

SOCIETY FOR GROWING AUSTRALIAN PLANTSCYCAD/ZAMIAD STUDY GROUP NO. 23DECEMBER - JANUARY, 1986

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

Asst: Brian Runnegar - Phone No. 07 - 3907577

As this newsletter ushers in a New Year, a gentle reminder that all fees are due once more, unless you joined September - October - November, 1985. In which case fees not due till 12 months hence. Fees are now \$3.00 as usual, but would interstate members please include 10¢ stamp with cheques as it costs me this every time I cash your cheques. X

While photographing and examining the broad leafed zamiad near Bundaberg a few of us have come to the conclusion this is not just a form of pauli-guilielmi as first thought. This was my first opportunity to examine first hand undisturbed plants, and not the usual re-forming plants after plough damage.

Nearest similar zamiad is Macrozamia platyrachis and the horizontal leaf positions and wide pinnae show marked similarities. The new softer spiralling rhachis are upright and although 360 degree twisted the twists do not occur anywhere as much as in the type narrow pinnae pauli-guilielmi. Possibility is that this is a cross and not a locality form, another peculiarity not seen in other zamiads.

If the caudex is sliced vertically the slices will grow! Slices from caudex damage have been found with little multi growths appearing across the slice. One of these I transferred to a shallow bonsai dish and now have a 2 year old successful planting.

Notes from Don Stallard

At long last my travels have taken me into the Western districts of the Top End. Generally speaking the limits of Western movement by European tourists stops along the natural divide, the Daly River. Although access by road via the Daly River Crossing Ooloo and Claravale Crossings is relatively easy driving, the dry season months, restrictions by the Northern Land Council entering on Reserve Land along with the isolation of the area generally deters visitors.

The topography as viewed on a map appears to be interesting, however in reality from the window of a car it appears unimpressive. Our investigations off the main track into the foothills and down stream from main river crossings proved the old age theory "that you've got to get off the main road" to see best.

Our trip took us into Peppimenarti area and the areas bordering on the Port Keats Reserve. Of course always in the back of my mind is the possibility of coming across stands of either Cycads or Palms. In this case and as reported in one of my earlier letters Cycas have been seen in the area. We did find several small stands of Cycas reaching some 6 metres in height and were able to confirm that we may now have another Cycas species on our hands. A comparison with frond and seeds collected from other species in the Top End shows that the fronds vary markedly. There are reports of supposedly the same Cycas reaching heights of 10 metres in this area and that it is the same as species C. angulata found in the Gulf. I doubt this statement both from the photos I have seen and the description of the habitat. Guess time will tell!

Seems this will be the last word from me this year as we are headed south via Alice and Adelaide to Perth in early December - expected back early February '86 via the West coast. Of course enroute will visit many of our "pet plants" distributed along the way.

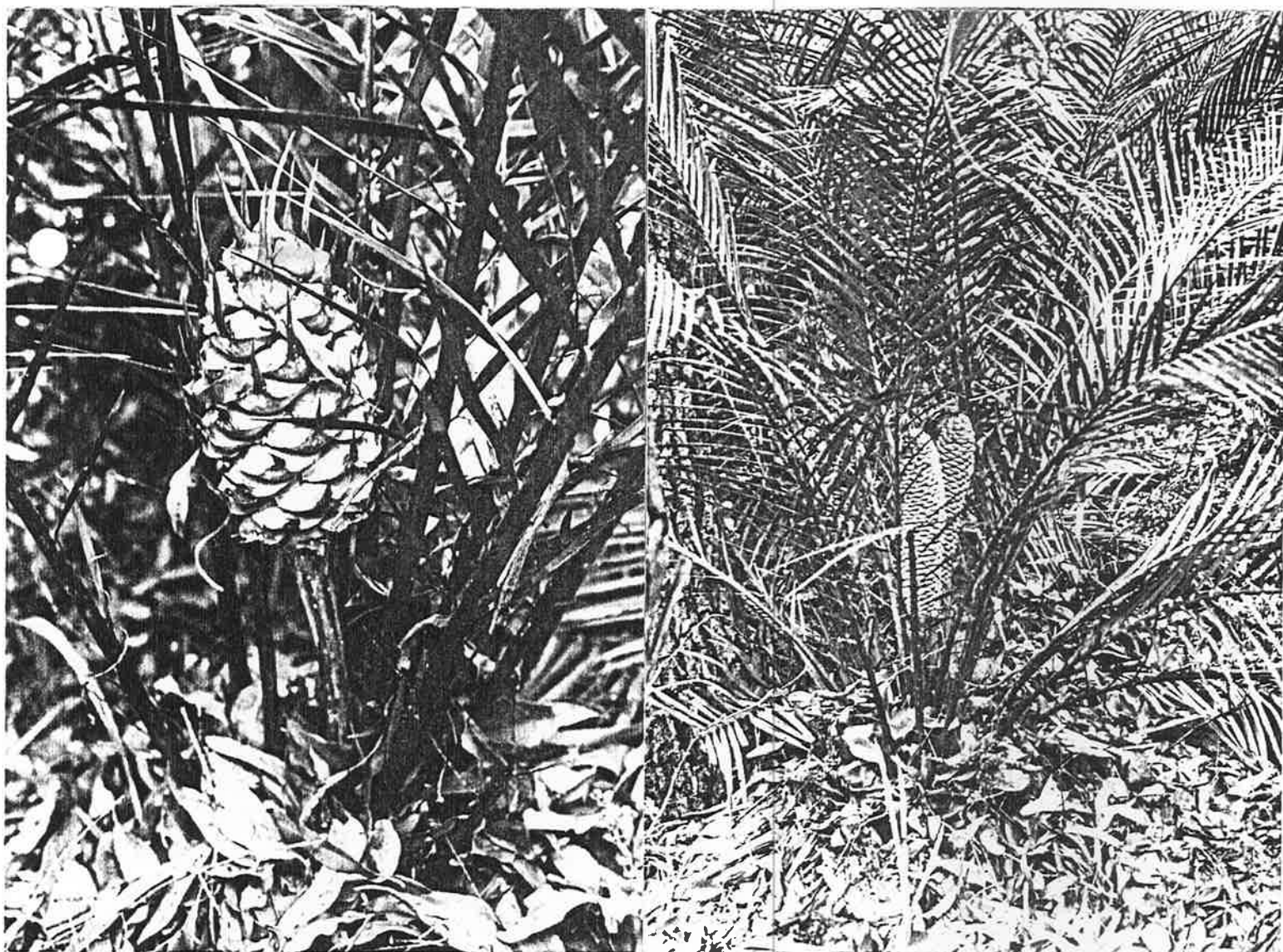
So for now Merry Christmas Len and every success for the Study Group in the New Year.

The following pages are published notes on 2 cycas by John Macnochie just before his untimely death.

In memory of a real taxonomy botanist.



Female Cones of Bundaberg *Macrozamia Pauli-Guilmii* Cross



Female Cone *Macrozamia Communis*

Male Cones *Macrozamia Communis*

## TWO NEW SPECIES OF *CYCAS* FROM NORTHERN AUSTRALIA

J.R. Maconochie

Herbarium of the Northern Territory, Animal Industry and Agriculture Branch,  
Department of the Northern Territory, Alice Springs, N.T. 5750

### Abstract

Two new species of *Cycas*, namely *Cycas calcicola* and *C. prinosa*, are described from the Northern Territory and Western Australia respectively. These species are allied to *C. revoluta* Thunb. of Japan and *C. cairnsiana* F. Muell. of Queensland; all four species have pinnae with a distinctly revolute margin.

### 1. *Cycas calcicola* Maconochie, sp. nov.

*Frutex* habitu palmae ad 3 m altus, caudice 17-30 cm diam. Frondes atrovirides, in sectione transversali appanata vel arcuata 60-115 cm (plerumque 80-90 cm) longa, 9-27 cm (plerumque 15-20 cm) lata. *Pinnae* 150-300 (plerumque 220-280) lineares rectae vel leviter curvatae, apice attenuatae ad mucronatae spina terminali c. 1 mm longa, margine revolutae, basi non decurrentes, 8-12 cm longae, 2.5-3 cm (interdum 4 mm) latae, supra glabrae vel pubescentes, infra tantum ad canales pubescentes. *Rhachis* prope basin teres ad tetragona, c. 10 mm lata, basi 8 mm crassa sed prope apicem 2 mm crassa, glabra ad furfuracea ferrugineaque. *Conus masculinus* anguste ovoideus, 17-26 cm longus, 5-6 cm latus; microsporophyllum deltoideum, 15-25 mm longum, basi 5 mm latum, ad apicem 12 mm latum, parte terminali 6-10 mm longa, cinereo-pubescentii apice uncatu. *Megasporophyllum* ferrugineum, ad 15 cm longum, apice sterili elliptico-rhombeo spina leviter evoluta 10-17 mm longa; pars apicalis sterilis 20-25 mm longa, 8-11 mm lata, margine dentibus 7-8 papyraceis munita vel inermis, supra glabra pagina brunneo-viridia marmorata papyracea vel siccata resinata, infra pube ferruginea. *Megasporae* 2-6 pro sporophyllo, globosae, brunneae; parum glaucae c. 32-35 mm longae, 25-27 mm diametro.

*Holotypus*: J.R. Maconochie 1314, 16 km N. of Katherine, N.T., 10.vi.1971 (NT); female plant, two sheets.

*Isotypi*: BRI, CANB, K, L, PERTH.

Palm-like *shrub* to 3 m high, trunk about 17-30 cm diameter. Fronds dark-green, flattened or arcuate in cross section, (60-)80-90(-115) cm long, (9-)15-20 (-27) cm wide. Leaflets or pinnae (150-)200-280(-300) in number with revolute margins, glabrous or pubescent above, pubescent in channels below. *Pinnae* 8-12 cm long, 2.5-3 mm occasionally 4 mm wide, straight to slightly curved, apex attenuate to mucronate with a small spine 1 mm long, slightly angled on the rhachis, not decurrent on the rhachis. *Rhachis* (including petiole) round to tetragonal towards the base, about 10 mm wide and 8 mm thick at base to 2 mm wide near tip, glabrous to scurfy-ferruginous. *Male cone* narrow-ovoid, 17-26 cm long and 5-6 cm wide, microsporophyll deltoid 15-25 mm long, 5 mm and 12 mm wide at base and apex respectively, with the terminal portion 6-10 mm long, grey-pubescent with a hooked tip in the same plane. *Megasporophyll* ferruginous to 15 cm long, with elliptic-rhombic sterile apex and a weakly developed spine 10-16 mm long. Sterile apical region 20-25 mm long, 8-11 mm broad with 7-8 fine papery marginal teeth or entire, lower surface ferruginous-pubescent, upper surface glabrous with a mottled brown-green papery or dried resinous surface. *Megaspores* 2 to 6 per sporophyll, globular-ovoid, brown in colour, surface slightly glaucous, about 32-35 mm long and 25-27 mm in diameter (Fig. 1).

*Selected specimens*

NORTHERN TERRITORY: *M. Lazarides* 6624, 13 km N.W. of low level crossing at Katherine, 9.vii. 1961 (CANB. K); 7650, East Alligator River, 12°47'S, 133°21'E, 18.vii. 1972 (BRI. CANB. DNA. K. US); *J.R. Maconochie* 967, 20 km N. of Katherine, 7.ix.1970 (NT); 1315, 16 km N. of Katherine, 10.vi.1971 (BRI. CANB. K. L. NSW); 2070, Bamboo Creek, Mandora road, 13°00'S, 130°45'E, 16.v.1975 (L. NT. NSW. PERTH).

The specific epithet is derived from the most common habitat of this plant, namely, near or around limestone outcrops. *C. calcicola* appears to be restricted to the Northern Territory, being most common in the limestone outcrop areas north of Katherine. Two other isolated populations occur, one at Bamboo Creek on the Mandora road south of Darwin and the other on the East Alligator River.

2. *Cycas pruinosa* Maconochie, sp. nov.

*Frutex* habitu palmae ad 2 m altus, caudice 25-40 cm diam. Folia viridia U-vel V-formia in sectione transversali, longitudinaliter recta vel leviter curvata, 90-100 cm longa, 16-36 cm lata. *Pinnae* 120-240, lineares utrinque glabro apice attenuatae, mucrone 2 mm longo, margine revolutae, basi non decurrentes, 11-20 cm longae, 2-4 cm latae, apicem versus curvatae et interdum tortae. *Rhachis* tetragono-applanata, 11 mm lata, infra in sicco canalibus duobus utroque costae latere. *Conus masculinus* anguste deltoideus, 38-50 cm longus, 9 cm latus; microsporophyllum deltoideum 15-20 mm longum, basi 5 mm latum, in medio 15 mm latum, appendice terminali 8-15 mm longa caeruleo-cinerea pubescenti deflexa apice sursum flexa. *Megasporophyllum* ferrugineum, 27-30 cm longum, pars apicalis 14-15 cm longa dentibus 20-30 ad 25 mm longis 3-4 mm latis pinnato-dentata, apice 30-70 mm longa. *Megasporae* plerumque 4 pro sporophyllo brunneae ad dilute caeruleae, globosae, c. 40 cm longae, 30-35 mm diam. pruina cinereo-alba.

*Holotypus*: *D. Symon s.n.*, Ternonis Gorge, Durack Ranges, Western Australia (17°25'S, 127°20'E), June 1975 (NT); female plant, three sheets.

*Isotypi*: BRI. CANB. K, L, NSW, PERTH.

*Shrub* to 2 m high, trunk 25-40 cm in diameter. Fronds grey-green, U- or V-shaped in cross-section, longitudinally straight to slightly curved, 90-100 cm long, 16-36 cm wide. *Pinnae* 120-240, with revolute margins, glabrous above and below, 11-20 cm long, 2-4 mm wide, apex attenuate with a pointed tip 2 mm long, pinnae acutely angled on the rhachis, curved forward, occasionally twisted towards the apex, not decurrent on the rhachis. *Rhachis* (including petiole) tetragonal-flattened, glabrous, 11 mm wide, when dry having two channels below on either side of the main vein. *Male cone* narrow-deltoid 38-50 cm long, 9 cm wide, microsporophyll deltoid 15-20 mm long, 5 mm and 15 mm wide at base and middle respectively with an equally long (8-15 mm) terminal blue-grey pubescent appendage, directed downwards but upturned at the tip. *Megasporophyll* ferruginous, 27-30 cm long with terminal part 14-15 cm, pinnate-dentate, 20-30 teeth up to 25 mm long, 3-4 mm wide, terminal tip 30-70 mm long. *Megaspores* mostly 4 per sporophyll, brown to bluish, globular-ovoid, about 40 mm long, 30-35 mm diameter, surface grey-white pruinose (Fig. 2).

*Selected specimens*

WESTERN AUSTRALIA: *R.A. Perry* 3073, the Grotto, Carr Boyd Range, Kununurra, 26.vii.1952 (CANB, NT); *E.C.B. Langfield* 312, Ivanhoe Station (CANB); *J.R. Maconochie* 1127, Middle Spring, Deception Ranges, 20.v.1971 (CANB, BRI, K, PERTH).

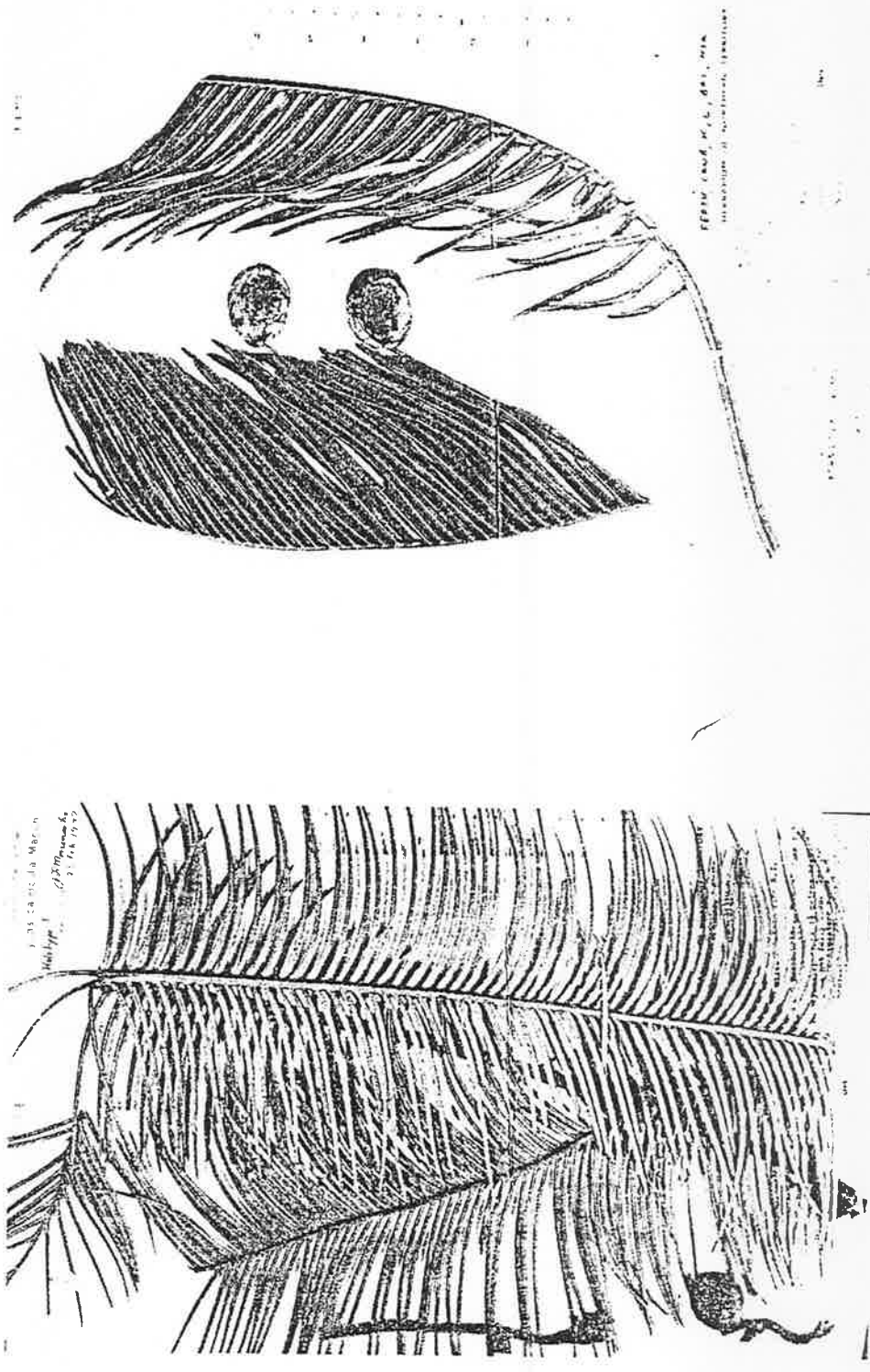


Fig. 1. *Cycas calcicola* Maconochie, holotype. (Maconochie 1314, NT).

Fig. 2. *Cycas pruinosa* Maconochie, holotype. (Symon s.n., NT).