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General view of Foster Botanical Garden showing the proximity of the Honolulu. It is one of a suite of botanical gardens in Honolulu that includes Lili'uokalani, Ho'omaluhia, Wahiawa and Koko Crater Botanical Garden.

## Hawaii's Foster Botanical Garden

After visiting several of the botanical gardens on O'ahu  
**JOHN FELTWELL** gives an account of a small selection of trees.

Foster Botanical Garden in downtown Honolulu is an important tropical arboretum in Hawaii. The gardens present an eclectic collection of worldwide tropical trees in a magnificent setting, all brought about through the enthusiasm of its two German founder physicians: Dr Wilhelm Hillebrand (1821–1886) and Mikahala Elizabeth Robinson Foster (1844–1930).

On a historical note, none of these gardens would have been here when David Douglas (1799–1834), the naturalist and tree enthusiast from Scotland, came to these islands (when they were called the Sandwich Islands) about 100 years before either of the two founders were born. Hawaii must have been a magical place then, birds were so tame he recounts that he picked one up from a branch to look at it. Douglas went trekking up the volcanoes Mauna Kea, Mauna Loa and Kilauea and spent some time on O'ahu so his descriptions of some of the original vegetation are fascinating. There are conflicting reports of Douglas' untimely death aged 35 in a bull pit; his gravestone is in a church very close to present day Foster Botanical Garden.

## Exceptional trees

There are some 20 'Exceptional Trees' 'protected by City Ordinance' within the garden (see table below) and they include Baobab *Adansonia digitata*—native to Africa and probably planted in about 1940, and kapok *Ceiba pentandra*—large here but it grows much larger in its Amazonian habitat where it is native; it is one of the emergent species that pierces the rainforest canopy and is frequented by monkeys at night as a relatively safe place to sleep.

Latin / specific name	English name of Tree or Palm	Family	Native	Planted	Height (ft.)	Circ. (in.)
<i>Adansonia digitata</i>	Baobab tree	Malvaceae	Africa	1967	71	473
<i>Canarium vulgare</i>	Pili nut or Java Almond	Burseraceae	Indonesia	-		
<i>Cassia x nealiae</i> 'Wilhelmina Tenny'	Rainbow shower	Fabaceae	hybrid	1954		
<i>Cavanillesia platanifolia</i>	Quipo	Malvaceae	S&C Amer	-		
<i>Ceiba pentandra</i>	Kapok	Malvaceae	SAM	ca.1850	91	246
<i>Couroupita guianensis</i>	Cannonball	Lecythidaceae	S&C Amer	1931		
<i>Elaeodendron orientale</i>	False olive	Celastraceae	Africa, Madagascar	ca.1850	44	77
<i>Ficus religiosa</i>	Bo, Bodhi, Sacred fig	Moraceae	India	ca.1890	64	273
<i>Gigasiphon macrosiphon</i>	Gigasiphon	Leguminosaeae	Africa	1968		
<i>Hydnocarpus anthelminticus</i>	Chaulmoogra oil	Achariaceae	Indochina	1931		
<i>Hyphaene thebaica</i>	Doum, Doom Gingerbread palm	Arecaceae	Arabia, Africa	ca.1920		
<i>Lagerstroemia speciosa</i>	Queen's Crape myrtle	Lythraceae	India			
<i>Lonchocarpus domingensis</i>	Guama tree	Fabaceae	? CAME			
<i>Manilkara zapota</i>	Chicle tree, Sapodilla	Sapotaceae	C Amer			
<i>Mimusops elengi</i>	Pogoda tree	Sapotaceae	Asia, Australia			
<i>Pritchardia lowreyana</i>	Loulu palm	Arecaceae	Hawaii	ca.1850		
<i>Pterygota alata</i>	Tattele, Buddha coconut	Malvaceae	Asia	1959		
<i>Roystonea oleracea</i>	Cabbage palm	Arecaceae	C Amer		121	78
<i>Spondias mombin</i>	Hog plum tree	Anacardiaceae	Trop Am		120	132
<i>Terminalia catappa</i>	Tropical almond tree	Combretaceae		ca.1850	47	140

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This Baobab *Adansonia digitata* (Malvaceae) is younger than many IDS members, having been planted in 1967 and is now 71 feet tall with a circumference of 473 inches. Native to Africa and Australia the several species do grow large, and one, not in Hawaii has been radio-carbon dated to over 1,200 years.

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Quipo, *Cavanillesia platanifolia* (Bombacaceae) is native to the rainforests from Panama to Peru. Its light wood, akin to 'balsa wood' was used traditionally for making floating rafts and canoes. It is 'Near Threatened' on the Red List of Plants. This tree is only 88 years old.



**Above, left,** the Panama-hat plant *Carludovica palmata* (Cyclanthaceae) is a stemless palm, whose long-petioled leaves up to three feet long are used for making hats, have separate male and female flowers; the bright orange of the spathes lights up the darkness of the undergrowth.

**Above, right,** elsewhere on Hawaii, leis are traditionally made from the petals of the temple flower *Plumeria* sp. (Apocynaceae) native to Central America, photographed in the comprehensive collection of the genus in the Koko Botanical Garden.

As the weather of Hawaii is conducive to tropical plant growth (ca. 5,400 mm rain a year) it was staggering to see how the Quipo *Cavanillesia platanifolia* has grown in its 88 years, a giant within the arboretum, originating from Central American rainforests. It has distinctive rings on its smooth trunk and has soft wood similar to balsa.

83

The garden has a huge collection of palms but the pride and joy is the native Loulu palm *Pritchardia* sp. which is carefully nurtured and is guarded behind a dedicated grille. It is a modest-sized palm native to Hawaii, but it is out-competed in size by many other palm species grown there. It is hard to beat the massive growth of the petticoat palm *Washingtonia filifera* which outdoes the Mexican palmetto *Sabal mexicana* in magnificence. From the Seychelles the famous double coconut, the coco de mer *Lodoicea maldivica*, endemic to the island of Praslin is now established here; this is a species that is generally hard to germinate, but it is now increasingly seen in tropical botanic gardens, such as in Kandy, Sri Lanka. It is on the IUCN Red List as Endangered.

There are two tall palm species grown in the garden, the magnificent Caribbean Royal palm *Roystonea oleracea* towers above the heliconias, milkweeds and lush begonias, whilst the highly-ringed Montgomery palm *Veitchia arecina* also has tall but slender features that vie with the adjacent skyscrapers.

Other tropical trees that are generally seen around the world in botanical gardens are well represented, including the always fascinating and popular

**Top**, the candle tree *Parmentiera cereifera* (Bignoniaceae) – a native oddity of Panama – produces green fruits that mature to yellow. The fruits are edible and are used to make pickles and preserves. They remind one of the fruits of red mangrove *Rhizophora mangle*, which are a different family (Rhizophoraceae), live in a different habitat, and are not edible. They are however a relative of the Calabash (Cucurbitaceae). As far as is known the fruit was not used as candles by early settlers. The candle tree is not to be confused with the candle nut tree, or Kukui tree *Aleurites moluccanus*, the official state tree of Hawaii (even though it is not native but introduced from Polynesia). The round nuts were used as candles. The flowers are the official lei material used on Moloka'i.

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**Right**, blue is an unusual colour in trees, but the blue marble tree *Elaeocarpus angustifolius* (Elaeocarpaceae) brightens up the leaf litter with its colourful leaves and drupes. It is native to Queensland, Australia.



84

cannon-ball trees, breadfruit trees, the Africa sausage trees *Kigelia africana*, the proverbial utilitarian calabash *Lagenaria siceraria* from the Amazon, mixed with unusual species such as the candle tree *Parmentiera cereifera* from Panama, and the blue marble tree *Elaeocarpus angustifolius* from Queensland, Australia, and also the lettuce tree *Pisonia grandis* from the Andaman Islands.

In the 'Economic Garden' there are a number of citrus species and varieties including the weird-looking Buddha's-hand citron *Citrus medica* var. *sarcodactylus* with its large green or yellow fruits, its white flowers being visited by honey bees. There was also a mission vine (*Vitis* sp.) dating back to earlier times when the garden was founded.

Other arboricultural delights were strychnine, *Strychnos nux-vomica*, from India and Southeast Asia and the stunning blood red flowers underneath the large fronds of the Panama hat plant *Carludovica palmata*.

#### Acknowledgements

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#### References

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