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Leader: Len P. Butt - Phone No. 07 8483515

Asst: Brian Runnegar - Phone No. 07 2861164

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Jottings taken around the Northern Territory in July, 1990

Various, to me serious factors made me miss one of my ambitions, the Cycad 90 conference held at Townsville. However it was not to be so that period became one of pure joy for me, visiting Darwin, lodging at the Barracks, and with the P.A.C.S.O.A. branch there we traversed a wide area from west Darwin down Cox Peninsular to Fogg Bay to see the huge cycas there, a really interesting and tall one, first that I know of named for a Mr. Burns a local gardener come botanist, the name was never made valid and even now the plants carry about three common names, Cox Peninsular, Fogg Bay and Finnis Ricer spp.. I have even heard it said it could be a cross of *Armstrongii* and *Angulata*. Suffice to say *Dendrobium affine* (Syn. *dicuphum*) grows well on its caudex. Sometimes just a little higher than the man made wild fires go. Same week we came to the biggest cycas on the road down from Darwin towards Katherine. This was the very tall multi-trunked *armstrongii* type, about at least 10 metres high badly burned low down but just getting its new fronds.

At this point it is as well to mention others in our little expedition like Monty Anderson, that very capable cycas stalwart, George Brown then curator of Darwin Gardens, Professor Robert Ornduff, Libby Debbie, Bijan Dehgan, Marty and Bluey Bishop, these being those I actually was introduced to and I apologise if some were not mentioned as there were about twenty of us.

*Cycas armstrongii* grew all along the roadside between Darwin and Katherine, many had new fronds after fires, it is generally the only species along that road except the very silver colony of *cycas calicicola* just outside Katherine.

Remembering that trip out to the Fogg Bay area one could not easily forget the impressive stand of *Cycas Calicicola*. We wandered through skirting the edge of Litchfield Park. Silver fawn is the best described colour of their new foliage, each also with a skirt of light brown from old fronds. That day we also examined the magnetic and cathedral type termite mounds in all their grandeur.

The following day we set out to go right to Katherine and made a side-turn into a road near Pine Creek heading up a back road toward Kakadu. It was along that road we found three rather small colonies of the new pine creek species, which the botanist Sharon Chirgwin has named *cycas conferta*.

A rather beautiful addition to our world of the cycads, well worth its name, previously it had been pine creek species.

Dr. Deghan was very impressed and examined it well. Arriving at Katherine we all went out to Joe Ferner's home where we saw the very impressive collection that literally fills his property, hardly room to walk among them. At that point I selected from a showing of prints the photo of Joe and the *Cycas furfuraceae* that was used on the cover of the 1990 booklet *Introducing Cycas*. Among the places of significance seen in that week of activities apart from that garden, was the Darwin Gardens, Marty Bishop's cycad/palm property and Monty Anderson's cycad collection.

Most of my fellow enthusiasts headed then across country to Townsville for that conference, but I went back to Darwin.

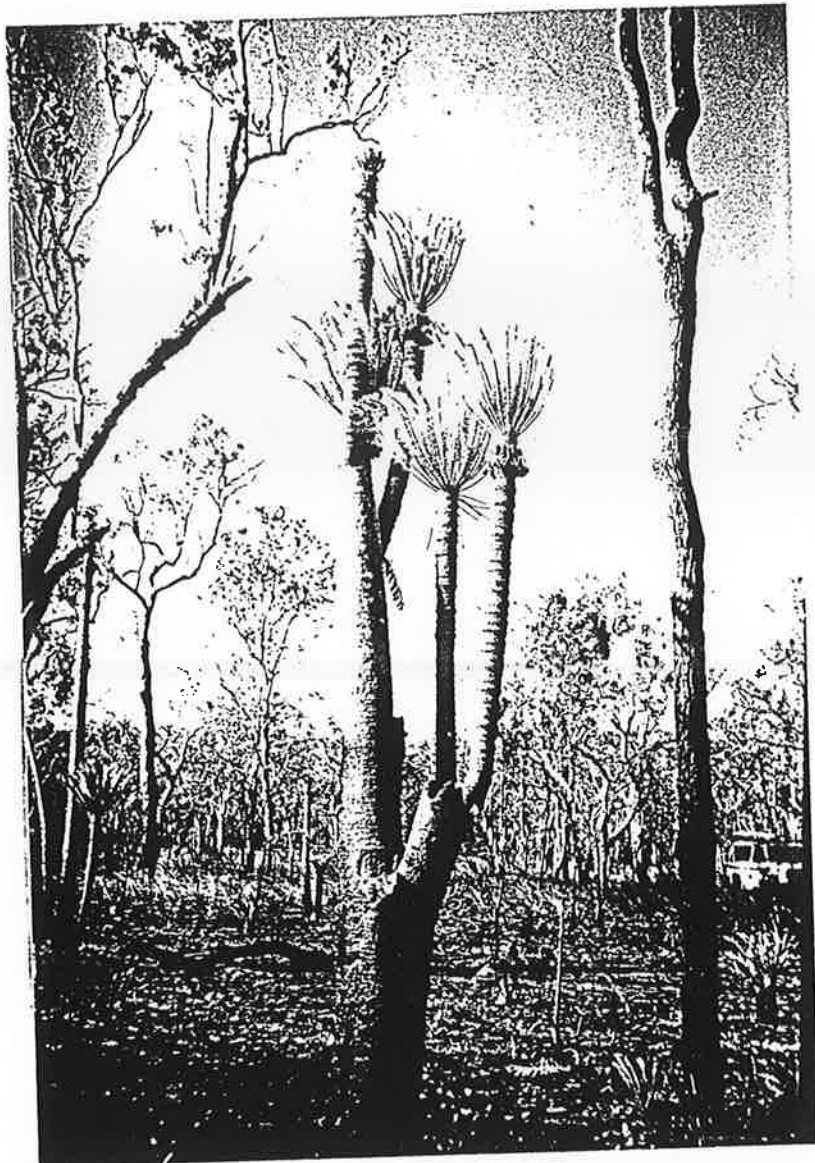
Before actually leaving the territory, I took a mini bus trip into the Litchfield Park itself.

Others on that journey were excited about the grand waterfalls, the very panoramic scenery of which there is plenty, the spectacular climb down into gorges etc. etc. For me my impressions stay with the great hillsides of *Cycas Callicola* we found at the upper side of the first falls. Yes, and also the gaze down to one falls over the tops of *Carpentaria acuminata*, maybe over thirty metres high, some seemed much more. I must not leave out the grand stands of *Livistona humilis* that was everywhere. These jottings would not be complete if I failed to say that back again in Brisbane on a special night, I did meet other dignitaries of that cycad conference. Professor Divya Pant of India, Professor Nağ Grobeelar, and Knut J. Norsogg, Professor Deghan was also there.

L.P. Butt

Please remember this year your subscription becomes due June 1st, 1994.

Happiest of New Year - Len



The 10 metre *C. armstrongii*

Lawyer palms (*Calamus* spp) are a common component of many northern rainforests. The surface of nearly all of these plants are liberally coated with spreading spines, thorns and recurved hooks. Spines and thorns are produced in whorls around the leaf sheaths. Hooks are found on the leaflets and the undersides of leaves, and in some species, even on the inflorescences.

Long, slender processes are also produced from the leaf axils or flagella from the ends of the fronds. These appendages bear numerous recurved hooks and dangle or blow about in the wind, which enables it to catch onto neighbouring plants.

#### *Calamus australis*

Forms large impenetrable thickets on the margins of rainforest and in gaps within the rainforest itself. It is an effective hooked climber, the leaf sheaths are armed with numerous spines up to 8cm long, but these are shed from the old stem. The fronds are arching and bear between thirty and fifty leaflets.

Long whip-like flagella armed with numerous recurved hooks aid in climbing. Inflorescences bear masses of small flowers which are followed by numerous hard round fruits. The thin layer of flesh around the seed is edible. Flowers in June to August.

#### *Calamus caryotoides*

This slender less offensive lawyer cane is usually found in rainforests. Its fronds bear six to twelve broad leaflets with blunt apices and the terminal leaflets are divided like fish-tails. The leaf sheaths are armed with scattered needle-like spines up to 9mm long. Very thin, whip-like flagella armed with numerous curved hooks arise from the leaf axils. Small flowers are borne in dense clusters on long inflorescences. These are followed

by round fruits which become yellow-orange when ripe. Flowers in October to December.

#### *Calamus metti*

The lethal, bayonet-like yellow thorns on the leaf sheaths are an immediate guide to the identification of this very vigorous lawyer cane which clambers about in both coastal and highland rainforest. All parts of the plant are yellowish as if sun-bleached. The fronds are semi-erect, often twisted and bear from eighty to a hundred narrow leaflets. Flagella are very long and tenacious. Inflorescences bear masses of small flowers as in other species and are followed by hard round fruits which have a layer of edible flesh. Flowers in October to January.

#### *Calamus muelleri*

Is the only indigenous species of lawyer cane to extend beyond Queensland. Like the other species it is found in rainforests and is still common in some areas close to large cities. The leaf sheaths and petioles bear needle-like spines about 10mm long. The fronds have fourteen to twenty widely spaced leaflets and flagella in the axils. Slender spiny inflorescences hang for up to 50cm and bear clusters of flowers near the tip. The fruits are very hard and virtually lack a layer of edible flesh. Flowers in December to February.

#### *Calamus* sp.

A tall sparse species which does not form thickets but straggles through rainforest eventually to emerge high in the canopy. It climbs with the aid of hook-bearing cirri which terminate the fronds. The fronds are also sparser than in other species (except *C. caryotoides*) bearing up to forty widely spaced, dark-green leaflets. The long, branching inflorescence is winged and bears masses of minute, pale flowers. These are followed by round fruits about 1cm across that are white when ripe. The fruits are eaten by birds. Flowers in November to February.

#### *Calamus radicalis*

Coastal and highland rainforests are the home of this recently rediscovered species which had been lost to science for many years. It is now known to be quite common and in fact is the dominant feature of some rainforests on the Atherton Tableland.

## DISEASES AND INSECTS OF PALMACAEAE

by Steve Flood  
(B.App. Sc. Hort.)

The following information is based on 'Diseases and Pests of Ornamental Plants' by Pirone, Pascal and Pompey (1970) plus my own experience in growing palms and communications with officers of the Queensland Department of Primary Industries.

### DISEASES

Bacterial Wilt. (*Xanthomonas*), a wilt and trunk rot of coconuts and Cuban Royal palms is caused by a bacterium, at first the lower leaves wilt. This is followed by gummosis of the trunk, discoloration of the vascular tissues and finally complete collapse of the crown. No control measures are known for this disease except the isolation of infected plants in order to prevent spread.

False Smut of Leaf Scab. (*Graphiola phoenicis*) attacks palms belonging to the genera, *Arenga*, *Howea*, *Phoenix*, *Roystonea* and *Washingtonia* causing a yellow spotting of the leaves and the formation of numerous small black scabs or warts. In Texas this is most troublesome in areas with consistently high humidities. Copper fungicides will control this disorder.

Phytophthora, sp. have been recorded on *Howea* palms in South East Queensland. The leaves become discolored with brown soaked regions which spread and eventually cause collapse of the whole leaf. Because *Phytophthora* is a water mould cultural practises can be employed which minimize the incidence of this disease. Overwatering and a poorly drained potting mix will encourage growth and development of this fungus, whereas plants grown in an open mix, spaced in a well aired position are less likely to develop symptoms of *Phytophthora*. A number of fungicides namely Terrazole, Dexon and Captan will help to protect plants from the disease.

Alternaria and Coletotrichum are two fungal organisms which have been recorded to infect palms in South East Queensland. Both these organisms seem to be encouraged by cool moist weather conditions and are therefore only a problem in winter. *Coletotrichum* often infects Golden Cane palms (*Chrysalidocarpus lutescens*) and will sometimes kill young plants. This disease begins as circular brown leaf spots that spread to form larger dark blotches and eventual collapse of the leaf. *Alternaria* which forms leaf spots with concentric rings resembling targets is quite common on many vegetables and ornamentals but rarely seen on palms. Both these diseases can be controlled but not eliminated by regular sprays with fungicides such as Baviston, Daconil and Copper Oxychloride. Leaf Blights caused by a number of fungal organisms have caused great losses along the Pacific coast in southern California, especially with *Phoenix*, *Washingtonia* and *Arecastrum romanoffianum*. Among the effects are a successive decay of the leaf bases from the oldest to the youngest of the tightly folded bud leaves and the weakening and breaking to the trunk. Fortunately leaf blights do not seem to be my knowledge major problems in Australia at this point of time.

### INSECTS

Grasshoppers Two of three different locusts will sometimes eat palms doing considerable damage to the leaflets. Apart from physical removal of the pest which is very time consuming a number sprays are quite effective and safe to use if the recommended directions are followed. These chemicals included carbaryl, endosulphan and lawsban.

Palm Leaf skeletonizer (*Homaledra sabalella*) can cause considerable damage of many species of palms by operating under a protective web of silk often rolling the leaf to form a cocoon. Many insecticides will control this insect.

Mealbugs of many species are known to infest palms but should not be considered troublesome unless on young plants or in large numbers on older palms. MALLETIA powder of drenches seem to be the most effective at controlling root or crown infestations on leaves can be controlled with white oil based sprays.