



SOUTH AMERICAN PALM WEEVIL

▶ PALM TREE IDENTIFICATION AND SUSCEPTIBILITY

INTRODUCTION:

Palm trees are an iconic part of the Southern California native and maintained landscapes. There are a multitude of native and non-native palm trees planned into street designs, front and back yard landscape features, and grow abundant in riparian areas serving as a source of food and shelter for many animal species. Unfortunately, many of the palm trees we know and love are a food source for the South American palm weevil, but thankfully not all are a suitable host for this massive pest.

PALM IDENTIFICATION GUIDE

Palms are *monocotyledons* in the family *Arecaceae*. Plants in this family include trees or tree-like shrubs with large evergreen leaves, arranged at the top of an unbranched columnar stem.

PALMS CAN BE DISTINGUISHED BY:

Types of Leaves:

Fronds with or without spines or other protrusions.

- ▶ Feather-shaped fronds consist of separate long leaflets that grow from a central stalk (rachis).
- ▶ Fan-shaped fronds radiate from a central point along the stem (like fingers on a hand).
- ▶ Presence or absence of a crown shaft, a column of leaf bases arranged above the main trunk and below the crown of leaves.

Trunk Characteristics:

Overall size; color; texture; singular or clumping, with smooth surface or covered with scars from old leaves, straight or tapered.

Flowers and Fruit

Growing Conditions & Location



HOSTS

Rhynchophorus palmarum has been reported on 35 plant species in 12 different families. The insect is economically important to palms and sugarcane.

PRIMARY HOSTS

- ▶ *Cocos nucifera* (coconut)
- ▶ *Elaeis guineensis* (African oil palm)
- ▶ *Euterpe edulis* (assai palm)
- ▶ *Metroxylon sagu* (sago palm)
- ▶ *Phoenix canariensis* (Canary Island date palm)
- ▶ *Phoenix dactylifera* (date palm)
- ▶ *Saccharum officinarum* (sugarcane)

SECONDARY HOSTS

- ▶ *Ananas comosus* (pineapple)
- ▶ *Annona reticulata* (custard apple)
- ▶ *Artocarpus altilis* (Fosberg breadfruit)
- ▶ *Carica papaya* (papaya)
- ▶ *Citrus* spp. (citrus)
- ▶ *Mangifera indica* (mango)
- ▶ *Musa* spp. (banana)
- ▶ *Persea americana* (avocado)
- ▶ *Psidium guajava* (guava)
- ▶ *Theobroma cacao* (cocoa)

ADULTS CAN FEED ON A MULTITUDE OF PLANT SPECIES INCLUDING

- ▶ *Acrocomia aculeata* (gru gru palm)¹
- ▶ *Ananas sativa* (pineapple)⁴
- ▶ *Annona reticulata* (sugar apple)⁴
- ▶ *Annona muricata* (sour sop)⁴
- ▶ *Bactris major* (black Roseau palm)¹
- ▶ *Bambusa* sp. (bamboo)²
- ▶ *Beta vulgaris* (beet)³
- ▶ *Brassica rapa* (turnip)³
- ▶ *Carica papaya* (paw paw)⁵
- ▶ *Chrysalidocarpus lutescens* (bamboo palm)¹
- ▶ *Citrullus vulgaris* (watermelon)⁴
- ▶ *Citrus aurantium* (orange)⁴
- ▶ *Colocasia* sp. (dasheen)³
- ▶ *Cucumis sativus* (cucumber)⁴
- ▶ *Cucurbita pepo* (pumpkin)⁴
- ▶ *Daucus carota* (wild carrot)⁴

AUTHORS: Leah Taylor¹; Lea Corkidi¹; Mark Hoddle Ph.D.²; Tracy Ellis, Ph.D.³ (¹UC Cooperative Extension, ²UC Riverside, ³County of San Diego, Department of Agriculture, Weights & Measures). **DESIGN:** Ben DiAnna. **IMAGES:** Provided by Authors, Designer and www.selectree.calpoly.edu

1 Succulent Stem | 2 Young Shoot | 3 Tuber | 4 Ripened Fruit | 5 Green and Ripened Fruit

(EPPO, 2007a; Thomas, 2010)



IDENTIFY PALM SPECIES AND SUSCEPTIBILITY TO SAPW



King Palm

ARCHONTOPHOENIX CUNNINGHAMIANA

25 - 50 ft. tall and 10 - 15 ft. wide

Solitary palms native to the rainforests of Eastern Australia. Their trunk is slender and gray and has distinctive ridged rings of leaf scars.

Fronde fall off naturally exposing a clean trunk. they produce small lavender female and male flowers in large hanging inflorescences around the base of the crown shaft from early Spring to Summer, followed by bright red berry-like fruit.

(HOST: UNKNOWN)



Coconut Palm

COCOS NUCIFERA

30 - 100 ft. tall and 12 -30 ft. wide

Original habitat unknown. Is recognized by its slanted, sweeping, white to tan trunk with darker rings, that is swollen at the base. They produce drooping clusters of male or female flowers in the same tree, followed by clumps of coconuts that hang beneath the leaf crown.

(HOST: YES)



Açai Palm

EUTERPE OLERACEAE

40 - 60 ft. tall and 30 - 50 ft. wide

Native to Brazil, Peru, Suriname, Trinidad and Tobago. They are cultivated for their fruit (acai berries), hearts of palm, leaves and trunk wood. The upper part of the trunk is green and the lower part gray, and it is covered by widely spaced dark rings. They produce clusters of whitish unisexual flowers of both sexes followed by round deep purple fruits when ripe.

(HOST: YES)



Canary Island Date Palm

PHOENIX CANARIENSIS

70 - 90 ft. tall and 25 - 40 ft. wide

It is noted for its massive, thick columnar gray-brown trunk with distinctive diamond-shaped leaf scars, and a completely round crown of arching feathered fronds that measure 10 - 20 ft long.

They produce creamy white to pale yellow flowers in dense pendant panicles on male and female plants throughout the year, followed by yellow-orange, date like fruits.

(HOST: YES)



Date Palm

PHOENIX DACTYLIFERA

70 - 90 ft. tall and 20 ft. wide

Date palms can grow singly or can form clumps of several stems from a single root system. Their trunk is columnar, brown to dark gray and with closely set rings of flat "knobs" (scales). Date palms produce yellow female and male flowers in separate plants in the Spring, and produce purple brown edible fruit.

(HOST: YES)



Pigmy/Miniature Date Palm

PHOENIX ROEBELINII

6 - 12 ft. tall and a 3 ft. wide

Dwarf palms native to southeastern Asia. They are distinguished by straight or curvy slender trunks that reach made of shiny leaflets. They produce insignificant clusters of flowers hidden among the leaves throughout the year, followed by jet-black dates which turn red when ripe.

(HOST: BEETLES ATTRACTED TO FRUIT ONLY)



Queen Palm

SYAGRUS ROMANZOFFIANA

50 ft. tall and 20-30 ft. wide

Queen palms are native to South America, but are the most common of the ornamental palms planted in Southern California. Their trunks are covered with leaf bases and fibers near the crown but are smooth and gray below.

Clusters of flowers surrounded by a woody boat of leaves are produced between the leaves during the spring and summer and are followed by bright orange fruit that accumulate on the ground beneath the canopy.

(HOST: UNKNOWN)



Windmill/Chinese Windmill Palm

TRACHYCARPUS FORTUNEI

40- 65 ft. tall and 6 - 12 in. wide

Solitary palms native to China, Japan, Myanmar and India. Their erect, gray brown rough trunks are matted with brown fibers and remnant leaf bases.

Densely branched clusters of male and female flowers grow on separate plants. Female plants produce kidney-shaped, purplish black fruit during the fall.

(HOST: UNKNOWN)



California Fan Palm

WASHINGTONIA FILIFERA

60 -70 ft. tall | (HOST: UNKNOWN)

California fan Palm is the only palm native to California. It was named in honor of the President of the United States, George Washington. California Fan Palms have a smooth, dark gray, thick columnar trunk and are distinguished for their open crown of fan-shaped leaves with long leaf stalks, and cottony threads that hang from the tips of the leaves. Older leaves persist in the tree forming a skirt. It blooms in the Spring, producing large clusters of tiny flowers followed by small black fruits in the Winter.



Mexican Fan Palm

WASHINGTONIA ROBUSTA

60 to 100 ft. tall

Native to North West Mexico and Baja California. It is distinguished for its remarkable tall, slender and tapered trunks that reach from, and are studded with reddish brown leaf bases on young trees but are smooth and gray on older trees.

(HOST: UNKNOWN)