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A.S.G.A.P. CYCAD, ZAMIAD AND PALM STUDY GROUP
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Well by this you should all have the new cycas issue in "Aust. Plants" and be admiring Bill Payne's handiwork and I hope digesting his comments on conservation. Please send a few opinions and possible notes on the cycas effort, it is not the be all and end all of things but I believe another step in the right direction. Note that the photo of C. brunnea is the same shot by Stallard in our book labelled angulata. Now this appears as brunnea as location of habitat given at time was where brunnea is. It was once confused with angulata.

The contents of this issue are from Mooreana, and dedicated to the work now being done by John Dowe who has ably stepped into the shoes of the late Robert Tucker, and under whose guidance the Palmetum continues to go from stregth; I was up there last August, and can only commend what is being done.

Looking forward to the day Brisbane has one also (or is this "pie in the sky" wishful thinking) I hope not.

This newsletter is still in the process of seeking permission to use the data and notes of Paul Forster and David Jones re the newly named seven parazamia studied in lower inland Queensland, (Darling Downs areas).

Another new member to join us is Mr. Steve Mole of 185 Shakespeare Ave., Yokine, W.A. Also a special welcome to the ITHACA AND GROVELY units of Queensland TAFE.

Please try to make this Year's subs all within the month of June, this ensures a smooth running newsletter ..... Len.

Archontophoenix tuckeri: A NEW PALM FROM NORTH QUEENSLAND

Mooreana 4(3): 91-94. 1994

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Summary

In September 1994, four new species of *Archontophoenix*, *A. maxima* Dowe, *A. myolensis* Dowe, *A. purpurea* Hodel & Dowe and *A. tuckeri* Dowe were described for the first time (Dowe & Hodel 1994). The latter of these was named in recognition of the contribution made by Robert Tucker, designer of The Palmetum, to the botany of palms and the Pandanaceae in Queensland. This paper provides details of the palm and its habitat, and also provides brief biographical notes on the man for whom it was named.

Introduction: *Archontophoenix tuckeri* (Fig. 37) is a tall slender palm not dissimilar in gross appearance to the commonly cultivated Alexandra palm, *A. alexandrae*. Upon closer examination, there are a number of features which readily separate it as a distinct species. Compared to *A. alexandrae*, it has an overall smaller stature, an elongate lime-green crownshaft, leaves which are held more or less flat rather than twisted to a vertical orientation, leaflets which are slightly falcate rather than parallel-linear, a compact inflorescence which branches to only three orders as opposed to four, and much larger fruit to 2.5 cm long rather than to 1.4 cm long (Fig. 38). Fruit structure differs by having a layer of thin tightly packed fibres which overlay very broad flat fibres which cover the endocarp as opposed to lacking the thin fibres and having a layer of moderately broad fibres as in *A. alexandrae*.

Distribution and habitat: *Archontophoenix tuckeri* is restricted to Cape York Peninsula from Bamaga in the north (10°40'S) to southern McIllwraith Range in the south (14°00'S). It mainly occurs close to the coast in rainforest or riverine habitats where rainfall is plentiful or where moisture is available throughout the year from soaks or perennial streams. The palm may reach the canopy in low forest or dominate gaps and open areas in or near streams, but most often is a sub-canopy element. The highest altitude noted for this species is *ca.* 500 m in the headwaters of the Pascoe and Claudie Rivers area, southern McIllwraith Range. At this altitude it is confined to stream edges. Only in the lowlands in swampy areas do large colonies occur. Soil types on which it occurs are varied ranging from rocky alluvium in granitic areas to silica sands and even deep black alluviums adjacent to mangroves.

Cultivation: *Archontophoenix tuckeri* has been brought into cultivation under name

Archontophoenix', 'Rocky River *Archontophoenix*', 'Claudie River *Archontophoenix*' and 'Bamaga *Archontophoenix*'. Performance in cultivation, at least in Townsville and others parts of tropical Australia, has been satisfactory, although growth is slower than the Alexandra palm. In cooler climates, such as southern Queensland, performance has been very disappointing with some growers reporting the death of young plants during cold weather.

Robert Tucker (1955-92)

Robert Tucker has been recognised as an innovative landscape designer, whose work for the City of Townsville, in particular The Palmetum, has received national and international praise. Complementing his success in that field, Robert possessed an exceptional talent as an illustrator, as seen in his drawings of Pandanaceae, some of which have appeared in botanical

A native of Adelaide, South Australia, Robert was a self-taught artist and botanist. With many years spent in the field, he developed a unique understanding of Queensland's tropical flora and its ecology through direct contact and experience.

Archontophoenix tuckeri was named to honour Robert's contribution to Queensland botany, as well as acknowledging that he was the first person to recognise that the species was indeed distinct (Tucker 1988).

References

Dowe, J.L. & Hodel, D.R. (1994). A revision of *Archontophoenix* H.Wendl. & Drude (Arecaceae). Austrobaileya 4(2): 227-244.

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TAXONOMIC NOTES ON *Caryota albertii* F. Muell. - THE AUSTRALIAN FISH-TAIL PALM

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Summary

Caryota albertii F. Muell. is proposed as the correct name for the Fish-tail Palm that occurs in north-east Queensland.

Taxonomic history: The first mention of *Caryota* in Australia was that by Mueller (1860), when he included *C. urens* L. in a list of plants which had distribution in both Australia and India. He used the name again in Fragmenta Phytographiae Australiae (Mueller 1866). Mueller, in 1874, corresponded with the German palm taxonomist Hermann Wendland, suggesting the name *C. Alberti* (sic.) for the Australian species. Wendland and Drude (1875) subsequently published the name and description in Linnaea 39. Beccari (1877) included *C. albertii* as a synonym for *C. rumphiana* Mart. var. *australiensis* Becc., a subspecies which he created for the Australian form. Bentham (1878) listed the palm as *C. rumphiana*, citing *C. albertii* and *C. obtusa* Griff. as synonyms. Mueller (1889) subsequently followed Bentham's taxonomy, listing *C. rumphiana* in his Second Systematic Census of Australian Plants. Recognising it as a subspecies, Bailey (1897,1909) listed it as *C. rumphiana* Mart. var. *albertii* Bailey. He did not mention Beccari's 1877 name *C. rumphiana* var. *australiensis*, either having not been aware of it or considering his newer name to be a correction. More recently, Dransfield (1974 p.87) considered that "the large solitary *Caryota* of the Moluccas" should be referred to as *C. rumphiana* and that some of the named subspecies may be distinct. Jones (1984 p.111) lists *C. rumphiana* for Australia, whilst noting that *C. rumphiana* var. *albertii* had been reduced to synonymy as "there are no clear distinctions between the palms found in Australia and those found overseas".

Taxonomy

Caryota albertii F. Muell., in H.Wendland and O.Drude, Linnaea 39: 221. 1875 (as *C. Alberti*); Mueller, Fragmenta Phytographiae Australiae 9: 196. 1875.

C. rumphiana var. *australiensis* Becc., Malesia 1: 74. 1877.

C. rumphiana var. *albertii* Bailey, Queensland Agricultural Journal 1(3): 233. 1897; Bailey, The Queensland Flora 5: 1681. 1902; Bailey, Comprehensive Catalogue of Queensland Plants: 573. 1909.

[*C. rumphiana* Mart, in Bentham, Flora Australiensis 7: 144. 1878; Mueller, Second Systematic Census of Australian Plants 1: 202. 1889.]

[*C. urens* Mart., in Mueller, Essay on the plants collected by Mr Eugene Fitzalan during Lieut Smith's Expedition to the estuary of the Burdekin: 18. 1860; Mueller, Fragmenta Phytographiae Australiae 5: 49. 1866]

Type: Australia. COOK DISTRICT. Cape York, *E. Daemel s.n.*, undated (as *C. urens*) (holo: GOET; iso: MEL [MEL 67693]) .

Description: The palm collection maintained within the Townsville Botanic Gardens includes a number of wild collected specimens of *C. albertii.* These include mature plants in Queens Gardens and Anderson Park Botanic Gardens, and immature plants in The Palmetum. Accession details are as follows: Queens Gardens, #022-81-003, collected by R. Tucker s.n., 9 Nov 1980 from Iron Range (Fig. 39); Anderson Park Botanic Gardens, accession #044-81-001, collected by R. Tucker s.n., 7 Dec. 1981 from Steelwire Bridge, East Claudie River, Iron Range (Fig. 40); and The Palmetum, #041-86-033, collected by R. Tucker s.n., undated (1985?), exact location not recorded but from Cape York Peninsula.

Palm to 17 m tall; *trunk* to 30 cm DBH, with internodes widely spaced, white becoming grey with age, densely white tomentose in portion below the crown; *leaves* to 7 m long, diamond-shape in profile, to 5 m wide, ±held horizontal; secondary rachises ± evenly arranged along primary rachis though closer together in the mid- to apical portion; leafbase with dense, persistent, white tomentum; petiole terete in cross-section, to 40 cm long, with dense, white, persistent tomentum; pinnules cuneate with praemorse apices; *inflorescence* to 1.2 m long; prophyll, in bud, to 60 cm long, arcuate, tubular, apically pointed, densely tomentose with interspersed cream and brown scales, deciduous; lower peduncular bract to 50 cm long, similar to prophyll, also deciduous; additional peduncular bracts to 5, spirally arranged, persistent; peduncle terete, short; rachillae pendulous, flexuous; *flowers* in triads; staminate flower, in bud, symmetrical, to 20 mm long; sepals to 4 mm long, thick, tightly imbricate; petals thick, spathulate, to 15 mm long, apically valvate, opening moderately at anthesis. Stamens 22-25 (*ca.* 36 cf. Wendl.& Drude 1875), not as long at petals; anthers to 8 mm long, basally attached, linear, latrorse; filaments to .5 mm long; pistillate flower, globular; sepals to 3 mm long, imbricate; petals to 5 mm long, valvate, connate basally; *fruit* to 22 mm long by 28 mm wide (17 mm by 23 mm, cf. Wendl.& Drude 1875), stigmatic remains apical, passing through green to dull yellow, to deep dull crimson; calyx persistent; epicarp smooth, mesocarp thin with few thick fibres; seed, one-three per fruit; seed in two/three-seeded fruit, hemispherical with one side tapered to a point; in one-seeded fruit, subglobose; hilum basal, surface with anastomosing shallow grooves, brown/black metallic sheen; endosperm deeply ruminate; embryo basal.

Available specimens: Queensland. COOK DISTRICT: Iron Range, 27 Jul 1949, *Flecker 13152* (QRS); TR 14, Rocky River catchment, rainforest, 10 Sep 1073, *Hyland 06840* (QRS); Claudie River, rainforest, 29 Jun 1972, *Irvine 00220* (QRS); Kennedy Rd near Iron Range Rd, 12°40'S, 143°20'E, Aug 1965, *Gittens*

1069 (BRI); Kennedy Rd near Junction, 12°45'S, 143°15'E, Aug 1965, *Gittens s.n.* (BRI); Somerset, 10°40'S, 142°30'E, Jun 1897, *Bailey 70* (BRI); Between Jardine River and Cape York, 10°S, 142°E, undated, *Whitehouse s.n.* (BRI); Claudie River area, 12°40'S, 143°10'E, Nov 1956, *Webb 3255A* (BRI); Somerset, 10°40'S, 142°30'E, 1897, *Bailey s.n.* (BRI).

Distribution and ecology: *Caryota albertii* is restricted to subequatorial monsoonal north-eastern Cape York Peninsula from Cape York south to the MacIlwraith Range, usually east of the Great Divide and at altitudes below 600 m. Preferred habitat is in lowland rainforest on various soil types, on the flats or on steep slopes - also in semi-deciduous vine forests, broad-leaved swamp forests, brackish and freshwater mangroves, and riverine closed forests. Distributed as scattered individuals or small to large groups, though never forming stands; most common around Bamaga and Iron Range in rainforest (Covacevich & Covacevich 1978; Tucker 1984, 1988).

Discussion: The description of many subspecies of *C. rumphiana* is certainly an artefact of limited collections and inadequate herbarium specimens, rather than a biological reality, though the difficulties of separating such morphologically similar plants as occur in *Caryota* must not be overlooked. Dransfield (1974) concluded that, despite many names, there is only five, possibly six, distinct species of *Caryota* in Malesia. Hahn (pers. comm.), in his ongoing revision of the genus, conservatively proposes that there may be less than that, and that *C. rumphiana* is the species found from the Moluccas, through New Guinea to the Solomons and Australia. He concedes that the inclusion of subspecies of *C. rumphiana* may be appropriate, but presently the situation remains unresolved. Whether the Papua New Guinea and the Solomon Islands *Caryota* - which have forms closest to and almost indistinguishable from *C. albertii* - should also be placed within the Australian taxon has yet to be investigated.

Conclusion: Upon examination of herbarium specimens in BRI, GOET, MEL and QRS, and of live plants collected from Cape York Peninsula which are growing in Townsville Botanic Gardens, it is apparent that the Australian *Caryota* is sufficiently distinct from *C. rumphiana* to reinstate it as a distinct species and for it to retain the name *C. albertii*. In comparison with *C. rumphiana sensu stricto*, primary differences include: a more horizontally orientated leaf; more symmetrical arrangement of secondary rachises, with less (frequently absent) of an aggregation in the proximal portion of the leaf; smaller staminate flower, lower stamen number and preponderance of two-seeded fruits.

References

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