

be able to concentrate their efforts on leafhoppers instead of spreading their nets wide to look at every insect that visits palms.

Once the insect is known it may be possible to control it in the field by biological or chemical means, and so hinder the spread of the disease, although the regular widespread use of insecticides may be dangerous and costly. Scientists may also be able to use the insect carrier to screen varieties and hybrids for resistance much more quickly, more cheaply and more effectively than the present system of growing the trees for years in the diseased area: this would help in identifying any new resistant variety, and in learning the mechanism of the inheritance of the resistance of the Malayan dwarf.

Finally, if in the future a new strain of lethal yellowing disease should start attacking the dwarf, scientists hope by then to know enough about the disease and its carrier to control the new strain.

Coconut farmers are not immediately affected by this discovery. They should continue increasingly to plant the Malayan dwarf with confidence, scientists say. The high degree of resistance of this variety has been established by many years of field trials in which it has been exposed to heavy doses of the disease. Experience has established that if farmers care for this variety properly, they can look forward to much better yields than from the Jamaica tall.

The discovery of mycoplasma does not offer any immediate method of curing or preventing lethal yellowing disease in Jamaica tall. However, the research necessary for the future of the industry is making headway and all possible sources of assistance and know-how are being brought to bear on the problem.

On behalf of the coconut growers of Jamaica, Mr. Dossie Henriques, Chair-

man of the Coconut Industry Board, congratulated Dr. Hunt, Dr. Maramorosch, Dr. Plavsic-Banjac and Dr. Beakbane on the success of their efforts and expressed the island's gratitude to them, the F.A.O. team and other scientists, who have co-operated with the Board's Research Department in tackling this vital problem.

PALM BRIEFS

Euterpe at Iguassu Falls, Brazil

In February of 1970, on a palm collecting expedition in South America, I chanced across a very striking species of *Euterpe* which may be of particular interest.

Its habitat is on a high tropical rain-forested plateau almost exactly on the common border of Brazil, Paraguay and Argentina in the Brazilian state of Paraná in the Iguassu Falls area at approximately 25° 35' S. latitude and 54° 22' W. longitude, a few degrees south of the Tropic of Capricorn. This is one of the few areas that harbor a tropical rain forest out of the boundaries of the tropics; (e.g. jungles of northern Burma, southern China and eastern Australia).

The soil is typical tropical red lateritic clay covered by two inches of decomposed and partially decomposed leaf debris. The forest is extremely rich in a variety of epiphytic bromeliads and *Philodendron selloum* was abundant with cascading aerial roots to the ground. This plateau has considerably less atmospheric humidity and temperature than the lowland forest of the Amazon Basin, yet is not montane cloud forest as this is a grand expanse of generally flat land, dropping drastically in steps by a series of waterfalls which dwarf Niagara. From what I could glean from local inhabitants, temperatures in the colder months occasionally reach freezing.



1. A crown of a mature *Arecastrum romanzoffianum* occupies the third story of the forest canopy. Note *Euterpe* fronds in the second story at left.

Arecastrum romanzoffianum seems to be the only other palm indigenous to the area and is a common sight with its plumed head in full sun as it occupies the third of a three story canopy. It is also fond of clearings and forest edges. The close proximity of *Euterpe* to *Arecastrum romanzoffianum* gives promise for its hardiness at our subtropical and temperate latitudes.

Without exception, this *Euterpe* species had a very thin pale single trunk ringed by deciduous leaf bases. It possesses a green crownshaft and a prominently flanged trunk base. Its crown holds 13 fronds (mature specimen) similar in form to mature *Howeia Fosteriana* fronds, although slightly lighter green. A much-branched spadix with slightly out-of-round purplish black fruits 1.4 cm. in diameter is borne below a smooth green crownshaft. Seed is covered with fibrous pulp.

Having seen *Euterpe oleracea* in the Amazon valley, I am doubtful this palm is the same. After seeing photographs, David Barry, Jr. shares this opinion.

Although the *Euterpe* of the Iguassu



2. A plant of *Euterpe* about one-third mature in forest near Iguassu Falls.

area occupies the second story canopy, it seems to appreciate an open overhead with its crown in full sun during mid-day. In the area of a solitary *Euterpe*, its seedlings are common in the undergrowth. However, as is typical for mixed tropical rain forest associations, seedlings of the adult tree are quite abundant but virtually none of these mature due to light and root competition. The result being solitary individuals of a species (exception to this would be consociations; e.g. *Mora excelsa* consociation of Guyana and Trinidad) with an enormous variety of genera and species but incredibly few duplications. Such was the case here and a search of the



3. Seedlings of *Euterpe* abound but few reach maturity.

vicinity both on foot and in low-flying aircraft revealed only three other mature specimens.

Many *Euterpe* species as well as other edible palms in which the bud is utilized as heart of palm salad are collectively referred to colloquially as palmitos. This could account for the palm's scarcity, although I saw no stumps to indicate a severe harvest.

One of the few specimens of this palm is visible (for future collectors) by looking into the forest on the left side of the road from Iguassu Airport towards the falls on the Brazilian side in the forest through a gap in a thick wall of a very tenacious variety of climbing thorned bamboo and lianes which typically overgrows because of surplus light created by road clearing on rivers etc. It gives a false impression that the forest is this thick uniformly.

I had already collected only a handful of seeds from the few specimens I could locate. I felt the need to collect more, which leads me to a colorful memory. In a bus full of passengers, I could not convince the driver to stop for ten minutes to facilitate my collecting of more seeds. We arrived at the airport and our

flight was due to depart in 30 minutes for Uruguay. In some sort of compulsive frenzy I told my wife, Arlene, that if I missed the flight, I would see her one week later (the next flight out) in Uruguay. Much to her dismay I paid a driver all the Brazilian currency left in my pocket (which wasn't enough, but my pleading was) and raced top speed past a government check point. In a record ten minutes we reached the palm where I did a rather movie stunt head-first dive through the bulk of climbing bamboo, which would have taken too long to wriggle through without my machete, and entered the slightly more spacious interior of the forest. It took ten minutes to reach the palm and collect windfall seed, shake the trunk and collect more and get back to the waiting car, whose driver thought I was a *loco americano*. In another ten minutes I was back at the airport with 20 seconds to spare for the flight.

A rather disturbing footnote to this story is that apparently no seeds of the *Euterpe* sp. germinated. Anyone visiting this area should be on the lookout for the seeds of this fantastically graceful palm.

ARNOLD C. NEWMAN

NOTES ON CULTURE

Sealing Wax Palms in South Florida

Cyrtostachys lakka or *C. renda* can be grown successfully and beautifully in South Florida . . . with special care.

These palms like full sun, warm and wet growing conditions and acid soil. A protected southern exposure will give daytime warmth even in the cooler parts of the winter season; a strategically placed floodlight—close enough to give much heat, but not too close to singe—will give nighttime warmth and in the