

Monthly Publication of the American Begonia Society



Founded by Herbert P. Dyckman January, 1932

Copyright 1976 by the American Begonia Society

GENERAL OFFICES:

Dues, address changes, or magazines: 8302 Kittyhawk Avenue, Los Angeles, CA 90045

Subscription: \$5.00 per year. Foreign (Mexico and Canada) \$5.50. U.S. (Mexico and Canada) 1st Class \$8.00. Overseas Air Mail \$17.00. Pay in U.S. currency only. Single back issues 75ϕ .

Second Class Postage Paid at Los Angeles, California

ABS OFFICERS

President	Charles Richardson
Past President	Margaret Ziesenhenne
First Vice President	Nathan Randall
Second Vice President	Evelyn Cronin
Third Vice President	Ralph Corwin
Secretary	Virginia Barnett
Treasurer	Gilbert Estrada

THE BEGONIAN STAFF

Co-EditorsEdgar and Phyllis Bates P. O. Box 82109, San Diego, Ca. 92138 Phone (714) 436-1419.

Eastern Advertising Manager Edward Thompson 310 Hill St., Southampton, L.I., N.Y. 11968

Advertising Accounts ManagerEsther Passet 2123 Dracena St., Bakersfield, CA 93304

Circulation Jacqueline Garinger 8302 Kittyhawk Ave., Los Angeles, CA 90045

In This Issue

A Trio of Begonias 3: Collections and Observations		
On Several Mexican Species	320	
Eastern Convention Awards	332	
Eastern Convention Report	333	
Greenhouse Fuel-Saving Tips	336	
Registration of Cultivars	338	
Seed Fund	340	
Branch Holiday Greetings	342	
Central San Joaquin Branch	344	
Board Minutes	345	
Branch Directory	346	
In Memoriam	347	

The Board of Directors will not meet in December. Deadline for the February issue is December 29. Mail copy early to allow for delay in postal service during the holiday season.

Views expressed in this magazine are not necessarily those of the editors, the society, or its officers.

THE BEGONIAN
ADVERTISING RATES
One Time Full Page \$80.00 Half Page 40.00 Quarter Page 25.00 Per Inch 10.00 5% Discount for 4 or more consecutive runs.

AIMS AND PURPOSES OF THE AMERICAN BEGONIA SOCIETY

The purpose of this Society shall be:

- TO stimulate and promote interest in *Begonia* and other shade-loving plants;
- TO encourage the introduction and development of new types of these plants;
- TO standardize the nomenclature of Begonia;
- TO gather and publish information in regard to kinds, propagation and culture of *Begonia* and companion plants;
- TO issue a bulletin which will be mailed to all members of the Society; and
- TO bring into friendly contact all who love and grow *Begonia*.

A TRIO OF BEGONIAS 'Hannah Serr'— 'Emma Palmer'— 'Ginny' Cover Photograph by William Behrends

A triple decker arrangement for the holidays graces the cover this month. These three beauties were photographed this fall at the garden of Douglas and Goldie Frost in Garden Grove. *B.* 'Hannah Serr' dominates the foreground, *B.* 'Emma Palmer' the upper right of the photo and B. 'Ginny' occupies the upper left portion.

This group would be good choices for a cool greenhouse or a window location in an apartment. Though they are tolerant of a wide range of conditions, you will have to judge the amount of sunlight they will tolerate in your locality for they do need bright light to bloom well. Because of their size, they require a fairly large amount of water and food. Otherwise they are easy to grow.

Begonia 'Hannah Serr' is an upright cane of intermediate size and compact growth habit. It is a hybrid made by Irene Nuss of Los Angeles. The parent plants are B. 'Kentwood', another Nuss hybrid, and the Kusler hybrid, B. 'Lenore Olivier'. It carries ABS registration number 265 and was listed in 1969. The leaves of B. 'Hannah Serr' are of the superba type, with wavy notched edges and a tendency to curve at the tips. The leaf surface is smooth, medium green, with green veins of the same shade. The leaves tend to overlap since the nodes on the branches are rather close together. The flowers appear in clusters of deep-to-light coral pink shades with perhaps up to 50 blooms in a single cluster. The individual blossoms are quite large. Since there may be four or five very fragrant clusters at a time, this is indeed a spectacular plant. The blooming season lasts from April through February.

B. 'Emma Palmer' is #58 on the ABS register and was listed in 1953. It was introduced at the 1950 national convention by Mrs. Chet Van Dusen of San Diego, and won a division trophy. It is an unknown cross of *B. scharffii* which originated in the garden of the woman whose name it honors. The plant is a tall grower and sends up numerous stalks. It is hairy as are most of the scharffii crosses. The short hairs are white and cover most of the plant, giving it a frosty look. The leaves are ovate, acuminate, dark green on the upper surface and flushed with red on the reverse. The leaves are depressed between the veins giving the leaf surface a cupped appearance. The cane stems are red at the base, fading to light green at the growing tips. Flowers and leaf stems are red. The flowers are white, large, and covered on the back with pink hairs. They appear in clusters which are usually held upright, but sometimes droop because of the weight of the flowers.

B. 'Ginny' is a recent introduction, a plant hybridized by Walter Watchorn of Oceanside, California, in 1971. It is named for his wife. Although most of its stems are upright, there is branching and graceful

(Continued on Page 342)

COLLECTIONS AND OBSERVATIONS ON SEVERAL MEXICAN SPECIES

By W. Scott Hoover, Coronation Farm, Williamstown, Massachusetts

During February and March 1975, I traveled to Southern Mexico in order to collect and observe species of Begonia in their natural habitat. This time of year in Mexico is the dry season, thus several excursions into areas where begonias were previously collected did not result in much success: however, seven different collections were made. Fig. 1 shows the areas of Chiapas where most of the collections were made. Dr. Lyman Smith provided me with a key to many Mexican species of Begonia and Mr. Rudolf Ziesenhenne sent a list of locations by state where begonias had been collected previously. Both these papers proved very helpful in this field study. Live specimens of three species were brought back and are presently growing in Williamstown, Massachusetts. My observations on the inflorescences and flowering characteristics of one species are reported here along with certain comments and observations on each of the species collected, most of which are of an ecological nature.

Notes on Areas Where I Did Not Find Begonias

It seems appropriate to briefly describe the environments where begonias had previously been collected, but were not observed by myself. Referring to Mr. Ziesenhenne's list I noticed that several species had been collected in the vicinity of Morelia, Michoacan. These include, with their date of collections: *B. balmisana* var. *mitellifolia* A.DC., in September,

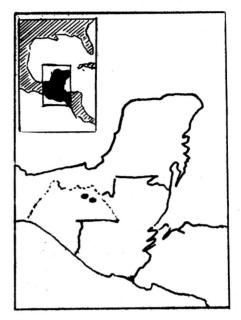


Fig. 1 — Palenque (northern dot) and Bonampak in Chiapas where species of *Begonia* were observed among the Mayan ruins. The area is in the midst of the Lacandon rainforest and is difficult to traverse.

1912; B. gracilis Kunth in August, 1910; and B. gracilis var. menvipilosa Kunth on September 8, 1909. Learning that several species had been collected around Morelia lead me to attempt a search. Soon after my arrival in Morelia I began to look about the hillsides in search of a habitat that would appear appropriate for begonias. The entire area seemed a most unlikely environment for Begonia though collections had been made before. Several species of Opuntia, and a Cereus were the largest plants on the hillsides, though a gulley formed by a flowing stream looked like a possibility, for relatively thick vegetation covered the stream banks. Several species of *Mimosa*, and an ASCLEPIADACEAE were noticed but no *Begonia*. The habitat was quite arid though during the wet season, which was when the previous collections of *Begonia* were made, the land would become transformed and thus support a different variety of plants.

Another attempt to collect Begonia proved futile though it was most interesting. Around the town of Uruapan, Michoacan, B. uruapensis Sesse and Mocino had been collected in the month of October. A very shaded ravine dripping with vegetation was found. It was a streambed that must have carried quite a large volume of water because boulders several feet in diameter were scattered about. The vegetation presented an atmosphere of the deep tropics. A number of plant groups reminiscent of areas further to the south were noticed. These included a number of epiphytic plants: ferns, orchids, and one species of PIPERACEAE. Three species of the MELASTOMACEAE were observed and several species of the PASSIFLOR-ACEAE were observed as well.

It is of interest to note that *B.* monoptera A.DC., *B. gracilis*, and *B.* uruapensis are species placed in the section Knesebeckia, which is characterized partly by a tuberous habit and condition. In environments which experience a definite dry season it is of selective advantage for a species to lose its vegetive parts and remain dormant through the dry period. This state of dormancy is possibly the factor contributing most directly to not finding any *Begonia* around these areas since a large percentage of species of *Begonia* populating the central and western parts of Mexico are tuberous.

This is not to infer that tuberous species are found only at this relatively northern latitude, for many species in the section Huszia A.DC. and Barya A.DC. have a tuberous habit, also. From whence do our "Scarlet Begonias"¹ come, but from *B. boliviensis* A.DC. of Barya, found high in the Andean Mountains of Bolivia and Argentina.

Observations On Each Species Collected

No. 38

(Presently undetermined)

This species remains unknown to me presently, though it was collected in flower and fruit. My friend, Tom Seibert, and I were fortunate to meet Dr. D. K. Bailey, a physicist and botanist, from Boulder, Colorado, whom we traveled with for a day. (Dr. Bailey's specialty is the pines.) В. nemoralis Smith and Schubert and B. michoacana Smith and Schubert, both placed in Knesebeckia, had been collected near Coalcoman and Aquililla, Michoacan. It was my original intention to search these areas for these species and it was of good fortune that Dr. Bailey was heading that way also.

Along a dirt road, connecting Aquililla and Coalcoman, the dominant vegetation was *Pinus pseudostrobus*. After driving for 2 hours along this mountainous road at a rather high elevation, we came upon a moist northwest-facing bank where there was located a single cluster of a rhizomatous begonia. It was a large type with petioles up to 2 feet long, bearing leaves that were nearly a foot across, and peduncles several feet high.

Two rhizomes were brought back and are growing well, both starting to flower. From these original ones eight or so small plants have been started from leaf cuttings. All my collections of *Begonia* and general material were sold to the Missouri Botanical Garden and I hope that they will either make a determination on this species, or send me the specimens so I can make one.

Nos. 39 & 42 Begonia heracleifolia

Collections were made of this species at two sites though it was observed at a third, the ruins of Bonampak, also. The first collection was made at the ruins of Palenque and was observed infesting ruined walls and cracks, smothering hillsides, and growing along stream banks. Α couple of observations were made which were of interest. One, the species exhibited a polymorphism in tepal color. Clusters of individuals were completely white, other clusters being quite red, and many different shades of rose or pink existed in between; it was common to observe clusters of individuals having just one color. Two, a considerable variation in population density occurred between the grounds of the ruins and the forest area. One could walk for several miles through the forest and only observe several individuals of B. heracleifolia, while at the ruins population was quite dense. Intermediate areas of population density were observed along the stream banks.

The other collection of this species

was made a short distance from Palenque, at another location that exhibited aesthetic quality, the Misola waterfall. A small river plunged over an 80 foot limestone cliff into its pool below, which was surrounded by large boulders and logs that very likely had been carried over during heavy rains. Profusely populating these boulders and areas near the base of the cliff was *B. heracleifolia*. This species occurred sympatrically with *B. nelumbiifolia*.

This location differs radically from the ruins since it represents a habitat that has not been disturbed by man. Does a location such as this represent an ancestoral habitat for these species due to their being so undisturbed? B. heracleifolia is known to have a rather wide distribution geographically in the tropics, being found in Mexico, Guatemala, British Hondouras, Costa Rica, and Brazil (Smith and Schubert 1961, Barkley 1972, Smith 1973). A plant species having a wide geographic distribution may be explained in a number of different ways. One, it may be that the species is very adaptable and capable of being distributed rapidly by any of several mechanisms, either by wind, birds, water, etc. Two, the species may be ancestoral within the taxa to which it belongs. This idea is supported by evidence from other plant groups. In discussing primary speciation, Grant (1971) utilizes geographic relationships to suggest evidence for the phylogenetic history among certain species of Clarkia (ONAGRACEAE). In California, C. biloba has a rather wide distribution, whereas a descendent of this species, C. lingulata, occupies only a restricted



Fig. 2 — A cluster of *B. heracleifolia* growing on a heap of broken masonry at the ruins of Palenque.



Fig. 3 — An interior view of the palace at Palenque. In many places on the walls were small seedlings of *B. heracleifolia* though they are not obvious in this photo. Other organisms present were a variety of fungus and green algae.

Volume 43 • December, 1976

and peripheral area in the southern range of *C. biloba*. Perhaps the wide distribution of *B. heracleifolia* is suggestive of some relative degree of ancestory within the genus, as compared to the majority of species which have more restricted geographical distributions. Of course determination of this will take a considerable amount of research.

Every plant species exhibits quantitative differences in ranges of habitat tolerance since some species can adapt to a variety of habitats while others cannot. This can be found by determining the geographical distribution of species and for each classifying the ecological and climatic conditions. In the case of a widely distributed species, the habitats may be significantly different from one regional population to another, indicating that the species has a wide range of tolerance to different environmental conditions. For instance, Plantago major L. is a cosmopolitan species; it is found on different continents. It is very likely that the environmental conditions found in regional populations in the United States differ, to perhaps a great extent, from those found in Africa or Asia. Does this suggest that certain specific morphological, genetic, or physiological characteristics are responsible for such a wide distribution? Perhaps the ability of plant species to vary in their ranges of habitat tolerance is something that could be established mathematically and could be applied to species within Begonia.

The structure of the stem of *B. heracleifolia*, *B. nelumbiifolia*, or any other species having a rhizomatous

stem, has considerable adaptive significance. On all rhizomatous species, the petioles are all oriented closely toward one central line on part of the stem, while the roots are produced on the opposite side from the petioles. It is normally characteristic for the internodes to be very short, almost non-existant, which means the entire rhizome on the nodal side is comprised of meristematic tissue. This type of stem morphology allows the rhizomatous species to become attached to rocks or masonry, that often have vertical or angular faces with little soil. Roots spreading out along the rocky surface allow the plant to absorb water and minerals as well as provide structural support. The petioles in no way interfere because they are located on the opposite side of the stem from where the roots are produced.

Nos. 40 & 41 B. nelumbiifolia

It was mentioned earlier that B. heracleifolia and B. nelumbiifolia occur together sympatrically, thus certain of the characteristics of their environment have been described already. A rather significant difference is observed in their regional distribution around the waterfall and pool habitat. B. nelumbiifolia covered a large surface of the cliff region, where no individuals of B. heracleifolia were noticed. This distribution may be more than just a matter of coincidence, for perhaps some slight morphological difference allows B. nelumbiifolia to grow on vertical faces more successfully than B. heracleifolia. Both species occupied areas at the base of the waterfall where often boulders would have a cluster of both species growing adjacent to one another. Fig. 4 shows a single individual of *B. nelumbiifolia* growing on a rocky surface.

The other collection of B. nelumbiifolia was made along the path from the ruins of Palenque to Naranjo, a Mayan village. The interesting part about this location was its apparent isolation. Only 2 clusters of individuals were observed separated by only several meters. One cluster was growing on a small outcropping of limestone in the middle of the path, which was heavily traveled by people on foot together with their horses or mules. This location, needless to say, was quite disturbed and very demanding on the plants' survival since on occasion they may get trampled.

An aspect of the morphology of B. nelumbiifolia, and most if not all rhizomatous species is the meristematic tissue of the petiole and the leaf; this is indicated by an ability to produce new plants from the original cellular tissue of these vegetative parts. Esau (1965) considers this type of meristem secondary, though does not employ the term in her book. Her definition is as follows: "If the cells first differentiate and function as members of some mature tissue system, then again take up meristematic activity, the resulting meristem is called secondary." This definition appears appropriate for the rhizomatous begonias, since the meristematic tissue is derived from leaf cells which originally have a function other than vegetative propagation. I have found certain cane type begonias and coleus will produce roots from the

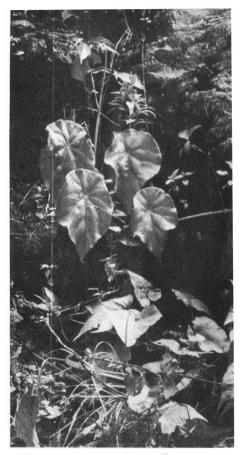


Fig. 4 - B. nelumbiifolia growing on some limestone near the Misola waterfall.

base of the petiole, though have never given rise to a new stem. Howard (1974) reports of "residual meristematic potential" in *Saint paulia* and *Peperomia* also. Members of the CRASSULACEAE can often be propogated by this mechanism also.

This ability of rhizomatous begonias to produce new plants from the petiole and leaf is a means of vegetative reproduction and makes one question whether there is any selective advantage in this ability or, whether at one time in the evolutionary history of the group it was of advantage. It is a specialized characteristic among the flowering plants since its occurrance within the taxa is so limited.

Grant explains that divergence is often related to specific ecological conditions and to pollinating agents. In certain cases divergence may result in a specialized morphological character, within a new species, though every time specialization occurs will not necessarily mean that specialization of a character has resulted. This problem demands a much more extensive effort than is appropriate for this paper though it is applicable when considering the meristematic tissue found in the vegetative parts of rhizomatous species of *Begonia*.

No. 43 B. glabra

In the forest area surrounding the Misola waterfall B. glabra was collected. Only several individuals were observed; one was found that had climbed at least 20 to 25 feet up the side of a tree. B. glabra was also observed along the trail to Bonampak and rather sparsely in the forest. This species perhaps has the widest distribution of any American species in the genus Begonia being found in the West Indies and from Mexico to Ecuador. Like the rhizomatous species B. glabra produces roots from the nodes allowing it to climb up trees and cling to stumps or logs.

Fig. 5 — Several individuals of *Begonia* Collection No. 44 growing on masonry at the ruins at Bonampak.

No. 44

(Presently undetermined)

This species was observed growing on temple and structural walls at Bonampak. The Lacandon rainforest surrounding Bonampak remains a solid stretch for many miles, though the effects of man's forest industry are slowly encroaching and consuming the ancient environment. Fig. 5 shows several individuals of the population of this species. Certain ecological observations were made on this species though it was not until I returned to Massachusetts and began growing the rhizomes that some rather unusual morphological variations were observed on the plant itself.

This species has an upright rhizome and has characteristics strongly suggestive of B. sericoneura Liebmann, several individuals of which Mr. Ziesenhenne gave me. The majority, if not all the individuals of No. 44 were growing with one side of their stems against ruins walls. Again, as we suggested for B. nelum*biifolia* and *B. heracleifolia*, roots are produced on a side of the stem opposite the nodes, which serves to hold the species to the walls; the internodes are virtually non-existent also. Considering the habit and ecological conditions favored by rhizomatous and upright rhizomatous species, there would seem to be a close taxonomic affinity.

Four rhizomes of No. 44 were brought back and propagated. Two have flowered and I analyzed certain characteristics of this species and pressed specimens. The following is a description of the species which will aid in any determination.

Partial Taxonomic Description Of No. 44

Habit, herbaceous upright; stem 1-1.5 cm thick, 10-12 cm long,* setose, internodes very short, nodes oriented toward one axis of the stem; stipules decidous, membranous, acuminate, apiculate, 15-20 mm long, entire, prominate veins, light green initially, becoming fuscous; petioles upright to nutant, 10-16 cm long, 4-8 mm thick, pilose; *leaf blades* oblique, cordate at base, acuminate, palmately 7-8 nerved, 6-8 cm along short axis, 10-12 cm wide on long axis, serrate, undulate, ciliate though becoming less with age, pilose on younger leaves; inflorescence, cyme, peduncle 10-15 cm long, many-flowered; bracts, capitate, ciliate, same color and texture as stipules, membraneous, prominent veins; *pedicels* 1.5-3.0 cm long, slightly pubescent; staminate tepals variable in number, mostly 2 sometimes 3 or 4, capitate, entire, obtuse, 1.5-2.0 cm for larger, smaller subellipsoid; stamens yellow, many anthers, subellipsoid, filaments as long as anthers; pistillate bracts white, deciduous, capitate, 1.0-1.5 cm long, initially covering ovary and 2 of 3 wings of fruit, serrate, ciliate; pistillate tepals variable in number, mostly 3, sometimes 4, like staminate; ovary 3-celled, placentae bilamellate, styles 3, connate at base, dolabriform; capsule ellisoid, wings unequal, largest obtuse, 10 mm long.

*All individuals observed within the regional population at Bonampak had stems that averaged these lengths.

Tepal Variation

A variation in staminate tepal number was noticed when 2 individuals of *B*. 44 flowered. The number of tepals on both individuals varied for both staminate and pistillate flowers. Table 2 shows the data collected. (See page 331)

The majority of staminate flowers have 2 tepals, though the number of flowers having 3 or 4 tepals is significant, particularly if the variation occurs among the entire population.



Fig. 6 — A specimen of Collection No. 44 showing the mutant pistillate flowers. Observe arrow.

If a pattern can be discerned from this limited data, it appears in the sequence of flowering, for those flowers having 3 or 4 tepals occur at a higher frequency toward the early part of the flowering period than toward the middle or end, which is dominated by flowers having 2 tepals. Variation occurred in the number of pistillate tepals for both plants also. The younger inflorescence of Plant A had 15 pistillate flowers, one flower which had 4 tepals and 14 had 3 tepals. The second inflorescence of Plant B had 14 female flowers, 5 of which had 4 tepals and 9 had 3 tepals.

A mutation was observed on the pistillate flowers of both cymes of plant B (Refer to Fig. 6). Globulelike masses of stigmatic tissue varying in quantity from one flower to another had formed at the apex of the small third tepal. Also the tepal itself did not form a plane but was folded on a line which bisected the tepal into two equal halves so the two halves were separated by several millimeters. On those pistillate flowers which had 4 tepals the one which did not have the stigmatic tissue was normal.

This variation and mutation is a curious phenomena although its restriction to just several individuals is not significant from a taxonomic viewpoint. Does this variation in tepal number represent a polymorphism? A polymorphism only exists when a particular variation is found at a high frequency within a population. When the collection was made at Bonamak, I did not observe individual cymes to determine the frequency of difference in tepal number. In light of this variation, it will be valuable to employ greater degrees of observation when conducting a field study. Other species in my greenhouse were observed in order to determine if variation in tepal number or other flower parts occurred. The staminate tepal number varied in B. conchifolia A. Dietrich, and in B. 38; most flowers had 2 tepals, though several had three. The tepal number on the pistillate flowers of B. heracleifolia, which I brought from Palenque, showed a variance of 2 or 3 tepals, most flowers having 2 tepals. Also, the wings of the ovary in B. coccinea Hooker varied between 3 and 4 wings. The number of flowers per cyme and the ratio of staminate to pistillate flowers has been observed to vary within each individual of 10 species; this variation is presently being approached systematically in order to see if any patterns develop.

When one takes plants out of their native environment and introduces them to conditions like those in a greenhouse does this increase the probability of variation to a greater degree than would be expected to occur in the plant's natural environments? Such a question can only be answered by observing numerous individuals, preferably in their native habitat and comparing the frequency of variation to those grown under controlled conditions. Herbarium specimens could provide some information depending upon how many collections are available. Variation is critical to the process of speciation and any polymorphisms that occur, and their frequency within a population, may provide valuable information on the group investigated, in this case the BEGONIACEAE. Grant (1971) shows how speciation occurs regularly among plants by showing

the relationship between polymorphism, local race development and geographical races.

Summary

At the season of year that these collections were made, it is not surprising that so few species were found, for the dry season in Mexico does not provide conditions that are favorable for most begonias. In spite of this, some collections and observations were made.

Referring to Table 1 several points deserve mention. Three of the four species collected were rhizomatous, all of which have a particular distribution, characterized by clusters. *B. glabra* is a vine and was found to have an even or isolated particular distribution. This kind of field data may prove to be taxonomically valuable if any correlation can be established between a species habit and the spatial relation among individuals of a population.

The ability of rhizomatous species and certain vines, like *B. glabra*, to produce roots from the nodes is an advantageous characteristic since the roots serve to structurally support the plants. The advantage of the residual meristemic tissue found in the leaves of rhizomatous begonias appears evasive at this point, and raises questions about the specialization of morphological characters. Perhaps there is some relationship among species having both these characteristics.

The geographical distributions of *B. glabra, B. heracleifolia* and *B. nelumbiifolia* are all very large. These three species are some of the most widely distributed of all American

Begonia (Barkley, 1972). There are about 500 or more species of Begonia found in the Americas. To my knowledge five other species in the Americas are as widely distributed as these three and these include: B. hirtella Link and Otto, B. patula Haworth, both of the section Begoniastrum, B. humilis Dryander and B. semiovata Liebmann placed in Doratorametra, and B. urticae L.f. in Casparya. The extent of geographical distribution is important since often. but not always, a widely spread species has greater antiquity than species of more restricted distribution (Grant 1971).

The diversification within the genus *Begonia* is great and the number of species is extremely large. The environment of Mexico is different from many areas where begonias occur due to the extreme of its dry season and it is for this reason that it is of critical importance to study the species occurring there.

REFERENCES

- Barkley, Fred A, 1972. The Species of the Begoniaceae. *The Buxtonian*. Vol. 1, Supplement 5.
- Culbert, T. Patrick, 1974. The Lost Civilization: The Story of the Classic Maya. Harper and Row, Publishers, New York.
- Esau, K., 1965. *Plant Anatomy*, (2nd edition). John Wiley and Sons, Inc., New York.
- Grant, V., 1971. *Plant Speciation*. Columbia University Press, New York.
- Howard, Richard A., 1974. The Stem-Node-Leaf Continuum of the Dicotyledonae. *Journal of the Arnold Arboretum.* Vol. 55, No. 2.
- Smith, Lyman B. and Bernice G. Schubert, 1961. Flora of Guatemala, Begoniaceae. *Fieldiana: Botany*, Vol. 24, Part VII, No. 1.
- Smith, Lyman B. and Ruth C. Smith, 1971. *Flora Ilustrada Catarinense*, Begoniaceae, ITAJAI, Santa Catarina, Brazil.

1. "Scarlet Begonias" is a song written by Robert Hunter and Jerry Garcia of the Grateful Dead band, and appears on the recording entitled "Grateful Dead from the Mars Hotel" (1974, Grateful Dead Records, San Rafael, California).

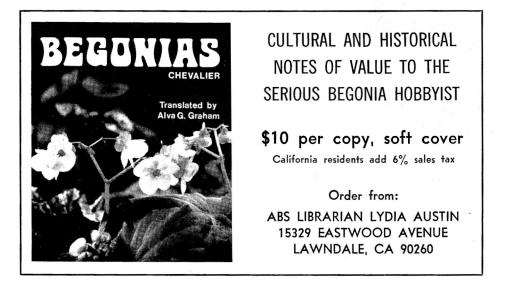


TABLE 1 INFORMATION ON SPECIES COLLECTED IN MEXICO

Collec- tion Number	Date 1975	Species Determination	State	Regional Location	Particu- lar* Distri- bution	Habit
38	Feb. 15	Unidentified	Michoacan	Pine Forest on road from Coalcoman to Aquililla	Clusters	Rhizomatous
39	Feb. 27	B. heracleifolia Schlecht. & Cham.	Chiapas	Ruins of Palenque	Clusters	Rhizomatous
40	Mar. 1	B. nelumbiifolia Schlecht. & Cham.	Chiapas	At Misola water- fall off road from Palenque to Aqua-Azul	Clusters	Rhizomatous
41	Mar. 3	B. nelumbiifolia	Chiapas	Path from Palenque ruins to Navanjo	Clusters	Rhizomatous
42	Mar. 1	B. heracleifolia	Chiapas	Same as 40	Clusters	Rhizomatous
43	Mar. 6	B. glabra Aublet	Chiapas	Forest area surrounding Misola waterfall	Isolated	Scandent
44	Mar. 11	Unidentified	Chiapas	Ruins of Bonampak	Clusters	Upright Rhizomatous

*The particular distribution refers to the spatial relationship between individuals of a species. This classification was described in another paper (Hoover, 1974), and is incorporated in this work also. A cluster classification is one where the individuals are closely associated with each other and separated by a very short distance as compared to an isolated classification, which is when only several individuals are observed in a regional area.

TABLE 2

Variation in Staminate Tepal Number for Two Individuals of No. 44

Plant A

Week Beginning	first inflorescence	second inflorescence		
	No. of flowers/no. of tepals			
Feb. 22, 1976	2/2,1/3,2/2	1/2		
Feb. 29, 1976	2/3,17/2	0		
Mar. 7, 1976	8/2	1/2,3/3,1/2,1/3		
Mar. 14, 1976	7/2	7/2		
Mar. 21, 1976	0			
Plant B				
Feb. 22, 1976	0	0		
Feb. 29, 1976	4/4,1/3,4/2,1/3,9/2,1/3	0		
Mar. 7, 1976	12/2	4/4		
Mar. 14, 1976	9/2	2/2,4/3,1/4,2/2		
Mar. 21, 1976		14/2		
Volume 43 • December, 19	976	331		

ELEVENTH EASTERN REGIONAL BEGONIA CONVENTION AND SHOW

Webster Hall Hotel, Pittsburgh, Pennsylvania September 16th, 17th and 18th, 1976.

AWARDS

- ABS PERPETUAL TROPHY FOR SWEEPSTAKES: Betty Fennell — 9 Blue Ribbons
- ABS PERPETUAL TROPHY FOR BEST IN SHOW: Betty Fennell — *B.* 'Charm'
- ABS PERPETUAL TROPHY FOR BEST NOVICE ENTRY: Mary Grace Nucci — B. prismatocarpa
- T. BURR SHEPHERD PERPETUAL TROPHY FOR BEST SEMP: Betty Fennell — B. 'Charm'
- M. GRASHEIM PERPETUAL TROPHY FOR BEST MINIATURE:
 - Eileen Franklin B. 'Robert Shatzer'
- M. MORRISON PERPETUAL TROPHY FOR BEST KUSLER HYBRID: Betty Fennell — B. 'Sophie Cecile'
- SHOWING IS SHARING PERPETUAL TROPHY — Edna Stewart — 53 Entries
- BEST ENTRY BY E. STEWART BRANCH MEMBER — Frank Kerin — B. cubensis

A.B.S. CULTURAL AWARDS

- CANE-LIKE: Betty Fennell, *B.* 'Sophie Cecile'
- SHRUB-LIKE: Betty Fennell, B. 'Ginny'
- THICK-STEMMED: Frank Kerin, B. parilis
- SEMPERFLORENS: Betty Fennell, B. 'Lucy Lockett'
- RHIZOMATOUS: Betty Fennell, B. 'Black Falcon'
- TUBEROUS: Eileen Franklin, B. 'Richard Robinson'

DIVISION TROPHIES

- A. Cane-like Betty Fennell B. 'Sophie Cecile'
- B. Shrub-like Betty Fennell B. 'Ginny'
- C. Thick stemmed Frank Kerin B. parilis
- D. Semperflorens Betty Fennell B. 'Lucy Lockett'
- E. Rhizomatous Betty Fennell B. 'Black Falcon'
- G. Tuberous Eileen Franklin B. 'Richard Robinson'
- H. Trailing Scandent Eileen Franklin B. fagifolia
- I. Contained Atmosphere (single variety) — Eileen Franklin — B. rajah
- J. Hanging Containers Betty Fennell — B. 'Charm'
- L. Species Corliss Engle B. luxurians
- M. New Begonia Introduction
 by amateur grower Edna Stewart
 B. 'Dorothy'
- P. Experienced Amateur Grower Edna Stewart — B. 'Rubaiyat'
- Q. Novice Growers Mary Grace Nucci — B. prismatocarpa
- R. Contained Atmospheres (more than one variety) — Frank Kerin —
 - Mixed Planting
- S. Artistic Arrangements Betty Fennell *B*. 'Preussen'
- T. Novel Methods of Growing Corliss Engle — B. 'Lawrence Fewkes' bonsai
- V. Arts and Crafts Lis Schafer B. 'Mabel Corwin' water color
- W. Photography Betty Fennell *B.* 'Grand Duchess'
- No awards were made in Divisions F, K, N and O.

The Begonian

ELEVENTH EASTERN REGIONAL CONVENTION REPORT

The recent convention which took place in Pittsburgh, Pennsylvania was a beautiful success. This was achieved by the excellent cooperative spirit of some of the Eastern Branches that gave so willingly of their time and labor. Representatives from fourteen states (many members-at-large were in attendance) participated in the show and seminars. This was further proof to us that there is a great potential for forming several new branches in this part of the country and, because of the new friendships that were formed, especially with the members-at-large, perhaps some of us can help with the many problems that can exist with the formation of a new branch.

Thursday, September 16, dawned clear but with a slight hint of rain in the air. The members of the Stewart Branch were assembled at the hotel preparing for the expected invasion of Begoniacs. By early afternoon many plants and visitors had arrived and the registration area was crowded with boxes of plants, displays under construction and people renewing friendships and making new ones.

The registration was handled by Gene Moglia, president of the Long Island Branch, and members of the host branch. There were 400 entries in the show with the greatest number of entries in the Novice division. A great number of entries were brought to the show by Corliss Engle and Debbie Kwasniewski of the Buxton Branch and Betty Fennell and Eileen and Len Franklin of the Rochester Branch. Sue Colaizzi and her staff did an excellent job of setting up a beautiful garden display.

Friday morning, Dr. Gilbert Daniels, the director of the Hunt Botanical Library presented an excellent program on "Early Botanical Literature." This was followed by Carrie Karegeannes with her talk on "Begonia Research Identification" which is a review of the work concerning the identification of some popular groups of *Begonia* species.

Early afternoon our visitors were taken on a tour of the Heinz Chapel and the Nationality Rooms of the University of Pittsburgh. Side trips also were made to the Hunt Botanical Library and to Phipps Conservatory.

The Awards Banquet is one that will be long remembered by everyone; it was a beautiful evening that left everyone with a song in his heart. After the presentation of the awards, very efficiently handled by Sue Colaizzi and Frank Kerin, the M.C., Bob Horvath, introduced a well-kept surprise for our entertainment. The Pittsburgh Tamburitzans, a talented group of young people, presented a program of song and dance in authentic eastern European costumes and played the instruments of that part of the world. They were given a rousing standing ovation by the enthralled audience, many of whom were busily brushing tears from their eyes. This was one of the highlights of the weekend.

The informal meeting of all elected officers took place late Friday evening and it was decided to accept the invitation of the Miami Branch to

Volume 43 • December, 1976

hold the next regional convention in their area. Also there is a possibility that a judging seminar may be held in the Rochester area next September for members of the eastern region. There will be more information on this subject at a later date when some of the details are worked out. There is a great interest in the work of the Research Committee and in the availability of the information gathered by the members. The members feel that the information should be made available to anyone for their work in the area of research or in their quest for personal knowledge of Begonia.

Robert Oglevee and Joe O'Donovan presented the Saturday morning meeting on "Pathogen Free Culture of Rex Begonia" to a very interested audience. A program on rex begonias has not been presented at the conventions for guite some time. The afternoon trip down the Ohio River to Old Economy provided an interesting look back into history and into the way of life of a small, early American religious community. The goodbyes and many thank yous were expressed by the M.C., Dr. David Archer, prior to his introduction of Jack Golding who presented a program on the "Nomenclature of the Begonia Species" which was a brief review of the International Code of Botanical Nomenclature concerning the citation priorities and orthography and the effect of these rules changing the nomenclature of Begonia.

Many excellent specimens were exhibited: some areas were difficult to judge because of the great competition. The battle of the judges for best of show required casting of ballots four times — the plants in contention were B. 'Ginny' and B. 'Charm' with B. 'Charm' finally given the trophy. We heard that Betty Fennell and the Franklins of Rochester, New York hired two Brinks guards to escort them to the border because of the vast number of trophies and awards they carried home.

In addition to fine plant specimens, there were excellent exhibits which focused on a particular phase of knowledge about begonias. The following displays were given awards for merit:

EDUCATIONAL AWARDS

Research Rochester Branch Buxton Branch Knickerbocker Branch E. Stewart Pittsburgh Branch

The three days of the convention were filled with numerous pleasant and interesting experiences for the participants.

TROPHY FUND DONORS

Donations for the Eleventh Eastern Begonia Convention trophy fund were received from the following:

Buxton Branch Hampton Branch Greater Rochester Branch Long Island Branch E. Stewart Pittsburgh Branch Connecticut Branch Western Pennsylvania Branch Knickerbocker Branch Ed and Millie Thompson Frank Kerin Edmund Grasheim Edna Stewart The Hobby Greenhouse

Ed and Millie Thompson donated The Thompson Begonia Guide

COMMITTEE CHAIRMEN

Coordination, Convention	Chairman Frank A. Kerin
Flower Show	Sue Colaizzi
Classification	Gene Moglia
Placement	Robert Horvath
Judges	May F. Buck
Trophies	
Plant Sales	
Speakers	
Program	Frank A. Kerin
Registration	Linda Hough, Marie Reno, Beverly Coyle
Funds	Mary Grace Nucci
Tours	Beryl Ann Archer, Beverly Coyle, Melissa Jones, Dr. David Archer
Hospitality	Jean Clark, Janet Cottrell, Ellen Harrington



GREENHOUSE FUEL-SAVING TIPS

Wally Wagner, Silverton, Oregon

Of major concern to those of us who have large greenhouses is how to save on fuel costs. I believe that hobbyists are also becoming concerned over the rising costs of heating a greenhouse. The following suggestions taken from several sources may be helpful.

1. Insulate the roof. Many growers are finding fuel savings up to 40% by putting a double layer of polyethylene sheeting (poly) on the roof of the greenhouse and using a small "squirrel-cage" fan to inject air between the two layers. The outer layer, firmed by the air pressure can stand remarkable loads of wind, rain, or snow. CAUTION: If you have a fiberglass roof that extends over the edge of the greenhouse you will have a problem because the fiberglass edge will cut the poly sheeting. Does anyone have a solution?

2. Cover the interior walls and gables with poly, creating an air space between the poly and the outside wall. Some sources suggest covering the north wall with reflective-coated insulation.

3. If you don't double-poly your roof then place a sheet of poly inside the greenhouse from eave to eave to create an air space in the peak of the greenhouse and to make a smaller volume to heat.

ANTONELLI BROTHERS

2545 Capitola Road

SANTA CRUZ, CALIFORNIA 95060

36-page color catalog 25 cents

4. Run insulation on the inside of the greenhouse walls *below* the ground surface to reduce heat loss at soil line.

5. Weatherstrip all doors and seal all cracks. Building a double entry to the greenhouse will cut down considerably on heat loss and cold drafts.

6. Aspirate the greenhouse thermometer. It can save more than most people imagine. Heating your greenhouse a few more degrees than necessary (a common problem with nonaspirated thermometers) can increase your fuel bill. (Article to follow). Aspiration draws air continuously over the thermometer and reduces temperature fluctuations.

7. Change the heating system design so that heat is brought into the growing area on the ground level rather than at the top where the heat stays until forced down or is lost out the roof.

8. Investigate solar heating. (Article to follow in a later issue.)

9. Last but not least, grow plants that are more tolerant of low temperatures. Many begonias will take more cold than we credit them with.

Some of these ideas can be put to use immediately to reduce costs of operating the greenhouse. Others will have to wait until working conditions are more favorable.



bly your more cold than

NOTE: Before putting double-poly on the roof of your greenhouse the shading (and dirt) must be completely removed. New shading, if necessary, must go on the top layer of poly. The University of Vermont suggests the following formula for a cleaning solution. I haven't used it yet so can't vouch for its effectiveness, its validity, nor accuracy of the formula as printed.

"To one gallon of very hot water, add 41/2 lbs. of sal soda (washing soda Na2CO3-10 H2O), 1 lb. of trisoda (sodium orthophospate Na3PO4-1.2 H2O). Stir thoroughly until the powders are dissolved, then add one gallon of commercial hydrofluoric acid (52%) and pour this compound into 23 gal. of cold water. Ready for immediate use. Paint on with large brush or spray on with a sprayer, rinse off with hose. No scrubbing required. Harmless to everything except silk. May be stored in any container." This formula appeared in Washline, vol. 3, Aug. '75. Washington Floricultural Association.

Mini-Ads

The rate for advertising in this column is \$1 per line (about 36 characters) with a minimum charge of \$4. Payment for the ad must accompany order. Direct questions, copy, and checks to the Advertising Manager, Mabel Corwin.

- Begonias, Gesneriads, miniature terrarium plants, tropicals, Catalog \$1. Kartuz Greenhouses, 92 Chestnut St., Wilmington, MA 01887. Phone (617) 658-9017
- Violets Begonias Episcias Cuttings only. Send stamp for list. Wilson's Greenhouse, Route 1 Box 165-4 Ozark, MO 65721
- Wyrtzen Exotic Plants—begonias and gesneriads. Plants sold at house only. 260-01 87th Avenue (same as 165 Bryant Ave.), Floral Park, N.Y. Ph. 212-347-3821
- Begonias, oldies, collectors Items, new hybrids, 20¢ for list, Stamps ok. Rainbow Begonia Gardens, Box 991, Westminster, CA 92683.

The circulation office has a new address. Send dues to:

American Begonia Society Jacqueline Garinger 8302 Kittyhawk Avenue Los Angeles, CA 90045

THE THOMPSON BEGONIA GUIDE

SECOND EDITION

Volumes I & II are being distributed now. Revision sheets are also being distributed to those who have Volume I, II, and III, of the first edition. Order by writing to: Edward J. Thompson, 310-A Hill St., Southampton, N.Y. 11968.



REGISTRATION OF BEGONIA CULTIVARS

Note: The American Begonia Society is the International Registration Authority for cultivars of the genus *Begonia*. Information regarding registration may be obtained from ABS Nomenclature Director Rudolf Ziesenhenne, 1130 N. Milpas St., Santa Barbara, CA 93103.

No. 537 — Begonia (B. 'Persian Brocade' X B. 'Dr. Jim') 'Anne Swain'

Originated by Goldie Frost, 10622 Teal Dr., Garden Grove, CA 92643, this rhizomatous begonia was developed in 1973 and first bloomed in 1975. The entire surface of the bright green leaves has red spotting and mottling; star-shaped, 6 in., moderately cut, coarse texture; eight-nerved; hairy petioles; stipules have a hairy collar; flowers are pink, two-petaled; $1/2 \ge 11/2$ in., on 18 in. flower stem, in spring. Registered August 23, 1976.

No. 538 — Begonia (B. 'Black Knight' X B. 'Chumash') 'Dan Stocks'

With moderately cut, star-shaped leaves, texture smooth-velvety, smooth petioles and stipules, darkgreen along the seven veins, this rhizomatous begonia was originated by Goldie Frost, address above, in 1973. It first bloomed in 1975 with light-pink $\frac{1}{2} \ge 1$ in. two-petaled flowers on a 12 in. stem. A good, compact grower and heavy bloomer,

RUTH & WALTER PEASE 6863 La Tijera Boulevard, Los Angeles, CA 90045 (213) 641-2130

INDOOR & OUTDOOR PLANTS • EXOTICS DECORATIVE CONTAINERS • ACCESSORIES PLANT RELATED GIFTS • BOOKS • SERVICE the plant has beautifully mottled bright and dark green leaves. Registered August 23, 1976.

No. 539 — Begonia (B. 'Persian Brocade' X B. hidalgensis syn. B. dayi hort.) 'Delia Marleau'

Veined like *B. hidalgensis*, with black only at end of veins, and with black stitching on margin, this rhizomatous begonia was developed in 1973 by Goldie Frost, address above. Leaves, except for black markings, are bright green, ovate, with basal lobes lapped, $3 \ge 4$ in.; margin crenate; texture smooth, quite thick; seven-nerved; petioles and stipules smooth. First bloomed in 1975. Flowers in spring, pink, two-petaled, $1/2 \ge 3/4$ in., arranged on 15 in. flower stem. Registered August 23, 1976.

No. 540 — Begonia (B. 'Persian Brocade' X B. 'Dr. Jim') 'Fond Memories'

Rhizomatous with leaves bright green, deeply cut, with lobes scalloped, a narrow-edge of red and red spotting along veins, this plant was originated by Goldie Frost, address above, in 1973 and first bloomed in spring of 1975 with light-pink, two petaled, $\frac{1}{2} \ge 1$ in. flowers arranged on a 15 in. stem. Leaves are 4 in., star-shaped, margins deeply cut; texture smooth-velvety; 7-nerved; petioles quite hairy, and stipules with hairy collar. Registered August 23, 1976.

The Indoor Light Gardening Society of America, Inc., Dept. B, 128 West 58th St., New York, New York 10019. Dues \$5.00. Bi-monthly magazine; light garden; up-to-date, informative; seed fund; round robins; chapters.

No. 541 — Begonia (B. 'Black Knight' X B. 'Chantilly Lace') 'Honey'

Similar to B. 'Chantilly Lace' but with a thicker, larger leaf, this rhizomatous begonia was originated by Goldie Frost, address above, in 1973, first blooming in 1975 with twopetaled, light pink, $\frac{1}{2} \ge 1$ inch flowers in spring on 12 in. flower stem. Leaves are bright green with red or brown stitching, ovate, $2 \ge 3$ in.; margin entire, smooth; texture smoothvelvety; 7-nerved; petioles and stipules smooth. Reg. Aug. 23, 1976.

No. 542 — Begonia (B. 'Black Knight' X B. 'Chumash') 'Lillian Patburg'

Originated by Goldie Frost, address above, in 1973, blooming first in 1975, this very compact rhizomatous plant has light-green leaves, scallop-edged with hairs, 3 in. starshaped, moderately cut, texture smooth; petioles slightly hairy; stipules with hairy collar. Blooms spring and summer with pale-pink, twopetaled, $\frac{1}{2} \ge 1$ in. flowers on 15 in. stem. Registered August 23, 1976.

No. 543 — Begonia (B. 'Persian Brocade' X B. 'Dr. Jim') 'Ruth Brankey'

With dark-green, black-edged 6 in. star-shaped leaves, margin moderately cut, this rhizomatous begonia was originated by Goldie Frost, address above, in 1973, first blooming in 1975 with bright-pink flowers, two-petaled $\frac{1}{2} \ge 1$ in., on 18 in. stem in spring. The leaf-texture is smooth, quite thick, with seven nerves, and quite hairy petioles and stipules. Back of veins is red-hairy, with edging on reverse red. Registered August 23, 1976.

No. 544 — Begonia (B. 'Sir Percy' X unknown) 'Camaray'

Described as an eye-catching begonia, best in a hanging basket, this rhizomatous, exotic-type plant has widely-uneven, heartshaped, 4-lobed leaves with reddish veins, glistening with white hairs, 5 x 6 in., margin jagged; crisp texture; eight-nerved. Originated by Mickey Meyer, 16 Yuffara St., Lathra, N.S.W., Australia in 1974, and first distributed and bloomed in 1976 with white, small, neat flowers arranged out from plant on 7-9 inch stem; blooms spring and summer. Registered August 25, 1976.

No. 545 — Begonia (B. 'Tarlit' X B. bowerae nigramarga) 'Camooweal'

This exotic-type rhizomatous begonia looks best in a hanging basket and was originated by Mickey Meyer, address above, in 1974, first bloomed and distributed in 1976. Brightgreen leaves are edged and blotched with black, uneven heart-shaped, deeply six-lobed, $5 \ge 3$ in.; margin notched and eyelashed; texture crisp; five-nerved. This plant blooms in spring and summer, off-white, in small clumps just above plant on 3-4 in. stems. Reg. Aug. 23, 1976.

No. 546 — Begonia (B. 'Kooleena' X B. bowerae) 'Parraweena' (Parrots)

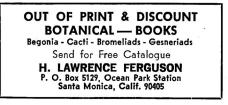
Originated by Mickey Meyer (address above) in 1974, this rhizomatous begonia first bloomed and was distributed in 1976. Leaves are deep brown and green, ovate, 4 x 3 in.; margin eyelashed; texture crisp; sixnerved. Blooms in spring and summer, with very small white flowers just above plant on 5-6 in. stems. Registered August 25, 1976.

(Continued on Page 341)

CLAYTON M. KELLY SEED FUND

- Dc 2 B. 'Kallaking'. Extra strong grower. Large green leaves at base, new leaves pure white forming a perfect miniature calla lily. Large single rose pink and red flowers. Young plants all green, grow to 10 to 12 inches. Grows in open ground in Northern California. per pkt. 1.00
- Dc 3 *B. diadema* Linden: 1882, Borneo. Name means 'crown'. Rhizomatous with erect stem. Leaves too deeply cut to make a star but not deep enough to be palm-like; lustrous, silky, bright green leaves with tiny silvery smoke rings between veins. Rhizome is hidden beneath soil. Pink blooms in spring. Loves heat and moisture. _____ per pkt. 1.00
- Dc 4—*B. echinosepala:* 1871; Brazil. Small, shrub-like begonia with very narrow, serrated leaves, drooping from arched branches. A very profuse bloomer with white flowers. _____ per pkt. _.50
- Dc 5—*B. fuchsioides.* A 3 ft. high, cane type shrub, with small leaves and rather small, brilliant red flowers in fairly large inflorescences. A magnificent species. _____ per pkt. .50
- Dc 6—*B. johnstonii:* from Africa in 1844. Tall, loosely branched with pale green leaves and red-spotted stems; few but large, pink flowers. per pkt. .50
- Dc 7—*B. maculata.* This is from the Botanic Gardens in Brazil, and grows like a weed there. I have no further information except that the blooms are red. ______ per pkt. 1.00
- Dc 8—*B. molleri:* species from West Africa; grows 2 to 3 ft. high, with arching branches; leaves oval, perfectly symmetrical, smooth and shiny. Flowers large, white, separate or only a few in an inflorescence.
- Dc 9 Unidentified Peruvian begonia species. Bush type to 3 feet tall, branching. Entire plant covered with short and fine pubescence. Leaves to 8 inches long, one inch wide, green above, dull red beneath. Flowers white in equally divided cymes. A beautiful and different begonia. ______ per pkt. 1.00





- Dc 10 Unidentified begonia. Similar to *B. subvillosa* KI., but it differs in having 6 tepals in the female flowers. Entire plant covered with hairs. The stems cannot be seen for the long, white, matted woolly hairs. Everblooming, white flowers have hairs on the back of the sepals which become reddish in filtered direct sun. The hairs and the leaf margin become reddish in direct filtered sun. Plant branches and grows to one ft. It makes an excellent everblooming basket plant, trailing gracefully. ______ per pkt. 1.00
 Dc 11 Mixed varieties from Australia. This new batch of seeds just arrived. It is from the same source as the previous offers but has

Calif. residents please add 6% sales tax. Make checks and money orders payable in U.S. funds to Clayton M. Kelly Seed Fund. Please enclose stamped self-addressed envelope. Mail to: Mrs. Linda Miller, P.O. Box 227, Gardena, CA 90247

No. 547 — Begonia (B. 'Kooleena' X B. bowerae) 'Timbara'

A distinctive-foliaged rhizomatous begonia interesting because of the green smudges on the deep-brown leaves, this plant was originated by Mickey Meyer (address above) in 1974, it first bloomed in 1975, and was first distributed in 1976. Leaves are ovate, $2\frac{1}{2} \ge 2$ in.; margin eyelashed; texture crisp; nerves six. Flowers spring and summer, white, just over plant on 3-4 inch stems. Registered August 25, 1976.

No. 548 — Begonia (B. 'White Imperialis' X B. masoniana) 'Canara'

The distinctive foliage of this exotic-type rhizomatous begonia, with glistening silver, green-veined leaves, red backed, semi-round, $5 \ge 4$ in., makes it an eye-catcher. Leaf margin is smooth, texture thick, nerves eight. Flowers on 3-4 inch stems just above plant are off-white, small and neat; bloooms spring to summer. Registered August 25, 1976.

No. 549 — Begonia (B. 'Peridot' mutation) 'Exotic Peridot'

This miniature rex cultorum (compact-type) was originated by The Plant Shop's Botanical Gardens, 18007 Topham St., Reseda, CA 91335 in 1972 and was first distributed in 1975. The heart-shaped leaves, $11/_2 \times 11/_4$ in., are silver on green, with a bronze-pink overlay, red backed; margin is smooth; texture slightly pebbled; six-nerved; 4-inch petioles. Has not bloomed. Registered September 3, 1976.

No. 550 — Begonia (B. 'Hippy' mutation) 'Hippy Gone Straight'

Originated by The Plant Shop's Botanical Gardens (address above) this rex cultorum begonia has leaves of dark brown with darker brown stripes around edge, double spiraled, 6-8 in.; margin serrate; texture highly pebbled and very hairy; eight-nerved. Blooms in September, first in 1974; developed in 1973; distributed 1976. Blossoms reddish-pink. Registered September 3, 1976.

A TRIO OF BEGONIAS

(Continued from Page 319)

spread to the lower part of the shrub. The older stalks are brown, the young growth is green. The leaves are narrow, unevenly lobbed with the narrow lobes toward the stems. They occur along the stems in an alternate pattern and are facing pairs at the tips of branches. The upper surface is dark green with a subtle narrow band of lighter green at the outer edges. The veins are quite red on the underside of the leaves. Fine short hairs are evenly spaced on the sur-The blossoms occur in the face. growing tips in small clusters on 2 inch pedicels. The individual flowers are small, tending to be all male blossoms at first and female later. The tepals are white with prominent, short, rosy red hairs on back which tend to give the closed flowers a rosy red appearance. The winged portion of the female blossom is deep rose. The male flowers have two large and two small petals, the female flowers have four large and one smaller tepal. B. 'Ginny' blooms almost constantly. It was a strong contender for the Best in Show Trophy at Pittsburgh.

The search necessary to locate plants of *B*. 'Hannah Serr', *B*. 'Ginny' and *B*. 'Emma Palmer' might be timeconsuming, but it would be worthwhile to the hobbyist.

The Sacramento Branch wishes everyone a

Wonderful Holiday and a Good New Year.

Rubidoux Branch

sends Hearty Wishes for Christmas and the New Year.

> Merry Christmas. The Seattle Branch invites you to join us for the new year.

Merry Christmas and Happy Growing in the Coming Year. Alfred D. Robinson Branch

May Peace and Joy be yours at Christmastime and throughout the New Year. WHITTIER BRANCH

Orange County Branch sends our Greetings and Best Wishes for 1977.

May Peace and Joy be yours at Christmastime and throughout the New Year. Garden Grove Begonia Society

> Season's Greetings and Best Wishes from Saline County Branch

Season's Greetings and Best Wishes from

EDNA STEWART PITTSBURGH BRANCH

Season's Greetings and Best Wishes from TAMPA BAY BRANCH

The North Long Beach Branch wishes you a Merry Christmas and Happy Growing in the Coming Year.

Merry Christmas and Happy Growing in the Coming Year.

SANTA BARBARA BRANCH

May Peace and Joy be yours at Christmastime and throughout the New Year. Redondo Area Branch

Season's Greetings and Best Wishes for a Happy New Year. South Seattle Begonia Society We wouldn't ""snow" you We wish for you a Merry Christmas and Happy Holiday Season! THE SAN MIGUEL BRANCH

THE BUXTON BRANCH

wishes all of you Peace and Happiness for the coming year.

Greetings to you on our first Noel. The Palomar Branch

The Westchester Branch wishes you Joyous Holidays and Beautiful Begonias for 1977.

Western Pennsylvania Branch wishes All of You Peace and Happiness for the Coming Year.

EAST BAY BRANCH

Sends Our Greetings. Good Growing in 1977.

Happy Holidays from

the Pacific Northwest Eastside Begonia Branch

CENTRAL SAN JOAQUIN BRANCH

By Evelyn Cronin, Branch Relations Director

The continuing interest in begonias is apparent with the proliferation of branches of the A.B.S. The seventh branch during the 1976 calendar year has just received its charter.

A very warm welcome to the Central San Joaquin Branch in California. President and prime motivator is Eleanor Hollis; Vice President, Barbara Neptune; Secretary, Irene Colieve; Treasurer, Nellie Hanes; A.B.S. Representative, Mary Reed; Membership Secretary, Richard A. Corbit; Nomenclature, James L. Helm.

The branch has issued its first newsletter called the *Sheltered Gardener*. Those not familiar with California's year around balmy climate should note that begonias and other shade loving plants are grown out-of doors in most areas. Gardens are small and delightfully intimate, and many are actually patio gardens. Overhead structures are used to filter the intense light and to serve as a wind break. Hence, one of the A.B.S. objectives is to stimulate and promote interest in *Begonia* and other shade-loving plants.

For those of you who would like to work and study with a group of begonianists and who have no access to a branch, the following ABS members would like to have you contact them.

In the North Central Kentucky, Cincinnati or Hamilton, Ohio, East-Central Indiana, or the area referred to as the tri-state area, contact: Mrs. Nancy Cummins 411 Baltimore Ave. Covington, KY 41015

A group is forming at the University of Rhode Island. A long time begonia friend and grower is at the helm. For branch affiliation, contact:

Mrs. Arline Peck Eagle Peak Road Pascoag. RI 02859

If you live in the area surrounding Stanfield, Oregon, contact:

Sandy Cassens Rt. 1, Box 96 Stanfield, OR 97875

Branches are still needed in mid-U.S.A. Please write me for branch formation material. During the year and a half in which I've helped various organizers, the best approach has been to gather 3 or 4 begonia friends and plan an actual meeting. Designate time, place, date and a program for that evening. The program could come from within the group or from a commercial grower in the area. People are avid for cultural information and even a general houseplant talk with emphasis on begonias, is a crowd pleaser. Publicize the meeting in your local newspapers, supermarkets, banks, shopping malls, whereever there is heavy people traffic. This has never failed to produce the necessary 7 or 8 people required to form a branch; frequently, that first meeting has produced 25 members, many of them new to the A.B.S.

Let me hear from you; let me help you.

CONDENSED MINUTES OF A.B.S. BOARD OF DIRECTORS MEETING September 27, 1976

The meeting was called at 7:45 P.M. In the South Gate Auditorium with **President** Charles Richardson presiding. The minutes of the August meeting were approved as published.

President Richardson expressed his opinions about the recent show and convention in San Diego, saying it was one of the most beautiful and well organized the Society has ever had. He desires to see more branches formed during the coming year.

Since the change of treasurers had not been completed, Mr. Estrada had no report. He said the rent for the meeting room at South Gate was being raised to \$9.00, and the storage space to \$23.00 the first of the new year. After discussion, a motion was passed that any two of the following could sign checks: president, 1st vice-president, treasurer, and secretary. A motion was passed to transfer the checking account to the Downey Branch of the Security Pacific National Bank.

Correspondence read by the acting secretary included a letter of thanks from Mrs. Lois Young, sister of Peggy McGrath, also a letter of resignation from Rochelle Rose, stating she had other commitments.

Approval of the constitution and by-laws of the Central San Joaquin Branch was given and a Charter issued them.

Ed Bates reported four new color covers are needed, and asked for four extra pages for pictures in the November issue. The motion was passed that \$475.00 for color covers for November thru February and the four extra pages be allowed.

Mr. Richardson presented the appointed officers list for approval. The motion was passed, and the new officers names will be listed in the **Begonian**.

Gene Daniels thanked the branches that helped in the show, and made the following motions for betterment of future shows:

1. Lodging and dinners be paid for Thursday and Sunday nights for all persons living more than 30 miles from the show, whose presence is absolutely required. This lodging to be a double room in the case of person whose spouse also attends, decision to be made in advance by the show chairman and committee. This motion was passed with the amendment that the distance be changed to 50 miles.

2. A permanent schedule be set up of those persons who receive complimentary tickets to any of the banquets or luncheons, the list to be made by a committee. Motion passed.

3. A banquet breakfast to be held Sunday morning for the workers of the show, convention, and plant sales The invitations to be the decision of the chairmen for their respective workers. Passed.

4. A working lunch In the form of sandwich makings, etc. to be provided for appropriate workers on Thursday and Friday, as determined by the above chairmen. Passed.

5. Two modern cash registers with a running tape must be used, even if it means renting them. Motion passed.

6. A special budget be set up of \$600.00 from the proceeds of this show, and to be refunded yearly by each national show which has a profit of over \$2,000. This fund to be used for transportation of exhibit plants, in rental trailers, by branches located more than 30 miles from the show, at discretion of show committee. Money is not to be used for transportation of individuals, or for gas for non-rented vehicles. Sale plants may also be transported only if the main purpose for renting trailer or truck is for transporting exhibit plants. A maximum of \$60.00 from this fund per branch; the decision on which plants are transported to be made by the branch involved. Motion passed.

volved. Motion passed. Mr. W. E. Walton read the proposed budget for the current fiscal year, and the motion was made and passed that it be accepted.

Margaret Lee reported that the money advanced for the show expenses was returned to the treasurer — \$1100.00.

A motion was made and passed to pay \$53.00 bill presented by Walter Pease for expenses for the Eva Kenworthy Grey and Dvckman Awards.

Reports were given by advertising chairman, judges chairman, and the acting secretary read the membership report. Also the librarian's report was read.

Rudolf Ziesenhenne, Nomenclature Director, ask the Board for authorization to begin type-setting the book of registered begonias, the money to come from the Catalogue Fund. The motion was tabled after an amendment was made by Ed Bates authorizing a study to determine the true cost of publication prior to adoption of the former motion.

Margaret Lee read the report of the show and convention. A final accounting will be given in November when all bills are in and checks returned.

Walter Barnett made a motion that a paragraph in the minutes of Aug. 27 concerning himself be removed from the minutes. Motion passed.

There being no further business, the meeting adjourned.

Irene Grannell, Acting Secretary Condensed by Virginia Barnett with corrections approved by the Board

BRANCH DIRECTORY

VISITORS ARE ALWAYS WELCOME AT THESE MEETINGS

BUXTON BRANCH 3rd Saturday, Homes of Members Simon Malkin 19 Kernwood St., Malden, MA 02148

CENTRAL SAN JOAQUIN BRANCH Barbara Neptune, Secy. 505 E. Mill Ave., Porterville, CA 93257

CONNECTICUT BRANCH 4th Sunday of each month Mrs. Priscella Beck, Secy. R D No. 1, Box 121, Mystic, Conn. 06355

EAST BAY BRANCH 3rd Thursday, 7:45 p.m. Northbrea Community Church, Berkeley, Ca. Julia M. Huwe, Secy 743 Albemarle St., El Cerrito, CA 94530

EASTSIDE BRANCH 4th Wednesday, 7:30 p.m. 590 116th Avenue N.E., Bellevue, Washington Douglas Hart, Secy 6005 121st S.E., Bellevue, WA 98006

EDNA STEWART PITTSBURGH BRANCH 3rd Wednesday, 8:00 p.m. Phipps Conservatory Laverta F. O'Leary, Secy 176 Plymouth St., Pittsburgh, PA 15211

EL MONTE COMMUNITY BRANCH 3rd Friday, Members' Homes Mrs. Gladys Máttuket, Secy. 1801 Azalea Drive, Alhambra, Calif. 91801

FORT, ELSA BRANCH 1st Saturday, 1:00 p.m. Miss Lola Price, Secy. 628 Beach Ave., Laurel Springs, N.J. 08044

GARDEN GROVE BRANCH 3rd Thursday, 7:30 p.m. New Community Meeting Center 11300 Stanford, Garden Grove, Ca. Kathy Brown, Secy 10692 Bolsa, Apt. 14, Garden Grove, CA 92643

GERALDINE DALY BEGONIA BRANCH 1st Saturday, Homes of Members Mrs. Arline G. Peck, Secy. Eagle Peak Road, Pascoag, R.I. 02859

GLENDALE BRANCH NDALE BRANCH Znd Tuesday, 8:00 p.m. Glendale Federal Savings, 401 N. Brand Mrs. Irene Grannell, Secy. 1431 Coronado Ter., Los Angeles, CA 90026

GORDON LEPISTO BRANCH Pat Burdick, Secy 1910 Skyline Dr., Burnsville, MN 55337 **GREATER CHICAGO AREA BRANCH**

3rd Sunday each mo. except July, Aug., Dec., 2 p.m. Oak Park Conservatory 561 Garfield, Oak Park, IL. Barbara Berg, Secy. 17 Oak Ridge Lane, Barrington, IL 60010

GREATER ROCHESTER BRANCH Third Sunday, Members' homes Thea S. Tweet, Secy. 280 Weymouth Dr., Rochester, N. Y. 14625

HAMPTON BRANCH 2nd Monday, 7:45 p.m. Parrish Memorial Hall Southampton, NY Katherine Sickles, Secy. Locust Ave., Southampton, NY 11968 HOUSTON TEXAS BRANCH

4th Monday, 1:00 p.m., Garden Center 1500 Herman Dr., Houston, Texas Mrs. George LeBlanc, Secy. 9310 Fairdale, TX 77063

JACKSONVILLE BRANCH 2nd Saturday, 1:00 p.m. Members' homes Ann M. Helton, Pres. 334 Brunswick Rd., Jacksonville, FL 32216

KNICKERBOCKER BRANCH 2nd Tuesday, 7:30 p.m. Horticultural Society of New York 128 West 58th St., New York Samantha G. Langer, Secy. 361 East 50th Street New York, NY 10022

LONG BEACH PARENT CHAPTER 2nd Sunday, 1:30 p.m. Community Room, Coast Federal S & L, 6241 Spring St., Long Beach, California Mrs. Jan Iwanylo, Secy. 3459 Karen, Long Beach, CA 90808

LONG ISLAND BRANCH 2nd Wednesday, 8:00 p.m. Planting Fields Arboretum Oyster Bay, Long Island, N.Y. Mrs. Michael Hecht, Secy. 2 Bonnie Court, Merrick, N.Y. 11566

MESQUITE BRANCH 1st Tuesday, 10:30 a.m., Members homes Mrs. Mae Blanton, Secy. 118 Wildoak Drive, Lake Dallas, Texas 75065

MIAMI BRANCH 4th Tuesday, 8:00 p.m. Simpson Memorial Garden Center 55 South West 17th Road, Miami, Florida Mrs. Alma Crawford, Secy. 14250 Madison St., Miami, Florida 33158

MISSOURI BRANCH Srd Friday, 11 a.m., Member's Homes Kansas City, Mo. Mrs. Glenn Lucas, Secy. Kansas City, Mo. 64109

MONTEREY BAY AREA BRANCH 4th Wednesday, 8:00 p.m. Lighthouse and Dickman Sts., New Monterey, Calif. Mrs. Mary Peterson, Sec'y. 24522 Pescadero Rd., Carmel, CA. 93921

NORTH LONG BEACH BRANCH 2nd Tuesday, 7:30 p.m. Mercury Savings and Loan Assn. 4140 Long Beach Blvd., Long Beach Mrs. W. B. Seymour, Secy. 4811 Gundry Ave., Long Beach, CA 90807

ORANGE COUNTY BRANCH AVGE COUNTY BRANCH 2nd Thursday, 7:30 p.m. First Christian Church, 1130 E. Walnut Street, Orange, California Mrs. Dorothy Porter, Secy. 19151 Lomita Ave., Orange, CA 92669

PALOMAR BRANCH 2nd Monday, 7:30 p.m. Oceanside Savings, 249 S. Indiana St., Vista, CA Mrs. Ann Shore, Secy. P.O. Box 828, Fallbrook, CA 92028

PORTLAND BRANCH Mrs. Otelia Klobas, Secy. 35330 S.E. Dunn Rd., Boring, Ore. 97002

The Begonian

POTOMAC BRANCH 4th Sunday, 2:00 p.m., Falls Church Recreation Cntr., Great Falls & Little Falls Sts. Falls Church, VA. Alberta L. Cooke, Secy. 1930 Kennedy Dr., Apt. T-1 McLean, VA 22101

REDONDO AREA BRANCH 4th Friday, 7:30 p.m. R. H. Dana School Cafetorium 135th St. and Aviation Blvd., Hawthorne, Callf. Mrs. Evelyn M. Isaac, Secy 2022 Bataan Rd., Redondo Beach, CA 90278

ROBINSON, ALFRED D. BRANCH 2nd Tuesday, 10:30 A.M. Homes of Members Juana Curtis, Secy. 4107 Taos Dr., San Diego, Ca. 92117

RUBIDOUX BRANCH 4th Thursday, 7:30 p.m., West Riverside Mem. Hall 4393 Riverview Dr., Rubidoux, CA Mrs. Dorothy Ansevics, Secy 4063 Opal St., Riverside, CA 92509

SACRAMENTO BRANCH 3rd Tuesday, 8:00 p.m., Garden Center 3300 McKinley Blvd., Sacramento, Calif. Sandra Graves, Secy 9 Rosemead Circle, Sacramento, CA 95831

SALINE COUNTY BRANCH OF KANSAS 4th Monday, 1:30 p.m., Homes of Members Pauline Eaton, Secy. R.R. #3, Salina, KS 67401

SAN FRANCISCO BRANCH 1st Wednesday, 8:00 p.m., Garden Center Golden Gate Park, 9th Avenue and Lincoln Way Mrs. Kathy Donlin, Secy. c/o 230 Jones St., #302, San Francisco, CA 94102

SAN GABRIEL VALLEY BRANCH 2nd Tuesday, 7:30 P.M. Los Angeles State and County Arboretum 501 N. Baldwin Ave., Arcadia, Calif. Mrs. Evelyn M. Anderson, Secy. 450 Scholl Dr., Glendale, CA 91206

SAN MIGUEL BRANCH 1st Wednesday, 7:30 P.M. Casa del Prado (Rm. 104) Balboa Park, San Diego Ruth Gilbert, Secy 4122 Mt. Bigelow Way, San Diego, CA 92117

SANTA BARBARA BRANCH 2nd Thursday, 7:30 p.m. Santa Barbara Museum of Natural History 2559 Puesta Del Sol Mrs. Patricia Hill, Secy. 6549 Huntington Dr., Santa Barbara, CA 93111

SANTA CLARA VALLEY BRANCH 3rd Thursday, 8:00 p.m. Security S & L Bldg. Fremont and Mary Aves. Sunnyvale, CA Mrs. Elizabeth K. Sayers, Secy. 369 Ridge Vista Ave., San Jose, Ca. 95127

SEATTLE BRANCH 3rd Tuesday, 7:00 P.M. Bethany Lutheran Church, 7400 Woodlawn Ave., N.E. Sue Stice, Secretary 6823 19th Ave. N.E., Seattle, Wa. 98115

SHEPHERD, THEODOSIA BURR BRANCH 1st Tuesday, 7:30 p.m. Senior Citizens Bldg., 420 Santa Clara St., Ventura, CA Dale Gaberson, Secy. 234 Corsicana Dr., Oxnard, CA 93030

SOUTH SEATTLE BRANCH 4th Tuesday, 7:30 p.m., Wm. Moshier Field House 430 South 156th Burien Helen Harbord, Secy 17859 S.E. 196th Drive, Renton, WA 98055 TAMPA BAY AREA BRANCH 3rd Saturday, 1:00 p.m. University of So. Florida, Student Chapel Bidg. Mrs. Mary Broit, Seoy. 2315 N. ''A'' St., Tampa, FL 33609
 TARRANT COUNTY BRANCH 2nd Monday, 10:00 a.m., Bank of Fort Worth Mrs. Richard Ellia, Seoy. 2117 Hillcrest, Ft. Worth, Texas 76107

2117 Hillicrest, Ft. Worth, Texes 76107 WESTCHESTER BRANCH 2nd Thursday, 7:30 p.m., Citizens S&L Assoc. 5347 Sepulveda Bivd., Culver City, Ca. Barbara Mack, Secy. 424 Oregon St., El Segundo, CA 90245

WESTERN PENNSYLVANIA BRANCH 2nd Wednesday 11:00 a.m. every month Northway Mall Community Room North Hills, Pittsburgh, Pa. Marie Treat, Secy 604 Nobletown Rd., Pittsburgh, PA 15220

WHITTIER BRANCH Ist Thursday, 7:30 p.m. Palm Park Community Center 5703 South Palm Avenue, Whittler Gertrude Blackstock, Secy. 15311 Elmbrook Drive, La Mirada, CA 90638

WILLIAM PENN BRANCH 4th Tuesday, Noon Homes of Members Mrs. Murdoch Davis, Sec'y. 256 Broughton Ln., Villanova, PA 19085

Note to branch secretaries: please promptly notify the editors of changes in meeting place, date, and changes in secretary's name and address.

In Memoriam J. D. Garretson

News has been received of the passing of Johnnie D. Garretson on October 9, 1976 in Escondido, California. Johnnie was a contributor of a substantial number of seeds to the Clayton M. Kelly Seed Fund in the '50s. He collected many begonia, bromeliad and gesneriad seeds and also fern spore from South America which was distributed through the States.

Johnnie Garretson was an engineer for a major oil company. His assignments took him to South America and Malaysia. He worked with plants after his return to California and operated a specialty nursery until shortly before his death.

Shade plant collectors will feel a loss at his death. D.B.

Volume 43 • December, 1976

SECOND CLASS MAIL

American Begonia Society 11506 McDonald Culver City, California 90230

Return Postage Guaranteed

