

A recent hybrid greenhouse orange cultivar from Kordes, named 'Mercedes', has proved to be one that mutates easily. It has given off several red sports, two of which, 'Gabriella' and 'Jaguar' are widely grown and a lighter version, 'Romeo', is fast becoming popular, and quite a few others.

HUNTINGTON BOTANICAL GARDENS — A SAMPLER

AUDREY TEASDALE

The Huntington
Library • Art Gallery • Botanical Gardens
San Marino, California

The Huntington is known for many things: the paintings of Blue Boy and Pinkie, the Gutenberg Bible, and a renowned Library of American and English literature used by scholars from around the world.

As plant people, are we aware of the plants the Huntington Botanical Garden has introduced to the U.S. and of the annual plant sale which attempts to make these introductions and other rarities available to the public? The remnants of the first commercial avocado orchard is still in existence at the Huntington. The Huntington is one of the West Coast quarantine center for imported bamboo. Within its 13 different gardens are collections of many genera of plants including the largest world-wide collection of mature cactus and succulent specimens grown outdoors.

In 1901 Henry E. Huntington, the founder, purchased what was then the San Marino Ranch. Huntington had by this time created and developed the clean and convenient electric street-car system throughout Los Angeles. Huntington's goal pertaining to the garden was to determine "which of the world's plants would thrive in southern California." This brought plants from all over the world so that today we can enjoy mature selections of choice plants. Fortunately, Mr. Huntington set up a trust so the Library, Art Gallery, and Botanical Gardens are privately endowed and there is no admission charge to the public.

Let's take a visual tour through a few of the Gardens and talk about some of the interesting plants along the way.

The North Vista is our formal Italian Garden with a view of the San Gabriel Mountains as a background. This area contains collections of various camellia species. In between the 17th century statuary are azaleas and many choice trees. Our oldest *Camellia japonica*, 'Pink Perfection', was here when Mr. Huntington purchased the property almost 80 years ago.

As we enter the Shakespeare Garden we notice the masses of color of seasonal annuals. The Garden is a modern design including plants that were widely grown during Shakespeare's time (1564-1616). The small trees are *Citrus aurantium* 'Chinotto'. Beneath the 'Chinotto' is a small knot garden which is an elaborate pattern of clipped herbs which give the effect of being intertwined — *Lavandula*, *Santolina*, *Teucrium*.

Leaving this area, we come upon our *Magnolia delavayi* — the largest leaved evergreen magnolia Native to China, it was discovered by the French missionary, Delavay. Our specimen is 32 years old. In early spring it's covered with large buds which open into 7" creamy white fragrant flowers.

We are now in the Rose Garden. The Rose History walk follows the perimeter from the oldest rose to the modern hybrid teas in the Central Rose Garden.

A detour into our Pavilion area lets us gaze upon *Prunus serrulata* 'Pink Cloud'. Each spring this vigorous selection produces a mass of large showy pink flowers.

As we continue our walk, we spot a plant growing on the arbor above. The plant resembles wisteria, but has very glossy leaves, is flowering in September, and instead of long, drooping panicles of purple flowers it displays small, sweetly scented dark maroon flowers. This is *Millettia reticulata* from China — our evergreen wisteria which, botanically speaking, is in the same family as wisteria (Leguminosae) but is generically distinct.

Now we enter the Japanese Garden (which, more properly, should be called an Oriental Garden); it was designed in 1912. The gong is from Japan and the structure is built in the traditional Japanese style without nails — only wooden pegs. The ram is not made of *Chamaecyparis obtusa*, Hinoki cypress, as in Japan, but is an agave flower stalk from our Desert Garden.

The Chinese Moon Bridge is probably one of our most photographed structures and most people when seeing a picture of it recognize it to be at the Huntington.

As we continue past the pond and up the slope we encounter a typical house built in the 1800's of a wealthy countryside Japanese family. This house, the bridges, and some lanterns were acquired in 1912 from a commercial tea garden in Pasadena. During visiting hours, both the amado (rain doors) and the shoji (inner doors covered in rice paper) are opened displaying the inside of the house.

Also in the Japanese Garden is the Zen Garden. This is a dry garden of individual interpretation. Originating from the Buddhist religion, it is a spot for peaceful and thoughtful contemplation.

Our Australian Garden contains ten acres of plants from Australia and New Zealand. We have approximately 100 species of eucalyptus — both trees and mallees. *Eucalyptus macrocarpa* is unique in producing its flowers singly and has one of the largest fruit of any eucalyptus.

The Subtropical Hill is one of my favorites. It is located on a southern slope and is the warmest spot in the garden, giving us the potential to grow plants that may be borderline tender here. Not only have we plants from all over the world, but even some recently introduced to Southern California, such as the *Citrus limon* 'Sun Gold' which is not even out in the trade but has much promise. The tree is variegated with over 20 shades of yellow and green with the flesh of the fruit showing variegation also. Plants from the Mediterranean can also be found here, such as a 70 year old *Pinus pinea*, Italian Stone Pine, which silhouettes the sky with its huge umbrella crown. As we continue on these winding trails, we find the Mexican creeper, *Antigonon leptopus* — a climber up to 40 feet — that was collected in Mexico during a Huntington expedition. Making a mass of color from June to November is a good ground cover one foot in height — the *Zinna maritima* or Acapulco Daisy. It was introduced to this country from Mexico by the Huntington. Our annual Plant Sale provides funds for annual expeditions that make these introductions possible.

Leaving the Subtropical Hill, we can't miss the Ombu tree — approximately 60 years old, *Phytolacca dioica*, from South America. This plant, with its swollen trunk, is referred to as "The Ships on the Pampas" in South America. In the hot, flat grasslands the trees look like huge ships floating upon the sea of grass.

The Lily Ponds were built in 1904. To have the tropical water lilies and giant *Victoria amazonica* (Syn.: *V. regia*) in flower till mid-January, over 1,000 feet of 2" galvanized pipe was installed along the walls of the pond and was connected to a hot water boiler. It actually worked!

Podocarpus reichei is another introduction into this country by a Huntington expedition to Mexico. It has a graceful habit with leaves much longer than *P. macrophyllus* and, in our garden, has taken temperatures to -4.5°C (24°F).

Our Jungle and Cascade was completed in 1980 and contains plants that typify a jungle — many of them epiphytes such as our introduction, *Platycerium ridleyi*, Staghorn Fern, received in 1973 as spores from Malaysia. However, this plant may prove to be too tender for our garden. Another introduction in this area is a plant now found widely in the trade — *Schefflera arboricola*, which was introduced by the Huntington from seed received in 1965 from Taiwan. *Dombeya cacuminum* is a dense columnar

tree, growing 30' tall in 12 years. Its flowers are a vibrant red and it has the attributes of flowering later than most *Dombeya* and its flowers do not hang on the tree as do those of *D. × cayeuxii* or *D. wallichii*.

Our Palm Garden is 4 acres. The *Jubaea chilensis*, Chilean wine palm was apparently being cut down rapidly in Chile. Within these massive trunks is a sap yielding up to 90 gallons of commercial palm honey which can be fermented to make a wine. Fortunately this practice has stopped.

The Desert Garden at the Huntington brings thousands of people annually to visit. This Garden and the Japanese Garden are undoubtedly the public's two favorites. This is the largest collection in the world of mature cacti and succulent specimens grown outdoors. During the winter months the Garden is a mass of red from the flowering South African aloes. The Mammillaria Bed was established in 1930 and is made up of Arizona volcanic rock, it is approximately 1/5 mile long. The Golden Barrel Cactus, *Echinocactus grusonii*, is well represented with large and mature specimens in the Garden.

Along the main road are sun and winter hardy succulents tested for their use as groundcovers. New future projects in this Garden include a Baja California bed and a glasshouse for plants unable to be grown out of doors.

I'd like to welcome all of you to visit the Huntington Botanical Gardens in San Marino, California. We are closed the entire month of October, but are open 1:00 to 4:30 Tuesday through Sunday the rest of the year.

AVOCADO NURSERY PRODUCTION

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The propagation of avocado trees has been discussed before this group a number of times. I presented the details of avocado production, as practiced at La Verne Nursery, at the Western Region Meeting in San Diego in 1974 (2), and a very detailed account on the same subject was given by W.H. Brokaw in 1977 (1).

I should point out that the avocado trees which have been planted in California during the last 20 or 30 years were produced by specialized growers who produced several hundred thousand trees annually, while only a relatively small amount of