

LASCA LEAVES



Los Angeles County Department of Arboreta and Botanic Gardens

GROUND BROKEN OCT. 16 FOR WATER CONSERVATION GARDEN

THE NEW water conserving gardens planned for a half-acre site at the Los Angeles State and County Arboretum will be much more colorful than one might expect. Cactuses, plants usually associated with drought, will be notably absent

from the verdant gardens, displaced by many showy plants which are either old favorites or recent introductions into local landscapes.

But no matter what their vintage, they all have the ability to thrive on less water than is usually applied to the typical Southern California garden.

"We want visitors to see the wide

range of plants that adapt to low water use," said Francis Ching, director of the Los Angeles County Department of Arboreta and Botanic Gardens. He emphasized that the five model gardens are not xerophytic in the strict meaning of the term, since most of the plants need more than 10 inches of rainfall a year to thrive.

Instead, most of the plants will be trees and perennial plants because many woody plants, when mature, adapt well to the infrequent, deep irrigation that saves water. All plants were chosen by landscape designer Bob Cornell to show gardeners how, by learning to choose plants and water them effectively, they can create a flowering, green garden with a great variety of plants.

Construction of the Henry Soto Water Conservation Gardens began after ground breaking ceremonies on Oct. 16. The gardens recognize Mr. Soto who was owner of Four Seasons Gardens in Compton and who spearheaded several major landscaping projects at the Arboretum before his death earlier this year.

The estimated \$150,000 cost of the Gardens will be contributed by the Atlantic Richfield Foundation, Los Angeles Department of Water and Power, Metropolitan Water District, California Landscape Contractors Association, and Four Seasons Gar-



LuAnn B. Munns

Discussing plans for the Henry Soto Water Conservation Garden are, (from left) Walter J. Milner, Atlantic Richfield Co. manager of personnel systems; Richard Ray, CAF first vice-president; Alice (Mrs. Dudley W.) Thomas, CAF president; and Francis Ching, Dept. of Arboreta and Botanic Gardens director. Mr. Milner presented a \$25,000 challenge grant check from Atlantic Richfield Foundation to the California Arboretum Foundation.

dens, now operated by Mr. Soto's widow and former CLCA president, Rose Marie Head.

An information center in the gardens will offer visitors educational displays and reprints of water conservation gardening articles from magazines and the DWP.

NEW GREENHOUSES TO SHOW SMOG EFFECTS ON PLANTS

EVERYONE RECOGNIZES the raw throat and burning eyes that afflict Los Angelenos when smog tints the air a pinkish brown. But fewer people realize the extent to

which smog also damages our landscapes.

To graphically illustrate smog damage to plants, the California Arboretum Foundation has begun building an educational exhibit at the Los Angeles State and County Arboretum. The project is funded by a grant from the California State Air Resources Board.

In addition to heightening public awareness of air pollution and plants, the exhibit has another purpose. It will also provide an opportunity for the collection of observational information and photographic documentation about the effects of air pollution on a large number of plant species for which such information is, at best, limited.

The exhibit will consist of twin greenhouses in the African Section. The fiberglass greenhouses, each about 16 by 35 feet, will contain duplicate plantings grown in the

BOARD OF SUPERVISORS HONOR DIRECTOR FRANCIS CHING

THE LAST issue of GARDEN magazine carried a report of the Honorary Life Membership awarded to Director Francis Ching by the American Association of Botanic Gardens and Arboreta. That recognition by his peers has since brought honor to Mr. Ching among an even broader audience. At a recent Los Angeles County Board of Supervisors ceremony, Mr. Ching was presented with a scroll and highly commended for his outstanding achieve-

ment and dedication to his profession.

In remarks during the ceremony, Supervisor Peter F. Schabarum noted that the Honorary Life Membership is the most prestigious award made by the AABGA. He also remarked that Mr. Ching's efforts over the past 15 years have not only advanced the aims of the AABGA but also promoted the public benefit roles of botanical gardens, arboreta, and other horticultural organizations.



Francis Ching, Dept. of Arboreta and Botanic Gardens director, (center) accepts a scroll from Peter Schabarum, chairman of the Los Angeles County Board of Supervisors, in recognition of the Honorary Life Membership recently bestowed upon him by the AABGA. Also congratulating Mr. Ching are (from left) Supervisor Michael Antonovich, Mrs. Ching and (far right) Supervisor Edward Edelman.

CYCAD COLLECTION EXPANDS IN PREHISTORIC GARDEN

same way. Only the air in each will be different; in one greenhouse the air will be carbon filtered to remove all pollutants, while in the other the plants will be exposed to outdoor air that San Gabriel Valley residents breathe.

Air pollution injury will be allowed to develop while the plants are exposed to outdoor air in the demonstration greenhouses. When visitors walk through both greenhouses they can examine the plants closely, comparing the damaged plants with those next door which have been protected.

An adjacent shelter will house explanatory materials and, with the support of the Air Resources Board, will provide current on-site air quality data to greenhouse visitors. The material will describe how air pollution causes plant damage, give information on air pollution levels in the region, document the historical occurrence of air pollution damage to vegetation, cite causes of air pollution, and explain the role of each citizen in improving air quality. The information center will also provide a means of assessing public response to the display through a brief questionnaire. Photographs will provide pictorial documentation of the effects of air pollution on the plants.

The study has been funded by the Air Resources Board to continue throughout the smog season for three years. During that time visitors can see which plants are more resistant to smog damage and which ones are so severely affected that it might be wise to eliminate them from local gardens. At the conclusion of the study and during the relatively smog-free winters, the greenhouses will be used for plant propagation by the Arboretum.



LuAnn B. Munns

Maneuvering a mature Encephalartos altensteinii into its permanent location in the Jungle and Prehistoric Garden requires coordination.

THE CYCAD planting area in the Prehistoric and Jungle Garden almost doubled in size this summer because of a fortunate series of donations to the Los Angeles State and County Arboretum. The saga began about a year ago when the late Henry Soto, owner of Four Seasons Gardens and a frequent contributor to the Arboretum, learned of a Beverly Hills homeowner who planned to remove a planting of cycads. Mr. Soto arranged to have the cycads boxed and transported to the Arboretum nursery where they were held until this summer.

Loran Whitelock, head of a cycad propagation research project at the Arboretum, selected about 20 specimen size cycads from the collection to be planted in the Prehistoric and Jungle Garden.

"Almost every plant is coning size," said Mr. Whitelock, who added that the maturity of the newly acquired cycads will undoubtedly make them very useful in his

propagation studies. Several of these *Encephalartos* specimens are noteworthy he said. An *E. paucidentatus* from Africa is the rarest species in the collection. The two largest cycads are an *E. arenarius* and an *E. transvenosus*. The plants are especially valuable because their status as endangered species makes it impossible to obtain mature plants from other sources.

While the cycads were being cared for in the nursery, preparation of the site began. The Whittier Youth Authority sent 12-person crews to remove the tangled vegetation from an area west of the established cycad garden. Since the cycads must be planted on mounds to keep them above the high water table in the Jungle, more topsoil was needed. Fortunately, at that time the construction company of Rudolph and Sletten, Inc. was excavating for an Avery Label building in Eaton Canyon. The firm donated many tons of soil and transported it

without charge to the Arboretum.

The 12 horticultural interns, as part of their practical gardening assignment at the Arboretum this summer, completed the final stages in the cycad garden expansion. They spent about three weeks removing roots from the recently cleared site and shaping new earth mounds before maneuvering the huge cycads into their permanent location.

A groundcover planted on the mounds will soon make the area, already connected to the footpaths that wind among the earlier plantings, an integral part of the cycad garden. What was until recently an overgrown section inaccessible to visitors has now become one of the largest outdoor collections of cycads in the world.

SANDRA SNIDER GETS SCROLL FOR EFFORTS AT ARBORETUM

SANDRA L. SNIDER, historical curator at the Los Angeles State and County Arboretum, recently received a scroll from Supervisor Peter Schabarum, commending her nomination as the Los Angeles County Employee of the Month in April. Ms. Snider was among six nominees from County cultural and recreational departments to be so honored.

Ms. Snider joined the staff in 1971 as a Student Professional Worker and was promoted to Associate Curator after completion of her master's degree in 1979.

In subsequent years she has shared her vast knowledge of local history as co-author of a popular book *Arcadia - Where Ranch and City*

Meet, which earned her a commendation from the city of Arcadia. She has also written three Department brochures and articles for many magazines and newspapers.

Although it is impossible to list all the accomplishments that earned Ms. Snider a listing in the 1985-86 *Who's Who in the West*, a few are especially noteworthy. She succeeded in placing on the National Register of Historic Places the Queen Anne Cottage (a California Historical Landmark), the Coach Barn and the Virginia Robinson Gardens.

During the long overdue refurbishing of the Queen Anne Cottage, Coach Barn and Santa Anita Depot, Ms. Snider directed operations. Then when the Hugo Reid Adobe was slated for restoration by the California Conservation Corps and Arboretum staff, Ms. Snider was the expert who consulted with San Diego Old Town officials to assure authenticity and durability of the project.

Perhaps most important is Ms. Snider's work with the Arboretum's many volunteers. She has trained over 300 volunteers who lead school field trips and conduct historical buildings tours. She also works with volunteers in the maintenance and cataloguing of archival materials including historical photos, slides, postal cards, and other artifacts.

Every year Ms. Snider supervises the Christmas Open House at the Queen Anne Cottage which raises funds for historical restoration projects. Because of popular demand, she trained volunteers and arranged schedules so that the Santa Anita Depot could be open to the public on one Sunday each month.

Through her leadership, initiative, and wealth of knowledge, Ms. Snider has made valuable contributions to the Department and community, earning her a proud place among the select employees of Los Angeles County.



Sandra Snider, Arboretum historian, accepts a scroll marking her nomination as County Employee of the Month from Chairman of the Board of Supervisors, Peter Schabarum.

Harpullias at the Arboretum



By James Bauml

I CAN STILL remember my first encounter with *Harpullia*. It was during a field trip sponsored by the horticulture club from Texas A & M over Christmas vacation in 1974. On a tour of cut-flower fields, nurseries, and gardens in Southern California, we had a half-day to explore the Los Angeles State and County Arboretum. Atop Tallac Knoll on a path leading down from the Aquatic Gardens, I was surprised and delighted to find a remarkable bower arching over the path. Beautiful, glossy leaves were spangled with thousands of ornamental reddish-orange pods. I made use of my then-new 35 mm camera for a photograph that still graces my slide collection.

Twelve years later and as a member of the Arboretum staff, I am still intrigued by this tree. Unfortunately, because of its rarity, the editors of *Sunset's New Western Garden Book* did not include it in their broad survey of plants suited for Western gardens. Although harpullias are grown and appreciated in their native countries, nurseries here have not chosen to grow them. Consequently, they are not seen outside botanical gardens. I can report, however, that the Arboretum, which introduced this tree in 1968, has been propagating *Harpullia* from seed. Some of these are now six years old

in 5-gallon pots. At this age and size, they have already produced their flowers and colorful fruits.

Harpullia belongs to the Soapberry or Sapindaceae family which also contains such notable ornamental plants as the carrotwood tree (*Cupaniopsis*), the hop-bush (*Do-*

donaea), and the goldenrain tree (*Koelreuteria*). Also in the family are several tropical fruits: litchi (*Litchi chinensis*), longan (*Euphoria longana*), and akee (*Blighia sapida*). The name "soapberry" refers to the fruits and bark of certain harpullias and other family members that con-



James Johnson

Several *Harpullia arborea* trees grow on Tallac Knoll. Each varies in foliage and overall shape.



Puffy orange seed pods of Harpullia arborea show their curious lobed shape at an early stage of development.

tain saponins which can serve as a natural soap.

There are currently thought to be about 35 species of *Harpullia* ranging from Indomalaya to tropical Australia and the Pacific region. The cultivated species are evergreen trees or shrubs with compound leaves in alternate arrangement, each with four to eight or rarely 10 leaflets from 3 to 8 inches long. The insignificant greenish flowers are about one-half inch broad in branching clusters that emerge from buds at the bases of the leaves.

Unlike the flowers, the fruits are not easily overlooked. Each 1 to 2 inch fruit (technically a capsule) is composed of two inflated lobes which vary from orange to red depending on exposure to sun. At maturity, these fruits split open to expose one shiny, jet-black seed about the size of a small marble in each

chamber. The fruits develop over the fall and persist from winter through early summer.

According to *Hortus III*, three species have been grown in the United States: *H. arborea*, *H. cupanioides*, and *H. pendula*. *Harpullia cupanioides* from Southeast Asia and Indonesia is clearly different from the other two in floral features as well as the fact that it has arillate seed, a seed covered by a conspicuous fleshy layer, much like mace over nutmeg. This seems not to be grown in California and will not be discussed further.

Harpulia arborea, growing to 35 feet tall or more, is native from India through Malaya to the Philippines and Solomon Islands. In the Philippines, it is found in thickets and second growth forests at low and medium altitudes. This species is used in India and Ceylon as an avenue and shade tree.

Harpullia pendula, reaching 50 to 60 feet in the wild but smaller in cultivation, comes from northern New South Wales and Queensland, Australia. It grows naturally in coastal scrubs, often in sandy soils, and is fairly extensively cultivated, particularly as a street tree, in many Queensland cities.

In the classical literature on *Harpullia*, it has been possible to find other apparently clear differences besides natural distribution to distinguish between the last two species. In reality, even with fruits and flowers present, such differences are not adequate. It may well be that future studies will establish these two as mere forms of one species. I will continue, for the time being, to use the name *H. arborea* for those specimens on the Arboretum grounds.

Some of the first, if not the first, seeds of *Harpullia* were brought to California through the efforts of Hugh Evans of the Evans and Reeves nursery in the 1920s or '30s. One of the first established trees

was thought to have been grown in the Miller garden above Glendora. Our earliest accession of *H. arborea* was obtained from Mrs. Lewis Miller as seed from her tree. A second accession in 1954 came from Dr. R. Seibert from the Montgomery Estate. In 1955 another seed lot came from the USDA Introduction Station in Homestead, Florida. Six mature trees from these sources are now growing well north and northeast of the Aquatic Gardens. They vary somewhat in leaf size, form and fruit size.

With its moderately fast growth, spreading canopy, freedom from pests and disease, and showy fruits, harpullia makes a fine street tree and an attractive shade tree for larger gardens and parks. It does best in full sun in average soils with moderate watering and is hardy to at least 27° F. Seeds grow easily as attested by the dense carpet of seedlings and saplings under the canopy. Its only drawback may be litter from the falling seeds and capsules.

Whatever name you wish to choose, our *Harpullia* should be better known and more widely grown. We should follow the lead of the tree's native countries where its fine features have been appreciated.

James Bauml is taxonomist and senior biologist at the Arboretum.

Mature capsules of Harpullia arborea each contain a single shiny, jet black seed. Many seeds fall and promptly germinate under the canopy of the parent tree. (Photo by James Johnson)





During a break in classes, some of the 60 educators who met at the Los Angeles State and County Arboretum this summer get their first look at the Queen Anne Cottage. They spent a morning at the Arboretum as part of the week-long North American Science Education Workshop. While here they learned how the Arboretum teaches natural science through the Arbor Day tree gift program, school field trips and the annual Environmental Education Fair. Other Southern California hosts included Jet Propulsion Laboratory, Museum of Science and Industry, Edwards Air Force Base, and the Huntington Library and Botanical Gardens.



Historical Section Open House
Sunday, December 14, 1986
10 a.m. to 4 p.m.
 Los Angeles State and
 County Arboretum

Garden admission fees in effect. Additional \$1 per person to tour Queen Anne Cottage interior. This event is open to the public.

Proceeds will benefit Historical Preservation Fund.

CALENDAR OF EVENTS

NOVEMBER, DECEMBER, 1986
 JANUARY, 1987

LOS ANGELES STATE AND COUNTY ARBORETUM, Arcadia

NOVEMBER 15, 16—9 a.m. - 4:30 p.m.

Bonsai Show
 Santa Anita Bonsai Society

NOVEMBER 22—9:30 a.m. - 3:30 p.m.

Annual Conference
 California Rare Fruit Growers, Inc.

DECEMBER 6, 7—Saturday 1-4:30 p.m.
 Sunday 9 a.m.-4:30 p.m.

Camellia Show
 Pacific Camellia Society

DECEMBER 14—10 a.m. - 4 p.m.

Queen Anne Cottage Open House
 Las Voluntarias y los Ayudantes

JANUARY 24, 25—9 a.m. - 4:30 p.m.

Bonsai Show
 Baiko-en Kenkyukai Bonsai Society

JANUARY 25—9 a.m. - 4:30 p.m.

Gladiolus Bulb Sale
 Southern California Gladiolus Society

SOUTH COAST BOTANIC GARDEN, Palos Verdes Peninsula

DECEMBER 7—2 p.m.

Christmas Concert
 Palos Verdes Symphonic Band

DECEMBER 14—2 p.m.

California Winter Wildflowers
 Chuck Benz

JANUARY 24, 25—Sat. 1 - 4:40 p.m.

Sun. 10 a.m. - 4:30 p.m.

Camellia Show
 South Coast Camellia Society

DESCANSO GARDENS, La Canada Flintridge

NOVEMBER 1, 2—9 a.m. - 4:30 p.m.

Chrysanthemum Show
 Glendale Chrysanthemum Society

NOVEMBER 8, 9—9 a.m. - 4:30 p.m.

Ikebana Show
 International Ikebana Society

DECEMBER 6-14—10 a.m. - 4 p.m.

CHRISTMAS SHOW
 Descanso Gardens Guild