

# LASCA Leaves



## Los Angeles County Department of Arboreta and Botanic Gardens

### New Lasca Leaves

With this issue we introduce *Lasca Leaves* in its new format, the first major change since the California Arboretum Foundation started publishing the magazine nearly twenty-seven years ago.

The basic content of the magazine will continue as before: news items about Department affairs and articles about, or related to, our plant collections, our services, and our historical section. We believe that *Lasca Leaves* has taken a big step forward in its new

format. It continues to provide the basic editorial content it has in the past while bringing a new dimension in the form of authoritative articles that will deal with environmental and natural science topics of fundamental interest to us all.

### Arbor Day

"A Tree Is A Friend For Life"—This is the theme of the Department's 1977 Arbor Day program, participated in mainly by elementary schools in the Los Angeles County School Dis-

trict but also by a few junior high and high schools. This year, as last, approximately 1,000 schools will take part in the program. Science curricula coordinators will receive packets of Arbor Day teacher resource material prepared by the Education Division. The material consists of a history of Arbor Day, information on forests and reforestation, a collection of tree facts (one tree has the cooling effect of five air conditioners), suggestions for indoor and outdoor games involving knowledge of trees, and a leaflet de-

*Student previews seedling silk floss trees grown for schools participating in the Arbor Day program. LASCA photos by William Aplin.*



*The silk floss tree, *Chorisia speciosa*, is the Arboretum's 1977 Arbor Day tree.*



scribing a national contest for teachers and schools developing the best tree program.

A highlight for most schools is a tree-planting ceremony on March 7, the traditional date for observing Arbor Day in California and most other states. The trees are a gift from the Department to participating schools. This year's Arbor Day tree is the silk floss tree (*Chorisia speciosa*), a colorful ornamental native to Brazil that puts out a brilliant display of purple-hued flowers for three months or more every fall. A thousand of these trees are growing now at the Arboretum. When the time comes for the schools to pick them up, they will be well over six feet high.

#### Camellia Show

The forthcoming camellia show at Descanso Gardens on the weekend of March 12th and 13th caps the camellia season in southern California so far as major exhibits are concerned. In addition to the three to four thousand varieties of cut blossoms entered in the various competitions, visitors can expect to see the 100,000 camellia bushes growing under the canopy of Descanso's famed oak forest in full bloom, a scene certain to provide a dramatic backdrop for the feature exhibits.

In this area, the major hybridizing effort is made by amateur growers, most of them members of the Southern California Camellia Council which stages this great show each year. The principal aim of these growers is to develop varieties that are cold hardy and that have different forms. Some of these new hybrids and seedlings will be displayed at the show along with such regular features as question-and-answer booths and demonstrations of propagation by grafting. A new attraction will be a flower-arranging exhibit staged in the gardens' Hospitality House.

#### Baldwin Bonanza VII

This year's Baldwin Bonanza, the annual plant sale at the Arboretum pre-

sented by Las Voluntarias of the California Arboretum Foundation, will be held on Sunday, May 1, from 9 a.m. to 4 p.m. A special preview for Foundation members and their guests will be held the previous evening (Sat., April 30) from 5:30 to 8 p.m. Members are advised to make their reservations early with the Foundation office.

Mrs. David (Joan) Malafronte, Bonanza chairman, reports a few changes in this seventh version of one of the Arboretum's most popular events. One is that the entire event will be brought together under the 12,000 - square - foot saran - covered shade area just west of the Garden For All Seasons. This will free the Demonstration Home Gardens from the pedestrian traffic jams that developed there last year from plant sales in the area. Another change calls for replacing the "Collectables Corner" with a new "Edibles Booth" offering culinary herbs and a selection of fruiting vines.

A regular Bonanza feature is the sale of Arboretum plant introductions. Plants that will be available, are Blue Hibiscus (*Hibiscus huegelii*), Crown of Gold (*Cassia excelsa*), Green Bottlebrush (*Callistemon pachyphyllas* var. *viridis*), *Combretum fruticosum*, *Stigmaphyllon affine* (orchid vine), *Beaufortia sparsa*, *Melaleuca elliptica*, and *Grevillea nematophylla*. Of particular interest will be a selection of cycad seedlings.

As in the past, visitors can choose among various kinds of ferns, sinningias, begonias, palms, pelargoniums, cactus and succulents. They will also have a choice of hanging baskets and other handcrafted items.

#### Library Donation

A 450-volume horticultural library belonging to a century-old seed company, Germain's, Incorporated, has been donated to the Los Angeles State and County Arboretum by Walter Schoenfeld, company president and member of the Board of Trustees of the California Arboretum Founda-

tion.

In addition to a wide range of botanical and horticultural works plus catalogs and yearbooks of various plant societies, the collection includes a number of early 19th century books containing beautiful and rare hand engravings. The library in its entirety has been valued at over \$30,000.

The library had its genesis in a trip to Paris at the end of the second world war by the late Manfred Meyberg, who was president of Germain's at the time. Visiting the great seed house of Vilmorin Andrieux, Mr. Meyberg was shown the horticultural library the company maintained for its employees. Impressed by its quality, Mr. Meyberg decided to develop a similar library for Germain's. Following his return home, he sent his vice-president, Walter Schoenfeld, on a trip to Europe that would include making contacts with firms dealing in botanical books written, or available, in English. Mr. Schoenfeld established his best contacts with London firms through which Mr. Meyberg subsequently developed the main body of his library, which he installed in the corporate office. Following his death in 1956, the company began moving toward its present activity as a manufacturer and distributor of chemicals, redwood boxes, tools and other products used by home and commercial gardeners. The selling of flower, vegetable, and field seed is still a major part of the business, but the present company is far different from the Germain's Fruit and Plant Company formed by Swiss-born Eugene Germain in 1871 in Los Angeles and owning, among other things, the city's seventh telephone installation. Mr. Schoenfeld, mindful of Mr. Meyberg's long association with the Arboretum and his innumerable contributions to the horticultural community of Los Angeles, decided the library would serve its widest purpose by being made available to the Arboretum staff and to visitors, an arrangement he was certain Mr. Meyberg would endorse.

Betsey Binet

# The Arboretum Plant Science Library

One of Southern California's most extensive collections of plant literature lies in one of the least known libraries. The Los Angeles State and County Arboretum's Plant Science Library houses books and periodicals covering nearly every subject from advanced botany to how to identify that mysterious creeping vine in your garden.

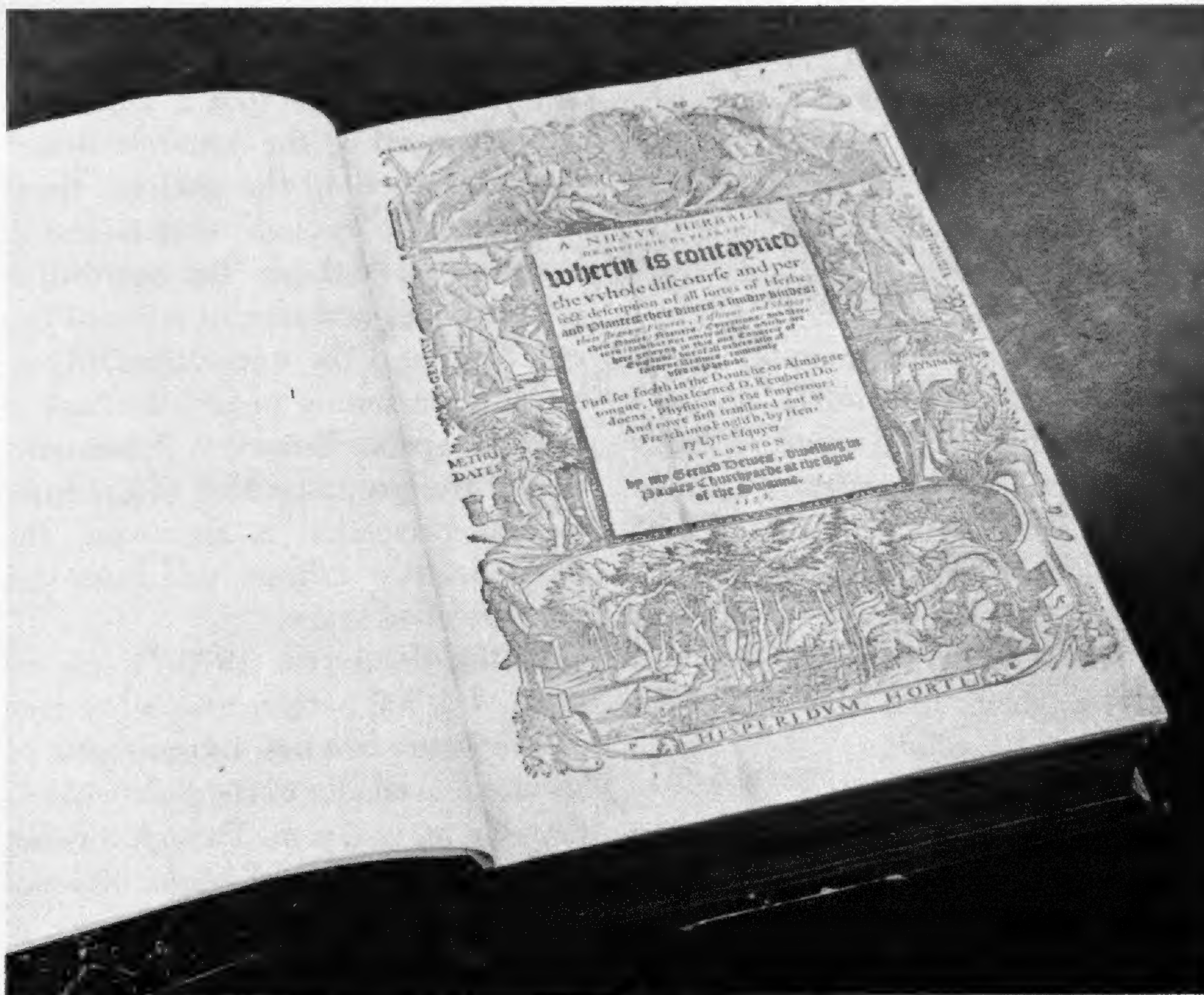
The history of the Plant Science Library goes back almost as far as the concept of the Arboretum itself. In 1950, a committee was appointed to

select books suitable for developing a horticultural library. The library was originally located in what is now the Youth Education Building. Some books were purchased, but most of the first publications were acquired through donations.

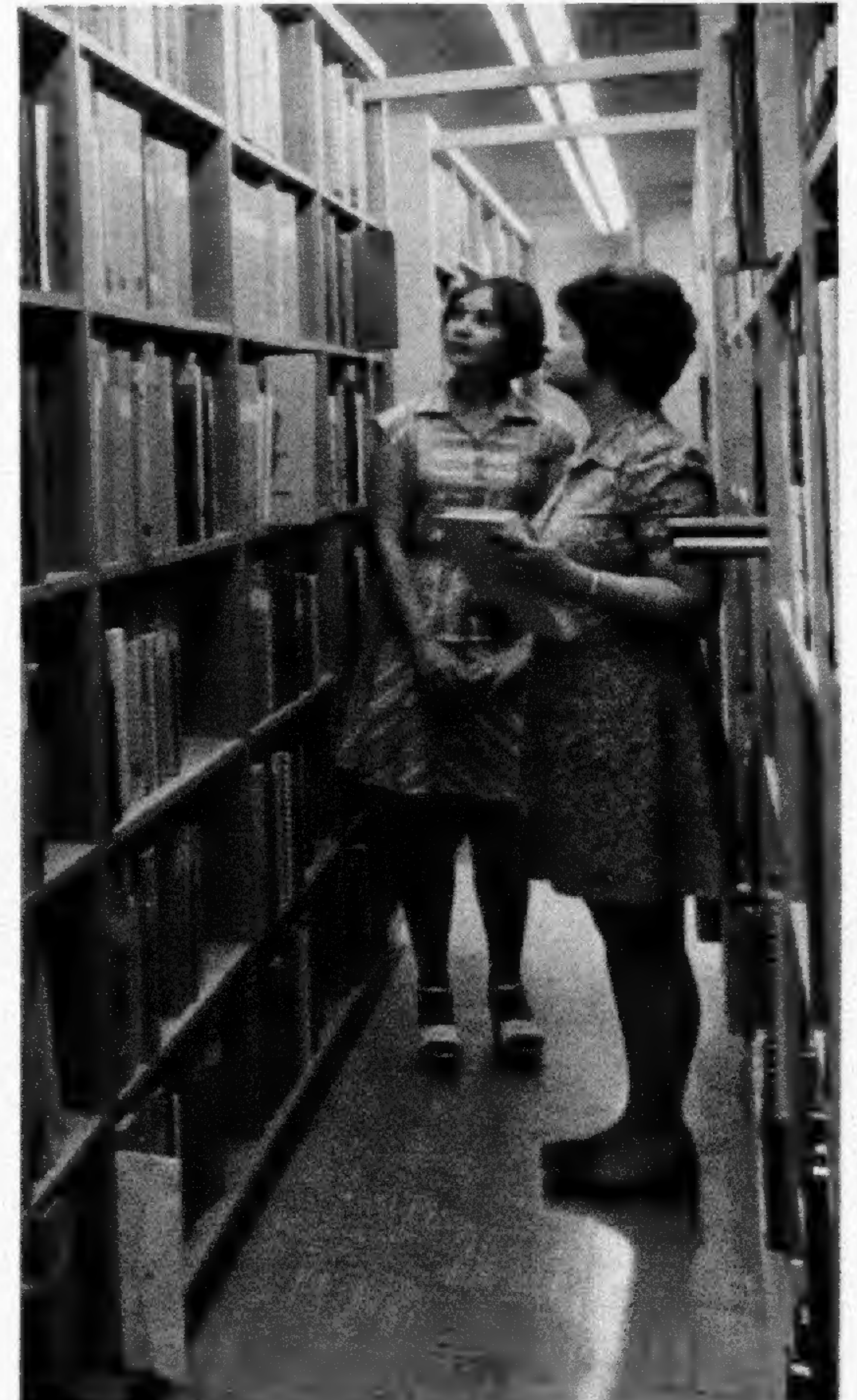
When the library was originally catalogued, an adaptation of the system of the Massachusetts Horticultural Society was used, and it served the collection very well. Over a period of time, however, the creation of new classifications did not keep pace with

the expansion of the library in terms of subject matter. As a result, it was decided to recatalogue the collection, either according to a revision of the system already in use or to a standard library classification system. The Library of Congress classification was chosen for a number of reasons, one being the staff members' familiarity with that system. Although the Library of Congress classification is not often seen by the public—most public libraries use the Dewey Decimal System—it is widely used in universities

*A 1578 English edition of a Dutch herbal is the library's oldest book.*



*Stacks at the Plant Science Library.*



and special libraries. A notation that combines alphabetic and numeric elements allows for greater subject subdivision. For example, botany in the Dewey system must fit within the numbers 580 through 589; in the Library of Congress system botany receives almost a thousand numbers under the alphabetic notation QK, reserved exclusively for that subject. Today, the Plant Science Library, containing over 23,000 items and still growing, is already partly recatalogued and the work continues with one full-time librarian and a student assistant.

**T**his is a versatile library in that its holdings respond to the botanical and horticultural interests of amateurs and professionals. The scholar and scientist can find in its index files representative works on morphology, pathology, genetics, taxonomy, biochemistry, and other scientific divisions related to the study of plant life. Technical works are available on landscaping, ornamental horticulture, photography, and even on the art of calligraphic writing. A large collection of books on the flora of other countries and areas of the world serve the specialist and layman alike. Typical titles are "Flora Brasiliensis," "Forest Flora of New South Wales," "Trees of Southern Africa," and "Wayside Trees of Malaya."

The famous 100,000 camellia bushes growing at Descanso Gardens have prompted the acquisition of a sizable collection of books on this genus. The collection of eucalyptus trees at the Arboretum—the largest outside Australia—are well covered in the Plant Science Library as is the Herb Garden, which contains some 400 species of medicinal, kitchen, and fragrance herbs. Because the Arboretum is a wildlife sanctuary and contains a small lake that provides a haven and shoreline nesting places for migratory and resident birds, the library offers books and pamphlets on animal life and related ecology.

Because of the rich history of the Arboretum land and the century-old

buildings on it—together they have been described as a history of California in miniature—the library has a sizable collection covering this period. It offers literature on the three Arboretum structures—Queen Anne Cottage (1881), Coach Barn (1879), Hugo Reid Adobe (1833)—that have been designated California Historical Landmarks and that remain continuing objects of public inquiry.

These, then, are some of the Plant Science Library holdings that reflect the special, and perhaps unique, physical and historical character of the Arboretum.

**M**any of the library's acquisitions are very old and rare. The oldest book is, "A Niewe Herbal Historie of Plantes Wherein is Contayned the Whole Discourse and Perfect Description of All Sortes of Herbes and Plantes," published in 1578.

Another interesting and rare publication was written in 1737 by a young woman named Elizabeth Blackwell. Undertaken to pay off her imprisoned husband's debts, the two-volume work is called, "A Curious Herbal Containing 500 Cuts of the Most Useful Plants Which Are Now Used in the Practice of Physick." Mrs. Blackwell researched, illustrated and handwrote the descriptions of each herb. The drawings, considered rather elementary today, were thought to be quite innovative and well done at the time of publication. The library copy was printed in 1751.

Even British philosopher John Locke is represented in the library's collection. In 1766 he wrote, "Observations Upon the Growth and Culture of Vines and Olives; the Production of Silk and the Preparation of Fruits." The book, a thin, pocket-sized volume, was used on many voyages between England and the American Colonies.

**T**he Plant Science Library offers a wide range of services to the public. Library personnel assist students in plant science projects, take telephone inquiries regarding hor-

tical literature, and catalogue botanical and horticultural reviews and pertinent articles daily to provide up-to-date reference. Quickly available to everyone are such standard reference works as the Bailey Standard Cyclopaedia of Horticulture, the Gray Herbarium Card Index of Plants, Exotica III, Index Kewensis, Standardized Plant Names, and the Gardener's Dictionary. Popular trade periodicals include: American Horticulturist, Cactus and Succulent Journal, The Camellia Journal, The Herb Grower Magazine, Landscape Industry, Scientific American, and Sunset Magazine. The library has an extensive collection of scientific journals among which are: American Journal of Botany, California Geology, Ecology, Economic Botany, Environmental Pollution, Forest Science, Nature, and Smithsonian Contributions to Botany. Also readily available are numerous nursery and seed catalogs and films, slides and photographs of specific plants. Several television films about the Arboretum can be checked out for school use. And finally, the library serves as a gathering point for the names, locations and activities of horticultural groups and societies in and outside the area.

**I**t has been said that if all of the books used by the Arboretum staff were returned to the shelves, there would not be enough room in the library for all of them. The acquisition of new books and articles is a continuous task, and the ever-expanding library is beginning to feel the lack of growing space. However, if construction of the proposed Hall of Environmental Education is approved, the Plant Science Library will have this much needed space.

In the fiscal year 1975-76, an estimated 2,500 people took advantage of the Plant Science Library and its services, available to the public weekdays 9 a.m. to 5 p.m. Though it is not a lending library and books may not be checked out, it is an ideal place to get horticultural information.

# Plant Portraits: California Sycamore

(*Platanus racemosa*)



The plane trees or sycamores, species of the genus *Platanus*, have been valued for their beauty for centuries, and have intrigued botanists with their antiquity, evolution, and mode of pollination. Their mottled bark, gnarled branches, and dangling spherical clusters of "seeds" (achenes), are a familiar part of the landscape, both urban and rural, in most of the temperate regions of the world. Although the distinctive features are easily observed from a distance and permit instantaneous recognition of the genus, close examination of a sycamore tree in flower reveals an unexpected, subtle beauty of form and color. The flowering period may easily pass unnoticed because the flowers are minute and somewhat ephemeral, but it is well worth observing, especially in the California sycamore, *Platanus racemosa*.

The California sycamore begins to bloom in earliest spring just as its furry, green-gold, new leaves expand. The tiny flowers are clustered into small spheres like chenille Christmas ornaments suspended from a string. The grape-sized female flower clusters glow blood-red when sunlight shines through them, and the pea-sized male flower clusters are bright yellow-green. Flower clusters of both sexes are borne on the same tree; each dangling, thread-like peduncle bearing from three to seven of them. The branchlets bearing the inflorescences are covered with golden fuzz like the young leaves and are often artistically

contorted. The strongly irregular, ruggedly branching pattern contrasts harmoniously with the muted colors of the new leaves, flowers, and twigs, suggesting the strong lines and soft colors of a Japanese water color. It is at this time, during the flowering period, that the California sycamore is in the most colorful phase of its seasonal cycle of growth.

The color of the flower clusters is due to the red styles of the female flowers and to the green and yellow stamens of the male flowers rather than to the petals. Although petals are present in the flowers, they are very small and inconspicuous. The small size of the petals and the early blooming period are adaptations to wind pollination. *Platanus* and other wind-pollinated plants produce copious quantities of pollen which is released from the stamens to float on the wind. As the pollen drifts from tree to tree, some of it is caught on the sticky stigmatic surface of the long red styles of the female flowers where it germinates and fertilizes the ovules in the ovaries. After fertilization, the ovaries enlarge and the flower clusters ripen into the familiar "button-balls" or "seed-clusters" which persist on the tree through the winter. Each "seed" (achene) bears a parachute of long hairs at its base; when the achenes are ripe, they too are dispersed by the wind.

Most wind-pollinated flowering trees either have no petals or have very small, nondescript petals like

*Platanus racemosa*. Large, brightly colored, showy petals, such as are found in most of the flowering plants, serve to attract bees and other insects, birds, or even bats. These animals visit the flowers in search of nectar and thus carry the pollen from flower to flower. In wind-pollinated plants, such petals would simply be in the way. They interfere with the reproductive cycle by reducing the effectiveness of the wind in carrying the pollen to the stigmas. Since plants with small-petaled flowers are more effectively pollinated by the wind, they produce more seed than wind-pollinated plants with large petals. Thus, natural selection operates over time to reduce or eliminate the non-essential parts of the flower.

The evolution of wind-pollinated plants is a complex process involving a syndrome of changes in the structure of the flower. In addition to large petals acting as a physical barrier, factors such as energetics and competition for pollinators are undoubtedly involved. Such factors are as yet only partially understood, and pollination biology is a relatively new and rapidly growing field with many challenging questions that have not yet been answered.

Because of their simple flower structure, botanists at one time believed that wind-pollinated trees like *Platanus* were primitive. Although *Platanus* does retain some features thought to be primitive (unsealed carpels, indefinite number of floral parts), botanists today believe that

their flowers are simplified rather than simple and that they are, therefore, relatively advanced or specialized rather than primitive.

Although *Platanus* is not as primitive as it was once thought to be, it is very old. The earliest fossils attributed to *Platanus* are perhaps 100 million years old, and fossil remains of *Platanus* dating from 40 to 50 million years ago are abundant in western North America. The fossils are found in association with *Ginkgo*, *Metasequoia*, and deciduous flowering plants such as *Populus* and *Liquidambar*. Although it is difficult to distinguish one species of *Platanus* from another on the basis of the fossil remains, it may be that *P. racemosa* has been relatively unchanged since the middle of the Miocene epoch, 20 to 30 million years ago. The fossilized or "petrified" wood of *Platanus*, prized for its striking grain, is sought by rockhounds, cut and polished, and fashioned into jewelry. Quarter sawn lumber of *Platanus* species is used in cabinet work and furniture for its beautiful grain. The wood is heavily crossgrained, tough, and difficult to split. At one time it was used for buttons, hence the vernacular name "button-wood" tree.

The most common vernacular name for *Platanus* in the United States is sycamore, although it is also called plane tree, button-wood, or button-ball tree. The Spanish-speaking pioneers of the Southwest called it *aliso*. In Europe, the preferred name is plane tree because the name sycamore is reserved for a fig, *Ficus sycamorus*. Plane tree is actually a more appropriate name since the name of the genus, *Platanus*, is derived from Greek and means broad or flat in reference to the broad, maple-like leaves.

*Platanus* is the only genus in its family, the Platanaceae, and there are only seven or eight species in the genus. All of the species have dangling, spherical clusters of unisexual flowers; large, palmately lobed (maple-like) leaves; and smooth, mottled bark.



*P. racemosa*. Drawing by Patty Lawson.

The leaves of *P. racemosa* are large, four to eleven inches long, and densely hairy when young. As the leaves mature, the hairs on the upper surface are shed. These hairs, borne on the wind, can cause irritation of the eyes, nose, and throat in sensitive individuals. A unique feature of *Platanus* is that the petiole (leaf-stalk) is dilated at the base and encloses the winter buds. The distinctive bark is thin, cracking and peeling off in flakes each year and revealing the softly tinted new bark beneath. As each flake of old bark peels off, the new bark gradually changes color with age and exposure to light and air. The smooth trunk becomes a mosaic of pale pastel patches of green, pink, white, and buff with bits of brownish old bark clinging here and there. The bark at the base of the trunk on old trees is often persistent, becoming thick and ridged like the bark of most other kinds of trees. The trunk of *Platanus racemosa* is frequently divided into two, sometimes more, secondary trunks which are often leaning at odd, picturesque angles. Nurseries are now beginning to stock small, multi-trunked specimens of *P. racemosa*.

Most of the species of *Platanus* are cultivated as ornamental plants. The most widely planted cultivar is the London Plane Tree, *P. x acerifolia*, a hybrid between *P. occidentalis* and *P.*

*orientalis*. *Platanus orientalis* is the species familiar to the ancient Greek writers (Plato's informal assemblies met under the spreading canopy of this species). It is a native of the region from southeastern Europe to India. *Platanus occidentalis* is native to the eastern United States and *P. racemosa*, the California sycamore, is native to the southwestern United States. Botanists disagree whether the form found in Arizona is a separate species, *P. wrightii*, or is a variety of *P. racemosa*. Native stands of the California sycamore are commonly encountered along stream beds and alluvial benches in the valleys of southern California. It follows the canyon bottoms up into the mountains to about 3,000 feet in the San Gabriels, where it occasionally associates with yellow pine.

The stream-bed habitat provides a clue to successful culture; it prefers a deep, rich, moist soil. It is a large tree and grows fast, eventually reaching 50 to 100 feet tall. It tolerates pruning well and can be shaped into a multi-trunked clump. Sycamores are propagated by seeds and by cuttings, either hardwood or softwood. It transplants easily and looks best in a native or wild garden, or in a large informal garden. It is sensitive to cold and cannot be grown in northern areas and is susceptible to sycamore blight, *Gnomonia platinii* (also known as anthracnose). This blight can be controlled with fungicide sprays. Directions on their use are given in Horticulture Bulletin #9, available at the Arboretum Information Center.

Several large specimens of the California sycamore may be seen on the grounds of the Los Angeles State and County Arboretum. Two very large trees may be seen in section H3, the Arboretum Foundation and Sunset Demonstration Home Gardens, where their spreading branches and cool shade provide welcome relief from the heat of a summer afternoon.

California sycamore, *Platanus racemosa*.



**ARBORETUM, Arcadia**

**March 12, 13—Sat. 10 to 5, Sun. 9 to 5**

"Cactus Cameos"  
Presented by San Gabriel Cactus  
and Succulent Society

**March 18—8 p.m.**

Theodore Payne Foundation Lecture  
"Bulbs, Birds, Botany and Bugs"  
Mrs. Roy Fetterman, photographer-  
conservationist

**March 20—2 p.m.**

Sunday Afternoon Talk  
"Exotic Economic Plants"  
Dr. Enari, senior biologist

**March 26, 27—9 to 5 p.m.**

Aril Show  
Presented by the Aril Society  
International

**April 16, 17—9 to 5 p.m.**

Iris Show  
Presented by the So. Calif. Iris Society

**April 17—10 a.m.**

Sunday Morning Walk  
"Lawns and Groundcovers"  
Charles Lee, consultant

**April 23, 24—9 to 5 p.m.**

Amaryllis Show  
Presented by the So. Calif.  
Hemerocallis and Amaryllis Society

**April 30—5:30—8 p.m.**

Baldwin Bonanza Preview Party  
(For Foundation members and guests)

**May 1—9 to 4 p.m.**

Baldwin Bonanza  
Presented by the Calif. Arboretum  
Foundation

**CALENDAR  
March, April, May**

**May 8—9 to 5 p.m.**

Epiphyllum Show  
Presented by the Epiphyllum  
Society of America

**May 8—2 p.m.**

Sunday Afternoon Talk  
"Plants in the Home Environment"  
Dr. David Deardorff, botanist

**May 14, 15—9 to 5 p.m.**

Rose Show  
Presented by the Pacific Rose Society

**May 21, 22—9 to 4 p.m.**

Spring Extravaganza  
Sponsored by the Calif. Arboretum  
Foundation

**May 28, 29, 30—9 to 5 p.m.**

Bonsai Show  
Presented by the Santa Anita Bonsai  
Society

**DESCANSO GARDENS, La Canada**

**March 12, 13—Sat. 1 to 5, Sun. 9 to 5**

Camellia Festival  
Presented by the So. Calif. Camellia  
Council

**March 25—8 p.m.**

Theodore Payne Foundation Lecture  
"Indian and Early Uses of California  
Natives"  
Mrs. Dorothy Pool, Consultant,  
Environmental Education

**March 26, 27—Sat. 1 to 5, Sun. 9 to 5**

Daffodil Show  
Presented by the So. Calif. Daffodil Society

**April 24—2 p.m.**

Sunday Afternoon Talk  
"Composting"  
George Lewis, superintendent

**May 19—10 to 3 p.m.**

Special Guild Walk and Luncheon

**SOUTH COAST BOTANIC GARDEN,**

**Palos Verdes Peninsula**

**March 27—10 a.m.**

Sunday Morning Walk  
"Lawns and Groundcovers"  
Armand Sarinana, superintendent

**March 30—1 to 2:30 p.m.**

Flower Arranging Demonstration  
by Mrs. Amalie Ascher

**April 12—12 to 3 p.m.**

Lecture—"Flowers of the Holy Land"  
Mrs. John Buell, St. Francis Church  
of Palos Verdes Estates

**April 15—8 p.m.**

Theodore Payne Foundation Lecture  
"Flora Life of California Mountains"  
Betty Southam, botanist

**May 1—10 a.m.**

Sunday Morning Walk  
"Flowering Plants"  
Armand Sarinana, superintendent

**May 14, 15—9 to 5 p.m.**

Fiesta de Flores  
Sponsored by South Coast Botanic  
Garden Foundation

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