

# *The Palm Society*

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## The Society

What the Society purports to be and what its objects are have already been stated in a memorandum, but because this first Bulletin will be sent to prospective as well as present members, it is desirable to restate, with more clarity if possible, those propositions here.

Its history is brief. In mid-November about a dozen persons having a keen interest in the Palms agreed that it would be a good thing to form a Society dedicated to all phases of interest in that family of plants. Accordingly it was undertaken at once.

The Society, as it was envisioned, would hold no meetings other than an annual one for the purpose of electing its officers and transacting any other necessary business. It would have no chapters and no affiliation with any other organization. Far from being regional or even national in scope, it would seek out its members from among the ranks of interested botanists, collectors, plantsmen, and palm-lovers in general, wherever in the world these might be found.

The only mutual interest among all those persons of diverse regions and nationalities would be their common concern with the Palms as a family or as individuals, even though the focus of interest would greatly vary. Some very few members, conceivably, might chiefly be interested in the manufactures and other practical uses to which certain palms may be put; the interest of the majority, however, would very likely be focussed on horticultural or botanical matters, or perhaps on purely ornamental and aesthetic aspects.

The objects of the Society, to be accomplished entirely by means of its publications, would be chiefly to disseminate information about the Palms, both scientific and horticultural, and about any matter or phase relating to them, e.g., their insect pests and diseases, their uses, their relative hardiness, their introduction, their availability as either small or large plants, &c. The collateral objects proceeding from the foregoing would be to promote a wider interest in planting the less common species, where suitable, as well as the common; to help reduce the confusion in nomenclature among genera and species; to help resolve other difficulties and wonderments of growers and lovers of the Palms by reporting facts as these facts are revealed by our members or by other close observers from their own first-hand experience.

### Its present status

The Society now exists only informally. There are at present no officers and no dues. It is hoped that the time and attention necessary to run its affairs may be concentrated on matters relating to the Palms themselves, instead of being dissipated by organizational details and red tape. Nevertheless it will shortly become necessary to put the Society on a formal footing by holding a meeting of the members to adopt simple by-laws and to elect directors, or officers, or both; this in order to insure the continuity, if not perpetuation, of the Society's business, for it is quite apparent that the correspondence, keeping of records, general office work, errand-running, and the time required to put together and produce and mail the publications, are beyond the powers of any one individual to accomplish with efficiency.

It should be possible to hold a meeting for the above purpose during March or April of this year, if a sufficient number of the members will attend. Those unable to attend should be supplied with a proposed set of by-laws and a proposed slate of directors or officers, or both, so that they may approve or disapprove them, and make any other proposals or nominations they may wish to have presented at the meeting. The time for this meeting can only be determined by correspondence, as well as what members are able and willing to serve in the capacities that must be filled.

The duties of the directors and officers should be designed to require a minimum of their time, as otherwise it may be difficult to find anyone willing to serve. This minimum could be achieved by simplicity of organization and by restricting attempts to increase the membership beyond the small numbers of people having a vital, or at least substantial, interest in the Palms; for there would seem to be no point in adding members at random for the sake of mere numbers or size. The heaviest work would fall upon the editor of the Society's papers, but this should not be too burdensome if he could be relieved of most other matters.

### Its membership

As of December 31, 1955, the Society had 35 members, counting as only one the names of husband and wife where both are inscribed. Every one of them, without exception, has an active interest in the Palms. Of the 35 members, 15 have private palm-collections, 2 are landscape gardeners, 4 are horticulturists but not nurserymen, 10 are nurserymen largely specializing in the Palms, and 4 are botanists. We have 2 members in California, 1 in Texas, 1 in New York, 1 in Pennsylvania, 2 in the Bahamas, and the rest in Florida. All, or very nearly all are serious students of the Palms.

We should try to engage the interest of persons throughout Latin America and throughout the other tropical and sub-tropical regions of the world, especially those who work with the Palms in the field, in the herbarium and at the botanic gardens anywhere on the planet. Why? Because we have much to learn from them, and they something from us; and because the Palms have their being in greater numbers and kinds in lands far removed from these United States.

If any names of prospective members abroad occur to you, please send them to the editor of this paper so that their attention may be solicited. Most of the foreign scientists speak English, or failing that, they read it.

Attempts to secure additional members were suspended after December 10th, for the holiday season. They are being resumed simultaneously with the mailing of this Bulletin.

#### The Bulletin

The aim is to make the Society's Bulletin a monthly periodical, though it may not be possible to maintain such frequent publication. It seems best to keep the aim high, even if the performance falls short of the mark.

This first paper contains too much discussion about the Society and not enough about the palm plants. Our papers will be good or poor, depending on whether or not our members will generously contribute to them. Very likely all of us could make observations that would be engaging. Comments of any sort on the palm plants are in order. Whether they are brief or extensive. Stating it still more clearly, the editor invites contributions consisting of anything from a paragraph to a complete article, and with either a scientific or horticultural bearing.

We are aware of the rule that calls for italicizing scientific names, but it seems better not always to be bound by it in a typescript. We may use lists of botanical names and the papers will perforce be liberally sprinkled with them, with the result that all the underlining necessary to indicate italics would deface the pages and be very disconcerting to anyone not accustomed to reading typescripts. We can cease to defy the rule when the Society grows large enough to print its papers, if ever it reaches that stage.

#### How many palms?

What was true two centuries ago is still true: that the number of palm species existing is not known. Brother Leon reminds us that in Linnaeus' day only eight species were scientifically known, and that not one of these belonged to the Western Hemisphere. Others say that Linnaeus knew 15. Gradually the number was revised upward till, only a few decades ago, it reached one thousand. This estimate has since been revised many times, and always upward.

Science is now supposed to be aware of more than 4,000 species of palms, though probably less than 2,000 have been named. The genera are not involved in such high mathematics; but the number of species may eventually exceed 5,000 through new discoveries and taxonomic studies. This, however, is only conjecture. Perhaps some botanist possessed of the latest intelligence and an electric computer will further enlighten us.

We could do worse, meanwhile, than to attend to some remarks on this head by the late Dr. L. H. Bailey (in *Gentes Herbarum* vii, fasc. II, 1946) as follows:

"How many palms grow on the earth is unknown. It formerly was said that perhaps the species are 700, later 1100. I have lists of several thousands. It is doubtful whether more than one-half the species on the planet are yet named and described. Even many of the species that are clearly distinct in technical characters may not announce themselves offhand. Many good collectors do not attempt to attack the big palms.

"Many plants popularly known as palms do not belong to the Palm family. Thus the traveller's palm, *Ravenala*, belongs to the Banana family, and the banana itself is often supposed to be a palm. Panama palm hats are not made from a palm but from a low plant with palm-like leaves belonging to the *Cyclanthaceae*, *Carludovica palmata*. The sago palm is a cycad, and many members of the *Cycadaceae* are popularly accredited as palms, as well as *Curculigo* of the *Amaryllidaceae*.

"What, then, is a palm? In the first place, it is an endogen and monocotyledon, axes enlarging by internal accretions rather than by external or peripheral cambial layers. The perianth is regular, glumaceous, small, not showy, calyx and corolla not differentiated, commonly very much alike; stamens in 3's, mostly 3 or 6, infrequently more numerous; ovary 3-celled or 1-celled by suppression, free from perianth, ovule solitary in each cell, embryo very small and immersed in albumen: fruit a small or large body, drupe-like or berry-like, the outer part commonly hard or shell-like: trees and shrubs with palmate or pinnate leaves, trunk usually erect and prominent but sometimes only a crown and in certain cases subterranean; others are vines. In *Phytelephas* the ovary is several-celled, and this genus has been erected into a separate family, although not commonly so treated.

"As a family, the palms reach their greatest development in the tropics of both hemispheres, although some of them inhabit temperate and frosty countries as palmetto in the United States and *Nannorrhops* in snowy mountains of Afghanistan. With the exception of *Raphia*, no genera are represented natively in both eastern and western hemispheres, and there are suspicions that the occidental *Raphias* are naturalized from Africa. The American oil palm is now considered not to be congeneric with the African oil palm or *Elaeis*. The regions from India to East Indies, and from Central America to northern and middle South America, are notable for the great numbers of genera and species of palms. Africa is not rich in genera and species although in parts abundant in numbers of palm trees, and it is noted for the date palm, to which Linnaeus assigned the Greek name, *Phoenix*.

"Whenever good and ample specimens have been made of a definite region or genus, the write-up of them is likely to increase the known number of species astonishingly. Thus, in publishing on the palms of Panama in 1943 I was confronted with twenty-six genera and thirty-one species; I published on twenty-eight genera (one of them being new) and sixty-nine species, thus more than doubling the inventory by new species based on the collections in hand. In that work I increased the species of *Bactris* from two to thirteen and of *Chamaedorea* from seven to nineteen. In studying the much worked genus *Sabal* I have been obliged to increase the species from seventeen to twenty-six, and the end is not yet. When monographing the palm flora of the Mascarenes, east of Madagascar, a country in which the palms were supposed all to be known, I added one new genus to the four old ones and four binomials to the eight previously recognized. At the opening of the century we knew two species of the genus now called *Roystonea*; today we know seven of them, aside from botanical varieties. These various examples well represent the extensions that are likely to accumulate in the critical study of any palm territory or involved genus. Therefore we cannot yet state how many species of palms inhabit the earth.

"The classification of palms has been inadequately formal, as may be seen by remarks on pages 28 and 29 of my Fascicle of 1933, of which the present paper is a revision. It is apparent that many students of the palms have not known them carefully in the field, and have depended too exclusively on materials in the herbarium. This is not the place to revise the subdivisions of the family or the tribes. In time to come we probably shall give more emphasis to the nature of the leaf-blade, whether palmate or pinnate, to armature, and to size and habit of plant and the general attributes of stature; the details of flower and fruit structure will define and verify the larger subdivisions. In a new treatment, the number of genera will probably not be less than 150; the species will be greatly extended."

#### A foul deed

Some underhanded work with palm seeds recently came to light in a letter from a correspondent. "Just had a letter from Hoboken Quarantine that they destroyed 50 *Hyphaene ventricosa* and 10 lbs. *Raphia ruffia* from Rhodesia due to dipterous larvae, whatever the hell this is. Boy, am I sick!"

We can sympathize. Mosquitoes, sandflies and some other flies are dipterous insects, which is a fact of no help in replacing those seeds.

#### Bartram on palms

Most of us have heard or read that stands of native Royal palms formerly grew in central Florida, far north of their present stations. One may read that William Bartram discovered them growing in 1790 on the banks of the St. John's River near the site of the present De Land. The area is 260 miles north of Miami and is often subjected to winter cold and frosts occasionally heavy.

One reads and one wonders. Has the climate changed so much since the eighteenth century? Did there once exist a hardier race of Royal palms? An affirmative might be applied with more reason to the latter case, but the guesswork remains.

"The Travels of William Bartram" was first published in 1791, in Philadelphia. Bartram, however, set out on the travels in April, 1773, and it appears certain from his book that it was in the summer of 1774 that he found his Royal palms, rather than at the later date or dates sometimes cited. It is clear that he proceeded up-river from Lake George in a tiny sailing craft and on the second day sighted the palms, so that it may well have been in the approximate latitude of the present De Land, and in any case could not have been far from it. This, exactly, is what he wrote:

"The palm-trees here seem to be of a different species from the cabbage tree; their straight trunks are sixty, eighty, or ninety feet high, with a beautiful taper, of a bright ash colour, until within six or seven feet of the top, where it is a fine green colour, crowned with an orb of rich green plumed leaves: I have measured the stem of these plumes fifteen feet in length, besides the plume, which is nearly of the same length."

Bartram called his find *Palma elata*, and though his specific name disappeared for a time, it was finally and rightfully restored. For a good many years the Florida palm was called *Oreodoxa regia*, but today *Roystonea elata* is the binomial that recognizes it as a species distinct from *R. Regia* of Cuba.

The ancient botanist Bartram was not always consistent with his plant names. He makes other references to *Palma elata*, implying its occurrence at points on the St. John's even north of the site mentioned above, but he may have been referring, absently, to *Sabal palmetto*, which usually he terms "*Corypha Palma*." Even though responsible for the specific, *repens*, of the one existing species of *Serenoa*, he is satisfied to term the genus interchangeably either *Corypha* or *Chamaerops*. The two quotations below serve to illustrate the point, both of them interesting enough in their own right.

1. While ascending "the south Musquito river in a canoe the bears were feeding on the fruit of the dwarf creeping *Chamaerops* (this fruit is of the form and size of dates, and is delicious and nourishing food)."
2. His description of the palms on St. Simon's Island, southeast coast of Georgia, where he observed "many curious vegetable productions, particularly *Corypha Palma* (or great Cabbage Palm), *Corypha pumila*, *Corypha repens*, *frondibus expansis*, *flabelliformibus*, *plicatis*, *stipit*, *spinosus* (Dwarf Saw Palmetto), *Corypha obliqua*, *caudice arboreo adscendente*, *frondibus expansis*, *flabelliformibus*, *plicatis*, *stipit*, *serratis* . . . "

The parenthetical remarks are his own, from which it is evident that *Sabal palmetto* has been called "cabbage palm" for at least 182 years.

#### Cocos plumosa?

Well, not since Beccari unraveled the genus *Cocos* many years ago. A correspondent deplores the general use by growers and the universal use by the public of the early name "*Cocos plumosa*" and calls it compounding an error, which it does. The rest of us also deplore it, but it seems that we are stuck with it, for the same multitudes who get seasick at the mention of any other Latin name cling to this one with fierce determination. Granted that the modern binomial "*Arecastrum Romanzoffianum*" (not to mention its varieties) is too polysyllabic for ordinary talk, it is still no great feat to say "*Arecastrum*" and be understood. Better yet, in everyday use we can say "Queen palm," for this is an old and well established common name in many parts of the English-speaking world.

In these papers, of course, we shall use the modern names of the palms separated from *Cocos*, dispensing altogether with such preposterous survivals as "*Cocos australis*" for any species of *Butia*.

The old genus *Cocos* was broken up into these genera: *Arecastrum*, *Arikuryroba*, *Butia*, *Rhyticocos* and *Syagrus*, leaving but one *Cocos*--*nucifera*. Although *Arecastrum* has a nut resembling a miniature coconut, even with the three "eyes," it does not have the botanical characters necessary to make it a half-brother to the coconut palm. The lay grower may be no great shakes at botanizing, but he wonders, and with some reason, how it and *Butia* and the other separates ever got into the same genus in the first place.

Advances in taxonomy are being made, and it is certain that many changes in name will be made as fast as past errors are brought to light. This means that it is also certain that some of our most cherished names will be thrown out by the systematic botanists, and new and highly annoying ones substituted. Some scientists, too, as well as most of us lay brothers, resent these changes, on the grounds that sufficient reasons for a change are not perfectly evident. Actually, however, it is the plain duty of the responsible scientist to expose and correct errors, even his own, and no name bestowed in error should be permitted to stand because of its popularity or venerable age. And it still remains for us to hope that, when name-changes are made, they are made for the better instead of the worse.

#### Canine propagator

We are not yet quite done with the coconut-like nut produced by *Arecastrum*, for thereby hangs a tale. We know that palms are sometimes distributed by birds and other animals that carry their seeds, but perhaps we are not so familiar with the good offices performed by domestic pets.

On the grounds of Mr. Max Zahn, a florist at Daytona Beach, there flourished a fine Queen palm and also an excellent coach dog, a Dalmatian, which was very fond of the palm fruits. The dog has been dead for several years, but in his lifetime it was his wont to gobble up one or two of the ripe fruits every time he loped that way. After gnawing the orange-colored fruits rather gingerly, he would swallow them whole, seed and all, so that in the course of time great numbers of seeds sprouted all over the grounds and the young palms became something of a nuisance. Eventually it was necessary to grub out several hundreds of them, for they interfered with the culture of the flowers. One of these dog-sown palms, however, was left to grow, and in only eight years it has forced its way upward through the liveoak branches to a height of some twenty feet and now has a leaf crown about eighteen feet broad. . . . Some human beings are addicted to the ripe fruits of *Arecastrum*. The pulp is pleasantly sweet, but it is also rather fibrous and has a gummy consistency.

#### Ganoderma sulcata

This is not the name of a new palm, more's the pity. It is a palm-killer, a fungus that attacks the base of *Arecastrum* trunks, and once entrenched is fatal to the trees. There is in California an equally fatal fungus, *Penicillium vermoeseni*, which according to Mr. William Hertrich, in his superb book "Palms and Cycads," attacks *Arecastrum* in that state, but it is not identifiable with *Ganoderma sulcata*.

In May, 1953, the writer of this paper obtained in Orlando, Florida, two large palms of this genus, each about 25 feet tall, and had them trucked to Daytona Beach and planted there on his grounds. Both specimens flourished for over a year, and then a decline set in. One by one the leaf petioles broke near the stem till finally all the leaves were left hanging while still green. The tall leaf bud was unable to unfold itself and the spadices were undeveloped and ended by shriveling up with their vestigial flowers. At first the rounded bracket-type fungus was not apparent, for it grew on the woody base of the trunk at the soil line and was more than half-hidden by the soil. This stage of the growth--the whitish fruiting body adhering to the trunk--grew and became plainly visible, whereupon it was cut away with a knife and the bole was frequently painted with copper. Nothing, however, could stop the progress of the deep-seated disease, and in November, 1955, both trees had to be eradicated to prevent the possible spread to other specimens.

Inquiries made at Daytona Beach about this fungous disease revealed no local instance of it or any knowledge of it. This caused the writer to suspect that it was already in an incipient stage on the palms when brought from Orlando, and he went there to find out if the disease was established in that city. Its presence there was discovered quite readily, for in driving along one street where the parking is closely planted with Queen palms, he spotted several dead or dying trees having the characteristic symptoms, including the whitish shelf-type excrescences at their base. He still had not identified this fungus by name, however, and so he applied to the Agricultural Extension Service for information and advice.

In response a letter was received from Mr. Erdman West, Botanist and Mycologist in the Department of Plant Pathology, Agricultural Experiment Stations, University of Florida, Gainesville. Under date of November 22, 1955, Mr. West commented as follows:

"The disease on the Cocos plumosa, or queen palm, is known as butt rot. It is caused by the fungus Ganoderma sulcata. The fleshy or leathery fruiting body you found on the trunks of the trees is the external evidence of the identity of the organism. This fungus has been found attacking several kinds of palms in Florida but has been much more on the queen palm than on any other species. We have records of it on Phoenix, Butia, and other species. The fungus produces a great many spores from the little pores in the undersides of the fruiting bodies or conks. These drift or are blown through the air and infection starts apparently when these spores land in the minute cracks in the base of the trunks of the palms. The fungus grows into the trunk of the tree, producing very little external evidence. By the time the top of the palm is beginning to show signs of deterioration the vegetative part of the fungus has penetrated and decayed the entire diameter of the palm trunk near the ground. The conks begin to develop at about this time. As far as we know there is no remedy for the trouble when it reaches this stage of development. Theoretically, it would be possible to remove early infections by tree surgery methods, but since there is no external evidence in the early stages, this method of treatment is not feasible.

"We recommend that affected trees be removed as soon as possible to prevent the production of fruiting bodies and hence more spores. If there are other palms in the vicinity, we recommend that the lower parts of the trunk from the ground up 4 or 5 feet be sprayed thoroughly with one of the neutral copper fungicides such as copper A, CCCS, etc. These fungicides are quite persistent and should prevent the germination of spores in the sprayed area for a period of 4 to 6 months. It is necessary to use considerable pressure in applying the spray in order to force the fungicides into the minute cracks that develop naturally on the lower parts of palm trunks. The treatment should be applied all the way down to the ground-line, as this seems to be the starting point of many infections. As far as we have been able to determine, infection does not occur below the soil. This prophylactic treatment may appear to be ineffective because incipient infections may have occurred before the spray is applied. In these cases the infection will continue to develop in spite of any fungicidal treatment to the outside and trees may die a year or possibly 2 after the spraying. Healthy trees would be completely protected by this sort of treatment."

Mr. West has since advised that he is writing a bulletin on the subject and that this will eventually be available for wide distribution. The Palm Society should aid in seeing that the bulletin, when available, is called to the attention of persons living in or near centers of infection.

### Princes of the Principes

The Andean wax palms, according to Dr. Miriam L. Bomhard, are "probably the most remarkable palms in the world." Her fascinating account of them was published by the Smithsonian Institution, 1937 (Publication 3429). Some of her remarks follow.

"If the plant kingdom were a monarchy in which but a single family of plants had the hereditary right to rule, the palms would unquestionably hold this honored position. The great naturalist, Linnaeus, in a rather whimsical 'social' ranking of the plants of the world, placed the palms first, further distinguishing them as *Principes*, the princes or rulers, whereas certain other groups were merely plebeians, patricians, and so forth. It is interesting to note that this term, *Principes*, continues to appear from time to time in publications as a synonym for the family name of the palms (*Palmae* or *Palmaceae*). . . . "

" . . . the wax palms with which we are here concerned are not only beautiful columnar trees but are probably the most remarkable palms in the world. They far exceed the most hopeful anticipations of the palm enthusiast; they are the princes of the '*Principes*'!"

"Try to imagine a palm having a slender, smooth, shining, alabasterlike trunk which rises, shaftlike, 200 feet and more straight into the air and bears at its summit a crown of feathery, silvery green leaves nearly 20 feet in length. Then visualize it standing either solitary or in company with others of its kind at nearly 10,000 feet above sea level, within sight of perpetual snow. This is the tallest and most amazing of all the wax palms of the high Andes Mountains - it is the wax palm of the Quindío Pass in Colombia.

"The various kinds of wax palms, at present united under the genus *Ceroxylon*, are known to be widely distributed along the length of the Andes, occurring mainly at remarkably high altitudes, from Venezuela and Colombia into southern Peru. In *Index of American Palms* (Dahlgren, 1936), 16 species are recorded as being in good standing; some of these are probably not specifically distinct, but on the other hand this most interesting group of palms has never been carefully studied and doubtless many more species remain to be discovered.

"There are two outstanding reasons why the Quindío wax palm just mentioned as well as certain other species are exceptional in the palm family: First, the altitude at which they grow; and second, the tremendous height they attain. Palms, as everyone knows, belong, preeminently, to warm, moist regions. Although some of them are natives of the warmer temperate climes - familiar examples are the cabbage palmetto (*Sabal palmetto*), well known in the Carolinas, Georgia, and Florida as well as in the Bahamas, and the Mediterranean fan palm (*Chamaerops humilis*) of southern Europe and northern Africa - the family as a whole attains its best development in the Tropics. In fact, they have come to be symbolic of equatorial regions. The very mention of the word 'palms' seems to conjure up a vision of bright and sunny lands where the vegetation is luxuriant, the air warm, balmy, and sweet-scented, and where the spell of enchantment and romance seems ever present.

"There is a well-nigh universal law concerning the distribution of plants which recognizes that a decrease in temperature, going from the Equator toward the Poles, has the same effect upon vegetation as an increase in altitude above sea level. A certain type of vegetation would naturally be able to exist at a higher elevation in the mountains of the Tropics than in those of a temperate zone. The general altitudinal limit of the palm family as a whole is somewhat less than 4,000 feet. What an amazing thing it is to find that the Quindío wax palm exceeds this upper limit by about 6,000 feet. In fact, there is another species of wax palm growing at the Volcán Chiles, on the boundary line between Colombia and Ecuador, which even exceeds this altitudinal record. Since it averages 40 to 50 feet in height, it must be regarded as relatively small in comparison with the Quindío palm, but it is found up to 13,450 feet above sea level; that is, almost 2 miles higher than palms can ordinarily grow. The fact that the Quindío wax palm grows at such a high altitude where the mean annual temperature is between 12.5° and 18.5°C. (54.5° - 65.3°F.) appears to be ample justification for describing it as 'the palm of the frigid region par excellence' (Andre', L'Amérique Équinoxiale). However, except for the species at the Volcán Chiles, the wax palms are not strictly alpine plants, but belong rather to the cool temperate zone.

"It is also a matter of common observation with regard to the behavior of woody plants that, when some few representatives of a family are able to maintain themselves beyond the ordinary limits of the majority of the group, they are dwarfed or lacking in vigor--stunted bushlike vegetation is characteristic of the upper limit of trees the world over. The logical supposition would be that any species of such a tropical family as the palms growing at such extraordinary altitudes and enduring the low temperatures just mentioned would, of necessity, be low, weak, and rather poor specimens, making the most of a bad situation. But the wax palms of the Quindío Pass are the tallest palms in the world. When this species was first discovered 135 years ago, these trees were the tallest living plants known. The very first description noted finding palms 177 feet high, but this estimate was subsequently proved to be an understatement since they often reach 200 feet and may possibly occasionally reach a maximum of more than 250 feet. It may be of interest to point out that the tallest living trees at the present time are numbered among the redwoods and the eucalypts--a redwood (*Sequoia sempervirens*) 364 feet high holds the record among living trees. At the beginning of the nineteenth century the redwoods were unknown to science and the tallest of the eucalypts had not yet been discovered.

"It should be noted that palm species are usually described as tall when their trunk height attains 60 feet or more. The fact that the trunk is unbranched has the effect of making many palms appear taller than they are by exact measurement. A general notion of the tremendous height of the wax palm of the Quindío Pass may be gained by a comparison with two of the most impressive palms, from the standpoint of height, to be seen within the borders of the United States; the royal palm (*Roystonia floridana*) of southern Florida and the Mexican Washingtonia (*Washingtonia robusta*), native to Lower California and Sonora but introduced and much planted in California, the Southwest, along the Gulf Coast, and in Florida. Both of these occasionally measure 100 feet in height (perhaps more). At least four species of wax palms now known are nearly twice as tall and the Quindío wax palm may even exceed this."

" . . . . Since a name has been proposed for the two species on either slope of the Quindío, it would seem perfectly simple to adopt these and throw Humboldt's name away. But such procedure is not in accordance with scientific rules of nomenclature. It seems a pity to have to admit that, after 135 years, no one knows just what Humboldt's C. andicola really is and yet the confusion is easily explained. Many persons, some of them able botanists, have traveled the Quindío since Humboldt's time, and it is natural for them to have assumed that C. andicola is a firmly established name for a well-understood species; certainly the type locality is for the palm on the eastern slope. It must be recalled that our information concerning many kinds of plants, including palms, comes from diverse sources, representing what has been gleaned by many individuals, often at the cost of tremendous effort and untold hardships. It is not surprising that conflicting statements, several names for the same plant, and incomplete data sometimes result . . . "

Dr. Bomhard believed that " . . . the various species of wax palms could be introduced and acclimatized at those localities along the Pacific coast thermal strip which most nearly parallel the climatic conditions characteristic of the Andean habitat of each species: ceriferum at San Diego or Santa Monica; quindiense and possibly ferrugineum at Golden Gate Park, San Francisco, Monterey, or even at Eureka; while utile might do well at Eureka, or even in Oregon and Washington."

We learn in "Hortus II" that Ceroxylon has been planted in California "with indifferent success." But will someone inform us if any species of Ceroxylon has been tried in the moister parts of the Pacific coastal strip on a scale sufficient to test Dr. Bomhard's theory of their adaptability?

She concluded her treatise with this sentence: "It is to be hoped that this article will not only arouse interest in the study of the remarkable wax palms of South America but also lead to their successful introduction into California and a few favored regions on the coast of Oregon and Washington."

We are advised that Dr. Bomhard died December 16, 1952, while still employed as a botanist with the United States Forest Service.

#### More about Ceroxylon

One of our members, Mr. Edwin Johnston, recently received a letter concerning the wax palms growing in the Quindío region of Colombia. The letter is from Señor Enrique Pérez Arbeláez of Bogotá, Colombia, and is translated as follows:

"We have a saying in Spanish, 'No illness lasts a hundred years, and nobody could withstand it if it did.' At last I am fulfilling my desire to establish the Bogotá Botanical Garden. And at last I have been able to visit the Quindío region, going to a place called Salento to get seeds for you and small plants for me of Ceroxylon andicola, which in that village is called 'wax palm,' 'royal palm,' and 'chonta.'

"In a forest almost primeval, I found many palms in fruit. Around them were many fallen seeds, already ripe, and many small young palms. They grow there with amazing vitality, as if they were weeds. I found out why the palms that are frequently seen about habitations do not proliferate in the same way: the pigs greedily devour the fruits as they fall, and thereby become splendidly fattened.

Some of the palms seem to be male and others female. I saw them in fruit, from tall ones 10 meters high to only 3.35 meters. Their trunks are very straight and so extremely hard that a machete will scarcely dent them. The leaf crown is the opposite of what one observes in *C. ferrugineum*: it is V-shaped and very open, but without hanging leaves. Humboldt visited this same locality, Salento, which is the first place in the Quindío as one comes from Ibagué, and here it must have been that he knew *Ceroxylon*.

"I am sending you the seeds after having dried them in ventilated shade. The cleanest seeds have been selected and no disinfectant used, for I believe that at first there may be ferments that aid their germination. The soil in which the palms spontaneously germinate is forest humus made up of much decomposing vegetable matter, and it is damp (October) and shaded. The mean temperature of Salento is 14°C. but in the microclimate of the forest it must be 13°C or perhaps 12°C. This place is on the slopes of the west side of the Cordillera Central in the Colombian Andes and in the foothills of the snow-peak Tolima. The spot where I gathered seeds is from 2,035 to 2,045 meters above sea level.

"Within a month or so I expect to send one of my gardeners to Salento to bring back wax palms, for I brought only 70, and I expect to plant in my Botanic Garden about 500 . . . I can also tell you that here in Bogotá the wax palms grow very well, but they do not fruit here. I hope that you have success in cultivating these most beautiful and singular palms. They are, together with the *Cattleya Trianae*, the official symbol of the Colombian nation. You may see them on our postage stamps."

This letter reverses the order of the species growing on the east and west slopes of the Cordillera Central: according to Bonhard, *C. ferrugineum* grows on the west slope, and *C. quindiuense* on the east slope. Moreover, Señor Arbeláez retains the name *C. andicola*, believing his palms to be the species that Humboldt found and named.

#### How to join the Society

Any reader not now a member of the Palm Society may become one by sending his name and address to the editor of this Bulletin. There are at present no dues.