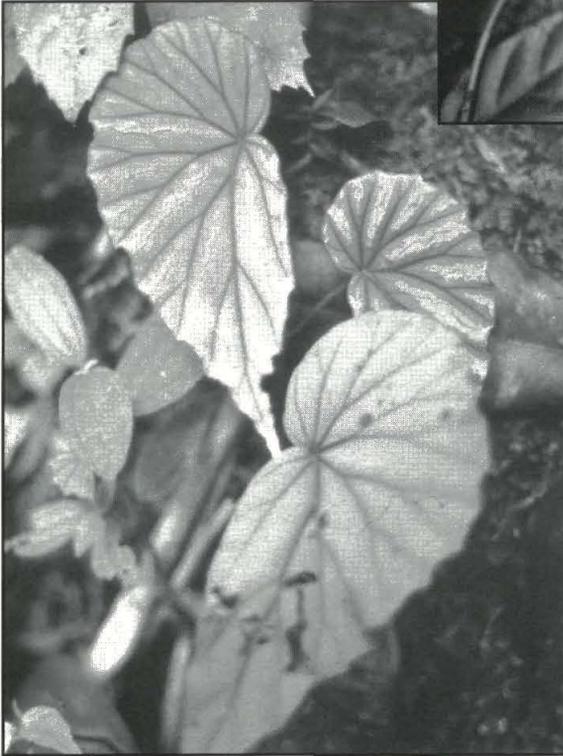
The solitary flower is hidden beneath the leaves



On a trail embankment grew a striking erect-stemmed begonia at various stages of development. The leaves of juvenile plants had variously silver or pink markings, whereas adult plants had uniformly bright green leaves (photos A, B). This begonia has been identified by Martin Sands as *B. beryllae* Ridley.



B. beryllae



B. beryllae: Immature leaves in pink

On the third and fifth days I hiked part of the summit trail. I had no intention of reaching the summit, preferring to take time to observe the vegetation and take photographs - most visitors rush to the summit and back in two days; there is a cabin to spend the night at 3352 meters (11,000 ft.). A car took me to the trail head at the altitude of 1830 meters (6,000 ft.), still in the lower montane forest zone. The climb is strenuous, but offers no difficulties as the steep trail is provided with steps made of tree branches and roots to prevent ero-

sion on this heavily travelled trail. At about 2000 meters (6500 ft.) the trees become gnarled and heavily covered with moss and epiphytes as one enters the upper montane or cloud forest zone. Various species of rhododendrons brighten the otherwise severe undergrowth with their colorful blossoms.

Shelters are located conveniently every 30 to 45 minutes along the trail. At shelter 4, at an altitude of 2518 meters (8262 ft.), was a stand of a begonia with handsome hanging white flowers, its stems reaching over 1 meter (3 ft.) in height, *B. burbridgei* Stapf (see photo next page, also cover photo, May-June **Begonian**). Apparently it was taking advantage of the extra light provided by the clearing around the shelter (many begonias seem to adapt readily to man-altered environments). This is also the altitude where many tree ferns grow.



B. burbidgei Stapf

Around the altitude of 3000 meters (10,200 ft.) one crosses an outcrop of ultrabasic rocks. Special plants have adapted to soil formed on these rocks, soil which contains a high concentration of toxic elements. They include a few species of stunted, gnarled trees, and the carnivorous plant *Nepenthes villosa* with striking brownish-red pitchers, yellow at the mouth. This is as high as I climbed on the summit trail.

A chartered minibus took me from Park Headquarters to Poring Hot Springs at the foot of Mount Kinabalu, at an altitude of 450 meters (1,500 ft.) Here hot water from the springs has been channeled into tubs, originally by the Japanese during World War II. I had hoped to see the giant parasitic *Rafflesia* flowers, known to grow there, but unfortunately they were not in bloom. However, my visit was worthwhile as there is some nice lowland forest along a trail that goes to spectacular Langanan waterfall coming down Mount Kinabalu.

There I had another begonia day: first, a small plant, probably a seedling, with dark green leaf dotted with white, growing among *selaginellas* on the trail embankment (photo, upper left); then, growing on rocks, a small plant with graceful erect inflorescences of a few white flowers: *B. gueritziana* L.S. Gibbs (photo, upper right); and finally, toward the end of the trail near the waterfall, what were probably juveniles and adults of the same species, the leaves of the juveniles being gray with some green along the veins, those of the adults being uniformly green (photosA, B below).

B. gueritziana Gibbs



A: immature leaves of begonia at right



possibly *B. inostegia* Stapf

Two other plants with interesting foliage were an *Elatostemma* (*Urticaceae*), its slightly asymmetrical leaves dark green at the edge and light green along the central vein reminiscent of a begonia, and young plants of a ginger with leaves presenting a tiger pattern of light green and brown.

I ended my stay in Sabah visiting the Sepilok Orangutan Rehabilitation Center and Forest Reserve, where captive orangutans are trained to live again in the wild. I did not see any begonias there.

Finally, I visited Khao Yai National Park in Thailand. Due to the existence of a marked dry season, the rainforest there is semi-deciduous, some of the trees shedding their leaves seasonally, giving the forest a much more open appearance than in Borneo. Again I did not see any begonias, although I saw a photograph of one at the Visitor Center.

Many other National Parks await visitors in southeast Asia. Some are of difficult access and little equipped to receive visitors, while others have a good infrastructure (access, lodging, trails, guide services), allowing visitors to enjoy little-disturbed tropical rainforest with moderate effort.

Inexpensive travel discount flights to southeast Asia are available from travel agencies in large cities such as New York and San Francisco (look at the ads in the Sunday paper). There are good hotels in Borneo cities, and good restaurants, especially Chinese (there is also a Kentucky Fried Chicken in Kuching and in Kota Kinabalu, if you are homesick).

Why don't you go to southeast Asia on your next vacation, and discover your own wild begonias? Not only will you enjoy it, but you will help convince local people that conservation is a worthwhile endeavor: you will bring money to the local economy, an economy that is awakening to the benefits of conservation.

I was happily impressed to see not only foreign tourists in southeast Asian national parks, but also many local visitors, mostly young ones. This shows that enjoying nature and conservation consciousness need not be a privilege of the inhabitants of the rich countries of the western world; it is also a reality, albeit a fragile one, for citizens of developing countries. In southeast Asia there is a strong awareness of the need for conservation. Unfortunately, conservation has to fight even stronger forces, such as the logging industry which exploits and impoverishes most of the forests of Sarawak, destroying the habitat of its native people. These forces are ultimately driven by the hunger for raw materials of the economies of the developed world, western and Japanese.

Acknowledgements:

John Dransfield of the Royal Botanic Gardens at Kew, Watana Sumawong of Bangkok, and C. L. Chan of Kota Kinabalu made invaluable suggestions permitting the successful realization of this trip. The begonia species were identified by Martin Sands of the Royal Botanic Gardens at Kew. I am grateful to all of them.

Jacques Jangoux is a free-lance photographer with a botany background who specializes in the rainforest. His address is Rua dos Timbiras 1375, Apto. 1001, Batista Campos, 66.000 Belém, Pará, Brazil.



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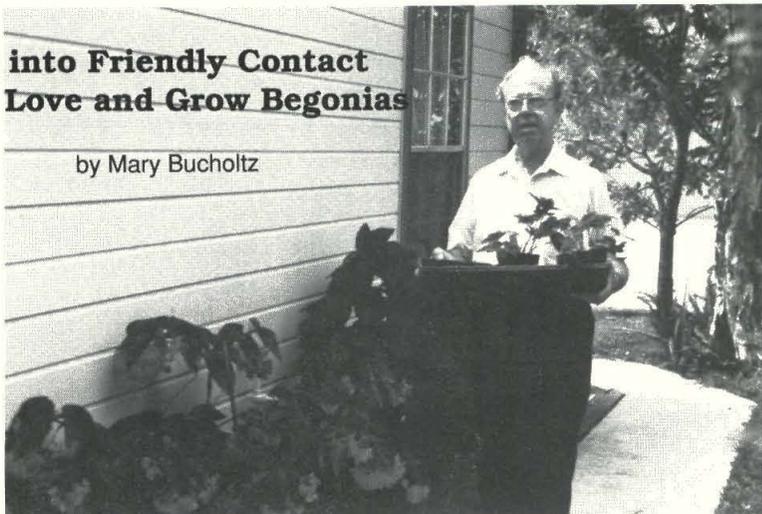
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To Bring into Friendly Contact All Who Love and Grow Begonias

by Mary Bucholtz



I had grown a number of Paul Lowe's cultivars for many years, not ever having any idea I'd meet the man who created them I remember writing my first letter to Paul, introducing myself and listing a few of his cultivars I was growing. I was going to be in his area and asked if I might stop by. His reply was immediate, and from that first meeting I knew I'd found a new friend.

When Florida's record-breaking 1989 Christmas freeze found Paul's begonias, it was as harsh with them as it was to the rest of the state. Begonia growers in the southern part of Florida don't grow inside during the winter. They are blessed with warm breezes year 'round. We, in north Florida, are not as fortunate. We must protect our begonias from those north winds during the months of November through March or April. But, I digress.

This blast of Arctic air left Paul with hardly a rhizome or cane, thick-stemmed, trailer, or shrub.

After the **Begonian** put out the word of Paul's misfortune, leaves and cuttings came from all over the country. From old friends and new, from acquaintances and customers the packages arrived. Ah, friends: is there a sweeter word? We all know the best begonia insurance one can have is to share those plants.

What a difference a few months make. There are all kinds of new growth in West Palm Beach. Paul is especially grateful

and thrilled to have received so many cuttings. Many were of his cultivars, which he was afraid he would not have the pleasure of growing again.

Is it any surprise to any of us that begonia folks are special? Not only do we love begonias, but the people who grow them.

THANKS

I have always known, through correspondence and personal contact, that Begonia people are good people. However, I was astounded at the response to the article in the **Begonian** telling about my disastrous freeze at Christmas time. I have received plants and cuttings from members all over the country, all good varieties, some of which I have not grown before. I now have a more varied collection than I had before the freeze.

All my plants are doing well, and I should be able to put out a new list by the spring of 1991, barring another freeze or other such disaster.

I wish to thank particularly the following people: Naomi Lynch, Mary Bucholtz, Helene & Charles Jaros, Bob Hamm, Dale Elmlade, Gene Joyner.

- Paul P. Lowe

On the Edibility of Begonias



by Joseph E. Laferrière

In recent years there has been a surge of interest in the idea of edible flowers. Nasturtiums, daisies, chrysanthemums, dandelions, violets, daylilies, roses, and hibiscus flowers all can be eaten, and many of them are rather tasty. However, ornamentals such as foxglove, iris, yews, lilies-of-the-valley, and several others are potentially toxic and should not be eaten. One should never consume any plant material without being absolutely certain of its identity and of its edibility.

What about begonias? Begonias tend to be rather succulent, and might seem to make a rather tempting snack. But are they safe? The answer is yes and no. Begonias are safe to eat in small quantities but potentially dangerous in large amounts.

The sap of most begonias is decidedly sour to the taste. Begonias have been used as potherbs in Japan, India, Indonesia, and Myanmar (Burma), and in salads in China, Indonesia, and Brazil. I have seen children in rural Mexico chew on the stems of wild begonias specifically for the sour taste, which they find refreshing. This is very similar to consumption of lemonade by American children. Begonias are high in fructose, so they may taste somewhat sweet as well as sour.

The sour taste of begonia sap is due largely to the presence of oxalic acid. This acid is present in many leafy vegetables, including spinach and rhubarb. In small quantities this acid is harmless, but in larger quantities it can be dangerous. Oxalic acid acts by binding to calcium and other minerals to form insoluble salts which cannot

be absorbed by the body. This is not usually much of a problem if the amount of calcium in the diet greatly exceeds the amount of oxalate, but if the oxalate consumption is very large the acid itself may be absorbed into the blood stream where it can do serious damage.

The roots and tubers of certain species have been used medicinally in several countries since they contain cucurbitacins. These compounds are strong purgatives and potentially toxic; hence below-ground parts of begonias should not be eaten. Commercially grown begonias should also be avoided, since they may have been treated with pesticides.

So, if you hunger for a delightfully sour snack, chew on a begonia. But don't overdo it, and have a glass of milk as well, to make sure that you are getting plenty of calcium.

Joseph E. Laferrière is a graduate student in the Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ 85721. His doctoral dissertation project is an ethnobotanical study of the Mountain Pima Indians of northern Mexico.



UNIDENTIFIED BEGONIA SPECIES LIST

Thelma O'Reilly, Project Director

The ABS Nomenclature Department maintains a list of unidentified species. These are assigned numbers preceded by "U" (for "unidentified").

Your cooperation in supplying any information, including observations, photographs, slides, or drawings for this group or any other unidentified species will be appreciated. Write to Thelma O'Reilly, 10942 Sunray Place, La Mesa CA, 92041.

The references in parentheses are to the *Begonian*, year: Seed Fund number if one was given, page. Example: B. U138 (1984:JA3, 87) was listed as JA3 on page 87 of the *Begonian* in 1984.

B. U136

Pichincha, Ecuador. Seed collected by Scott Hoover January, 1984 at a waterfall area on road to Santo Domingo de los Colorados. Apparently a highly restricted endemic species. Elevation 5200 ft. (1985:Cover; photo, 30-31.) In 1987 Don Miller, Texas, reported that B. U136, which was of great interest, did not survive. He shared the following information: "I have just returned from a collecting trip to Ecuador and found what looks like B. U136. It was collected near Apuela at about 7800 feet elevation, growing in a clay-like soil, on a vertical roadside bank with water dripping down. It is fantastically beautiful. I lost three seed-grown plants in the glasshouse, others are in a terrarium." Later he reported

that he sent the lone survivor to a friend, hoping it would keep alive under different climatic conditions.

B. U137

Pichincha, Ecuador. Seed collected by S. Hoover January, 1984 in gravel along a deeply shaded stream bed 24 km. from bridge at bottom of old Quito road. Elevation 6000 ft.

B. U138

Pichincha, Ecuador. Seed collected by S. Hoover at stream margin edge along old Quito road. Elevation 6800 ft. (1984:JA3, 87.)

B. U139

Napo, Ecuador. Seed collected by S. Hoover February, 1984 at a riverside embankment past Banos. Elevation 4100 ft. Shrub-like; about 30 cm high with hairy, spreading, zigzag branches. Leaves when in bud covered by the stipules which are large (20-30 mm long and 12-15 mm broad) but are soon shed. Petioles short (10-15 mm), hairy. Leaf blades strongly asymmetrical, up to 10 cm long and 5 cm wide, entire, upper surface smooth, dark green, under surface lighter, hairy on the veins. Inflorescence 3-5 cm across, 8-12 flowered, on a 2 cm long stem. Flowers about 1 cm across, white. Male flowers with 4 sepals, two wider than long and two much smaller

and narrower, anthers numerous, lanceolate with very short filaments. Female flowers with 2 broad sepals (occasionally an additional narrow one), styles compact, much branched. Ovary covered by roundish bracts, 2 placentas in each locule. Fruit without bracts, with one large blunt wing and two smaller ones. (1984: JA4, 87.) Identified as *B. cryptocarpa*. Description and identification supplied by Prof. Jan Doorenbos.

B. U140

Napo, Ecuador. Seed collected by S. Hoover February, 1984 along a trail through forest above river past Banos. Elevation 4000 ft. Shrub-like. Identified as *B. buddleiifolia* by S. Hoover.

B. U141

Napo, Ecuador. Seed collected by S. Hoover in February, 1984 along dry stream bank 51 km from Puyo to Tena. Elevation 2800 ft. Shrub-like; leaves above olive bronze with white spots when young; stems lean apically, slender, rather short; flowers small, greenish white with 4 male tepals, 2 ovate, 2 elliptic, 5 female tepals nearly equal in size. Greenish white ovary with 3 wings (occasionally an additional narrow one). (1984: JA5, 87.) Identified as *B. maynensis* by T. O'Reilly.

B. U142

Napo, Ecuador. Seed collected by S. Hoover February, 1984 along stream margin past Tena on road to Bolza. Elevation 4700 ft.

B. U143

Napo, Ecuador. Seed collected by S. Hoover February, 1984 along roadside drain ditches and stream margins past Tena on road to Baeza. Elevation 6500 ft. This collection contained two species.

B. U144

Napo, Ecuador. Seed collected by S. Hoover February, 1984 at a stream margin along road to Baeza, 72 km past Tena. Elevation 6000 ft. Two species were included in this collection. B. U144 = *B. glabra*. The second species, B. U144-B, remains unidentified.

B. U145

Napo, Ecuador. Seed collected by S. Hoover February, 1984 at a drain ditch along roadside of highway from Baeza to Largo Agrio. Elevation 6100 ft. Shrub-like. Identified as *B. maynensis* by T. O'Reilly.

B. U146

Napo, Ecuador. Seed collected by S. Hoover February, 1984 from moderate population distributed along roadside embankment past Santa Barbara along road to La Bonita. Elevation 7700 ft. Shrub-like. Poor germination reported. T. O'Reilly observed Mabel Corwin's reddish-

leaved seedlings (1/4 -1/2 inches high). They were delicate and gradually all damped off. Tentatively identified as *B. secunda* by S. Hoover.

B. U147

Napo, Ecuador. Seed collected by S. Hoover February, 1984 from a small population along roadside embankment on road from Santa Barbara to La Bonita. Elevation 7000 ft. Shrub-like. Sparse germination, slow growth (1 inch in 6 months) reported. (1985: JA 6, 87; 1989: 153-154.) Collection records stated that this species was same as B. U139. M. Corwin's seedlings of B. U139 and B. U147 differed.

B. U148

Napo, Ecuador. Seed collected by S. Hoover February, 1984 from a very small population in a shaded drain ditch along roadside above Sibundoy, a small village above La Bonita. Elevation 7600 ft. Shrub-like. Identified as *B. urticae* by S. Hoover.

B. U149

Narino, Colombia. Seed collected by S. Hoover February, 1984 along trail above San Juan river near Maldonado, Carchi, Ecuador. Elevation 5200 ft. Shrub-like. Identified as *B. maurandiae* by S. Hoover.

B. U150

El Valle, Panama. Seed collected by Roberto Brin in 1984 from a cultivated garden plant. Rhizo-

matous; cleft leaves green and brown, similar to *B. heracleifolia*. (1984: MJ8, 59; 1989: 113-114.) Identified as a form of *B. heracleifolia*.

B. U151

Peru. Seed supplied by Prof. J. Doorenbos in 1984. Shrub-like; small plant, all parts covered with white hairs. (1984: JA8, 87; 1986: SO13, 126; 1989: 153-154.) Identified as *B. subvillosa* (U008).



"Unidentified Begonias" is the theme for the 1991 ABS National Convention to be hosted by the Potomac Branch in the Washington, D.C. area, and the Branch is growing all the "U's" they can find for both show and sale. If you are growing some of the "U's", you may have one they are searching for - please contact Convention Chair Barbara Nunes, 6025 Greeley Blvd., Springfield, VA 22152. Watch for more information on this fascinating, bewildering group of begonias.

Epiphyllous Buds on Intact Plants of *Begonia rex* 'President'



Fig. 1: Epiphyllous shoot development from an intact potted plant of B. 'President'; the mother leaf is visible on the underside of the smaller-leaved shoot.

by Bryan G. Bowes, PhD

Figure 1 shows the foliage of a healthy, potted greenhouse specimen of B. 'President'; it is representative of several plants that had been raised from leaf cuttings taken from a clone of this cultivar held in the Botany Department at Glasgow University. The unusual feature of this specimen is that four of its large, undamaged leaves bear well-developed adventitious shoots. One such shoot is shown in Fig. 1, with its large mother leaf (itself still attached to the main plant) visible at the base of the adventitious shoot.

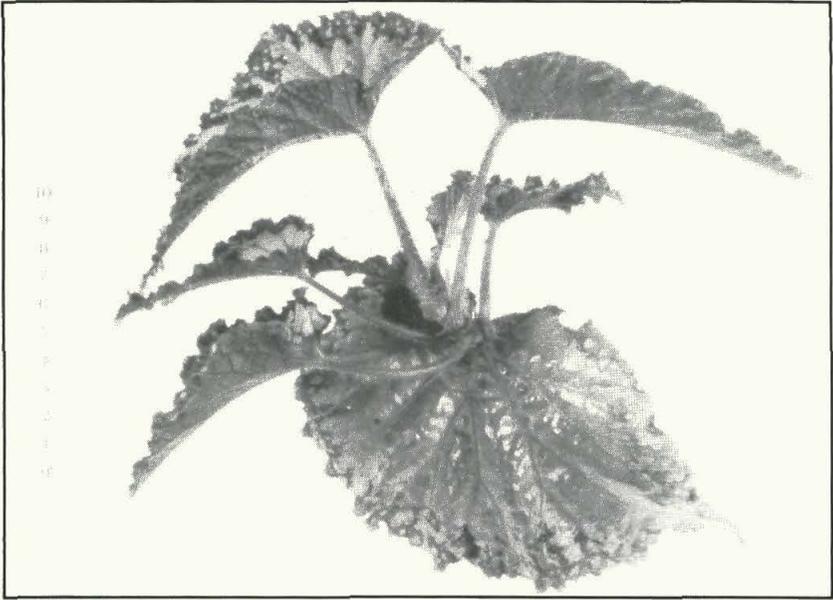


Fig. 2: Same shoot as in Fig. 1, but removed from the parent plant 10 weeks later; the large mother leaf bearing this shoot is clearly visible. (scale in cm)

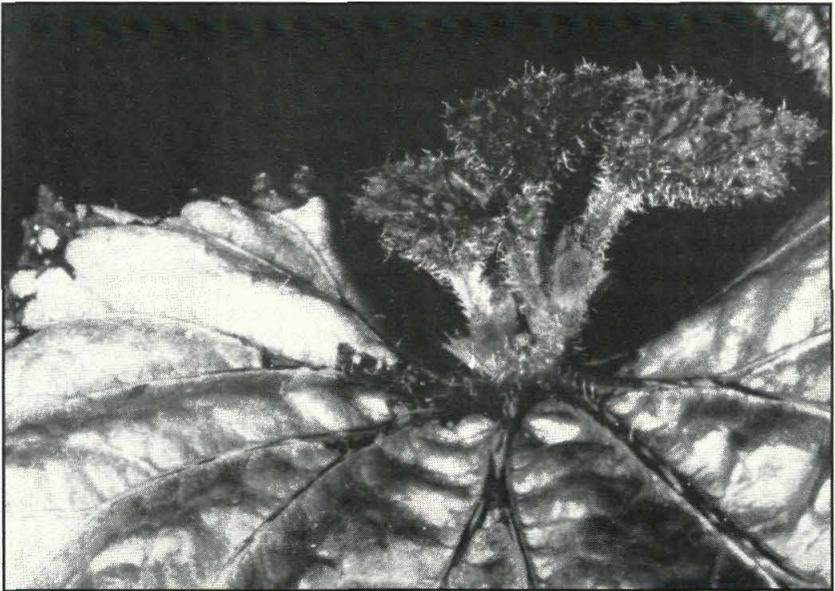


Fig. 3: Earlier developmental stage of an epiphyllous bud from a intact plant; note its adaxial origin from the base of the mother leaf mid-rib.

Fig. 2 shows the same adventitious shoot as illustrated in Fig. 1, but photographed 10 weeks later. The mother leaf has been removed from the potted plant (for convenience of photography) and the origin of the adventitious shoot, from the upper surface of the mid-rib at the base of the leaf blade, is clearly evident. This shoot bears 8 small-to-medium sized leaves (measuring 3-10 centimeters along the mid-ribs). When the shoot was excised from the mother leaf and examined under a dissecting microscope, numerous small swellings (presumptive root primordia) were visible at its base. When the shoot was planted in a beaker of water, a number of adventitious roots grew out from the base within a few days and the shoot will shortly be ready to transfer to compost. One of the other epiphyllous shoots on this potted specimen is also well-developed and bears 5 leaves; the other two shoots are smaller and bear 2-3 leaves.

The batch of potted specimens represented by Figs. 1-2 had been raised from a tray of leaf cuttings and, of the five plants potted from these cuttings, three showed epiphyllous buds. Fig. 3 shows an earlier stage of bud development from another of these intact plants and further demonstrates the bud's adventitious origin from the leaf. This phenomenon was not, however, unique to this single batch of plants raised from leaf cuttings. In a later batch of potted plants raised from leaf cuttings of this same clone, 4 out of 16 individuals bore 1-3 leaves exhibiting small epiphyllous shoots, each with a single expanded leaf. It must be stressed that all plants with epiphyllous shoots were healthy and the mother leaves were apparently uninjured.

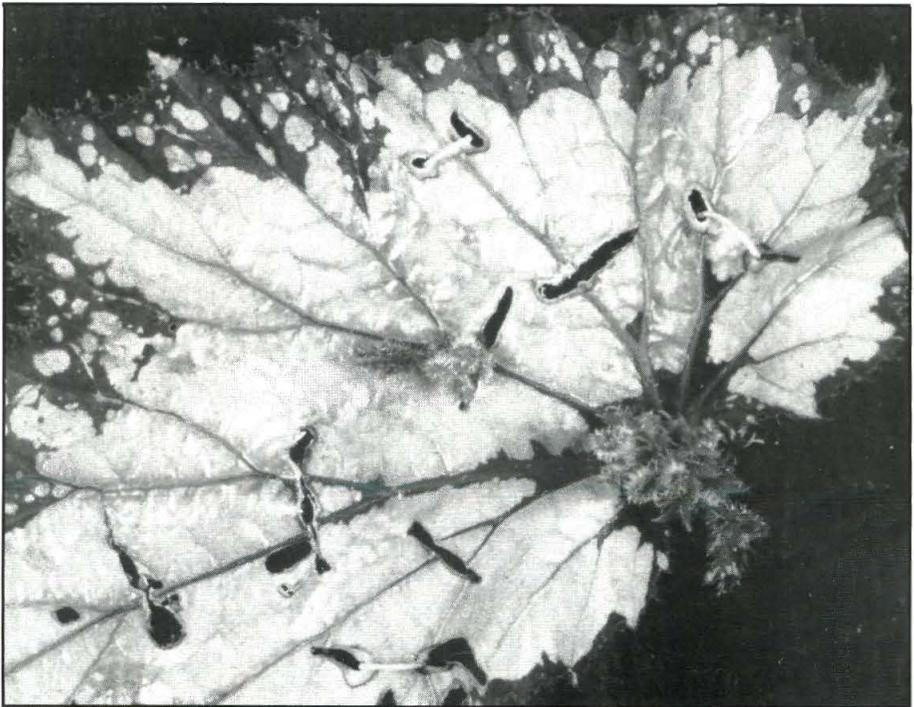


Fig. 4: Excised leaf of the same *Begonia* cultivar as Figs. 1-3, rooted in compost and developing several adventitious buds.

Although, as shown in Fig. 4, the development of adventitious buds on detached leaves of *Begonia* is of widespread occurrence (Bowes and Curtis, in preparation), the present report on the sporadic occurrence of adventitious buds on healthy and untreated leaves of intact plants of *Begonia rex cultorum* 'President' appears to be unique. However, there have been reports of bud primordia developing on intact *Begonia* plants following fungal infection of the leaf of *B. rex* 'Silver Queen' (Bigot, 1972). Chlay-Arnanson & Tran Thanh Van (1968) also demonstrated that spray treatment with a natural cytokinin induced growth of numerous bud primordia on intact plants of *B. rex* 'President'. Carleton L'Hommedieu (1976) reported that exposure of seedlings of *B. 'Lenore Olivier'* to fumes of the herbicide 2-4-5T induced proliferation in the attached leaves and "some of the plantlets were large enough to transplant."

The present note on epiphyllous buds in *B. rex* 'President' is, nevertheless, the first to report their further development into large leafy shoots; the aetiology of these buds also differs in that they have not apparently developed in response to an obvious external agency such as infection, chemical treatment, surgical intervention. It is not, however, considered that the epiphyllous specimens are mutants, since multiple mutants of the same character are unlikely to occur. The most obvious, although superficial, parallel to the occurrence of epiphyllous buds in *B. rex* 'President' lies in *B. hispida* var. *cucullifera*. The large leaves of the latter are crowded all over their upper surfaces with leaflet-like outgrowths (Fig. 5). But these do not represent buds, and their examination under a dissecting microscope failed to reveal any associated shoot meristems whilst micropropagation of leaf explants of such material *in vitro* failed to induce adventitious bud development from these outgrowths (Bowes and Curtis, in preparation).

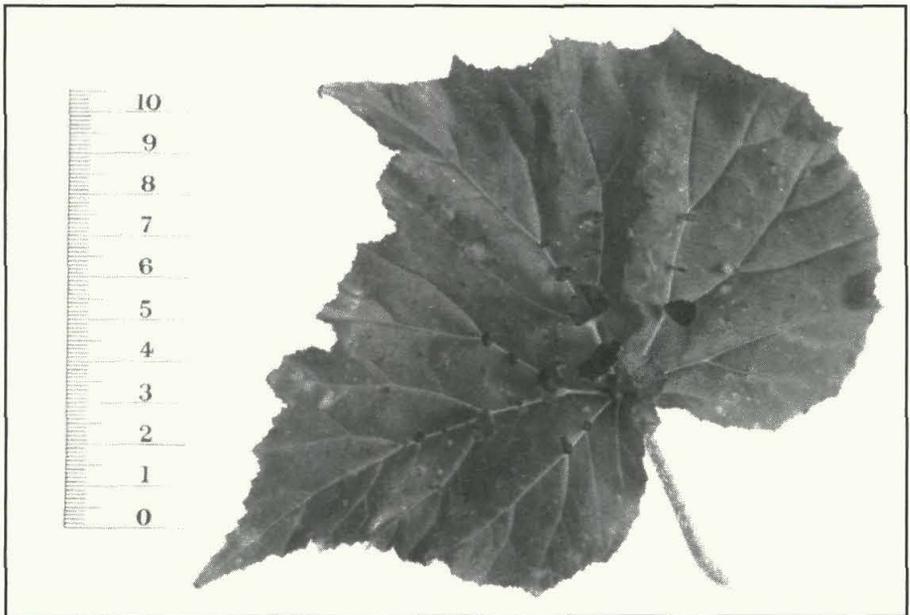


Fig. 5: Representative leaf (freshly removed) from a potted plant of *B. hispida* var. *cucullifera*; note the leaflet-like outgrowths from its upper surface. (scale in cm.)

A final note:

The shoot shown in Fig. 2 is now an established plant and one of its leaves has developed an epiphyllous shoot bearing several leaves.

REFERENCES

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2. Bowes, B. G. and E. W. Curtis (in preparation). Conservation of the British National *Begonia* Collection by micropropagation.

3. L'Hommedieu, Carleton M. (1976). The **Begonian**, 43, 14.

4. Chylah-Arnanson, A. and M. Tran Thanh Van (1968). Budding capacity of undetached *Begonia rex* leaves. Nature, 218, 493.

Dr. Bowes is Senior Lecturer in Botany at Glasgow University, Scotland, U.K., and is currently working on the Micropropagation of the British National Begonia Collection located in Glasgow Botanic Gardens.



September 29: 3rd General Assembly, Assoc. Françoise de Amateurs de Begonias, Paris. Contact Annie Danancher, 11 Rue Myrha, Paris 75018, France for more information.

October 19-20: Buxton Branch Show, Waltham, MA in conjunction with the American Gloxinia and Gesneriad Society. An ABS Judging Course will be offered by Mary Bucholtz and Corliss Engle. For more information, contact Frank M. Green, 20 Cross St., Fitchburg, MA 01420, (508) 342-6537.

Coming Events

September 8-9: Sacramento Branch Show and Sale at Red Lion Inn, 2001 Point West Way, Sacramento, CA 95815; (916) 929-8855. **ABS Business Meeting and Installation of Officers** will be held Saturday night after dinner. Also scheduled in conjunction with the show is the **organizational meeting for Northwest Region**. Contact Bob Hamm, 10065 River Mist Way, Rancho Cordova, CA 95670 or call him at (916) 366-7835 for more information.

September 15-16: Potomac Branch Show at U. S. Botanical Gardens. For show information contact Johanna Zinn, 4407 Jensen Place, Fairfax, VA 22032. A Judging School will be held also; contact Maxine Zinman, Rt. 1, Box 73, Boyce, VA 22620 if you are interested in attending the Judging School.

October 25: Seminar on Begonias at Selby Gardens, by Kit Jeans Mounger. 9 a.m. - 5 p.m. For more information, or to pre-register, contact Eden Foster at Marie Selby Botanical Gardens, 811 South Palm Ave., Sarasota, FL 34236; or call (813) 366-5731.

November 10: Atlanta Botanic Gardens presents a seminar by Kit Jeans Mounger on "Growing and Grooming Begonias for Show." 10 a.m. Contact Russ Richardson, 1854 Chancery Lane, Chamblee, GA 30341.

and looking ahead to next year...

March 29 - 31: Australian Begonia Society Convention, Perth. For more information contact Dr. John Mills, 20 Rivett Way, Brentwood 6153, Western Australia, Australia.

April 19-21: Southwest Region Get-Together, Oklahoma City.

American Begonia Society National Convention, Washington, DC.

Deadline for next issue: Sept. 15

Update on: the Begonia Tissue Culture Project



by H. Gilbert Harlow

In an article in the May-June, 1987 **Begonian** (p. 64), I solicited assistance from ABS members interested in increasing their stock of superior tuberous begonias. Using some of the material provided by them and some from other sources, we now have a respectable collection of tuberous begonias in various stages of production. Some are in 8" or 6" pots, some in smaller pots or cell packs, some lined out in flats, and some in 2,700 test tubes filled with cultures that are growing so fast that I can barely keep up with them.

I have logged about 12,000 laboratory hours over the last ten years developing a unique system that I think cuts down on the time required for some of the operations. There are other uses I might have made of those hours, but it has been worth it.

For those with no general knowledge of what is involved in tissue culture, the following simple description may be helpful. Procedures differ slightly depending upon the plant being used and the part of the plant from which the explants (or microcuttings) are taken.

1. One starts with a portion of the plant, which might be a growing tip, a leaf section, or a petiole or peduncle. The organisms on the surface are eliminated by washing under running water and then submersing the plant part in a correct dilution of Clorox. This is followed by successive rinses in sterilized water.

2. The disinfested plant part is divided into pieces several millimeters long, and each piece is placed in a small container in a medium consisting of all the minerals, vitamins, and hormones necessary for plant growth. Some may still not be completely clean, so that pathogens will begin to grow and destroy the culture.

3. The clean cultures grow and are divided after several weeks; the division process is

repeated until one has as many tiny plants as are desired.

4. The container size is increased to accommodate the large plants. By adjusting the hormones roots are encouraged to grow and finally the plants are moved to an artificial soil mix under a mist system. From this point they are handled in the same way as seedlings.

At this time I would like to correspond with any members who are interested in improving their collections by exchanging superior plants. Upper New York State is not a great place to grow tubers, so I would prefer to send small plants. For my part all I need is a green peduncle or blossom stem. Eventually we could all have a collection of all the best named and unnamed varieties and this would ensure that they would not be lost to future growers. I can think of plants I have had long ago that I would dearly love to have available for this wonderful method of reproduction.

Last summer I was a guest in a home in the Catskill Mountains. The hostess had a number of quite ordinary tuberous begonias growing in planters, but among them was one of the finest yellow ruffled types that I have ever seen. When you only need a piece of a stem it is yours for the asking, and I came home with the start of what is now several hundred outstanding yellow plants. Plants differ widely in their vigor, and this has turned out to be one of the most vigorous I have grown.

Among the responses to my earlier article (the **Begonian**, May-June, 1987, p. 64) was a letter from Mrs. Frank Reinelt. I had mentioned that I was particularly eager to locate anyone who still had some of Mr. Reinelt's great material. It has been reported that when Frank stopped working with begonias, in about 1967, a major portion of his breeding stock was taken to Japan. If

anyone has any information about this it would be most welcome. During the Christmas break a Japanese student of mine returned to Japan and I put him on the trail of the Reinelt begonias, but he came up empty. If you have any, please make them available to the program.

Mr. Justin Brown of the Golden State Bulb Growers (Brown Bulb Ranch) also responded to the article. His concern with tissue culture was the possibility that genetic changes might occur, and I know that this has happened in some plants. I have been told that the hemerocallis 'Stella D'Oro' even changed color in the tissue culture process.

It is my understanding that genetic changes are most likely to take place during the callus stage. In the system I have developed the explants start growing tiny buds, in most cases omitting the callus stage; genetic changes have not been a problem. I think tuberous begonias are less likely to sport than many other kinds of plants, no matter how they are propagated.

Our problems have mostly involved shipping. Plant parts may become contaminated internally on the way to me. Pathogens on the outside of a plant part can be eliminated on arrival, but nothing can be done about internal contamination. We may have to go to a system of treating with Clorox before shipping. I have found that shipping in Petri dishes and test tubes didn't work out well, and in the coming season I am going to try putting the plants in cell packs. We have also found that UPS is more reliable than Priority Mail.

Tissue culture is labor intensive, and it isn't worth propagating any ordinary plants by this method. It is those rare plants that might otherwise be lost that justify the intensive care involved. Whether superior begonias are in private collections, public gardens, or in commercial channels, we should make every effort to propagate them through tissue culture and distribute them as widely as possible. The orchidists, who

were the first to make use of this system, have been able to propagate extremely rare and beautiful orchids, and distribute them to growers worldwide.

An important aspect of micropropagation, another name for tissue culture, is the opportunity it provides to reproduce plants that have been proven to be desirable parents. Production of pollen from male flowers takes place readily from single and semi-double begonias, but unpredictably from those that are truly double. Some never appear to provide pollen, while others may only produce an anther or two, hidden under the petals, even under the most favorable conditions. By having large numbers of clones the possibility of making superior crosses is greatly enhanced. The number of female flowers a tuberous begonia produces also varies with the season, and when valuable pollen is available it is comforting to have as many places as possible to use it.

It takes as much time and space to grow a poor begonia as it does to grow a blue ribbon winner. Seedlings will always be important, because they are the source of new begonias. Tissue culture will not only improve our collections directly through the distribution of cloned material, but in the long run will improve the quality of seedlings by providing superior parents.

If other members of ABS would like to participate in this program all that is required is the exchange of plants or parts of plants. Colored slides or slides can be used to let the other participants see what you have in your collection that would be suitable for multiplication and distribution. Anyone interested can reach me at this address:

Prof. H. Gilbert Harlow
Civil Engineering Dept.
Union College
Schenectady, NY 12308



BOOK REVIEW

Douglas Hahn reviews:

BEGONIAS

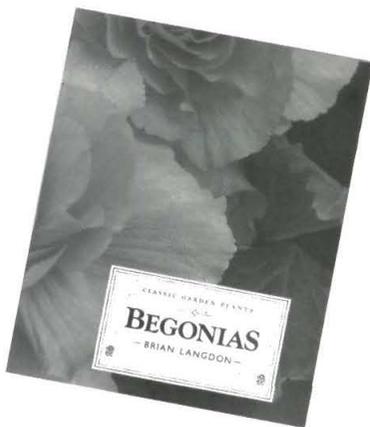
The Care and Cultivation of Tuberous Varieties

Brian Langdon

Hardcover, 8 1/2" x 10 1/2". 96 pages
48 pages color photographs
\$19.95

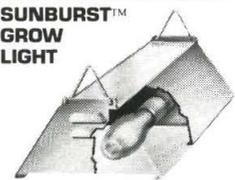
Brian Langdon, grandson of both founders of the Blackmore and Langdon nursery of England, presents the American grower another begonia book, very British and very tuberous.

The number of color plates, their size and quality, alone justifies the purchase price. The expected breath-taking plates of the huge, perfectly-grown blooms of named cultivars are present and Langdon includes photos of tuberous species, groups of tuberous begonias on display, and the blooms of cultivars that "just missed" naming and registration. Langdon uses this last group to illustrate the qualities used by U. K. societies to evaluate tuberous bloom, qualities that we in the ABS find rather subtle. The line drawings appropriately illustrate the techniques described in the text and the draftsmanship is a joy in itself.



Langdon wisely confines himself to the tuberous begonias. The individual chapters are brief, clear, and as a result focused. Chapters on propagation, hybridization, diseases, and the like are straightforward and useful to growers on both sides of the Atlantic. The chapters on cultivation helped me rethink my own practices for growing a dozen (now acceptable) tuberous begonias through a dry, hot atypically-British Midwest summer. The entire work contains a sprinkling of begonia history, some new at least to me, and a slightly different attitude that makes it fun reading.

Begonias by Brian Langdon is available at horticultural bookstores and through the ABS Book Store (\$22, postage paid).



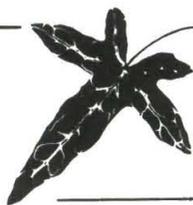
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In the News...

If you have been following the series of articles by Jacques Jangoux on begonias in the national parks of Malaysian Borneo, you will be interested in The Kew Magazine, Volume 7, part 2, for May 1990, which features an article by Martin Sands describing six of the previously unpublished begonias of Sabah. Included are beautiful color plates done by Cynthia King, and black and white drawings of the parts by the same artist. The Kew Magazine is published quarterly, and can be ordered from 3 Cambridge Center, Cambridge, MA 02142, USA; single copies are \$13, and a subscription \$47.50. Mr. Sands is writing a book on begonias of Borneo.

Photographs by Jacques Jangoux appeared in the April issue of Scientific American.

Delegates to the Economic Summit of Industrialized Nations, held in July in Houston, Texas, were welcomed with a red carpet - of 'Scarletta' begonias! B. 'Scarletta' was named the official flower of the Summit, with mass plantings in parks and along roadways; hundreds of volunteers helped in the effort organized by the South Main Center Association and Houston Proud, and civic groups and merchants lent support. In addition, a Begonia Brigade organized begonia pick-up points throughout the city, where pots, soil, and 5 plants of B. 'Scarletta' were available for under \$5; citizens were asked to place a pot of begonias and a flag on every porch.

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Begonia Fever Crosses Atlantic!



Helen Spiers' article "Begonia Fever Epidemic" was translated by Annie Danacher and published in Le Petit Begoniophil, journal of the French Begonia Society, illustrated by the humorous drawing above.

The begonia collection at Fort Worth Botanic Gardens and members of the Mae Blanton Branch who work with the collection were featured on the front page of The Redbud, newsletter of the Fort Worth Botanical Society, along with an article about the begonia family.

JUDGES' CORNER

Maxine Zinman
Judging Department Chairman

Congratulations to the following new judges:

Syble Boozer
Julia Broadhurst
Frank Green
Helen Patton
Esther Nagelberg

Judging School

A judging school is scheduled in conjunction with the Potomac Branch Show September 13-15 at the U.S. Botanic Garden in Washington, D.C. Contact Maxine Zinman, Rt. 1, Box 73, Boyce, VA for more information.

BULLETIN BOARD

ABS Elects New Officers

Ronnie Nevins, Chairman of the Ballot Counting Committee, reports the election of the following officers for 1990-1991:

President: Jeannette Gilbertson
1st Vice-president: Tracy McLellan
2nd Vice-president: John Howell
3rd Vice-president: Millie Thompson
Secretary: Ingeborg Foo
Treasurer: Eleanor Calkins

Our new officers will be installed September 8 in Sacramento.

Addresses

Tracy McLellan: Dept. of Biological Sciences, U. of California, Santa Barbara, CA 93106

Millie Thompson: P.O. Drawer PP, Southampton, NY 11968

Eleanor Calkins: 910 Fern St., Escondido, CA 92027

Addresses for Jeannette, John, and Ingeborg are on the inside back cover; because covers are printed 4 at a time, the other addresses will not appear on the cover until January-February .

Appointments:

Members-at-Large Director:

Kit Jeans Mounger, Rt. 1, Box 319, New Johnsonville, TN 37134

Slide Library, Co-Chairman:

Charles Jaros, 2621 NW 23rd Court, Miami, FL 33142. Charles will be in charge of developing new programs.

CHECKS!

Treasurer Eleanor Calkins reminds members that checks should be made out to ABS and the proper department (for example, "ABS Bookstore" or "ABS Judging Department") so that your check can be credited correctly and donations will qualify for tax deduction. Please do not make out a check to an individual.

Help Wanted: Chairman to handle Back Issues of the **Begonian** (because of expense involved in shipping the issues, S. California resident preferred).

Branch Relations

The Branch Relations Department fosters communication between the branches, and encourages the formation of new branches.

Services now available through the Branch Relations office can help you form a new branch. Members at Large can write for the names and addresses of other ABS members in their area (7 members of ABS are needed to start a branch). Copies of the ABS and by-laws and sample copies of the constitution and bylaws of several branches are also available, to help a new branch draw up a constitution that is not in conflict with the national society.

Several new ideas to help branches will be implemented soon: an intra-branch newsletter, round-robins for national directors, and a sister-branch program. The newsletter will include articles reprinted from branch and regional newsletters, a forum for national directors, and comments from their robins; material submitted by any ABS member is welcome. New robins will be formed for the national directors, with the Branch Relations Director as chair; much information is out there to be exchanged - programs that succeed or fail, how to recruit and retain new members, starting a new branch or rejuvenating one in decline. The sister branch program will be discussed in the first newsletter.

Input from each branch will make these programs a success - send me the name and address of your national director (or president, or a contact if your branch is inactive) and include me on your mailing list if you have a newsletter. National Directors: write me soon to join a Branch Relations Robin.

Doug Hahn, Branch Relations Director
7736 Stonehill Dr.
Cincinnati, OH 45230

CLAYTON M. KELLY SEED FUND NOTES

September-October 1990
Diana H. Gould, Seed Fund Director

Growing Note

If your seedlings of *Hillebrandia sandwicensis* are ready to transplant, it is imperative that they go into a non-sterile mix such as leaf mold (or add 1/2 teaspoon of common lawn soil to a 4" pot of your usual mix) or you will lose your seedlings. Many Hawaiian natives require a symbiotic relationship with a fungus. Luckily for us, the fungus does not know which country it is in!

Howard Siebold has done some exciting experiments with the *B. gracilis* var. *martiana* bulbils previously offered. He divided the bulbils into nearly equal lots, one sown on the surface of his mix and the other covered by the mix and held at the same temperature (70°-75°). The uncovered bulbils had about three times as many sprouts as the covered lot. He made the same comparison with seed, and the uncovered seed germinated three times faster.

Mix-ups

Because so much seed comes in without descriptions, mix-ups occur. Seed marked *B. dayicame* in from 3 different sources; one is clearly not the same as the other two. The plant grown as *B. dayi* hort. has smooth, glossy, medium green leaves with black veins, and its correct botanical name

is *B. glandulosa*. Please see Nomenclature Update, **Begonian**, March-April 1990 for a discussion by Jack Golding on the confusion of names; there is a picture of *B. glandulosa* on p. 63.

B. rhopalocarpa has medium green leaves top and reverse. If your plants have a darker green top and red underside, then you have *B. loranthoides*.

B. rotundifolia has small, round green leaves, top and reverse. Some growers have gotten a different plant, which I am working on identifying.

B. pearcei seed was also misnamed; we are working on identification.

Thank you!

Jackie Davis, Lynda Goldsmith, Jan Goodwin, Frank Green, our anonymous donors, and the international exchanges for making this listing possible.

Notes on the Seed Offered

Unless otherwise noted, germination times range from 8 to 58 days.

Unless otherwise noted, these selections have not been offered during the last three years.

Cane-like

B. dichroa (Brazil) is low-growing with profuse, fragrant, brilliant orange blooms. It takes 67 days to germinate.

Trailing-scandent

B. glabra var. *cordifolia* (Central America) yields profuse white flowers in winter.

Tuberous/Semi-tuberous

We offer a variety of *B. dregei* (South Africa) and *B. grandis* ssp. *evansiana alba* (China), and our mixed tuberous spills.

Shrub-like

B. acida (Brazil; JA 89) is back again this year with a new but meager supply; it has distinctive foliage, is a compact type with moderate white flowers. Please note that it takes 83 days to germinate.

B. fuchsoides (Venezuela/Colombia; ND 88) has small bare leaves and red/orange flowers. *B. lynchiana* is a synonym for *B. cyathophora* (Peru), has medium bare leaves and scarlet flowers in winter/spring. *B. minor* (Jamaica) has medium bare leaves with profuse white flowers. *B. U059* has distinctive foliage with silvery-pink leaves and pink flowers in fall/winter.

Thick-stemmed

B. involuocrata var. *involuocrata* (Central America) has large hairy green leaves and fragrant white flowers from January through May. *B. lindleyana* (Guatemala; MJ 89) is back again this year but in mea-

ger supply; it has very flat-surfaced green leaves with raised veins on the underside, and fragrant white flowers in spring-summer. Seed sent in as *B. longipes* has large green bare leaves; *B. longipes* is a synonym for *B. reniformis* (Brazil). *B. olbia* (Brazil) has medium-sized green hairy leaves with white flowers in spring. *B. vitifolia* ssp. *grandis* (which botanists also classify as *B. reniformis*) has large bare green leaves.

Rhizomatous

Seed donated as *B. acetosa* (Brazil) is described as having distinctive foliage, with very thick, velvety-textured leaves with green tops and deep red on the reverse, and abundant, very fine, red hairs; this is probably *B. U254*. Please see "The Search for *B. acetosa* Vellozo" by Jack Golding, **Begonian** November-December 1989, pp. 228-232 for a discussion of the confusion surrounding the name *B. acetosa*. *B. conchifolia* var. *rubrimaculata* (Costa Rica - Panama) has medium-green leaves with profuse white flowers. *B. goegoensis* (Sumatra) is also classified as distinctive foliage because of its large pebbly-textured, patterned brownish leaves, and has pink flowers from late winter through early spring; in some areas it may need terrarium care.

B. heracleifolia var. *longipila* (Mexico & Central America) comes to us with no data. *B. heracleifolia* var. *sunderbrukii* (Mexico) has

large, parted leaves with profuse pale-pink flowers in late winter/early spring. *B. hypolipara* (Honduras) has large leaves and profuse white flowers with rose-pink edges. *B. isoptera* (Java) has its rhizome joined at or below the soil level, and erect stems; its greenish-white flowers, slightly tinted with pink, appear in winter. Next we offer the confusing manicatas: *B. manicata* var. *aureomaculata* (Central America) with its pink flowers; *manicata* var. *aureomaculata* *crispa* (Central America & Mexico), with pink flowers; *manicata* var. *crispa* (Central America & Mexico) with pink flowers.

B. popenoei (Central America) has large, green leaves with white flowers. *B. schulziana* has small, lobed leaves and white flowers tinted peach and blooms late winter-early spring. Last, we offer *B. palmata* (China), with distinctive foliage, medium-sized leaves, and light-pink flowers.

Unclassified

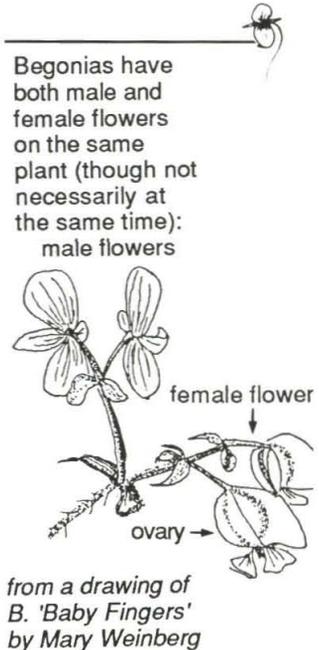
B. pubescens (Borneo) came in with no data. *B. species* Costa Rica #4 has fleshy, dark green leaves with burgundy edge and mottled underside, and profuse, small pink flowers. *B. species* Costa Rica #5 has velvety leaves of dark purple-green, with longitudinal pale-green stripes. The underside is deep magenta, with long leek-green stripes. Growth pattern is

creeping. Dr. Kathleen Burt-Utley is working on the identities of these two Costa Rican species.

B. U286 and *B. U287* (Panama) are described by Thelma O'Reilly as having pale green leaves, white flowers in winter; they were found in tropical rainforest, near a small river, at 2600 ft. Next, we offer the Thailand seed from Scott Hoover's expedition, for which I have no description: *Begonias* U265, 267, 268, 269, 280, and 284. Finally, we offer, again, mixed species (non-tuberous).

Hybrids

This issue we have some mixed hybrids, which will be offered out only as "mixed" in an effort to avoid any further wrong name identities.



The Seed Fund is a service to ABS members only. It is a privilege of your membership.

CLAYTON M. KELLY SEED FUND LISTING

All packets of species seed are \$1 each, and all packets of hybrid seed are 50c each; a pamphlet on growing from seed is 25c.

All orders must be accompanied by check or money order payable ONLY in U.S. funds, and made payable to the CLAYTON M. KELLY SEED FUND.

Cost of mailing in the U.S., Canada, and Mexico are: 1-12 packets of seeds, 55c; 13-24 packets, 70c; 25-36 packets, \$1.15; 37-48 packets, \$1.45.

Foreign mailing costs are: 1-12 packets of seeds, \$1.30; 13-24 packets, \$2.10; 24-36 packets, \$3.10; 37-48 packets, \$4.10.

Two sets of planter dishes with free instructions in one mailer costs 77c. If ordered with seed and sent in one mailer, the cost of 2 sets of planter dishes and 1-12 packets of seed is 90c; 2 sets of planter dishes and 13-24 packets cost \$1.07; 2 sets of planter dishes and 25-36 packets cost \$1.42; 2 sets of planter dishes and 37-48 packets cost \$1.75.

CALIFORNIA RESIDENTS PLEASE ADD 6 1/2% SALES TAX TO ALL ORDERS.

Please send your order and payment to:

Ms. Diana H. Gould
9940 Falcon Meadows Dr.
Elk Grove, CA 95624
U.S.A.

The 1990 Convention Listing will be sent free with all seed orders, or you may request it by sending a stamped, self-addressed legal size envelope. Thank you all very much for your most generous support.

species seed

\$1 packet

B. "acetosa" (= *B. U254*)

B. acida

B. conchifolia var. *rubrimacula*

B. dichroa

B. dregei variety

B. fuchsoides

B. glabra var. *cordifolia**

*B. goegoensis**

B. grandis ssp. *evansiana alba*

B. heracleifolia var. *longipila*

B. heracleifolia var. *sunderbruchii* hort.

B. hypolipara (= *sericoneura*)

B. involucrata var. *involucrata**

*B. isoptera**

*B. lindleyana**

*B. longipes** (= *reniformes*)

*B. lynchiana** (= *cyathophora*)

B. manicata var. *aureomaculata**

B. manicata var. *aureomaculata crispa**

B. manicata var. *crispa*

B. minor

B. olbia

B. palmata

B. popenoei

B. pubescens

B. schulziana

B. vitifolia ssp. *grandis* (= *reniformis*)

B. U059

*B. U254**

*B. U265**

*B. U266**

*B. U267**

B. U268

*B. U269**

*B. U280**

*B. U284**

B. U286

B. U287

*B. sp. C.R. #4**

B. sp. C.R. #5

B. mixed species

B. mixed tuberous species

hybrids

50 cents per packet

mixed canes

mixed frillies

mixed Rex cultorum

mixed rhizomatous

mixed semperflorens

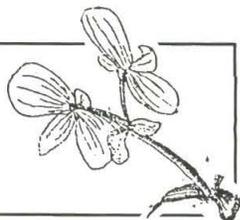
mixed shrub

mixed tuberhybrida

*in very limited supply

ROUND ROBIN NOTES

Margaret Coats, Round Robin Director



Many times old tips remain new. Marguerite Hankerson (TX) commented that she had shared this tip before, but felt with new members joining it is worth repeating. If you are bothered with mold in your terrariums, Marguerite said a dermatologist recommended Griseofulvin. It is a fungicide used for ringworm of the scalp and can be obtained from a veterinarian. A pinch scattered over the soil in the terrarium usually suffices.

One of the species Robins had so much good information and so many good tips - Kevin Handreck (Aus) finds that tiny seedlings need constant fertilizer applications if they are to grow fast. Another member suggests that if the fertilizer does not seem to make the seedlings start growing, transplant them. Kevin also states that he has found that cold weather produces pale patches on the leaves of some begonias regardless of what he feeds them, but a return of warm weather soon greens them up or allows production of new green leaves. However, if the bad color persists into summer, and it is an interveinal yellowing of young leaves, the probable cause is lack of iron. Ironite or iron chelate added to the potting mix should correct the problem. He then reminds everyone their mix should fall within a 5 to 6.5 pH range.

Patricia Sage (CA) shares her newly found secret of transplanting new seedlings for the first time, a technique she learned from Thelma O'Reilly at the San Miguel Branch study group. Pat says Thelma's tools are simple: a small cocktail fork, a big nail, a hand-held squeeze bottle with filtered water, 1 1/2" pots, plastic ziplock baggies and your favorite potting mix. With the fork she is able to separate the seedlings with little or no damage to plant or roots; with the pointed end of the nail she makes holes in

the soil to set the seedlings into; and with the flat nail head she gently tamps the soil around the seedling. She places the pots on a small tray and waters them until water drips through the bottom of the pot, places them in the plastic ziplocks while still dripping, and blows air into the bag before locking it shut. She then places them under lights and lets them grow.

Tamsin Boardman (TX) learned something following the Dec. '89 sub-zero temperature. Everything on the floor of her greenhouse froze and she began cutting back dead foliage within the next few days. She watered with Superthrive, and placed the pots in warmer spots. Before getting all her frozen plants attended to, she got busy and neglected the ones remaining. It seems the plants she left alone started putting out new growth from the roots, while the plants she pampered and cut back remained dead. From now on she'll leave them alone until they recover.

Fifi Madigan (OH) has been having success with rooting leaves in water, but when she transplants them into soil she loses them. Mabel Corwin (CA) reminds Fifi that water roots and soil roots are different, and when rooted in water and then potted up the plant has to grow new roots. Mabel says this is the reason most growers start their cuttings in a mix.

In the same general culture Robin, Naomi Lynch (TX) questioned Mabel as to just how one goes about learning the special requirements of the U-number begonias. Mabel said there is a certain amount of "by gosh and by golly" in growing newly collected plants, and one hopes to figure out what the plant needs before one loses it. She added that the collector's notes do help. Also, some of the tuberous types

were collected on dry rocky cliffs and that tells you that the plant likes lime and needs very good drainage; those collected at higher altitudes usually grow in cooler weather, especially cool nights; those collected along a stream, shaded by larger plants, probably like humidity and shade. Mabel said there are some that she doesn't think anyone has been able to grow...there just seems to be something that they need that we simply cannot supply. She admitted they are a real challenge.

Ken Mackey (N.Z.) is very much against using plastic bags for storing tubers. He has found that the bags sweat very easily and tubers rot in a short time. Instead, he prefers using paper bags or small pots with the tuber in used potting mix.

Ilah Reynolds (CA) recommends using the baking soda mix (2 tsp. to gallon of water) at sight of the first white "ash" of mildew (preferably before). If mildew is present, she suggests washing the mildew off the leaves with a cotton ball soaked in 1 tsp. of baking soda to 1 cup of water, then setting the plants in full morning sun for an hour. Ilah says the leaves will show damage where the mildew was, but the mildew will not spread.

In answer to a question about proper fertilizers for tuberous begonias, Howard Siebold (CA) had the following reply: " I may be way off base, but my feeling is that the various ratios that are available are primarily a merchandising gimmick of the producers. For years I have used 15-15-18 with seedlings, 15-30-15 for summer bloom, and 15-15-30 for fall. The only time a specific ration might be logical is the 15-15-18 formulated for soilless mixes, and even then, 20-20-20 ought to be just as effective. If the plants doesn't need some of the N or P or K, the excess feed will be leached away. Whatever you use, be sure that it contains the trace elements. Use only soluble fertilizers, except for some slow release type mixed in your potting mix." Howard then goes on, "The crucial factor isn't fertilizer, it is Tender Loving Care."

Tender Loving Care is what Robins provide for the new begonia grower, and even the "old hands" learn something new with each round. Stretch your knowledge! Join a Robin! Write:

Margaret Coats
11203 Cedar Elm
San Antonio, TX 78230



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Please note new address for Schultz Co:
14090 Riverport Dr., P.O. Box 173,
Maryland Heights, MO 63043

Do you have a question about growing begonias, indoors or out? Write ABS' horticultural expert Mae Blanton, 118 Wildoak, Lake Dallas, TX 75065 and let her solve your problem!

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93103



AROUND ABS

Notes from our Newsletters

Happy Birthday to Santa Barbara Branch, which celebrated its 50th in May! They were topped, however, by Long Beach Parent Chapter, going strong for 58 years now.



Margaret & Rudolf Ziesenhennel cut cake for Long Beach party

Westchester Branch Leaf Cuttings reports a 50th anniversary, this time for Irene & Harold Nuss. Coming close to their Golden Anniversary are Merle & Max Gotcher of Dallas Area Branch; they celebrated their 49th in an unusual fashion, by working in the plant sale at the National Convention! Well, at least the Banquet that evening was festive.

Many areas continue to suffer from drought. The Monterey Bay Area newsletter reports that Sunset has published a new book on saving water, Waterwise Gardening, available for \$6.95. Conservation of a different type would be served by a product mentioned in Begonia Chatter, newsletter of the Seattle Branch: the Japanese have developed a vase that will keep cut flowers fresh in cool water for two months.

Brand-new Palos Verdes Branch is off and running. A sales booth at Fiesta de Flores netted funds for their treasury, and they passed out flyers about their branch and ABS; about 75 people showed an interest in joining.

Begonias, Begorra! of the Orange County Branch says watering a begonia shouldn't be a slap-dash operation: "Each

NEW in the

ABS Bookstore

BEGONIAS

Bill Wall. A Wisley Handbook, Royal Horticultural Society, 1988. An excellent guide to growing foliage begonias. See Phyllis' Bates book review in Sept.-Oct. 1989 **Begonian**. 64 pages, 44 color photos. Softback. \$7.50

BEGONIAS

Brian Langdon, 1989. An outstanding work on the care and cultivation of tuberous varieties. See review by Douglas Hahn, this issue. More than 100 stunning full-color photographs of superior tuberous begonias. 144 pages. Hardback. \$22.00

POTTING MIXES

Kevin Handreck et al. Published by CSIRO Division of Soils, Australia. This book covers the basics and provides technical information for the serious grower. Covers watering, fertilizers, salinity, pH, and mixing your own soil. 48 pages. Softback. \$8.00

To order, make check, money order, or bank draft in US funds payable to ABS Bookstore. Prices include shipping within USA. Texas residents please add 7 1/2% sales tax. Mail order to:

ANITA RUTHENBERG
1016 W. ARLINGTON AVE.
FORT WORTH, TX 76110

plant needs to be watered by putting warm water *in* the pot, *on top* of the mix, *under* the leaves and stems. Water the plant before the mix dries out and shrinks away from the pot. Fill the rim of the pot once, and let that water soak in. Come around in 5 to 10 minutes, and re-water all the plants again."



BEGONIAN MINI-ADS

Mini-ads are a service to our members. The charge is \$1 per line per insertion with a minimum of \$4. Payment must accompany order. Make checks payable to ABS and mail to:

Martha Curry
P.O. Box 1232
Weatherford, TX 76086

BEGONIA CUTTINGS AND PLANTS

Send \$1 for expanded 1990 list. Kay's Greenhouses, 207 W. Southcross, San Antonio, TX 78221.

BEGONIAS (a specialty), plus Gesneriads, Peperomias, Succulents, Perennials and more. Informative Quarterly Newsletter! New plants each issue! \$4 (1 yr.) (Canada \$6, Overseas \$8) to: UNUSUAL PLANTS, 10065 River Mist Way, Rancho Cordova, CA 95670.

BEGONIAS: THE COMPLETE REFERENCE GUIDE

by Mildred L. and Edward J. Thompson. 884 pages, 850 illustrations (165 in color). Culture, classification, and history. \$20.00 to ABS members. To order autographed copies write: THE THOMPSONS, P.O. Drawer PP, Southampton, NY 11968. **BEGONIAS: 1984 UPDATE** \$6.75. Prices include shipping. Foreign orders \$5 additional for shipping via Surface Mail.

The perfect companion plants
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GSI Membership Coordinator
2119 Pile
Clovis, NM 88101 U.S.A.
payable in U.S. funds

SOUTHWEST REGION, ABS: Annual Get-Together, show, sale; monthly newsletter. Membership \$7, family \$10. Send to Marie Harrell, Rt. 3, Box 689, Elgin, TX 78621.

"VICKI'S EXOTIC PLANTS" Beautiful Begonias, Episcias, and Hoyas. Large variety of each. Please send \$1 for list to 522 Vista Park Dr., Eagle Point, OR 97524.

BEGONIAS, GESNERIADS, TROPICAL & EXOTIC PLANTS; all in 3" pots or larger. These are well-rooted cuttings, plants, rhizomes. Send for FREE CATALOG to: SUNSHINE STATE TROPICALS, P. O. Box 1033, Port Richey, FL 34673. Wholesale list also available. Inquire.

WANTED: Copy of *Begonias* by Isamu Misono, 1974. Please contact Mary Bucholtz, 2411 Hendricks Ave., Jacksonville, FL 32207. (904) 396-5505, 355-7566.

Join the NATIONAL FUCHSIA SOCIETY

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Artesia, CA 90701



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Dues \$15 a year **INDOOR GARDEN** issued 6
times yearly. Seed exchange, round robins,
cultural guides, slide library.

DIRECTORY OF BEGONIA SOCIETIES

Australia

Australian Begonia Society

Kevin Handreck
2 Birdwood St.
Netherby SA 5062
Australia

Begonia Society of New South Wales

Peter Sharp
20 Blue Gum Crescent
Blaxland, NSW 2774
Australia

Begonia Society of Western Australia

Stewart Silvester
34 Waterton Way
Cooloongup WA 6168
Australia

Queensland Begonia Society

Mr. M. O'Dea, 42 Bomar St.
Morningside, Brisbane, QLD
Australia

Victorian Begonia Society

Philip D. Wright, Maplewood
74 Railway Place, Macedon,
Victoria 3440 Australia

England & Wales

The National Begonia Society

Dr. Eric Catterall
3 Gladstone Rd., Dorridge
Solihull, W. Midlands B93 8BX
England

France

Assoc. Francoise de Amateurs de Begonias

Mme. Annie Danancher
editor, *le petite bégo-fil*
11 Rue Myrha
Paris 75018
France

Japan

Japan Begonia Society

Mr. Akira Tanaka, President
12-4-318 Sengen-Cho, 3 Chome
Higashikurume
Tokyo 203
Japan

Canada

British Columbia

Fuchsia & Begonia Society

Lorna Herchenson
North Vancouver, BC
V7H 1L2 Canada

Scotland

The Scottish Begonia Society

Mrs. I. Hendry
Clydebridge Lodge, Greenacre Estate
Motherwell, Strathclyde
Scotland

Thanks to Barry A.Mann for suggesting the Directory above. Will you members who live outside the United States please let us know of other groups, and help us keep the listing current?

AMERICAN BEGONIA SOCIETY REGIONAL GROUPS



Eastern Region

Maxine Zinman, Director
Rt. 1, Box 73
Boyce, VA 22620

Southwest Region

Don Miller, Director
1005 Mt. Auburn
Dallas, TX 75223

AFFILIATED BRANCHES

CALIFORNIA

Alfred D. Robinson

2nd Tuesday, 10:30 a.m.
Homes of members
Mary Zemcik, Pres.
4157 Catalina Place
San Diego, CA 92107

East Bay

3rd Thursday, 7:45 p.m.
Northbrae Com. Church,
Berkeley
Rich Bishop, Pres.
1404 Cypress
Berkeley, CA 94703

Garden Grove

1st Wed., 7:30 p.m.
12860 Euclid St.
Garden Grove
Barbara Berton, Pres.
1130 S. Karen Lane
Santa Ana, CA 92704

Long Beach Parent Chapter

3rd Saturday, 1:30 p.m.
Mercury S & L
4140 Long Beach Blvd,
Long Beach
Gil Estrada Pres.
7914 Springer St.
Downey, CA 90242

Monterey Bay Area

4th Wednesday, 8 p.m.
New Monterey Neigh
borhood Cntr,
Lighthouse & Dickman
Sts., New Monterey
(no meeting June, Aug.)
Raymond Peterson,
Pres.
192 Walker Valley Rd.
Castroville, CA 95012

Orange County

2nd Thursday, 7:30 p.m.
Fullerton S & L
2310 E. Lincoln Ave.
Anaheim
Elda Regimbal, Pres.
3117 San Juan Dr.
Fullerton, CA 92635

Palomar

2nd Sunday, 2 p.m.
Quail Botanical Gardens
230 Quail Gardens Dr.
Encinitas
Eleanor Calkins
910 Fern St.
Escondido, CA 92027

Palos Verdes

1st Mon., 7:30 p.m.
S. Coast Botanic Garden
Brad Thompson, Pres.
715 W. 220th #45
Torrance, CA 90502

Rubidoux

4th Thursday, 7:30 p.m.
W. Riverside
Mem. Auditorium
4393 Riverview Dr.
Norma Pfrunder, Pres.
3484 Jefferson St.
Riverside, CA 92504

Sacramento

3rd Tuesday, 7:45 p.m.
Garden Center
3330 McKinley Blvd.
Sacramento
Paul Tsamtsis, Pres.
1630 F St.
Sacramento, CA 95814

San Francisco

1st Wednesday, 8 p.m.
Garden Center
Golden Gate Park,
9th Ave. & Lincoln Way
Susan Muller, Pres.
124 St. Charles Ave.
San Francisco, CA 94132

San Gabriel Valley

2nd Tuesday, 7:45 p.m.
Los Angeles State &
County Arboretum
301 N. Baldwin Ave.
Arcadia
Kenneth Dahlquist, Pres.
696 E. McKinley Ave.
Pomona, CA 91767

San Miguel

1st Wed., 7:30 p.m.
Casa del Prado, Rm. 104
Balboa Park, San Diego
Toni Baker, Pres.
6475 50th St.
San Diego, CA 92120

Santa Barbara

4th Sunday, 2:30 p.m.
The Cottage
1130 N. Milpas St.
Santa Barbara
Rudolph Ziesenhenné,
Pres.
(address same as above)

Santa Clara Valley

3rd Thursday, 7:45 p.m.
Rm 2, Kirk Com. Cntr.
1601 Foxworthy Ave.
San Jose
Jackie Davis, Pres.
170 Wingfoot Way
Aptos, CA 95003

Theodosia Burr Shepherd

1st Monday, 7:30 p.m.
American Commercial
Bank
6401 Telephone Rd.
Ventura
Pam Hantgin, Pres.
94 N. Santa Rosa St.
Ventura, CA 93001

Westchester

1st Thursday, 7:30 p.m.
Univ. Christian Church
5831 Centinella Ave.
Jo Pangrazio, Pres.
422 Sherman Canal Court
Venice, CA 90291

Whittier

1st Friday, 7 p.m.
Room 1, Civic Center
7630 Washington Ave.
Whittier
Bill Scarborough, Pres.
4960 N. Bleeker St.
Baldwin Park, CA 91706

CONNECTICUT**Connecticut**

4th Monday
homes of members
Arline Peck, Pres.
Eagle Peak Rd., R 1,
Box 478
Pascoag, RI 02859

DISTRICT OF COLUMBIA**Potomac**

4th Sunday, 2 p.m.
Sherwood Hall Library
1205 Sherwood Hall Ln.
Alexandria, VA
Johanna Zinn, Pres.
4407 Jensen Place.
Fairfax, VA 22032

FLORIDA**Fort Lauderdale Area**

1st Tuesday, 7:30 p.m.
Melrose Park Com. Cntr.
Plantation
Nan Scoble-Burbles,
Pres.
209 SE 21st St.
Fort Lauderdale, FL
33316

Jacksonville

3rd Monday, 7:30 p.m.
Garden Club
1005 Riverside Ave.
Jacksonville
Ed Harrell, Pres.
1628 Broward Rd.
Jacksonville, FL
32218

Miami

4th Tuesday, 8 p.m.
Simpson Garden Center
55 SW 17th Rd.
Miami
Charles Jaros, Pres.
2621 NW 23rd Court
Miami, FL 33142

Palm Beaches

2nd Monday
 Horticultural Center
 531 N. Military Trail
 West Palm Beach
 Charles Jaros, Pres.
 2621 NW 23rd Ct.
 Miami, FL 33142

Pinellas County

3rd Tuesday, 7:30 p.m.
 Suncoast Bot. Gardens
 10410 125th St.
 Seminole
 Risa Young, Pres.
 7811 First Ave. South
 St. Petersburg, FL 33707

Tampa Bay Area

3rd Thursday, 7 p.m.
 North Tampa Com. Cntr.
 N. 11th St. & E. Seward
 Tampa

GEORGIA**Greater Atlanta**

Betty Lockett, Pres.
 2064 South Akin Dr. NE
 Atlanta, GA 30345

ILLINOIS**Greater Chicago**

4th Sunday, 1:30 p.m.
 Oak Park Conservatory
 Earth Shelter
 621 Garfield St.
 Chicago
 Daniel Paulson, Pres.
 6339 S. Kenneth Ave.
 Chicago, IL 60629

MASSACHUSETTS**Bessie Buxton**

Call for meeting info.
 Frank Green, Pres.
 102 Richardson Rd.
 Ashby, MA 01431

MINNESOTA**Minnesota**

2nd Wed., 7:30 p.m.
 Homes of members

NEW JERSEY**Elsa Fort**

Helen Green, Pres.
 2100 Hunter St.
 Cinnaminson, NJ 08077

NEW YORK**Knickerbocker**

2nd Tuesday, 7:30 p.m.
 Hort. Society of NY
 128 W. 58th St.
 New York
 Natasha Lutov, Pres.
 144 East 74 St.
 New York, NY 10021

Brooklyn-Queens-Nassau

3rd Sunday
 Clark Gardens
 Albertson, NY
 Phil Seiden, Pres.
 733 East 93rd St.
 Brooklyn, NY 11236

OHIO**Greater Cincinnati**

Douglas Hahn, Pres.
 7736 Stonehill Dr.
 Cincinnati, OH 45230

OKLAHOMA**Fred A. Barkley**

3rd Sunday, 2:30 p.m.
 Will Rogers Garden Cntr.
 3400 NW 36th St.
 Oklahoma City
 Merril Calvert, Pres.
 11201 Draper
 Choctaw, OK 73020

PENNSYLVANIA**Edna Stewart Pittsburgh**

3rd Wednesday, 7:30 p.m.
 Pittsburgh Garden Center
 Melissa Jones, Nat'l Dir.
 5220 Beeler St.
 Pittsburgh, PA 15217

William Penn

4th Tuesday, noon
 Homes of members
 Mrs. Jacques Le Roux,
 Pres.
 Dove Lake House
 Gladwyne, PA 19035

RHODE ISLAND**Roger Williams**

3rd Monday night
 Homes of members
 Arline Peck, Pres.
 Eagle Peak Rd., R 1,
 Box 478
 Pascoag, RI 02859

TEXAS**Alamo**

3rd Saturday
 Homes of members
 John Howell, Pres.
 129 Trillium
 San Antonio, TX 78213

Astro

Tom Keepin, Pres.
 4513 Randwick Dr.
 Houston, TX 77092

Dallas Area

3rd Thursday, 7:30 p.m.
 Northaven Gardens
 7700 Northaven Rd.
 Dallas
 Maurice Amey, Pres.
 1015 Mt. Auburn
 Dallas, TX 75223

Mae Blanton

4th Wed., 10:30 a.m.
 Homes of members
 Barbara Hamilton, Pres.
 268 Shoreline Dr.
 Azle, TX 76020

WASHINGTON**Seattle**

P.O. Box 27062
 Seattle, WA 98125

Thank you!

to all the Branch Officers
 who sent updated
 information for this
 Directory. Please check
 your branch listing and let
 us know of updates and
 corrections.

MINUTES OF THE AMERICAN BEGONIA SOCIETY MEETING

May 19, 1990

The meeting of the American Begonia Society was held after the luncheon of the 58th Convention "Begonias Olé!" on May 19, 1990 at the Holiday Inn, San Antonio, Texas.

President Jeannette Gilbertson called the meeting to order at 1:25 p.m. The Aims and Purposes were read by Tamsin Boardman. To expedite the meeting the roll call and reading of the Minutes were omitted.

Treasurer Eleanor Calkins reported as of April 30, 1990 balances of \$5,222.84 in checking accounts and \$39,717.24 in savings for a total of \$44,940.08. She asked that checks to ABS be made out to ABS (plus the department for which check is intended), not to individuals, so that donations will be deductible and the Treasurer will know exactly where the monies are to go.

Special Projects Reports: John Howell read the Conservation Goals and the Code of Ethics. Membership voted to accept the Goals and Ethics, and John was thanked for his work.

Standing Committee Reports

Book Store - The appointment of Anita Ruthenberg as Book Store Chair was confirmed. She reported balance on hand of \$6.98. The membership voted \$400 to be used to purchase books.

Branch Relations - Doug Hahn will send out Branch Relations newsletters in one month. He requested that branches send newsletters to him. He reported two new branches, Palos Verdes and South Bay.

Membership - John Ingles Jr. reported 76 Life Members, 130 Institutions, 1395 dues paying members as of April 30, 1990. Joan Hill of England was made an honorary member for two years.

Seed Fund - Diana Gould sent a check for \$226.41.

Conservation - Thelma O'Reilly reported for Martin Johnson that 23 species from 63 begonia collections, 604 epidermal peels, 454 leaf sections, and 103 packages of seeds were collected on the Thailand/Malaysia expedition. 148 individual distributions of cuttings were distributed.

Members-at-Large - Thelma O'Reilly said MAL Newsletter #16 will be mailed in May.

Nomenclature - Thelma O'Reilly reported that the July-August **Begonian** has an update on the U numbers and color photos. She asked representatives of the different regions to help supply information.

Long Range Planning - Kay Tucker was approved as chair.

Publicity/Public Relations - Russ Richardson placed ads in Horticulture and Flower & Garden magazines.

Research - Houston Knight was approved as Director, and asked members for help and recommendations on research projects. Fort Worth Botanic Gardens is serving as a species bank for begonias. Thelma O'Reilly spoke on Dr. Tracy McLellan's proposed trip to Africa. Financial help is needed. Please send donations to Eleanor Calkins made out to ABS Tracy McLellan trip." Judging - Maxine Zinman was approved as Chair. She reported 12 new judges and 1 advancement to senior judge.

Publications - Editor Tamsin Boardman thanked branch newsletter editors for their input, and reported 6 pages of color photos in the July-August issue. She asked for donations to the Color Fund. \$343 was collected.

Round Robin - Margaret Coats is looking for a replacement.

Convention - the 1991 convention will be held in Washington D.C. in September.

Slide Library - Daniel Haseltine reported that many of the slides are old and faded; the library needs new slides.

Nominating Committee - Glennis Crouch submitted the following slate of officers for 1990-1991: President, Jeannette Gilbertson; First Vice-President, Tracy McLellan; Second Vice-President, John Howell; Third Vice-President, Millie Thompson; Secretary, Ingeborg Foo; Treasurer, Eleanor Calkins.

Meeting adjourned at 3:45 p.m.

The next meeting of the Board of Directors will be held on July 22, 1990 at 11 a.m. at the home of Mabel Corwin, 1119 Loma Vista Way, Vista, CA. Please bring a sack lunch.

Respectfully submitted,
Ingeborg Foo,
Secretary

Pacific Horticulture

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for keen gardeners

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(\$14 Canada & Mexico,

\$16 elsewhere)

P.O. Box, 485, Berkeley, CA 94701

ELECTED OFFICERS

President Jeannette Gilbertson
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