

Endemic to Cuba, where found on calcareous soils in all the provinces according to León, *Flora de Cuba* 1: 245. 1946.

*GASTROCOCOS CRISPA* (Humboldt, Bonpland & Kunth) H. E. Moore, *tr. nov.*

*Cocos crispa* Humboldt, Bonpland & Kunth, *Nova Genera et Species Plantarum* 1: 302 [folio 242]. 1816.

*Acrocomia crispa* (Humboldt, Bonpland & Kunth) C. F. Baker ex Beccari, in *Pomona College Journal of Economic Botany* 2: 364. 1912.

*Gastrococos armentalis* S. A. Morales, in *Repertorio Físico-Natural de la Isla de Cuba* 1: 58. 1865.

*Acrocomia armentalis* (S. A. Morales) L. H. Bailey, *Hortus Second* 22. 1941.

Trunk to 18 m. (60 ft.) high. Leaves large: sheath and petiole 7.5 dm. (2½ ft.) long, the sheath densely covered with upward-pointing slender brown prickles of varying lengths to 3 cm. (1 3/16 in.) long and occasional much

longer and stouter prickles, the upper margins fibrous and extending along the petiole nearly to the first pinnae, the free portion of the petiole about 45 cm. (18 in.) long with brown or yellowish prickles, some very stout; rachis more than 2.5 m. (8½ ft.) long, often with short yellowish prickles along the lower margin and on the lower surface near the junction with the petiole; pinnae to 120 or more on each side of the rachis, the lower ones short, narrow, and closely placed, those in the center to 1 m. (3½ ft.) long, 3 cm. (1 3/16 in.) wide, the midnerve green, the lower surface pale. Inflorescence to 1.5 m. (5 ft.) long or more, the upper bract brown tomentose; peduncle about 7.5 dm. (2½ ft.) long, densely brown or yellowish prickly; rachis about as long as peduncle, smooth or with prickles at base; rachillae to 30 cm. (1 ft.) long or more. Flowers yellow to orange, the staminate 8-9 mm. (11/32 in.) long with calyx about 2 mm. (3/32 in.) high, the females about the same height. Fruit smooth, yellow to orange at maturity, 2.5-2.75 cm. (1-1½ in.) in diameter.

## Hybrids in *Chamaedorea*

DAVID BARRY, JR.

In June 1923, the *Journal de la Société Nationale d'Horticulture de France* (ser. 4, 24: 223-244, 1923) ran an article on the cultivated *Chamaedorea* by Dr. M. A. Guillaumin of the Jardin des Plantes, Paris. After describing about fifty species the author lists several hybrids. These are referred to as recent hybrids, meaning that they were made after the turn of the century. They would indeed be recent when compared to the dates given for the introduction to horticulture of various species of *Chamaedorea*. The first species was introduced in 1794 to the Im-

perial Garden of Schoenbrunn, near Vienna. The author adds that the voyager Warszewicz, and especially Linden, the celebrated horticulturist of Ghent, introduced the major part of the species in those early days. Many were introduced between 1840 and 1890.

The first hybrid was made by a Russian, F. Katzer, of Pavlosk, about 1899. It was described as *Chamaedorea* × *Katzeri* Loebner, in *Gartenwelt* 13: 159. 1909. The parents were *C. concolor* and *C. Ernesti-Augusti*. The plant was suckering, the terminal leaves simple, like

those of the second parent. The leaves that followed down the petiole were pinnatisect in 3-5-7 segments.

A second hybrid, *Chamaedorea* × *romana*, was named by Guillaumin and had *C. Ernesti-Augusti* and *C. Schiedeana* as parents. It was published in *Bullettino della R. Società Toscana di Orticultura* 35: 207, 1910, and *Kew Bulletin*, 1911: Appendix III, 93, 1911. This hybrid had a single trunk and much of the general appearance of *C. ×Katzeri*. It was Italian in origin and was being grown in the botanical garden in Rome in 1910.

Two other hybrids were made about this date and were growing at Kew, according to Guillaumin. They are *C. ×kewensis* [*C. Wendlandiana* × *C. Lindeniana*] and the unnamed cross *C. corallina* × *C. glaucifolia*. Descriptions are in the *Kew Hand List of Tender Monocotyledons*, 2nd edition, pp. 84 and 85.

The destruction to greenhouses in Europe by World Wars I and II seems to have ended there any activity in hybridizing in *Chamaedorea*. An American cross between *C. costaricana* and *C. Schippii* has been made by one of our society members. Irving Cantor of Los Angeles reports that in 1960 he put some *C. costaricana* pollen on *C. Schippii* flowers and set one dozen seeds from which nine plants were grown. In 1962 he made the cross and harvested 30 seeds. Again, in 1965, he harvested 50 seeds. This hybrid has created a very attractive palm. It is midway in size between the two parents, seems to have the frost tolerance of *C. costaricana*, and has restricted the tendency of *C. Schippii* to run. It seems tolerant to morning sun, a characteristic picked up from the last parent, has great vigor, and is an improvement over either parent.

The only information at hand of

hybrids in Florida reached me through the investigative effort of our Secretary, Lucita H. Wait. It seems that the one known instance of hybridization is accidental, and a little uncertain, and took place, or perhaps takes place each year, in a planting of *Chamaedorea* in Fairchild Tropical Garden in South Miami. In a grouping of several species of *Chamaedorea* palms the plants of *C. Seifrizii* are on the lee side of palms of *C. erumpens*. Plants grown from seeds formed on plants of *C. Seifrizii* were at first assumed to be of that species. However, they varied so much in appearance from the plants of *C. Seifrizii* that they are now assumed to be crosses between it and *C. erumpens*. They present a complete range in appearance between the two species. The confusion increases when it is considered that pollen of *C. erumpens*, at least under California conditions, is the sticky type and is never freed to float in the air from plant to plant. Perhaps an insect has been a party to this apparent example of hybridization in Florida.

With about 100 species in the genus the opportunities for producing hybrids are endless. I strongly favor hybridization that aims at improving on nature, and not that done merely for the purpose of creating a hybrid. For example, if the characteristic of branching that is found in *C. elatior* var. *bambusoides* could be bred into some of the single-trunked species, such as *C. corallina*, a new, living, art form would be found. Or, if the "metallic" coloring in the leaves of *C. metallica* could be made to prevail in *C. brachypoda*, while keeping the multiple-trunk character of the last, a most useful horticultural subject would be the reward.

Because of the wide variety of vegetative characteristics within the genus, as now known, it is reasonably evident that all species would not be compatible

with one another in crossing. On the other hand, it is evident that some species should be compatible because of the general similarity of the shape and style of the spadices in both sexes, such as those of *C. metallica* and *C. Ernesti-Augusti*. I assume that this cross could be made, and I recommend it as the kind of hybrid that should produce a significant and interesting result.

In handling the pollen of *Chamaedorea*, plastic bags, or Baggies, are very useful. When the male flowers are ready to shed pollen and will do so when the spadix is tapped, enclose the spadix in the bag, tap and shake the bag vigorously, and the inside of the bag will be whitened with pollen. When the female flowers are sticky, envelop the entire female spadix in the bag, tap and shake the bag, and the flying or

falling pollen will find its way to the open flowers.

This method can not be used with species like *C. elegans* that have glutinous pollen that will not be shed by the flowers. In such cases, remove one corolla at a time from the spadix branch, hold it between two fingers, and pluck away the thick petals with tweezers. Put the stripped flowers in a small, open dish for two or three hours to air-dry. Then the pollen may readily be picked up by the bristles of a camel's hair brush by stirring the flowers with it. The pollen will show as white powder on the brush with which the sticky female flowers may be touched, one by one. This is tedious, but it is effective, and will make up for the absence of an insect.

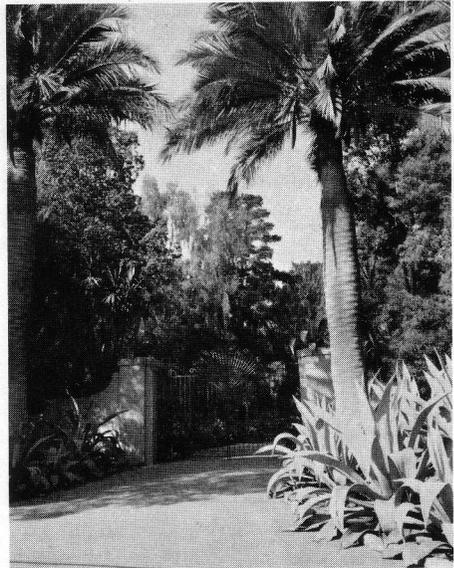
## GARDEN TOUR

# The Palms at Lotusland

Estate of Madame Ganna Walska

The area of Santa Barbara, California, lying at 34 degrees, 25 minutes North Latitude, enjoys a milder climate than one might expect. The principal reasons for this pleasant situation appear to be two: the close presence of the Pacific to the south (*sic*; consult your atlas) and the fact that immediately to the north of the city is a mountain range which, contrary to the custom of most red-blooded American ranges, runs east-west rather than north-south. The beneficial effect of these rocky slopes, which rise to three or four thousand feet, is often to shut out cold winds from the north, and to absorb and re-radiate heat from the low winter sun.

January and August official average high and low temperatures are given as 64.8°, 40.3° and 78.1°, 56.7° F. by the Department of Commerce Weather Bureau. In recent years, the weather sta-



1. Entrance to Lotusland. Iron gates in filigree are flanked by tall *Jubaea* specimens emerging from a planting of gray-leafed agaves. Barry Osborne photo.