

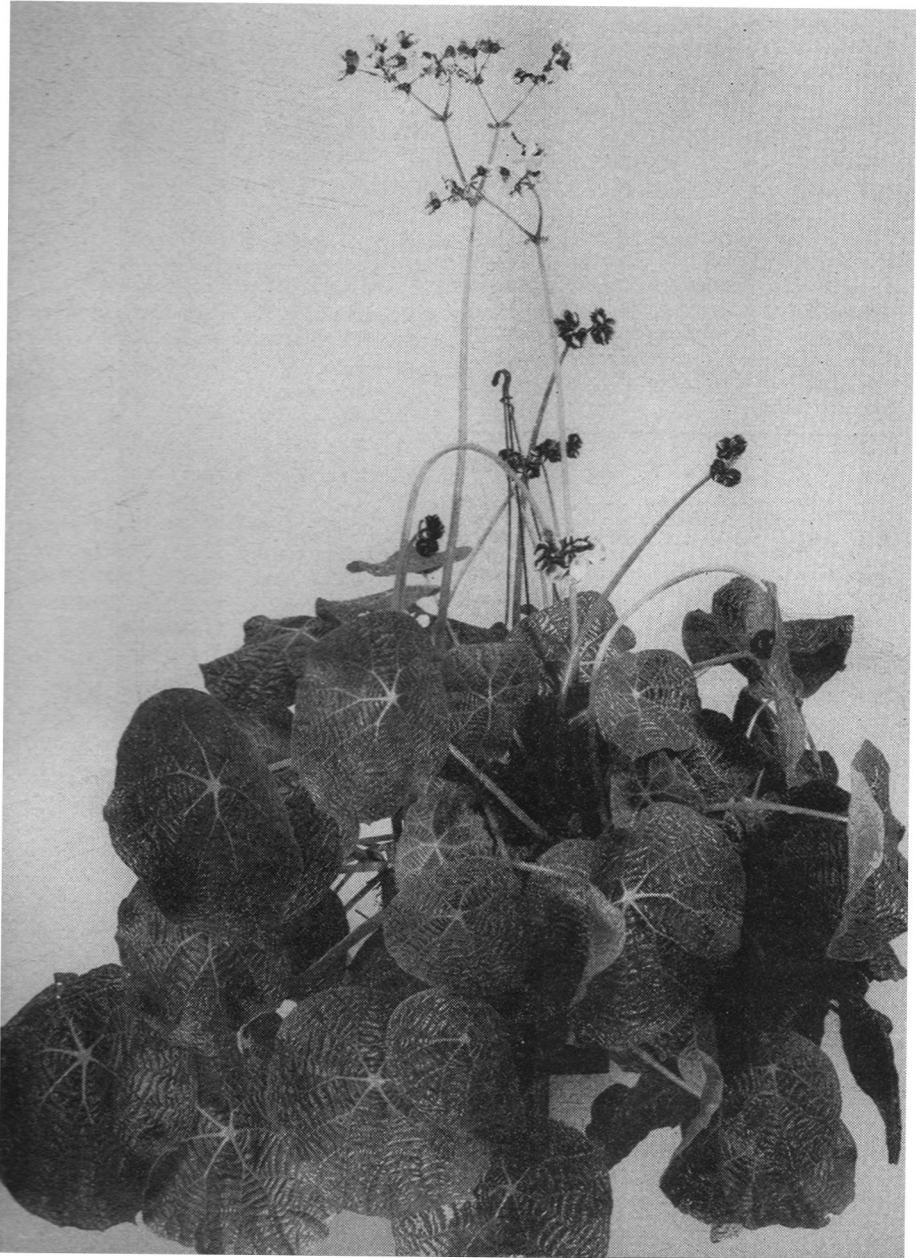
The Begonian

DEVOTED TO THE SHELTERED GARDENS

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This Society shall be conducted on a non-profit basis, and its purpose shall be to stimulate interest in begonias and shade-loving plants; to encourage the introduction and development of new types of begonias and related plants; to gather and publish information in regard to the kinds, propagation and culture of begonias and other shade-loving plants, and to issue a bulletin which shall be mailed to all members in good standing.

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Top row: Philo. Graciliosum, Monstera Pertussum, Philo. Hastatum, Monstera Deliciosa. Center row, l. to r.: Philo. Sodiroi, Philo. Dubium, Philo. Lacinosium. Bottom row, l. to r.: Seedlings, Philo. Selloum, Philo. Pittieri, Philo. Evansi (hybrid Selloum x Spec.), Philo. Oxycardium.

Philodendrons

By ARNOLD F. BOWMAN

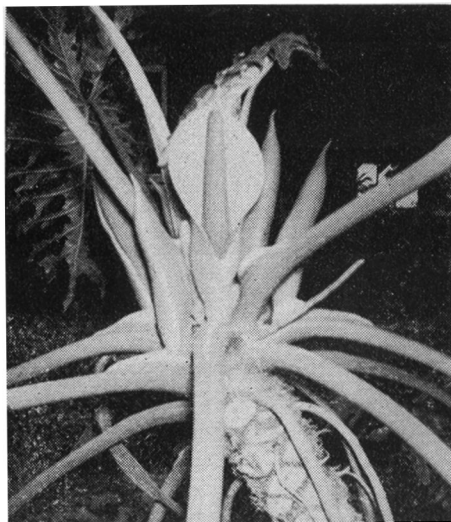
"PHILODENDRONS," named from the Greek words meaning "tree-loving," are among the handsomest and easiest plants to grow both for indoors and outdoors. Until recently "tree-loving" was a fit term for all philodendrons grown here, but now the scandent, or climbing, types are joined by the increasingly popular arborescent, or self-heading types of recent introduction, both species and hybrids.

With the ever-increasing popularity of interior plantings in homes, offices and stores, a field hitherto lightly exploited has opened up—the collecting, propagating, and hybridizing of new foliage plants able to withstand the difficult conditions prevalent in most planter locations. The old standbys such as sanseveria, asplidistra, etc., are being supplanted by more glamorous foliage specimens, especially the philodendrons. Form, color and size are vastly diversified. Whether one desires a small trailing plant for a planter lamp or a huge spreading specimen to fill a picture window, a hardy,

handsome variety of philodendron will fill the bill. Foliage colors run the gamut of greens, through various variegations, to chartreuse, and now a new golden yellow form is available. In many species the underside of the leaves is of a contrasting color to the green upper side, often red or maroon. Leaf texture varies from smooth to velvety and as for shape, the variety is astounding. Entire leaves, split leaves, perforated leaves, ruffled leaves; round, oval, straplike, fiddle-shaped, arrowhead, on and on go the multitudinous shapes and forms.

Getting down to a few specific varieties for the amateur grower, I recommend the following: For handsome house plants, grown on totem-poles or slabs of bark or tree fern, the species *hastatum*, with its broad glossy green arrow shaped leaves, or *imbe*, with its freckled petioles and large oval leaves with red undersides, are satisfactory in almost any location. More flamboyant than these, but a bit more demanding in their culture, are *squamiferum*, a

spectacular plant with its leaves reminiscent of a Malayan kris and stems covered with red hair, or the recent hybrid "Wend-Imbe" with closely spaced upreaching leaves with some of the coloration from *imbe* and the bulbous petioles of *wendlandi*. (More about *wendlandi* later.) To enumerate and describe



Bloom, or inflorescens, of Philo. Selloum, open and ready for pollenizing. Bud breaks through top portion of base of petiole. Remains open one day. Lower third of spadix contains female flowers, upper portion contains male flowers. Male and female flowers separated by narrow band of sterile flowers. Exterior of spathe (hood) is green, interior surface creamy white. Spadix white. In other philo. species interior surface of spathe may be any of many shades of red.

the many beautiful plants in this scandent, or climbing, form would take a large volume, so I merely shall name a few more readily available and easily grown—*pandeforme*, *mandianum*, *crestifolium*, *cruentum*, *dubium*, *elegans*, *krebsi*, *lacinosum*. Few of these will be found in a general nursery, but usually are available through a grower specializing in the propagation of houseplants.

Moving on into the field of the newly introduced arborescent, or self-heading types, the best known is *selloum*. From Brazil, *selloum* is the first of the philodendrons to be used extensively in outdoor landscaping. Unlike most of the earlier mentioned philodendrons, *selloum* is a lover of light, and in areas of relatively high humidity will thrive in full sun.

It also will stand several degrees below 32° F. without damage. It grows erect on its own trunk, tree-like, forming a spherical crown of huge bipinnate leaves. In the past two or three years *selloum* has been crossed with various other arborescent philodendrons resulting in a group of hardy and beautiful hybrids. "Evansi" is one of these, the other parent being *speciosum*, one of the giants of the philodendron family. The demand for "Evansi" still exceeds the production. Other even newer hybrids are being propagated at the present by a few specialists in this field and a limited number of these plants are available to hobbyists willing to pay premium prices for rare and interesting specimens. A few more species of arborescent philodendrons now are being grown and tested for hardiness, but they are so rare even in their native habitats in Latin America that few will be on the open market for several years. Among these are: *eichleri*, "the granddaddy of all philodendrons," whose great arrow-shaped leaves become six feet or more in length; *bipinnatifidum*, with deeply cut leaves carrying rosy pink coloration in the veins on the underside; *undulatum*, carrying its undulated arrow-shaped leaves upright; and *mello-barretoanum*, one of the rarest of the arborescent philodendrons, having finely cut leaves on a spiny trunk.

Earlier, I mentioned *wendlandi*. This philodendron is quite different in form from any other and is very desirable. Its growth habit reminds one of a birds' nest fern. Short thick petioles, somewhat resembling the pseudobulbs of an orchid, carry stiff elongated oval leaves closely grouped to form a compact rosette. I highly recommend this species, where a slow-growing, attractive plant is desired.

For greenhouse hobbyists the more difficult species present a whole new array of spectacular types. *Gloriosum*, with its large round leaves of velvety texture, dark green with white veins, *verrucosum* with heart shaped green and red leaves and fuzzy petioles, *corsinianum* of the tissue thin colorful heart shaped leaves, *mamei* and *soderoi* with their interestingly variegated foliage, are but a few.

Culturally, the philodendrons are not difficult to satisfy. All appreciate a well drained soil on the acid side. For a potting mix, a basic formula of ½ sandy soil, ¼ leaf mold, ¼ peat moss will suffice. The addition of bone meal is recommended. The soil should be kept moist at all times, and if possible, also the material used as a totem-pole. For the house plant types, a good source of daylight without direct sunlight is needed. A half-strength feeding of a good all-purpose liquid fertilizer

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The Culture of Tuberous Begonias

By ALEX FORREST

WITHOUT doubt tuberous begonias are becoming more popular each year. They are available in a great variety of form color and size. There are single, and double flowered varieties which may be plain or crested, ruffled or fringed, and the trailing or pendula. Trailing varieties become bushy if pinched back while in early growth.

Tuberous Begonias are not hard to grow, and are rewarding in so many ways that they are worth any special attention given them. They bloom for weeks or even months, and they can be grown for years. Shelter from strong winds is highly desirable, and shade is necessary especially from 11 a.m. to 5 p.m. They do well in shade cast by trees or in window boxes on the shaded side of the house. A small greenhouse without mechanical cooling or humidity system is shared by the tuberous begonias with tomato plants. It is shaded with two layers of cheesecloth during the months when the outdoor temperature moderates to permit its use.

To start the dormant tubers a mixture of damp peat moss and sand is placed to a depth of about three inches in a flat or pot, and the surface is leveled without pressing it down. The tubers are gently pressed in the mixture about one inch apart, concave side up, so they are barely below the surface. When the shoots have grown two or three inches high they should be lifted carefully and potted in a rich rooting medium. The soil for potting should be rich and porous, consisting of loam and leafmold two parts, sand, peat moss and rotted manure one part, add one-half cup bone meal to each peck of the mixture, and mix thoroughly. The leaves of saskatoon bushes or willow are used for the leaf mold. I believe the harder woods produce better leaves for begonia growth.

Begonias cannot endure water-logged soil, so to ensure good drainage put about one inch of small gravel or flower-pot chips in the bottom of the pot. Seven inch pots or larger are best. Set the plant so that the top of the tuber is about one-half inch below pot rim, fill the pot with soil and press it down lightly with fingers. I pot feed with Hyponex solution. Ample moisture, especially in hot weather, is a prime requirement of tuberous begonias. Growing under conditions which are not to the liking of tuberous begonias—daytime temperatures being 80 degrees plus with low humidity and nights 45 to 50 degrees, I water at any time, yet have not had mildew although I do not spray to control it. As cold

weather approaches, gradually reduce watering. After the stems and leaves have wilted the tubers can be left in the pots or removed, and stored in a cool place, in peat moss, sand or vermiculite.

Most of the tuberous specimens are grown two stock as they support one another, the plant is more bushy and not one-sided. I do not have good luck propagating by tuber splitting. The best results are obtained by treating basal sprouts with Rootone and rooting them.

Ed.: In the Calgary Horticultural Society 49th Annual Show in the Stampede Corral, held at the same time as the A.B.S. Convention, Alex Forrest exhibited beautiful specimen tuberous begonias, while Mr. and Mrs. Oscar Green gave a "one man display" of begonias, shade plants and greenhouse companions.

Mr. Green's greenhouse is heated with circulating hot water heat. He has a fine collection of tuberous begonias of which the Alfred D. Robinson Medal award winner, B. "Golden West" is his favorite. He pots these in leaf mold, old manure and loam. He fertilizes these and all his beautiful garden plants with a mixture of Alaska fish fertilizer and Hyponex. The tuberous begonias are protected with a roof of cello-glass as the hail storms mow down a garden. During the hottest part of the day he rolls down a bamboo shade. His best mixture for rooting cuttings is charcoal, peat moss and Perlite.

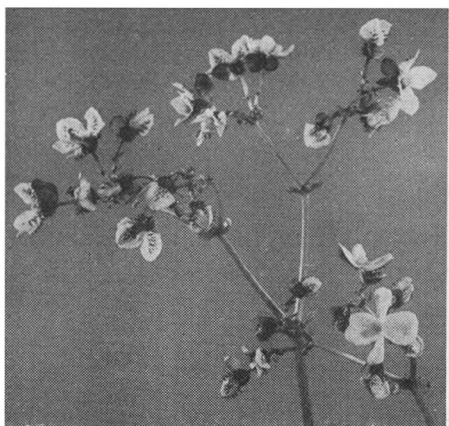
The *semperfloren* B. "Masterpiece" (grown from Clayton Kelly Seed Fund seed) with its white bloom is going to be most successful in the garden in their bright sun and short growing season. *Mimulus* grow sturdy and self supporting two feet tall. *Geraniums* had flowers larger than silver dollars.

At Lake McDonald Hotel, Glacier National Park, Joe Gustino grows tuberous begonias with heavy substance and intense color in almost pure wintered pack pony manure. The rooted tubers are sent in from Munroe, Washington, in April. These are planted in a cold frame in the Park and when the ground is warm enough the plants are set out in the gardens and baskets which surround the hotel. He feeds them once a month with dry commercial fertilizer, no fish fertilizer. Although being on Lake McDonald, there is not enough humidity and the begonias must be watered every day. At the end of the open season, about September 15, the tubers are lifted and sent back to Munroe, Washington, to await the Spring opening of the snow-clogged area.

Begonia Paulensis

By H. TEUSCHER

Curator, Montreal Botanical Garden



THOUGH this Brazilian species was first described almost 100 years ago, it does not seem to be common in cultivation. The books, "Begonias for American Homes and Gardens" by Helen Krauss; "Successful Begonia Culture" by Frederick Bedson; and "Begonias and How to Grow Them" by Bessie Buxton, do not mention *Begonia paulensis*. The Montreal Botanical Garden obtained the here illustrated (front cover) plant 26 months ago as a rooted cutting from the Botanical Garden—the "Palmen-garten"—of Frankfurt am Main, Germany. At first the cutting was planted in the usual humus-rich begonia soil, but developed only very slowly. Five months ago we moved it into a large hanging basket and set it in sphagnum moss which seems to suit it extremely well. Regular feeding with highly diluted cow manure brought the plant into vigorous growth until now it has a diameter of 38 inches. The uppermost of the flowering panicles is over 3 ft. tall.

As in most begonias, the male flowers open first, and on these the two sepals and the two petals are clearly distinguishable. The former are much larger and on the outside are covered with fleshy, maroon-colored hairs. The narrower petals are without hairs. The stem continues to lengthen and the panicle to expand, as the female flowers open. By the time the latter are fully developed and are ready to set seeds, the male flowers are gone. The panicle then contains only female flowers and extends

above the shorter, still developing panicles with open male flowers.

The ovary of the female flower is three-cornered and is covered with fleshy, maroon-colored hairs. One corner of the ovary has a brilliantly red-colored wing, and sometimes two or even three wings are developed from the same corner. The other two corners have only a narrow red rim. The female flower usually has five divisions among which sepals and petals cannot be distinguished. All of these have fleshy, maroon-colored hairs on the outside.

The flowers have a diameter of 1½ to 2 inches and are white inside. This is a stately and handsome begonia, its almost circular, glistening-green leaves being very striking also, and it deserves to be better known.

The Montreal Botanical Garden is one of the American Begonia Society's Test Gardens. Mr. Teuscher's interest and co-operation is appreciated.

Begonia paulensis, with its shiny, medium-green, peltate leaf, is distinctively striking with its ivory white sinus or eye from which radiate the main veins. The prominent veins first carry the ivory color of the sinus, then slowly merge into the green of the leaf, becoming recessive. The radial veins are joined by cross veins which tend in a circle giving a fascinating spider web effect. There are short, white, stubble-like hairs running the rim of each "spider web" section. On the underside of the leaf, we find the hairs are red, showing up distinctly on an apple green background and pointing the vein pattern. The leaf petiole is light green, covered with ¼" hair which takes on a pinkish cast as it approaches the leaf. At the leaf and petiole junction, there is a small, single row collar of red hair. New leaves appear quite red on the back with their concentrated red tomentum. When light shines through a new leaf, the web pattern on the leaf surface appears to be outlined in red and the leaf bordered with the same color.

J. L. C.

A.B.S. PINS, stationery, signs. Write to Fred Browne, 817 Novelda Rd., Alhambra, Calif.

African Violets or Saintpaulias

By MRS. W. H. HAWKINS

THE AFRICAN violet, botanically named *Saintpaulia tomaniba*, is not a true violet but a member of the Gesneriad family, discovered in 1892 by Walter von Saint Paul in German East Africa. Botanical gardens were the homes of most of these plants in Europe until 1928 when Mr. Armacost of California imported seeds from both England and Germany. After a few years of careful selection the firm of Armacost and Royston introduced ten varieties in 1936. Blue Boy was the worthwhile seedling from the English seed, the other nine from the German seed included the two well known varieties, Admiral and Amethyst. Since this time over 3,000 varieties have been introduced. These are being judged on their merit so the culls soon will disappear from the register. In Calgary you probably could find 400 named varieties including the recent introduction of the lush beautiful double pinks. With the advent of this elusive variety I feel sure the hybridizers may even now have more of these good introductions housed on their proving benches.

Contrary to the belief of many, these African violets are not "softies," but will acclimatize to many conditions; but if you will treat them as a living thing and use correctly soil, light, heat, water and nutriments, you will be rewarded with specimen and show plants which will have healthy vigorous foliage and produce flowers without cessation through the years.

Porosity of soil is an important factor. This can be gained by adding a most generous portion of very sharp sand to your mixture. Light they must have to bloom, 12-14 hours per day, natural or artificial, but no raw sunshine; filter it through a curtain. A night temperature of 60-65 is ideal, rising to 75 during the day. This makes for nice large blooms. African violets are humidity and fresh air loving plants, but no direct draft, please. A continued draft will cause the leaves to curl, the flowers will drop prematurely and the plant itself will have little or no growth and gradually succumb to stunt. Proper watering is essential. Each time a test shows the potting medium dry to the touch, fill the pot with tepid water until it runs into the saucer, leave for an hour then empty remaining water. Our water is highly chlorinated so I use cooled, boiled water. This also prevents hard water marks if dropped on leaves.

Established plants require nourishment, due

to leaching of porous soil; feed one of the recommended fertilizers at half strength every two weeks. You will observe the general rule of never feeding a plant when soil and roots are dry. These hints are not too complicated for plant lovers. Your other houseplants also will reward you if given the same attention as your African violets. A three inch pot accommodates a ten inch plant. Pot on at maturity to a 4 inch squatty pot. The exception is a 5 inch pot for African violets.

Two weeks before show time view your treasured plants with a critical eye and give them their grooming for the bench. Remove any marked or yellowed foliage, old flower stalks, also any excess growth such as crowns and off-sets which have appeared since their last clean-up. Scrub the clay pot, then wash your plant in tepid water, using shower spray or pouring water gently from a cup. Place in warm shaded place to dry.

Mrs. W. H. Hawkins, a director of the Calgary Horticultural Society, presented at their recent show a wonderful display of unusually large and different Saintpaulias. She recommends showing the plant with the pots dressed in foil. The violets were shown to their greatest advantage by wide display and sunk pots on a white wrapping paper covered bench. Look for her future article on growing under artificial light which she has promised.

ED.

—B—

Control for Pond Algae

FOR THE FIRST time since it was developed for recreation and irrigation purposes by the late E. J. "Lucky" Baldwin, the 5-acre spring-fed lake at the Los Angeles State and County Arboretum in Arcadia has just been successfully cleansed of surface algae by use of a special chemical. Almost completely covered with a heavy coating of algae, the surface of the lake was made crystal clear within a few days after spraying with a newly developed fungicide known as Phygon-XL. The Arboretum lagoon alongside the famous Baldwin Queen Anne Cottage and the Hugo Reid adobe now provides mirror-like reflection of its lakeside tropical trees and foliage. Arboretum Director William S. Stewart said the first attempt at spraying the lake with algae-killing powder

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Bulbs for the Shade Garden

By J. N. GIRDLIAN, Arcadia, Calif.



Angel Lily

THE SUBJECT of this article, *Crinum moorei*, is widely distributed in Southern California, and during September is one of the features of the gardens, being seen nearly everywhere and under all kinds of growing conditions and situations. Its graceful lily-like flowers of delicate pink stand out tall and stately from large clumps of foliage adding a note of distinction to the landscape.

This is a member of the amaryllis family and hails from South Africa from which country come many other crinums, but the genus is widely distributed all over the world. We have crinums from Asia, North America, Central and South Americas and India. Many of them are semi-tropical in nature and can be easily grown outdoors in Southern California, while others are tropical and may be grown only in a glasshouse. This particular one is semi-hardy in nature and may be grown successfully in the open as far north as Washington, D.C., if the bulb is planted deeply to protect it from heavy freeze.

The bulb is large; sometimes attaining a diameter of twelve inches and a length of two feet or more, but a bulb three inches in diameter is blooming size and is the size usually

sold. This for convenience and economy, since a "mother bulb" weighing many pounds would be difficult to handle and the postage on it would be prohibitive. In California the bulb is planted with only half of the bulb below the surface of the ground (now don't you ask me which half is below the ground), but in colder sections the bulb is planted deeper and in the North the whole bulb is covered including most of the neck, and a winter mulch is applied for further protection against the cold. The type of soil does not seem to matter as I have grown it in pure sand and heavy adobe, in acid soil and alkaline, and always with success.

What it really appreciates is a certain amount of shade, but here again the degree of shade does not seem to matter just so long as it is shaded from the hot afternoon sun. Some of the finest specimens I have seen were in nearly total shade. I do not mean to imply that this plant will not succeed in full sunlight. Far from it, there is no spot in the garden where it will not grow and bloom, but the foliage has a habit of burning and dropping off just about the time of blooming, and the plant looks bare and unsightly when it should have been most beautiful. The proper place to plant would be the east side of a building or a tree where it will receive the morning sun and afternoon shade, but it will do equally well under a tree where it receives half shade all day long.

The leaves are about five inches wide and two feet or more long, arching gracefully. About ten leaves are produced from the tip of the bulb usually eighteen inches above the ground. During late August and September the flower spikes emerge from the side of the bulb, and a well established bulb will produce several flower stems in succession over a period of several weeks. By the time the flowers open they are held three feet high and well above the foliage. Each stem carries ten or more flowers which open one or two at a time so that there is never more than three flowers fully open at one time. The color of the flower is quite variable if grown from seed, ranging from the purest white to bright pink, and this is a good reason why you should grow some from seed. Of course, once you obtain a color that you prefer, you can easily increase it from young bulbs that are freely produced all around the mother bulb, each one of which

will be an exact duplicate of the original bulb as to the color and form of the flower. Large clumps of plants produce seeds freely, but if you have only one bulb and want seeds you must pollinize by hand. This can be accomplished by taking the white, powdery pollen from a flower just opened and applying it to the very tip of the stigma of the flower which is two days old. The reason for this is that the pollen is ripe as soon as the flower opens, and is dropped soon after, but the stigma is not ready to receive the pollen until the second or third day. In fact a flower that has just started to wilt is the best one to apply the pollen to. The ovary will soon swell and seeds will ripen in a very short time.

Soon after the flowers have all opened, the stem will weaken at the base and it will lie flat on the ground. Here the seeds will develop and drop. They are about the size of walnuts but green, and the shape of the seed will depend on just how many seeds were formed in the pod. They are fruity in nature and lack the shell, and since they contain plenty of moisture and starch they are not dependent on water or rain in order to sprout. On the contrary they begin to sprout soon after dropping on the ground, and it is wonderful to watch and note the method of development of the young plant.

The seed will start to grow from anywhere on its surface depending on how it is resting on top of the ground. (Never cover the seed as it will rot.) At first a round worm-like growth will emerge and lengthen to about two inches, bending over until the tip touches the ground. At this stage the tip begins to swell and becomes a fairly large bulb. Then, from the base of the bulb roots emerge first and penetrate into the soil. Later the leaves push out of the tip of the bulb and soon you have a perfect plant, in every way a duplicate of the large bulbs but small. At this stage the whole plant is on top of the ground, but soon the roots anchor themselves into the soil and begin to pull and pull, and shortly the whole bulb will disappear under the ground. It will take three to four years for the seedling plant to bloom.

It is very interesting to take the seed and place it on a table top, desk or window-sill and watch it grow. Of course you would not expect to have it flower under these conditions, but it will grow for several months on the nourishment contained in the seed; will form the bulb, roots and leaves. And when it finds out that it will be unable to find soil and moisture to develop into a mature plant it does not die, but forms a perfect dormant bulb and if not planted will stay viable for

Lilies . . .

& Their Cultural Problems

ONE OF our chief problems in lily culture is combating the virus disease which is indicated by uneven distribution of green on the leaves. While the virus does not affect flowers the first year, it does definitely affect the health of the bulb and the plant may not flower the next year, or it may even die.

This virus is carried from one diseased plant to a healthy one by aphids, so the only control is spraying continually for aphids or by digging up and burning a diseased plant.

Speaking on "Lilies of the World" before the San Gabriel Valley Branch, James N. Giridlian, a frequent and welcome contributor to *The Begonian*, pointed out that some species of lilies are more resistant to disease than others; they may not show it or can get along with it. The very showy and beautiful Gold Band Lily and Rubrum lilies from Japan are called the non-social lilies because they must be planted by themselves as they are very susceptible to disease from other lilies.

The greatest danger from this disease is from imported bulbs. Most of the Japan bulbs are so affected, but it doesn't matter there, as they are not grown for flowers, but for food and they will be cooked.

In discussing species lilies, Giridlian pointed out that they are found all over the world. We, as gardeners, must choose those whose native homes are similar to our own climatic conditions.

At the beaches, lilies can grow in full sun, while inland, they appreciate light shading or filtered sunlight as in lath house conditions. The new hybrid lilies, which are easier to grow, he said, are "out of this world in beauty."

Jimmy, as he is known to his many friends,

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a long time, ready to grow with the slightest encouragement. Nature is wonderful.

It is highly probable that this plant will be a benefactor to mankind as it contains medicinal properties, and your government is experimenting with it for chemicals to combat arthritis and similar ailments.

By the way, where it is extremely cold these bulbs may be dried off in the fall and planted out again in the spring after being stored all winter in a warm place, either in a pot or bare root. In fact, it will bloom more freely for having rested in this manner.



Alfred D. Robinson Memorial Medal Awards

AFTER many hours of deliberation and study the Awards Committee agreed to grant two Alfred D. Robinson Memorial medals this year as none was awarded last year.

Begonia "Glendale" (A.B.S. registered No. 23)—a seedling from *B.* "Sunderbruchi," the other parent being unknown, was voted the medal for 1950 under the new rules (*The Begonian*, p. 185, 1956). This plant is a small star leaved, rhizomatous begonia, producing many basal leads which make a full compact plant. The leaves are bright green, slightly chartreuse, with lighter green veins and dark brown-green areas between. The under side of the leaf has maroon red areas opposite the dark blotches on the top. This beautifully foliaged plant has good substance in the satin-like surfaced leaves.

Mrs. Eleanor Slocum, originator of this begonia and member of the El Monte Branch, was the proud recipient of the Robinson Medal which was presented to her at the 1956 Convention.

The plant belonging to the Korts', which has been in two shows in Pasadena, was taken from a glass house the latter part of February

1954 in full bloom to the Brookside Park Pasadena show, where it was housed in a tent in some very cold and wet weather for ten days and was brought home without damage.

Begonia "Virbob" (A.B.S. registered No. 10) was voted the medal for 1951. This plant is a small, star, rhizomatous seedling of *Begonia boweri*. Judging by the leaf shape, the other parent plant must have been a star begonia. The face of the leaf is a velvety, bronze green with light chartreuse green veins and the back of the leaf is deep maroon with lighter green by the veins. The rhizomes of *B.* "Virbob" are very active, assuring a full, well proportioned plant the year around. There is very deep maroon coloring on the petioles. See *The Begonian*, 1956, p. 78, for picture.

The late Mabel Walker introduced this plant to the begonia world.

A plant of *Begonia* "Virbob" has been grown to perfection by an Inglewood member and has been exhibited in Convention Shows where it won first place for three years.

EDNA L. KORTS

Chairman, Awards Committee, 1956

Scientific Hybridizing: Part 2, Pollination and Fertilization

By MERLE H. NELSON, *Taxonomist*

WITH the completion of meiosis, the reduced individuals continue to develop into the pollen grains and unfertilized eggs within the ovary. At their maturity, the pollen grains are shed by the anthers and the stigma becomes receptive. The time of maturity of both can be simultaneous or at different times. The mature pollen grain upon reaching the receptive stigma develops a long tube that grows down the inside of the style to the cavity of the ovary. The pollen tube then grows along the ovary wall until it reaches one of the ovules which it enters. Never more than one pollen tube enters a single ovule. When the pollen tube penetrates the ovule, it ruptures and discharges into the ovule the male nucleus or chromosome bearing portion, the nucleus of both bodies unite, the act of fertilization, the egg then becomes a zygote.

When the male and female nuclei come together within the egg and fuse, the two sets of chromosomes become arranged on a single plane or spindle and splits longitudinally into identical halves. A complete complement moves to opposite sides of the cell, the zygote then divides into two cells—each with exactly the same number and kind of chromosomes as the first cell. The nucleus of each has a double set of chromosomes, half of which are paternal and half of which are maternal in origin. This type of cell division (mitosis) is concerned with the development

and growth of the new plant, every new cell developing in a like manner throughout the life of the individual. Thus from the single fertilized cell arise two cells, from these two, four and the four, eight, and so on. In this way the plant grows by cell division. The importance of this simple mechanism is that it results in every cell having the same number and the same kind of chromosomes as all other cells within the individual. The plant may change in form and size from week to week, but whether it be seed or seedling, half-grown or fully mature, the number and kind of chromosomes remains exactly the same in every cell, except once and that is when the reproductive cells are formed.

Following fertilization, the petals and stamens wither, having served their purpose. The ovary begins to enlarge to form a fruit, while the contained ovules are transformed into seeds. Fertilization normally provides a stimulus that has far-reaching effects. The mechanism of heredity is such that the chromosomal units are preserved unchanged from cell to cell and generation to generation in an unbroken line. The very existence of heredity is the fact that like begets like—is dependent on the unvarying character and continuity of the chromosomes. Variation in inheritance is possible, because the mechanism permits a reassortment of the chromosome parts once in every generation, that being when the reproductive cells are formed.

Zoysia Matrella Grass

BECAUSE of increasing public interest in the merits of *Zoysia matrella* grass, common to the Philippines and east Asia, Dr. L. B. Martin, plant physiologist at the Los Angeles State and County Arboretum in Arcadia, has announced that several test plots of this grass species may now be seen within the Arboretum grounds. The larger of these plots, established in 1953, can be viewed in the center lawn section just inside the Arboretum entrance gate. Another plot is under Arboretum test in front of the "Lucky" Baldwin coach barn. The original seed was received in 1950 from the United States Department of Agriculture Experiment Station in Puerto Rico. From the resulting plants the selections now on display were chosen.

Particular interest is being evinced in *Zoysia matrella* grass in this area since some commercial interests are said to be flying large quantities of the grass into Southern Califor-

nia from Arizona and Florida growing areas.

Tests to date, Dr. Martin said, have proved *Zoysia matrella* grass to be drouth tolerant compared with usual lawn grasses. It can grow in almost any type of soil. It is primarily a grass that thrives during the warm season. In the winter, however, it turns brown, similar to the well known Bermuda. In the eight selections of *Zoysia matrella* now being studied at the Arboretum, all have been found to possess a carpet-like texture. It will stand much foot traffic, and considerable wear in a play area. The grass, so far, has not suffered damage by commonly recognized grass diseases and insects. Weeds do not seem to invade an established lawn of this grass, because of the tight growth of its stems and leaves. It responds favorably to either high or close mowing, but power mowers are desirable. It requires the usual spring and fall fertilization for best appearance.

Are the Begonias & Gardens Prepared for Winter?

By LOUISE CRAMER

REWARD your garden by giving it and your begonias a good clean-up now. It will not only keep your plants in good condition now, but also prevent plant destruction next year, as many insects and fungus spores winter-over in the soil and adjacent shrubs. Clean up old debris and burn infected leaves and plants. Using a good oil spray insecticide in combination with a fungicide, spray the whole garden, soil, shrubs and trees. Spot spraying will not do; the job must be complete. The use of fungicide is especially important now to prevent mildew on tuberous begonias which will burst forth in a new show of color since the daytime temperatures are lower. Mildew is especially active during cool nights and for this reason, watering must be done early in the day so the leaves of begonias, phlox and roses are dry by nightfall. Protect the ferns while giving the oil spray as some ferns resent oil, but do not forget to come back to them and give a spraying designed for tender leaf plants. Don't forget to leave bait for the slugs and snails.

Begonias which have been growing outdoors in the garden still will give a fine display of colorful blossoms right on into winter if a heavy frost does not lay them low. Many varieties are quite hardy needing only mulching with leaf-mold, shavings or leaves to prevent freezing of roots or rhizomes. If succulent stems and leaves do go down with the frost, the begonias will come back in the spring twice their size if the freeze was not too severe. Since we can not determine frost damage, it is best to be on the safe side by taking cuttings of valuable plants, those which are hard to find, or those which we prize. This safety factor also increases the supply of your favorite plants which you may share with your friends.

Favorite or tender plants may be lifted from the garden, potted and protected from frost. Cardboard boxes may be used to cover a small number of plants. Protect a frozen plant from the sun. If sun gets to a plant before it thaws out, the expansion of the water in the cells caused by the heat of the sun, explodes the cells and the plant collapses.

Do not think the fog can replace the water hose used between rains. A dry plant will freeze more quickly than a well watered one. When the soil is dry, it does not absorb the daytime heat readily and therefore can not radiate protecting warmth at night. Damp

soil is a good conductor of heat and stores large amounts of daytime heat, so there is greater warmth at night protecting against damaging cold air. Overhang from roofs or trees helps cut down heat loss at night. Air circulation also helps prevent frost damage. Potted plants set on moist soil freeze less quickly than those on a bench in an unheated glasshouse.

BEGONIA CARE

Tuberous begonias should be watered as long as they have leaves and stems as they still are storing food in the tuber for next year. Nature will tell the tuber when to rest without withholding water. If the tuber is in the ground, leave it undisturbed. If in a pot, remove the stub end of the stem left when the tuber has gone dormant and dust the tuber opening with sulfur or good bulb dust. I dry the pot in the sun for a few days and store the tuber undisturbed in the soil in which it was growing, by laying the pot on its side in a cool place protected from freezing. This way the root system is not destroyed and in the spring new roots branch out from the old established roots.

Actively growing begonias which do not go dormant in the winter should be shifted to larger pots if the top growth or roots protruding through the drainage hole indicate the necessary change. This repotting is not done by the bare root method, but by slipping the plant with its old soil into a size larger pot and adding new soil. Those plants which do not need repotting can be top dressed with a mixture of half leaf mold and half old manure. In either case the root vitality is preserved and the roots continue to seek food in the new soil.

This transplanting method may be done with rexes which do not show signs of dormancy. These rexes are adding new leaves, not dropping them as they go to rest, leaving only a bare rhizome. The "sleepers" should not be disturbed, neither should it be discarded to the trash can as a dead plant. Keep this rex just moist by an occasional sprinkle, never letting it dry out completely. This dead looking, swollen, surface root will surprise you in the spring by sending out new growth along the rhizome.

The lanky fibrous and cane begonias with only leaves at the top indicate they need food to support leaf growth along the stem. Transplant these begonias into new soil and prune back two joints from the top to force

A Non-Member Comments

ACCOMPANIED by my wife, daughter, and a bachelor visiting from Minneapolis, I attended my first major flower show Sunday, August 26. I say "major" advisedly, for there was as much difference between the A.B.S. National Show and the community affairs which had been my only previous contacts with flower exhibiting as there is between the begonias on display and those few struggling plants in my own garden.

From a horticulturist's standpoint all that the four of us had in common was our arrival time, yet each of us found something that interested him particularly and made the visit a pleasure beyond anticipation.

To get me out of the way, I was impressed most, I think, by the two displays on genetics in the educational section of the nomenclature room. I felt most pedantic (thus highly pleased with myself) when I was able to explain to my little troupe the functioning of dominant genes in hybridizing and point to the excellent examples furnished.

Cousin Henry, whose interests run to sports cars and racing, took extra copies of the program to send to friends whom he thinks need only to hear of the American Begonia Society to become avid members.

My wife marveled at the perfection of the many exhibits, but came into her own at the Seed Fund table, where Mrs. Gee sold her three hare's foot ferns. Neither of us had seen the species before, and a hanging basket exhibit at the door as we came in took both our breaths away. We have an enclosed patio in our home surrounded by arches, at least one of which is destined to have this beautiful fern as soon as nature permits.

It was my daughter, though, who was most impressed. She admired her mother's choice of fern, her father's erudite lecture and her cousin's marveling at the wonders of California gardens. But then she saw the entries by

out new growth along the stem and new basal shoots. Repeat the process until a full bushy plant is developed. Never prune a begonia back all at once as the plant may be stunted or shocked into fatality.

Continue the feeding program if the begonia is in active growth using usually those liquid fertilizers which are immediately available to the plant. Some emulsions which depend on enzyme action in the soil are not good for winter because the lowered soil temperature reduces the action and the plants starve from lack of food.

children of members (Division K) and was completely enthralled. At her age, however, (she's nearly ten) she enthralled easily and often, so I didn't catch the spark of her enthusiasm till the next day.

When I came home from work she couldn't wait to show me her 1957 exhibit. She had washed out a half buried metate from our collection of Indian lore, and guided by her mother, had filled its shallow bowl with a haphazard potting mixture in which she had planted a couple of begonias, a sprig of miniature-leaved ivy and a vine with leaves like tating shuttles marked like Klondike melons. I have promised her that if she tends her little garden I will join the Society before next year so she can become an exhibitor.

Whatever comes of this garden, I'm impressed. You know, it ought to look all right.

CLYDE BROWNE, II

—B—

Lilies . . .

(Continued From Page 225)

is an expert horticulturist who loves all plants, but specializes in the rare bulbs and exotic plants. He is an artist and excellent plant photographer. Many rank amateurs in his classes at Pasadena City College, Monrovia High School, and Whittier College have learned to love orchids and successfully grow many common and unusual plants. He illustrated his talk with slides from one of the foremost growers of species lilies, Edgar L. Kline of Lake Grove, Ore.

In discussing the exotic, Giridlian mentioned that he is growing *coffea arabica* right by his door. The bush is four years old and is about six feet tall, having grown about two feet this last season. It likes lots of water and partial shade, as in its native haunt it is grown under larger shading trees.

The leaves of this shrub resemble a gardenia, while the very upright, five petaled flowers, which resemble an orange blossom, are clustered at each leaf axil. There are flowers, green berries and red ripe coffee on the bush at the same time. The berries are about one-half inch in diameter.

He doesn't think Hills Bros. need worry about his bush.

Clayton M. Kelly Seed Fund Flight

Please note: For the past two years you may have noticed that some of the begonia seeds offered by the seed fund have not been described as to growing conditions et cetera. This is because we have had no research director for this department. It is not possible for one person to carry on the many activities of the seed fund, therefore in order to maintain this service properly we are asking if there is some member who will serve in this capacity. Any suggestions will be appreciated—contact Clayton M. Kelly Seed Fund for particulars.

NO. 1. B. CARLETON'S DELIGHT—Double pink semperflorens x single pink semperflorens. We have not been able to fill all the requests for double semperflorens seed as they are almost impossible to find. We offer you the above cross and hope you will get a few doubles from a small packet of seed. Please read the above carefully—we do not want any misunderstanding concerning this offer. We had perfect germination on above. Suggest you state a second choice when ordering. Small packets, 25c.

Selections of choice Begonia seed: No. 1. B. REX HYBRIDS—Mixed, fresh seed from a large and beautiful collection. 60c per packet. No. 2. B. IMPERIALIS SMARAGDINA—A choice variety with emerald-green leaves. Introduced from Mexico. Small packet 25c. No. 3. B. ORANGE RUBRA—Beautiful cane type plant having large clusters of orange colored flowers. 25c per packet. No. 4. B. BAYERN—Similar to *B. "Preussen"* except for its lower growing habit and more uniform spotted leaves; large pink flowers. 25c per packet. No. 5. B. HELEN W. KING—Tall growing erect, branched; leaves triangular, lance-shaped, bronze green, silver spotted, red beneath. Flowers bright pink. 25c per packet. No. 6. B. FLEECEALBA (A.B.S. reg. No. 2)—A hybrid by Florence Knock. Minn. New leaves are pure white and heavily fleeced. Flowers are large, pure white on tall stems. Plant is upright rhizomatous. 25c per packet. All the above mentioned are freshly collected from this season's bloom.

To continue our sale of semperflorens we offer you the following outstanding varieties. No. 1. B. SEMPERFLORENS WINTER ROMANCE. No. 2. B. SEMPERFLORENS LOVELINESS. No. 3. B. SEMPERFLORENS SAGA. No. 4. B. SEMPERFLORENS PICO-TEE. No. 5. B. SEMPERFLORENS ROSE KING. No. 6. B. SEMPERFLORENS CARMEN ROSE. No. 7. B. SEMPERFLORENS THE QUEEN. No. 8. B. SEMPERFLORENS

ENCHANTRESS. To clear, 8 packets for \$1.00.

Start these seed now for colorful pot plants.

Ideal for gifts. Shade and greenhouse plants. No. 1. CALCEOLARIA HYBRIDA GRANDIFLORA—Potsdamer strain. Beautiful greenhouse plant. See July issue of *The Begonian* for description and culture. Back issues of *The Begonian* may be purchased from our Librarian. No. 2. IMPATIENS MIXED DWARF—New hybrids that make perfect companions for your shade plants. No. 3. GLOXINIA—Mixed. MERKLE POINTELLI. No. 4. GESNERIA CARDINALIS—Scarlet flowers. No. 5. NAEGELIA HYBRIDA NANA—Beautiful plant for pot culture or hanging baskets. Any of the above may be purchased for 25c per packet.

If the weather is still warm where you live, tiny seeds such as the ones mentioned above should be sown in a reasonably cool place such as a cool basement. As soon as the seedlings sprout, the flats should be placed in a well shaded but airy greenhouse or cold frame. Gradually expose to brighter sunlight to avoid spindly seedlings. Damp-off, which is a problem during warm humid weather, may be avoided by treating your flats before planting with one of the products used for this purpose. Inexpensive and harmless to plants. ORCHID—EPIDENDRUM RADICANS—Hardy epiphytic orchid with orchid to red flowers. Culture the same as Vanda. See June issue of *The Begonian*. 25c per packet.

Other genera. No. 1. ANIGOZANTHOS MANGLESI—Fresh seeds from Australia. For complete description see July issue of *The Begonian*, p. 160. 25c per packet. No. 2. TABEBUIA PENTAPHYLLA—Bignoniaceae family. Beautiful tree with large showy white pink-veined flowers. Not hardy in cold climates. No. 3. CIBIXTAX—DONNELL SMITHI—Bignoniaceae family. El Salvador. No. 4. TEKKA [TECTONA GRANDIS]—El Salvador. Verbenaceae family. Showy flow-

ers. No. 5. VITEX NEGUNDO—Do you keep bees? This plant is grown especially for bees and is nice in the herbaceous border. Flowers are deep lavender-blue in showy clusters. However, stems may be killed by cold but the roots send up new stalks in the spring and will bloom the same year. No. 6. VITEX TRIFOLIA VARIEGATA — Similar to the above but with variegated foliage but not all seedlings will be variegated. \$1.50 for entire collection or 25c per packet.

About this season of the year we begin to wonder what to use for flower arrangements. Have you considered the many types of dry material for this purpose? Here is a selection of choice and rare seeds to plant now or later that will produce fascinating seed pods for arrangements. No. 1. THERMOPSIS—Showy perennial herb of the pea family. Grown for its ornamental value in the herbaceous border. Flower are yellow, seed pods are oblongish or curved. Perfect for arrangements when dried. Seeds should be sown now while fresh. Germination is slow and plants are drought resistant. No. 2. DIGITALIS AMBIGUA—Figwort family. Yellow foxglove. Flower spikes are like candles of soft yellow with brown markings. Seed spikes may be dried for arrangements. No. 3. ANGELICA—Herb of the carrot family. Beautiful fragrant foliage plant for background planting. Flower heads are large white globes. Rare and almost non-existent. No. 4. ECHINOPS. Globe thistle. Handsome thistle-like herb of the compositae family. White woolly foliage and lovely blue globe flowers. Nice for arrangements fresh or dried. If you wish to dry the flowers they should be cut while still blue and dried upside down. No. 5. NICANDRA PHYSALODES—Apple-of-Peru. Sometimes called "shoo fly" plant. Fast growing border plant with heavenly blue flowers and interesting seed pods. Other genera, \$1.00 or 25c per packet.

MRS. FLORENCE GEE
Seed Fund Administrator
4316 Berryman Avenue
Los Angeles 66, Calif.

Algae Control . . .

(Continued From Page 223)

apparently has provided the Arboretum with a permanent method of keeping the lagoon clear of the unsightly green growth which has marred its beauty.

Phygon XL, first introduced in 1943, is now used as an algicide in lakes of Wisconsin, where it is said to be 100 times more efficient than other algaecides in killing water weed. It also is being used in New Jersey, and in indus-

Philodendrons . . .

(Continued From Page 220)

once a month will promote vigorous growth. Wiping the upper surface of the leaves with milk will keep them clean and glossy. Although the outdoor type arborescent philodendrons will stand sunlight, they maintain a richer color is grown in filtered light such as under a large tree, and can stand a full-strength feeding of fertilizer about every two months. Pests are no problem with philodendrons in my experience. However, if any insects appear on your plants, any spray recommended for house plants will take care of them.

Because the name, "Split-leaf Philodendron" is commonly applied to *Monstera pertussum*, perhaps a few words about this very popular plant are in order. *Monstera*s are another genera of the aroid family, which also contains the philodendrons as well as the anthuriums, the dieffenbachias, etc. Quite frequently the question arises as to the difference between *Pertussum* and *Monstera deliciosa*, the "Swiss cheese" plant. Both plants have similar growth habits, both having perforations in the leaves as well as "splits" when well-grown. The one infallible distinction is the possession of, or the lack of, ruffles or "horns" on the petiole, just where it meets the leaf. At this point the petiole of the *Monstera deliciosa* has several "horns" or ruffles which give the impression of heavy wrinkles. The *Pertussum* has no such characteristic.

I recommend the philodendrons for all year-round enjoyment, whether in your living-room planter, in your patio, or in your greenhouse. No waiting all year for a bloom to give an otherwise drab plant a touch of glamor such as with our orchids, and no dormant season to interrupt the satisfaction gained from a well grown plant.

trial regions of New England. First use of Phygon XL in California was in irrigation canals and later in ponds. It has cleared water for fishing, swimming, boating and irrigation. So far, the anti-algae chemical does not appear to have harmed the large stock of fish in the Arboretum lake, which is one of the historical water spots of Southern California.

Home owners with small garden pools can control surface algae by spraying the surface of the pool with Phygon XL powder dissolved in water used at the rate of 1 ounce per 250 sq. ft. of pool water surface.

At Arboretum

Education Program

THREE courses of instruction, at no fee, in subjects relating to plants will be offered to the public by the Los Angeles State and County Arboretum in fall classes starting October 8 and ending December 6. The subjects will be: Tree Identification, a Leaders' Course, and Botanical Sketching. Daytime classes will be held outdoors, weather permitting. Dr. Louis B. Martin, in charge of education, said registrations until October 4 will be received by mail at 301 N. Baldwin Ave., Arcadia, or by phone at DOuglas 7-3444. The opening session of each of the eight-week courses will be held at the Arboretum Gatehouse, 3091 N. Baldwin Avenue. Classes will be limited to 25 persons.

The Tree Identification Course will be offered on Thursdays, from October 11 to December 6, from 3:30 to 4:30 P.M. Students will be taught how to identify many of the trees found in home yards and public plantings. This course for adults and children, as young as eight years, is planned to help the amateur horticulturist and botanist. New arrivals to California and Scout merit badge aspirants should obtain valuable information from these outdoor meetings.

From October 8 to December 3, on Mondays, the Leaders' Course will be in session between 7 and 9 P.M. It is designed for leaders of youth groups in nature study and plant lore. The leaders will get a course in botany and its application to natural history. Leaders also will learn how to instruct their own groups on use of the Arboretum.

Botanical Sketching classes in three age brackets will be: Children, 7th and 8th grades, Mondays, from October 8 to December 3, hours, 3:30 to 4:30 P.M. High School, Wednesdays, from October 10 to November 28, hours, 3:30 to 4:30 P.M. Adults, Thursdays, from October 11 to December 6, hours, 9:30 to 10:30 A.M.

Sunday Arboretum visiting hours are from 10:30 A.M. to 4:00 P.M. Conducted tours leave from 301 N. Baldwin Avenue.

Calendar

Oct. 26—Redondo Beach — "Ferns and Their Culture," LeRoy Borchardt. Bazaar.

Oct. 24—San Gabriel Valley—"Holiday Hints" from Aleene's and Harvest Festival.

Our Founder

'Pop' Dyckman

Dear Members of A.B.S.:

So many of our older members asked about "Pop" Dyckman at the recent convention, and as time was limited for all of us, we thought a brief word by way of *The Begonian* would be in order. He was forced to give up every activity when he was so very ill over two years ago, but he is improved after four months on the desert and expects to go back Oct. 1st. He cannot exercise on account of the respiratory trouble he has had ever since he was employed at the shipyards during W.W.II.

So far there have been no complications—he looks fine and enjoys short visits with old friends and members of the Begonia Society. He enjoys T.V. and hopes to drive the car again when the doctor gives his approval.

He wants all of you to know how grateful he is for his birthday card shower, and all the messages and calls, and hopes this will be a banner year for the Society.

Hugh and I expect to make a report to him and Mrs. Dyckman, of the convention proceedings very soon.

THE HIXONS

—B—

Leaves . . .

FOOTHILL

Meets in the same building, but in a new location—it has been moved from the Park directly north across the street. It has had a face lifting and now is an attractive green color. With several very nice improvements on the inside, it is now called the LaVerne Community Building, the address of which is 2039 Third St., La Verne.

—B—

REDONDO BEACH AREA

Members enjoyed an August potluck supper meeting in the patio of Mr. and Mrs. Olin Eipper. The colored films, "How to Grow Beautiful Begonias and Fuchsias," and "Orchids of Hawaii," were shown by Bob Uttermohler from the California Spray Chemical Corp. A lively question and answer period followed.

In September, Ken Terry showed a film, "Roses, Their Culture and Pruning." Mr. Terry knows his "A's to Z's" on gardening. Joe Taylor, past A.B.S. president, spoke on "My Favorite Begonia."

Minutes, National Board, Aug. 25

The meeting of the National Board of the American Begonia Society was called to order at 2:00 P.M., Long Hall, Plummer Park, Los Angeles, by President Taylor and opened with Pledge of Allegiance to the Flag led by Clarence Hall and reading of Aims & Purposes of Society by President-elect Trowbridge.

Secretary's and Treasurer's reports read and approved.

The annual reports of the Membership Secretary, Librarian, Research Director, Slide Librarian, Awards Committee Chairman and Parliamentarian were read.

Historian Pearl Bauer presented an attractive book to the Board. This book was a complete file of the year's work of the members and Branches and was placed on display in the Nomenclature room.

Seed Fund Administrator Gee read following report. Income—\$80.75, Expense \$7.00, Remitted to treasurer \$73.75. Balance on hand \$100.00. Mrs. Gee stated that the work had grown to such proportions that she would need assistance this next year.

Moved by Louise Schwerdtfeger, seconded by all that Mrs. Gee be given a vote of thanks for her work of the past year. Carried.

Convention Chairman Trowbridge gave a warm welcome to all attending the Convention.

Ballot Committee report given by Mrs. Arbuckle as follows. Ballots received 271. President—Frank Coe 189, R. H. Terrell 81; Vice-President — Alva Graham 138, Hyacinth Smith 133; Treasurer—Opal Ahern 168, Pearl Parker 100. One ballot did not vote for President, three ballots did not vote for Treasurer.

Secretary Stoddard reported 271 ballots received for counting and six ballots received after closing date making 277 ballots received. \$1.69 returned to Treasurer from money advanced to pay for ballots.

Business Manager Stoddard reported Advertising for August—\$46.25, Paid to treasurer—\$48.80, Agency Discount \$1.20. Balance due \$164.16. 29 letters written since rate change in effort to obtain new Ads.

Mr. Sault read report of Auditing Committee. Books of Treasurer, Membership Secretary, Seed Fund Administrator, Business Manager and Librarian found correct and in good order.

UNFINISHED BUSINESS:

Mr. Maddox substituting for Mr. Terrell as chairman of the By-laws committee gave each member a corrected copy of the Constitution and By-laws. Moved by Mr. Meyer, seconded by Mrs. Steele that the recommendations of the By-laws committee be accepted. Carried.

President Taylor thanked Riverside Branch for having the Constitution mimeographed so every member could have a copy.

NEW BUSINESS:

President Taylor announced a meeting of the Finance Committee at his home Sept. 16th at 3:00 P.M.

Branch Reports and announcements were given.

There being no further business the meeting closed to meet again September 24th.

Respectfully submitted,
Arline Stoddard, National Secretary

—B—

WHITTIER

New officers are: Pres., Mrs. Gladys Holmes; V. Pres., Mr. Dan Polacci; Sec., Mrs. Rebecca H. Olson; Treas., Mrs. Edna M. Hill; and Nat'l Rep., Ann Rose.

BEGONIA X FISCHER'S RICINIFOLIA

Lovely light green leaves with red hairs on stems. Winter bloomer with pink flowers.

\$1.00 F.O.B. Santa Barbara

RUDOLF ZIESENHENNE

1130 N. Milpas St., Santa Barbara, Calif.

MINIATURE ROSES

for Pots, Edging or Low Hedges

1 RED, 1 PINK, 1 YELLOW, 1 WHITE

4 for \$5.00, Postpaid

KENNETH TERRY

2314 Harriman Lane, Redondo Beach, Cal.

ates . . .

MEETINGS AT THESE MEETINGS

HOLLYWOOD BRANCH

3rd Wednesday, 7:30 p.m.
Plummer Park, 7377 Santa Monica Blvd.
Mrs. Mary Hazel Drummond, Cor. Secy.
1246 N. Kings Rd., Los Angeles 46, Calif.

HOUSTON, TEXAS BRANCH

2nd Friday, 10:00 a.m.
Garden Center, Herman Park
Mrs. Grant Herzog, Secy.
12601 Broken Bough, Houston 24, Texas

HUB CITY BRANCH

3rd Wednesday, 7:30 p.m.
Mrs. L. R. Kellogg, Secy.
1120 E. 71st St., Long Beach 5, Calif.

HUMBOLDT COUNTY BRANCH

2nd Monday, 8:00 p.m.
Los Amigos Club, Loleta, Calif.
Miss Margaret Smith, Secy.
P.O. Box 635, Ferndale, Calif.

INGLEWOOD BRANCH

2nd Thursday, 7:45 p.m.
Inglewood Women's Club
325 North Hillcrest, Inglewood, Calif.
Mrs. Hattie Bradford, Secy.
1825 W. 73rd St., Los Angeles 47, Calif.

LONE STAR BRANCH

3rd Monday, members' homes
Mrs. Chester Terry, Secy.
5511 Richmond Ave., Dallas, Texas

LONG BEACH PARENT CHAPTER

2nd Tuesday, 7:30 p.m.
2255 Elm Ave.
Mrs. Alice Waldow, Secy.
2175 Cedar Ave., Long Beach 6, Calif.

LOS ANGELES BRANCH

4th Wednesday, Homes of Members
Mrs. Glenn Morrow, Secy.
2821 N. Musgrove Ave., El Monte, Calif.

LOUISIANA CAPITAL BRANCH

2nd Friday
Mrs. H. E. Dorris
3213 Eaton St., Baton Rouge, La.

MIAMI, FLORIDA BRANCH

4th Tuesday, 8:00 p.m.
Simpson Memorial Garden Center
Mrs. W. C. Gorman, Secy.
2296 Coral Way, Miami, Fla.

MISSOURI BRANCH

3rd Tuesday, 7:00 p.m.
Mrs. Hattie Taylor, Secy.
P.O. Box 25, Raytown, Mo.

NEW ENGLAND BRANCH

3rd Saturday, Homes of Members
Mrs. Lester H. Fox, Secy.
170 Marsh Hill Road, Dracut, Mass.

OCEAN COUNTY, NEW JERSEY BRANCH

1st Tuesday, 12:30 p.m., members' homes
Mrs. Anna Peck, Secy.
23 So. Gateway, Toms River, N.J.

ORANGE COUNTY BRANCH

2nd Thursday, 7:30 p.m.
Garden Grove Grange Hall
Century and Taft Streets
Garden Grove, Calif.
Mrs. Maybelle Woods, Secy.
604 South Helena St., Anaheim, Calif.

PASADENA BRANCH

Meetings on call.
Homes of Members
Col. C. M. Gale, Secy.
40 N. San Rafael, Pasadena 2, Calif.

PHILOBEGONIA BRANCH

2nd Friday, Members' Homes
Mrs. Robert York, Secy.
3311 Fremont St., Camden, New Jersey

Mrs. Charles Calloway
1311 Torrey Pines Rd., La Jolla, Calif.

GRAY'S HARBOR BRANCH

2nd Monday, 8:00 p.m.
Hoquiam Public Library, or
Messingale and Rosenear Music Store
Aberdeen, Washington
Mrs. Jessie B. Hoyt, Secy.
1013 Harding Road, Aberdeen, Wash.

GRUENBAUM, MARGARET BRANCH

4th Tuesday, 10:30 a.m.
Homes of Members
Mrs. Adolph Belser, Cor. Secy.
Welsh and Veree Rd., Philadelphia, Pa.

HAMSHIRE, TEXAS BRANCH

3rd Tuesday of each month
Mrs. Peter DeYoung, Hamshire, Texas

HAWKEYE STATE BRANCH

3rd Friday, Members' Homes
Ruth Anderson, Secy.
Underwood, Iowa

PORTLAND, OREGON BRANCH
 4th Friday, 8:00 p.m.
 Members' Homes
 Mrs. Helen Parrott, Secy.
 3955 S.E. Kelly, Portland 2, Oregon

RAYTOWN, MISSOURI BRANCH
 4th Tuesday, 7:30 p.m.
 Homes of Members
 Mrs. Mildred Schorr, Secy.-Treas.

REDONDO BEACH AREA BRANCH
 4th Friday each month
 2308 Rockefeller, Redondo Beach, Calif.
 Opal Murray Ahern, Secy.
 1304 Poinsettia Ave.
 Manhattan Beach, Calif.

RIVERSIDE BRANCH
 2nd Wednesday, 7:30 p.m.
 Shamel Park, 3650 Arlington,
 Riverside, California
 Mrs. Olive Thaller, Secy.
 7195 Orchard St., Riverside, Calif.

ROBINSON, ALFRED D. BRANCH
 3rd Friday, 10:30 a.m.
 Homes of Members
 Mrs. Merrel H. Taylor, Secy.
 4285 Sierra Vista, San Diego 3, Calif.

SACRAMENTO BRANCH
 3rd Tuesday, 8:00 p.m.
 Mrs. Gordon Long, Secy.
 5416 Dana Way, Sacramento, Calif.

SAN DIEGO BRANCH
 4th Monday
 Hard of Hearing Hall,
 Herbert & University
 Mrs. Maurice P. Mitchell, Secy.
 2329 Bancroft St., San Diego 4, Calif.

SAN FRANCISCO BRANCH
 1st Wednesday, 8:00 p.m.
 Forest Lodge, 266 Laguna Honda Blvd.
 Mrs. Louise Allmacher
 1963 45th Ave., San Francisco, Calif.

SAN GABRIEL VALLEY BRANCH
 4th Wednesday, 8:00 p.m.
 Masonic Temple, 506 S. Santa Anita Ave.
 Arcadia, California
 Mrs. Marilyn Jewett, Secy.
 461 E. Mariposa St., Altadena, Calif.

SAN MIGUEL BRANCH
 2nd Monday
 V.F.W. Hall at Imperial and Lincoln,
 Lemon Grove, Calif.
 Ida M. Barker, Secy.
 7591 Central Ave., Lemon Grove, Calif.

SANTA BARBARA BRANCH
 2nd Thursday, 7:30 p.m.
 Girl Scout Clubhouse,
 1838 San Andres St.
 Mrs. Maria Sanchez, Secy.
 1753 Glen Oaks Dr., Santa Barbara, Calif.

SEATTLE BRANCH
 3rd Tuesday, 7:45 p.m.
 Trinity Parish House, 609 Eighth Ave.
 Mrs. Carl Starks, Secy.
 6116 Greenwood, Seattle 3, Wash.

SHEPHERD, THEODOSIA BURR BR.
 1st Tuesday, 7:30 p.m.
 Alice Bartlett C.H., 902 E. Main,
 Ventura, Calif.
 Mrs. Don Claypool
 104 Fobes Lane, Ventura, Calif.

SMOKEY VALLEY BRANCH
 3rd Thursday of each month
 Mrs. A. L. Romeiser, Secy.
 1104 South Ninth St., Salina, Kansas

SOUTHERN ALAMEDA COUNTY BR.
 3rd Thursday, 8:00 p.m.
 Strowbridge School Multi-Purpose Rm.
 21400 Bedford Dr., Hayward, Calif.
 Theodore Vierra, Cor. Secy.
 341 Redbud Lane, Hayward, Calif.

TALL CORN STATE BRANCH
 Mrs. Edna Monson, Secy.
 South Taylor, Mason City, Iowa

TEXAS STATE BRANCH
 1st Tuesday night in members' homes
 Mrs. William Demland, Secy.
 2400 19th St., Port Arthur, Texas

TREASURE ISLAND BRANCH
 4th Monday, 7:30 p.m.
 Homes of Members
 Miss Isabelle Sievert, Secy.
 3912 Ave. "S," Galveston, Texas

WESTERN PENNSYLVANIA BRANCH
 2nd Wednesday, 11:00 a.m.
 Homes of Members
 Mrs. Albert S. Lash, Cor. Secy.
 1228 Oklahoma Ave., Pittsburgh 16, Pa.

WHITTIER BRANCH
 1st Thursday, 7:30 p.m.
 Palm Park Community Center,
 1643 Floral Drive
 Mrs. Rebecca Olson
 714 N. Palm Ave., Whittier, Calif.

WILLIAM PENN BRANCH
 3rd Tuesday, 2:00 p.m.
 Homes of Members, Wallingford, Pa.
 Mrs. Albert S. Lash, Cor. Secy.
 1228 Oklahoma Ave., Pittsburgh 16, Pa.

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