# Palms of Madagascar
## Conclusion

The Spring issue of the *Palm Report* provided an overview of the native palms – almost all of them endemic – of the island of Madagascar and its maritime neighbors.[1] The report also surveyed a number of the more remarkable species, but left discussion of the large pinnate genus Dypsis for the Fall issue. That time has arrived.

*Dypsis crinita,* found only in Madagascar, is nearing threatened status in the wild.

There is not an ounce of hyperbole in referring to Dypsis as a large genus, for some 75% of Madagascar's native palm species reside within it. 1987 stands as a seminal date for the genus. In that year, Drs. Dransfield and Uhl published *Genera Palmarum: A Classification of Palms Based on the Work of Harold E. Moore, Jr.*, therein delivering a jolt to the palm world by sinking six diverse Malagasy genera into one – Dypsis. Gone were Chrysalidocarpus, Neodypsis, Neophloga, Phloga and Vonitra. By virtue of that major reclassification, Dypsis suddenly encompassed a broad collection of characters; dwarf undergrowth or large tree species, solitary or clustering stems, multi-colored crownshafts, smooth or fiber-covered trunks. It even comprised species that branch above ground, a rarity among the Palmae.

*Dypsis sp.* 'florencei'

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As mentioned in Part I of this article, Drs. Dransfield and Beentje, in their 1994 publication, *The Palms of Madagascar*, listed 140 Dypsis species. For an island still loaded with botanical unknowns, it should come as no surprise that many more have been described since then. The source for the latest census of Dypsis is *The Plant List*, a working catalogue of all recognized plant species. The latest version, released in September 2013, comprises over one million scientific plant names at the species level, of which 33% rank as the currently accepted names, rather than synonyms or unresolved names. It is a collaborative undertaking between the Missouri Botanical Garden and the Royal Botanic Gardens, Kew. Importantly, its site managers advise that "*The Plant List* is not perfect and represents work in progress. Our aims remain to produce a 'best effort' list, to demonstrate progress and to stimulate further work."[2]

According to *The Plant List*, there are now 162 accepted Dypsis species names. They are enumerated at the end of this article. Following are descriptions of a sampling of Dypsis species which are desirable for one trait or another. Some do well as inground plantings in southern Florida, while others are best grown in containers. This survey is meant to be illustrative of the variety within the genus, rather than exhaustive. Many more than the 15 species of Dypsis highlighted here perform well in our region.

*D. albofarinosa*, the clustering White Powder Dypsis, was found in cultivation before it was known in habitat. That occurred around 1990, when a number of seedlings grown from a batch of seeds purchased as *D. baronii* turned out to be a different, unknown palm. This new species was first described just over 10 years ago. By the time later on when it was finally discovered in the wild, in a very small area of inland eastern Madagascar, fewer than 20 mature specimens were found. A powdery-white wax coating (indument) on its crownshafts – and briefly on its upper stems – makes it a striking ornamental. It also has attractively-arched leaves with long, thin, drooping leaflets. A slow grower, its stems at maturity can reach 15 ft. in height and 1½ to 2 in. in diameter. Its IUCN Red List conservation status is **Critically Endangered**, with a decreasing population trend. Often a species' decline in habitat is attributed to urbanization or land clearing for farming. However, according to the IUCN, the threat to *D. albofarinosa* is "due to the impact of seed collectors." This is, of course, not the first time that the passion to satisfy an overseas market has jeopardized the existence of a plant species. If you doubt that claim, just try finding *Rhapis excelsa* in the wild. How to achieve

balance between collecting species and preserving them in habitat is still a dicey proposition.

*D. cabadae* is a clumping species that features dark green stems punctuated by nearly-white ringlike leaf scars. Over time it can reach 30 to 40 ft. in height and about 3½ in. in diameter. It became a much-desired alternative to *D. lutescens* when commercial production started in the 1980s. This palm has followed probably the most curious route of any Dypsis species to reach the United States. Stanley Kiem, now the last surviving founding member of the International Palm Society, brought it to Miami following a trip to Cuba in the 1950s. But it was unknown in Madagascar or nearby islands, where all other members of the species are endemic. Its origin eluded experts until recent years, when it was discovered in the Comoro Islands northwest of Madagascar. But how did *D. cabadae* get to Cuba in the first place? The best guess is that Dr. Cabada, for whom the palm was named, obtained it for his garden near Cienfuegos from a ship captain whom he had asked to collect palms from his various destinations around the tropics. The conservation status of this species has not yet been assessed for the IUCN Red List.

*D. carlsmithii* is one of two palms commonly known as Stumpy, an example of the risk of referring to species by only a common name. But as that moniker implies, this Stumpy is one robust, sturdy palm. A slow-grower, it can reach a height of 20 to 40 ft., with a diameter of about 20 in. at eye level before tapering closer to the apex. One ornamental advantage of its slow growth is the close spacing of leaf scars. Beneath its arching leaves is an attractive orangey crownshaft. In midstate Florida even still-stemless young specimens have been reputed to easily withstand freezes. This species was first seen on the Hawaii estate of former International Palm Society President Donn Carlsmith, and for quite a while its origin was a mystery. It was not described botanically until 2012, and is known in the wild from just two sites whose combined population numbers fewer than 15 plants! Consequently, the IUCN Red List conservation status of *D. carlsmithii* is **Critically Endangered**, with an unknown population trend. It may prove beneficial, however, that both sites are in protected areas: Masoala National Park and the Analalava Reserve.

*D. crinita* possesses a growth habit rare in palms: It is simultaneously clustering and branching. Moreover, it is quite ornamental. Because its upper stems are covered with fibers, known as piassava, which emanate from leaf sheaths, it can be thought of as Madagascar's Old Man Palm – if you somehow overlook the fact that it's pinnate. Natively, it grows close enough to fast-moving streams to qualify, at

least at the juvenile stage, as a rheophyte. Consequently, when raised in cultivation, its moisture requirements should not be ignored. *D. crinita* can be grown in the ground in southern Florida, but its branched bearded trunks can also be shown off to great effect in a decorative container. In the wild, mature stem height is 13 to 49 ft., with a diameter of 5 to 8 in. Newly-opened leaves are reddish-brown – some say liver-colored – but variations in hue may be influenced by soil types. Numerous branched inflorescences produce purple-black fruit. Its IUCN Red List conservation status is **Near Threatened**, with an unknown population trend.

*D. decaryi* is the well-known Triangle Palm, a name that reflects the three-ranked (tristichous) pattern of leaf attachment to the trunk. It matures to 10 to 20 ft. in height, with a trunk diameter of roughly 12 to 16 in. Leaves and leaflets are strongly arched. The fruit of *D. decaryi* is attention-getting – almost round, about .7 in. in diameter, and coated with a white wax. Though this species grows in rocky soil in habitat, it produces a stouter trunk in southern Florida when planted in sand, rather than in limestone. A sun-lover, it nevertheless can adapt to the lower-light conditions of indoor culture. Ironically, while widespread in cultivation, it occurs endemically in a very confined area of dry forest or bush, so its IUCN Red List conservation status is **Vulnerable**, with a decreasing population trend.

*D. lanceolata* is another of the tiny handful of Malagasy palms actually native offshore, in this case the Comoro Islands. It is a clustering species reminiscent of *D. cabadae*, but with a notable difference: Its lanceolate leaflets are particularly broad for a Dypsis species. They have a tendency to attach to the rachis in multiple ranks, giving the frond a mildly plumose look. Stems reach 16 to 20 ft. in height, with a diameter of 3 to 4 in. A mature infructescence can carry thousands of slim, ellipsoid red fruits about ⅔ in. long. The IUCN Red List conservation status of *D. lanceolata* is **Vulnerable**, but said to need updating.

*D. lastelliana*, the Red Neck Palm, is popular for its fuzzy, rusty-red crownshaft. A solitary species endemic to the northern end of Madagascar, it reaches 16 to 49 ft. high, with a trunk diameter of 7 to 10 in. Its pendulous leaflets are arrayed in a regular pattern along the rachis. A particularly striking ornamental use is to plant it out in groups of three or more specimens. *D. lastelliana* favors warm, moist conditions. The similar-looking Teddy Bear Palm, *D. leptocheilos*, prefers a cooler, drier climate, and accordingly grows better in southern California than in our region. The IUCN Red List conservation status of *D. lastelliana* is **Least Concern**, with a stable population trend.

*D. madagascariensis* is, for at least a couple of reasons, an excellent palm for southern Florida. First, because part of its extensive range in the northwestern quadrant of Madagascar brings it next to the seashore, it is unfazed by salt air. Second, it reaches into drier forest than most other species in the genus, enabling it to thrive in our region without supplemental irrigation. It has both solitary and clumping forms; the specific or varietal name lucubensis that once was applied to the solitary form is no longer considered valid. Stem height ranges from 6½ to just under 60 ft., and diameter from 2¾ to about 8 in. The hard outer wood of *D. madagascariensis* is commonly used for floorboards in housing. Because its vast native range takes it into both dry and moist climates, its IUCN Red List conservation status is **Least Concern**, with a stable population trend.

*D. mananjarensis* is known in the trade as the Mealy Bug Palm, a reference to the prominent waxy, white scales borne on the leaf sheath, petiole and rachis. No other Dypsis species possesses such a feature. As a native of both moist and dry habitats, it fits well into the climatic patterns of southern Florida. Like *D. decaryi*, *D. mananjarensis* carries its leaves in three ranks. Leaflets vary from population to population; some are regularly-spaced along the rachis, while others are arrayed in groups. In habitat, trunks reach 20 to 81 ft. in height and 5½ to 11½ in. in diameter. Its IUCN conservation status is **Near Threatened**, due in part to its being harvested for its tasty heart. Its population trend is unknown.

*D. pembana* is known only from a single forest on Pemba, an island just off mainland Africa belonging to Tanzania. A clumping species, its stems vary from 13 to 39 ft. high and from 2 to 6 in. in diameter, and, like those of *D. cabadae*, bear strongly-defined leaf scars. Native to moist lowland habitat, it appreciates ample irrigation in cultivation. With the advantage of warm winters in Florida for the past five years, *D. pembana* has performed well at least as far north as inland Sarasota County, and it may well be that its cold tolerance is greater than initially presumed. Its IUCN Red List conservation status is **Vulnerable**, with a stable population trend.

*D. pinnatifrons* is fortunate to be among the most widespread of all Dypsis species, occurring up and down the length of Madagascar, particularly on the eastern side, and in both lowland and montane forest. It is also quite attractive, with slightly sigmoid (S-shaped) leaflets arranged in groups along the rachis. This solitary palm at maturity reaches 8 to 39 ft. in height and 1¾ to 6 in. in diameter. New leaves open red to maroon in color before turning a dark, glossy green. The range of

latitudes and altitudes in which *D. pinnatifrons* is native led Drs. Dransfield and Beentje to conclude that various strains of the species could be selected to suit specific climates in cultivation. However, in southern Florida, the high pH of most soils make this a palm better-suited to container culture. Its IUCN Red List conservation status is **Least Concern**, with a stable population trend.

*D. prestoniana* is the species named for Paul Preston, who as president of McDonald's Restaurants in the United Kingdom sponsored Dr. John Dransfield's four-year Madagascar palm project beginning in 1990. The palm was discovered quite by accident by Dr. Henk Beentje in 1992, and even then numbered no more than a couple of hundred plants. In its moist forest habitat, this single-trunked palm reaches 13 to 39 ft. in height and up to 16 in. in diameter. It sports a crown of 8 to 10 graceful leaves with irregularly-spaced leaflets. Its upright infructescence produces a prodigious number of orange fruits. *D. prestoniana* is best grown in southern Florida in a container. Its IUCN Red List conservation status is **Vulnerable**, with a decreasing population trend.

*D. psammophila* is native to eastern Madagascar, confined to a small white-sand coastal habitat which it shares with the much more widespread *D. lutescens*. In fact, the two clustering species are closely related, distinguished by the fact that D. psammophila produces thinner stems, smaller leaves, and smaller fruit and seed. Crownshafts feature white, waxy highlights. Maximum height is close to 20 ft., and stems turn nearly black with age. The IUCN Red List conservation status of *D. psammophila* is **Endangered**, with a decreasing population trend.

*D. pusilla* is one of the shorter-growing representatives of the genus. Native to shady valley bottoms in northeastern Madagascar, it can be both solitary and clustering in habit, its stems covered in dense, short piassava. New leaves of this species open red, and mature leaflets are glossy dark green and regularly-spaced along the rachis. Stems mature to 2½ to 6½ ft. in height and 1½ to 2 in. in diameter, though the leaf-sheath fibers make them appear about 5 in. across. *D. pusilla* produces fruit that ripens purple-black. The IUCN Red List conservation status of this species is **Vulnerable**, with a stable population trend.

*D. saintelucei* is another Malagasy palm that occurs in white sand. It is found only in four sites in a coastal forest of extreme southeastern Madagascar. Normally a single-trunked species, it sometimes produces two or three stems. Crownshafts are waxy green in color. Maximum height is in the 20 to 33 ft. range, and diameter is about 5½ in. Leaves are tristichous and have no petiole. When *D. saintelucei* was

last assessed, there were fewer than 300 individuals left in the wild. Its IUCN Red List conservation status is **Endangered**, with a decreasing population trend.

While these 15 species barely begin to tell the story of the great ornamental importance of the genus Dypsis, they should whet your appetite for their potential contributions to the creation of beautiful landscaping at your home in southern Florida.

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[1] To read Part I of this article, please open www.southfloridapalmsociety.org and click on Palm Report - Example Issues - March 2015.

[2] To search for species in any genus of vascular plants or *Bryophytes*, please see www.theplantlist.org.

## Recognized Species of the Genus Dypsis

Dypsis acaulis
Dypsis acuminum
Dypsis albofarinosa
Dypsis ambanjae
Dypsis ambilaensis
Dypsis ambositrae
Dypsis andapae
Dypsis andilamenensis
Dypsis andrianatonga
Dypsis angusta
Dypsis angustifolia
Dypsis anjae
Dypsis ankaizinensis
Dypsis ankirindro
Dypsis antanambensis
Dypsis aquatilis
Dypsis arenarum
Dypsis baronii
Dypsis basilonga
Dypsis beentjei
Dypsis bejofo
Dypsis bernieriana
Dypsis betamponensis
Dypsis betsimisarakae
Dypsis boiviniana
Dypsis bonsai
Dypsis bosseri
Dypsis brevicaulis
Dypsis brittiana
Dypsis cabadae
Dypsis canaliculata
Dypsis canescens
Dypsis carlsmithii
Dypsis catatiana
Dypsis caudata
Dypsis ceracea
Dypsis commersoniana
Dypsis concinna
Dypsis confusa
Dypsis cookii
Dypsis coriacea
Dypsis corniculata
Dypsis coursii
Dypsis crinita
Dypsis culminis
Dypsis curtisii
Dypsis decaryi
Dypsis decipiens
Dypsis delicatula
Dypsis digitata
Dypsis dracaenoides
Dypsis dransfieldii
Dypsis elegans
Dypsis eriostachys
Dypsis faneva
Dypsis fanjana
Dypsis fasciculata

Dypsis fibrosa
Dypsis forficifolia
Dypsis furcata
Dypsis gautieri
Dypsis glabrescens
Dypsis gronophyllum
Dypsis henrici
Dypsis heteromorpha
Dypsis heterophylla
Dypsis hiarake
Dypsis heterophylla
Dypsis hovomantsira
Dypsis humbertii
Dypsis humblotiana
Dypsis humilis
Dypsis ifanadianae
Dypsis integra
Dypsis intermedia
Dypsis interrupta
Dypsis jeremiei
Dypsis jumelieana
Dypsis laevis
Dypsis lanceolata
Dypsis lantzeana
Dypsis lanuginosa
Dypsis lastelliana
Dypsis leptocheilos
Dypsis ligulata
Dypsis linearis
Dypsis lokohoensis
Dypsis louvelii
Dypsis lucens
Dypsis lutea
Dypsis lutescens
Dypsis madagascariensis
Dypsis mahia
Dypsis makirae
Dypsis malcomberi
Dypsis mananjarensis
Dypsis mangorensis
Dypsis marojejyi
Dypsis mcdonaldiana
Dypsis metallica
Dypsis minuta
Dypsis mirabilis
Dypsis mocquerysiana
Dypsis monostachya
Dypsis montana
Dypsis moorei
Dypsis nauseosa
Dypsis nodifera
Dypsis nossibensis
Dypsis occidentalis
Dypsis onilahensis
Dypsis oreophila
Dypsis oropedionis
Dypsis ovobontsira
Dypsis pachyramea
Dypsis paludosa
Dypsis pembana
Dypsis perrieri
Dypsis pervillei
Dypsis pilulifera
Dypsis pinnatifrons
Dypsis plumosa
Dypsis plurisecta
Dypsis poivreana
Dypsis prestoniana
Dypsis procera
Dypsis procumbens
Dypsis psammophila
Dypsis pulchella
Dypsis pumila
Dypsis pusilla
Dypsis rakotonasoloi
Dypsis ramentacea
Dypsis reflexa
Dypsis remotiflora
Dypsis rivularis
Dypsis robusta
Dypsis sahanofensis
Dypsis sainteleuci
Dypsis sancta
Dypsis sanctaemariae
Dypsis scandens
Dypsis schatzii
Dypsis scottiana
Dypsis serpentina
Dypsis simianensis
Dypsis singularis
Dypsis soanieranae
Dypsis spicata
Dypsis tanalensis
Dypsis tenuissima
Dypsis thermarum
Dypsis thiryana
Dypsis thouarsiana
Dypsis tokoravina
Dypsis trapezoidea
Dypsis tsaratananensis
Dypsis tsaravoasira
Dypsis turkii
Dypsis utilis
Dypsis viridis
Dypsis vonitrandambo