The African Relative of the Chilean Wine Palm

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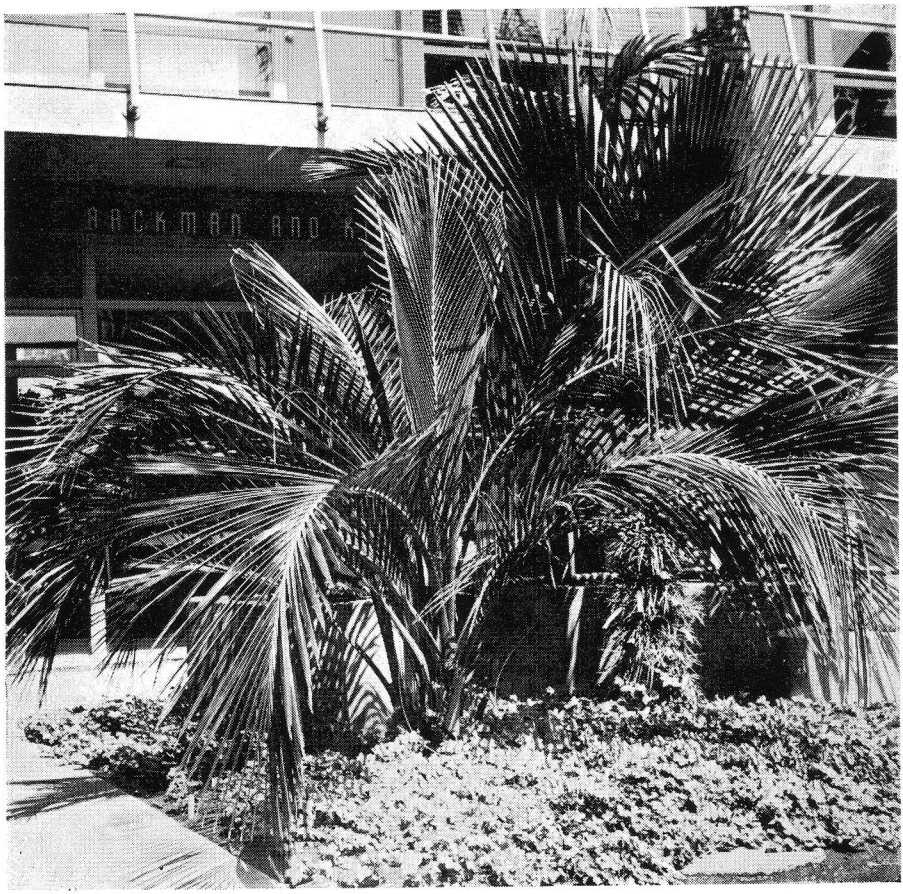
The origin of plants is often stated simply as either Old World or New World. Sometimes it is necessary to point out exceptions to this easy generalization. For example, bromeliads were thought to be exclusively New World until a few years ago when an apparently indigenous species was found in Africa. *Cocoideae,* or cocoid palms (not including the coconut palm, whose origin is obscure and controversial) were also considered to be solely New World plants until about 1913. In that year Odoardo Beccari of Florence, Italy, palm authority of his day, described a newly discovered cocoid palm from South Africa—*Jubaeopsis caffra.* This kaffir palm, "like a *Jubaea,*" is a relative, surprisingly enough, of the wine palm *Jubaea chilensis.*

In the late thirties I sought seeds of this new palm in the belief that the species would live in the coastal belt of Southern California, where many other South African plants are at home. The small lots of seed that I managed to secure from time to time came by steamer because there was no airmail out of Africa at that time. In spite of special attention to packaging to prevent dessication during the slow passage, none of the seeds arrived in viable condition. At least, and to my disappointment, none germinated over bottom heat.

In 1939, Miss K. C. Stanford, the late plant and seed merchant of Stellenbosch, near Capetown, wrote that she had received word from a correspondent up-country that seeds of *Jubaeopsis caffra* could be secured. She stated that the opportunity to obtain seeds was exceptional and asked that I respond immediately if interested in a supply. The seeds were ripening and would have to be collected before baboons destroyed them. Having already been informed that the "boys" in the bush also eat the seeds while green, i.e., with a soft endosperm, I hastened to send Miss Stanford an order. Some weeks later a shipment of several hundred seeds arrived, of which about two dozen germinated.

In sowing the seed it was necessary to use containers about two feet in depth. In tropical countries it would be advisable to sow the seed *in situ.* The deep containers are necessary to keep the hypocotyl, or radical, that emerges from one of the three eyes of the seed, from corkscrewing and smothering itself in the confines of a shallow container. The formation of the plantlet by the leaves growing up and the roots growing down begins at a point on the descending hypocotyl when sufficient depth has been reached to protect the development from drought. It is evident that a vertical descent of the hypocotyl to at least eighteen inches below the surface of the soil is necessary before the plantlet will begin to develop. This growth habit is also a characteristic of the African palms of the genus *Hyphaene* and of *Bismarckia* from Madagascar. It has been stated that these palms can not be germinated in pots. This contention falls when the propagator uses pots of sufficient depth.

Ten years later the plants were well established in large nursery containers. They had reached a height of four to five feet, and their fronds were six feet in length. Many had divided into double heads. At the time they had not yet experienced a cold test. In the winter of 1949, however, we were hit by a severe freeze of the kind that visits Southern California about every decade. Even in mild "frost-resistant" localities temperatures dropped to several degrees below 32° F. One-third of these African palms succumbed to cold. With this experience I have concluded that this palm is about as hardy as *Howeia, Archontophoenix,* and *Rhopalostylis.*



JUBAEOPSIS CAFFRA with four crowns (left), *Trithrinax acanthocoma* in background (right).

The surviving plants continued to divide. Some of them now have four crowns and give evidence of further division. This development of multiple trunks is not by the formation of new growths that are horizontal offshoots from a mature trunk at ground level, as in *Chrysalidocarpus, Ptychosperma,* or *Chamaedorea.* Instead, the division occurs high in the crown or leaf cluster of the plant. A moderately thicker-than-normal spike of unopened leaves divides into two spikes with half of the surrounding leaves forming the crown for each of the new spikes, respectively. The species may be propagated by division that is easily done by a vertical cut with a saw between leaf crowns.

The plants produce several long slender spathes from which many-flowered spadices emerge. The male flowers produce an abundance of pollen. Self-pollination does not seem to take place. It might be assumed that an insect that does not live in California is needed to carry pollen from the male to the female flowers. After hand pollination a swelling of the female flowers takes place that predicts the development of seed. Unfortunately after two or three weeks the swollen flowers fall. Once, however, two seeds did attain full development. Unfertilized flowers fall quickly.

The leaves of *Jubaeopsis* are graceful, arching, and abundant. The species has promise of great beauty, and would be especially attractive if the trunks were to shed their leaf bases and arise from the ground as clean, smooth columns. The characteristic of self-cleaning trunks is expected to be found in mature cocoid palms. The size of a mature plant of the species given in the description below suggests that eventually a development of this nature takes place.

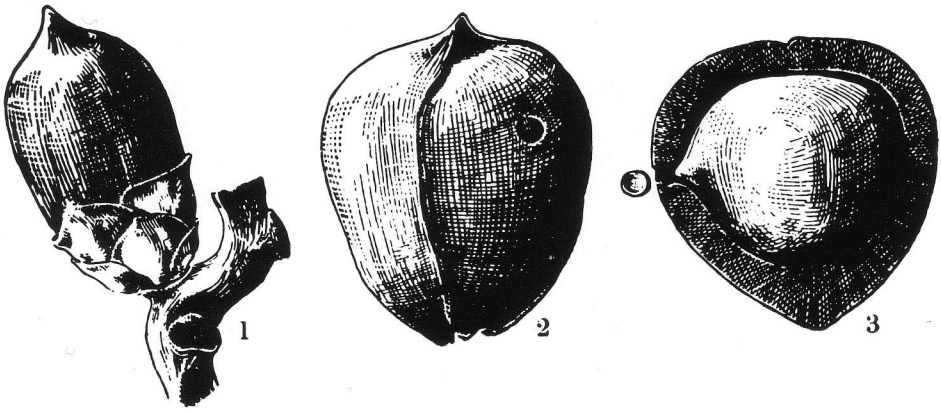
From The Flora of South Africa 4: 48,1915, by Rudolf Marloth, text and figures reproduced with permission of the publishers:

"Until quite recently only two genera of palms were known from South Africa. A few years ago Mr. Charles Ross, then conservator of forests at Umtata, reported the occurrence of another kind in Pondoland. This has now been found to be the representative of a new genus, named *Jubaeopsis*, from its nearest ally, *Jubaea*, a monotypic genus of South America (Chili).

"The fruit of *Jubaeopsis* differs from that of *Cocos* by the position of the germinating holes, which in the latter genus are situated near the base of the nut, but in *Jubaeopsis* near its equator. The endosperm is hollow, as in the coconut, and also of a sweetish taste, but without milk.

"A tree up to 20 feet high, with leaves 12—15 feet long. The male flowers are inserted on the upper parts of the branches of the spadix and possess 8—16 stamens, the female flowers being on the lower parts. The fruits are about the size of walnuts, but nearly globular, the fibrous pericarp being yellow when ripe.

"The palm occurs, as far as known, only at two localities in Pondoland, viz. at the mouths of the Umsikaba and the Umtentu rivers, in both cases only on the northern bank and in close proximity to the water. As this is, apart from the widely spread coco-nut palm, the only member of the tribe which occurs in Africa, all the others being American, its discovery throws some new light on the origin of the Cocoineae and the relationship of our flora."



FRUIT OF JUBAEOPSIS CAFFRA reproduced from Marloth. 1, young fruit; 2, ripe fruit with the pericarp partly removed; 3, nut in longitudinal section, the seed entire but the plug of the germinating hole detached.

The other two genera of South African palms mentioned by Marloth are represented by the species *Phoenix reclinata* and *Hyphaene crinita*.