

The Palm Society

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Progress of the Society

The Society, as of January 31, 1956, had 73 members, an increase of 38 over the 35 figure of the previous month. It is very gratifying to report that a favorable response is now being obtained in California and in several foreign countries. The scientists now number 13; taxonomy, mycology and general botany are represented, as well as ecology and other biology. Nearly all of the important palm collections in the United States are also represented.

It has been suggested that certain individuals be made honorary members. At present no one has the authority to confer such distinctions. The notion appears to be thoroughly impractical anyhow, for the reason that a large proportion of the members have done distinguished work with the palms, either as scientists or as growers, and some of them for more than a quarter of a century. Such a practice, if begun, could result in as many generals as privates.

The Society is not now in need of funds. Great thanks are due to several members who have already wished to make donations towards its support. At present it is impossible to accept any contributions because of the lack of a treasury and of any officer accountable for the funds.

It now appears feasible to hold a meeting of the members in April so as to put the affairs of the Society on a more formal footing and to elect officers. It should take place in the Miami area, for this would allow a larger attendance than elsewhere. Members not able to attend will be given an opportunity to vote by mail. Notices will be sent well ahead of time.

Arctic air

Florida, in the past month of January, experienced more prolonged cold than in any other month since January, 1940, and most sections of the state were subjected to below-freezing temperatures and frosts. Inland areas little influenced by the sea, even well south of Miami, suffered heavy damage to truck crops, avocado groves, and ornamentals such as hibiscus.

Fortunately the palms are, in the main, tough plants. It is doubtful whether any large mature palms were killed by the outbreak of cold. On the other hand, thousands of quite small coconut palms succumbed in inland locations lacking overhead protection from frost.

The severity of the cold was not so great as the duration of it. It lasted from ten to twelve days in the southern sections and much longer farther north. The minimum temperature at the most favorable locations in the Miami area, near salt water, did not fall below 33°, which was the recorded minimum at the U.S. Plant Introduction Garden at Chapman Field. The only large palm specimens to show much cold damage were those of *Pritchardia pacifica*.

The northernmost palm-collection in Florida, containing any large number of genera and species, is located on the peninsula at Daytona Beach. It is not possible to grow many of the tender palms on the mainland in this latitude. The peninsula is a narrow strip of land benefiting from the ocean on the east and the salt-water Halifax River on the west. The palms at this site - among them many of the tenderest species and most of these still quite small - were subjected in January to minimum temperatures of less than 40° F. on ten mornings and less than 50° on 24 mornings. The temperature fell below freezing on only one day, for about two hours, establishing a minimum for the month of 30° . Several palm specimens had frosted leaves, though few more than slightly; not one was killed and none was deeply injured. Species of *Actinophloeus*, *Arenga*, *Arikuryroba*, *Elaeis*, *Howea*, *Latania*, *Mascarena*, *Roystonea* and *Scheelia* are somewhat hardier than most other tender palms, and so were totally unaffected; but, rather surprising, many tenderer tropicals showed no ill effects, as *Pinanga*, *Licuala*, *Opsiandra*, *Areca* (*A. triandra*), etc. Which helps to support the earlier assertion that palms, as tropical plants go, are tough. See what they endure in northern hotel-lobbies, where their tubs are favorite receptacles for cigar and cigarette butts, plus an occasional wad of chewing gum or what have you.

As Keats has it, "The owl, for all his feathers, was a-cold." The mass of Arctic air in January penetrated all the way to the Greater Antilles. In a letter dated January 22nd, from the Bahamas, a correspondent tells us: "We have had it bitterly cold in Nassau for about ten days, and from all the reports over the radio it was pretty mean everywhere. We heard that Jamaica had snow on the mountains and 47° in Kingston. Whether this is true or not I cannot say." Snow

Search for palmologers

Early in January the Society had but one member on the entire west coast of Florida. This fact distressed the writer so much that he decided to search the length of it, from Tampa to Naples, for palm-collections and collectors, and with a fine-tooth comb. There may have been gaps in the comb used, but he regrets to report that he found not one active collector of palms. This fact brings to mind with some force a remark made by Dr. W. J. Robbins, head of the great New York Botanical Garden, in relation to the palms, viz., "Of the 2,400,000,000 people in the world today, I doubt whether there are a hundred serious students of this group of plants."

Lakeland proved to be innocent of collections and collectors, so the writer proceeded to Tampa. There he had the good fortune to meet the old-time nurseryman Mr. Carl F. Cowgill, and spent several hours with him going over the palms at the nursery. Mr. Cowgill had said, "You've never seen Florida till you've seen my place." This turned out to be no exaggeration, for there, growing among some cypresses, were several immense trees of *Arenga pinnata* (*A. saccharifera*), presumably the largest in the state. The great leaves seemed to be thirty feet or more long. If you have read Nehrling, you know what would have happened to him: he would have been struck dumb, quite overcome with awe and emotion. The writer has seen big sugar palms before - perhaps just about all there are in Florida - but they are puny compared to these monstrous trees at the Cowgill Nursery (and growers should take note of the northern latitude). They grow in the edge of the cypress swamp, now drained, in soil that is rich and always damp. Elsewhere in Florida this monocarpic palm is prone to flower successively and die before reaching such huge proportions. Another unique sight there was a stand of 30-year-old plants of *Phoenix rupicola*, containing perhaps a hundred trees now intergrown and showing considerable variation. Some of the trees have even thrown suckers, but the soft bright green leaves are typical of the true *P. rupicola*, the leaflets not fasciated and all in one flat plane. *Arenga*

Mr. Cowgill could not give any clues to the whereabouts of active palm-fanciers in the Tampa or St. Petersburg areas. He said, rather, that palms are assessed for taxes, which is not much inducement to plant them. At Bradenton, Mr. Norman Reasoner, who is in a position to know, was unaware of any collection of palms, worthy of the term, in that section of Florida. There are, of course, some fine and large trees in the Reasoner nursery at Palma Sola, the most remarkable being some gigantic clusters of *Paurotis Wrightii*, even larger than commonly found in the Everglades - here again, a condition brought about by deep, rich, moist soil. Other exceptional palms are to be found on the oldest nursery grounds in Florida, the original Reasoner nursery at Oneco (now the Royal Palm Nurseries). In the company of Mr. Eric V. Golby, the writer saw a row of old trees supposed to be *Livistona australis*, several very tall old *Acrocomias* (*A. totai*, very likely) and a former immense palm-block of *Butia* species with the remaining trees apparently left to shift for themselves.

Palms, of course, are everywhere in Florida, even if only *Sabal palmetto* and *Serenoa repens*. *Arecastrum* and *Phoenix* are the exotics growing by the tens of thousands in central Florida, and coconut palms in legions in the warmer sections of the state. But collections - that's a horse of a different feather. Even at Fort Myers, "the City of Palms", there are no known planters actively collecting, according to Mr. J. E. Hendry, III. And that despite the fact that the palms flourish there in countless numbers. Some of the grandest old specimens in Florida are to be found on the grounds of the Edison winter home, which, far from being the usual tourist trap, has a delightful and very impressive old garden; there is nothing common about the specimens of the common *Chrysalidocarpus lutescens*, for the clusters are as stupendous as in their native Madagascar.

Nor did Naples turn up an active collector, and that just about did up the west coast. Mr. Joel Kuperberg has planted a few palms at the Caribbean Gardens in Naples, on the site of the old Nehrling plantings. These gardens could be made an outstanding attraction to nature-lovers by the planting of many kinds of palms on a wide scale, for the climate and the several soil-types are advantageous.

Sub-Tropical Experiment Station

Crossing from the west to the east coast, the writer headed for the Sub-Tropical Experiment Station near Homestead. Just outside that town the extent of the freeze damage became appallingly evident. Avocado groves appeared to have been scorched by fire and hundreds of small nut-brown coconut palms in dooryards appeared to have had their lives snuffed out.

At the Station, Dr. R. Bruce Ledin supplied these facts: on January 14th the temperature there fell to 33°F. at 11 p.m. and there ensued eight hours of below-freezing weather, lasting till 7 a.m. on the 15th and establishing a minimum of 29° for the period. There had been two shorter freezes prior to that, one of three hours and one later, on the 10th, of two hours, from 5 to 7 a.m. So it was interesting to inspect, with Dr. Ledin, the palms for injuries.

The hardier palms survived the freezes without the slightest damage, but so did some of the kinds believed tender (but actually are half-hardy), as *Mascarena*, *Latania* and *Pseudophoenix*. The tallest trees of even the tenderest kinds, such as the coconut, escaped with only a few nipped leaves. On the other hand, a row of small plants of *Heterospathe* was completely wiped out as was a plant of *Licuala grandis*; other plants that grew among the palms and were killed outright, were a *Strelitzia Nicolai* and a Panama hat palm (*Carludovica palmata*, the "palm" that is

not a palm). But in the main, and apart from some temporary shabbiness brought on by the cold, the collection seemed to have suffered no extensive or permanent injury. According to popular notions, the tropicals in the trees listed below should be quite dead from the three freezes that occurred; however, just the reverse is true, for every one of the adults is alive and probably will continue to live till old age or a worse calamity overtakes it.

For the information of our members, Dr. Ledin comments as follows:

"You might be interested in the work this Station is doing with palms. It comes under the general category of work with the ornamental plants of South and Central Florida and is concerned with 1) introduction, and 2), culture. As to the first, we maintain a seed exchange list with many botanical gardens throughout the world. We attempt to introduce new plants and to test their growth and culture in this area. If a plant proves successful and we bring it to the flowering and fruiting stage, then we offer seeds for distribution or propagate the plant ourselves and have seedlings on hand to distribute to interested individuals.

"The greatest difficulty with tropical and sub-tropical plants is that their seeds do not, generally, remain viable for any length of time. Too often botanical gardens collect seed and keep them on hand until a request comes in. The seed, then, is often too old to germinate. This Station, in order to overcome this handicap, records the requests of seeds when they come in and then when fresh seed is produced by the plant, it is collected and sent out as soon as possible. Sometimes it may take a year or more before we are able to fill a request.

"The cultural work involves observations on general fertilizing practices, nutritional sprays, cold tolerances, insect pests and fungus diseases and their control.

"Our palm collection is, of course, not nearly as extensive or as spectacular as that of Fairchild Tropical Garden and Chapman Field. But we do have at the present time 93 species of palms growing in our Palmetum. Of these, 36 species fruit for us and we have them on our Seed Exchange list. (These are listed below.) Most of them, it is true, are common species, but if any member of the Society wishes seeds of any of these, we would be happy to supply them when fresh seeds are available. We also have about 25 additional species in the greenhouse that have not been planted in the field."

Requests should be made to University of Florida, Sub-Tropical Experiment Station, Route 2, Box 508, Homestead, Florida, for seeds of any of the following:

| | |
|-----------------------------------|---------------------------------|
| <i>Acanthorrhiza aculeata</i> | <i>Elaeis guineensis</i> |
| <i>Acrocomia sclerocarpa</i> | <i>Heterospathe elata</i> |
| " <i>totali</i> | <i>Livistona chinensis</i> |
| <i>Actinophloeus Macarthurii</i> | <i>Mascarena Verschaffeltii</i> |
| <i>Adonidia Merrillii</i> | <i>Phoenix pusilla</i> |
| <i>Aiphanes caryotaefolia</i> | " <i>reclinata</i> |
| <i>Archontophoenix Alexandrae</i> | " <i>Roebelenii</i> |
| " " | " <i>sylvestris</i> |
| <i>Arecastrum Romanzoffianum</i> | " <i>tomentosa</i> |
| <i>Arikuryroba schizophylla</i> | " <i>zeylanica</i> |
| <i>Butia capitata</i> | <i>Ptychosperma elegans</i> |
| <i>Caryota mitis</i> | <i>Roystonea regia</i> |
| " <i>urens</i> | <i>Sabal minor</i> |
| <i>Chamaedorea erumpens</i> | " <i>umbraculifera</i> |

Chrysalidocarpus lutescens
Cocos nucifera
Coccothrinax argentata
" barbadensis
Collinia elegans

Thrinax microcarpa
" Morrisii
" parviflora
Washingtonia robusta

* * * * *

Mr. Bert Wheeler of Houston, Texas, is one of those rare individuals (even rarer in Texas) who are palm-enthusiasts of the very first order. An amateur horticulturist, he has prepared for us the following account of the palms at Houston and their relative hardiness there:

Phoenix Palms in the Houston Area

The Phoenix group is probably the most confusing, and confused, of all the known palm genera. The Phoenix palms hybridize freely in nature and, as a result, are extremely difficult of identification if located in a section that has known them for many generations.

I have positively identified (in Houston) only three of the true species. These are *P. canariensis*, *P. dactylifera* and *P. sylvestris*. There are probably true species of some of the others, but I'm not certain. The hybrids, and crosses of the above species are countless. I'd venture that a good 25% of the Phoenix palms in the Houston area are hybrids—natural or otherwise.

Around here we refer to 1950 as "the year of the Big Freeze." That winter we witnessed temperatures below zero for the first time in recorded history. We recorded minus five F. for several days! You'll probably be interested in knowing the effect of this extreme weather on palms in the Houston area.

Of the Phoenix species that survived, *P. canariensis* was outstanding in that only a very few specimens were lost—perhaps only 2 or 3% and these poorly situated and probably loaded with moisture. Surely all that were located in high, dry spots survive today.

Of *P. dactylifera*, the true date, we lost a larger percentage but, since we had fewer of these trees the actual number lost was small. I'd estimate a total of 10,000 Canary palms before the freeze and the loss at about 200. Of a total of 1000 true dates, we probably lost about 100. Some of these losses of *P. dactylifera* were probably from crown rot. The true dates like it hot and dry and certain of the horticultural varieties of this palm will suffer from rotting in the crown when subjected to a cold, damp situation. It's my observation that there is actually little difference in hardiness to cold between these two trees.

Of the very large number of *P. canariensis* and *P. dactylifera* hybrids extant locally, I know of none that were lost. Could it be that these crosses are hardier? I am testing a *P. canariensis* and *P. humilis* hybrid in the garden this winter. We've had no temperature below 28 so far but I'll report on this tree when it has been subjected to something colder.

In the spring of '51, I was driving around examining freeze damage and found a palm tentatively identified as *P. reclinata*. That tree was almost completely protected in a southeast alcove of a large building. I'd guess that it had further protection of wrapping during the freeze because this tree surely couldn't have stood such an extreme temperature otherwise.

Among other palms that survived the freeze, *Washingtonia filifera* is undoubtedly the Papacito. So far as I've been able to learn, not one of these trees was lost! His kissin' cousin *W. Robusta* tho' was virtually wiped out. Of the thousands of these beautiful spire-like palms in Houston, I know of only one remaining! This old toughy is still standing on Fannin Street in front of St. Agnes Academy. Remind me to gather seed from this hardy old boy!

Of the *Livistonas*, *chinensis* and *australis* only have been identified as still standing but undoubtedly most were lost. I know of a nursery plot of two acres of *L. chinensis* that were six years old at the time of the freeze. About half of these remain. I might mention tho' that this field is fifty miles south of Houston.

Erythea armata, the beautiful Blue Palm of Mexico is represented in Galveston (sixty miles south) by two very thrifty specimens, both about fifteen feet high. I talked to the owner of the property on which one of these trees stands, and was told that the tree did not apparently suffer during the Big Freeze and was not protected in any way. Since the temperature in Galveston was within three degrees of that in Houston during the freeze, this would indicate a hardiness for *E. armata* that I did not know it possessed. I know of none of these trees in Houston so cannot report.

I know of no losses of *Trachycarpus*, *Butia* or *Chamaerops* although they are fairly common in Houston.

If I seem to dwell too long on the 1950 weather, it certainly isn't because we have had no other cold years here. In 1947 the mercury dropped to 15 and again in 1952 to 20. Many times these extreme temperatures follow balmy weather by but a couple of hours! Today (January 11) the temperature is 84. Last night it was 30 degrees. The wide and fast fluctuations occur here with some regularity and do not add to the well-being of a plant that needs an occasional rest!

I have been asked to classify some of the more popular temperate-country palms in relation to their ability to withstand cold. Of course, any such grouping is strictly an opinion based on experience and observation. I know of no controlled experiments, however, that would shed much light on the subject. I just don't think it possible to say that a certain palm will stand a certain temperature because of the difficulty of relative observations under controlled conditions. I'm almost certain that heavy feedings of potash in the fall will toughen up a plant for winter. I'm equally certain that a partially dehydrated palm will stand more cold than one heavy with moisture. Then, too, a palm that has been grown slowly is certainly more resistant than one grown so rapidly that it has become succulent. Hormones also enter the picture. I'm not qualified to discuss them, but I'm sure we'll be able some day to control resistance to cold with hormones.

Size, too, makes a contribution to hardiness. Certainly a mature, well established plant will stand more abuse than a younger one under the same conditions.

I submit the following as being the hardiest group:

- Phoenix canariensis*
- Phoenix dactylifera*
- P. canariensis* and *P. dactylifera* hybrid
- Trachycarpus Fortunei* (and probably other *Tr.* species)
- Butia* species (apparently *capitata* is extremely variable in color, growth habits as well as hardiness)
- Chamaerops humilis*
- Washingtonia filifera*
- Sabal palmetto*
- Sabal* minor and probably many other of the *Sabals*

and next in hardiness:

Livistona chinensis
Livistona australis
Erythea armata
Washingtonia robusta
Phoenix sylvestris
Phoenix rupicola
Paurotis Wrightii

and still less hardy:

Archontophoenix Cunninghamiana
Phoenix reclinata
Phoenix humilis (P. Loureiri)
Phoenix paludosa

Of course such extremely tender palms as Caryota, Cocos, Roystonea, etc., etc., are not grown in Houston at all except under glass.

I'd be delighted to correspond with any other collector of palms, and particularly one similarly situated geographically. If anyone can add anything to the above remarks pertaining to hardiness, I'd be grateful for the information.

Houston, January 1956

-- Bert Wheeler

Two hardy palms

Since the weather has been rather chilly throughout these pages, we may as well continue a bit longer with something that fits the same vein. ^{Nannorrhops} ~~Nannorrhops~~ Ritchieana is an extremely hardy palm that should do well with Mr. Wheeler at Houston, though he may already be growing it; and it is possible that another, Trithrinax brasiliensis, though presumed less hardy, might prove resistant to freezes other than "big freezes". The following account of these two palms is by Mr. Harold F. Loomis of the U. S. Plant Introduction Garden, Coconut Grove, Florida, and has been excerpted from his article in The National Horticultural Magazine, January 1946.

Trithrinax brasiliensis Martius is a relatively small, single-trunked, fan-palm of slow growth that eventually reaches a height of 12 feet so that it is an ideal plant for patios or for small dooryards where more rapid-growing palms would soon become too large. The dark green, flat leaves are borne on short petioles and are divided into 20 to 30 widely radiating segments that show little inclination to droop until quite old. The clasping leaf sheaths appear to be composed of coarsely interwoven fibres that are prolonged at the top of the sheath and form an outwardly projecting circlet of spines, giving the trunk a shaggy and somewhat forbidding aspect, that nevertheless, is curious and ornamental. Flowering may begin when the trunk is but few feet high, with several compound inflorescences produced simultaneously from the upper part of the crown of leaves.

When the flowers first appear they are creamy white and the entire inflorescence is thick and very compact with each branch of flowers protected by its own creamy white sheath or spathe. At this stage and for several days thereafter, while the inflorescences remain white and are elongating, they have an unusual and striking beauty.

This palm is native in the southernmost state of Brazil and adjacent countries to the west and thus is at home outside of the tropics. Seeds were received here from the Washington Office in July, 1934, under P. I. No. 105865, having been donated by Mr. David Barry, Jr., of Los Angeles, Calif. This appears to be the first record of the palm in Florida although this and one or two other species of the genus have long been planted in California. Our plant, which flowered in September, 1944, was received from Washington without the above P. I. number, but is believed to be from the same lot of seeds. It produced fruits which did not mature, possibly because of the severe drought that occurred as they were developing. This plant and others bearing the P. I. number have made good growth and the species should be able to grow as far north as Orlando and possibly beyond.

NANNORRHOPS

In Afghanistan and western India at elevations of from 2,000 to 5,000 feet is found a fan-leaved cluster palm that may reach a height of 20 feet. It is one of the few palms of the world that have branching trunks, the large stems, 6 to 10 inches in diameter, often dividing to form two branches, but from reclining stems, near or partly submerged in the ground, suckers or offshoots also are produced. This palm has the scientific name of *Nannorrhops Ritchieana* (Griffith) Wendl., and grows in dense colonies in very arid country where winter temperatures may go well below freezing. Throughout its native land the palm has many uses and several names, the most common of the latter being "Mazri" or "Mazari." All vegetative parts of the plant supply fuel; the very young leaves, young inflorescences and the flesh of the fruits are eaten; matting, baskets, hats, etc., are plaited from the leaves from which fiber also is obtained for the making of nets, fine matting and the like; and the pierced seeds have some commercial value when used in rosaries.

Apparently the first successful introduction of this species into the United States occurred when seed was received from Rawalpindi, India, in January 1935 and sent to this Garden from where seedlings were distributed in 1936 and 1937 bearing P. I. No. 107747. Our field specimens have grown remarkably well and one of them flowered for the first time in November, 1944, but no seeds were produced.

These palms are now about 10 feet in height but, with their single and divided trunks and numerous basal suckers, are nearly twice as broad and form compact clumps. Their light silvery-green color, resulting from a thin wax-like deposit on the petioles and both leaf-surfaces, instantly commands attention. Closer inspection shows all the newer leaves emerging from a peculiar, light, fluffy mass of salmon-buff colored wool that darkens somewhat and is shredded by the wind as the leaves grow old. On the youngest leaves long fibers are loosened from the upper folds of the pinnae and remain hanging in a snarled mass for a short while. The leaves themselves are about five feet across, composed of 20 to 30 pinnae joined together along considerably less than their basal half with their outer portions continuing in the same plane and seldom drooping, so that since the leaves project rigidly outward the whole plant has a stiff, bristly appearance not unlike a magnified sea urchin. The large inflorescence bears a general resemblance to that of our common palmetto being composed of many branches produced along a central stem. The spadix is not axillary (intrafoliar) as reported by Blatter in "Palms of British India and Ceylon" (p. 83) but arises from the tip of the trunk. The large inflorescence projects well beyond the tips of the leaves and bears small white or cream colored flowers. On a trunk that is about to flower the last few leaves produced are rapidly reduced in size and length, the final leaf being very small. It is not known whether the stems will die after flowering is finished, as does the Talipot palm (*Corpha umbraculifera* L.) to which the Mazari palm is related.

This curious and attractive palm undoubtedly is quite hardy and should be tried throughout much of the range where our native palmetto grows. Against a background of dark green its color makes a startling and effective contrast.

Brother León

Many of our members have not been aware of the death of Cuba's famous botanist, Brother León. The brothers maintain an herbarium at the Colegio de la Salle in Havana and have done extensive work with the Cuban palms both in the herbarium and in the field. Brother Alain, who was the chief aid of the late Brother León, succeeds to his mantle and is continuing the work. In response to our query, Brother Alain remarks as follows:

"Brother León, for fifty years our most prominent botanist, passed away on November 20, 1955. Born in France in 1871, he came to Cuba in 1905. As his teaching of Natural History needed Cuban specimens to show to his pupils, he began to collect animals and plants and to form a school museum. Later on, as the plants were little known, and as he was finding new species near Havana, he concentrated on botany, and became the foremost Cuban botanist.

"His studies and field trips took him to all parts of Cuba, and he was one of the first botanists to climb the highest mountain in the country. He was sending his plants to the New York Botanical Garden, as Dr. Britton was interested in the publication of the Flora of Cuba.

"In his field trips, he collected the many Cuban species of palms. He found that they were little known, and his studies went on for years. He published papers on the genera Copernicia, Goccothrinax, Calyptrogyne, Acrocomia, Hemithrinax and Roystonea.

"The first volume of his Flora de Cuba has a complete treatment of the Palms of Cuba. In 1951, Brother León began to lose his eyesight, and he had to retire from active work. His passing away has been deeply felt by all his friends and in the scientific world where he was well known."

On the Trail of the Lonesome Palms

Something less than two years ago Mr. James E. Smith, plantsman of Oakland, Florida, came upon great numbers of a mysterious palm in the state of Nayarit, Mexico. He thought it might be *Scheelia Liebmannii*, Becc. Nayarit, however, is on the Pacific side, and unless we are mistaken, the type locality is on the east coast in the state of Veracruz. Perhaps some reader is familiar with this palm and will clear up any doubt of its identity. Mr. Smith's account appears below.

Scheelia?
orbigny?

In the latter part of May, 1954, Mrs. Smith and I left Torreón, Mexico, to try to collect palm seeds to the westward of Durango. Eventually, hoping to turn south, by-passing Mexico City, and go on to the Oaxaca region.

The vast region from Torreón to the foothills of the Sierra Madre Occidental and south to Aguascalientes is much too high and cold to support any palm life. There are, however, barrancas very deep and spaced over many miles that could climatically support palm life, in theory at least. After hundreds of miles of travel without the first seed, we decided to turn south.

Neither of us care to tangle with the traffic of Mexico City, so we spent the next day or so trying to map a route south that would by-pass the Federal District and still get us to the desired destination. Three hundred miles northwest of the Capital, we arrived at the town of Lagos de Moreno where we had a choice of two roads south. One, by the way of Querétaro, the most direct, would take us directly into the Capital. By the other, via San Luis Potosí, we could dodge Mexico City at Pachuca, but it necessitated some 500 miles backtracking through palmless country. There was a third road that went to the Pacific coast via Guadalajara, where we had no intention of going at all. But with one of those split-second decisions that frequently alter circumstances, we decided not to go south and turned for the Pacific.

Four hours later we arrived in Guadalajara and down to about 5,000 feet elevation. This very beautiful city has a climate similar to San Diego, but without fog. There were hundreds of beautifully landscaped homes and many fine specimens of the hardier palms. Among these were some very strange and, to us, new palms, the trunks 50 to 90 feet tall, straight as a flagpole, with a diameter of two and one half feet and polished mahogany in color. The leaves averaged 25 feet long, grew straight up from the trunk at first and then arched out very gracefully. Inquiries as to their origin, name, etc., availed us nothing except that they came from the West on the railroad. The only railroad in that general direction is now the Mexican Pacific and it runs northwest to Tepic, Mazatlán, and on to the U. S. at Calexico. Therefore, we took the new Mexico City-Nogales highway out of Guadalajara to see if we could find their native home. This fine highway roughly parallels the railroad. By-passing the tiny but world-famous village of Tequila by a half-mile, we rode northwest and gradually descended to a region of sugar cane and occasionally passed very primitive sugar mills that operated with burro-power. At Ixtlán we entered the Pacific time zone and immediately started to climb a spur of the Sierra that parallels the Pacific for more than a thousand miles.

Reaching the summit, we started the descent of "Plan de Barrancas". Fifteen miles of switchbacks down into the town of Barrancas, 3,000 feet below, then three miles across the floor of the barrancas, then eighteen miles up to another summit 8,700 feet high on the other side. The switchbacks here are terrible. Nowhere is there more than 500 feet of straightaway. No guard rails, and sometimes a sheer drop of 2,000 feet. At the summit grows a small patch of Thrinax-like palms about six feet tall. These must be very hardy palms, as the temperatures at this altitude get close to zero at times. Finding one small indentation in the mountainside in which we could park, I attempted to climb to them. The climb is extremely steep and the ground a loose shale. After quite a try, I had to give up as I was apprehensive of starting a shale slide to the road below - a very serious occurrence in such a place. I hope someone gets seeds of these palms some day. We never saw them anywhere else. The entire area they occupied, as far as we could see, was about a square mile; so they must be rather rare. We've never found a description of this palm in any literature.

About sixty miles further on and 5,500 feet lower we entered the town of Tepic, the capital of the state of Nayarit. This is an immaculate modern town. The citizens are prosperous and very civic-minded. Furthermore, towering over many of the buildings were many of the palms we wanted to find.

Having minor car trouble, we looked up the local Ford agency. The owner, who was a very intelligent and friendly gentleman, informed us that we should drive on north

25 miles to the San Blas road, turn left there and drive 22 miles west and 3,500 feet down to San Blas, just five miles east of which we'd find our desired palms in the wild. In fact, he added, on his hacienda there were thousands which he'd be glad to show us but thought we'd do better to use our time probing into his historic city. We were not interested, and thanking him for his generous offer, proceeded north.

From Tepic to San Blas turn-off, the road runs through a heavy growth of *Sabal Rosei*, or the Tepic palmetto. Formerly it was believed that the *Sabal uresana* was the only one of the genus west of the continental divide. Now we know *S. Rosei* to be the second and, probably, study will turn up more. These Sabals have small, glaucous leaves with a distinct rosy blush. The leaf crown is sparse and ragged. The trunks are straight, six to eight inches in diameter, and apparently shed their leaf boots early, for they are all bare to the crown. The over-all height averages twenty feet. Not a pretty palm in the least. However, we stopped several times for seed, but they were just blooming and all the old seeds had been eaten by insects.

There were also occasional specimens of *Acrocomia mexicana* that yielded generously of seed, some of which germinated this fall, or in about eighteen months, which is quick for an *Acrocomia*.

We passed through about five miles of wild avocado interspersed with a form of *Annona*, the fruit of which was nearly solid seed. A form of *Bauhinia* with very small leaves grows along the road-shoulder for miles. It was not in flower, but we obtained seed; the young plants are growing well, but have not flowered yet.

Immediately after turning off the San Blas road, we started the descent to the Pacific. Soon we were passing through a forest of several different types of *Tabebuia* with a heavy undergrowth of *Annatto*. Rounding a shoulder of the mountain we saw ahead of us an ocean of palm leaves that stretched along the mountainside as far as we could see. This was it! What's more, seed was hanging from every tree in huge, ripe clusters, four to five feet long. It looked like we'd struck oil until we got down to a level where, with much neck-craning, it was evident that these seeds were all thirty to fifty feet up the polished trunks. Surely no other palm has a smoother trunk than these.

As it was late, we went on to San Blas for the night. The next morning we drove back to the palms. Facing the mountainside, from near sea level, we could get a much better view of this growth. Starting from about the 1,200-ft. contour line on to about the 2,500-ft. line, these palms grew as far north and south as the eye could see. What a sight! There is practically no other vegetation growing within the palms.

The terrain is very rugged and steep. All around are large boulders of volcanic origin. Between the boulders is a reddish loam in which the palms grow. The soil is apparently very fertile and very well drained. I never saw any of these palms growing near water. At that time it was the dry season, and digging as deep as a machete would go produced nothing in the way of dampness.

The seeds are produced only on the more mature palms, as there were none on the palms less than 35 feet tall. The seed bunches average sixty pounds in weight and stand four to five feet tall on the ground. The individual seed appears identical to that of *Orbignya cohune*. I obtained about 300 pounds of them by climbing boulders that were within a few feet of the palms with seed. This wasn't too difficult if the boulder was uphill from the palm. The ground level in many places was nearly perpendicular, bringing the seed cluster of a fifty-foot palm to eye-level of a man on a large boulder uphill from the tree. *Orbignya*

Dahlgren's Index of American Palms lists only two species from this area, *Sabal Rosei* and *Scheelea Liebmannii*. (*S. Liebmannii* mentioned only in "East Mexico" in my copy of the Index, -Ed.) We have called this palm *Scheelea Liebmannii* simply because it can hardly be anything else. Yet it could be, and I'm willing to stand corrected at any time.

Some of the seeds sprouted within ninety days and a few keep on sprouting spasmodically. However, out of an estimated 2,000 seeds, only about 30 have germinated; the remaining seeds, though, seem perfectly healthy.

Just a tip to anyone planning seed-collecting in Mexico: beware of ticks, scorpions and rattlesnakes.

Oakland Park, Fla.,
January, 1956

-- James E. Smith

Seed Department

Our favorite palm-seed correspondent transmits the following item:

"Today I received three boxes of *Coelococcus* seeds from the Caroline Islands, and they are so big that it's going to be a tight fit in the germinator. There are only 100 seeds, but they are as big as grapefruit and they weigh 184 lbs. That's one for the Bulletin."

We agree. And besides, it makes a good filler for some of the blank space on this last page.