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Dear Members,

This is our last newsletter for the year. Merry Christmas and a Happy New Year to all.

Thanks to Irene Champion for the Introduction to 'Cycas of Australia', a third of what she gave was edited out by the publishers, however I consider that it was worthy of inclusion. It explained her second journey in 1988 to Mt. Surprise and the finding of larger specimens and also the discovery of a suckering stump of Champions' Blue Surprise.

Latest reports from a botanist suggest that this could be the true'type'species or a better form of Cycas Cairnsiana. My apologies to Irene Champion whose slides were in my opinion better than those included in this publication. I consider this form of cycas to be the deepest blue of all the blue forms.

- Len Butt

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A great many interesting facts are imerging regarding the real accessibility of the various cycadales to livestock and just how the poison problem really is. In the case of Macrozamia moorei, this plant could be an ideal test case in the fight to convince authorities that our precious ancient plants are only dangerous under certain conditions and the general structure and growth of the species makes it highly improbable that it would be a menace to well managed cared for stock.

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The large female cones are heavily armed with green spines at all stages from infancy to maturity, and are generally surrounded by larger fiercer thorny spines that form on the petiole from the base of the frond to the commencement of the pinnules on the rhachis.

As the old fronds and mature fronds contain only minimal amounts of the plant's toxins the poison danger would exist only at a time when natural wildfire or grazier managed fire had destroyed these fronds and spines giving access to wandering beasts to the exposed seed and the newly emerging and toxin filled soft new fronds.

In most situations only scrubber (wild) cattle are the beasts most likely to be affected. After having this explained many farmers have fenced off areas heavily wooded with macrozamias, stopped regular burnings and rescued affected beasts before they died of starvation, as the poisons are in the creature's joints and it does not affect the meat. In the case of cows, they have been known to still bear good calves.

Like other members of the family genera, such as Cycas, the new mature and hardened fronds have a high commercial value if collected and sold to the florist trade, to be used in the manufacture of wreaths and as material for our many floral artists. This is no 'pipe-dream' as it is a practiced trade between parts of S.E. Asia and America. The landscaping potential of just about all our native cycadales is very good as in their own environomental zone they fit perfectly, and easily augment the known palms in the area. Possibly this has been the salvation of many species to the present day. However, the realisation of this has had it's drawbacks.

First of all because certain species have been pillaged from land for commercial gain even before they can be scientifically assessed, and although the taking and distribution of their seed is necessary for the plants survival, the removal of large populations of plants is not. My advice on seed growing is to remember that palms also have slow germination, and the same methods of speeding growth by using richer soils and better growth nutrients applies also to the cycadales.

CYCAS ARMSTRONGII.

OUTSIDE DARWIN. NEW LEAF SHOWING.

BOWENIA, AUSTRALIA'S PSEUDO-FERN

by Len Butt

Bowenia, at the time of writing this, consists of two botanically described species in the family Zamiaceae, with the possibility that a third species could eventually be forthcoming. Occuring in coastal rainforest, as well as open forest, they have a marked similarity to, on one hand, the African Stangeria, and also several species within the genus Zamia from Mexico, Florida and the Panama isthmus. Here in Australia the two already recognised, Bowenia serrulata (Bull & Chamberlain) and Bowenia spectabilis, (Hooker) are respectively given the common names of Byfield Fern and Zamia Fern.

Dr. Laurie Johnson in describing the genus states that it possesses more advanced features than the other Australian genera, and is a very distinct genus, quite different from any other.

My opinion also,is that a close scrutiny and up-date study is needed on the genus even perhaps to assessing it as a separate family to the known zamiaceae, with perhaps the exception of some of the Mexican zamia. Bowenia could only be distantly related to typical Macrozamia, for example, although it has been seen that some species of Macrozamia and even Stangeria have their pinnae dichotomously divided, the fronds being pinnate and forking. What is different in Bowenia is that the actual rhachis branches and this does not apparently happen in other genera.
To see both of the species full size in habitat is to realise this fully.

In both instances when I viewed Bowenia spectabilis at Paronella Park, Innisfail, and Bowenia serrulata at Stony Creek, slightly south-west of Byfield, the plants were mature and extremely large. The fronds appeared at the ends of 1.5 metre petioles, seven in number, each rhachis branching dichotomously fan-like, and that some had seven branchlets all carrying shiny green entire pinnae in a bipinnatifid semi-circular fan. In this case, at Paronella Park,up to 1.25 metres. At Stony Creek the species serrulata was growing amongst a planted pinus plantation and large plants had petiole and rhachis up to 2 metres, in many cases. The same rhachis branching was also observed here. Seed, apparently cleaned by marsupials was quite abundant around the Stony Creek plants as were many seedlings.

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In Paronella Park, as well as many male cones being evident around some plant caudices, a large number of female cones, some splitting to show purple seed were evident on the edges of a lawn area quite near parent plants. Although it has long been stated that B. serrulata carries many more branching pinnules than are evident in B. spectabilis, this was not the case with both species examined as mature plants in habitat.

Like so many of our indigenous flora, variability seems to be quite the order of the day, even with the Bowenia. Hooker must have viewed that form of serrulata that exists on the Atherton Tablelands when he first did his studies with what he believed was our only species Bowenia spectabilis. This is probably why he mentioned it merely as a variety of spectabilis.

However the differences between the species are profound apart from the obvious entire and serrate leaf pinnae. The elongate turnip of B. spectabilis differs considerably from the ovate nearly globose caudex of B. serrulata regardless of where they are found. Apparently and according to Robert Tucker's informants B. serrulata also occurs up in the Cape York also, which makes it the most widespread species in its own right. That is until the possibility arises there will be a third species named. I viewed on Mr. Shepherd's "Hidden Jungle" property at Mission Beach a form of Bowenia spectabilis, with much smaller seed than the type and pinnae of a more linear form also. Add to this photos, I have seen of the Atherton Tablelands B. serrulata which is remarkably similar in seed size and growing format except for the serrate edge. Collected and sown serrulata seed from a Forestry Byfield source has produced two distinctly different serrated leaf forms for me, proving, to my satisfaction at least, that if there are only two species to be recognised, they each vary considerably within their own species. When considering how the exotic zamia, Z. furfuraceae has rapidly gained popularity here in Queensland, it stands to reason that given the right publicity, seed grown Bowenias could fill the same role. They do very well in cultivation in tropic zones and can grow to be a very attractive potted plant, maturing to cone bearing capacity in a few years.

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Robert Tucker, who is a plant taxonomist of high potential has grown both species in Weipa, North Queensland, and states that as a container grown specimen they are attractive and convenient, having a long life indoors in the tropics. His potting mixture consists of a loamy soil consisting of humus and well rotted manure.

Here around Brisbane I have several in my garden growing successfully in various situations of mottled sunlight, some still in 200ml containers with fronds of 1 metre long. I have found that a sandy loam augmented with humus does best here. Because seed grown plants grow so quickly, especially if repotted occasionally it is surprising that they are not already as popular in nurseries as the zamia furfuraceae is becoming. Scale insects of a dark hard shell variety seem to be their only trouble. Although diluted oil sprays well eradicate these, a better method is to keep a vigil for their ant hosts and spray these with pyrethium.

In the early seventies the Byfield Fern was not in cultivation. Indeed the fronds were mainly used as decoration on butcher shop walls. Even then, the layman and also most nurserymen regarded them as ferns. Even in the known habitat of the central Queensland coast species the attitude amongst residents of Yeppoon was that their Byfield Fern would not cultivate in any other place. Considering also the no care attitude of the Department of Forestry it is obvious they believed this also to be so. Entire fields of Bowenia serrulata were ploughed under in their hundreds to make room for the new plantings of pinus caribeae. As a forestry worker and TAFE teacher it took me nearly ten years of constant suggestions in the right places, till Forestry finally began Bowenia seed collections in the early eighties.

Although Bowenia spectabilis does not grow in the same bracken like colonies in northern Queensland, it is to be hoped common sense ecology will also make this valuable species a protected part of our heritage . Then who knows the day may finally break when all the Australian cycadales are finally given the important place in our traditional flora they deserve.