The BEGONIAN

Devoted to the Sheltered Gardens

Begonia Limminghei Ed. Pynaert

By

ALICE M. CLARK

San Diego, Calif.

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FIFTEEN CENTS

The BEGONIAN

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GROWING BEGONIAS IN AN APARTMENT

By Louis J. Kuester
319 East 197th St.
New York 58, N. Y.

My interest in the cultivation of ornamental plants began about 25 years ago. In the fall of 1936 I left the suburbs where I had lived for about 15 years and moved to a New York City apartment. This change brought all my gardening activities to an end. After becoming acclimated to the new surroundings I acquired a few wax begonias, a pot of ivy and three or four exhausted bedding geraniums and was off on another adventure, the growing of house plants.

Today I have about 150 plants, including orchids, maidenhair ferns, bromeliads, choice geraniums and about 65 varieties of begonias. Of this collection the begonias are my favorites. Having tried many other plants, I am convinced that the begonia is the best all around houseplant that one can have.

The three cultural methods of housing begonias, outdoors under lath or cloth, in greenhouses or in the home offer about equal protection against wind and storm. However, the amount of control one has over the environmental elements such as humidity, light and temperature varies in each particular case.

As most people know, conditions as found in the average home, especially in a large city like New York, are the least favorable to the growing of most plants. Dry air, poor light and high temperature being the principal handicaps of good growth.

Having long ago determined to grow better plants and more varieties, I started experimenting with many cultural ideas that are offered from time to time, in horticultural literature. By adopting and modifying some of them, I found that the humidity could be increased and more light could be had particularly in the darker parts of a room.

During the winter when the steam heat is being used, the temperature presents a problem, difficult to control. Judicious ventilation reduces the fluctuation somewhat, and by this means I manage to keep it at a reasonable level.

In my home, about five gallons of water are evaporated during an average day, mostly from large trays filled with water and pebbles that completely cover three large seven foot window sills and a four foot steam radiator. Humidity gauges register about 45 per cent relative humidity during the dryest days of winter, and at other times 50 to 80 per cent, depending upon the room temperature and the outdoor humidity.

My plants receive the normal amount of spraying with water, and this spraying together with the transpiration from many plants, increases the humidity.

Without this provision for supplying moisture the air in the average apartment would contain a relative humidity of 15 to 20 per cent. A few small saucers of moist pebbles under potted plants does not furnish enough moisture, as there is not enough water surface exposed to the air.

The use of humidity gauges I highly recommend. They are, so far as I know, the only way of knowing fairly accurately the amount of humidity that the air contains. I use the wet and dry bulb thermometer as it is more dependable than the dial type. It costs about five dollars. They can be homemade however, for just the cost of two thermometers. Mount these side by side, about two inches apart, and tie one end of a wick over one bulb. By suspending a small bottle filled with distilled water and inserting the other end of the wick into the water, this bulb will be constantly moist. Any book on physics will explain the method of reading such a device.

The Wardian case (4 ft. long, 3 ft high and 2 ft. wide) shown in the accompanying illustration is used for plants requiring high humidity, 75 to 90 per cent. As will be seen it houses rex begonias, orchids, maidenhair ferns, etc., and is also used for propagation. The fluorescent light fixture, shown above the Wardian case provides more light. The case receives daylight, but not enough to grow the shade plants it contains.

Most begonias in their native habitats grow in shade. However the canopy of trees and other vegetation allows filtered sunlight to reach these plants. A friend of mine who has for a number of years collected and observed begonias growing wild in the tropics assured me that this is definitely so. The light is quite different from the light found in the average room.

It is my observation that begonias do best of all in properly managed and constructed lath houses where filtered sunlight can be secured. The light and air are also better in the country, where most lath houses would be located, than in the city. For those who have garden space, the lath house is the best place to "summer" begonias.

You can do very little about the kind of light present in a room, but you can increase

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the intensity, by supplementing what daylight you have with artificial illumination. Though artificial light is by no means the equal of sunlight, I have found that it does help grow plants. I use fluorescent instead of incandescent lighting because it generates less heat and costs less to operate.

The use of all these material aids to culture will not substitute for some of the personal qualifications possessed by all skillful gardeners, be they amateur or professional.

A genuine love for plants, an absorbing interest in growing and studying them and the willingness to give the time and care necessary is the first step to success in growing. Thus equipped, one can not fail to acquire eventually the "know how" and the judgement that is so often demonstrated by good growers everywhere. For, after all, horticulture is an art as well as a science—and the intelligent application of principles, scientific or otherwise, will bring fruit to your practice. As in any other field of human endeavor you will get "out of it" only so much as you are willing to "put into it."

My cultural routine, watering, propagating, potting, feeding and so forth—is standard, about the same as other folks practice, and have written about in "The Begonian." I therefore have no magic to offer along this line, but must confess, that my practice is in a state of flux as I'm inclined to experiment and accept suggestions and ideas that other growers give so generously from time to time.

Like every other grower I entertain some personal opinions about growing plants, that are almost convictions at times. Often, they prove satisfying to me, particularly when I'm faced with a problem that seems difficult of solution.

I believe most newly acquired houseplants will suffer a definite check in growth, while becoming acclimated to new surroundings, but those with vigorous constitutions are the most likely to survive.

I believe that many failures generally attributed to faulty culture are really the result of trying to grow from poor stock. Inferior strains will not produce good plants and no plant is better than its root system.

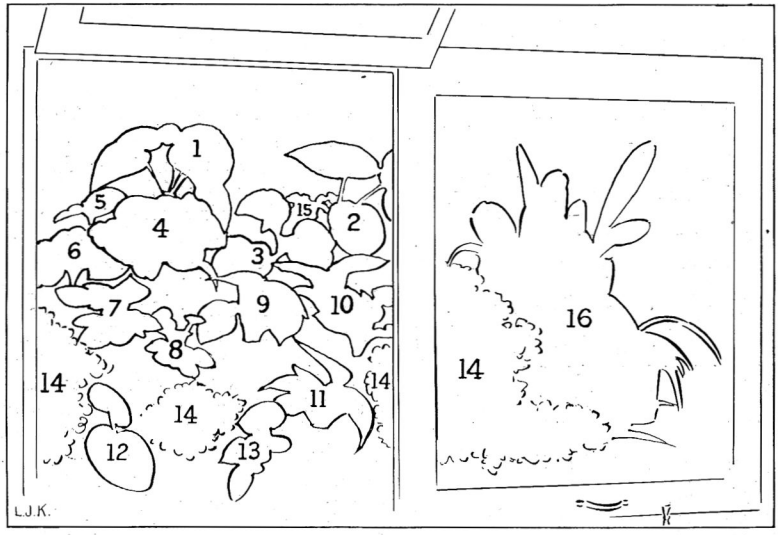
To a begonia, soil is not as important as environment. Atmospheric pressure and atmospheric gasses are often limiting factors and the reason perhaps, why we have so-called difficult plants to grow.

Watering is an art and is unteachable.

I believe man knows less about the needs of plant life than he knows about other matters, and this lack of knowledge is why you and I sometimes fail with the hard-to-grow

HIGH HUMIDITY GROUP IN WARDIAN CASE

Photo By Darien-Kuester Studio, N. Y.



HIGH HUMIDITY GROUP: 1—Rex Magnifica; 2—Pres. Carnot; 3—Glory of St. Albans; 4—Calico; 5—Fire Flush; 6—It; 7—Bella; 8—Baby Rainbow; 9—Midnight; 10—Silver Sweet; 11—Helen Teupel; 12—Silver Streak; 13—Begonia specie No. C-41; 14—Maidenhair Ferns; 15—Crypthanus zonatus; 16—Orchids.

(Continued Next Page)

specimens. The fact that some one somewhere has successfully grown them, proves that they can be grown.

Though the lovable cathayana, imperialis, or calla begonia choose sometimes not to stay with us as long as we might have wished, I'm sure that the pleasure and beauty they brought us was reward enough for the care and effort we gave them.

The object of my story is to put emphasis on what many advanced begonians already know. For someone has said, that "a truth already known, but freshly stated by another, may be given new life."

Of the many houseplants I have grown, I find begonias the most interesting and satisfactory. In this great group of plants there is sufficient variety to suit all tastes and almost all environments.

MY FUCSHIA FERTILIZING

By Ted Paskeson, San Francisco, California

An article in The Fuchsia Bulletin of April 1943, suggested that members of the society do some experimenting with fertilizers, and I wish to report the following results.

My aim was to win in competition for the best Fucshia baskets at the City Hall Flower Show. With this in mind I started my fertilizing late in March.

Using a 10 gal. container I filled it one-fifth full of chicken manure which is stronger in nitrogen than most other manures. To this I added 1½ lbs. of milorganite and 1 full cup of Ammonium Sulphate, filling the rest of the container with water. The purpose was to stimulate stem and leaf growth. Naturally I was tipping my plants at this time and vigorous stem and leaf growth was the one thing I wanted.

This liquid mixture was stirred each day and applied once a week. By cutting this mixture in half with water, I decided this was the right strength to use. (Note): Let me warn you never to fertilize dry plants. After my plants had been watered and well drained I applied my fertilizer generously, always checking to see that the drainage was good.

During May and June I used fresh cow manure instead of chicken manure. To this I added 1½ lbs. of milorganite and 1 full cup of Superphosphate. At this time I was trying to build root growth as well as stem and leaf.

By July 1st I had very little bloom but my plants were well shaped, with plenty of foliage covering the crown of the baskets and around the sides of the pots. I stopped tipping and made a change in my fertilizer. Now my mixture was one-fifth fresh cow manure, 1½ lbs of Gaviota which had 6 per cent Potash content, ½ lb. of milorganite and 1 full cup of Sulphate of Potash. I needed bud and bloom and I might say I was worried. However, the natural blooming season helped me and I went on fertilizing until August 1st. By this time I had plenty of bud and many blooms were beginning to open. Then I started to lessen up on my fertilizing with some of my plants that seemed advancing too fast. Others not so advanced I continued to fertilize. The last two weeks I stopped fertilizing altogether but kept them well watered as the weather was quite warm right up to show time. I also picked all spent blooms to strengthen the others.

I had only 12 baskets to pick from but managed to exhibit 10 blue ribbon winners. I pass this information on to you, hoping you will have equal success. *(Reprinted by courtesy The American Fuchsia Soc. Bulletin).*

Growing Tuberous Begonias

By Forrest D. Richter, Hammond, Indiana

How would you like to have a lot of nice begonias for your collection or garden this summer? Tuberous, Rex and fibrous begonias are easily grown from seed if you know how to germinate fine begonia seed. There is not much to it, just be careful in a practical way. Many people have said "I do not see how you raise begonias from seed as I do not have any luck with them". It is not luck that produces plants. It requires work, care, and an understanding of the plants you want to raise. We have had many failures because we did not understand what was required to germinate fine seed and why they failed to grow, but we did not give up trying. We now raise many thousand begonia seedlings for the commercial trade, and also raise rare varieties as a hobby. Any of you could duplicate our methods and have good results with seedlings.

For your seed flat prepare a soil mixture of two parts peat, one part loam and one part sand. Put this through a quarter inch mesh screen into the flat or pot. Do not pack or tramp down, but let it be as loose as possible. Level the soil about three-quarters of an inch from the top of the flat for air space. Mix fine sand with your seed, about a teaspoonful of sand to a package of seed. Then be very, very careful to sow as thinly as possible, as you can put a hundred seeds in a space the size of a pea, and the plants will damp off if sown too thickly. Do not cover the seed with soil, as they are very fine and do not need covering. Water carefully and thoroughly with a fine spray. Put the flat where you can maintain at least 75 degree temperature and cover with a clear piece of glass. Check the watering at least three times a day, as one period of dryness means no plants.

In about ten days or a little longer the seed is germinated. Then we start to feed the small begonias, as freguent watering of the surface soil has leached most of the nourishment from the surface. The roots of the small seedlings are on top of the soil, and need plant food where they can get it. We use a half teaspoonful of plant food to a quart of water every three or four days. You can obtain a complete liquid fertilizer from your seed store. When the plants are about ¼ inch high we sift a light covering of dry peat and sand to cover the small roots. At this time we also apply a very *light* dusting of a dry complete fertilizer over the flat. Be sure the plants are dry and carefully wash off any of the fertilizer which may get on the small begonias as it may otherwise burn the leaves. Continue to watch the watering very carefully, keeping the soil well moistened, but do not allow to get soggy.

As soon as the plants are large enough to handle, transplant into a soil mixture the same as in the seed flat, but add a complete fertilizer, 4-12-4. We transplant into flats, spacing the plants about two inches each way, and leave them in the flat until they are ready to pot into a three or four inch pot. After the plants have been transplanted from the seed flat they do not require such intensive feeding.

We have used the same procedure for *gloxinia* and other very fine seed with good results.

Branch Officers

A warm welcome is extended to the 1947 officers of the following two branches:

The MIAMI Branch, Florida:

President: Mrs. Fern Koehler
Vice-President: Mrs. Jack Newalk
Secretary: Mrs. W. G. Coffeen
Treasurer: Mrs. Olive B. Carrier
Director: Mrs. Lucille C. Kendrick
Director to A. B. S.: Mr. Frances Michelson
Jr. Past President: Mrs. Lucille Kendrick

The NEW MISSOURI BRANCH:

President: Mrs. T. K. Kovachoff
Vice-President: Mrs. McBride Baker
Secretary: Mrs. Bruce Dill
Treasurer: Mrs. G. Calmese
Directors: Mrs. J. W. Jacques, Miss Billie May.
National Board Representative: Mrs. J. J. Cooper.

CRYPTANTHUS: *(See Kuester article on page 65)*—Krip-tan-thus—interesting perennials of the Bromeliad order with ornate and decorative foliage and flowers much used for dish-gardens and house potted plants are obtainable in various forms. They were first introduced in 1826 from Brazil and Tropical America. Some were listed as Tillandsia.

Branch News

Foothill Branch: Over 125 members and guests attended the first Birthday Dinner of this group which was celebrated on March 7th. Many distinguished guests were called upon after His Honor Mayor Lamb of Azuza addressed the gathering. The National Board was well represented. This one-year-old branch now numbers 85 members. The plant exhibition was unusually excellent.

Orange County Branch: Mr. Ed. Hall, president, Mrs. Muriel Hilton, national representative, and "Scotty" Hudson reviewed the advantages of entering into the activities of the Annual Convention at Long Beach on August 15-16, 1947. It was pointed out that August 13-14 preceeding the A.B.S. County Convention several combined Floral Societies will stage a Flower Show—making it a four-day event. Maria Wilkes spoke on shade plants and Roy K. Dere on "Getting The Begonian to you in double quick time."

Plants like a change of diet just as we do, within reason. Extremes are always dangerous.

Begonia Hillebrandia

By Helen K. Krauss, Wynnewood, Pa.

Mrs. Virginia Gillespie of Honolulu is trying to secure seeds for us of *Hillebrandia sandwicensis* which is rarely found in cultivation. This Hawaiian plant was originally discovered by M. Baldim; in 1865, the Hawaiian botanist, Dr. F. Hillebrand, for whom the genus was named, sent specimens to Kew; and in 1866 Prof. Oliver of Kew Gardens first described this new genus in The Transactions of the Linnean Society of London.

Hillebrandia is closely related to *Begonia* as both genera belong to the botanical family Begoniacae. The genus *Hillebrandia* is represented by only one known species—that is *sandwicensis.* Mr. T. H. Everett of the New York Botanical Garden states in the Gardeners' Chronicle of America, July, 1943, as follows: "Botanically *Hillebrandia* differs from *Begonia* in that it possesses true petals and in that the ovary is free."

Although the natural setting that Mrs. Gillespie described can not be duplicated by us, it is interesting, nevertheless, to visualize *B. sandwicensis* as she saw them growing in their native environment—"It is a graceful plant from 3 to 4 feet tall, spreading from tuberous rhizomes; the stems are soft-green and numerous with a profusion of conspicuously large, shallowy lobed, light green, hairy leaves, and each stem producing several cymose clusters of translucent pink and white shaded flowers. The plants are found in profusion in shady and humid mountain ravines near the mist-like spray of waterfalls, presenting a picture of great beauty especially when seen through the faint rainbows which are constantly playing in the spray of tropical waterfalls."

Spray for Scale through April to May

● Scale in the crawling stage is most vulnerable to the proper insecticide through April and May. Oil emulsions are excellent. Shrubs most likely to harbor scale are: Camellias, gardenias, hibiscus, and any woody shrub may be good hunting ground. The mature females die as the young leave. Do not spray when temperature is too high.

"For the last three years I have been attempting to grow *tuberous begonias* in Boise. The climate here is hot and dry and my efforts have been met with successes and failures. This year I am experimenting with a lathhouse for the first time. Previously the plants were grown under shrubs and in shade.

"I have enjoyed the BEGONIAN and read, with interest, the accounts of the Round Robins." —E.B.S., Boise, Idaho.

Pollenizing Begonias

By ELSIE FRYE, Santa Barbara

● I have been asked to write an article on hybridizing and how to pollenize begonias.

I get the most enjoyment out of my begonias in cross-pollenizing them to get new begonias. I have succeeded in getting a few new ones and sometimes think I'll stop as I have so many begonias. But then a new idea strikes me and when the two begonias that I wish to cross are in bloom I again proceed to do the cross-pollenizing. I choose the begonias that I wish to cross, one is picked as the male flower and the other to hold the seed. If you have noticed, the female flower has a seed pod back of it and the male has not. I choose the male flower first, testing it on my finger nail to see if the pollen is loose and ready to use.

If the pollen comes off freely, the flower is ready. Pick it and turn the petals back over the stem and use this as a handle and the petals will also be out of the way. Gently dust the pollen onto the stigma of the female flower you have chosen to carry the seed. Dust it well all over the stigma, being careful not to bruise the stigma. After pollenizing, mark the plant and female flower and also write, as a record, what was used to pollenize it, so you will keep track of your cross.

After a few months of watching and the pod begins to dry, the seed is ready to pick. When the pod is well dried then take the seed out and, using two sheets of smooth paper, spread the seed on one and roll it onto the other. If the seeds roll freely, they should be fertile. All that do not roll aren't good and should be thrown away.

Next, plant the seed. If you have a hotbed, you can plant them most any time of the year, but if you don't have—late spring is the best time. I use a fern pan, washed in strong Clorox water. In the bottom I place a layer about an inch thick of gravel or some broken pot for drainage, then put in leaf-mold, and on top of this a thin layer of window-screened leaf mold. Bake first, then set this in water to soak up the soil. Don't allow the water to soak above the soil level. After watering, drain for a few minutes. Sow the seed evenly over the surface, do not cover with more soil. Fix a frame with a glass over it and set the pot in there and watch for the little plants. If the pan should need watering, dip as before. When the third leaf has developed pick out and transplant one inch apart into a flat of leaf-mold with a thin layer of finely sifted leaf-mold on the top. Soak the leaf-mold well before transplanting and you won't need to water for some time. You may put a glass over them for a month or so, if you wish, allowing space for plenty of air. Rex seedlings especially need this glass protection over them. When large enough, transplant again into other flats or into pots. These directions are for cloth-house use.

The Shade Gardener's Reading

Recent material of interest to shade gardeners and begonia fans is noted by the librarian.

A most attractive and satisfactory book is "ALL ABOUT HOUSE PLANTS" by Montague Free published by the American Garden Guild 1946. This complete book discusses more than a thousand plants suitable for pot and house culture. Begonias of all types and varieties are included. The book is divided into four parts; plants indoors, culture, types of house plants and lists of plants. There is an excellent index which makes finding specific information easy. The book is most enjoyable to read for the author writes in a chatty informal style while giving instructions and information we are always seeking. Mr. Free is staff horticulturist of *Home Garden* and was formerly horticulturist at the Brooklyn Botanic Garden. The book is fully illustrated with color photographs and halftones with line illustrations.

"Picture Primer of Indoor Gardening" by Margaret O. Goldsmith is another new colorful book published by Houghton Mifflin 1946. Written for the amateur and illustrated in color it gives very simple illustration on care, exposure, propagation, seasons, pest control and other subject on this fascinating hobby of growing plants indoors. Begonias are mentioned briefly.

Rooting Rex Begonia Cuttings by Hydroponics" by George B. Furniss is an article appearing in the January 1947 *National Horticultural Magazine* that should be of interest to begonia growers who have difficulty in starting leaf cuttings. It is illustrated with large photographs of the development stages in the rooting process. (Available for $2.00 per year to A.B.S. members in good standing instead of regular $3.00) —Eleanora Crowder, Librarian, American Begonia Society.

"It pays to advertise in the Begonian," our advertisers tell us.

The annual convention at Long Beach, California, is expected to be the best yet. Plan to come August 16 and 17th, 1947.

Round Robin News

By Frances Downing, Calera, Alabama

A Happy Easter To You All. May the magic of Easter flourish in your hearts and in your gardens thru all the season!

Many new Begonia Robins are being formed, particularly of the fibrous group.

A Rex and a Tuberous Begonia Robins for the South have been requested. The Cyclamen Robin is making its first flight.

Directors are needed for these Robins: Simple Botany; Garden Photography; orchids; Ivy Geraniums and another for Scented and Variegated Geraniums.

The Garden Gossip Robin is flying but needs some new members. The Zonale Geranium Number Two Robin is complete with Number Three being formed.

The Basket and Trailing Plants Robin is flying under the direction of a most capable director.

The Rose; The Seed Sowers No. 3; The Perennial; Annual Flowers and The Flowering Shrubs groups await new members. Directors for these clubs are eager to start flying their Robins. The Amaryllis Robin is complete with No. 2 forming.

A member asks: Why can't we have a *Source* Robin? This would be devoted to spreading news of plant sources as well as of bulbs, tubers, seeds and supplies from commercial and amateur." This Robin would have to carry a two-day limit on letters so that it might serve its members more efficiently. I feel this would be a popular club and I would like to invite Directors for this Robin to function as soon as possible. The General Seed Sowing Robin is ready for a Director. From New York comes this request: "I wish a club might be organized wherein members could learn to identify any plant. Can such a club be made to work?" Suggestions are welcome from our members.

Another member writes: "During my twelve months with the Round Robin clubs I have made five wonderful pen-pals, received 75 varieties of begonias thru trades and have gained more knowledge about my plants than I ever dreamed existed!"

From Ohio: "These Round Robins cover the floral subjects wonderfully well. They also create a better understanding among people from various parts of the country. This, to me, makes them one of the most worth while features of "The Begonian" and the A.B.S."

We also like constructive criticism. Your suggestions on how to improve our clubs are always welcome.

BEGONIA CULTURE

By Lillian Ashe, San Francisco, California

The members of the San Francisco Branch are always eager to increase their knowledge in cultivation of our favorite plant. With this purpose in view, we invited Mr. Wayne R. Sherwood of the Specialty Begonia Garden, Menlo Park, to be the speaker at the March meeting.

In relating his experiences in raising begonias, he told us that he uses shallow flats filled with thoroughly dampened coarse oak mold, topped with finely screened mold. The seeds are broadcast on top and the flats are covered with glass and paper. Mr. Sherwood considers sterilization unnecessary. Neither does he believe in using bottom heat, preferring slow germination at an average temperature not exceeding 65 degrees F. He found that even an occasional decline to 45 degrees F. is not injurious. While this process requires from 18 to 20 days, much better results are obtained as the weaker seeds are given a better opportunity to develop. To prove the success of his method he displayed a flat of seedlings all of equal size and height; the flat presented a perfect carpet of green. In fact, it is his belief that high temperature causes damping-off from excessive moisture.

The seedlings are transplanted only once and in the latter part of April are taken out of the greenhouses to be transplanted to beds or pots. In windy areas the plants should be staked as soon as possible. As a rule bedding seedlings bloom about two weeks later than the tubers. The second and third year seedlings develop the best blooms.

The speaker also described his method of raising Begonias from tubers. After sprouting they are placed in previously dampened peat moss as he considers the moss to be the best medium for developing good roots. When the root system is well established they are ready for final transplanting. Care must be taken to avoid excessive watering as it may cause rot. In pot culture, it is desirable to develop one strong stalk; the extra shoots should be removed. Excessive fertilizing tends to encourage base branching. When the tubers are removed in the Fall they must be cleaned well, but not polished, leaving old roots on. They are to be discarded after seven or eight years.

In preparation of the soil for bedding, fertilizers should be worked in thoroughly. Leaf mold, peat moss and sand are used. A generous dusting of cottonseed and fish meal is broadcast, cow manure and bone meal are added and the mixture is well cultivated.

Mr. Sherwood prefers overhead watering to sub-irrigation. He waters at sundown. According to his opinion, the morning watering is not advisable as the transpiration is very rapid during the day and the plant may lose too much moisture and wilt, whereas, the evening watering permits the plant to retain the water for a much longer period. Moreover, this practice prevents rot or fungus. In the Fall water sparingly. If any rotted areas develop, cut below it to save the plant.

When propagating by cuttings, the shoots should be cut close to the tuber, not less than two inches long. If put in moist sand they will root in four weeks. A cutting easily develops into a full size plant. Slips should be taken from the choice Begonias to preserve the strain as a casualty may ruin a tuber unexpectedly.

For baskets, a mixture of peat moss, sand, coarse oak leaf mold, whole dry leaves and twigs are used. Such a coarse soil affords better aeration, improves the drainage and permits the roots to spread. No broken pieces of clay are required. A handful of fish meal is scattered in the center of the pot. The tuber is bedded close to the top so that it is isolated from the fertilizer. Atlas Fish Emulsion may be used later. Do not pinch off tips if basket has many shoots, if however, there are only four laterals, pinch off a little from each one to make a fuller crown.

Glass houses must have good ventilation and moist ground. White lead mixed with kerosene makes the best whitewash for the glass.

The lath house should be built at least 10 feet high as the height is very important. The higher the lath house the faster travel the light and shade lines. Stronger sunlight causes the leaves to grow closer together. The laths are spaced at distances equal to their width. Redwood laths are most desirable.

The personality of the speaker, the profound knowledge of his subject, the mode of delivery impressed the entire audience. A brisk question period followed, showing the aroused interest of the members.

We, indeed, have been very fortunate in having at two successive meetings such persons as Mrs. Sidney S. Rich and Mr. Wayne R. Sherwood as our speakers. Both are very successful and well known cultivators of Begonias in our vicinity and both served as judges of our exhibits at the annual San Francisco Flower Show.

CALENDAR OF EVENTS

Garden Tour and Flower Arrangements by District No. 2 of California Garden Clubs Inc.; Pacific Palisades St. Mathews Church 1 to 5 p.m., Thursday, April 10.

Hollywood Garden Club Iris Show—In cooperation with The American Iris Society. Plummer Park, Hollywood, Calif., April 26-27.

California Spring Garden Show: "Fantasia" Oakland, April 29 through May 4.

A. B. S. annual convention, Long Beach, California—August 16-17th.

Seed Fund News — Armchair Explorers

Dear Armchair Explorers:

Our India seed collector sent a sample packet of Begonia cathcarti along with several other better known India species. Here is a description of the B. cathcarti. It has beautifully variegated foliage, is a dwarf grower, has clusters of inch wide rich yellow flowers with rich scarlet shading underneath, has rhizomatous roots. Sounds as though it will prove interesting to the hybridizers among us. We have now ordered enough of this seed for all our Seed Fund members, it is very doubtful that we will have it available until our next January distribution.

Although the seed for this year has been mailed out, we cannot rest yet. Seed must be ordered for next year, for of course, you want new and different kinds of Begonia seed. In looking ahead to another year (fun isn't it?) we are planning to introduce many new kinds of Begonias native of India, China and Africa. Prospects look very good at this early date. Seed collectors in these countries have already been requested to gather for us large quantities of native Begonia seed.

A very efficient staff of volunteer workers have helped your skipper this past year and they deserve a vote of thanks for their fine work. Mrs. Muriel Hylton of Huntington Beach packaged most of the seed for this past year, Mrs. E. T. Boeshar of Hollywood has made envelopes for us for the past two years with Mrs. Lois Tanner, Cheneyville, Tenn., and Mrs. Fred Tabb, Brown's Valley, Calif., helping out this past year. They have very willingly given a great many hours of their time doing this work for you.

Plan ahead with us for the A. B. S. Convention in Long Beach on Aug. 16 and 17. We are counting on seeing *you* at our first Armchair Explorer's meeting and plant exhibit. Get those seedlings growing, a very light fertilizing will speed them along, we need them for our exhibit. Convention suggestions are invited, write your skipper a postcard.

Seeds available in 50c packets:

Tropical flower seeds (20 kinds mixed); Begonia Seed (15 kinds mixed); Gesneria Seed (15 kinds mixed); Streptocarpus Seed (10 kinds mixed); Rare fern spores (25 kinds mixed).

Impatiens seed—old rose hybrid. 25c pkt.

Your skipper,
Florence Carrell.

Be grooming your best plants to show them at Long Beach Aug. 16-17th.

BEGONIA LIMMINGHEI ED. PYNAERT

By Alice M. Clark, San Diego, California

Old-timers in begonia culture will resent the name that heads the sketch of the plant they have long raised and admired as *B. glaucophylla.* This is the story behind the correction.

In 1866, according to Charles Chevalier, a colored plate of this begonia, published in *Belgique Horticole,* was dedicated by Ed. Morren to Comte Alfred de Limminghe. This was followed in 1875, by an article, with a painting in color, written for the Belgian *Revue de l 'Horticulture,* by Ed. Pynaert, describing and naming this begonia, *B. Limminghei.* Seventeen years later, in 1892, it appeared in the *Curtis Botanical Magazine* as *B. glaucophylla,* under which title Hooker Fils said it had been known in England for some time. That was how our begonia came to be deprived of the name of the fine horticulturist, in whose garden it is supposed to have been found. It is even possible, since no definite information has ever been uncovered as to its origin, that it is a hybrid made by the Count, himself.

B. Limminghei always comes true from seed, which should give credit to the belief that it is a species, some say from Brazil. Despite that, the theory that it is a hybrid still persists. The author of *Les Begonias* thinks its slender creeping stems come from *B. scandens, Sw. (B. glabra, Aubl.)* and its flower form and seed organs point to *B. coccinea, Hook.,* as the other parent. Ed. Morren and Dr. Regel agree on the latter but suggest *B. undulata* as the first parent. Hooker favors *B. maculata* and Ed. Pynaert proposes *B. fagifolia,* which Chevalier objects to because it is hairy. Some of this discussion must have reached Mrs. Shepherd, in Ventura, because she crossed *B. Limminghei* back on one of its possible parents, *B. Coccinea,* and obtained the well-known *B. Marjorie Daw,* in 1901. Let us hope the mysterious origin of this month's subject will come to light some day.

If you are not impressed by the fairness of going back to the name of the man who sponsored *B. Limminghei,* then at least you may object, as I do, to the poor choice of the handle we have known it by. "Glaucophylla" means either "bluish-green leaves" or "leaves covered with a whitish bloom." How that description could ever have been attached to this plant of exceptionally shining, yellow-green leaves, is beyond me. The name, "scandens," sometimes coupled with it, is descriptive, but was never authoritative. The correct name is easy to pronounce—Limming-eye. Come on Begonians, let's get behind it!

B. Limminghei has always charmed me by its graceful growth. Mr. Robinson always advocated planting it on a mound, so it could run over the ground and send out roots from some of its joints, where little spurs appear in the leaf axils. However, it is usually treated as a hanging basket, where its many stems make a fountain of green, which has been known to reach a length of six feet, although most, that I have seen, stop at three. This begonia enjoys heat and high shade so the flowers get plenty of light. In the east it is known as a winter bloomer, which may account for the fact that it is not very satisfactory there. With us it is only dormant in the cold season, and should be cut back severely at that time. I am told that it will die back at the top if the runners are not trimmed. The cuttings root readily and should be pinched to promote bushy growth.

This month's favorite begins to show color in March and continues to bloom until December, with extra display in warm periods. It was during one of these stages that I painted it, in the summer of 1946. The seedpods develop more at that time and are particularly good if there is a hot spell in the late fall.

There were so many branches on this begonia, when I began my painting, that I had to start at the end of a runner and leave out some of its length, to keep it on the page. The stems have many joints, red-flushed at the nodes and on top near the tips. The young sections are dashed with white flecks. At this season the stipules, incasing the leaf, are as red as the bloom itself. They are in pairs, an inch or more long, looking like a slender pointed pencil. These fall away from a much be-ruffled leaf, stained bright red on the back. In alternate positions on a stem, these unfold into pointed elipses about four by two and one-fourth inches. A delicate apple-green at first, they mature into fairly thick, smooth, bright-green leaves with lighter green veins out to the slightly rippled edges. The under side is paler, with raised venation. Petioles are short, with such an intense red at the apex of the leaf that it shows on top. The plant would be treasured for its foliage, even without the bloom.

The short red peduncle comes from a joint just below the new leaf and shows two sets of almost brick-red bracts, that are keeled around more red buds in more bracts. A male flow-

er on a slender pedicel subtends each pair of bracts. These groups go on branching until a drooping, close-knit cluster is formed. This thins out as the female flowers expand, but the plant always seems tipped with fire.

The blooms of *B. Limminghei* are the most amazing in the begonia family. The heart-shaped male bud, about a half-inch across is white at the point where it meets its delicate pedicel and the swelling over the inside stamen catches a bright highlight on its flame-orange surface, that defies reproduction in water-color. The narrow white border all around the petals is in startling contrast to their brilliant red. Inside, the two oval petals are flanked by two narrow ones, around the ball of pale lemon stamen. The inner petals are a soft coral-pink, sprinkled with diamond dust.

As a cluster of flowers gets older, the female blooms begin to show. The expanding ovaries, with their red-orange wings, fading into pearl-white over the seed portions, are spectacular. The one in the picture is an inch across, life size, but the plant itself is on a slightly smaller scale so it is out of proportion. The petals of this flower are shown in the lower right-hand corner. There is a quartet of pointed ovals, with a fifth narrow one, centered around four pair of pale velvety stigma, only slightly twisted. The same white edge outlines the sepals.

Words and brush fail to describe the sheer beauty of *B. Limminghei,* so why not grow and see it for yourself?

SOIL ACIDITY AND THE pH

By DR. W. C. DRUMMOND, Hollywood, Calif.

● The availability of many plant nutrients are dependent on the right soil reaction, i. e., alkalinity or acidity. Many of our regularly grown plants are also critical of the soil reaction. In many parts of the world, due to low rainfall and poor drainage, alkali exists; whereas in other parts where rainfall is ample, 30 or more inches, and drainage is good, the soil tends to acidity.

Washing of the soil by heavy rainfall eventually leaches out the base elements, sodium, calcium, magnesium and potash. In parts of the United States, such as the western part, where rainfall is small, averaging 10 to 15 inches or less per annum, leaching of the base elements is negligible, and the soil tends to alkalinity. Many desirable shade plants demand an acid soil. The temperatures here in California are quite favorable to the growth of such plants, so one of our problems is to create this acidity in the soil. In the eastern United States it is often one of too much acidity. The base elements are leached out.

But before taking up what or how to change that soil reaction, we should understand the terms expressing the amount of acidity or alkalinity.

The degree of soil acidity or alkalinity is expressed in terms of pH. We might compare the pH scale to the Fahrenheit thermometer. Here zero is 32 degrees below the freezing of water, and 212° is the boiling point of water at sea level. No one questions why Mr. Fahrenheit divided the temperature that way. Well, Mr. Sorenson divided the acidity of the soil in a more scientific way. One, is the most acid, and 14 the strongest alkali ,with the midway point 7, being neutral. So far so good.

But Sorenson went a little farther, for instance, we find 4 pH as being 10 times more acid than 5 pH, and that 5 pH is 10 times more acid than 6 pH, and so on from 7 to 0 pH. Now if we assume that 7 pH has a figure of one, and that 6 has an acidity of 10 times as great, then 5 would have an acidity of 100, and 4 pH 1,000, and so on, until we get to 0 pH, which would have an acidity of 10,000,000 times as great as 7 pH. Freshly distilled pure water has a pH of 7.0. The same holds true for alkalinity. Each number means 10 times greater alkalinity. Here 14 pH would be 10,000,000 times more alkali than 7 pH. So we can readily see that when we change the acidity only 1 pH, we are making our soil 10 times more acid or alkaline than it was before.

SOIL TESTING AND THE COLORIMETRIC SYSTEM

The soil is tested for acidity or alkalinity in one of several ways. The old, but not too accurate way, was to test with litmus paper from the drug store. Simply wet the paper with the moist soil, (do not apply water) and when blue paper turns red you know your soil is acid and when red or pink paper turns blue you know it is alkaline. The degree of color in a way tells us the amount of acid or alkali. There are other papers put out for this same purpose.

By first making a solution of our soil with distilled water and treating this solution with certain dyes, called in-dictators, definite colors develop for each pH. within range of that dye. Dyes can be purchased from chemical houses. There are no fussy chemicals to use and no knowledge of chemistry is necessary. This is called the *Colorimetric System.* Space does not permit to go into more details. Suffice to say for the amateur, the colorimetric system is by far the best. There are on the market a number of sets using a combination of these dyes. These have quite a wide color range. The ph. can also be told with an electric instrument called the electropotentiometer. Of all our soil tests, the pH is by far the most important.

A very acid soil would have a pH value of 4.5 to 5.0. Extreme acidity, 2.8, has been recorded in Tennessee, while extreme alkalinity of 9.7 has been recorded in California. Where the soil is very alkaline, it is said to be saline (or salty). In alkali land the color of the top soil will depend on the amount of organic matter in the soil. It may be whitish, even in black alkali, where there is little organic matter; and conversely the top soil may be black from white alkali where there is a large amount of organic matter, so the color of the top soil is not always a guide to the kind of alkali.

Here is the pH of some of the more common things we come in contact with: Hydrochloric acid rated 1.0, sulphuric acid 1.2, lemons 2.2-2.4, vinegar 2.4 to 3.4, apples 2.9 to 3.3, alum 3.2, blackberries 3.2 to 3.6, tomatoes 4.1 to 4.4, plant tissue and plant sap around 5.2 (begonias are quite acid), boric acid 5.2, dates 6.2 to 6.4, freshly prepared pure water 7, distilled water open to the air 5.8, sodium bicarbonate (baking soda)

8.4, ammonia water 11.1, sodium carbonate (sal soda) 11.36, lime (unslaked) or quick lime 12.3, sodium hydroxide (lye) 13.0.

References — —

Bulletin 553, Ohio Agric. Exp. Station. Bulletin 126, Texas Agr. Exp. Stat. Bulletin 398 soil testing Penn. Agr. Exp. Station, State College Penn. A.B.C. of pH. by La Motte Chemical Products Co. U.S.D.A., Circular No. 56, Supt. Doc. Wash. D.C. The Nature and Property of Soils Co., by Lyon and Buckman, Macmillan Co., 1943.

African Violet

From House Plant Round Robin
Compiled by Frances Downing Calera, Ala.

Spring is a busy time for starting new plants of *African Violets.* The following methods of propagation are being tried by the members of the *Saint Paulia Violet* Robins:

By breaking the petiole off at the base of the leaf and inserting the leaf in a mixture of half peat and half sand—a higher percentage of rooted leaves is obtained. This method usually produces a plant with many crowns. These crowns can be divided into separate plants, thereby getting many plants from one rooted leaf. Another member inserts the petiole half an inch in the soil—for rooting. The plants develop quickly, as they do not suffer set-back from an early transplanting.

Even a leaf stem cut in several places produced plants at each cut. Several members insist that rooting African Violet leaves in water is the surest and easiest method of propagation.

Nico-grow placed in fruit jars, proves a good medium for starting seeds of African Violets. The member using this method—keeps the lids on the jars to conserve moisture.

One member has *seventy* Saint Paulia Violet seedlings of her own hybridizing. It takes from six to nine months to ripen seed pods of these plants. It is thought that Spring pollenized blossoms usually ripen quicker than those pollenized in Summer and Autumn. Mites, working on the plants, pollenize the blooms causing the flowers to fall early.

To rid plants of mealy-bugs touch each insect with a cotton tipped toothpick or a small brush dipped in toilet water.

The annual convention at Long Beach, California, is expected to be the best yet. Plan to come. A real Begonia Holiday!

April Activities

The Editor will appreciate notes on Shade Garden activities, short cuts to better results, each month—from anywhere in any Begonians garden.

This is the best time to make cuttings of the *Begonia semperflorens cultorum.* With these, including the Calla begonia, the basal shoots make the best cuttings since they have a whole lifetime ahead of them and are imbued with natural stamina. Cuttings made from tips of grown up branches—as everyone should know—are spent and lack the strength to make strong plants with a future. Often, when blooming plantlets are needed for party favors, such tips are rooted in a hurry which the innocent recipients take home to grow them onwards. Such plants are poor stock from which to perpetuate their kind, therefore, a mistake from the misguided beginning.

Divide and reset large clumps of Bergenia cordifolia, this plant so long known as Saxifraga cordifolia has the habit of showing an overlong brown neck after a succession of leaves have matured from the base. Plant the divisions so that the green leaves are resting right down on the soil.

Needless to say, the soil for these all-year plants should contain some good compost with a tablespoon of 50-50 bone and cottonseed meals to each cubic foot of soil and this should be done twice a year, Spring and Autumn. Plant more TUBEROUS BEGONIAS. Fertilize the REX systematically. Keep plants clean with protective spraying rather than curative efforts.—*Maria Wilkes.*

Hybridizing Tuberous Begonias Question & Answer

QUESTION: Would like very much to obtain material or book on Hybridizing as applied to TUBEROUS BEGONIAS.—DDH, Independence, Oregon.

Answer: We do not know of any one book written specifically on the Hybridization of Tuberous Begonias. The back issues of The Begonian have contained much information of this sort. The simple transference of pollen from the stamens of one flower to the stigma of another is nature's procedure employing insect, animal or wind—man can follow suit or proceed in a more scientific way which would require a thorough knowledge of genetics. The following books may be helpful.

Heredity, by J. A. Thompson, Putnam & Sons; Practical Plant Breeding, by W. J. C. Lawrence, Allen Unwin, London; Principles of Heredity, by L. H. Snider, D. C. Heath & Co.; and newly off the press, a second edition of Elements of Genetics, by Edward C. Colin, The Blakiston Co., also useful in a general way, Plant Propagation by Alfred C. Hottes, A. T. De la Mar Co. and do not forget the Book on Tuberous Begonias by George Otten.

The annual show of Begonias and Shade Plants will be rewarded with many prizes. Do not miss opportunity of competition.

CONDENSED MINUTES meeting National Board, American Begonia Society, held February 24 in the L. A. Public Library, President Lawrence in the Chair.

Meeting called to order at 7:30. Present Pres. Lawrence; Mesdames Drummond, McRae, Wilkes, Jenks, Hartwell with Messrs Dere, Hart and Hixon. Representation from the following branches—Hollywood, Glendale, Ventura, North Long Beach, Parent Branch Long Beach, Pasadena, Orange County, San Gabriel Valley.

Minutes meeting Jan. 27 read and approved.

Reports of Editor, Membership Fees Chairman, and Treasurer read; on motion accepted as read and ordered filed as part of the minutes.

Mr. Clark reported on the fine success of the Garden Tour; ticket stubs showed a paid attendance of 621; additional receipts from sale of books, camellia blossoms, and memberships $57.36. President instructed Mr. Clark to go ahead and pay all bills and when these are all settled to make a complete report at the Board meeting. Mrs. Drummond asked all Representative Directors present to take back word to their Branch of the Board's appreciation for their fine cooperation, their attendance and for all their assistance in making this Garden Tour a great success.

Mrs. Drummond, as Public Relations Director, reported organization of Branch at Santa Monica with an attendance of 23; Mr. Chitwood, Horticulture teacher at University High school elected President. Mr. Chitwood stated they intended growing their own to have a Begonia Exhibit at their annual flower show and are planning an active year.

Mrs. Drummond also reported on the new Branch in Miami, Fla. — Their exhibit placed in the Orchid Show held in Miami, attracted much attention and won a $30 prize. Among other plants in their exhibit was a Mrs. Townsend begonia with 25 long bloom stalks. This speaks well for the Branch as only 6 members, out of their 35 memberships have begonias to exhibit. The new Branch at Santa Paula is going ahead in fine form and we will hear more of them.

A new Branch Society is organizing in Lake Forrest, Illinois.

President announced appointment of Frank Clark as the new Public Relations Director. Appointment ratified by the Board.

President announced appointment of the Nominating Committee—Mr. Flynn (Hollywood), Mr. Heth (Foothill Branch, Mrs. Jensen (Bellflower Branch), said committee to have their report in at the June National Board meeting in order that the July Begonian carry the ballot. Annual meeting to be held August 16 and 17.

Dr. W. C. Drummond, Mrs. Jay C. Jenks, and Miss Charlotte M. Hoak newly appointed assistants on Editorial Staff.

Mr. Taylor asked that a Committee be appointed to work with them on the Annual Meeting and Flower Show. President appointed Mr. Clark, Mrs. Drummond and other Committeemen to be announced later.

President appointed the following committee to go into the matter of printing the Begonian bids for this work having been hurriedly discussed but for lack of time no decisions made: Mr. Hart (chairman), Mrs. Wilkes, Mr. Rownd, Capt. Dere, Mrs. Drummond, Mr. Walton, Mr. Clark, Mr. Lawrence. Meeting to be called in the very near future. Mr. Taylor gave a brief review of the work being done for the convention and their plans. He spoke of the cooperation of the city officials and promised a more detailed report soon. It looks like we would have a fine convention and members are urged to start grooming their begonias for the show.

The March 24th board meeting will be held in the Clark Hotel. Dinner at 6:30 for those wishing to come to dinner and meeting to follow immediately.

Respectfully submitted. —Gonda Hartwell, Corresponding Secretary.

Meeting Dates and Places

The next meeting of the American Begonia Society Board will be held in the Clark Hotel Grill Room, Hill Street, Monday, April 28th, 6:30 p.m.

THEODOSIA BURR SHEPHERD BRANCH
Tuesday, April 1st, 7:30 p.m.
Alice Bartlett C. H. 902 E. Main, Ventura, Calif.
Mrs. Harry Meyer, Secretary, 111 Leighton Dr.

SAN FRANCISCO BRANCH
Wednesday, April 2nd, 7:45 p.m.
American Legion Hall, 1641 Taraval St.
Sec.: Mrs. Walter Ashe.
1855 - 33rd Ave., San Francisco 22, Calif.

SANTA MONICA BRANCH
Wednesday, April 2nd, 7:30 p.m.
Union High School Horticulture Dept.
11800 Texas Ave., West Los Angeles
Mrs. Denman Bemus, Secy-Treas.
345 So. Santa Anita Ave.
Brentwood, Los Angeles 24, Calif.

ORANGE COUNTY BRANCH
Thursday, April 3rd, 7:30 p.m.
Farm Bureau Hall, 353 So. Main St., Orange.
Mrs. E. K. Burdick, Sec.-Treas., Rt. 4, Box 296, Anaheim, Calif.

FOOTHILL BRANCH
Friday, April 4th, 8 p.m.
Woman's Club House, 1003 Azusa Ave., Azusa.
Mrs. James M. Reed, Secretary
643 No. Wabash Ave., Glendora, Calif.

BELLFLOWER BRANCH
Monday, April 7th, 7:30 p.m.
Washington Street School Cafeteria
Sec.: Mrs. Edna Leistner, 610 Nichols St., Bellflower, Calif.

PASADENA BRANCH
Tuesday, April 8th, 7:30 p.m.
Pasadena Public Library
Lester F. Harrell, Sec.-Treas.
668 Bellefontaine St., Pasadena, Calif.

RIVERSIDE BRANCH
Wednesday, April 9th, 8 p.m.
Mrs. T. W. Gall, Sec.-Treas.
4518 Bandini Ave., Riverside, Calif.

HOLLYWOOD BRANCH
Thursday, April 10th, 7:30 p.m.
Plummer Park, 7377 Santa Monica Blvd.
Mrs. Vera Lynde, Rec. Sec.
1030 N. Orange Grove Ave.
Los Angeles 46, Calif.

SANTA BARBARA BRANCH
Thursday, April 10th, 2-4 p.m.
Alhambra Theatre, Room 5
914 Santa Barbara St., Santa Barbara, Calif.
Mrs. E. H. Mercer, Secretary
2019 Bath St., Santa Barbara, Calif.

CALIFORNIA HEIGHTS BRANCH
Friday, April 11th, 7:30 p.m.
Members' Homes
Mrs. Esther L. Randall, Sec., 3638 Cerritos Ave.
Long Beach 7, Calif.

SEQUOIA BRANCH
Friday, April 11th, 7:30 p.m.
Members' Homes
Mrs. Albert Lowery, Secretary
620 W. Grove St., Visalia, Calif.

INGLEWOOD BRANCH
Friday, April 11th, 8 p.m.
325 No. Hillcrest, Inglewood, Calif.
Mrs. Laura Crandall, Secretary
2730 Redondo Blvd., Los Angeles 16, Calif.

LA MESA BRANCH
Monday, April 14th, 7:30 p.m.
La Mesa Grammar School, La Mesa, Calif.
Sec.-Treas.: Mrs. J. Porter Hock
4494 - 32nd St., San Diego 4, Calif.

NORTH LONG BEACH BRANCH
Monday, April 14th, 6:30 p.m.
57th St. and Dairy, North Long Beach, Calif.
Mrs. Harry H. Boyd, 5670 Walnut Ave.
Long Beach 5, Calif.

HUMBOLDT COUNTY BRANCH
Monday, April 14th, 8 p.m.
Lanes Memorial Hall, 1st Christian Church
Sec.-Treas.: Dorothy Lark
Box 16, Scotia, Calif.

SO. ALAMEDA CO. BRANCH
Thursday, April 17th, 8 p.m.
Scout Room, Markham School, Hayward, Calif.
Sec.-Treas.: Mrs. Dorothy Bayliss
26706 Monte Vista Dr., Hayward, Calif.

NEW YORK SUBURBAN BRANCH
Sunday, April 20th, 2 p.m.
Crestwood Branch, Yonkers Public Library, N. Y.
Sec.-Treas.: Mrs. Norman Hedley
71 Willard Terrace, Stamford, Conn.

PHILOBEGONIA CLUB BRANCH
Irregular Meetings
May T. Drew, Pres.
Box 331, Narbeth, Pa.

EVA KENWORTHY GRAY BRANCH
Monday, April 21st
Community House, LaJolla
Tillie Genter, Sec.-Treas.
7356 Eads St., LaJolla, Calif.

MIAMI, FLORIDA, BRANCH
Tuesday, April 22nd, 8 p.m.
Simpson Memorial Garden Center
Mrs. W. G. Coffeen
1742 S. W. 10th St., Miami 35, Fla.

WHITTIER BRANCH
Tuesday, April 22nd, 7:30 p.m.
Union High School, Room 19
Lindley Ave. Entrance, Whittier, Calif.
Madeleine Hall, Secretary
509 Friends Ave., Whittier, Calif.

EAST BAY BRANCH
Tuesday, April 22nd, 8 p.m.
Council Chambers, Berkeley City Hall
Mrs. Emma Carlton, Secretary-Treas.
1430 Oxford St., Berkeley 9, Calif.

MARGARET GRUENBAUM BRANCH
Mrs. W. E. Jones, Sec., Willow Grove, Pa.

GLENDALE BRANCH
Tuesday, April 22nd, 7:30 p.m.
329 No. Brand Blvd., Glendale, Calif.
Charles Richardson, Secretary
1441 Fairfield, Glendale 1, Calif.

MISSOURI BRANCH
Tuesday, April 22nd, 2 p.m.
Mrs. Bruce Dill, Secretary
3715 Harrison, Kansas City, Mo.

SAN GABRIEL VALLEY BRANCH
Wednesday, April 23rd, 8 p.m.
Masonic Temple, 506 S. Santa Anita Ave.
Mrs. Myrtle Jones, Secretary
132 May Ave., Monrovia, Calif.

SANTA PAULA BRANCH
Thursday, April 24th, 7:30 p.m.
Memorial Hall High School
Mrs. C. F. Crang
907 Pleasant St., Santa Paula, Calif.

LONG BEACH PARENT CHAPTER
Thursday, April 24th, 7:30 p.m.
Robert Louis Stevenson School, 5th and Atlantic
Cafeteria, Lime St. Entrance, Long Beach, Calif.
Sec.-Treas.: Mrs. E. G. Arbuckle
5932 Seville Ave., Huntington Park, Calif.

ALFRED D. ROBINSON BRANCH
Friday, April 25th, 7:30 p.m.
Loma Portal School
3341 Browning St., San Diego, Calif.
Mrs. J. J. Howarth, Secretary
4319 Del Mar Ave., San Diego 7, Calif.

SAN DIEGO BRANCH
Monday, April 28th
Hard of Hearing Hall, 3843 Herbert Ave.
Mrs. A. P. Carlton, Sec.-Treas.
624 Arroyo Dr., San Diego, Calif.

SANTA MARIA BRANCH
Sec.-Treas.: Mrs. Peter Mehlschau
Nipomo, Calif.

NEW ENGLAND BRANCH
Mrs. M. W. Stewart
224 Armington St., Edgewood, R. I.

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