

# *The Begonian*

DEVOTED TO THE SHELTERED GARDENS

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

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# History of Begonias

By HELEN K. KRAUSS

Begonias were first discovered in 1690 by Charles Plumier, Franciscan monk and botanist, who accompanied his patron, Michel Begon, Marine Administrator of France and Governor of St. Domingo, on a scientific expedition to the West Indies.

Six begonias were discovered and determined a new genus. However, they were so inadequately described that subsequent botanists could not identify them with any degree of certainty. None of these begonias reached Europe.

Pitton Tournefort established the genus by publishing the facts of Plumier's discovery in *Institutiones Rei Herbariae* in 1700, three years before Plumier published his botanical findings in *Plantarum Americanarum*. From Tournefort, Linnaeus introduced this material in the first edition of his *Genera Plantarum*, among the fragmenta, and later incorporated the genus Begoniaceae in the second edition of his *Species Plantarum*.

Linnaeus' first edition of *Species Plantarum* 1753 has a special significance — the International Rules on Nomenclature were promulgated at a meeting of botanists in the United States in 1892 and it was decided that botanical nomenclature of both genera and species had its beginning with the publication of that work. Since the genus Begoniaceae of Tournefort was accepted and included by Linnaeus in the second edition, it is correct to use either the term Begoniaceae (Tourn.) or Begoniaceae (Linn.).

The second important discovery of begonias was made by Lopez Ruiz, Jose Pavon, and Joseph Dombey. Ruiz and Pavon, botanists at the Royal Gardens in Madrid, were commissioned by the King of Spain to explore Peru and Chile (1777-1788). Dombey, a French botanist, was commissioned by the Minister of France to explore Peru, and permission was granted by the King of Spain to join the Spanish expedition.

At least twenty begonias were discovered by them. Although no living

plants were brought to Europe, Dombey bequeathed to us a valuable legacy by bringing a collection of dried specimens to France, which are preserved at the Jardin des Plantes in Paris.

Of these early discoveries, some of which have been rediscovered several times, we now have *coccinea*, *decandra*, *glabra*, *incarnata*, *octopetala*, and *cucullata* in cultivation.

The year 1789 was an eventful one in inner begonia circles. It was the first year of the French Revolution and it has been reported that, during the siege of Paris, begonia leaves were used as spinach. This appears doubtful, however, as most begonias in Europe at that time consisted largely of herbarium specimens. Botanical science was in the throes of adjustment and begonias were for a time tossed about into various classifications.

William Bligh, in the service of the East India Company and Commander of *H.M.S. Bounty*, with a cargo of breadfruit trees from the East Indies consigned to Jamaica, was mutinied against so that the cargo never reached its destination. Since Bligh later discovered *B. macrophylla* in Jamaica (1793), we can only speculate as to what begonia treasures from the East Indies may have been lost with his ship.

Joseph Banks, an eminent natural historian, pioneer of science, and explorer, was in Jamaica in 1789 and returned to England with *B. acuminata*. He promoted the idea of introducing plants to different parts of the world which would be of the greatest benefit to mankind.

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## COVER PICTURE

Begonia 'Thurstoni', winner of the Effie Chapman Cup for the best fibrous begonia in the 1961 Flower Show, entered by S. G. Copeland of Venice, California.

— Photo by Fred Schmit

The idea gradually gained momentum. Royal patrons of Europe commissioned botanists to explore all over the world for exotic plants. Jonas Dryander, librarian to Joseph Banks and a member of the Linnean Society, read the first important paper on begonias before his confreres.

There appear to be no records of living begonia introductions into Europe before *B. nitida* was introduced by Dr. Wm. Brown in 1777, the same year that Ruiz, Pavon, and Dombey set sail for Peru and Chile from Spain.

Before proceeding with the subject of begonias, an outline of the influences which contributed to the introduction of the earliest living specimens into Europe is of special interest.

Sir Joseph Banks (1743-1827) was both directly and indirectly responsible for the transplanting of fruit trees and other plants and trees which improved the supply of food in England and the English colonies. He was instrumental in making the Royal Gardens at Kew the depository of every known plant of utility and those of ornamental value to the people of Europe.

During his lifetime nearly 7,000 exotics were introduced into England, the greater part of which were sent by his collectors from all parts of the world at his expense, and resulted in Kew Gardens becoming the Mecca of botanists. In connection with this enterprise Botanic Gardens arose in many parts of the world, including remote colonies in the Far East. The first Botanic Garden of Colonial England was started in Jamaica in 1775 and soon became a planter's paradise.

Sending explorers was nothing new, but Banks was the first man of wealth and position who personally undertook the hazards of exploration. His first expedition was made at the age of twenty-three, and at twenty-five he circumnavigated the globe with Captain Cook. At this early age he recognized the fertility of Australia when, with Captain Cook, they dropped anchor there, and in his memory lingered the very spot suitable for colonization at a later date and which his influence and suggestions brought

about. Botany had become one of the dominant interests of Englishmen of this period, and the colony was named Botany Bay.

Banks' example aroused men, roaming in foreign lands and seas, to habits of observation and a desire to contribute to the human knowledge of men. His constant inspiration and readiness to finance scientific expeditions brought many volunteers. His keen understanding of human nature enabled him to choose men who later rose to eminent heights. A few of the men who attained prominence in botanical science and who were directly inspired by him will be described briefly.

Botanists were to be found in all parts of Europe but none possessed the fortunate combination of scientific interest, adventure, and the necessary wealth such as Banks enjoyed. For further stimulation and indulgence in their subject, many of the continental botanists migrated to England. France and The Netherlands made their contributions on a smaller scale. Germany did not have a navy during this period but played a great part in introducing begonias after 1814. Many of the European botanists were eager to join the English expeditions and some of them were able to do so through the aid of Royal Patrons.

C. P. Thunberg, to whom we owe much, was a Swedish botanist commissioned by the Dutch government and sailed on an English ship. He sailed with Francis Masson, the first collector sent out by Banks.

Between the years of 1776 and 1813, begonia introductions diminished because of the various wars in almost all parts of the world. Every English ship, however, carried its naturalist and interesting specimens were brought to England nevertheless. In the event of scientific expeditions, captains were provided with passes in the interest of science which were usually respected by the enemy. In case of seizure, scientific collections were almost always returned to their owners.

(To be continued. Reprinted from *The Begonian*, 1942.)

# Stag-Horn Ferns

By ALEX D. HAWKES  
Editor, *Tropical Plants*

Here in South Florida, one of our commonest native ferns is the epiphytic 'Resurrection Fern', known botanically as *Polypodium polypodioides*. This attractive plant is often found growing in dense mats on the branches of our large oak trees, frequently in company with orchids and bromeliads. There its pretty bright-green fronds curl up tightly during dry weather, and "resurrect" to their full expansion during rainy spells.

The subject of the present notes, the remarkable and fabulous 'Stag-Horn' ferns, are, oddly enough, members of the same family of ferns — the Polypodiaceae — as is our common native 'Resurrection fern'. This scarcely seems believable, when one compares the two, for they are about as similar as, say, an eggplant and a petunia.

Botanically the 'Stag-Horns' are known by the genus-name of *Platynerium*, a name taken from the Greek which means "broad horn", and which alludes to the shape of the leaves.

These 'Stag-Horn' ferns are unique in the entire Plant Kingdom, not being closely related to any other ferns, and certainly not resembling in the slightest way any other kinds of plants known to science! They are all epiphytes (or "air plants", if you wish), occurring for the most part in the tropical parts of Asia, Indonesia, and Australia, with a few species known in Tropical Africa, Madagascar (now the Malagasy Republic), and other nearby islands, and with a single incompletely-known species in the Amazon Basin of South America.

The genus *Platynerium* is a very confused one, though according to the great authority on the ferns of the world, Dr. E. B. Copeland, it consists of only about seventeen valid species — though a great many more names exist in the horticultural literature in the trade. In addition to these wild species, several handsome artificially-produced hybrids are also known.

Here in South Florida, we probably

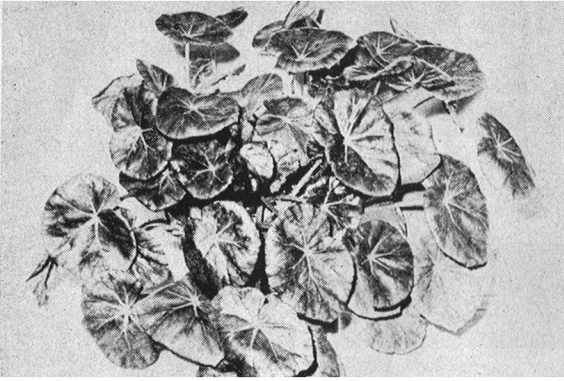
grow more of these majestic 'Stag-Horns' in our collections than anywhere else in the world, except in regions where they are indigenous, such as Malaya and Australia. Though these are exclusively tropical plants, they have for some time found a favored spot in our regional lath-houses and greenhouses, with orchids, bromeliads, aroids, generiads, and other choice ornamental epiphytes.

Unlike most other types of ferns, the *Platyneriums* possess two distinct kinds of fronds. The erect, basal fronds form the "shield" of the fern; this structure captures debris which falls around the base of the plant (and thereby fertilizes it), and also assists in catching rainwater. The other type of fronds, called the "fertile fronds", are variously erect, arching, or even almost pendulous, and, in almost all instances, bear the spores in special dense brown or reddish-tan patches near the tips. It is the shape of these fertile fronds which gives the common name of 'Stag-Horn' to this amazing group of ferns.

Most of the *Platyneriums* produce, with more or less abundance on mature specimens, sporelings (the ferny equivalent of seedlings in flowering plants) at or near the base of the parent plant. Since these 'Stag-Horns' are usually grown on such apparatuses as slabs of tree-fern fiber or cork bark, these sporelings are readily removed once they have attained sufficient size, this in most cases when the little shields are about two inches in diameter or so. These sporelings, often called "pups" or "keikis", should, in fact, be removed from the parent specimen in the majority of instances, as they tend to crowd out and often even smother each other if permitted to remain and grow.

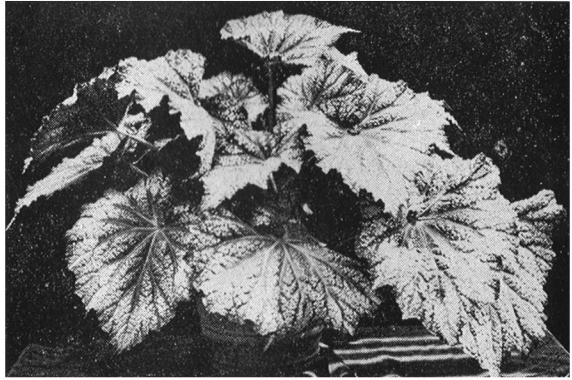
Some collectors grow these ferns successfully from spores, but I do not recommend this to the beginning hobbyist, since it involves all of the aseptic prepar-

(Continued on Page 36)



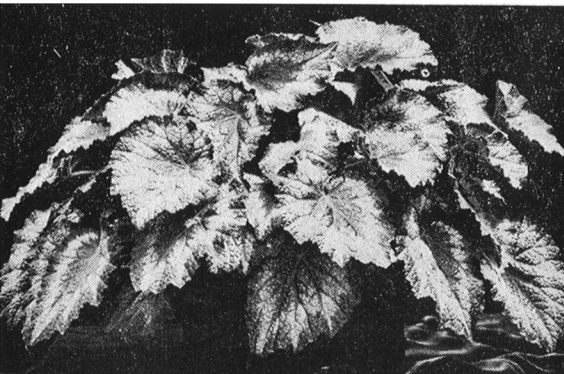
Begonia 'Erythrophylla Feasti', grown by Wynona Jensen of Bellflower, California.

—Photo by Dorothy Powell



Begonia 'Big Beauty', grown by Wynona Jensen.

—Photo by Chuck Grotzinger



Begonia 'Mulberry', grown by Wynona Jensen.

—Photo by Chuck Grotzinger

# Begonia Favorites

By BERNICE BRILMAYER  
Eastern Editor

## BEGONIA 'ERYTHROPHYLLA'

There's much to be learned about this magnificent old hybrid from its history and its name. It was in Berlin, back before 1849, a seedling of the rugged, large-leaved *B. manicata* and the tiny *B. hydrocotylifolia* with creeping rhizome and round leaves the size of a quarter. Its rhizomes are creeping; its leaves midway in size between the two species; and each leathery green leaf is lined, underneath, with blood-red. So the hybrid was originally christened *B. 'Erythrophylla'* (*eri-thro-fill-a*), meaning red-leaved.

But then, about 1880, Dr. Feast of Baltimore brought this plant to America — and it soon became known as *Begonia 'Feasti'*. About 1915, the nomenclature was cleared up, but the second name is still used fairly frequently.

Nobody knows exactly how the nickname "beefsteak begonia" was started, but presumably it referred to the red-lined leaves. And the name is sufficiently popular that, when a grower or exhibitor is asked to indicate the "roast-beef begonia", he knows which one to point to.

Durability and easy indoor culture have made this one of the most popular begonias of all times. The thick, scarred rhizomes store up moisture and food as they snake their way over the soil and around the edge of the pot; so that the plant can withstand considerable drought and neglect. The short-stemmed leaves are thick and glossy, very dark green, and seemingly indifferent to lack of a high percentage of humidity in the air. They do, however, appreciate a misting or washing from time to time.

Plants grown where they receive some sunlight send up, in late winter or early spring, tall stems that branch high above the foliage and droop with flower clusters like foamy pink clouds.

This is a begonia of few problems and much pleasure.

## REX BEGONIA 'BIG BEAUTY'

In the *Buxton Check List of Begonias*, rex 'Big Beauty' is indicated as a "spiral rex" appearing in the Barnes catalog, 1951. This is all most of us know about its origin; but California growers call it one of the easiest, most robust large-leaved rex you can grow.

The basic color is emerald green overlaid with a pattern of thick silver dots — leaves that often measure twelve to fourteen inches across.

## REX BEGONIA 'MULBERRY'

One of the glamorous creations of hybridizer Roy Berry, in 1935, this rex begonia called 'Mulberry' is still known, grown, and admired today. It is a robust grower, with large soft-hairy leaves basically mulberry red and thickly dotted with light silvery green in an intricate pattern.

Like most rex begonias — and particularly the varieties with soft, silky leaves — 'Mulberry' resents hot sun and dry air, needs humidity that is higher than the average 50 per cent in furnace-heated homes in winter. It should be provided with a humus-rich mixture kept constantly moist but not soggy wet.

## BEGONIA BASICS

Begonia Basics, a regular monthly feature, is omitted this month because of the illness of the author, Bernice Brilmayer, Eastern Editor. The series will resume as soon as her health permits — next month, we hope.

## REMEMBER?

Don't be too proud to share your knowledge of begonias with the beginner. Don't be impatient with his questions — even when he seems to persist in doing everything wrong. Don't assume that he should know the simple things that "everyone ought to know". Remember how confused you were when you started?

## SAVE THE BABY

By DOROTHY S. BEHREND'S  
*Encinitas, California*

Throw away the "mother" and save the "baby" — this is a cruel statement, but it is recommended as the only way to obtain a nicely shaped begonia, when all you have to begin with is the flowering stalk of a fibrous type begonia.

We often find that people will share a stalk of a begonia with us when it is bearing flowers. They are really sharing the blossoms with us without regard to the plant. We are doubly happy to accept the stalk, because we will try to propagate a well shaped plant from it, when the flowers fade.

Actually, these people are doing the plant a favor by trimming it *gradually*. *Semperflorens* begonias do not suffer when sheared off *all at one time*. If cane stem (like the coccineas — called rubras) or the hairy type fibrous begonias are trimmed severely — all at one time — such trimming is usually fatal to the plant.

So, by cutting off the older stalks, a few at a time, two things may be accomplished. We may give flowers to our friends and it is also a means of their getting a "start" of a favorite begonia.

This "start" will root and continue to stay stringy, but the basal shoot that emerges from under the soil line is the "baby" to save. As soon as this new shoot is established, cut off the "mother" slip or cutting and discard it. The new shoot is your main objective in planting this gift-cutting in your starting bed.

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## CYMBIDIUMS NEED LIGHT

Cymbidiums, like all orchids, should not be grown in the sun, yet a sufficient amount of light is essential to growth and flowers. This is one of the most important factors in the successful flowering of cymbidiums. There seems to be some disagreement as to the optimum light intensities required. However, a good general rule is to give the plants sufficient light so that the foliage is greenish yellow rather than verdant green.

## BIOLOGICAL INSECT CONTROL

In the insect world, every organism has its natural enemy. Biological insect control — whose superior advantages are rapidly coming to the fore — makes practical use of this basic natural principle.

Microbiological insect controls literally "set a pest to catch a pest," to paraphrase the popular axiom. Now on the market is a highly efficacious specific against the destructive leaf-chewing larvae (grubs and caterpillars) of moths and butterflies.

This product attacks the caterpillar with its essential ingredient — a spore-crystal suspension of the *Bacillus thuringiensis*, which is highly toxic to the destructive larvae. Within a very short time, its digestive system is completely paralyzed. It stops eating (and destroying), and slowly starves to death.

The twofold advantages of this kind of action are readily apparent to the home gardener. Not only is the insect poisoned, but his destructive capacity is eliminated within a very short time. It has been determined, too, by experiment, that the largest and therefore the most destructive of the larvae are the first to feel the effects of the deadly bacillus.

However, the superior qualities do not end here. Unlike many chemical insecticides, this new biological control leaves absolutely no toxic residue on plants or vegetables. It is completely non-toxic and non-pathogenic to man and animals alike. Controlled amounts have been consumed by humans, rats, chickens, hogs, and cattle with absolutely no adverse effects.

This special safety factor also aids nature in maintaining its natural system of checks and balances. It does not kill off the pest's natural enemies, permitting it to carry on its destructive invasions unchecked. Ladybugs, honey bees, parasitic wasps and other beneficial insects are impervious to its toxins.

The material is extremely simple to mix and apply. It is mixed with water, and sprayed on the infested area. Within forty-eight hours, effective control has been established.



# Clayton M. Kelly Seed Fund Flight

## No. 1—*B. Tuberosa floribunda* mixed—

Popular begonia recently introduced, the result of crossing the giant double type with the multiflora class. Large, double flowers on nice, thrifty plants. Good bedding or pot-culture type. 50 cents per pkt.

## No. 2—*B. Tuberhybrida*—

Picitee cream and red. 50 cents per pkt.

## No. 3—*B. Tuberhybrida*—

Rose form and camellia type mixed. Seed from Canada. 50 cents per pkt.

All tuberous begonias have been popular with Seed Fund patrons and we suggest you take advantage of the above as this will be the last time we will offer them this season.

## No. 4—*B. 'Panama'*—

Not from the plants mentioned in *The Begonian* for December. Just a very limited amount of seed from our friend in Panama, who collected a few seeds from one of her plants. Described as having long, thick, green leaves with a few silver spots if grown in good sun. The stalks grow large and strong in the open. The grower has her plant in a pot, and the branches and flowers hang over the edges and have a strong tendency to become much-branched. Makes a good basket type. It is a prolific bloomer. Flowers pink. 50 cents per pkt.

Comment: We hesitate to offer seeds as they are so scarce. However, we feel that someone should grow plants and try to have them classified; so please do not request seed unless you can do this. State a second choice.

## No. 5—*B. 'New Hampshire'* hybrids—

Pink, double, semi-dwarf, free-flowering. 35 cents per pkt.

## No. 6—*B. 'Glabra' x B.* *semperflorens*—

Hanging type, mixed. Flowers pink, white and red. 25 cents per pkt.

## No. 7—*B. cubensis*—

Syn. *B. 'Holly-leaf'*. Crisply cut, shiny leaves, dark green. White flowers, win-

ter bloomer. Good basket type. 25 cents per pkt.

## No. 8—*B. Mixed. Oregon*—

Varieties include *B. princeps*, *B. 'Delight'*, *B. rose-type* bloom with dark foliage, dark leaf 'Angel-wing', and a cane type with pebbled leaves. 25 cents per pkt.

## No. 9—*B. 'Orange rubra' x B.* *scandens*—

Good basket type with clusters of white or pinkish blooms. 25 cents per pkt.

## No. 10—*B. Basket type*—

Created by Ora Wilson of San Diego, California. Popular plant, blooming over a long period. 25 cents per pkt.

## No. 11—*B. 'Philippine Islands'*—

Smallish plant with green leaves and pink flowers. 25 cents per pkt.

## No. 12—*B. evansiana*—

White variety. China. Hardy begonia that can survive cold weather if given some protection outdoors. Attractive semi-shade plant with very large leaves. (Above mentioned has white flowers.) Bulbils form in leaf-axils and fall to the ground where they spring up and make plants the following year. 25 cents per pkt.

## No. 13—*B. richard siana*—

Africa. Dwarf, lacy, fine cut maple-leaf plant. Flowers white to pale pink. 25 cents per pkt.

## FERN SPORES FROM AUSTRALIA

Some of our friends have grown ferns from this source and have had great success. We are sure you will, too.

### *Asplenium decussatum*—

Large, spreading fronds, light green. 25 cents per pkt.

### *Doodia heterophyllia*—

25 cents per pkt.

### *Polystichum lucidum*—

25 cents per pkt.

### *Todea Barbara*—

25 cents per pkt.

### *Doodia aspera*—

25 cents per pkt.

### *Pellea falcata*—

25 cents per pkt.

**Lomaria gibbum**—

25 cents per pkt.

**Pellea viridis**—

25 cents per pkt.

**Asplenium bulbiferum**—

'Mother Fern'. Pinnate fronds, having grooved black stems, pinnae fresh green, segments becoming linear only when spore-bearing; bulbils or plantlets on upper surface of frond. Good fern. 25 cents per pkt.

**Pityrogramma chrysophylla**—

Gold fern. Fronds dusted gold. An outstanding plant. 35 cents per pkt.

**Alsophila australis**—

Australian tree fern. Favorite pot plant when young. 25 cents per pkt.

**Asplenium paleaceum**—

25 cents per pkt.

Sorry — but space will not allow for description of all ferns. All are choice and not too difficult to grow.

**GREENHOUSE PLANTS**

**Saintpaulia**—

*S. groetii* x *S. shumensis*. The tiny, four-inch diameter *shumensis* crossed with the giant trailer, *groetii*. Both have similar light blue, dark-eyed flowers. *Shumensis* has shiny, medium sized leaves, while *groetii* has large, hairy leaves. Both are constant bloomers. 50 cents per pkt.

**Alocasia macrorhiza**—

Large, broad leaves, arrow-shaped and waxy green, with prominent veins and waxy margins. Flowers are large, cream-colored and lemon-scented. 25 cents per pkt.

**Hoya carnosa**—

Queensland. Also called 'Wax plant'. Waxy, wheel-shaped, fragrant, pinkish-white flowers with a red, star-shaped crown, in pendant umbels. Root climbing vine with elliptic fleshy-waxy flowers. 35 cents per pkt.

**Aechmea bracteata**—

Bromeliaceae. Mexico. Flower stalk brilliant red and green, up to six feet, foliage green. Excellent type for outdoors and will tolerate some frost. 25 cents per pkt.

**Pilea microphylla**—

Also known as 'Artillery plant'. Small plant, densely branched, with sub-erect, fleshy stems, thick with tiny, watery-

succulent, oblong, green leaves, to 1/4 inch long, having a tapering, cuneate base. Flower clusters sessile with staminate flowers discharging a cloud of pollen when dry or shaken. Nice little plant for semi-shade. 25 cents per pkt.

**Rheo discolor**—

'Moses in the cradle'. Attractive plant anywhere. Leaves purple underneath. Flowers unique in that they resemble a small cradle. 25 cents per pkt.

**Cordyline indivisa**—

Red leaves. 25 cents per pkt.

**OTHER GENERA**

**Clitoria**—

Vine with blue flowers nearly two inches long and having the appearance of being upside down. 25 cents per pkt.

**Abutilon X**—

*A. pictum*, vine x *A. Hybridum*. Shrub. 25 cents per pkt.

**Amaranthus tricolor**—

Also known as 'Joseph's Coat'. Vigorous, erect plant with ovate, pointed leaves, brilliantly colored in shades of red, green, and yellow. Will take full sun to bring out the brilliant colors. 25 cents per pkt.

We have received an interesting letter from a friend in Mexico and would like to share the following with you:

"At the present we have two German boys visiting us, who were asked by friends in the States to find native orchids, so they accompanied me on a trek into the malpais (Badlands) and were astounded by the beauty of this unusual terrain but found a dozen different varieties of orchids.

"The malpais has to be seen to be appreciated. We, here at the Hacienda, are at the tail-end of an immense bed of rocks and lava which apparently burst forth from what was at one time a huge volcano. It is particularly startling, since all of the adjoining countryside consists of pine and oak-covered hills and mountains growing in more or less park-like surroundings with grass and flowers covering the clay soil.

"The malpais can best be described as comparable to hundreds of truck-loads of children's building blocks (but the size

of packing crates) covering the entire landscape with no soil other than decayed vegetation in the crevices. It took us five hours to cover approximately a mile and one-half, jumping from one moss and fern covered rock to another.

"Unfortunately, the natives have cut down some of the beautiful hardwood trees which grow throughout the area, together with strangler figs (ficus) and innumerable smaller trees. On every rock and tree one finds orchids, ferns, and begonias, as well as many other types of shade plants. Yesterday I found only a type of rex begonia and did not see any of the little fibrous begonia I wrote you about earlier. None were in bloom, nor could we find any seed, but my interest is stirred enough to make further exploration and to keep at it until I have a complete description of the bloom and later obtain seed.

"When I go to Uruapan again, I shall try to obtain a copy of the book by Miss Marian Storm called *Enjoying Uruapan* to send to you. In it you will find many colorful descriptions of Miss Storm's expeditions throughout the area. She was interested not only in the people (Tarascan Indians) but also makes numerous references and gives descriptions of native plants. Miss Storm is a charming friend and I am sure that if you should care to print any excerpts in your fine monthly *The Begonian*, she would grant permission.

"Thank you again for past favors and I promise to search diligently for seeds. Late in January or February we plan an

expedition to Oaxaca and Chiapas and shall try to find something there."

Comment: In regard to the writer's reference to a rex begonia found growing on the rocks, we cannot affirm or deny this fact, but A.B.S. members will write to the Seed Fund and will question it. Therefore, our best bet will be to HOPE we will have seed and the plant will be properly classified. The plant may not be a begonia as the writer speaks of other shade plants growing in the area.

MRS. FLORENCE GEE  
Seed Fund Administrator  
234 Birch Street  
Roseville, California

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# Pacific Coast Horticulture Big Business Today

By JOHN J. MCELROY

*Program Leader, Special Projects, Agricultural Extension Service,  
University of California*

*Adapted from a talk presented at the Fifteenth Annual Horticultural Congress. Published by permission of the American Horticultural Society, Inc.*

The Pacific Coast is one of the most important horticultural regions of the United States. Washington produces more than twelve per cent of the apples of the entire nation. Oregon supplies a great variety of lilies, iris, and other flower bulbs for the gardens and public plantings of the United States. California produces 88 per cent of the fresh-market peaches, and 100 per cent of the canned cling pack of the country. Southern California, recently with a transition to the San Joaquin Valley, produces 28 per cent of the "orange in hand", and 98 per cent of the lemons of the country. It produces the avocado, all of the American-grown dates, and many of the major subtropical fruits that find their place in our specialty markets.

In terms of national production, the West Coast produces 93 per cent of the apricots, 41 per cent of the cherries, 90 per cent of the strawberries . . . all of the walnuts and almonds.

Cut flowers, flowering bulbs, and nursery stock comprise a major industry in Washington, Oregon, and California; as a region these are second only to the East Coast states of Pennsylvania, New York, New Jersey, Rhode Island, and Connecticut.

We may question why this production has centered on the Pacific Coast. The answer is soil, water, climate, and the imagination, initiative, and managerial ability of West Coast citizens. Millions of dollars invested in irrigation systems, both public and private, have been necessary to bring this production into being. The selection, adaptation, and constant improvement of strains of fruits and flowers through research by public in-

stitutions have been notable.

Practically all of the fruits of the West Coast, particularly California, were brought here by the original developers of the area — The Franciscan Fathers of the old missions. Their gardens added to their living. Beyond that, they demonstrated the horticultural possibilities with the fruits they brought from Spain, Mexico, and South America. Some of the varieties that were important at the time — the Mission fig, the Mission grape — still hold a place in modern commerce.

The minds of men were fired with visions of the great possibilities for horticulture on the Pacific Coast. The need for continued and constant improvement was apparent. The plant breeder in the research institutions began searching for ways of developing more adaptable, higher-yielding, and earlier-maturing kinds, until today we have a greater variety of fruits suitable to our natural conditions than any other section of the United States, and a greater variety, within the species, of strains more readily adapted to local conditions.

Thus, together with improved methods of post-harvest handling — transportation, cooling, and storage — we have extended by weeks and months the periods during which fresh fruit is in the markets throughout the country.

As our production increased and extended over longer periods of time, the problems of insects and diseases grow more prevalent. The entomologist and pathologist responded, and new drugs and chemicals, dusts and sprays, new measures of control and management have developed and become increasingly important.

My grandmother raised turkeys on a New England farm from the time of the Civil War to the end of the last century. In her later years she explained that

"turkeys used to do well here, but the country has changed; we can't raise turkeys like we used to." In those days she little realized that she had started in clean territory and that over the years her flocks had infested the ground with disease organisms. She would have been surprised at microorganic life which could be, and was, disastrous to her and her industry. Even our scientists could not have explained all this to her at that time.

But we know these disease organisms now. We know their habits of life. We understand the disorders they cause. We have and are continuing to develop methods of control. This has led to a gigantic supporting industry engaged in the formulation, manufacture, and distribution of sprays and dusts.

Pear decline, threatening the entire pear crop of the West Coast, has recently come upon us with a great impact. Is it a virus difficulty? What is the balance of the complex factors in the life processes of the pear that brings this about? Scientists are puzzled. The answer will require work in many fields which can eventually be woven together and interpreted in practical terms. It must be done, if we are to save the West Coast pear industry. Problems of this kind and the constant threat of more to come make it important to maintain well-equipped centers of research and to encourage men and women to engage in this type of research.

In California we are very cognizant of the threat of polluted air, a problem [rising from] the great concentration of people and the disposal of their wastes of living and of making a living. The University of California administers more than one million dollars in air-pollution research annually. This work involves identification of those compounds in the atmosphere detrimental to human health and to plant and animal life.

The higher percentage of these funds is spent in the general field of plant life. It is estimated that California agriculture suffers an annual loss of between eight and twelve million dollars from air pollution. Some of this is a readily recognizable serious loss, but there are losses which, as yet, are not easily identifiable

with present knowledge and methods.

The horticultural industry suffers a considerable part of this loss. Records maintained at two establishments in the Bay area indicate that last year one orchid producer suffered a loss of more than \$55,000 from the effects of ethylene, as measured by unsalable blossoms; another and smaller producer sustained a loss of over \$13,000.

Growers of certain flower crops, such as snapdragons, have found it necessary to migrate from one area to another in search of less contaminated air. Bedding plants, roses, carnations, and others suffer severely, too. Research will solve the air-pollution problem as it has solved countless others.

The horticultural industries of the Pacific Coast are no single nor simple operation. They are technologically and managerially complex. They are financially demanding. Heavy investments in land, irrigation facilities, equipment, protective measures, and management are needed if success is to be achieved. A minimum-sized economic unit with between twenty-five and thirty acres of irrigated land for the production of deciduous fruit involves an investment of \$50,000. The minimum-sized economic unit for the production of grapes in the best table grape area may be as low as twenty-five acres, but it requires a minimum investment of \$60,000.

Too long, perhaps, we have thought of agricultural production as something apart. Too long we have thought that our obligation to production was a single one, and once the fruit or flower was produced and harvested, the problems beyond were the problems of someone else. The fact is that production is but the first step in a series of operations which start long before the land is prepared and end only when the consumer is satisfied.

Horticulture then, on the West Coast and everywhere, is a challenging industry. It contributes to our food and livelihood. It provides a satisfaction for our sense of beauty. It is part of our culture. And it will continue to be challenging because of the constantly challenging problems involved.

## CHERRY BLOSSOMS FOR FRIENDSHIP

One of the best known groups of trees in the United States is the Japanese cherry collection which blooms usually in late February or early March along the Tidal Basin in Washington, D.C. Altogether the collection consists of about 3,000 cherry trees originally given by the City of Tokyo to the City of Washington as a gesture of friendship in 1912.

Such gestures of international goodwill are not entirely a thing of the past. Last spring the mayor of Kyoto sent a special collection of peonies to the City of Oakland as a token of gratitude for the recognition paid Kyoto's gardens in the 1960 California Spring Garden & Home Show.

It seems that we owe the idea for the cherry blossom "lane" in Washington to Mrs. William Howard Taft. Soon after her husband became President in 1909, she expressed interest in planting the delicately beautiful Japanese trees in Potomac Park.

Dr. Jokichi Takamine, a noted Japanese chemist visiting Washington, learned of Mrs. Taft's desire and helped arrange the gift through Tokyo Mayor Ukio Osaki.

Almost three years went by, but on March 27, 1912, Mrs. Taft planted the first tree from the gift shipment on the north bank of the Tidal Basin. Viscountess Chinda, wife of the Japanese Ambassador, planted the second tree and both trees were marked with bronze plaques commemorating the simple ceremony of the day.

The general public impression is that all the cherry blossoms in Washington are pink. Actually, about 90 per cent of them consist of the white Yoshino variety and the remaining 10 per cent of the pale pink Akebono types — which had their origin in this country in 1920.

But it's the latter color which appeals mainly to the tourists and others who view the annual spectacle.

The general beauty of the blossoms was extended in the hope for international friendship. During World War II

some of our own outraged citizens hacked down a few of the trees. But blossoms, which renew themselves endlessly and bring forth new hopes each spring, are once again working in favor of friendship on an international scale.

## LOST FRASER'S SEDGE

One of the notable "lost" specimens is Fraser's sedge, or *Cymophyllus fraseri*. Gardeners are not accustomed to looking to the sedge family for ornamentals, but this is one exception. In early spring it bears attractive, creamy white blossoms and has handsome, lily-like foliage.

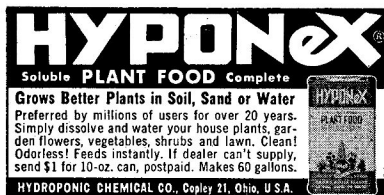
Although discovered in western North Carolina before 1800, Fraser's sedge was best known by a single specimen deposited in Berlin by Mathias Kin, an eccentric nurseryman-botanist who settled in Philadelphia after the Revolutionary War.

Kin's description bore the cryptic label, "Diegher Walli in ter Wildernus". Although this is one of the botanical showpieces of the Great Smoky Mountains National Park, it required a hundred years of botanical detective work before this was translated into "Tygart Valley in the Wilderness", and the area located along the Tygart Valley River in West Virginia.

Exploration on the slopes of Cheat Mountain in that region turned up an abundance of Fraser's sedge. It is fairly common to the southward of this location.

Fraser's sedge is easily grown in shady, moist woods soils. It is so unlike most other sedges that it is particularly interesting to plant students and would be a worthy addition to any collection of ornamentals.

— From *Flower Lovers Guide*



## MUTATIONS BY RADIATION

By NORVELL GILLESPIE  
*Vagabond Gardener*

Years ago I remember interviewing an X-ray laboratory worker in Laguna Beach, California. This fellow really bent the ears of everyone within reaching distance to propound his theories of "new and improved plants" which were sure to result when he finished bombarding plants with X-rays. But, alas, the war came along and the proposed X-ray program never really got off the ground. I still wonder to this day whether this chap's dream of "blue tuberous begonias" and other new-fangled notions would have really resulted — or were just a lot of daydreams.

You can imagine how I felt the other day when I learned that plants are treated at the Brookhaven National Laboratory on Long Island with radiation techniques to force nature to flip and produce unusual mutations.

According to the story, research at Brookhaven under the auspices of the U. S. Atomic Energy Commission has enabled plant breeders and horticulturalists to bring about color modifications in gerbera, chrysanthemums, geraniums and many other plants. And, perhaps even more important to home gardeners, is the fact that they've developed a strain of Kentucky blue grass which is resistant to rust. The unlimited possibilities can't help but make you sit up eagerly.

This is the atomic age and it's interesting that plant scientists have seized upon this new radiation tool for peaceful purposes. As a matter of fact, they've set up what is known as the Cooperative Radiation Mutations Program as a means by which plant breeders throughout the world can make use of the unique radiation facilities there as an adjunct to their normal breeding procedures.

The program started back in 1953 and to date more than 200 scientists from the U. S. and 24 foreign countries have participated. Right now over 70 crops and plants are under study.

Apparently seeds, cuttings, and plants

can be shipped to Brookhaven, be exposed to thermal neutron exposure in the thermal column at the reactor and also to X-rays.

The growing plants are exposed, depending on the variety, for periods ranging from one day up to several months in the gamma radiation field or in the greenhouse. Then the material is returned to the cooperating plant breeder who grows it on and screens it for the much-sought changes.

It's too early to tell whether the treatment is going to result in a lot of plant cripples or whether something really earth-shaking is going to come along. I can't help but think of the Laguna man and his X-ray dreams. It just could be that Brookhaven has found the scientific shortcut at last — a far cry, indeed, from the days of Luther Burbank and the millions of bees he must have used.

## ANNUAL CAMELLIA SHOW AT DESCANSO GARDENS

With the camellia bloom season at its peak, the Eighth Annual Descanso Gardens Camellia Show will be held on Saturday and Sunday, February 24 and 25.

Co-sponsoring the show will be the six members of the Los Angeles Camellia Council, which include the Southern California Camellia Society, Pacific Camellia Society, Orange County Camellia Society, Los Angeles Camellia Society, Temple City Camellia Society, and Pomona Valley Camellia Society.

The show will feature japonica camellias at their peak and camellia reticulatas at the start of their season, it was announced by Caryl Pitkin, president of the Los Angeles Camellia Council, Ltd.

Hours of the show will be from noon to dusk on Saturday, and from 8 a.m. to dusk on Sunday. Admission to the show and grounds will be free at all times.

Descanso Gardens, a facility of the Los Angeles County Department of Arboreta and Botanic Gardens, has more than 100,000 camellia bushes, most of which will be in bloom while the show is in progress.

Descanso Gardens is located at 1418 Descanso Drive, La Canada, California.

## STAG-HORN FERNS . . .

(Continued from Page 25)

ations and treatment necessary for raising such difficult plants as orchids from seed, a tedious and exasperatingly slow process.

Here in South Florida, and in other tropical climes, *Platycteriums* are relatively easy to grow successfully. Since they are tropical plants, close attention must be paid to temperature, and if one does not have a heated greenhouse, they must be protected or brought inside during occasionally chilly spells.

*Platycterium alcicorne*, which is common throughout Australia, even extending into the coolish southern part of the "Island Continent", is reasonably hardy — for the genus — but even it requires some sort of protection if the temperature falls much below fifty degrees for very long.

A greenhouse is ideal for their cultivation, naturally, but here it is not essential, many commercial and amateur growers keeping their 'Stag-Horns' in lath-houses, or even outside under trees, at least during most of the year. Humidity is very necessary, and copious supplies of water, too, and if grown as patio plants, careful attention must be paid at all times to these cultural essentials.

Like most ferns, these need frequent and rather liberal applications of fertilizing materials. I suggest dried blood or commercial manures as perhaps the best of those readily available, since neither of these burn the relatively fragile "shield" fronds, as many ordinary commercial fertilizers are apt to do. Fertilizer can, to good advantage, be given on a regular monthly basis, and I would also suggest that at periodic intervals the entire plant be dipped in a large pail filled with somewhat dilute solution of commercial liquid fertilizer.

Extremes of sunlight cause unattractive spotting of the fleshy fronds of these 'Stag-Horns', hence they should be kept in a relatively shaded spot in the tropical garden. Too dense shade should also be avoided, however, as this makes the fertile fronds grow abnormally and unattrac-

tively elongated.

These magnificent and certainly unusual 'Stag-Horn' ferns of the genus *Platycterium* are, for the most part, of easy cultivation in our tropical area, hence I heartily recommend them to the hobbyist who is intrigued by something very different and something which will cause comment in the patio or garden.

To start one's collection, I would suggest acquisition of one of the commoner and huskier species, such as, for example, the widespread *Platycterium bifurcatum*, which ranges from New Caledonia, New Guinea, and Australia throughout Indonesia. *P. alcicorne*, mentioned earlier in this article, is also a good one to start with.

Once you have mastered the cultural requirements of these "simple" species, you can then continue on to try your hand with some of the rarer, and slightly more difficult kinds of this incredible genus of ferns, certainly among the most unique of all members of the Plant Kingdom.

The other *Platycteriums* in cultivation at this time include:

- P. alcicorne* var. *majus* (Polynesia)
- P. andinum* (Amazon Basin)
- P. angolense* (Angola, West Africa)
- P. coronarium* (S.E. Asia, Philippines, Indonesia). Also known as *P. biforme*.
- P. ellisii* (Congo)
- P. grande* (Malaysia and Philippines to N. Australia)
- P. hillii* (Queensland, Australia)
- P. x Lemoinei* (hybrid between *P. Veitchii* and *P. Willinckii*)
- P. madagascariense* (Madagascar)
- P. stemaria* (West Africa). Also sometimes known, apparently incorrectly, as *P. aethiopicum*.
- P. sumbawense* (Indonesia, especially Soembawa Is.)
- P. Vassei* (Mozambique, East Africa)
- P. Veitchii* (Australia)
- P. Wallichii* (Malay Peninsula)
- P. Wilhelminiae-Reginae* (New Guinea)
- P. Willinckii* (Java)

This article is reprinted from *Tropical Plants* (Vol. 2, No. 3, Feb. 15, 1961), Coconut Grove, Florida.



## CALENDAR

February 1 — Westchester Branch. Mrs. Sylvia Leatherman will speak on "Growing Pains", covering the propagation of spore, seeds, and cuttings. There will be an exceptional plant table.

February 8 — Inglewood Branch. Mrs. Edna Korts will be guest speaker. Her subject will be "Cane Begonias".

February 9 — San Gabriel Valley Branch. Mrs. Wynona Jensen of Bellflower will speak on "The Culture of Begonias".

February 28 — Glendale Branch. John Van Barneveld, who is in charge of the magnificent rose gardens in Rose Hills Memorial Park in Whittier, will speak on "Roses".

## CORRECTION

In the minutes for the October meeting of the National Board, published in the December issue of *The Begonian*, the statement was made: Treasurer Earl E. Budd . . . gave the Seed Fund report showing an income of \$110.34 for a two month period. This figure should have been \$165.00

## IN MEMORIAM

Mrs. James O. Burdick, Sr., of the Tarrant County Branch of the A.B.S. in Fort Worth, Texas, passed away October 21, 1961. She was a Past-President of the Branch and served for the last two years as recording secretary. She was also active in other garden clubs. To know her was to love her, and her work and kindness to everyone will not be forgotten.

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All material for publication in THE BEGONIAN must be received by the Editor not later than the fifth of the month preceding month of publication.

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# Branch Directory

VISITORS ALWAYS WELCOME AT THESE MEETINGS

## BRITISH BRANCH

F. J. Bedson, Secy., Kent, England

## BUXTON, BESSIE RAYMOND BRANCH

3rd Saturday, Homes of Members  
Mrs. Percy I. Merry, Secy.  
109 Brookside Road, Needham, Mass.

## DALLAS COUNTY, TEXAS BRANCH

3rd Thursday, 7:00 p.m., Members' Residences  
C. Sikkelee, Corr. Secy.  
3603 La Joya Dr., Dallas 20, Texas

## EAST BAY BRANCH

2nd Thursday, 7:45 p.m., Willard School  
Telegraph at Ward, Berkeley, California  
Miss Dorothy F. Osburn, Secy.  
5015 Cochrane Ave., Oakland 18, Calif.

## EL MONTE COMMUNITY BRANCH

3rd Friday, Members' Homes  
Miss Lenore Schroeder, Secy.  
1828 So. 7th St., Alhambra, Calif.

## FOOTHILL BRANCH

3rd Thursday, 8:00 p.m.  
La Verne Community Bldg.  
2039 Third St., La Verne  
Mrs. Arma J. Shull, Secy.  
313 W. 2nd St., San Dimas, Calif.

## FORT, ELSA BRANCH

1st Saturday, 1:30 p.m.  
Miss Lola Price, Secy.  
628 Beech Ave., Laurel Springs, N. J.

## GLENDALE BRANCH

4th Wednesday, 8:00 p.m.  
Tuesday Afternoon Club, 400 N. Central  
Mrs. Isabel Compton, Secy.  
2339 Mayberry St., Los Angeles 26, Calif.

## GRAY, EVA KENWORTHY BRANCH

3rd Monday, 7:30 p.m.  
Community House, La Jolla  
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 Belsler, Corr. Secy.  
Welsh and Veree Rd., Philadelphia, Pa.

## HOLLYWOOD BRANCH

3rd Wednesday, 7:30 p.m.  
Plummer Park, 7377 Santa Monica Blvd.  
Mrs. Georgina Barton, Secy.  
2821 Herkimer St., Los Angeles 39, Calif.

## HOUSTON, TEXAS BRANCH

2nd Friday, 10:00 a.m.  
Garden Center, 1500 Herman Drive  
Mrs. Grant Herzog, Secy.  
12600 Broken Bough, Houston 24, Texas

## 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. Bee Olson, Secy.  
13715 Cordary St., Hawthorne, Calif.

## KNICKERBROCKER BRANCH

2nd Tuesday, 8:00 p.m.  
Library, Horticultural Society of N.Y.  
157 West 58th St., New York  
Mrs. Gertrude Ferris, Secy.  
415 9th Ave., New York 1, N.Y.

## LONE STAR BRANCH

3rd Monday, Members' Homes, 10 a.m.  
Mrs. M. F. Scribner, Corr. Secy.  
1422 Marfa, Dallas 16, Texas

## LONG BEACH PARENT CHAPTER

1st Tuesday, 7:30 p.m.  
Machinists' Hall  
728 Elm St., Long Beach, Calif.  
Mrs. Ralph Eikema, Secy.  
2071 Oregon Ave., Long Beach, Calif.

## LOUISIANA CAPITAL BRANCH

1st Friday, Homes of Members  
Mrs. Thomas D. Day, Secy.  
4056 Hollywood St., Baton Rouge, La.

## MIAMI, FLORIDA BRANCH

4th Tuesday, 8:00 p.m.  
Simpson Memorial Garden Center  
Mrs. Ray Rosengren, Secy.  
5530 N.W. 21 Ave., Miami, Fla.

## MISSOURI BRANCH

3rd Tuesday, 1 p.m.  
World War Memorial Bldg., Linwood and Paseo  
Kansas City, Mo.  
Mrs. R. H. Hyatt, Secy.  
6812 Hunter St., Raytown 33, Mo.

## ORANGE COUNTY BRANCH

2nd Thursday, 7:30 p.m.  
Garden Grove Grange Hall, Century and Taft Sts.  
Garden Grove, Calif.  
Daisy G. Austin, Secy.  
1510 Kimberley Ave., 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. J. Perry Long, Secy.  
6532 E. Cedar Ave., Merchantville, N.J.

## REDONDO BEACH AREA BRANCH

4th Friday each Month  
2308 Rockefeller, Redondo Beach, Calif.  
Mrs. Alice Martin, Secy.  
640 West 141st St., Hawthorne, Calif.

## RHODE ISLAND BRANCH

1st Saturday, Homes of Members  
Miss Ruth Harrington, Secy.  
372 Lloyd Ave., Providence, R.I.

**RIVERSIDE BRANCH**

2nd Wednesday, 7:30 p.m., Shamel Park  
3650 Arlington, Riverside, Calif.  
Mrs. Ethel Prior, Secy.  
4345 5th St., Riverside, Calif.

**ROBINSON, AFRED D. BRANCH**

3rd Friday, 10:30 a.m., Homes of Members  
Constance D. Bower, Corr. Secy.  
2413—K St., San Diego 2, Calif.

**SACRAMENTO BRANCH**

3rd Tuesday, 8:00 p.m., Garden Center  
3330 McKinley Blvd., Sacramento, Calif.  
Edward Reuter, Secy.  
933 Sonoma Way, Sacramento 19, Calif.

**SAN DIEGO BRANCH**

4th Monday, Barbour Hall  
2717 University Ave., San Diego  
Mrs. E. R. Bohe, Secy.  
3141 N. Mountain View Dr., San Diego 5, Calif.

**SAN FRANCISCO BRANCH**

1st Wednesday, 8:00 p.m.  
Garden Center, Golden Gate Park  
9th Ave. & Lincoln Way  
James C. Miller, Secy.  
1962 - 18th Ave., San Francisco 16, Calif.

**SAN GABRIEL VALLEY BRANCH**

2nd Friday, 8:00 p.m.  
Los Angeles State & County Arboretum  
501 N. Baldwin Ave., Arcadia, Calif.  
Ruth Eppley, Secy.  
4858 Willard St., Rosemead, Calif.

**SAN MIGUEL BRANCH**

1st Wednesday, Youth Center, Lemon Grove, Calif.  
Mrs. Lloyd Clark, Secy.  
2252 Vulner Ct., San Diego, Calif.

**SANTA BARBARA BRANCH**

2nd Thursday, 7:30 p.m.  
Girl Scout Clubhouse, 1838 San Andres St.  
Mrs. Hilda Gundel, Secy.  
1414 Olive St., Santa Barbara, Calif.

**SEATTLE BRANCH**

3rd Tuesday, 7:45 p.m.  
Meeting locations will vary; call the secretary at  
SUNset 2-2234  
Miss Bernice Moore, Secy.  
2842 West 59th St., Seattle 7, Wash.

**SHEPHERD, THEODOSIA BURR BRANCH**

1st Tuesday, 7:30 p.m.  
Alice Bartlett, C.H., 902 E. Main, Ventura, Calif.  
Mrs. Cora Lemmon, Secy.  
316 Moorpark Ave., Moorpark, Calif.

**SMOKY VALLEY BRANCH**

3rd Thursday of each Month  
Mrs. Robert Nease, Secy.  
410 South Phillips, Salina, Kansas

**SOUTHERN ALAMEDA COUNTY BRANCH**

3rd Thursday, 8:00 p.m.  
Strowbridge School Multi-Purpose Rm.  
21400 Bedford Dr., Hayward, Calif.  
Mrs. Evangeline Muller, Cor. Secy.  
36937 Cherry St., Newark, Calif.

**TALL CORN STATE BRANCH**

Mrs. Edna Monson, Secy.  
South Taylor, Mason City, Iowa

**TARRANT COUNTY BRANCH**

2nd Monday, 10:00 a.m.  
Homes of Members, Ft. Worth, Texas  
Mrs. Olin S. Hughes, Secy.  
2306 Market St., Ft. Worth, Texas

**TEXAS STATE BRANCH**

1st Tuesday Night in Members' Homes  
E. Weaver,  
1325 Thomas Blvd., Port Arthur, Texas

**WESTCHESTER BRANCH**

1st Thursday, 7:30 p.m. Westchester Women's  
Club,  
8020 Alverstone St.,  
Los Angeles, Calif.  
Mrs. Ann Hyland, Secy.  
6446 Will Rogers St., Los Angeles 45, Calif.

**WEST VALLEY BRANCH**

2nd Tuesday, 7:30 p.m., Orcutt Playground  
Clubhouse  
21816 Lanark St., Canoga Park, Calif.  
Joseph Janatka, Secy.  
18641 Casandra, Tarzana, Calif.

**WESTERN PENNSYLVANIA BRANCH**

2nd Wednesday, 11:00 a.m., Homes of Members  
Mrs. A. S. Lash, Secy.  
1228 Oklahoma Drive, Pittsburgh 16, Pa.

**WHITTIER BRANCH**

1st Thursday, 7:30 p.m.  
Palm Park Community Center, 1643 Floral Drive  
Anne L. Rose, Secy.  
1255 Ramona Dr., Whittier, Calif.

**WILLIAM PENN BRANCH**

3rd Tuesday, 2:00 p.m., Homes of Members  
Mrs. Griscom Bettie, Jr., Secy.  
331 Station Road, Wynnewood, Pa.

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