

PALM & CYCAD STUDY GROUP

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Change of address : Due to family reasons, mainly related to where my relatives & grandchildren now live, Annabel & I moved to Toowoomba in late September of 2011, & have been a bit slow in notifying everyone except my family. This is partly due to the fact that I have moved the bulk of my smaller plants up here, 30 Hi-Lux ute loads to date, plus carting 70-odd ute loads of green waste to the tip. Making my 11 & a bit acres presentable to potential buyers who may not appreciate the jungle ambience was a major job after 30 years of planting & the last 2 years of phenomenal rain. Since even a dense-planter like myself cannot cram vast numbers of brachys into a little over a quarter of an acre, I have moved most of the bigger ones to my brother's 10 acre block on Brisbane's north side, plus my larger cycads. A friend at Rochedale, in Brisbane's inner southside, wanted to transform 10 acres of bare land into rainforest, so his block is now richly endowed with quite a few grafted brachys plus scores of flame trees & *bidwilliis*, & lots of RF trees & shrubs.

Climate : In some ways, the Toowoomba climate is more benign than Greenbank, at least at my new place, where the 'urban heat island' effect, plus a fringe of large *Cupressus torulosa* (West Himalayan Cypress, more often miscalled Bhutan Cypress) trees, keep the winter minima a whisker above 0 degrees C. There are however many more cold grey days, some with fog, & the western fringes of Toowoomba do frost. Go a few km out of town in any direction but east, & frosts are frequent & severe, with the small towns to the west & south quite often having the dubious honour of coldest town in the state for that day. Going east there is the well-wooded escarpment, & cold air falls down. July 2012 was cold, with minima around 2 degrees, rising to about 8 in August. Maxima were low in early & mid September, rising to the high 20s in late Sept. & early October, then minima down to 5 degrees in mid October, with snow in Stanthorpe & New England (the 13th was the coldest Brisbane October day since 1957). Then a normal summer for late Oct. Coolish much of November & December ; snow in the Victorian Alps in early December.

Jan. the 7th 2013 was the hottest day on record, Australia-wide ; but a balmy 17-28 here. Hobart was 41.8 on the 4th, 1 degree above the previous 1976 record, 48.2 on the Eyre Peninsula, & Adelaide 47. On Jan.the 18th. it was 19-35 here, & the hottest day ever in Sydney at 45.4 . In late January, there were catastrophic floods in Bundaberg , & substantial flooding in Roma, Warwick & Brisbane.

All of February to early May was cool & rainy (or overcast), with maxima in the low to mid 20s. The rest of May, & June, was cooler, with maxima below 20; the 22nd of May was Brisbane's coldest May day since 1980 (16.7 degrees).

Health : For once, I have a good excuse for a late newsletter. While running around in early June 2012 getting the last of my plants & odds & sods moved to Toowoomba, I was

unloading the ute at Toowoomba when I fainted, & Annabel correctly diagnosed a heart attack. Five minutes later an ambulance arrived, & soon I was having a rest cure at the Toowoomba Base Hospital, where my elder son is chief anaesthetist. They ran countless tests & told me I had been lucky & had had only a mild heart attack. However, it was caused by my right aorta valve partly closing, & if it closed much more I would be history. So after an angiogram & more ultrasounds, in Brisbane, I joined the queue for an open heart operation, & Annabel wrapped me carefully in cotton wool. Luckily a vacancy came soon, & I got a new bovine valve inserted in late July, & got sent home 4 days later. All fine, but I was as weak as a kitten for a while. The medicos reckon my arteries etc are in pretty good shape if I behave myself, so I am trying to persuade my good wife not to feed me lettuce & lentils.

Retirement : I am really going to retire as leader of the Palm & Cycad study group this financial year, mainly because Toowoomba is too cool to grow most palms. Australian tropical cycads were difficult to grow in Greenbank, but impossible here unless one treats them like tropical orchids, & raises them in a heated glasshouse. And my health problems add to the complications. I will mail a few refund cheques to people who have paid subs in advance.

Extinct Giant Palm : While recuperating, I read Jared Diamond's book 'Collapse. How societies choose to fail or survive.' A long & interesting segment was on Easter Island, which is a volcanic island 9 miles wide & 66 square miles in area, & settled by Polynesians around 900 AD. When Roggeveen discovered it in 1722 there were a few small 2-man canoes, but all the trees were extinct. The climate was mild, but windy, & too cool for coral reefs to form. Annual rainfall averaged 50 inches, but was variable. Originally it was well-wooded, & human burials were cremated. Once there were 25 species of nesting seabirds, in dense rookeries, & abundant fish & shellfish, but all were eaten, & the middens record the decreasing catches & smaller sized shells & bones.

The only livestock were poultry. There were 1233 stone chicken houses, & stone mulches on the thin soil. There are 21 known extinct trees, including *Alphitonia zizyphoides* (100 ft) & *Elaeocarpus rarotongensis* (50 ft), & the Australian natives *Syzygium malaccense* & *Thespesia populnea*. Rope was made from the bark of *Triumfetta semitriloba*. Trees became extinct in various sites from 1400 to 1600 AD, with the giant palm extinct by about 1500. Carbon 14 dates give the chronology. The palm was a close relative to, but larger than, the Chilean wine palm which grows to 65 feet with trunk diameters of 3 feet. The giant palm had diameters over 7 feet. There are good stands of mature Chilean wine palms in the Adelaide Zoo.

As food supplies dwindled, & timber for rollers for the giant stone statues which made Easter Island famous became unobtainable, the islanders lost faith in their chiefs & their religion. The 12 clans feuded, the statues began to be thrown down, & when Captain Cook visited in 1774 many were flattened, & by 1838 all were. House numbers declined by 70% between the 1600's & 1700's, cannibalism was rife & civil war raged around 1680, & a new cult emerged, Orongo. The last statues were carved about 1620. Around 300 of the stone platforms (AHU) upon which the statues (moai) stood were built,

mostly between 1000 & 1600. Some were never tenanted by statues. The mean moai height was 13 feet, some up to 32 feet, with an unfinished 70 foot one still in the quarry. Later ones tended to be taller & thinner & with pukao, red scoria cylinders weighing up to 12 tons, as 'hats' on top of the moai.

The many unique features of Easter Island & its' inhabitants have lead to a scientific journal, the Rapa Nui Journal, being devoted to it.

Reference: J. Dransfield et al.-1984 - A recently extinct palm from Easter Island-
Nature 312:750-752.

Palm news from other journals : The Dec. 2011 issue (no. 113) of Palms & Cycads, PACSOA's quarterly magazine, starts with an article by Keith Boyden on *Cycas pruinosa* & *Livistona victoriae*, & some other Kimberleys vegetation. An article follows 'A serious cycad pest' by Will Kraa, a well-informed nurseryman, about the Australian native trunk boring weevil *Melanotranes internatus*, which I rate a bigger cycad pest than the cycad blue butterfly, as it can kill large cycads quite rapidly on occasion. It infests *Cycas*, *Macrozamia* & *Lepidozamia* trunks in the wild, & if infected trunks are introduced to a garden or park they also attack many exotic cycads including *Encephalartos* & *Cycas*, being very fond of *Cycas revoluta*. It has not attacked my *Bowenia* species, but that may be just because I have relatively few of them. The weevils are about 1 cm long, blackish, & their larvae, which do the real damage, are large white tunneling grubs similar to the larvae of some lawn-grub moths. They can be controlled by systemic insecticides such as Confidor, Rogor & Crown, & for small or medium plants I recommend soaking the plant in a bucket of the insecticide for a day. Large cycads need a large amount of a systemic insecticide to be sure of control. Confidor acts fastest via the roots. The diagnostic sign of weevil trouble is apparently healthy fronds falling off trunks, or being nearly chewed off at the base.

The same issue contains articles on mulches to use on gardens, & scrub turkeys as a pest, & a 3 page favourable review of John Dowe's 'Australian Palms : Biogeography, Ecology & Systematics', published by CSIRO in 2010.

Issue no. 114 of the same journal has an article (pp. 16-22) by Mark Wuschke on *Livistona mariae* from Palm Valley, & its' very close relative *L. rigida*, from the Roper River (e.g., Mataranka) in the N.T., & from 8 populations on the Nicholson & Gregory rivers in northwest Qld. DNA studies by Japanese researchers showed the 4 Palm Valley samples were closely related to each other (79.5% overlap), & the 8 Nicholson-Gregory samples were even closer (96%), but the Palm Valley palms were also closely related to the Roper River ones (67%), more so than the Roper River & northwest Qld populations of *L. rigida* (54.6%) are to each other. Australian biogeographers working with the Japanese geneticists think the Palm Valley geneline split from the Roper River one perhaps 20000 years ago, & that human intervention was likely, perhaps aiming at introducing 'palm cabbage' to the Centre. Thus the Roper River palms should probably be called *L. mariae*. The Qld ones remain *L. rigida* for now. The last time I was at Mataranka flying foxes were conspicuous but not all-pervasive, but friends visiting around 2008 reported the bats were wiping the palms out by their sheer numbers. In 2009 I noticed a large bat increase around Katherine Gorge compared to five years earlier. Both bat surges may be temporary, due to the wet years

Issue no.115 has an article (pp.4-13) on 'The cycads of Capricornia' , with a few good photographs, & another (pp. 24-29) on the palms of the Fraser Coast. Most of the images in the latter are of exotics, but there are shots of a double-headed *Livistona australis* & of *Livistona decora*. There is also a 2-page article on controlling the cycad blue butterfly via use of a large fly swat, by Keith Boyden, who must have more spare time than me. My recommendation remains to spray with Crown. It is toxic to bees, however, & its' toxic effect can last a month or so So if you have a lot of flowering plants near your cycads, you may choose a non-systemic spray such as Malathion. .

Issue no. 116 of the same journal starts with an article 'The cycads of arid Australia : *Macrozamia macdonnellii* & *M. dyeri*', by James Ingham (pp. 4-19). Ingham gives quite a bit of DNA info on WA cycads, including the fact that the chloroplast DNA of some *M. macdonnellii* is identical to that of the eastern state species *M. moorei*, *communis*, *platyrachis*, *plurinervia* & *spiralis*. It is thus likely that *macdonnellii* split from eastern state ancestors 1 to 3 million years ago, not the 50 million sometimes suggested.

M. dyeri comes from an arid but coastal area around Esperance & Stoke's Inlet, & is a stout species not closely related to its neighbours. It may have been genetically isolated for 2 million years, but that figure could be well out in either direction. James has taken many excellent images of both cycads, including those of *M. dyeri* on the covers.

Issue no. 117 of the same journal has an article by Mark Wuschke on rattans, with good photos of *Calamus muelleri*, *australis* & *caryotoides*. The last of these makes a nice indoor pot plant for many years, if you trim the tallest stem occasionally.

Issue no. 118 of the same journal is noted as Jan.-March 2013, & is the latest I received, so PACSOA have now caught up on their dates for the journal. The first article, also by Mark Wuschke, is on the palms & cycads of Manorina, part of the D'Aguilar National Park northwest of Brisbane. The palms he photographed were *Livistona australis* at various ages, *Archontophoenix cunninghamii*, *Calamus muelleri*, & the cycad *Macrozamia lucida* plus some ferns & epiphytes.

The best of wishes for the coming new financial year to you all. It is a chilly 3 degrees here in Toowoomba this morning.