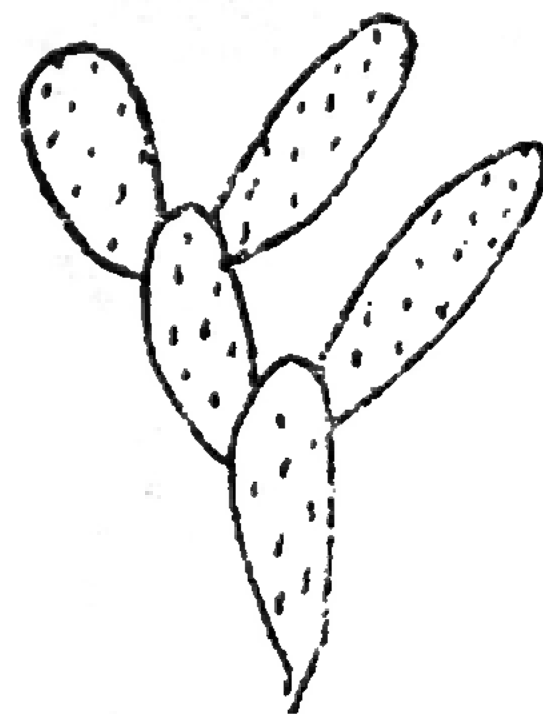


# CACTOS

# Y

# SUCULENTAS



OFFICIAL PUBLICATION OF THE SAN DIEGO CACTUS AND SUCCULENT SOCIETY

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## SOCIETY MOURNS THE PASSING OF DR. ROBERTS

### APRIL MEETING

San Diego Floral Association Building at 2:00 p.m., Saturday, April 2.

Mr. Jack Ward will speak on "Basket Culture."

Tickets will be on sale for the Plant Sale Table, an excellent opportunity to add new plants to our collections.

If members have plants in bloom or new or different species bring them to display for the Bragging Table. Last month Mr. and Mrs. Taylor brought several beautiful cactus specimens that they had collected on their recent trip to Mexico.

Refreshments will be served at modest donation. Bring yourself and friends.

### LAST MEETING

Mr. Frank Mousseau gave an interesting talk on the "Economic Importance of Euphorbias."

Mr. and Mrs. Robert Taylor told about many of their experiences while collecting cactus in Mexico and brought several specimens for display.

Dr. Ralph S. Roberts, 75, active member of the San Diego Cactus and Succulent Society since its inception, died Friday, March 18, of a heart attack. Among his many philanthropic activities, he was also a member of the board of trustees of Quail Gardens Foundation, and was a member of the Floral Association.

Dr. Roberts was a leader in winning community recognition for the late Kate O. Sessions, internationally known San Diego horticulturist. Within the last year he worked with R. V. "Doc" Vaughan to gain the permission of Balboa Park authorities for the Society to rejuvenate the Cactus Garden.

The Society mourns the passing of a most distinguished member.

## A THANK YOU TO THE TAYLOR'S

The Society is most grateful to Mr. and Mrs. Robert Taylor for providing plants for last month's Plant Sale at such a nominal price.

# MINUTES

SAN DIEGO CACTUS & SUCCULENT SOCIETY

March 5, 1966

The meeting was called to order by the president, and the minutes were read and approved. Guests were welcomed.

President Vaughan reported on the work party at the Cactus Garden and suggested that each member care for a small plot of the garden.

Committee reports: Mr. Ward asked for more volunteers to work on the fair exhibits. Mr. Crane has kindly offered to help with the trucking of the plants to the fairgrounds.

Mrs. Hoffman made the motion that we have a permanent food chairman, who will be responsible for getting volunteer hostesses each month and maintaining the kitchen supplies. Mrs. Heverlin was nominated and unanimously elected.

Mrs. Sterling stated that she is trying to sell her place and wishes to give her collection of plants to the Cactus Garden.

The meeting was turned over to the program chairman, Mr. Ward, who introduced Mr. Mousseau who spoke on the "Economic Importance of Euphorbias." Mr. and Mrs. Taylor told of their recent trip to Mexico and showed many fine cactus specimens that they had collected.

The meeting was adjourned in order that the plant sale could take place. Delicious refreshments were served by Mrs. Scott and Mrs. Greenwood.

Shirley Ward  
Temporary Secretary

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## COMMERCIAL IMPORTANCE OF THE EUPHORBIAS

Note: This article is partly based upon the presentation of Mr. Frank Mousseau at the March meeting of the Society.

In comparison with other plant families containing large numbers of succulent species, the Euphorbiaceae are by far the most important commercially.

A few of the lilies, such as Aloe vera, have medicinal properties, and onion and garlic are of food value, but try to think of others and you would have to search hard to find them.

The crassulaceae may have a few native medicinal uses but what commercial use can you think of, other than ornamental purposes? In a few places, cactus fruit may be eaten by the natives, and a few foods are prepared from them, but no large scale commercial application can be found for them since the decline of the cochineal dye industry in the 19th century.

Few of the succulent or xerophytic members of the Euphorbiaceae have commercial application yet, but the sap of most species contains glucosides which may be of important value for medicinal extracts some day. However, many of the non-succulent members of the family are extremely important commercially and industrially.

(cont'd on Page 3)

## COMMERCIAL IMPORTANCE OF THE EUPHORBIAS (continued from page 2)

### Rubber Tree (Hevea Braziliensis)

Natural latex rubber is almost entirely derived from some four species of trees, *Hevea braziliensis* being the most important. The tree needs constant high temperature, high humidity, and high rainfall, in addition to adequate under drainage and protection from stagnant water in order to survive.

Natural rubber is of declining importance because of synthetics derived from petroleum, but it is still one of the biggest natural raw materials on the world industrial scene.

Do not try cultivating this one unless you have a heated green house with humidity control. Please do not confuse it with the large-leafed tropical commonly sold in local nurseries as "rubber tree."

### Tung Tree (Aleurites cordata)

Tung oil is not edible, but it is the best drying and waterproofing oil of vegetable origin. It is used in the manufacture of enamels, paints, varnishes and paint driers; quick-drying auto enamels have a tung oil base. It is also used in the manufacture of oil cloth, linoleum, and brake linings.

This euphorb comes from South China where it has been cultivated for almost 2000 years. By 1940, tung oil was China's leading export in terms of value, but after the communist take-over in 1949, the U. S. and some of the other Western European industrial countries turned to sources in Africa, Latin America and Australia.

There has even been tung oil production in the U. S. since 1932. Tung oil orchards now exist in central Florida, along the Gulf of Mexico from south-central Texas to Florida, and reach the Atlantic in southeastern Georgia. Even though the U. S. now has over three hundred thousand acres planted to the tung tree we still import most of our tung oil.

These trees grow rapidly, reaching six feet the first year, and attaining maturity in four to six years. They thrive in Southern California coastal areas when well watered in well-drained soil, and they make an attractive ornamental tree.

### Castor Bean (Ricinus communis)

Castor oil comes distastefully to mind when one sees the castor bean, but the oil is much more valuable as a dye fixing agent in cotton dyeing and as an ingredient in paints and plastics.

When the castor bean was originally introduced in the 19th century it was widely cultivated as an ornamental, but now it grows everywhere in Southern California as a common weed, and few people cultivate it. When well watered, fertilized and pruned properly, this plant may grow into an attractive 20-foot tree, but the seeds may become a nuisance, especially since they are poisonous.

### Croton

Croton is a large genus of over 500 species, mostly from the tropics, noted for its medicinal extracts.

Croton oil, a well known purgative, is extracted from the seeds of *Croton tiglium*; it is a very active and dangerous drug. Other Croton species yield oils from the crushed seeds from which are extracted a wide range of hard stimulants, tonics, diuretics and purgatives, mostly dispensed only under a doctor's prescription.

# NEW GARDEN CENTER LAUNCHED

On March 25, a new organization, the San Diego Botanical-Garden Foundation, Inc., held its first meeting to discuss the financing and building of a new garden center in the area from the corner of Laurel Street and Zoo Drive, west to the Lily pool and botanical house, and north to the edge of the zoo.

The area will be landscaped with gardens and plantings representative of most of the garden societies in the San Diego area, and a new floral building is planned on the site now occupied by the falling-apart Food and Beverage Building.

It is expected that the new building will retain the Spanish theme of the 1915 Exposition, including the present arcades. Present plans call for a large L-shaped building with glass or disappearing walls around an inner court extending to the lily pool. The building will probably be three stories, providing a basement for lockers, loading and unloading, and show staging and preparation areas. Floricultural exhibits, a library, and general meeting hall will be located on the ground floor. The upper floor will have laboratories, small meeting rooms, demonstration and class rooms. When completed, the new center will replace the present Floral Association Building.

It is hoped that the center will develop as an ornamental horticultural center for all Southern California. The planned gardens are expected to encourage more extensive floriculture and use of landscape design using ornamental plants and trees.

According to Mr. Virgil H. Schade, president of the foundation, under the organization's by-laws, each member society will retain its present identity and activities without interference or participation of the foundation. Membership of the new foundation is composed of both societies and individuals. All groups will be provided the means to work together for the common purpose of establishing the center and garden.

In addition to Mr. Virgil H. Schade, other officers and members of the board of trustees are Stanley W. Miller, first vice president; J. Everett Henderson, second vice president; Mrs. Joseph J. Keanneally, secretary and acting treasurer; and Walter Anderson, Mrs. William E. Betts Jr., Miss Pauline des Granges, Sam W. Hamill, Roland S. Joyt, Robert G. Lamp, Mrs. Sim Bruce Richards, and Larry Sisk. The late Dr. Ralph S. Roberts, member of our own Society, was also to have been a member of the board of trustees.

How soon the center will be built will depend upon how soon gifts, donations and other monies can be accumulated in sufficient quantity. Construction may start in a few years or it may take a decade or more.

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## COMMERCIAL IMPORTANCE OF THE EUPHORBIAS (continued from page 3)

### Manihot (Tapioca)

Mr. Mousseau presented an article on Manihot in the February, 1966 issue. Manihot esculens and a few other Manihot species are cultivated world-wide in the tropics for food after the poison has been extracted through pressing and cooking. Tapioca, a common kitchen preparation in the U.S., is a food product derived from the Manihot root.

These plants make attractive ornamentals, and will survive in coastal San Diego County if given protection from occasional frost.

# THE SAGUARO

The saguaro (*Carnegiea gigantea*) is a conspicuous and important plant of the Sonoran Desert in southern Arizona and northern Mexico. Since the turn of the century it has been failing to reproduce in certain environments. Decline in reproduction dates from the rapid growth of the cattle industry in the 1880's.

The saguaro flowers in May and June and produces large numbers of seeds. Any of various circumstances may prevent the seeds and seedlings from developing: because of environmental conditions they may not germinate; rodents may eat them; the roots of young plants may be washed out; and the plants may be killed by freezing temperatures. A very small fraction of the seedlings survive and maintain the population. Most of the seedlings that survive are in sheltered places, underneath palo verde and other plants, within shrubs and grass cushions, and on rocky slopes between rocks. Groups of several saguaros of different ages may be seen beneath, and rising through, a single palo verde tree or other "nurse plant." Growth in the early years is slow; it takes a plant about 10 years to reach a height of 4 inches and 20 to 50 years to reach 3 feet. Later growth is at a rate of about 4 inches per year, varying with age and summer precipitation. The largest individuals are 150 to 200 years of age.

The center of maximum population density in the Tucson area is on the driest slopes of mountains, at low elevations; the finest stands of large individuals occur on some of the upper parts of valley plains. Toward higher elevations in the mountains the population is limited by low winter temperatures, which periodically kill large proportions of the population by freezing. Down the slopes the population is limited by the occurrence of finer soils which fail to give the plant the necessary support.

Rodents and rabbits have much to do with the population density of the saguaro. Some rodents eat young saguaros with apparent relish, presumably more for water than for food. Programs of coyote control since the 1930's have resulted in an increase in rodent population. In some saguaros wood rats have eaten circular staircases through the tissues surrounding the central column. Intensive browsing on young palo verde by rabbits is reducing the rate of replacement of these nurse plants.

Grazing subjects the population to a gradual disaster. When the effects of grazing are far advanced and rodent populations are high, as in parts of Saguaro National Monument, these effects are largely irreversible.

Science, October 4, 1963, pp. 15-23, "The Saguaro: A Population in Relation to Environment," Niering, Whittaker, Lowe.

Shirley Ward

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