

Two Cold-resistant Palms

When any palm confined in nature to the tropics or near-tropics can be successfully cultivated in a much colder environment, the fact should be publicized once it is known to be a fact and not just a hopeful theory. It becomes news. This seems to apply to two palms of the southern hemisphere, *Neodypsis Decaryi*, endemic in Madagascar, and *Copernicia alba* (*C. australis*, syn.), native in southern Brazil, Paraguay, northern Argentina and perhaps southeastern Bolivia.

The palm first mentioned, *Neodypsis Decaryi*, was introduced in cultivation in the United States by the Fairchild Tropical Garden some years ago and has since been rather widely distributed. It was described in PRINCIPES 5: 71-74, under the title "Madagascar's Three-sided Palm — *Neodypsis Decaryi*," by Robert W. Read, who states that palms of this species in the Fairchild Garden were subjected to temperatures as low as 28° F. without resulting injury. More recently a cold test of greater severity occurred and was reported upon in the Fairchild Garden BULLETIN, as follows:

"In a letter to F. T. G. superintendent Stanley Kiem, Mr. Edward F. Thayer of the Thayer Nursery in Stuart, Florida, described his experience with the triangle palm (*Neodypsis Decaryi*) during the cold weather of last winter (1966). On April 30th, 1966, Mr. Thayer wrote:

"We were unable to visit the Garden this spring because of all the extra work created by the 26° freeze in January. After dumping 1,500 plants, mostly palms of the *Veitchia*, *Cocos*, *Archontophoenix*, *Chrysalidocarpus*, *Ptychosperma* and *Pritchardia* genera, we decided that it would be best not to grow any more of the tender palms. *Neodypsis*

Decaryi, however, came through fine, almost as hardy as *Arecastrum Romanzoffianum*, and of the couple of hundred that I sold and gave to people none was killed and very little foliage damaged'."

It should be kept in mind that the palms referred to by that correspondent were still quite young and therefore presumably not so tough as older plants would have been.

Two young palms of this species in Daytona Beach were subjected to the same freeze mentioned above, but the minimum temperature was 25° F., or one degree lower than at Stuart, and very likely the twelve-hour duration of the freeze at Daytona Beach was several hours longer than at Stuart, which lies 157 miles to the south and commonly has much warmer winter temperatures. One of the two palms was near but not directly under the foliage of an oak, and the other was well out in the open — yet neither was injured in the least. Whether *N. Decaryi* can tolerate deeper cold is conjectural, but it now seems fairly well substantiated that it can withstand moderately hard freezes. Not quite all the island of Madagascar is within the tropics. According to Jumelle, this "palmier tres ornemental" was planted in the southernmost part of the island below the Tropic of Capricorn, and perhaps some inference as to its hardiness can be drawn from that. Moreover, Dr. Moore has said it is found as a wild palm at altitudes much above the 100 meters assigned to it by Jumelle (in *Flore de Madagascar*, q.v.).

All the species of *Copernicia* have proved to be either too tender, unless afforded protection, for the climate at Daytona Beach, or at best only marginal there, with the sole exception of *Coper-*



1. Of seven species of *Copernicia* grown outdoors at Daytona Beach, this eleven-year-old example of *Copernicia alba* was the only one to survive, without any form of protection, the record freeze of 1962, when the mercury dropped as low as 22° F. Photograph by Dent Smith.

nicia alba, the Caranday wax palm. Though a close relative of the Carnauba wax palm, which has proved not to be one of the hardier palms, *C. alba* is able to withstand hard freezes down to 22° F., and perhaps slightly lower, even though the foliage may be badly burned. A young plant in Daytona Beach (Fig. 1) has weathered all the rigors of winter there for a decade, including the record-breaking freeze of December, 1962, when the temperature remained below freezing for fourteen hours and reached a minimum of 22° F. About two-thirds of the foliage was destroyed



2. This young plant of *Neodypsis Decaryi* located in Daytona Beach, Florida, has survived unharmed twelve consecutive hours of below-freezing temperatures, with a minimum of 25° F. Photograph by Dent Smith.

by that freeze, but there was no vital injury to the palm and its recovery was rapid. Its rate of growth in the locality, however, has been only about half of that to be expected at the plantation of S. C. Johnson and Son, Inc., in Ceara, Brazil (see PRINCIPES 10: 100, for note and photographic illustrations). Mr. E. D. Kitzke, Biology Supervisor for that corporation and past President of The Palm Society, had this among other things to say about *Copernicia alba* (PRINCIPES 10: 36): It “. . . occurs as the largest stand of any species in the genus and occupies substantial areas in three countries. Dr. Klare Markley con-



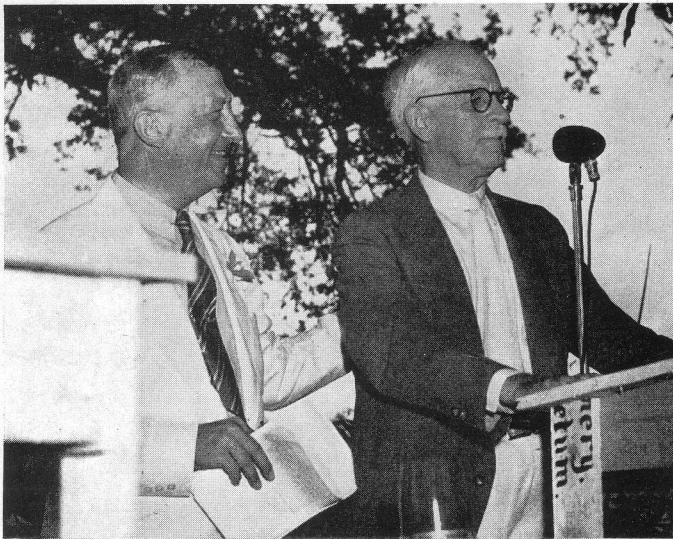
3. Perhaps not so handsome as before it had erected a few feet of trunk, this specimen of *Neodypsis Decaryi* in the Fairchild Garden is nevertheless a palm of distinctive form and "personality."
Photograph by Dent Smith.

servatively estimated from aerial reconnaissance photographs that over one billion trees occur in the Gran Chaco region. It is also the fastest growing of the *Copernicia* species, attaining 8 feet in 3 years." Of course the palm will not grow so rapidly in regions cold enough in winter to slow down the growth rate of plants generally, but the slower growth does not affect its vitality and appearance.

For those who cannot grow other species of *Copernicia*, *C. alba* would seem to fill a void if yet another fan palm is desired. It is of moderate size, with a leaf crown considerably smaller

than that of *Livistona chinensis*, and apparently less than a third so large as that of the massive *Sabal causiarum*. Cold tolerant, rapid growing and resistant to drought, *C. alba* has much in its favor for dooryards and gardens. The leaf petioles are armed, nevertheless, with strong recurved spines capable of inflicting severe wounds upon the unwary. Apart from this defect, if it is one, the plants are not believed to be now available in the nursery trade, and so to grow this palm would probably mean starting from scratch with the seed.

— D. S.



Robert H. Montgomery and David Fairchild
March 23, 1938