



Tropica

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4. A Visit to The Caldera

Fred Moody

Photos: Fred Moody, Ian Edwards

Following publication, of *The Palms of Madagascar*, then the definitive word on Madagascan palms, by John Dransfield and Henk Beentje in 1995, there has been an endless quest by palm growers around the world to collect as many species of *Dypsis* as possible, as most plants in this group are of suitable dimensions for the home garden. I regard myself as one of the devotees.

Australian interest has been fuelled by such local identities as Bill Beattie from Cairns and Clayton York of Utopia Palms near Nambour. Both of these nurserymen have made numerous trips to Madagascar to search for seed of the rarer species. Bill in particular was a driving force behind the (now defunct) Far North Queensland Palm and Cycad Society, (FNQPACA), and also the author of many articles about various *Dypsis* species in journals both in Australia and overseas.



Ian meets Robert Ritchie and Eileen

In Sydney there are only a few people with whom I can discuss the experiences of growing 'Maddy' palms and their identification, so I often turn to the pages of back issues of journals to which I have subscribed over the past 25 years. Whilst immersing myself in the back issues of FNQPACA newsletter *Wodyetia*, I came across a very interesting cover photo of *Dypsis* sp. aff. *ceracea* (also known as *Dypsis* "laffa" or "laafa") with its emerging maroon coloured spear. As I have a couple of these palms, I felt the need to read on. The article was titled *Inside the Caldera: Notes from 'Sundari'* by Robert Ritchie. Where on earth is the Caldera I thought and so read this very well written and informative article.



Dypsis "Laffa"

5.

The Caldera in question is that of the 20-30 million year old Mount Warning Shield Volcano, or the valley area surrounding Mount Warning in northern NSW. The lava flows of this volcano are said to reach as far south as Ballina and Lismore, to Kyogle in the west and the Lamington Plateau in the north. Oh, and one hundred kilometres out to sea. The soil in the area is for the most part very fertile and is combined with an average annual rainfall of 2,000 mm. The land supports a vast array of native rainforest flora.

After reading this article (in November 2008) I phoned Ian Edwards, whom I knew to be another member of FNQPACA, and suggested that he should read the article. And so some six years after the article was written, we made contact with the author (with help from Bill Beattie) to visit and photograph those now mature palms growing in Northern NSW.

The journey began on the Wednesday morning after our March TGSS meeting. Ian and I drove up to base ourselves in Murwillumbah for a few days. After phoning for directions on Thursday morning, we headed off and arrived at Robert Ritchie's property 'Sundari' an hour later (after becoming geographically embarrassed, but not lost, as we still had plenty of fuel). Note, even the GPS could not find the place. Some of the properties in the Northern Rivers area are very difficult to find as they are the result of the properties being part of the division of a commune of "alternative lifestyle" people of the 1970's and 1980's.



Dioon spinulosum



Dypsis crinita

Sundari is a 34 hectares (approximately 80 acres) property close to the town of Chillingham and lies between the Border Ranges World Heritage Park to the north and Mount Warning to the south. To quote Robert, he has a normal annual rainfall between 2,000 mm and 2,500 mm, a summer temperature to 40° C and experiences light frosts in winter, although in 2001 less than 500 mm of rain fell.

6.

This botanical wonderland has about 5 ha of its land under cultivation. Robert informed us that when he moved there 25 years ago there were about 180 species of trees growing naturally on the property and today there are some 1,700 plant species including over 1,000 Australian rainforest tree species, over 300 palm species, 120 aroid species and 100 cycad species.

On parking the car in one of the few unplanted areas close to the house we ventured along the path, past large African and American cycads and very impressive specimens of *Caryota maxima*, *Licuala peltata* var. *sumawongii* (a.k.a *Licuala elegans*) and *Dypsis* sp. "florencii".



Dypsis faneva

The house itself is almost completely surrounded by mature specimens of palms, rainforest trees and tropical fruit trees such as mangosteen, and the garden includes a magnificent specimen of *Chambeyronia macrocarpa* "var. hookeri" (sold as the "flame thrower" palm in the USA because of its brilliant red new leaf). *Dypsis* sp. "laffa" had an inflorescence forming. Robert said that this plant had been through four entirely different leaf forms whilst growing to maturity.



Native rainforest plants on a slope down to the lake. In the foreground are *Dioon* species, *Bismarckia nobilis* and *Dypsis leptocheilos*.

7.

After introductions, Robert and his partner Eileen led us on a tour through the gardens and down to the dam. On the way he explained that he had concentrated his palm collection on Madagascan species, with approximately 60 to 70 species surviving relatively unattended on the property, and New Caledonian palm species, of which he also had many. There were also many fine examples of other exotic palms such as *Licuala radula*, *Dictyosperma album furcatum*, *Schippia concolor*;



Licuala radula

and the New Caledonian palms *Basselinia favieri*, *Actinokentia divaricata*, *Moratia cerifera* and *Kentiopsis magnifica*.

The stand out *Dypsis* included specimens of *Dypsis pilulifera* "Orange crush", (see cover photo), a large multi trunked specimen of the fibrous sheathed *Dypsis crinita*, and good specimens of *Dypsis lanceolata*, *rivularis*, *pembana*, "ambositrae", *perrieri*, *pervillii*, *fanjana*, *Dypsis* "Red triangle", and many miniature *Dypsis* species.



Dypsis fanjana



Dypsis minuta

8. On the way to the dam we passed many fine specimens of Australian rainforest trees including a few magnificent *Athertonia diversifolia* (Atherton Oak), with their huge oak-like leaves and macadamia-like edible fruit. As the day was drawing to a close Robert asked if we would like to visit another palm collector's garden the next day. What sort of question is that to a couple of palm nuts?



Across Rob Ritchie's dam.

Early next day we headed north from Murwillumbah to the home of Kieran and Anne McDermott at North Tumbulgum. We're sure glad that Robert came with us as a guide or we would still be trying to find our way to what was surely the proverbial "Back of Beyond". Another great spot to live. The house was situated on a ridge at the top of and between two long north-facing spurs. As these spurs were only a few hundred metres apart at the lower end, Kieran was able to have an engineered and certified dam built. Although the dam is only about 100 m wide it must be about 500 m long. It was constructed about ten years ago and is now a veritable picture of naturally growing water-lilies which displayed hundreds of blooms whilst we were there.



Dypsis "Maria's Stumpy"



Fred and Kieran turn their backs to a tall *Areca vestiaria*.

Ian, Kieran and I walked from the house down and around the dam inspecting all manner of things. Near the house we saw a huge but still trunkless pinnate palm which is probably *Dypsis* "Maria's Stumpy". Also a large *Areca catechu* (white crownshaft form), *Neoveitchia storckii*, *Basselinia eriostachys* (both single trunk and clumping forms), and a massive stand of the white bat flower (*Tacca integrifolia*) growing in heavy shade and at the end of its flowering cycle. Also in heavy shade and on the opposite side of this path was a flowering red lobster claw heliconia, *Heliconia bihai* "Richmond Red". Next we came to a huge stand of *Costus speciosus* with its large white crepe-paper-like flowers. There was also a very showy clump of the small *Pinanga disticha* palm with its mottled leaves, and nearby a patch of *Calathea undulata*.

Around the dam shores Kieran had planted water loving plants. There were flowering specimens of palms such as *Burretio kentia hapala* (from New Caledonia), *Dypsis* sp. "Pink Crownshaft", *Chambeyronia macrocarpa* (flamethrower palm) and the orange crownshaft *Areca vestiaria*. There was a stand of the New Guinea edible bamboo (*Nastus elatus*), and another of the weeping Mexican bamboo *Chusquea coronalis*. Australian rainforest trees and shrubs too, such as *Darlingia ferruginea*, a rare *Randia* sp., and *Hicksbeachia pinnatifolia* (red bopple nut).



Pinanga disticha

10.



Pinanga sp.



Nastus elatus

Around the rising slopes were stands of macadamia nuts, and a number of *Bismarkia nobilis* in all their glory. On the tops of the spurs were groups of drier loving plants such as *Dypsis decipiens*, *Dypsis pilulifera* "Orange Crush" and good specimens of *Ravenea glauca*. A massive flowering specimen of *Zingiber spectabilis* grew on a very exposed embankment.

We then all headed up the road to the (now closed) Chinderah Palms Nursery to look at mature palms. There once again, we saw some mature specimens and some, such as



Burretiokentia hapala with characteristic inflorescences.



Normambya normanbyi in fruit.

Dypsis albofarinosa and *Hyphorbe lagenicaulis* were fruiting. We were all taken **11.** with a large, very exposed planting of *Dypsis lutescens* (gold cane palm) showing the best of colour. When you see a plant like this you can understand why it is the most commercially propagated palm in the world.

The following morning (Saturday), we headed back to Sydney with a few stops along the way (of course). These included Incana Plants and Burringbar Native Nursery at Burringbar, and Ray Lawler at Mullumbimby. We arrived home about midnight (with the rain following us) much to my wife's surprise.



Zingiber spectabilis

By Tuesday the following week northern NSW was flooded from Coffs Harbour to the border, How's that for timing?



Raphia farinifera



Waterlilies on Kieran's dam.

12. Marantaceae, the Maranta family.

Ian Edwards

There are about 30 genera in this family of evergreen rhizomatous perennials, which is closely related to ginger, particularly the canna. Four genera are commonly cultivated, one being *Calathea*, which we looked at in *Tropica* No.2 (July 2004). Some species of the other three genera, *Ctenanthe*, *Stromanthe* and *Maranta*, are suitable for warmer Sydney gardens. *Maranta* and the Marantaceae family are named after a sixteenth-century Venetian botanist, Bartolomeo Maranta.

Marantas

Although there are about 40 recognized species, the only ones we are likely to see available for garden cultivation are *Maranta leuconeura* and three of its cultivars. Another species, *Maranta arundinacea* has rhizomes that are one source of arrowroot.

Marantas are commonly referred to as 'prayer plants' because they respond to low light intensity at night by raising their leaves to vertical, resembling hands put together in prayer, the idea being to channel moisture down into the plant. This movement is achieved by means of a small 'joint'* where the petiole joins the blade. With daylight the leaves become horizontal again to collect the light.

The tiny white flowers with a tinge of violet are pretty, if perhaps not striking.

Their prostrate habit would make them suitable as a ground cover, except that in our climate they spread rather slowly. They need a moist spot in the garden, in good light, but not direct sunlight.

In winter they do not die down, but they look their best in the warmer weather.



Marantas at prayer

Maranta leuconeura

The species comes from Brazil. It has small leaves, 6 x 4 cm, while its cultivars have larger leaves, 12 x 8 cm. A common name is Rabbit Tracks because the leaves have two rows of reddish brown patches parallel to the midrib.

* The 'joint' is a pad-like swelling (pulvulus) containing light-sensitive cells that can cause other cells nearby to expand or contract.

M. leuconeura 'Kerchoviana'

The leaves are much larger than the species, but have the same rabbit-tracks markings. The markings become darker as the leaf ages. The leaves are whitish underneath.

M. leuconeura 'Massangeana'

This cultivar has velvety bluish-green leaves, a feathery silver centreband with thin silver stripes extending to the margin through a broad zone of reddish brown. The undersides are purple. The leaves do not fold up at night.

M. leuconeura 'Erythroneura'

The leaves are velvety, and very dark green with a light green centreband, with red stripes extending to the margin, giving it a common name of herring-bone plant. The undersides of the leaves are deep red.



M. leuconeura 'Massangeana'

The small leaves upper left are those of the species, and at lower left are new leaves of *M. leuconeura* 'Kerchoviana'.

13.



M. leuconeura 'Kerchoviana'



M. leuconeura "erythroneura"

14. Ctenanthes

Of the 15 species of this South American genus of evergreen perennials, about five species and a couple of cultivars have been successfully grown in Sydney. They are not grown for their flowers. These are hardly noticeable, with overlapping fibrous-looking bracts. However some species are useful and undemanding fillers for a shady part of the garden, reaching up to a metre in height, while others make good ground covers. They stand up well to drought and are very resistant to insects.

Ctenanthe compressa

An old-fashioned plant seldom seen in nurseries. The tough, dark-green leaves are basal or on stems up to 1 m, with some stems then branching into a few more stems with a tuft of foliage at the top. The leaflets roll up in the sun.

The plant spreads readily by rhizomes and needs to be watched for this reason. However, unwanted extensions are easily removed as the rhizomes are not far underground. Perhaps this was the original 'never never plant', a name used in America for some of the other species.



Ctenanthe compressa



Ctenanthe lubbersiana

Ctenanthe lubbersiana

Ctenanthe lubbersiana has the same habit and the same height as *C. compressa* but is a much more attractive plant. Its leaves are a lighter green and are patterned with irregularly shaded bands of a yellowish green.

This species is much less rampant than *C. compressa*, and although it spreads by rhizomes, this is a much slower process. No fear of it getting out of hand.

Ctenanthe oppenheimer

This species also has the same habit as *C. compressa*, but on a smaller scale, seldom reaching more than about 50 cm in height. The bright green leaves have irregular bands of yellow or white, the pattern showing through under the leaf.

A cultivar 'Tricolor' has leaves that are wine-red underneath.

Although not as vigorous as *C. compressa*, its rhizomes do spread fairly readily, but are not hard to control.



Ctenanthe oppenheimer

Ctenanthe setosa



Ctenanthe setosa

Spreads by rhizomes to form a loose clump, each shoot dividing a few centimetres above ground level into three or four purplish hairy stems to 1 m long. Each stem carries one leaf about 20 cm long, light green with broad white bands from the midrib. The leaves are purple underneath.

The cultivar 'Silver Star' has a leaf that is silvery gray with fine green bands from the midrib. It may gradually revert to the original form, as seems to be happening in the plant at right.



C. setosa 'Silver Star'

15.

16. *Ctenanthe burle-marxii*

Forms a tight prostrate clump with the leaves overlapping each other. Each leaf grows on a short stem, about 30 cm. The thick tough leaves are elliptical, 15 x 7 cm, light green with a fishbone pattern of deep green bands extending from the midrib and are purple underneath. This is a very tough plant which can stand some morning sun. It makes a good groundcover.

A plant that is similar except for leaves that are dark green and markings that are a deep, almost black green, which might be a cultivar or another species is shown below right.



Ctenanthe burle-marxii



Ctenanthe sp?

New books added to the library

Four new books have been purchased for the library:

Aroids Plants of the Aroid family by Deni Brown (2nd Edition)

Hardy Gingers by T.M.L. Branney (RHS Plant Collector Guide)

Chamaedorea Palms by Donald R. Hodel (The Species and Their Cultivation)
Also reprints of articles about species discovered since this book was printed.

Palms of Southern Asia by Andrew Henderson (A Field Guide)

17.

Stromanthes

A genus of about 20 species, of which one species and one cultivar are commonly cultivated.

Stromanthe sanguinea

Similar in habit to *Ctenanthe compressa*, but a larger plant, to 1.5 m, with lanceolate leaves to 30 cm that are dark green and glossy with a whitish midrib on the upper surface and purple beneath. It also has colourful inflorescences, on a stem coming up between a tuft of leaves. The flowers are white, but what is noticeable are the red bracts, which give it a name meaning 'blood-red'.

The plant grows readily in Sydney and seems to be immune to attack by snails, grasshoppers, other insects, scales, mites etc. As with ginger, the plant can be tidied up after flowering by removing old flowering stems.



Stromanthe sanguinea

Stromanthe 'Superstar'

This is one of several cultivars of *S. sanguinea*. It has leaves irregularly marked with white bands from the midrib to the edge of the leaf. It is less vigorous than *Stromanthe sanguinea*, but equally resistant to attack by predators.



Stromanthe 'Superstar'

Cercestis mirabilis

Ian Edwards

Cercestis is an aroid genus of only eight species that are currently recognised by Kew Gardens, all from tropical Africa.

By far the best known is *Cercestis mirabilis*, the juvenile form of which is shown on the back cover and at right. The pattern of the variegation is embossed, rising well above the darker green area. It makes the leaf look as if fern fronds are lying across it. It has been suggested that this pattern may have evolved to confuse grazing animals that do not care for the bitter taste of ferns.

Cercestis mirabilis is a climber, which in the wild can grow to 10 m. As with many climbers its adult leaf form is quite different in shape from that of the juvenile form. As soon as the plant starts to climb the leaves lose their variegation, becoming plain green.



Cercestis mirabilis

For a time in the nineteenth century Kew Gardens had both adult and juvenile forms growing, but under different names, until a young plant started to climb and gave the game away by changing its leaf form.

Juvenile plants start to grow as a creeper, sending out a horizontal leafless shoot along the soil, called a flagellum (*pl.* flagella). This puts down a tuft of roots every few centimetres. Once the roots are established the flagellum can be cut off and potted up to propagate a new plant which will have the juvenile leaf form.

Although *Cercestis mirabilis* will survive in a warm place in a Sydney garden it really needs to be indoors, preferably in a hothouse, to thrive. It grows quite well outdoors on the Sunshine Coast. The plant shown here came from a piece kindly dug up for us from the garden of a backyard nursery there.

Ancient Palm Seeds

The oldest seed ever germinated.

An amazing story was reported in the journal *Science* in June 2008. Scientists have successfully grown a date palm, *Phoenix dactylifera*, from a 2,000-year-old seed dug up from the Judean desert during excavation of the Jewish fortress of Masada near the Dead Sea. The Judean Dead Sea region around the first century A.D. was well known for date palms that produced fruit of high quality, but over the centuries this line of plants was lost.

The seed was one of three recovered in the early 1960s, but planted only three years ago. The seeds had been kept at room temperature for the past 40 years, but for centuries they had been buried along with the rest of the Masada ruins. The age has been verified by radiocarbon dating of shell fragments, showing that the seed dates from the time of Masada. The researchers say that the high summer temperatures and lack of rainfall in the desert may have helped keep the seed viable for so long by reducing the generation of free radicals, which cause oxidative damage.

When the seed germinated, the first leaves to sprout had white spots on them because of a lack of chlorophyll, which may have been due to mineral deficiencies immediately after germination. However, at 26 months, the plant showed normal development and a preliminary genetic analysis has revealed it shares about half its DNA with three modern varieties of the date palm from Morocco, Egypt and Iraq.

Previously, the oldest well-documented seed known to have germinated was a 1,300-year-old lotus seed found in a dry lakebed in China. There have been many other claims of "ancient" seeds germinating, but usually without well-accepted verification of the seeds' ages.

From ancient Egypt.

The March issue of *Palms*, the journal of the International Palm Society, has the strange story of *Medemia argun*. Palm fruits were discovered in the early 1800s among food offerings in Egyptian tombs dating back to 2500BC (including that of Tutankhamun). They were examined by a German botanist, Karl Kunth, who recognised *Phoenix dactylifera*, *Hyphaene thebaica*, and a third species unknown to science, which he named *Areca passalacquae* after the Italian excavator who found the fruit. Recent tentative dating suggests that these are the most ancient fruit ever discovered.

In 1837, eleven years after Kunth's study was published, two German botanists discovered a palm in the Nubian Desert in northern Sudan and sent material to the palm authority, von Martius, who described it as *Hyphaene argun*, a name later changed to *Medemia argun* in a new genus, *Medemia*.

It was not until 1859 that the link was made, by the Viennese botanist Franz Unger, between the living palm *Medemia argun* and the fruit of "*Areca passalacquae*" that had been found in the tombs. The fruit in the tombs were indeed *Medemia argun*. I.E.

Cercestis mirabilis. See p.

Photo: Ian Edwards



Cercestis mirabilis. See p. 18

Photo: Ian Edwards