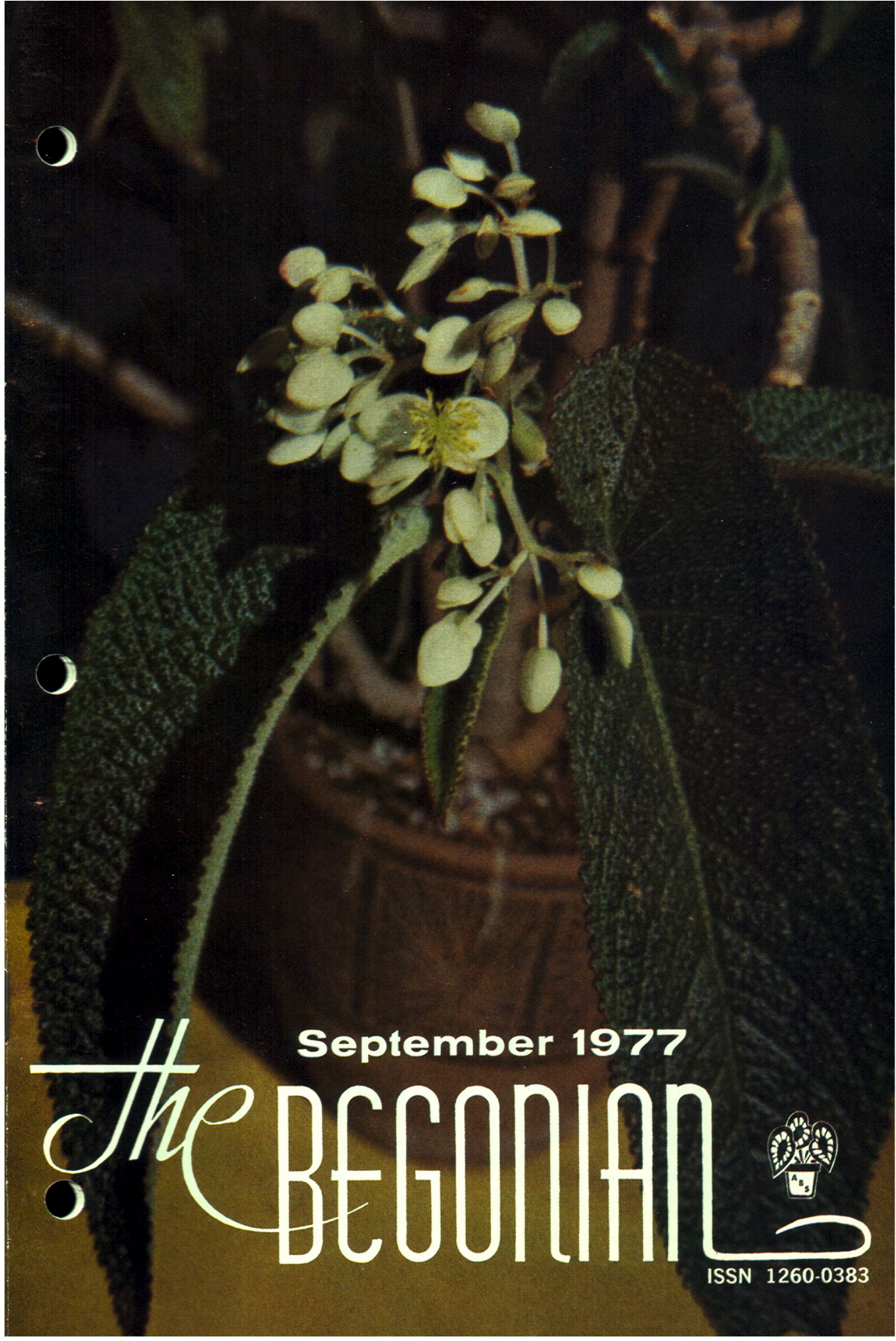


September 1977

The BEGONIAN

ISSN 1260-0383

Monthly Publication of the American Begonia Society

The BEGONIAN

Founded by Herbert P. Dyckman January, 1932

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 75¢.

Second Class Postage Paid at Los Angeles, California

Send changes for Officers' List and Branch Directory to the ABS Secretary.

The Board of Directors will meet September 26 at South Gate Auditorium.

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*.

THE BEGONIAN STAFF

Editors ..... Edgar and Phyllis Bates
554 Arden Drive, Encinitas, CA 92024
Phone (714) 436-1419

Advertising Manager ..... Lorraine Frinchaboy
3981 Garfield, Carlsbad, CA 92008
Phone (714) 729-5241

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

DEADLINES

Deadline for advertising and copy is the first day of the month preceeding the date of issue.

IN THIS ISSUE

BEGONIA EGREGIA

Begonia egregia is a rewarding species to grow. The attention required is moderate and the appearance is pleasing. It is decorative as either house plant or shade garden resident. It tends to grow to about three feet tall, facing in one direction, so it can be used in a place where all-round bushiness is a handicap. Situated all by itself, it looks dramatic. Even when there are no clusters of white flowers, it is pleasing to the eye. In my sheltered garden, it is growing along a wall where the shape of the stems and leaves form a bold pattern.

The leaves are long, tapering and asymmetric; there are right-handed and left-handed leaves on alternating sides of the branches. The leaf color is medium green, the surface evenly and minutely pebbled and hairy. The margin is a narrow reddish outline, finely sawtoothed on close examination. The stem is thick, smooth, gray-brown, with branches arising at about 2 inch intervals. If an occasional stalk should be thin and floppy, it can readily be removed, and it is possible to train some of the stalks to grow where you would prefer, if you start soon enough.

The flower racemes are not missed when absent, but are an added attraction, lacy and delicate in contrast to the big leaves. The clusters tend to be mainly stamenate, tiny heart shaped white buds with pink tips that open like a bivalve to reveal a sunny yellow puff of stamens. The female flowers are even smaller than the males. They show four tiny wings on the inferior ovaries. At one time the name, *quadrilocularis,* was applied to this species to denote the four locules or seed producing cavaties. (Most begonias have three, rather than four.) The stamenate flowers are decidedly more fragrant than the pistillate.

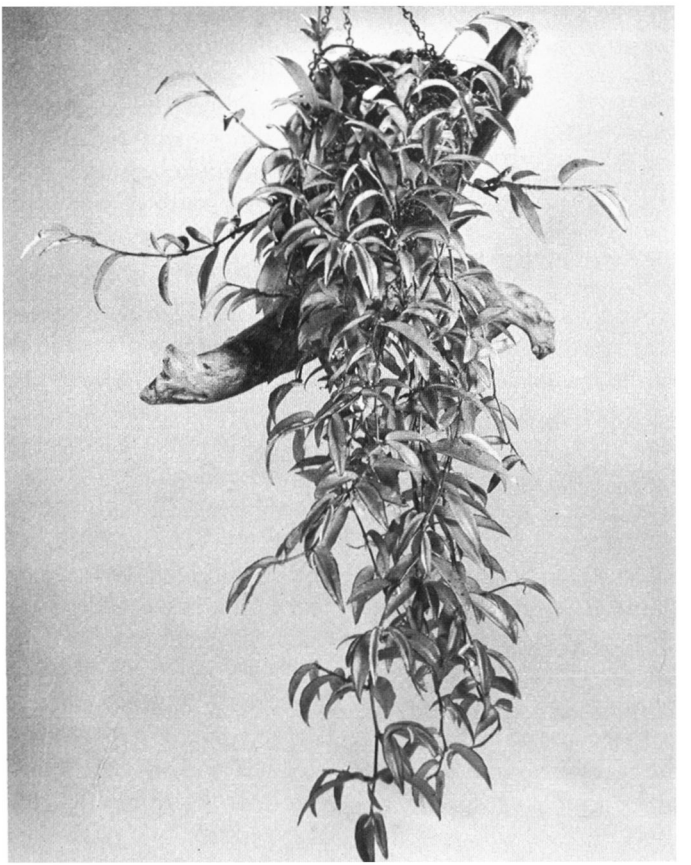
Although it is a species, this plant does not require unusual measures for successful cultivation. In fact, the high humidity of a typical greenhouse seems to hinder rather than be beneficial to its growth. It is native to the state of Rio de Janiero, Brazil, which has a semi-tropical climate. It has withstood mild frosts there and has been known to freeze back, but recover in the warm weather. I keep the light bright, but minimize the direct sunlight especially in summer. I have to be alert to the presence of chewing insects which seem to find the leaves tasty.

Hybridizers have not discovered the potentialities of this plant for there are only two hybrids listed in any of the reference sources I have access to: *B.* 'Ernest Martin', a cross with 'Tingley Mallet' and *B.* 'Egrelet', a cross with 'Lettonica'. I could find no pictures or plants of these to compare in appearance to the parent. There are not a lot of begonias which bear resemblance to *B. egregia.*

The last appearance of *B. egregia* on the cover of the *Begonian* was in October 1958 along with a story about Brazilian begonias. P.P.B.

B. POLYGONOIDES HOOKER F. IN OLIVER

By Mildred L. Thompson
Photo by Edward J. Thompson
Grown and photographed by Ed and Mildred Thompson
Photo appears in *The Thompson Begonia Guide*



B. polygonoides was first discovered by T. Thomson in Tropical Africa in upper Guinea. This interesting species was first described by Dr. Joseph D. Hooker (1817-1911) in 1871 in Oliver's *Flora of Tropical Africa,* Vol. II, on page 571; the following is the description as it appears in this publication.

B. polygonoides, *Hook. f.* Monoecious; glabrous. Stems very slender, flexuous, several feet long, as thick as a duck's quill, angular, brown, shining and woody. Leaves scattered, very shortly petioled, 3-3½ by ½-⅔ in., narrow, elliptic-lanceolate, quite entire, slightly oblique, acuminate, base acute, membranous (fleshy when fresh ?) nerves and costa very slender, surfaces quite similar; petiole ⅛ in.; stipules subulate-lanceolate, minutely stellately-pubescent when young. Peduncles axillary, capillary, ½ in. long, dichotomously forked and 2-3-flowered or simple; bracts at the forks minute, oblong, membranous, obtuse; pedicels short, capillary. Male

fl.: Minute. Sepals 2, oblong, obtuse, 1/5 in. long. Petals 2, narrow-linear. Anthers 8, linear-subulate, acute, as long as the sepals; filaments connate into a short column. Female fl: Solitary ? shortly peduncled. Sepals and petals as in the male, but larger. Styles not seen. Ovary very slender, 1/4 in. Immature capsule nearly 1 in. long, narrow, fusiform, attenuated at both ends, quite glabrous, very membranous.

To my knowledge this unusual species has been grown in this country for only about three to four years. We received a cutting of this species from Joy Martin of Logee Greenhouses in Danielson, Connecticut. Mrs. Martin received her original plant of *B. polygonoides* from Rudolf Ziesenhenne, the Nomenclature Director of the American Begonia Society. On July 20, 1970, Rudy received this species from Maurice Mason of England. It is this kind of generous sharing that makes many rare species of *Begonia* more readily available to collectors of begonias. In time, this African species will be a part of many growers' collections of begonias.

At present there are no hybrid cultivars introduced which have *B. polygonoides* as one of the parents. Undoubtedly hybridizers will be intrigued with this species and in time they will use this outstanding species to develop new trailing begonias which will be even more spectacular and interesting.

For botanical classification *B. polygonoides* is placed in the section Tetraphilia of the genus *Begonia.* Presently there are about forty species placed in this section. Some of these are favorites that are being grown by many growers today: *B. eminii, B. mannii, B. molleri, B. rubro-marginata, B. spraguei* (a synonym of *B. mannii*), and *B. squamulosa* (known previously as "Cameroon species"). Species placed in this section are epiphytic and climbing and the majority are well-branched. The species are few-flowered. The male flowers have four tepals and the stamens are sessile in an oval conical cluster. Female flowers have four tepals; the two inner ones narrow. The styles are united below and widen toward the apex with a band of stigmatic papillae. The wingless ovary is fusiform-cylindrical with four locules.

For horticultural classification *B. polygonoides* is placed in the trailing-scandent group which presently has about twenty-two species and eighteen cultivars. Like most trailing-scandent begonias, *B. polygonoides* grows magnificently in a hanging container because its long, flexuous and pendulous stems grow several feet long. It has been our experience that this begonia grows much more symmetrically and beautifully when it is grown in a moss-lined basket. It prefers to be in a cool location (around 65°, if possible) which has a lot of light or filtered sunlight. The relative humidity which is suitable for most all begonias (between 40% - 60%) will be sufficient for this begonia because it has not shown any need for increased humidity. *B. polygonoides* does not grow well when it has a lot of direct intense sunlight. This begonia branches freely but it is helpful to pinch some of the young branches to induce even more branching thereby producing a compact cascade of long hanging branches with small, leathery, medium green leaves. As with all other

begonias it is essential to regularly fertilize, spray, and groom *B. polygonoides* so that the plant is not only attractive but also disease-resistant.

In the summer *B. polygonoides* can be grown outdoors when the temperature is above 55° day and night. In the winter it will grow well hanging from the ceiling of the greenhouse. It will also grow well indoors providing it is where there is sufficient light. Needless to say, trailing-scandent begonias are not well-suited to growing in fluorescent light gardens because of their growth habits, unless, of course, they are young plants.

From September to January *B. polygonoides* produces delicate white flowers with ovaries that are wingless and spindle-shaped. This species does not bloom profusely but the flowers are extremely interesting to observe. The small capsules are leathery and fleshy.

B. polygonoides is a begonia which is not considered pretty or decorative but it is so unusual and interesting that it can be enjoyed by all growers in all seasons. It will enhance any hanging garden. In the outdoor garden this African species will hang in a spectacular fashion from the limb of a large tree in the summer. In the winter it will be a handsome sight hung from the peak of the greenhouse roof and smaller baskets will add charm to any window garden.

GLOSSARY

connate — united into one body
costa — midrib or ridge
epiphytic — growing upon another plant but not nourished by it.
flexuous — full of bends or curves

B. polygonoides, flower and fruit

fusiform — worm-like in shape
peduncles axillary — flower stalks arising in forks of branched stem
scandent — climbing
stellately pubescent — hairs appearing in star-shaped clusters
subulate — slender, more or less cylindrical and tapering to a point
sessile — without a stalk
Guinea — the mid - African eastern coastal area, generally low and sandy, is broken by many rivers and estuaries entering the Atlantic Ocean and is heavily forested. Thirty miles inland the Susa Hills are the first in a series of rising steps entering upon the shrub-grown tableland, which reaches an altitude of almost 5,000 feet. The climate is hot and moist; heavy rains, variable winds, calms, and tornadoes occur from May to November. The dry season average temperature is 62° and the wet season, 86°.

YOUR HOBBY FOR PROFIT

By J. C. Mikkelsen, Mikkelsens Inc., Ashtabula, Ohio

The recent article appearing in the February '77 *Begonian* written by Dorothy Behrends on the Frost cultivars finally aroused my selfish and purely business points of view to respond to the often quoted statement of "hybridizing begonias for personal satisfaction and enjoyment".

Specifically, reference is made to Ms. Behrends' statement, "Hybridizers do not receive any financial gains from bringing new begonias to fans. All they receive is the recognition. . ." No one can deny the wonderful, exhilarating feeling of hybridizing, developing and disseminating any new plant cultivar of worthy consideration when tribute is given by ones' peers.

The thought has occurred though that perhaps there are some begonia hybridizers that could benefit financially from the commercial exploitation of a really outstanding new hybrid especially in the area of small leaf rex types and flowering elatior types.

It is to this interested group that the following is addressed.

There are undoubtedly many asexually produced begonias that are of some commercial value not presently exploited.* Such cultivars going beyond the one year limitation to qualify for plant patents can yield only the profit from the originators' exploitation of its cultivars to its customers.

On the other hand, hybridizers who practice the fine art of plant breeding with definite objectives may consider the route of plant patents whereby the originators can participate in royalties paid by commercial licensed propagators. This in no way prohibits the participation of the dissemination of the same new cultivars to the very small numbers of people in the Begonia Society.

Many commercial firms having their own professional staffs of plant breeders and geneticists do not hesitate to cooperate with individuals hybridizing as a hobby using the same art and finesse of the professionals.

One such firm is Mikkelsens Inc. of Ashtabula, Ohio. The now famous Rieger Elatior Begonias were commercialized with the protection of patents in the U.S.A. by that firm. More recently the rhizomatous begonias 'Tiger Kitten' and 'Roulette', hybridized by Leslie Woodriff, have received patents, commercial recognition, and usage through Mikkelsens Inc. A new begonia development by Woodriff, to be called 'Leprechaun', will be introduced to growers later this summer. New European kalanchoes have also been introduced to North American growers by Mikkelsens Inc. That firm now holds the rights to 80 or more plant patents issued or pending. J. C. Mikkelsen, hybridizing as a hobby, introduced the first long lasting poinsettia which he named in honor of his father, Paul Mikkelsen. He also hybridized the First Lady Series of geraniums and several chrysanthemums that received world wide recognition.

The general procedure at Mikkelsens Inc. is to handle all the details and pay the costs of obtaining patents, developing trade marks and

labels, formulating propagation licenses and the distribution to propagators and commercial growers. For this service Mikkelsens Inc. asks for the licensed rights to trial or test new cultivars before dissemination. If it is determined that the new cultivar is worthy of a patent and commercialization, then Mikkelsens Inc. has the first option to the exclusive rights of dissemination and participation in the royalty scheme.

Probably many members of the Begonia Society have never realized that such services exist. Rightfully so, because the concept developed by Mikkelsens originated with the development of the poinsettia licensing system. It has since been expanded to other areas and to other firms. Mikkelsens offers this type of service to individuals who desire the potential of some financial remuneration and broader recognition for their efforts in producing a new plant of distinction.

There is no reason why the hobby of hybridizing begonias can not have the potential of being profitable as well as satisfying.

*Any new cultivar that has been commercialized in the U.S.A. for one year cannot be patented. A hybridizer may test, display, describe a new cultivar indefinitely as long as said cultivar is not sold or commercialized in any way by the inventor for more than 364 days, and maintain the rights to patent. However, from a practical aspect, the longer the inventor waits to patent, the greater risk he runs of being "pirated" of his invention.

A MOBILE HOME GARDEN

By Francis Lally, Jr., Wilmington, Delaware

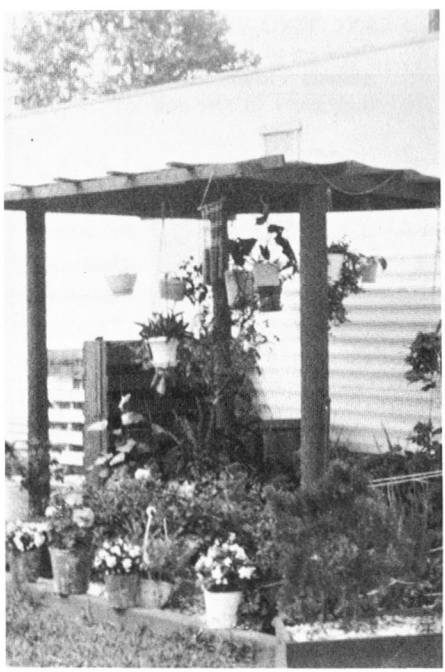
I live in a mobile home so my space is limited. The area is about 8 by 8 feet. I laid a sheet of plastic over the ground to prevent the grass from growing, and covered it with about four inches of white gravel. Everything is planted in containers. Two of these are actually wooden pallets, lined with plastic sheeting, and planted with lettuce, tomatoes and cucumbers.

The pool is a children's wading pool. It soon filled with mosquito wigglers, so I bought goldfish to eat them. This worked fine. Around the edges of the pool I used the container plants and constantly shifted them as they grew and bloomed. The cane begonia, my pride and joy, had three large clusters of blooms.

When cold weather set in, I moved all of my plants, along with many cuttings and slips into a metal shed that I covered with clear fiberglass, so I could use it for a greenhouse. I used an oldtime kerosene heater and all went well until one night when the heater failed and all my plants froze.

An odd thing happened. When the plants froze, the water in the plastic bucket where I kept the goldfish froze solid. When it thawed, one fish floated to the top, and I assumed that all were dead. I dumped the bucket around my rose bush. A large fish flopped around merrily and this survivor is still living today.

I will have to start over again. Of course, there is a great deal of joy in starting new plants, but I treasured some of the older ones.



"MOON OVER MIAMI"

The Eastern Regional Begonia Convention & Show, 1978

Florida, the land of the Everglades, was only a century ago a land of palmetto swamp with sandy beaches, bordered on the east by the beautiful Atlantic Ocean and the blue Gulf of Mexico on the west. This is one of the fastest growing areas in the U.S.

A large portion of the Everglades is still unspoiled by man. A large percentage of the Southern Coast has been set aside as the Everglades National Park. It is here that numerous Seminole Indians make their homes. They live very much as their ancestors did in their chickees. These are made with a thatched roof of palm fronds. The roof is supported by rough timbers and all four sides are open. Furnishings are of natural materials and along the Tamiami Trail there are many Seminole Villages to be seen. In these vast and silent Everglades one may see egrets, ibises, white and blue herons, and swallowtail kites. It is not unusual to glimpse a shy possum, a racoon or otter. One will see orchids and bromeliads in the hardwood trees. In the water or along the shore, you will find rolling tarpon, a lumbering sea cow, and alligators. For the shell enthusiast, the unspoiled beauty of the Cape Sable shoreline is a rare treat.

Moving east from the Everglades is the city of Miami with its beautiful Biscayne Bay, a shallow sub-tropical lagoon with warm temperatures most of the year. It is a habitat of at least 512 fish species.

Off Brickell Ave. is a large estate, a remnant of the original coastal hummock. Vegetation has been preserved at Simpson Park. This is where the Miami Branch meets.

The beauty and lush glamour of Miami will be our Convention home for 1978. The Miami Branch will host the Eastern Regional Begonia Convention & Show, April 16-17-18, 1978. You are all invited to come to the Sunshine State and the Fun and Sun Capital of the World, Miami.

ORCHID CONGRESS

A four part orchid celebration will be held in Boston November 3-6, 1977. The 22nd Annual Eastern Orchid Congress will be hosted by the Massachusetts Orchid Society, which will in turn, stage its Fourth Annual Orchid Show and mark its Silver Jubilee. On this occasion, special tribute will be paid to Gordon Dillon, who retires this year as Executive Director of the American Orchid Society. Mr. Dillon is a botanical illustrator on the staff of the Botanical Museum at Harvard University.

The Congress will be held at the Boston Sheraton Hotel. In addition to a lavish show of plants, there will be tours of famous local greenhouses, a visitation at the Boston Horticultural Society Library, special orchid seminars by horticulturists, open seminars and meetings with Boston's well known authors and growers, plus the testimonial banquet.

Additional information and reservation forms should be obtained from Mrs. Lucille Hesse, 6 Sargent Rd., Winchester, MA 01890.

CAPILLARY IRRIGATION

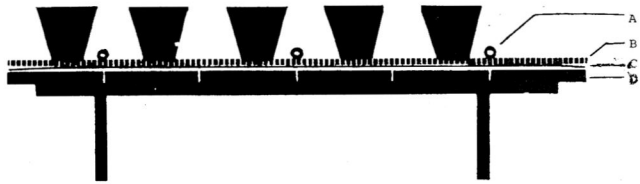


Figure 1. A cross-section of a capillary bench. Legend: A - irrigation system; B - substrate or capillary mat; C - 1 1/2-mil black polyethylene; and D - bench.

Capillary watering is a method of crop irrigation which has proven successful for many growers. Capillary watering is commonly used in Europe and is now gaining popularity in the United States. In principle, this system is simple and offers many advantages for wholesale flower and nursery producers, retail growers and retailers of potted or containerized plants.

What comprises a capillary bench? A capillary bench is nothing more than a level bench on which 1½ mil black plastic (polyethylene) is placed. Next a substrate such as sand, fiberglass, Vatex-P, or similar material which allows water to move by capillary action, is placed on the polyethylene. An irrigation system (Chapin pot watering, Chapin twin hose or Dupont Via-Flo) is placed on the substrate. A schematic of the components of a capillary is shown in the figure. Containers with holes in the bottom are placed directly on the substrate, and watered from overhead if the substrate is kept saturated.

Frequency of irrigating the substrate is dependent on the irrigation system and the type of substrate used. When using the Chapin systems, solenoid valves and time clocks are necessary. The frequency may vary from greenhouse to greenhouse due to a number of variables. The Dupont system is designed to be on continuously, and here a gate valve is the only control necessary. Whatever system is used, be sure to keep the substrate saturated with water.

The above paragraphs appeared in *Washline,* publication of the Washington Floricultural Association, Puyallup, WA.

JUDGING SEMINAR

Bring your entries to exhibit at the Rochester Seminar and Begonia Show to be held in Rochester, New York on September 15, 16, and 17 at the Holiday Inn. This is a fine chance to display begonias, to learn how the plants you have grown are classified, and perhaps to win a blue ribbon as well. Entries will be accepted Thursday from 2 to 9 p.m. Mildred and Ed Thompson will conduct the seminar. Mrs. Eileen Franklin, 406 Bittersweet Lane, Webster, N.Y. 14580, is conference chairman.

CAPILLARY WATERING

By Wally Wagner, Silverton, Oregon

For the past three months we at Evergreen Gardens, Silverton, Oregon, have been using a capillary system for our 4" begonias, numbering in the thousands. We have been using Troy Flo-Thru moisturizing mats with Viaflo porous plastic tubing supplying the water to the mat. We are using 4 ft. wide by 150 ft. long, 9 oz. Troy mats. The mats are placed over polyethylene placed on the benches as shown.

Since I have always heard that begonias like to dry out between waterings I was apprehensive about a system that kept the soil constantly moist. We have our Windowsill® Begonias, rex begonias, and semperflorens begonias on the mats. All are doing great. We did remove the semi-tuberous because of a problem with mildew, a problem which may or may not be related to the constant moisture.

Three months isn't very conclusive proof so we will try to report later on the effectiveness of the system.

THE PLANT STORY

By Elizabeth Cote

Are you concerned about the water shortage? Among the many relevant reasons why you may be perplexed over how to distribute your limited supply of water, dismay for the health of your house plants is probably far from last on your list. Mr. David Frattalone, the owner of Plant-It-Earth, and an instructor at Long Beach City College in House Plants and their care, offers his students and you a suggestion that just may help you out of your difficult situation.

In your efforts to conserve as much water as possible while still adequately watering your house plants, why not utilize the water from your toilet? A new idea? New as it may be to you, it certainly is not farfetched. The water in your toilet is perfectly suited for such a use; not only have the harmful chemicals, such as the chloride compounds, been evaporated, but the water is also at room-temperature already — two assets which, as Mr. Frattalone assures us, necessarily make your toilet water perfectly safe and even beneficial for your house plants.

Provided no commercial chemical coloring has been put in the tank, the toilet water is perhaps the safest as well as most convenient solution to the dilemma. Certainly, no water will be used that would not inevitably be consumed for other purposes. Even if there are numerous plants in your house or apartment, Mr. Frattalone points out that you can water them at intervals, using each new tank of water to care for a few of your house plants.

Mr. Frattalone leaves it to his students, and to you, to decide how concerned you are about your plant's nitrogen supply and accordingly to utilize the water before or after its various other uses.

SYMBEGONIA FULVO-VILLOSA?

By John Scott, Victoria, Australia
Photograph opposite by the author

This *Symbegonia,* although under the above name, appears to be very similar to the one shown on the cover of the *Begonian,* June 1971 and which Dr. Doorenbos of the Agricultural University of Wageningen, the Netherlands, has noted as unidentified, so there may be some doubt as to its correctness. The plant has not yet flowered, so we cannot compare the flowers.

In the article accompanying the earlier photo referred to above, *Symbegonia fulvo-villosa* was described as in *Curtis's Botanical Magazine,* Vol. 137. The description gave the leaves as follows —

"Leaves lanceolate oblong, acute, very unequal at the base and strongly auriculate on one side, 2½ to 2¾ in. long, 1¼ in. wide, deeply serrate, green, shining and finely punctulate above, finely and sparingly pubescent on the sunken nerves, but elsewhere glabrous, more or less tinged with red beneath and with prominent hispidulous nerves, the fine reticulations hardly visible and the mesophyll closely white punctuate."

Again quoting from Dr. Doorenbos's article — "Ridley pointed out that it does not tally with the description of this species and suggested that it was *Symbegonia mooreeana* Irmsch. However, it also differs from this species in several respects. Apparently it disappeared from cultivation long ago."

Still quoting from this article — "The present *Symbegonia* is easy to grow and very ornamental with its white-edged leaves.

"Unfortunately, it appears to be shy flowering and it seems unlikely that we shall soon be able to distribute seed. Nevertheless it seems worthwhile to report on this plant, as it may well be the only *Symbegonia* cultivated at present."

(Continued on Page 248)

BEGONIA 'CATHEDRAL'

By John Scott, Victoria, Australia
Photograph opposite by William Behrends

Begonia 'Cathedral' — it goes by that name here and I have also heard it called 'Cathedral Windows'. This is quite an apt title. As shown in the photograph, it does have the appearance of stained glass windows. It was very popular here, 10-15 years ago, but I've not seen many plants around in recent years. I think it due to the fact that just about anyone who grew begonias had it. I had it for several years and, due to neglect, lost it. After seeing that it won the trophy as the best begonia in the 1975 National Convention and Show, grown by Jean Pasko, I have managed to get another plant and, whilst I have no aspirations on my ability to grow a plant like Jean Pasko's, at least her prize winner has spurred me on to try and grow a nice plant.


SYMBEGONIA
FULVO-VILLOSA

The leaves of our plant are a deep red in their early stage, changing to green as they mature.

The cover photo of the *Begonian,* May 1974, submitted by Dr. Doorenbos, shows the female flowers of the *Symbegonia,* particularly well. This is probably *Sym. sanguinea* Warb.

I first became interested in these plants after seeing some in the Melbourne Botanic Gardens. On mentioning it in the International Robin, Carrie Karegeannes, then Round Robin Director, picked it up and asked me for more information.

At that time there were three species labelled NG No. 1, NG No. 2, and NG No. 3, all in very poor condition, in fact, only just surviving. One did pass out and the other two were removed to a more humid situation. The one photographed improved considerably and was named as *S. fulvo-villosa.* The other one has remained very small, making very little growth. Its leaves are like a pale green *B. foliosa* but of course, as it has not flowered, it cannot be definitely indentified as a *Symbegonia.* It has been tried in the close atmosphere of a propagator with little improvement.

The "fulvo-villosa" has been tried on the floor of the tropical house, where it is at present, with some success but certainly does not appear to be an easy plant. It drops its leaves in winter and takes some time to recover in the spring, and unless cut back, becomes a leggy plant. On a recent visit to the Nursery, I noticed six small rooted cuttings and the intention is to try them in different locations. So far, none of these plants have flowered.

Some time ago, I wrote to Mr. Womersley then at the Department of Botany, Lae, Papua, New Guinea, for information on these plants and had a reply as follows — "*Symbegonia* are usually found from 5,000 feet upwards. They are delicate little plants of semi-shaded creek banks, usually growing close to water and where there is fairly regular water run-off. Another habitat is alongside walking tracks in light undergrowth where there is broken sunlight and ample water.

"We find them impossible to keep alive on the coast but they transfer very readily to shaded gardens in our high altitudes.

"There are some very fine plants growing in mixed foliage beds, ranging from vivid light green to dull red and the flowers are white through shades of pink. The leaves are about one inch in length and up to one inch across at the widest part.

"This genus has some 12 species, all native to New Guinea.

"Our experience indicates that the supposed species are very closely related and may not be distinct. No detailed study has been made of the species of this genus." (The later note was also published previously in the *Begonian.*)

The photo on the first page of June 1971, listed as donor unknown, is another view of the same plant that you are now publishing and also my photo.

Ed. note: see Research Report on page 256.

BEGONIA HYBRIDS

Belva Kusler will be speaker at the Houston Branch meeting, October 17, at the Houston Garden Center, 150 Herman Dr., at 1:00.

ROUND ROBIN NOTES

By Mabel Corwin, Round Robin Director

B. 'Exotica'

Several of the robins have been discussing *B. 'Exotica'*. Most growers find it difficult. Several people have reported that when they take a cutting the whole plant dies. If the plant does well it quickly grows too tall for an ordinary terrarium. Dorcas Resleff, Washington, solved this problem by cutting 4 lengths of old window glass 8″ by 24″ (with her husband's help) and gluing and taping them together to make a tall terrarium. Hazel Snodgrass, California, says the best way to have a full plant of *B.* 'Exotica' is to take a crown cutting.

Hanging baskets

Hazel also made a good suggestion regarding hanging baskets. She suggests growing schizanthus plants from seed and putting them in baskets with tall growing tuberous begonias, or other plants that grow upright. They make a beautiful contrast with their many blooms.

Exotic species

Art Sackenruther, California, feels that *B. versicolor* and *B. rajah* like cooler temperatures. He grows them in the den where the night temperatures go down into the low 50's.

Prop boxes

Bill Deason, Toronto, Canada, has found a substitute for the plastic shoe boxes that some growers use for propagating. He recycles those gallon jugs used for antifreeze that are square and have a spout at the end. They are 12″ by 4½″. He cuts the top off and fits it back on to keep the moisture in with just enough air to keep it from getting too humid.

Carolyn Collman, Kansas, utilizes styrofoam containers that tropical fish come in for prop boxes. They are sometimes available at aquarium stores free or for a small charge. She uses a clear plastic bag as a cover. Also they are good for carrying plants in the car since they are strong and provide good insulation.

B. carriae

Martin Johnson, California, found *B. carriae* difficult to propagate from leaves. He tried the following method. He trimmed a leaf leaving the center about 3 inches in diameter with a 3 inch stem. He filled a 4 inch pot with perlite, moistened it well, and put the leaf on top of it. He placed it in a shoe box with about an inch of water. The leaf stem sent out roots all over the top of the perlite, and there were several leaf buds developing on the perlite when he wrote.

Propagating

Betty Tillotson, California, suggests when rooting a piece of rhizome to always be sure you have an "eye". She scars the underside of the rhizome with her fingernail and it seems to send out roots better.

Transplanting

Elaine Ransom, Canada, says her favorite tool for transplanting seedlings is a large nail. It is easily replaced if she loses it. Mickey Meyer, Australia, likes to use a small, very thin knife which has a handle, for transplanting seedlings. She likes to transplant early — plants do better than when they are bigger. She uses

a loose soil mix and plants make terrific growth. If the weather is very hot she covers the pots with small 'parfait' glasses of plastic. They transplant beautifully under such conditions.

Hybridizing

The Hybridizing Robins have been comparing notes on their "pollen dabbing". They recommend picking the seed pods as soon as the stem dries. They also suggest planting only part of the available seeds the first time, reserving a few for another attempt in case something happens to the first planting. They all feel the seed germinates better and faster when it is fresh.

I am now serving as Round Robin Director. If you have questions, suggestions, or if you would like to be included in the Round Robins, please write to me.

Mabel Corwin
1119 Loma Vista Way
Vista, CA 92083

CLAYTON M. KELLY SEED FUND

Compiled by Linda Miller

Sp 1 — *B. carrieae*: 1967, Mexico. Lovely hairy-leaved plant. Underside of leaves like felt. Rhizomes freely send out lateral divisions. Parent of many beautiful hybrids ..... per pkt 1.00

Sp 2 — *B. cathcartii*: India. Rhizomatous, with oval, entire, dark green leaves and large, nodding, white flowers ..... per pkt 1.00

Sp 3 — *B. convallariodora*: an elegant upright, shrub-like, loosely-branched plant from 2 to 3 ft. high. Leaves oval, pinnately nerved, up to 6 in. at maturity. Blooms in March with bunches of small, white flowers that some say smell like lily-of-the-valley ..... per pkt .50

Sp 4 — *B.* 'Corallina de Lucerna': vigorous cane, little branched, 6 to 10 ft. tall. Leaves green with some white markings. Coral-red flowers. per pkt .50

Sp 5 — *B. egregia*: 1887, Brazil. A thick-stemmed species, grows 3-4 ft., leaves lanceolate, hairy, large (up to 12 in. long). White flowers in winter through March, in large pendant bunches; the female ones are very fragrant. (See cover) ..... per pkt .50

Sp 5A — Same plant as above, but a triple packet 1.25

Sp 6 — *B. engleri*: 1904, from tropical Africa. Curious, tall, shrub-like plant with red-haired stems; dark green, wide leaves with white hairs; rose-pink blooms on peduncles in spring and summer. Easily grown from seed ..... per pkt .50

Sp 6A — Same plant as above, but a triple packet 1.25

Sp 7 — *B. fenicis*: species from the Philippines. Rhizomatous, with completely smooth oval, green leaves on red petioles, and loose panicles of white flowers ..... per pkt. 1.00

Sp 8 — *B. johnstonii*: Africa, 1844. Tall, loosely branched with pale green leaves and red-spotted stems; few but large, pink flowers. Very special ..... per pkt. .50

Sp 9 — *B.* "macrocarpa": not the African species, but a Brazilian one, probably identical with, or at least closely related to, *B. bradei.* per pkt. 1.00

Sp 10 — *B. maculata*: pretty shrub-like plant with red flowers ...per pkt. .50

Sp 11 — Unidentified Mexican species: Only information we have is that it is from area of Oaxaca, Mexico. See photo .....per pkt .50

Sp 12 — *B. platanifolia*: Cane-like plant with lovely oak-leaf shaped leaves; very nice .....per pkt. 1.00

Sp 13 — *B.* 'Rip Van Winkle': A hybrid plant of *B. carrieae.* Has many characteristics of the parent plant. Hairy leaved, rhizomatous plant. *Remember: hybrids won't come true. Many different plants may come from this seed* .....per pkt .50

Sp 14 — *Sinningia cardinalis* .....per pkt .75

Sp 15 — *Sinningia* 'Dollbaby' .....per pkt .75

Sp 16 — *Streptocarpus cooksonii* .....per pkt .75

Sp 17 — *Manihot*: Commonly called the tapioca tree. Grows from 15-20 ft. tall. Has white flowers on racemes. Dormant in winter. Roots harvested for tapioca .....CLEARANCE 15 seeds .50

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. Failure to do so will cause delay of your order. Mail to: Mrs. Linda Miller, P.O. Box 227, Gardena, Ca 90247.

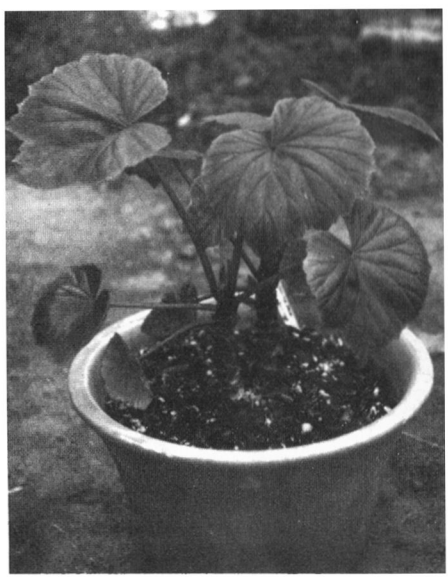
DROUGHT

How to deal with drought is the focus of a series of articles in the Fall issue of *Pacific Horticulture.*

Such UC Berkeley notables as Russell Beatty, department of Landscape Architecture; and Robert D. Raabe, department of Plant Pathology; and Stanford University scientists S. L. Gulmon and H. A. Mooney, cover virtually all aspects.

The Beatty article is concerned with the style of California gardens, Dr. Raabe discusses water conservation in the garden, and the Gulmon-Mooney article concerns the responses of plants to water and its lack.

Single issues may be purchased for $2 from the Pacific Horticultural Foundation, Hall of Flowers, P. O. Box 22609, San Francisco, CA 94122.

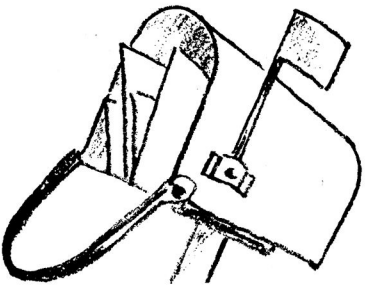


Unidentified Mexican species.
Photo by Pat Maley

Note: Seed Fund listing Jn-2 should have been *B. barrigae,* a Columbian species.

BEGONIA QUESTION BOX

Write to: Elda Haring
Box 236, Flat Rock, NC 28731



Question: In summer I put my begonias on an uncovered patio. I sprayed them for insect pests with malathion and Benlate, and the leaves became streaked with brown. What happened? *Answer:* Never use any kind of sprays on begonias if the sun is shining on them for they are sure to suffer spray damage, particularly if you live where the sun is very strong. Choose a cloudy day or spray after the sun goes down or at a time of day when spray material will dry before the sun strikes the foliage.

Question: How can I tell a male flower from a female flower on plants? *Answer:* Begonias are monoecious, that is they have separate male and female flowers on the same plant, the male flower containing pollen is plain, the female with pistils has a swelling (the ovary or potential seed pod) usually three cornered, just below the petals. Some plants are dioecious, the male flowers appearing on one plant and the female flowers on another. Holly is typical of a dioecious plant. Many flowers are said to be "complete" in that both stamens and pistils are contained within the flower itself. Zinnias and marigolds are examples of "complete" flowers. If you wish to learn more about this fascinating subject, a book titled *Create New Flowers and Plants* by John James is easily understood. It was published by Doubleday & Co. in 1964.

Question: In one of your articles you mention using the slow release fertilizer Mag-Amp in your potting mix and you use it for planting terrariums and bubbles. Won't it release nutrients and create salt build up? *Answer:* I have 18 inch bubbles of both *B. rajah* and *B. versicolor* planted in the mix you mention. They have remained in beautiful condition for two years with no signs of salt damage. According to the distributor, Mag-Amp is characterized by low solubility. The grower can pre-mix it with soil before sterilization and he can be assured of controlled release of nutrients for over a one year period. The mix I use is stored *slightly* moist in a covered garbage can and it sometimes is stored as long as three months before using, with no apparent damage to plants.

Question: A friend gave me a cutting of an angel wing or cane begonia. I potted it, covered with a plastic bag, put in the window, and watered it every Saturday. A leaf grew but it was brown on the edges. The top tends to bend over. Do you think it is a cane begonia? *Answer:* Some canes grow upright while others, unless they are staked, have a tendency to sprawl. If sun shines on

the plastic bag too much heat will be generated which could account for the brown edges. Once rooted and showing new leaves, the plant should be removed from the bag and grown naturally. Keep cane-like begonias slightly moist during the growing season; a little drier when resting in winter.

Question: I have tried to propagate *B.* 'Richard Robinson' from wedges but have not been successful. Do you use this method for leaf cuttings? *Answer*: I, too, have difficulty with leaf wedges of *B.* 'Richard Robinson' but leaf-stem and tip cuttings are always successful.

Question: I water my begonias on Wednesday and Sunday. Some seem too wet yet some are too dry. Why is this? *Answer:* You cannot choose a regular schedule for watering plants. Those in small pots dry out quicker than those in larger sizes. If the plant has been newly potted it likely will need less water than one whose pot has filled with roots. It is better to get into the habit of checking through your collection at least every other day and give water only to those whose soil is *approaching* dryness.

Question: Can I grow *B. evansiana* in a pot indoors? *Answer:* Yes, indeed, *B. grandis* ssp. *evansiana* makes an excellent potted plant. It is a semi-tuberous type. After it blooms, *B. evansiana* shows a need to rest. When most leaves and stems have turned yellow, withhold all water and let it get dry in the pot. Put it in a cool and dimly lighted place until late winter, when it should be brought into light and watered lightly. When new leaves appear repot in fresh mix and grow as before.

Question: I use clay pieces in bottom of clay pots but find it difficult to cover the large side openings of plastic pots. I have used shredded sphagnum but feel this causes a drainage problem. Holes are too large for gravel. What do you suggest? *Answer:* I use a piece of cleansing tissue or paper towel in bottom of pot letting edges cover the holes. Under my growing conditions this does not cause a drainage problem and by the time the paper has rotted, pots are usually filled with roots.

Question: I am having trouble with *B.* 'Silver Jewel'. It grows new leaves but the edges turn brown. I have it in the greenhouse and have tried it at all levels but the condition prevails. *Answer:* Brown edges of leaves usually indicates a low humidity level. *B.* 'Silver Jewel' likes the coolest, most dimly lighted spot in my greenhouse. It does not need sun nor does it thrive in warm, dry air.

Question: What do they mean when they say a potting mix should be well drained. *Answer:* Your potting mix should be light and very porous. If when you water a plant the water stands on the surface for some time before penetrating the soil it is poorly drained. You need to add such materials as perlite and vermiculite to your potting mix to lighten it.

See articles on soil porosity, *Begonian* 1977:36-39.

REGISTRATION OF BEGONIA CULTIVARS

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

No. 576 — Begonia (B. 'Cleopatra' X B. conchifolia 'Zip') 'Marguerite Horn'

This rhizomatous begonia has bright, medium-green leaves with dark edging and bright red center spot, sub peltate, 4 x 3″; margin lightly hairy; texture smooth; 9-nerved; 8″ petioles. Developed in 1973 by Bob A. Cole, 18007 Topham St., Reseda, CA 91335, the plant has not yet bloomed. Registered Dec. 1, 1976.

No. 577 — Begonia (B. conchifolia 'Zip' X B. 'Bow Nigra') 'Charles Rick'

Bob A. Cole, address above, developed this rhizomatous begonia in 1973; it first bloomed in 1975 and was first distributed in 1976; name first published Dec. 1976 in *the Begonian.* Leaves are peltate with red center dot, bright green body with black flecks and spots, heavy black blotched edge, 2½ X 4″; margin lobed, ciliate; texture shiny, smooth, thick; 8-9 nerved; petioles 6-8″; stipules ¼″. Flowers with darker flecking, ½-¾″, on 7-10″ flower stem; blooms December to February. Registered December 24, 1976.

No. 578 — Begonia (B. unknown X B. unknown) 'Terranora'

Seed of this rhizomatous begonia was from a pod picked up from a bench by Mrs. Mickey Meyer, 16 Yuppara St., Tathra — 2550, Australia; planted in 1974, it first bloomed in 1975 and was first distributed in 1976; described as an eye-catching begonia, truly exotic. The leaves spread out in all directions and drop slightly, being black and greeny-yellow all over; six starred, more wide than long, 4 X 5½″; margin sparsely serrated and eyelashed; texture crisp, open appearance; six-nerved. Flowers spring and summer; snowy florets, small, arranged in a wide spread on 5-6″ flower stem. Registered April 7, 1977.

No. 579 — Begonia (B. 'Sir Percy' X unknown) 'Galong'

This exotic rhizomatous begonia has green and silver leaves with red zig-zags; 5-starred, overlapping at stem; 5 X 6″; margin sparsely serrated; texture crisp; 5-nerved. It was developed in 1974 by Mrs. Mickey Meyer, address above; it first bloomed in 1975 and was first distributed in 1976. Flowers are creamy white, arranged sparsely above the plant on 7-8″ stems, spring and summer. Registered April 7, 1977.

No. 580 — Begonia (B. 'Fuscomaculata' X unknown) 'Karinga'

This attractive plant, originated by Mrs. Mickey Meyer, address above, is suggestive of a tropical forest with dappling sunspots and shadows, according to the developer. Of rhizomatous growth, the plant has light green leaves with wide reddish edges; 7-starred, deeply cut; 5 X 6″; margin semi-serrated; texture crisp; seven-veined; has not bloomed. Developed

1974, first bloomed 1975, and first distributed 1977. Registered April 7, 1977.

No. 581 — Begonia (B. unknown X unknown) 'Tiger Kitten'

This rhizomatous begonia was developed in 1973 by The Woodriffs, 1100 Griffith Rd., McKinleyville, CA 95521, and first bloomed in spring 1974, but has not yet been distributed; it bears U. S. Plant Patent No. 3968, Oct. 26, 1976. The small leaves, under 3″ are lime with dark brown veining; margin is cut; texture smooth; 5 nerves. Flowers are light pink, ¾″, having two petals on males, and five on females, arranged in clusters above foliage on 8-12″ stems, in spring. Adapted to a wide range of conditions, the plant shows resistence to mildew and is a fast grower. Registered April 10, 1977.

No. 582 — Begonia (B. 'Lillian Steinhouse' X B. 'Little Joe') 'Steve Balcom'

A compact-type, miniature rhizomatous begonia, this plant was originated in 1975 by Paul P. Lowe, Mount Vernon Springs, N. C., 27345; it first bloomed and was distributed in 1977. The leaves are jet black with splashes of apple green between veins; underside blood red along veins; shape is roughly oval with shallow indentations; 4 cm X 8 cm; margin eyelashed, texture silky; has seven green veins, hairy petioles spotted red, and green 5 mm stipules. Flowers in spring, light pink, speckled red on reverse; two petals 1 cm, arranged in single flowers on short stems, about 12 cm flower stem. Registered May 5, 1977.

No. 583 — Begonia (B. 'Big Red Jr.' X B. 'Sir Edwin Hodgins') 'Calico Pussycat'

This rex begonia was originated by Bob Cole, The Plant Shop Botanical Garden, 18007 Topham St., Reseda, CA 91335, in 1973, and first bloomed and was distributed in 1977. Leaves are a double swirl, light green with silver band around center and scattered silver specks; 7½ X 10″, margin lightly lobed; texture hairy, bumpy; nerves 6; petioles 7″, heavily hairy. Flowers pink, 1 X ¾″, on 7-9″ flower stem. Registered June 1, 1977.

No. 584 — Begonia (B. 'Big Red Jr.' X B. 'Sir Edwin Hodgins') 'Falling Star'.

The markings of this rex begonia distinguish it; leaves are blackish-green with a silver streak, an angel-

wing swirl; 8½ X 5½"; margin lightly crested; 7-nerved; petioles 6"; has not bloomed. (Originated in 1973 and first distributed by Bob Cole, address above, in 1977.) Registered June 1, 1977.

No. 585 — Begonia (B. macdougallii cv. 'Purpurea' X B. 'Ona Mae') 'Lizzy Pearl'

Distributed and first bloomed in 1977, this rhizomatous plant was originated in 1972 by Bob Cole, address above; its distinctive foliage is shiny green with the red blotching underside showing through in maturity; maple-leaf-shaped, lobed; 4¾ X 6" leaves; margin ciliate and serrate; texture puckered with fine hair; nerves 6, red-brown; petioles 6", red-brown, hairy; green stipules, ¾ X ¾". Flowers white, ½ X ⅞", flower stem 5". Registered June 1, 1977.

RESEARCH REPORT

By Carleton L'Hommedieu, Research Director

Since the last report in the *Begonian,* May 1977, donations to the Fund have been received from the following branches:

Connecticut Branch, April 2	$50.00
Monterey Bay Area Branch, May 25	25.00
Potomac Branch, May 25	10.00
Tampa Bay Area, May 25	50.00
Redondo Area Branch, June 4	25.00
Whittier Branch ,June 11	25.00
Seed Fund, March, April, May, June	202.79
Total Receipts	$387.79
Balance on hand, March 28, 1977	591.55
	979.34
Interest	4.67
	984.01
Disbursements, N. Y. Botanical Garden Library	500.00
Balance on hand, July 15, 1977	$484.01

The researching of the cultivar Begonia material has been completed. The student is now consolidating the material according to the format used for the registered cultivar catalog.

We hope to receive additional donations to the Research Fund so that we will be able to assist Mr. Scott Hoover on his expedition to New Guinea in search of new species in that area. Here, there are many different species and is the only location of the genus *Symbegonia.* This field trip will allow Scott Hoover to collect seed from many species that have dried fruit, which would be distributed to the Seed Fund, Mr. Ziesenhenne and Logee's Greenhouses. He also plans to send cuttings to Mr. Ziesenhenne. There are a number of other possibilities available to him which will help the Begonia Society such as photographing *Begonia* and *Symbegonia* in their natural habitat, collecting pressed specimens and writing reports in the *Begonian.* The trip is planned for December 1977 to March 1978 and will probably cost about $3,000.00

We were able to give Scott Hoover a grant of $400.00 for his trip to Columbia in 1973. He would be grateful for a grant similar to this but I hope we will be able to give him more. Considering the total cost of the trip, this is only a small part for which we are asked to assist him.

MINUTES OF THE REGULAR MEETING OF THE BOARD OF DIRECTORS OF THE AMERICAN BEGONIA SOCIETY JULY 25, 1977

The meeting was called to order at 7:45 p.m. with the flag salute in the South Gate Auditorium. Ralph Corwin gave the Aims and Purposes. The secretary read the minutes of the last meeting, and they were approved.

Treasurer Gil Estrada, reported an opening balance of $2,636.76, receipts of $2,352.19, disbursements of $2,680.72, leaving a balance of $2,308.23. He also reported that the Society is exempt from the State Franchise or income tax under the Taxation Code. Also donors can have deductions under this ruling, for tax purposes.

Margaret Ziesenhenne stated that the finance committee would have to meet to consider the need of reports from branches and various departments having money in order to keep this classification.

First Vice President Nathan Randall reported he had visited three branches during the month. Also, he is making more progress on a new speakers list.

Ralph Corwin stated the work on revisions of the Constitution and By-Laws is under way. Copies of the propositions will be available at the coming Show and Convention so members can review them before the annual meeting.

The Editors reported that Linda Miller had requested the reprinting of the two articles that were in the **Begonian** on growing begonias. The cost would be about $150.00. No decision was made. Phyllis said the questionaires are coming in and the results will soon be in the magazine.

Mabel Corwin gave the advertising managers report. Receipts for June were $517.25; the total amount received from Sept. '76 to June '77 were $3,277.75. The new manager will be taking over this month. Mabel also gave the Round Robin report, stating that Debi Miller still has the office until the Convention.

Judging Course Director, Marge Lee, reported four courses sold and several point scoring books. Receipts of $50.70, expenses of $41.54, leaving a balance of $9.16. Lessons are coming in very well.

The seed fund report was read by the secretary; there were sales of $263.74, expenses of $13.00, leaving a balance of $250.74.

Bill Walton said he had been mailing and delivering stationery.

Membership report showed 108 new members. Total receipts of $1,512.00. There are 4,202 members in good standing at this time. There were several comments about the receiving of the magazine by members.

Rudy Ziesenhenne reported he had over 600 cultivars registered now.

Thelma O'Reilly asked for permission to have Cultural Award certificates printed. Marge Lee moved that $120.00 be paid to have new certificates made (500). Passed.

Pearl Benell read the Research Director's report. The Editorial committee will send a decision to Mr. L'Hommedieu about the format of the book the Research Department is producing.

Doug Frost reported that everyone is busy on the Show plans.

Under new business, Pres. Richardson asked for volunteers to replace Lydia Austin who is resigning Sept. 1st as Librarian. He would like to divide the office to make it easier. Also, he would like to have a corresponding secretary. The membership secretary asked for a $35.00 a month increase for the new year. Rudy Ziesenhenne moved that the agreement be renewed for a year from $270.00 to $310.00 base pay per month. Passed. It was agreed that Kandid Litho be retained as printer for another year.

Michael Kartuz was appointed to the Awards committee.

The secretary presented the charter of the Desert Begonia Society of Tucson, Arizona. The new Branch was accepted with pleasure. The Board requested that the Branch change the date of their year ending so that it coincides with the fiscal year of the National Society.

Thelma O'Reilly moved, 2nd by Walter Barnett that the commercial hybridizer be given an award of distinction and a trophy be given to the grower, retroactive to 1974. Passed.

The Board approved the renewal of the advertising in the "Under Glass" magazine.

The secretary read a letter from a Florida prisoner requesting seeds, cuttings, and the **Begonian** without charge. It was decided to refer the letter to one of the Florida Branches for them to take action on it, since we would have some difficulty sending cuttings.

After some discussion, it was decided there would be an official Board meeting after the last seminar Friday evening, September 2nd, with the time to be announced at the Show.

The meeting adjourned after some interesting Branch reports.

Virginia J. Barnett, secretary

Under the present ruling, gifts and donations to branches are not deductible for income tax purposes. A further ruling will be sought.

G. A. Estrada, Treasurer

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, Lorraine Frinchaboy.

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

Bolduc's Greenhill Nursery—Exotic and hardy ferns. Send self-addressed stamped envelope for list. 2131 Vallejo Street, St. Helena, CA 94574

Plant Workshop. Begonias, gesneriads, foliage plants. Send 13¢ stamp for descriptive catalog of over 100 varieties. Rt. 4, Box 10, Everett, PA 15537.

Rhizomatous Begonias, miniature African Violets, Episcias, Columneas, miniature Sinningias and unusual houseplants. List 35¢. Bombadils, 2126B E. Locust, Milwaukee, WI 53211. (414) 332-6260.

The Plant Shop's Botanical Gardens
Visitors welcome Wed. thru Sun. 10-6
18007 Topham St., B,
Reseda, CA 91335. (213) 881-4831

BEGONIAS. Featuring Wally Wagner hybrids, gesneriads, miniatures for light gardens. List 35¢ Pat Morrison/Jim Heffner, 5305 S.W. Hamilton St., Portland, OR 97221.

The Good, The Rare and The Beautiful in begonias. Rex, rhizomatous, cane and shrubs. 25¢ for list. Visitors welcome. Lera's Greenhouse, P.O. Bx 948, Porter, TX 77365 (713) 354-3567.

BEGONIAS, Popular varieties, new hybrids, 300 kinds. 20¢ cash or stamp for list. Rainbow Begonia Gardens, Box 991, Westminster, CA 92683

The Thompson Begonia Guide, second edition. Three Volumes; 975 pages; over 750 black and white photos; and many line drawings. Volumes may be purchased separately but subscription to entire three volumes is required. To order and for further information write E. & M. Thompson, P. O. Drawer PP, Southampton, N.Y. 11968.

SECOND CLASS MAIL
American Begonia Society
8302 Kittyhawk Avenue
Los Angeles, California 90045

Return Postage Guaranteed