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Encyclopedia of Earth

Arecaceae: The Majestic Family of Palms



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Arecaceae in Cayo Sombrero, Venezuela (By Rjcastillo (Own work) [CC-BY-SA-3.0 (<http://creativecommons.org/licenses/by-sa/3.0>)], via Wikimedia Commons)

Arecaceae (Syn. Palmae) is a monocotyledonous plant family containing species of tropical climbers, shrubs and trees commonly known as *Palm trees* or simply *Palms* (Figs 1-3). The Arecaceae is a monotypic family in the order Arecales. The family contains several commercially important species such as coconuts, area nuts and date palms, as well as a large number of indoor and ornamental species. Palms are commonly cultivated and well known horticulturally across the planet.



Fig 1

Distribution

Palms are most conspicuous in coastal areas in tropical and sub-tropical ecological zones as well as in the



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Arabian deserts and throughout the continents of Africa, Latin America, South and South-East Asia, Oceania and coastal US and adjoining island groups. Palms are also common in tropical evergreen forests and in every available ecological habitat in the tropics and sub-tropics covering a widely diverse geographic distribution. In the tropical forests several palms constitute the canopy while others serve as under growing bushes and shrubs.



Tall canopy forming Palms are adopted as safe nesting sites by several species of birds and smaller mammals for their huge arching foliage that provide shade and protection against the elements of nature and due to their heights serve also excellent nesting sites against different predators. *Nypa fruticans* is the only Palm species that is well adapted to the mangrove biome and is seen distributed in the coastal and estuarine zones of India, Bangladesh and several Pacific island groups. Palms like coastal mangrove species serve as important wind breaks and are essential for protecting the erosion and destruction of coastal areas from the impact of sporadic cyclones and tornados. However, due to extensive and non-judicious exploitation of several coastal species across the planet (particularly in the developing and under developed countries) the coastal regions have become extremely vulnerable to coan disturbances and global climate change.



Morphology

Palms are well known for their great heights, exclusive foliages, conspicuous inflorescences and big seeds. *Lodoicea maldivica* is known for producing the largest seed in the entire plant kingdom. Palms are predominantly perennial species and remaining green throughout the year. The inflorescence patterns of Palms are noteworthy and show wide morphological and structural adaptations (Fig 4) necessary for their successful evolution over a long geological past. They are characteristically branched, either racemose panicles or often spadix-like spikes, enclosed and protected by one or more woody bracts (spathes). Inflorescences usually occur either between the foliages or in some species beneath or above them; they may be occurring either solitary or in multiple aggregation (Fig 4). Often the inflorescences is found to be modified into an elongated organ, whip-like in appearance characterized by downward curving spines (flagellum) enabling the plant to cling to nearby vegetation or available support and help in climbing.



Important Species

Some important species belonging to this majestic plant family include edible and commercially significant members as well as ornamental and roadside as well as forest species: *Areca Palm-Areca triandra*, *Royal Palm-Roystonea regia*; *Foxtail Palm-Wodyetia bifurcata*, *Fishtail Palm-Caryota mitis*; *Edible Date Palm-Phoenix dactylifera*, *Borassus flabellifer*; *Christmas Palm-Veitchia merillii*, *European Fan Palm-Chamaerops humilis*, *Majestic Palm-Ravenea rivularis*, *Senegal Date Palm-Phoenix reclinata*, *Indian Date Palm-Phoenix sylvestris*, *Bismarck Palm-Bismarckia nobilis*; *Queen Palm-Syagrus romanzoffiana*, *Chinese Fan Palm-Livistona chinensis*, *Coconut Palm-Cocos nucifera*, *Sylvester Palm-Phoenix sylvestris*; *Branched Palm-Hyphane indica*; *H. dichotoma* etc.



Different ornamental species of palms from West Asia, South and South east Asia are presented in Fig 5. The members of the family Arecaceae is presented in Table 1.

Table 1. Members of the Arecaceae family

Scientific & English name	Origin	Plant use	Ref.
<i>Acoelorrhaphe wrightii</i> (Griseb. & H. Wendl.) H. Wendl. ex Becc → Everglades palm	Central America	Ornamental tree	USDA,2014
<i>Acrocomia vinifera</i> Oersted → Coyol palm	South America	Ornamental tree	USDA,2014
<i>Aiphanes caryotifolia</i> (Kunth) H.A. Wendl. → Coyure palm	South America	Ornamental tree	USDA,2014
<i>Archontophoenix alexandrae</i> (F. Muell.) H. Wendl. & Drude → King Alexander palm	North-east Australia	Ornamental tree	USDA,2014
<i>Butia capitata</i> (Mart.) Becc. → Jelly palm	Argentina, Brazil, Uruguay	Ornamental tree, fruit	USDA,2014

Calyptronoma rivalis (O.F. Cook) L.H. Bailey → Manac palm	Puerto Rico, Haiti, Dominican Republic	Ornamental tree	USDA,2014
Caryota urens L. → Toddy palm	Indian sub continental, South east Asia	Ornamental tree	USDA,2014
Chamaedorea elegans Mart. → Parlour palm	Belize , Mexico, Guatemala	Ornamental tree	USDA,2014
Coccothrinax barbadensis (Lodd. ex Mart.) Becc. → Thatch palm	Venezuela , Caribbean islands	Ornamental tree	USDA,2014
Cocos nucifera L. → Coconut palm	Tropical and subtropical area	Ornamental tree, oil, milk, fruit	USDA,2014
Dypsis lutescens (H. Wendl.) Beentje & Dransf. → Butterfly palm	Madagascar	Ornamental tree	USDA,2014
Elaeis oleifera (Kunth) Cortes → American oil palm	South and Central America	Ornamental tree, palm oil	USDA,2014
Gaussia attenuata (O.F. Cook) Becc. → Ilume palm	Puerto Rico, Dominican Republic	Ornamental tree	USDA,2014
Livistona rotundifolia (Lam.) Mart. → Serdang palm	Sri Lanka, tropical Asia	Ornamental tree	USDA,2014
Phoenix dactylifera → Date palm	Persian gulf region (Iran, Iraq, Saudi Arabia)	Fruit, juice	Elshibli (2009)
Phoenix reclinata Jacq. → Senegal date palm	Tropical Africa	Ornamental tree, fruit, palm heart as vegetable, palm wine from its sap	USDA,2014
Phoenix sylvestris (L.) Roxb. → Sugar Date Palm	Iran, India, Pakistan, Nepal, Bhutan, Burma and Bangladesh	Ornamental tree, fruit, sap, palm heart as vegetable	USDA,2014
Prestoea acuminata (Willd.) H.E. Moore → Sierran palm	Puerto Rico	Ornamental tree, fruits feed by parrots	USDA,2014
Pritchardia affinis Becc. → Kona palm	Hawaiian Islands	Ornamental tree, seeds were eaten by ancient tribes	USDA,2014
Pritchardia glabrata Becc. & Rock → Hawaiian fan palm	Maui island in Hawaii	Ornamental tree	USDA,2014
Pritchardia hillebrandii (Kuntze) Becc. → Loulu palm	United states, tropical Pacific Islands	Ornamental tree	USDA,2014
Pritchardia limahuliensis H. St. John → Limahuli Valley pritchardia	Hawaii (United states)	Ornamental tree	USDA,2014
Pritchardia munroi Rock → Kamalo Pritchardia	Hawaii (United states)	Ornamental tree	USDA,2014

Pritchardia perlmanii C.E. Gemmill → Wai'Oli Valley Pritchardia	Hawaii (United states)	Ornamental tree	USDA,2014
Pritchardia waialealeana Read → Poleline pritchardia	Hawaii (United states)	Ornamental tree	USDA,2014
Pseudophoenix sargentii H. Wendl. ex Sarg. → Florida cherry palm	United states, Belize, Cuba, Bahamas	Ornamental tree	USDA,2014
Ptychosperma elegans (R. Br.) Blume → Solitaire palm	Northeastern Australia	Ornamental tree	USDA,2014
Ptychosperma macarthuri (H. Wendl. ex hort.) G. Nicholson → Macarthur feather palm	United states of America	Ornamental tree	USDA,2014
Rhapidophyllum hystrix (Pursh) H. Wendl. & Drude ex Drude → Needle palm	North America	Ornamental tree	USDA,2014
Roystonea borinquena O.F. Cook → Royal palm	Hispaniola(Puerto Rico), Virgin Islands.	Ornamental tree, fruits used to feed pigs	USDA,2014
Sabal mexicana Mart. → Texas Sabal Palm	North America	Ornamental tree, the palm hearts and drupes are eaten	USDA,2014
Sabal minor (Jacq.) Pers. → Dwarf Palmetto	Southern USA	Ornamental tree	USDA,2014
Serenoa repens (W. Bartram) Small → Saw palmetto	United states of America	Ornamental tree	USDA,2014
Syagrus romanzoffiana (Cham.) Glassman → Queen palm	Brazil	Ornamental tree	USDA,2014
Thrinax radiata Lodd. ex Schult. & Schult. f. → Florida Thatch Palm	South and central America	Ornamental tree	USDA,2014
Washingtonia filifera (Linden ex André) H. Wendl. → American cotton palm ,desert fan	Southwestern North America	Ornamental tree	USDA,2014
Washingtonia robusta H. Wendl. → Mexican Fan Palm	Mexico	Ornamental tree	USDA,2014

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