11 SEP 1988

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ASSOCIATED SOCIETIES FOR GROWING AUSTRALIAN PLANTS

INDIGENOUS CYCAD, ZAMIAD AND PALM STUDY GROUP NO. 34

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My grateful thanks to the very few who acknowledged receipt of the data sheet enclosed in the last newsletter, and encouraged by this we are enclosing another in this one.

The photos in this issue are taken by a real active member Irene Champion. She goes at least once a year into the field around the Mt. Surprise area among the gem fields. This cycas which we call "Blue Surprise" was named so by Irene Champion and until we got more botanical data to compare it with other blue foliaged cycas, the name suffices. As no one even in the large society PACSOA, has as yet given any data on the "Glen Idle" cycas, it is quite impossible to judge between the similarities of these two. If any member knows just where mature specimen of the latter is I would be grateful if our data sheet could be used. Bearing in mind that this is the function of this group, not just to sit back and receive information from active members. All I ask, is that you take and use the data sheet if around any cycad or zamiad and then return it to me.

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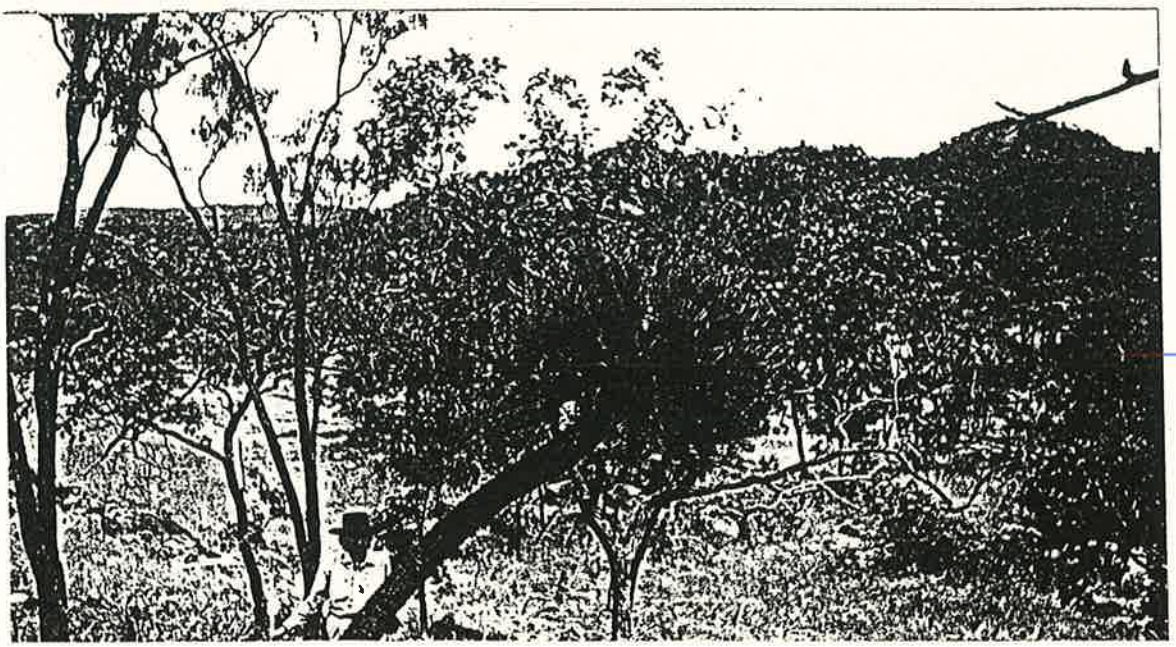
Yearly subscriptions of $4.50 is now overdue since June for at least half of our group. Please correct this at earliest date.

- Len Butt

Cycas "Blue Surprise" 3m high



A BRIEF GUIDE TO NATIVE CYCAD SPECIES AND THEIR DISTRIBITION

BY MARY JANE MORRIS

A study of the distribution of all species of the families Cyatheaceae, Dicksoniaceae, Zamiaceae and Dycadaceae has been made to determine their status in Australia.

The tree fern and cycad families possess unique characteristics. They are interesting groups both from an evolutionary and botanical viewpoint and in that they are widely sought commercially for their aesthetic qualities.

Although most species are not in danger of extinction it is important to conserve families as a whole to ensure the survival of those species which are uncommon. Species may have become depleated through habitat destruction or may naturally be limited due to very specific habitat requirements. A thriving trade will quickly deplete existing natural communities especially of the less common varieties. Thus it is necessary to limit trade in native populations and encourage commercial cultivation.

Hopefully, this report will help in the recognition of those species which need special consideration for their conservation. The information on distribution will be useful for inclusion in the Red Data Bulletin on endangered flora.

CYCADACEAE

The family Cycadaceae has only one genus. Cycas which is confined to northern Australia and does not occur in N.S.W. Schust (1932) recognises eight species. The genus was being revised by the late J.R. Maconochie of the Herbarium of the Northern Territory, Alice Springs. Until more details are available, only a brief guide to the species and their locations can be presented here.

1. Cycas angulata R. Br. - This species grows in the north-east of the Northern Territory from Arnhem Land to Borroloola around the Foolache, Wearyan and Goyder Rivers. It has been collected over the border at Running Waters in Queensland. These are areas of mixed eucalypt woodland.

2. C. basaltica C.A. Gardin. - This cycas is found in the northern Kimberley's of Western Australia. It is frequent in groves and derives its name from the basalt slopes on which it grows.

3. C. cairnsiana F. Muell. - This is a Queensland species collected in the vicinity of Cairns at Stannary Hills, Herberton and south-west near Georgetown. domin (1919) cites it between Lappa Junction and Chillagoe.

4. C. calciocola J.R. Maconochie. - This species grows in limestone

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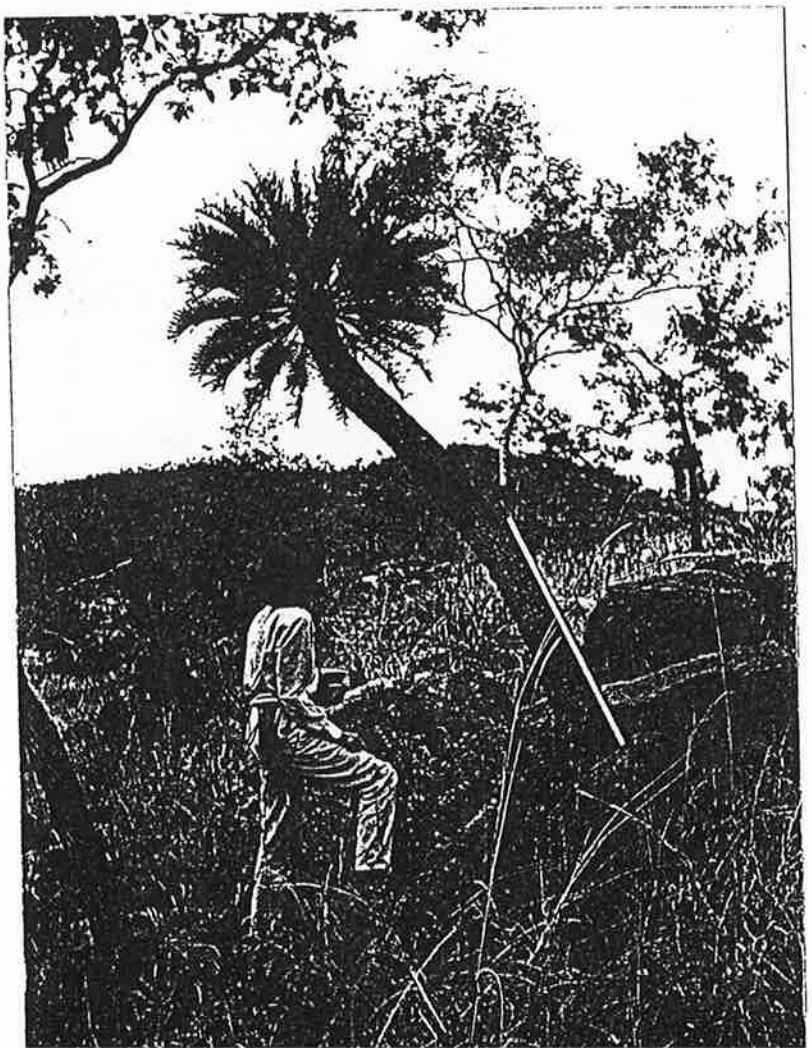
outcrops north of Katherine to the East Alligator River in the Northern Territory. It has been frequently collected amongst limestone boulders 18km north of Katherine and occurs on Bamboo Creek in open forest.

5. C. furfuracea W.V. Fitzg. - A Western Australian species, this cycad grows At Mt. Herbert in the King Leopold Range and is widespread at Bold Bluff in the Kimberleys.

6. C. lane - poolei C.A. Gardin. - Again, a Western Australian species, this cycas grows in the Kimberley district. One collection came from a laterite plain in mixed eucalypt woodland.

7. C. media R. Br. - The common species in the Northern Territory is Cycas media which occurs widely in tropical Northern Australia. Some uncertainty exists as to the correct identification of this species. Thus some specimens may be labelled Cycas spp. aff. media. In the Northern Territory, this species is widespread in the Darwin area, Arnhem Land, Katherine and Humpty Doo and occurs on Melville Island. In Queensland it has been collected over a range of areas including Cooktown, the Paluma Range and Rockhampton area P. Hind (pers. comm. 1978) records C. media from Cooktown, Many Peaks Range, all around Cairns, Byfield and in a band towards the northern sector of Cape York. It appears to inhabitat hilly open eucalypt woodland and is the most frequently recorded cycad.



Cycas "Blue Surprise" same plant from different angle.

Crystal Creek Headwaters.

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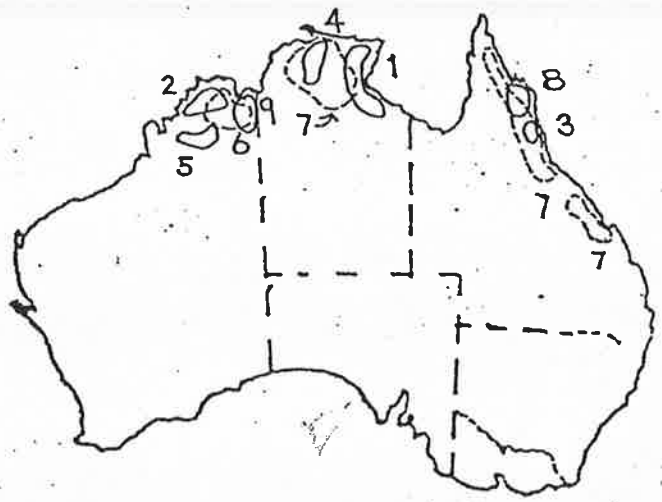
8. C normanbyana F. Muell. - This species has been collected from Queensland, north of Cairns around the Normanby River (S. Jacobs, pers. comm. 1978). A live specimen in the Royal Botanic Gardens is from north of Rockhampton.

9. C. pruinosa - This cycad is a newly identified species from Western Australia and occurs around Kununurra on hillsides and steep cliffs. (Maconochie, 1978). There is a collection from Ord River dam, Carr Boyd Ranges, on rocky scree.

The family Cycadaceae occurs in higher latitude generally arid areas of Western Australia, Northern Territory and Queensland. From records it appears to inhabit dry, open eucalypt woodland. Continuing research on the genus should confirm further distinct species and establish the status and distribution of the family.



Cycas distribution

LIVISTONA MARIAE - PALM VALLEY PALM - by Rod Horner

At one time, Central Australia had a much higher rainfall and carried a different flora. It is believed that about 6,000 years ago, arid conditions set in. Many species that could not cope died out. In small favoured areas, isolated pockets of "higher rainfall" species persist. Palm Valley is a small valley lying between the Krichauf

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and James Ranges. The geology is such that here and in the neighbouring Finke River, there are many springs and an abundance of ground water at a shallow depth. In this area an isolated population of Livistona palms survives.

There are three other isolated pockets of closely related Palms, all 800 miles or more away:-

1. Fortescue River, Kimberleys, W.A.
2. Roper River, near Mataranka, N.T.
3. Burketown, Qld.

The Palm Valley population has adapted to its arid environment in its germination. Many palms from high rainfall areas have a very short seed lifetime.

In Central Australia, we have a wet season from about December to February or March. L. mariae flowers in this period and sets seed. The trees are dropping seed by as early as March, and continue dropping through to as late as November.

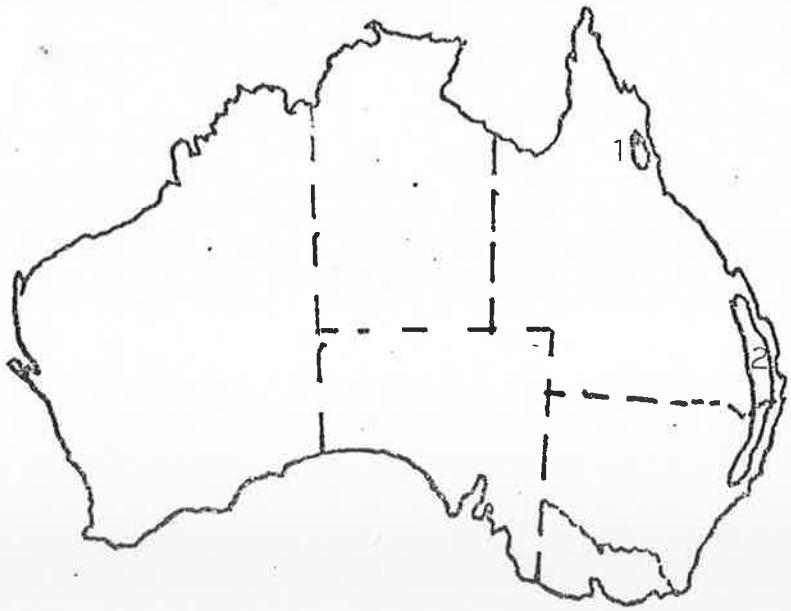
The seed lies on bare sand or river gravel, or is covered by dead fronds etc. The following January or February, when the rain comes, the creek may flow. The seed is washed down and buried in the sand and will then germinate. If the site is in an area of natural seepage, the seedling will continue to grow. Otherwise it dies as the sand dries out after the rains have finished.

Under nursery conditions, if seed is embedded on the surface of a sand tray it will have 50% germination within a few weeks, and the rest will slowly break dormancy over the next year or two. However it the seed is completely covered, say by an inch of sand, it will have about 100% germination within a few weeks.

Darkness may be the factor in breaking dormancy. High germination rates were obtained by placing seed in a petrie dish, with moist blotting paper, and putting the dish at the back of a kitchen cupboard.

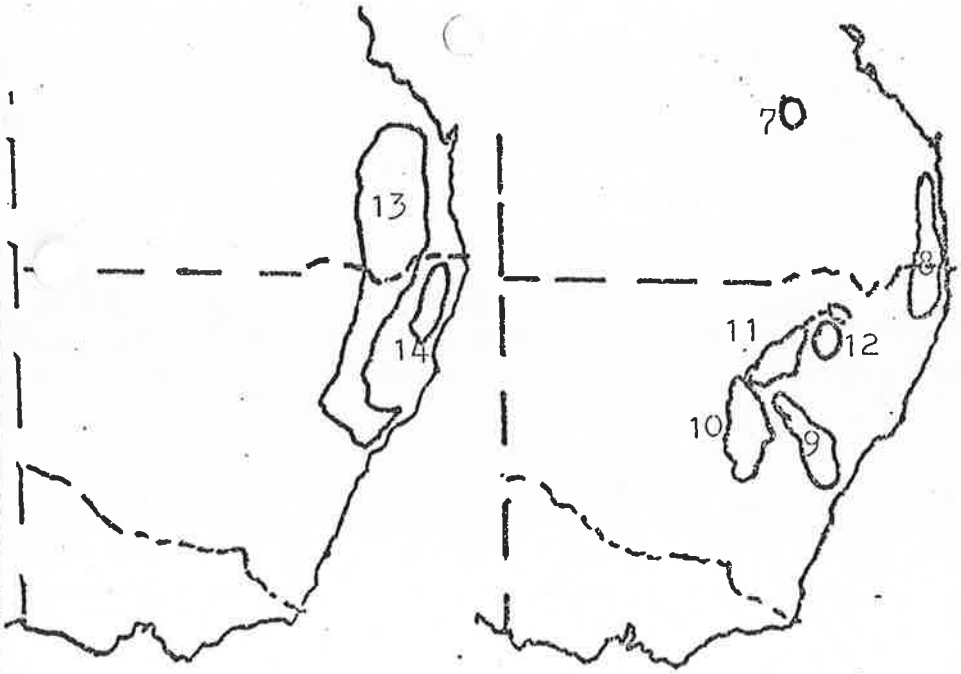
If the seed responds simply to high moisture, they could germinate on the surface of the creek bed. Hot weather could very quickly dry out the surface sand of the creek bed and dessicate the freshly germinated seeds. If they remain dormant till they are buried by the running creek, they stand a greater chance of survival.

CYCAD DISTRIBUTION IN AUSTRALIA.



1. Lepidozamia hopei
2. Lepidozamia peroffskyana

1. Macrozamia moorei
2. Macrozamia riedlei
3. Macrozamia macdonnellii
4. Macrozamia miquelii
5. Macrozamia communis
6. Macrozamia diplomera



7. Macrozamia platyrachis
8. Macrozamia lucida
9. Macrozamia spiralis
10. Macrozamia secunda
11. Macrozamia heteromera
12. Macrozamia stenomera
13. Macrozamia pauli-guilielmi
14. Macrozamia fawcettii

1. Bowenia spectabilis
2. Bowenia serrulata

Compiled by Shane Mac Leod.

Cycas Data Sheet

1. Identification. _____.

2. Habitat. _____

_____.

3. Trunk. Ht. _____ Dia. _____ PLB. _____ Branching. _____

Suckering _____.

4. Female Cone. Sp./crown _____. Ovules/sp. _____ ave, _____ max.

Ht. of sp. _____. Seed Color _____ orig. _____ ripe.

5. Male Cone. Ht. _____ Dia. _____ (1/4), _____ (1/2) _____ (3/4).

Peduncle ht. _____ Dia. _____, Spor. rows _____ horizontal

_____ vertical.

6. Leaves. No./flush _____. Length leaf _____, rachis _____.

Spines _____ No. per in. _____. Spines located _____.

7. Leaflets. Pairs/leaf _____. Length at top _____ middle _____

bottom _____. Decurrent _____. Midrib _____.

Color/luster _____.

8. Other. _____

_____

_____

_____

_____

_____

_____

_____

_____

Contributed by _____

_____