NOT YOUR AVERAGE PALM

A look at some unusual palms, special anatomical features and strange adaptations

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We Floridians love our palms!

But some people are loving them to death!
A FEW FACTS ABOUT PALMS

✓ Fossil record extends back to the Cretaceous Period, 80 million years ago
✓ Monocots-have more in common with grasses
✓ 225 genera and 2,600 species
✓ Grow best in zones 8-10 and can be found from deserts to rainforests
✓ Range in temperatures, -10°F
Variability

* The tallest 197’-Quindio wax palm (*Ceroxylon quindiuense*) Columbia
* The smallest 4’-Sand palm (*Guihaia argyrata*) China
* Largest seeds in the world-Coco de mer (*Lodoicea maldivica*) 20”, 66lbs
* Largest leaf-Raffia palm-over 80’ (*Raphia regalis*) Africa
Durability

- Evergreen - don’t lose leaves in a particular season
- Do not normally branch
- Trunks do not get larger in width but in height
- Tensile strength of fronds & fibers

Chilean wine palm
Jubaea chilensis
Utility

- Used for many purposes
  - Rope, skirts, hats
  - Alcoholic beverages
  - Oil, wax, shoe polish
  - Food (animal & human)
  - Building material, furniture
Coconut Palm
*Cocos nucifera*
LEAF ARRANGEMENT ON THE FROND

Entire
Palmate
Costa-palmate
Pinnate
Bi-pinnate
ENTIRE FROND
unsegmented blade

Diamond Joey Palm
Johannesteijsmannia
altifrons
Malaysia

Necklace Palm
Chamaedorea
geonomiformis
Central America
**PALMATE**

- Leaflets radiate from the base, circular or semi-circular.
- Divided into segments; radiate out from the point where they are attached to the petiole.
- Laminae may be slightly divided to being divided nearly to the leaf base.
- Leaf size is variable between species
  - Size of the human hand-lady palms (*Rhapis* spp.)
  - Maximum of 5 m across such as in the talipot palm (*Corypha umbraculifera*)
- The most important economic palm with palmate leaves is the palmyra (sugar) palm (*Borassus flabellifer*).
COSTA-PALMATE

**palmate** leaf in which the stem extends well into the frond partially dividing it at the distal end of the petiole.
PINNATE

- Most common type
- Feather-like palm leaves
- 2 rows of leaflets generally on each side of stem
- Leaves range in size <1m to >25m
Major economic palms are pinnate:

- Coconut
- African oil palm
- Date palm
- Betel nut palm
- Peach palm (Costa Rica)
BIPINNATE

leaflet or pinnule

secondary rachis

primary rachis

petiole

leaf lamina

BI-PINNATE LEAF
BIPINNATE

Caryota Palms (fish-tail palm)

- 13 different species
- Monocarpic—once they flower the stem dies
- Susceptible to lethal yellowing disease
- Needs lots of H2O and nutrients
- Toxic fruits (even to touch)
- Very hard wood
- Shallow roots
dwarfing a Royal palm

Caryota obtusa
Giant fish-tail palm
Caryota mitis
Clumping fishtail Palm
PALMS WITH STRANGE ADAPTATIONS

Hair
Trunk
Poison
Leaf scars
Waxy surface
Spines/needles
H2O-holding
Pneumatic ability
Old Man Palm
Coccothrinax crinita

Hair-like fibers

Stiff, thick beige-colored fibers densely borne along the entire length of thick trunk.
Trunk

Silver Thatch Palm
*Coccothrinax barbadensis*

burlap-like woven fibers from old leaf bases and sheaths
Poisonous Toxins

Caryotas and Arenga spp.

Formosa Palm

*Arenga engleri*

- oxylates in the fleshy coating
- also can cause physical pain if touched
Nikau Palm
*Rhopalostylis sapida*

Only palm endemic to New Zealand
Canary Island Date
Phoenix canariensis

Spines/Needles
Betel Nut Palm

*Areca catechu*

- mild stimulant
- moderately toxic
- addictive
When is a palm not a true palm?

When it's a:
- Cycad
- Sago
- Zamia
- Dioon
- Yucca
Dragon Tree

*Dracaena spp.*
Traveler’s palm

*Ravenala madagascariensis*
Madagascar palm

*Pachypodium lamerei*
Giant Dioon

*Dioon spinulosum*
Pandanus Palm
Pandanus spp.
Spiral Palm
Screw Palm
*Pandanus spiralis*

long, prickly leaves emerge in a screw-like arrangement.
PALMS THAT DO FUNNY THINGS
PALMS THAT DO FUNNY THINGS
COLD TOLERANT PALMS - Pinnates

Dwarf Bamboo Palm
Chamaedorea radicalis
12°F

Pindo Palm
Butia capitata
14°F

Chilean Wine Palm
Jubaea chilensis
10°F
COLD TOLERANT PALMS - Palmates

Mazari Palm
Nannorrhops richtiana
-4°F

Windmill Palms
Trachycarpus fortunei
0°F

Mediterranean Fan
Chamaerops humilis
10°F

Needle Palm
Rhapidophyllum hystrix
-10°F