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MACROZAMIA SECT. PARAZAMIA PAULI GUILIELMI..

In habitat and cultivation - Len P. Butt
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Here is a section of the species Macrozamia, that deserves greater mention by botanical taxonomists into this plant family. Its nearest neighbour is the newly classified M. lomandrioides which has a very similar growth habit, but none of the real elegance of the former zamiad. Indeed in many ways P. lomandrioides has marked similarities in underground caudex, general twists to the rachis and coning. P. pauli guilielmi does not to my knowledge, however, grow quite as large in its caudex sizes and has an entirely different rachis shape generally. Again mostly because of similaugeological terrain the P. lomandrioides was for years passes over as being a form of the other. That David Jones recognised the differences and botanically described gives lomandrioides more tangerable status, but as a collectors plant the type pauli guilielmi has better symmetry, and eye appeal and at least in my opinion rates as high as Bowenia serrulata and many of the exotic diminitive zamias as potted plant for cultivation.
In habitat, this little zamiad is as maligned as its bigger cousins, being given the name of "twisted ricketts weed", by many local farmers. However much of its habitat, in my opinion, is inaccessible to cattle, although at an earlier date it may have been prevalent on dairy country. Present stands are located on Fraser Island in National Park territory. While on the mainland its terrain is between Rainbow Beach to possibly Hervey Bay. Around Gympie in Forestry Plantation Reserves, the little zamiad was always in abundance growing as understorey in the Pinus Elliottii forests mainly protected because officials did not recognise it or care. Regular Forestry burn off would only have accounted for the top fronds as the caudex is subterranean.
As much of its wild habitat is now under threat by real estate development is to be hoped that new home owners in the Tin Can Bay/Rainbow Beach areas will recognise its potential as a potted plant and if it appears on their block treat it as such, or leave it to grow naturally.

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To grow it at its best, a very deep pot is needed to accommodate the caudex, so in a coning size plant a depth of say 40 cm's.would suffice. Perhaps also a top diameter of 30 cm. would fit the largest of them.
To make a similar growing mix as it enjoys in in nature, consider what this is and where it grows.
Mostly the soil is very sandy a fawn yellow underlay with a grey white crust. Often this zamiad occurs amongst very sandstone rocks also, but although natural specimens have one to three parsnip like tap roots.
Grown from seed or from developed caudex, a recommended mix is coarse, sharp river sand thoroughly washed to remove fine particles, hammer-milled pine bark that is fine graded then composted with a little urea, and an addition of coarse perlite or coarse diatomite to about ¼ of the volume.
Seed from the small zamiads are tested for viability by the flotation method, the sinking seed being believed to be the only one viable. Sometimes, however, the embryonic contents have merely shrunk back from the outer case and this makes the seed float. If this is the case, the particular seed can still germinate later.
If the fruit or coating is first removed when seed is fresh, I have found that soaking the seed in indolebutric hormone at the rate of a half teaspoon per litre, of rainwater for 48 hours greatly improves the time of germination.
Many nurserymen also use a gibberalic acid wash instead with good results.
Getting back to the aesthetic appearance of P. pauli guilielmi a well grown potted specimen will hold its own on any horticultural bench against other cycadales showing. Good correct labelling is essential, as many present day judges would fail to recognise it as a cycad. In non-technical language the stems or rachis are mostly erect growing, I have observed anything from two to five in habitat specimens, rachises closely crowded emerging from the apex of the caudex, very strongly twisted about every 7.5 cm. (3 inch) and in a large one metre length frond, the twists can be ten in number. The petioles are broad at the base, say 2cm's. keeled on one side flat on the other. The twists about 360 degrees, mature pinnae extremely thin and linear, Pale to Medium green, with the typical cream base gland of most of the Macrozamias.
The whole arrangement is plumose (featherlike) the erect whorl of pinnae soft and slightly recurving at their tips. Presenting a very pleasing effect.
While researching an urbanised area near Tin Can Bay with a couple of very dedicated members of a study team, I found a plant carrying female cone and ripe seed growing near a road.

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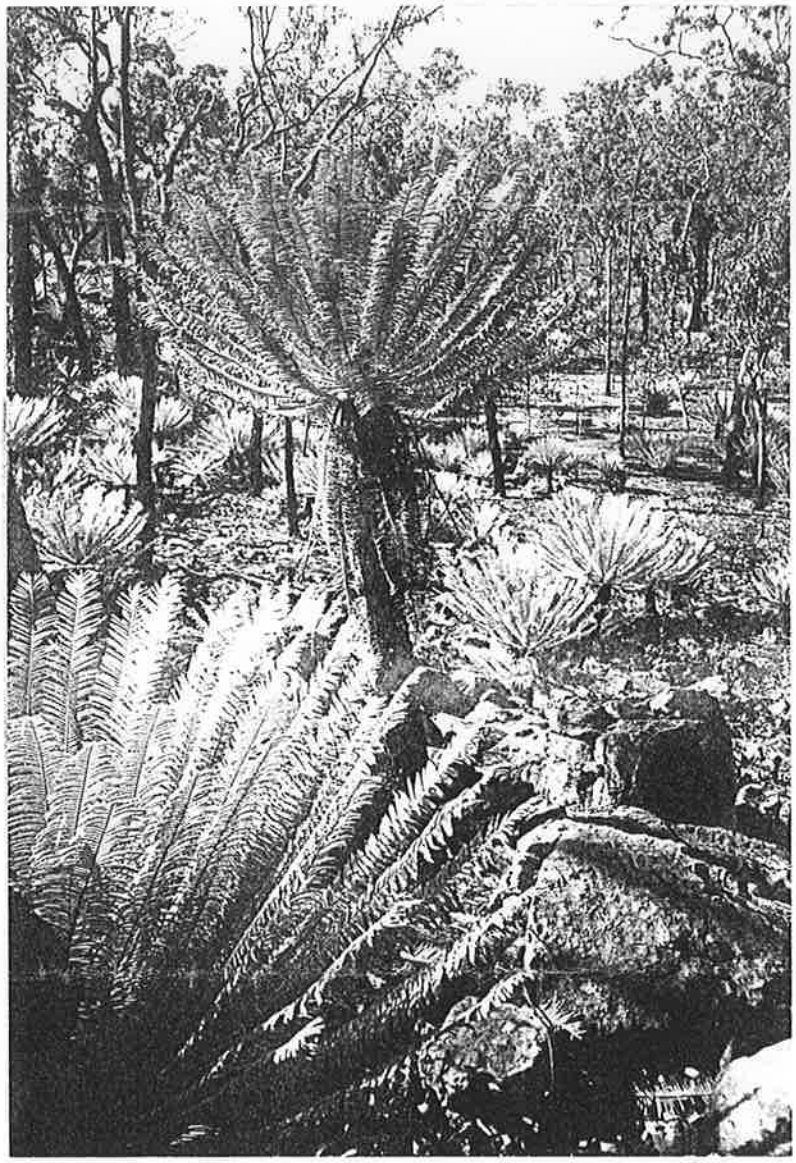
The resultant photo is in my booklet on Zamiaceae 1991. What was neglected to say, was how very interesting the surrounding flora was, and in open wallum how typical of where P. pauli guilielmi is found. White crusted sandy loam mostly growing flush up against small indigenous flora such as Callistemon or even the very small xanthorrae that is prevalent there (could be X. macronema). The habitat is a veritable paradise of springtime wildflower material.



cycas calcicola, Litchfield park,
Northern Territory

The 'Wait-a-While' Climbing Palms I Have Known

CALAMUS, THE QUEENSLAND RATTAN

Len Butt,
Leader, Palm Study Group.

Ever since reading Ion L.Idriess many years ago, I have had a fascination for the 'come-back-quick' rambling palms of his Australian stories. Idriess talked quite a lot of its dangerous thorns, its tendrils in the rainforest that would whip off the hat or damage the eyes of the unwary.

Also, he mentioned that in many species the dead stems were used by north Queensland Aborigines and Kanaka islanders to make dilly bags and carrying baskets. Knowing that this is quite an industry in the Indonesian groups above Australia and probably in all areas of Polynesia, it is easy to assume that the climbing palms were used similarly here.

To this day the overseas rattan canes are used as a punishment tool. As art and craft shops are now a big thing in north and south Queensland, one wonders how much Queensland rattan is being used, and if not, why not?

The species, *Calamus muelleri* accredited to Wendl & Drade, is named for that outstanding botanist from Victoria, Baron Ferdinand von Mueller. Although it has only few stems to each plant, it grows into dense thickets, thus giving the impression that it is very multi-stemmed. The climbing tendrils from the apex of each stem are thin, strong and whiplike. These flagella bristle with backward curving spines and act as aids to the vigorous

CALAMUS, THE QUEENSLAND RATTAN (continued).

climbing ability of this palm.

The 'wait-a-while' name is obvious. Because this small fan-leafed climber has many hooked spines also along the rhachis and minute bristle hooks even on the veins of the pinnae, there being approximately 12 to 18 to each small leaf, I am informed that this palm was also used as a hunting commodity by the local aboriginal tribes, obviously for fishing or for barbing their spears.

The climbing flagella become an inflorescence and the small greenish flowers are then followed by round cream fruits.

Although I prefer other varieties and species in cultivation, *C.muelleri* will make an excellent shaded patio plant or indoor plant while young, as it tolerates a low light situation, and can be very attractive if the flagella are removed. In the rainforests of the Lamington Plateau and into upper New South Wales, this palm is a formidable understorey. It also extends into the D'Aguilar Range to perhaps the Maleny district.

Other Calamus of note in Queensland are *C.aruensis* (Cape York), *C.australis* (Atherton area), *C.caryotoides* (north-east Qld. rainforests), *C.hollrungii* (Mission Beach to Cape York), *C.moti* (Atherton to Mission Beach), *C.warburghii* (Cape York) and *C.radicaulis* (Cape York and mountain height areas), all according to David Jones' Bsc, Dip.Hort. "Palms in Australia".

As I have not studied most of these, except for the magnificent *C.moti*, this article will now only cover this species, one that I think would go well as a landscaping feature in this State.

Although the understorey Calamus beneath the Tully to Mission Beach *Licuala ramsayi* is often thickets of *C.caryotoides* and *C.radicaulis*, in the denser rainforest and along the streams and creeks the most outstanding, for sheer majesty and superior foliage, is the *C.moti*.

C.moti is accredited to Bailey. To see it clothe a palm or tree on a break in the rainforest is to realise this golden-thorned rattan is a photographer's joy and an outstanding habitat palm.

The large green arching leaves, also bristling with tiny green hooks, can have up to 100 leaflets and be 1.5 metres long on the rhachis. The well spined flagella is often branching and carries greenish-cream flowers and fleshy cream fruits. I understand that native birds dine well on the fruit and, viewing it, I found it a very attractive pendulous cluster, my close-up encounter being in the Mission Beach area.

The long climbing stems of this species are closely thorned with 2cm yellow, backward curving spines, giving the stems a golden appearance. Quite obviously the Cape Aborigines have used the hooks of these plants as fish catchers on line and on fish spears, and the thicker dead dry cane stems as rattan for weaving, for which purpose it is ideal because of its flexing nature.

In cultivation, as with *C.muelleri*, young plants make splendid indoor subjects, requiring however more light than does *C.muelleri*. Again, the whippy flagella must be removed and, in juvenile seedlings, care must be taken to tell observers not to handle the palm.