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Some Observations on the Growing of the Chonta Palm *Juania australis*

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Those who need the challenge of growing a palm frustratingly difficult to propagate should try the Chonta palm *Juania australis*, a rare species native to the Juan Fernandez Islands 600 km off the Chilean coast. The seeds are difficult to obtain, and once obtained the trouble really starts.

A number of articles have appeared over the years all expressing difficulty in growing this species. As far as I know there are only a very few mature chonta palms growing outside their native habitat. I am hoping to attract the attention of readers of this journal to obtain information from those people who have been successful in raising this palm to maturity. As the Chonta palm is in danger of extinction it will be of importance to gain all useful information from those who have been successful.

Background

The Juan Fernandez Islands, better known as the Robinson Crusoe Islands, lie in the Eastern Pacific Ocean, 600 km off the coast of Chile. The group consists of three islands situated at 33°S. The islands have a unique native flora, undisturbed until the arrival of man 400 years ago. The human impact has been drastic to the vegetation. The introduction of browsing animals and the need to provide pasture for these animals has caused mass destruction of the flora. The remaining forest has been eaten by goats. As for the chonta palm the trees were cut down for the “cabbage,” also the trunks were used in the making of ornamental walking sticks.

The islands were made a national park in 1935. This in itself did not stop the destruction of the palm. Not until 1977 were the islands declared a Reserva de Biosfera. No further destruction of the palms or other vegetation is permitted.

Regeneration of palm seedlings is occurring in

the remaining populations of the chonta palm. When considering growing the chonta palm outside habitat its climate requirement should be understood. The islands have a mild oceanic climate with an annual average temperature of 15.3° C. There are no extremes in temperatures. The natural habitat is between 200 to 800 m and characterized by 1,000 mm of precipitation per annum with frequent mists.

The Chonta Palm *Juania australis*

This palm reaches a height of 15 m. The trunk is slender, smooth, and bright green. It has distinct annular markings caused by leaf scars. The leaves reach about 2 m in length. The palm is dioecious, meaning there are separate male and female trees. The fruits may be described as berries, the size of a cherry. At maturity the fruits are orange in color. A thin layer of edible pulp surrounds a rather large hard seed. It has been noted that the chonta palm is exacting in its growing requirement. The palm occurs in some botanic gardens in Europe.

New Zealand Experience

I have little information on previous attempts to grow the chonta palm in New Zealand. I do know that no mature *Juania* grow in New Zealand (please prove me wrong if you happen to know of one). I was introduced to this palm in 1987 when I received a few seeds from Easter Island. None germinated. Determined as ever I visited Chile in 1988. I was introduced to the private botanic garden known as the Edwards Estate at Reñaca where I was first introduced to the chonta palm—there were two mature chonta palms both about 10 m tall, one a male and the other a female, a very fortunate combination. The latter palm I was



told is the only seed-bearing chonta palm on the Chilean mainland. My visit coincided with a crop of ripe seeds, of which I was able to obtain a number. A small nursery on the estate grew a number of small seedlings of the chonta; further, some seeds had germinated around the base of the female palm convincing me that these seeds were likely to be viable.

Our nursery in New Zealand is situated on the foothills of the forest-clad ranges west of Auckland city. The latitude at this point is about 37°S, and the climate oceanic with an average mean temp of about 16° C, high humidity, and rainfall of about 1,200 mm per annum. Climatically our nursery appears to be well matched with the Juan Fernandez Islands.

Nursery Experience

The chonta seeds were taken to New Zealand and sown less than a week from the time of harvesting. The fleshy mesocarp was removed from the seeds, which were then stored in a plastic bag containing damp sawdust. The chonta seeds germinated within one month. Germinated seeds were potted in a soilless media, a peat/pumice mix (plus added nutrients). Apart from a few losses the seedlings grew rapidly into strong healthy plants. In the nursery the plants were held outdoors the year round under 50% shadecloth. As the palm seedlings grew they were potted into larger containers. It was not until about four years after sowing, when the plants reached a height of one meter, that field planting was attempted. The number of plants held in pots was about 80, an important factor as I thus had enough plants to take risks by planting them in different localities. I realized that during the planting, losses were likely to occur. Sites chosen for planting were:

- Full sun/low humidity
- Shade to full sun/high humidity
- Shaded/forest understorey.

The fourth year seemed to be critical in that losses started to occur in large numbers. All palms were affected, irrespective of where they were growing, including those held in pots in the nurs-

ery. The immediate noticeable symptoms were the sudden browning and dying off of the mature outer leaves. As time went on the inner leaves progressively died, and finally the center spear collapsed and on removal the base had rotted. All this occurred in a matter of a few weeks. It was noticed when the palms were removed from their pots that in some plants many roots had died for no apparent reason. The upper part of the palm appeared healthy, but soon after the whole palm died. The symptoms, therefore, start at the roots which rapidly die, followed by dieback of the leaves. All the palms that died, did so in an identical fashion. These deaths did not occur in other palm species held in the same area in the nursery. Peak losses occurred in the warmer summer period. Death did not occur in all palms but about 50% have died. During the following season after the first series of losses, a second spate of losses occurred in similar fashion. The ultimate results we cannot foresee. Perhaps it will be survival of the fittest. Those palms that have survived to the present day look normal.

Some palms seem to suffer from a yellowing of leaves, similar to symptoms I have seen in Chile on young plants. In the past the rate of growth of the seedling was rapid. At this time, five years after sowing, the growth rate is strongly reduced. As my experience with *Juania* does not extend past five years I have no idea why this should happen.

Note: I do have more experience growing the related *Ceroxylon* palms from Colombia. These palms too slowed down in growth in the fourth year, and not until several years later did rapid growth resume. My explanation was that the root system in the early phase of the plant's growth was the 'primary rootsystem' but these roots are not designed to support the stem structure of the palm. The early stem descends in the ground and later re-emerges. When this happens a rapid increase in the size of the leaves occurs, root development takes place, and the stem later to develop into the trunk enlarges. I should add that the losses which occurred in the *Juania* did not occur with the *Ceroxylon*.

It is hoped that following the slowdown of growth

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1. *Juania australis*, approximately 12 years old. Reñaca, Chile 1993. 2. *Juania australis*, 4 years old growing in a shady high humidity environment in good health 1994. 3. *Juania australis* initial die back of outer leaves, the central leaves still healthy. This is not the same specimen palm as either photo 2 or 4. Growing in shady high humidity. 1994. 4. *Juania australis* 4 years old. In final stages of dying. The central spear is still alive 1994.

in the *Juania*, rapid growth will resume. A ten year-old *Juania* growing in Reñaca showed a spectacularly fast growth rate. Conclusions: The Chonta palm is difficult to grow, and susceptible to an

unknown fungus disease, symptoms of which do not affect other palms. Presently the surviving chonta palms grow in a wide range of soils and microclimates.

A Special Offer to IPS Members

THE PALMS OF AFRICA by Paul Tuley (ISBN 0 9512562 5 4, Publication date: October 1995).

A full account for Africa of the current state of knowledge of this economically important group of plants, with emphasis on the lesser known genera. "User-friendly" keys and descriptions are provided for the genera and species and their utilization is covered in a separate section. Sources of supporting and additional data are given; there is an extensive bibliography, and a complete listing of the species with their synonyms etc.—often numerous—has been attempted. The book is hardback with 141 pages of text and 18 figures plus a supplement of 102 color and b/w plates. Available from: The Trendine Press, Zennor, St. Ives, Cornwall, UK. TR26 3BW.

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CHAPTER NEWS AND EVENTS

Greetings to a New IPS Affiliate—The Southeastern Palm & Exotic Plant Society

The IPS Board of Directors granted formal affiliation to the Southeastern Palm and Exotic Plant Society. This group of about 100 members has been in existence since October 1992 to promote the cultivation of palms and other subtropical plants in the southeastern U.S. (outside of Florida). Meetings are generally held four times a year and are moved around the area. Meetings usually draw 20–30 members. The Society also publishes a quarterly newsletter, *Rhapidophyllum*.

To avoid confusion with other IPS chapters already in existence within the southeastern U.S., this group will be known as the "Southeastern USA Chapter (non-Florida)" on various IPS listings, directories, etc. The President of the group is Tom McClendon (Georgia); the Secretary is Alan Bills (South Carolina); and the Treasurer is Will

Roberds (Georgia). Membership is open to the public and annual dues are US\$10, which includes the newsletter and other chapter publications. Interested persons should contact the Southeastern Palm and Exotic Plant Society, % Tom McClendon, 1581 Fuller Road, Greensboro, Georgia 30642 USA or post a note to Will Roberds at his email address: Gypsy@mindspring.com if you prefer.

Fous de Palmiers of France Attends Florida Meeting

A large contingent of members of Fous de Palmiers, the French Chapter of the IPS, attended the World Palm Symposium at Fairchild Tropical Garden in October. The group of over 30 palm enthusiasts also took the opportunity to visit numerous palm gardens in south Florida. See separate article for further details.