

ASGAP PALM & CYCAD STUDY GROUP

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**Casualties :** In the last newsletter I briefly mentioned my palm casualties in the big frosts of July 2007. The cycad losses are harder to be sure about, as a cycad can lie dormant for 3 years or so & then do a Lazarus. If the caudex rots out entirely, it is definitely dead. If still firm, there is hope. Among exotic cycads, several *Cycas wadei* are definitely dead, & another is alive but with much fewer & smaller fronds. Among the natives, I think I have lost all my 10 *C. angulata* & my only 2 *C. arnhemica*, & some *C. armstrongii* & *C. maconochiei*. The plants of the latter 2 species were fairly small, being only 4 or so years old. The only almost unaffected cycad from the far north of Australia was *C. canalis* ssp. *carinata*, & even it had smaller & fewer fronds than usual, while all forms of *C. media* had much smaller fronds. A mature hybrid of *C. media* by *C. ophiolitica*, bearing seeds, has been leafless since July 2007, & the seeds failed to carry on. Plants of *C. megacarpa* & *C. ophiolitica* had smaller fronds than usual, but this may be due to the accumulated stress of the drought rather than an effect of cold *per se*. The other cycads mentioned earlier should not have been under much drought stress. *Macrozamia* & *Lepidozamia* plants were not visibly cold-affected, & my *Bowenias* were well sheltered in a bush-house.

**N.T. visit this June :** Two weeks in the Top End saw lovely weather, mostly 22-32 daily, & a surprising no. of cycads in their pristine new growth, due to early burning-off & immediate regrowth, which I imagine will senesce fairly rapidly before the new spring-summer flush of growth, as the rains ceased in early April, as usual. Around Darwin the weather usually does the expected, barring the odd super-cyclone every decade or so. The spring flush of new fronds precedes any substantial rain. The *C. armstrongii* new fronds looked lovely, in their better-than-lettuce-green shades. Some new flushes on *C. maconochiei* at Dundee Beach, 1.5 hours drive west of Darwin were their usual interesting shades of blue, overlaid with rusty tomentum on the youngest fronds. Unburnt plants were dull green. Both species were bearing lots of ripe & almost-ripe seed.

It has been 2 & a half years since my last visit, & Darwin has grown visibly, sideways & up, with more buildings over six stories, a brand new Convention Centre opened last week, & much else. An obvious change is vehicle speed limits, & no more utes with 12 aboriginal kids in the tray section. Local colour has not vanished ; still a multi-racial mix, very multi, & the first car I noticed was a station wagon with a large sign proclaiming 'I'm a huffin' puffin' real love muffin!'. My brother said that at any one time only one of Darwin's 8 fixed speed cameras has film in it, because the active camera catches as many people daily as the police clerks can write out tickets for. Still hordes of drink-driving stories in the newspapers.

My wife & I attended a meeting of the SGAP-equivalent, The Top End Native Plants Society (TENPS), which was once part of SGAP in S.A. The Alice Springs branch still is. They had a very interesting speaker, Ian Morris, on bush foods & related topics ; both informative & entertaining. Ian was brought up on Elcho Island, off the west coast of Arnhem Land, from the age of 11. His parents were missionaries, & he had many aboriginal friends, & the old ladies from Arnhem Land visit him in Darwin when they have to visit hospitals etc, as his block at Noonamah is convenient to a fine patch of *C. armstrongii* which yields a superior (smoother & whiter) cycad flour to the Arnhem Land species. He is also close to a good area for long yams , *Dioscorea transversa* (some are huge, over a metre long), also much prized. The allegedly same species in our local S-E Qld. rainforests is a small plant with tiny leaves & tubers. They return home with bulging suitcases & dilly bags. He was a science teacher in Arnhem Land later on, & also instrumental in setting up the educational displays & so on in Kakadu N.P., & is now an environmental consultant.

He had a lot of photos of the process of making cycad flour. First the seeds (mostly half-ripe, with the seed coat turning between green & light brown ; fully ripe are a darker brown with a soft testa) are pounded with a rock to split the seed coat, which is easily peeled off, then the seeds are roughly crushed in holes in rocks, using smooth rocks as the pestle of the mortar & pestle. Ian said most of the rangers tell the tourists these holes are used for crushing ochre for cave & bark (fire-hardened stringybark, *E. tetradonta*,

which is everywhere in the Top End) paintings, but Ian said they were only used for cycad flour & crushing seeds of spinifex & the abundant wild sorghum & other food seeds. The crushed cycad seeds are placed in finely-woven string bags made from the inner bark of *Brachychiton megaphyllus*, which yields the strongest fibre in the Top End. Now much used as vehicle tow ropes, harpoon ropes, etc. The bags are placed in running water, & weighed down with stones. After 5 days the older women sniff the fermenting contents to see if all the toxins have leached out, & if not satisfied leave them for another day or two. Ian said he could tell no difference. Might be one of those many things in human affairs where having 2 X chromosomes makes a difference. Once passed, the cycad material is dried, then pounded again, this time to a fairly fine flour, & either used to make cakes, or put in paperbark-wrapped parcels, about 20 cm x 10 cm x 6 cm thick, & lightly roasted for about ten minutes. The resultant slabs can be stored for six months or more. They smell fermented, & aboriginal children won't touch them, though adults like them. Cakes made from this flour are similar to damper, which may explain why so many aborigines are fond of damper. So am I ; it may just mean a bush childhood.

Ian had some slides of unusual rock art in western Arnhem Land, clearly showing cycads growing, in seed, & lubras with full dilly bags. This was at a time when no white people knew of cycads anywhere in the vicinity of these paintings, but at a later date quite a large population of a 'new' cycad, *Cycas arenicola*, was found on the upper reaches of the East Alligator & Liverpool Rivers.

Some non-cycad items from Ian's talk. Best material for making fire with sticks, dry *Premna serratifolia*. You should have sparks within a minute or less. Best bark for stunning fish, *Barringtonia acutangula* & *Owenia vernicosa*. You have to be quick with the first species or the fish may wake up before you have grabbed them. Multi purpose dyes for colouring the ubiquitous woven pandanus-leaf baskets ; use the fruit of *Haemodorum coccinea* for purple, newly-boiled flowers for red, longer-boiled for orange, & even longer-boiled for yellow. Annabel asked how dugong tasted, & Ian said delicious, a dark red meat like pork but tastier & less greasy. He said the aborigines caught far fewer dugong these days, as their aluminium boats, even if rowed, were too noisy (waves lapping on metal), & the dugong dive to safety. The old stringybark canoes were utterly silent. He added that dugong numbers were rising since government regulations to minimise dugongs drowning in trawler fishing nets had been enforced. Ian's pick of the tuberous foods was one which only appears in one of my reference books. It isn't in Elliott & Jones' Encyclopaedia of Australian Plants, or any of my numerous books on N. Qld. plants. It is *Brachstelma glabriflorum*, in the family Asclepidaceae, which includes *Hoya* & *Maredenia*., & features on page 708 of the 'Flora of the Kimberley Region', published by CALM in 1992. The flowers are creamy-brown & purple, rather like an orchid, & the plant is slender, grass-like, usually unbranched with a few narrow leaves (most reduced to scales), & hard to notice to Caucasian eyes. The narrow tuberous roots are delicious raw or cooked, Ian said. It occurs in damp areas of savannah woodland & eucalypt forest in the Mitchell Plateau of WA, the N.T., Qld., & in Indonesia & New Guinea.

**Vandals :** In the June 12<sup>th</sup> issue of the Northern Territory News there was a story on a tree-poisoning vandal operating around Darwin, apparently boring holes & injecting heavy metals including aluminium, lead, zinc & arsenic. Must like variety. The reward for his capture stood at \$20000 then, but had grown to \$30000 a fortnight later, when we left. He was seen drilling holes in giant fig trees, now dead, in the CBD, & other casualties include 19 Bismarckia palms in a council car park, also in the CBD.

Best wishes to everyone.

Kerry.