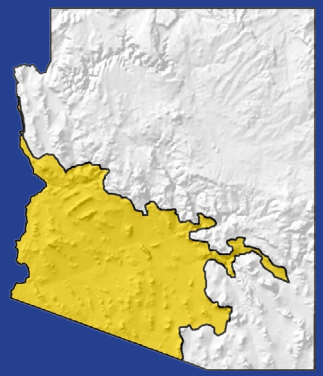
Arizona Urban Tree Map

Field Guide

SOUTHWEST DESERT CLIMATE REGION

Tree Identification Guide for the Urban Forests of Arizona's Southwest Desert



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INTRODUCTION

The Arizona Urban Tree Map (AZ UTM) is a joint project of the Arizona State Forestry Division and USDA Forest Service. The main goals of the project are to 1) support communities throughout Arizona in conducting urban forest inventories and 2) compile a database of inventory information, local forest resource information, strategies for public involvement and a sustainable plan to enable long-term urban forest management. This Tree Guide and corresponding instruction manual have been created using guidelines from the i-Tree Streets software program, which is an analysis tool for urban forest managers that uses tree inventory data to quantify the dollar value of annual environmental and aesthetic benefits: energy conservation, air quality improvement, CO2 reduction, stormwater control, and property value increase (*www.itreetools.org/streets/*).

The i-Tree Streets program divides Arizona into three distinct climate zones (Figure 1): Southwest Desert, Interior West and North. This Tree Guide describes trees in the Southwest Desert Climate region as listed in the i-Tree program. This region includes communities located in the Mojave and Sonoran deserts. The region extends south to Mexico bordering western Arizona and eastern California. This guide focuses only on the Arizona portion of the Southwest Desert region.

Users doing an inventory in a city that is near the border of several climate regions should consult the USFS community tree guides at *www.fs.fed.us/psw/programs/cufr/* for the reference cities near their study area to compare characteristics (e.g. typical tree species, climate) of the reference city to match with their study area.

This Tree Guide and associated inventory materials, including instructions on how to use the AZ State Forestry database, can be found online at *www.azsf.az.gov/azutm*.

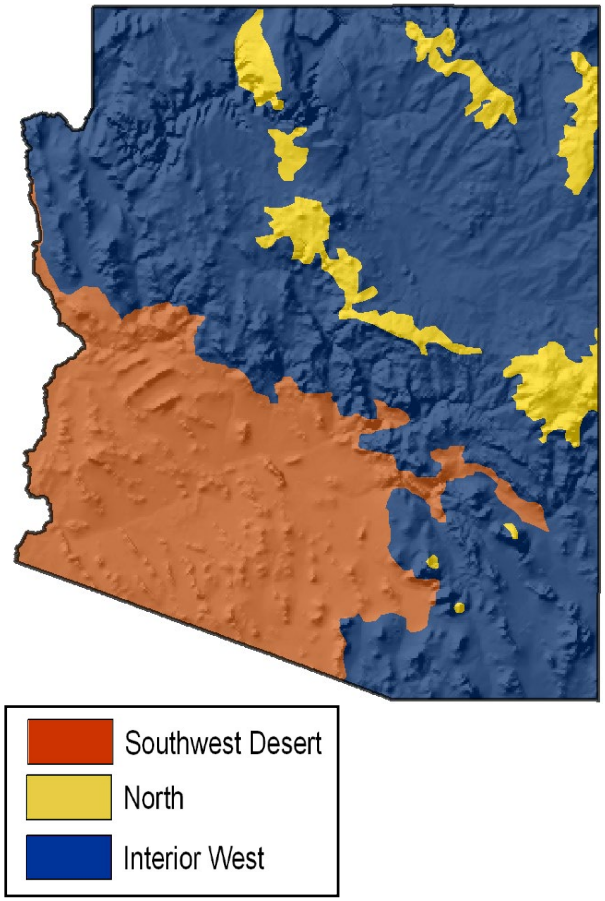


Figure 1. Arizona Climate Regions as defined by i-Tree Streets

HOW TO USE THIS GUIDE

This tree field guide is designed to aid in the identification of trees commonly found in urban settings of the Southwest Desert region of Arizona. This guide does not contain information on natural setting (e.g. habitat, range, elevation) for each species because this guide is geared for tree identification in an urban setting where trees may have been planted, pruned or supplementally watered. Instead this guide focuses on tree characteristics such as form, leaf, fruit, flower and bark to aid in identification no matter the setting.

Pages 11 and 12 contain information on broad categories of trees that can be recorded during a tree inventory if no other identification can be made. These trees are separated into deciduous broadleaf, deciduous evergreen, conifers, and palms and then further divided by tree size (small, medium, large). Following the broad categories are pages that contain information on specific trees and corresponding identifying characteristics. These pages are grouped by leaf type and then ordered alphabetically by scientific name. Each of these tree pages has a consistent structure to make it easier to locate pertinent information. A leaf icon showing basic leaf type appears on the top right corner of each description box. The scientific name(s) is listed first in italics followed by common name(s) in parentheses. Scientific names with an 'x' in the name indicate that the species is a hybrid, or cross, between two other common tree species. Below species name is Family and Species Code, which is a two to six letter/number code in all caps. Each code is composed of the first two letters of the Genus and the first two letters of the species and a numerical identifier if needed (e.g. the code for *Pinus eldarica is* PIED2). The species code is an easy way to reference trees while in the field without having to record a lengthy scientific or common name. Below the tree name and species code is a list of information that can aid in tree identification, including family, typical height and width, form, leaf, bark, fruit, flower, and commonly associated insect and disease agents. A list of scientific names, common names and species codes appears in the Index at the end of this guide. An expanded guide to the most likely insect and disease agents found in Arizona can be found in the Arizona Urban Tree Insect and Disease Field Guide at *www.azsf.az.gov/azutm*.

Example leaf icon for clustered needles

This information is meant to be a guide, not an exhaustive description of all tree characteristics. Using leaf type descriptions on page 4 and the dichotomous leaf key on page 5 are the easiest ways to identify a tree. The leaf key presents options related to leaf characteristics that lead to a list of trees and corresponding page numbers. To use the leaf key, determine if the leaf is scaly, needle-shaped or broad. For broad leaves, the next step is to determine if the leaves are simple or compound. Simple leaves are divided into categories based on leaf edges (smooth, serrated or lobed). Compound leaves are divided by leaflet type.

This guide does include some technical botanical terms, especially relating to leaf type. A list of technical terms and their definitions can be found in the Glossary (Pg. 71).

BASIC TREE MEASUREMENTS

Diameter at Breast Height
The most common tree measurement is Diameter at Breast Height, or DBH. DBH refers to the diameter of the trunk 4.5 feet from the ground on the uphill side of the tree and is used to estimate tree volume or weight.

There are several ways to measure DBH. A standard measuring tape does not measure DBH directly, but can be used to measure circumference. Dividing circumference by 3.14 gives the diameter. Calipers can be used, although the most popular tool is a diameter tape, or d-tape. The gradations on a d-tape are already converted from circumference to diameter, which is why it looks different than a standard measuring tape. A third option is a Biltmore stick, a graduated stick much like a yard stick. DBH is measured by holding the stick 25 inches from the eye and at breast height. The left side of the stick is flush with the left side of the tree. The number where the right side of the tree lines up with the stick is the approximate DBH of the tree.

Height
A Biltmore stick can also be used to estimate the height of a tree. Height is measured by standing about 65 feet from the tree and holding the stick upright with the back edge of the stick facing the user. The back edge of the stick will be marked with 1, 2, 3, 4, and 5 log markings, indicating the number of 16-foot logs in a tree (i.e. each log equals 16 feet). The bottom of the stick should line up with the bottom of the trunk. The height of the tree is how high the tree goes up on the stick. Another common tool is a clinometer, which uses triangulation to measure tree height.

Using a Biltmore stick to measure DBH.

Tips for Measuring DBH

The tree tapers in such a way that the diameter at a point below 4.5 feet is actually smaller than the diameter at 4.5 feet. Measure the diameter at the smallest point.

The tree has branches or bumps that interfere with DBH measurement. Measure DBH below the branch or bump, either a foot below or the point where bumps or branches cease to affect diameter of the stem. The underlying concept is to measure the diameter that would be closest to the expected DBH if branches or other irregularities were not present.

The vertically growing tree is on a slope. Measure the diameter 4.5 feet from the ground on the upper side of the slope.

The tree leans. Measure 4.5 feet up the stem in the direction of the lean.

The tree forks below DBH or near DBH. Measure the diameter at the narrowest part of the main stem below the fork.

The tree splits into several trunks close to ground level. Measure the diameter of each trunk separately, using the principals described above. The DBH for the tree is found by adding each diameter and taking the square root of the sum.

LEAF TYPES

Needles and scaly needles
Needle-like leaves are comparatively long, thin, usually evergreen and most often found on conifers. Needles may be rounded as in pines, flattened as in hemlocks, or scale-like (often triangular-shaped and appressed to the stem) as in junipers and cedars. Needles can be arranged singly or can occur in groups of 2-5 within a fascicle (bundle).

Single needle N/A

Clustered needles Pg. 13

Scaly needles Pg. 16

Simple undissected and simple lobed leaves
Simple leaves have a single leaf blade from their point of attachment to the stem. Some simple leaves have leaf margins that are round, elliptical or oval without indentations. These are referred to as simple undissected leaves. Others have a single blade at the point of attachment but have margins that indent - divided into incompletely separated sections (resembling clubs in a deck of cards). These are referred to as simple lobed leaves. Simple undissected and simple lobed leaves may be arranged oppositely or alternately along a stem. Opposite leaves occur directly across from each other while alternate leaves are off-set.

Simple undissected opposite Pg. 20

Simple undissected alternate Pg. 24

Simple lobed opposite N/A

Simple lobed alternate Pg. 45

Compound leaves (pinnate or palmate)
A compound leaf is a single leaf that is composed of many small blades (leaflets) that resemble leaves themselves. Each compound leaf has a single point of attachment to the stem. Pinnately compound leaves are the shape of a feather, palmately compound leaves are the shape of a fan or hand.

Pinnately compound opposite Pg. 48

Pinnately compound alternate Pg. 50

Palmately compound opposite Pg. 56

Palmately compound alternate Pg. 57

Bipinnately compound leaves
A twice compound leaf occurs when each of the leaflets (divided leaf blades) of a compound leaf is composed of an even smaller set of leaflets. Compound leaves, like simple leaves, may be arranged oppositely or alternately along a stem. Opposite leaves occur directly across from each other while alternate leaves are off-set.

Bipinnately compound opposite N/A

Bipinnately compound alternate Pg. 58

DICHOTOMOUS LEAF KEY

Scale-Leaved or Needle-Leaved Trees

Scale-Leaved
Leaves scale-like, mostly evergreen

Shoots distinctly flat	Shoots not flat
Platycladus orientalis, Oriental arborvitae, Thuja orientalis 18L	*Casuarina equisetifolia, C. cunninghamiana,* Australian pine 16R *Cupressus sempervirens,* Italian cypress 17L *Juniperus* species, Juniper 17R *Tamarix chinensis,* Fivestamen tamarisk, Saltcedar 18R *Taxodium huegelii, Taxodium mucronatum,* Montezuma cypress 19L

Needle-Leaved
Leaves needle-like

Needles occurring singly (not in clusters/fascicles)	Needles in clusters/fascicles of two to three	Needles in clusters/fascicles of five
None	*Pinus* species, Pine 13R *Pinus canariensis,* Canary Island pine 14L *Pinus eldarica,* Afghan pine, Desert pine, Elder pine 14R *Pinus halepensis,* Aleppo pine 15L	None

Broad-Leaved Trees

Leaves opposite (or whorled) on the twigs

Leaves simple, undissected, not compound

Leaf edge smooth (entire leaf margin)

Leaves linear (more than twice as long as they are wide)

Chilopsis linearis, Desert willow 20R

Nerium oleander, Oleander 22R

Olea europaea, Olive tree 23L

Leaves not linear

Lagerstroemia indica, Common crapemyrtle 21L

Ligustrum lucidum, Common, Chinese, Glossy privet 21R

Myrtus communis, Myrtle 22L

Leaves lobed (deeply incised)

None

Leaf edge toothed (dentate or serrate)

None

Leaves compound, dissected leaf blade

Leaves pinnately (feather-like) compound

Fraxinus uhdei, Evergreen ash 48R

Fraxinus velutina, Velvet ash 49L

Leaves palmately (hand-like) compound

Vitex agnus-castus, Chaste tree, Monk's pepper tree 56R

Leaves bipinnately (leaflet divided into leaflets) compound

None

Broad-Leaved Trees

Leaves alternate on the twigs

Leaves simple, undissected, not compound

Leaves compound, dissected leaf blade See page 6

Leaf edge smooth (entire leaf margin)

Leaf edge toothed (dentate or serrate)

See page 8

Leaves lobed (deeply incised)

See page 8

Leaves linear (more than twice as long as they are wide)

Leaves not linear

Fruit woody capsules in clusters

Brachychiton populneus, Bottle tree 27L

Eucalyptus polyanthemos, Silver dollar gum 31L

Eucalyptus rudis, Desert gum eucalyptus 31R

Eucalyptus sideroxylon, Red ironbark 32L

Fruit not woody capsules in clusters

Fruit woody, bell shaped capsules in clusters

Fruit other than woody, bell shaped capsules in clusters

Callistemon viminalis, Weeping bottlebrush 27R
Eucalyptus species, Gum 29R
Eucalyptus camaldulensis Red gum eucalyptus 30L
Eucalyptus leucoxylon White ironbark 30R
Eucalyptus microtheca Coolibah tree 31L
Eucalyptus polyanthemos, Silver dollar gum 31R
Eucalyptus rudis, Desert gum eucalyptus 32L
Eucalyptus sideroxylon, Red ironbark 32R
Eucalyptus spathulata, Swamp mallee 33L
Eucalyptus torquata, Coral gum 33R

Acacia species, Acacia 24R

Acacia aneura, Mulga 25L

Acacia salicina, Willow acacia 25R

Acacia saligna, Orange/Blue leaf wattle, 26L

Acacia stenophylla, Shoestring acacia 26R

Geijera parviflora, Australian willow 34L

Thevetia peruviana, Yellow oleander 44L

Celtis reticulata, Netleaf hackberry 28L

Citrus species, Citrus 29R

Cydonia oblonga. Quince 29L

Ficus benjamina, Benjamin fig, Weeping fig 34L

Ficus retusa ssp. nitida, Indian laurel fig 34R

Magnolia grandiflora, Southern magnolia 35R

Broad-Leaved Trees

Leaves alternate on the twigs

Leaves simple, undissected, not compound

Leaves compound, dissected leaf blade See page 6

Leaf edge toothed (dentate or serrate)

Leaf edge smooth (entire leaf margin)

See page 3

Leaves lobed (deeply incised)

Leaves leathery/rigid

Leaves not leathery/rigid

Quercus muehlenbergii, Chinkapin oak 41R
Quercus suber, Cork oak 41L
Quercus virginiana, Live oak 42R

Fruit fleshy

Fruit not fleshy

Bauhinia variegata, Mountain ebony 45R
Ficus carica, Common fig 46L
Morus alba, White mulberry 46R
Platanus racemosa, California sycamore 47L
Platanus wrightii, Arizona sycamore 47R

Celtis reticulata, Netleaf hackberry 28L
Malus species, Apple 36L
Prunus species, Plum 38L
Prunus armeniaca, Apricot 38R
Prunus cerasifera, Cherry plum 39L
Prunus dulcis, Sweet almond 39R
Prunus persica, Peach 40RL
Pyrus communis, Common pear 40R
Pyrus kawakamii, Evergreen pear 41L

Populus species, Cottonwood 36R
Populus balsamifera, Balsam poplar 36L
Populus fremontii, Fremont cottonwood 37R
Salix species, Willow 43L
Salix x sepulcralis simonkai, Weeping willow 43R
Ulmus parvifolia, Chinese elm 44R

Broad-Leaved Trees

Leaves simple, undissected, not compound

See page 6, 7

Leaves alternate on the twigs

Leaves compound, dissected leaf blade

Leaves pinnately (feather-like) compound

Tree palm-like (large evergreen leaves spirally arranged at top of stem)

Arecastrum romanzoffianum, Queen palm 67R
Phoenix canariensis, Canary Island date palm, 68L
Phoenix dactylifera, Date palm, Arab date 68R

Tree not palm-like

Fruit is a bean pod

Ceratonia siliqua, Carob tree 51L
Dalbergia sissoo, India rosewood, Sisoo 51R
Gleditsia triacanthos, Honeylocust 52L
Olneya tesota, Tesota, Ironwood 53L
Parkinsonia aculeata, Jerusalem thorn 53R
Sophora secundiflora, Mescal bean 55L

Fruit is not a bean pod

Carya illinoinensis, Pecan 50R
Grevillea robusta, Silk oak 52R
Pistacia chinensis, Chinese pistache 54L
Schinus molle, California peppertree *54R*

Leaves palmately (hand-like) compound

Tree palm-like (large evergreen leaves spirally arranged at top of stem)

Brahea armata, Mexican blue 69L
Chamaerops humilis, Mediterranean fan 69R
Washingtonia filifera, California fan 70L
Washingtonia robusta, Mexican fan 70R

Tree not palm-like

Rhus lancea, African sumac 57R

Leaves bipinnately compound (leaflet divided into leaflets)

See page 6

Broad-Leaved Trees

Leaves simple, undissected, not compound

See page 6, 7

Leaves alternate on the twigs

Leaves compound, dissected leaf blade

Leaves bipinnately compound (leaflet divided into leaflets)

Leaves pinnately (feather-like) compound

See page 9

Leaves palmately (hand-like) compound

See page 9

Fruit is a bean pod

Young bark is bright green

Cercidium praecox, Sonoran palo verde 60R

Parkinsonia florida, Blue paloverde 63L

Parkinsonia microphylla, Foothill paloverde 63R

Young bark is not bright green

Flowers arranged in cylindrical spikes (catkins)

Acacia millefolia, Santa Rita acacia 59R
Ebenopsis ebano, Texas ebony 61L
Gleditsia triacanthos, Honeylocust 52L
Prosopis species, Mesquite 64L
Prosopis alba, Argentine mesquite 64R
Prosopis chilensis, Algarrobo, Chilean mesquite 65L
Prosopis glandulosa, Honey mesquite 65R
Prosopis pubescens, Screwbean mesquite 66L
Prosopis velutina, Velvet mesquite 66R

Flowers arranged in pompoms (not catkins)

Acacia species, Acacia 58R

Acacia farnesiana, Sweet acacia 59L

Albizia julibrissin, Mimosa 60L

Lysiloma watsoni, Feather bush 62L

Fruit is not a bean pod

Jacaranda mimosifolia, Jacaranda 60R

Melia azedarach, Chinaberry 61R

Broadleaf Deciduous

Species code: BDL, BDM, BDS

Broadleaf deciduous trees have broad, flat leaves and are normally leafless at some time during each year. In comparison, conifers (and some others) have leaves resembling needles.

Large (BDL): greater than 40' at maturity. Examples: sycamore, cottonwood, ash, mulberry, *Populus*, walnut.
Medium (BDM): 20-40' at maturity. Examples: palo verde, most mesquite, *Albizia*, and some *Acacia* species.
Small (BDS): less than 20' at maturity. Examples: *Prunus*, *Pyrus*, crape myrtle, Texas ebony, pomegranate, *Vitex*, some *Acacia* species.

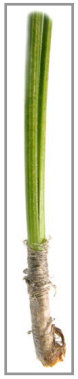
Broadleaf Evergreen

Species code: BEL, BEM, BES

Broadleaf evergreen trees have broad, flat leaves that are normally retained year round. In comparison, conifers (and some others) have leaves resembling needles.

Large (BEL): greater than 40' at maturity. Examples: Many *Eucalyptus* species, silk oak, Indian laurel.
Medium (BEM): 20-40' at maturity. Examples: Olive, weeping fig, Chinese privet, African sumac.
Small (BES): less than 20' at maturity. Examples: Citrus, oleander, Texas mountain laurel, California pepper tree, some *Acacia* species.







Conifer Evergreen

Species code: CEL, CEM, CES

Conifer evergreen trees bear cones (in lieu of fruits and flowers) and have needle-like or scaly leaves that are normally retained year round. Scaly/needle-leafed flowering plants that are not conifers are included in this category.

Large (CEL): greater than 40' at maturity. Examples: Afghan pine, aleppo pine, atlas cedar, deodar cedar, athel tree, *Casuarina,* Italian cypress.
Medium (CEM): 20-40' at maturity. Examples: Canary Island pine, pinyon pine, Mexican pinyon pine.
Small (CES): less than 20' at maturity. Examples: Hollywood juniper, Arizona cypress.

Palm Evergreen

Species code: PEL, PEM, PES

Palm evergreen trees have well developed, usually unbranched, erect trunks that normally retain their leaves year round. Leaves are large, simple or most often fan or feather shaped. Flowers (3 part) and fruit (drupe or nut-like) form on a panicle hanging between leaves.

Large (PEL): exceeds 40' at maturity. Examples: Date palm, Canary Island date palm, California fan palm.
Medium (PEM): 20-40' at maturity. Examples: Queen palm, pindo palm.
Small (PES): less than 20' at maturity. Example: Mediterranean fan palm.






CLUSTERED NEEDLES

Pinus species (Pine)

Family: Pinaceae **Species code: PI2**
Height: 30-80' **Width:** 15-40'
Form: Generally symmetrical; conical, round or columnar shape
Leaf: Needles either in groups of 2 or 3; light green to dark blue-green
Bark: Furrowed; gray to red-brown
Fruit: Cones from 2-9"
Flower: Insignificant
Common Insects/Disease: Aphids, beetle borers, spider mites, rust, *Phytopthora*, sooty mold and pitch canker










Pinus canariensis (Canary Island pine)

Family: Pinaceae **Species code: PICA**
Height: 50-80' **Width:** 1/3 of the height
Form: Tiered vertical, columnar or conical
Leaf: Dark bluish-green needles, 12" long in bundles of 3
Bark: Red-brown and furrowed
Fruit: Glossy brown cones 4-9" long
Flower: Not significant
Common Insects/Disease: Aphids, beetle borers, spider mites, *Phytophthora*, sooty mold and pitch canker

Pinus eldarica (Afghan pine, Desert pine, Elder pine)

Family: Pinaceae **Species code: PIEL2**
Height: 30-50' **Width:** 15-25'
Form: Symmetrical and cone-shaped
Leaf: Sheath of paired evergreen needles; 3-6" long; fascicles of 2 or 3; thin and irregularly twisted; bright green to blue green
Bark: Gray and fissured
Fruit: Reddish-brown cone; 5-6" long
Flower: Insignificant
Common Insects/Disease: No significant









Pinus halepensis (Aleppo pine)

Family: Pinaceae **Species code: PIHA**
Height: 50' **Width:** 20-40'
Form: Round to irregular billowing crowns
Leaf: Light green needles usually in pairs; 2-4" long
Bark: Gray with red-brown; deeply fissured (lower trunk) to flaky (upper trunk)
Fruit: Rounded cones; light brown; 2" diameter
Flower: Males are cylindrical in a tight cluster at branch tips; females small, reddish purple with loose scales at branch tips
Common Insects/Disease: Aleppo pine blight

SCALY NEEDLES

Casuarina equisetifolia, C. cunninghamiana (Australian pine)

Family: Casuarinaceae **Species code: CAEQ**
Height: 40-65' **Width:** 20-30'
Form: Upright to spreading
Leaf: Needle-like leaves (jointed branchlets .05-.15")
Bark: Initially smooth, later scaly strips; gray to reddish brown
Fruit: Small cone-like fruit (.5-.75" diameter) with numerous pointed scales; reddish brown
Flower: Light brown; males in slender spikes at branch tips; females in clusters near base of branchlets
Common Insects/Disease: No significant











Cupressus sempervirens (Italian cypress)

Family: Cupressaceae **Species code: CUSE**
Height: 40-60' **Width:** 8-15'
Form: Erect, narrow, tapering column
Leaf: Very small and scale-like; dark-green, dense and fine textured; evergreen
Bark: Light to dark gray; furrowed or smooth
Fruit: Insignificant
Flower: Hard rounded cones, 1" diameter
Common Insects/Disease: Spider mites and *Phytophthora*

Juniperus species (Juniper)

Family: Cupressaceae **Species code: JU**
Height: 20-50' **Width:** 8-20'
Form: Erect, or spreading oval shape
Leaf: Scale-like; blue-green or silver-gray
Bark: Light to dark gray; furrowed or smooth
Bark: Variable; can be blocky, rough and scaly to exfoliating; ridged or striated; light green, gray or red-brown
Fruit: Small (.25-.5") fleshy, brown or red cone that can look berry-like
Flower: Insignificant
Common Insects/Disease: Aphids, beetle borers, spider mites, spittlebugs and rust










Platycladus orientalis (Oriental arborvitae, Thuja orientalis)

Family: Cupressaceae **Species code: THOR**
Height: 40' **Width:** 20'
Form: Erect, oval
Leaf: Scale-like; medium to light green; evergreen
Bark: Red-brown and scaly or smooth
Fruit: Brown or blue cones (.5-1.5") appear in Fall
Flower: Not a flowering plant
Common Insects/Disease: Spider mites and *Phytophthora*

Tamarix chinensis (Fivestamen tamarisk, Saltcedar)

Family: Tamaricaceae **Species code: TACH2**
Height: 20-40' **Width**: 15-30'
Form: Single trunk or as a shrub with several spreading erect branches
Leaf: Small lance-shaped, scale-like leaves which are no more than about .1" long
Bark: Smooth, reddish brown, numerous lenticels
Fruit: Small, dry, brown, pointed capsules, .1" long
Flower: Five petals which are usually pink but range from white to red
Common Insects/Disease: No significant








Taxodium mucronatum, Taxodium huegelii
(Montezuma cypress)

Family: Taxodiaceae **Species code: TAMU**
Height: 60-80' **Width:** 20-40'
Form: Erect or weeping
Leaf: Linear and medium to light green; evergreen to partly deciduous
Bark: Red-brown and fissured
Fruit: Brown cone (.5-1.5" long)
Flower: Insignificant
Common Insects/Disease: Beetle borers

SIMPLE UNDISSECTED OPPOSITE LEAVES

Chilopsis linearis (Desert willow)

Family: Bignoniaceae **Species code: CHLI**
Height: 30' **Width**: 10'
Form: Spreading low or high canopy, multi-stemmed, often with a twisted crown
Leaf: Alternate and opposite or whorled on the same stem, linear, often slightly curved, 3-5" long
Bark: Gray-brown with lighter colored cracks and splits
Fruit: Long and thin, slightly twisted brown capsule, 6-12"
Flower: Attractive, bell shaped, 1" long, white to pale lavender with purple and yellow streaks inside throat
Common Insects/Disease: Fall webworm and Western tent caterpillar




Lagerstroemia indica (Common crapemyrtle)

Family: Lythraceae **Species code: LAIN**
Height: 22' **Width**: 22'
Form: Single or multi-stem; spreading and flat-topped
Leaf: Oval bronze or dark green; red, gold, orange or multi-colored in fall
Bark: Smooth, pinkinsh-gray and mottled; sheds each year
Fruit: Small, brown capsule
Flower: Showy, pink, white or purple
Common Insects/Disease: Aphids, powdery mildew and sooty mold

Ligustrum lucidum (Common, Chinese or Glossy privet)

Family: Oleaceae **Species code: LILU**
Height: 30' **Width:** 20'
Form: Hedge to round-headed tree
Leaf: Dark green, crisp, pointed, elongated oval leaves that curve backwards
Bark: Gray
Fruit: Clusters of dark purple, smaller than pea-sized berries
Flower: Pyramidal clusters of small flowers, whitish, mildly fragrant
Common Insects/Disease: No significant









Myrtus communis (Myrtle)

Family: Myrtaceae **Species code: MYCO**
Height:15' **Width:**15-20'
Form: Compact and erect or spreading
Leaf: Ovate and glossy; medium green; evergreen
Bark: Red, brown, or gray; scaly or smooth
Fruit: Prolific, blue-black single seeded berry (.25-1.5") fruiting in fall
Flower: Showy, fragrant, white to pinkish in April and May
Common Insects/Disease: No significant

Nerium oleander (Oleander)

Family: Apocynaceae **Species code: NEOL**
Height: 20' **Width:** 20'
Form: Sprawling shrub or pruned into oval or rounded tree
Leaf: Lanceolate (tapered) to 10" long; dark dull green; evergreen
Bark: Gray, brown or light green; gnarled or smooth
Fruit: Brown or mostly green follicle (.5-1.5" long) with fluffy airborne seeds
Flower: Showy, pink, red, salmon, white or yellow; appear in profusion singly or in pairs at branch tips; some fragrant
Common Insects/Disease: Aphids, scales and sooty mold

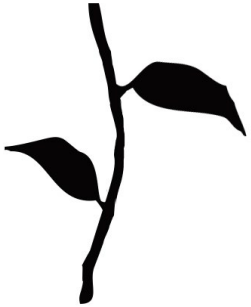




***Olea europaea* (Olive tree)**

Family: Oleaceae **Species code: OLEU**
Height: 40-50' single trunk, 5-30' multiple **Width:** Equal to height
Form: Erect or spreading with a low canopy
Leaf: Ovate and gray-green; evergreen
Bark: Light gray and scaly
Fruit: Prolific black, purple or green drupe (.5-1.5" long)
Flower: Small, waxy four-petaled flowers in white and yellow clusters
Common Insects/Disease: Scales, anthracnose, sooty mold and *Verticillium*

SIMPLE UNDISSECTED ALTERNATE LEAVES



Acacia species (Acacia)

Family: Fabaceae **Species code: ACSP2**
Height: 20-40' **Width**: 12-20'
Form: Generally erect or weeping shape with a low canopy
Leaf: Linear to lanceolate undissected leaves
Bark: Variable; can be furrowed, smooth or scaly; light green, brown or light to dark gray; some species with thorns or spines
Fruit: Generally large legume seed pods
Flower: Very small five-petaled flower, almost hidden by the long stamens and arranged in dense clusters; yellow or cream-colored in most species, whitish, purple, or red in some
Common Insects/Disease: Caterpillar











Acacia aneura (Mulga)

Family: Fabaceae **Species code: ACAN**
Height: 20' **Width:** 12-20'
Form: Erect or spreading
Leaf: Linear and silver gray; evergreen
Bark: Light green to dark brown and fissured
Fruit: Large, brown pod (1.5-3")
Flower: Showy, yellow and rod-shaped
Common Insects/Disease: No significant

Acacia salicina (Willow acacia)

Family: Fabaceae **Species code: ACSA3**
Height: 20-40' **Width**: 15'
Form: Spreading or weeping with a low canopy
Leaf: Linear to lanceolate (tapered); blue green or dark green; 6-10" long; sometimes cork-screw like
Bark: Smooth, ranging in color from white and grey to red-brown, which is shed in long ribbons
Fruit: Brown pod that varies in size (1-5" long and .5" wide); somewhat constricted between seeds; curly or flattened
Flower: Numerous clusters (15-25); showy cream, orange or yellow-green color
Common Insects/Disease: No significant








Acacia saligna (Orange wattle, Blue leaf wattle)

Family: Fabaceae **Species code: ACSA**
Height: 20-30' **Width:** 15-20'
Form: Spreading or weeping with a low canopy
Leaf: Linear and blue-green; evergreen
Bark: Dark brown, furrowed or rough
Fruit: Brown pod over 3" long
Flower: Yellow-orange puffballs in spring
Common Insects/Disease: No significant

Acacia stenophylla (Shoestring acacia)

Family: Fabaceae **Species code: ACST**
Height: 20' **Width:** 15'
Form: Erect to bending with an open crown
Leaf: Linear and gray-green; evergreen
Bark: Dark gray and furrowed or smooth
Fruit: Brown pods (over 3" long) that are constricted between seeds
Flower: Creamy, pale yellow to white puffballs
Common Insects/Disease: No significant










Brachychiton populneus (Bottle tree)

Family: Malvaceae **Species code: BRPO**
Height: 30-50' **Width**: Up to 30'
Form: Conical shape; erect or spreading with a high canopy
Leaf: Vary in shape: generally ovate; either simple and pointed or having 3-9 lobes; mostly 3" long or less
Bark: Light gray and smooth
Fruit: Large, brown canoe-shaped follicle (1.5-3") fruiting in summer or fall
Flower: Clusters of bell-shaped, yellow-green flowers with yellowish red inside on short, axillary panicles (on a stalk)
Common Insects/Disease: No significant

Callistemon viminalis (Weeping bottlebrush)

Family: Myrtaceae **Species code: CAVI**
Height: 15-30' **Width:** A third the height
Form: Spreading or weeping, irregular, low canopy, oval or rounded shape
Leaf: Linear and bronze tinged, gray-green or light green; evergreen
Bark: Dark gray and exfoliating or striated
Fruit: Small brown capsule (.25-.5")
Flower: Showy, red, bottle-brush shaped
Common Insects/Disease: No significant










Celtis reticulata (Netleaf hackberry)

Family: Cannabaceae **Species code: CELAR**
Height: 30-40' **Width**: Up to 30'
Form: small tree with a short trunk and open wide spreading crown with crooked branches
Leaf: Alternate, simple, pinnately veined, 2 - 4" long, leathery, ovate in shape, dark green **Bark:** Gray, smooth, becoming corky vertical ridges and/or ring shaped bumps with age
Fruit: Fleshy, sweet, globose drupe, .25" - .375" in diameter, reddish orange to purple when ripe in late summer
Flower: Very small (1/8 inch), pale green, appearing in early spring at the base of young leaves.
Common Insects/Disease: No significant

Citrus species (Citrus)

Family: Rutaceae **Species code: CISP**
Height: 5-30' **Width:** 5-30'
Form: Spiny small to medium-size trees; either spreading with a low canopy or compact and erect with a round canopy
Leaf: Ovate, glossy and medium to dark green; evergreen foliage
Bark: Dark brown to black
Fruit: Orange, red, yellow or green hesperidium, varying from very large to small (1" key lime to 6" grapefruit)
Flower: Showy pink or white, waxy, rigid, very fragrant
Common Insects/Disease: Aphids








Cydonia oblonga (Quince)

Family: Rosaceae **Species code: CYOB**
Height: 24' **Width**: 23'
Form: Single or multiple stems, rounded shape
Leaf: Oval or oblong and dark green
Bark: Dark brown or light green and smooth
Fruit: Green or yellow; soft and fragrant
Flower: White or pinkish
Common Insects/Disease: Psyllid, brown rot, chlorosis, fire blight and powdery mildew

Eucalyptus species (Gum)

Family: Myrtaceae **Species code: EU1**
Height: Variable; 10-150' **Width**: Variable; 18-60'
Form: Canopy generally makes up little of the height
Leaf: Commonly form in pairs on opposite sides of a square stem, consecutive pairs being at right angles to each other; waxy or glossy green
Bark: Varies with age (furrowed or smooth, flaky or hard)
Fruit: Woody, seed-bearing capsules with valves on top that can be cup, bowl or tube shaped; tend to occur in clusters
Flower : Numerous fluffy stamens which may be white, cream, yellow, pink or red
Common Insects/Disease: Beetle borers, thrip, *Phytophthora* and chlorosis









Eucalyptus camaldulensis (Red gum eucalyptus)

Family: Myrtaceae **Species code: EUCA1**
Height: 130-150' **Width**: 20-30'
Form: Erect or spreading with a single vertical stem
Leaf: Juvenile and adult leaves are stalked; adult leaves broad at the base, tapering to the tip
Bark: Smooth and shed in long ribbons; ranging in color from white and grey to red-brown
Fruit: Small, brown or mostly green capsule (.25-.5") fruiting in summer or fall
Flower: White tendrils
Common Insects/Disease: Beetle borers

Eucalyptus leucoxylon (White ironbark)

Family: Myrtaceae **Species code: EULE**
Height: 30-90' **Width**: 18-60'
Form: Erect or weeping; oval shape
Leaf: Falcate (sickle shaped) and 3-6" long; gray-green
Bark: Cream or light green; exfoliating or mottled
Fruit: Small brown or mostly green capsule
Flower: White, pink or red
Common Insects/Disease: Beetle borers








Eucalyptus microtheca (Coolibah tree)

Family: Myrtaceae **Species code: EUMI2**
Height: 30-40' **Width**: Generally greater than height
Form: Variably upright and irregular in spread
Leaf: Disjunct, narrowly lanceolate (tapered); 3-6" long and 1" wide; dull grey-green in color
Bark: Dark grey, thick and furrowed
Fruit: Small seed capsules
Flower: Small creamy flowers
Common Insects/Disease: Beetle borers

Eucalyptus polyanthemos (Silver dollar gum eucalyptus)

Family: Fabaceae **Species code: EUPO**
Height: 20-80' **Width**: 20-45'
Form: Single, crooked stem
Leaf: Juvenile leaves are round and grey-green; adult leaves are ovate, between 2-4" long and .75-2" wide with long petioles
Bark: Smooth or fibrous; grey or green in color
Fruit: Pear-shaped with enclosed valves
Flower: Whitish to pink and fragrant
Common Insects/Disease: Beetle borers








Eucalyptus rudis (Desert gum eucalyptus)

Family: Myrtaceae **Species code: EURU**
Height: 30-65' **Width**: 25-40'
Form: Large and upright with a rounded canopy
Leaf: Stalked, alternate, ovate to round; slightly discolourous and dull grey-green; broad at base narrowing to point; reddish petioles and stems
Bark: Blackish or gray; rough on trunk and larger branches; smooth and exfoliating on smaller branches
Fruit: Small capsule containing seeds (.25" long)
Flower: White or cream colored and a feather duster shape
Common Insects/Disease: Beetle borers, thrip and *Phytophthora*

Eucalyptus sideroxylon (Red ironbark)

Family: Fabaceae **Species code: EUSI**
Height: 50-80' **Width**: 25-30'
Form: Single stem
Leaf: Lanceolate (tapered); up to 8" long and .75" wide
Bark: Gray and deeply fissured
Fruit: Oblong, flat, thin, strap-like pods; 1.5-3" long and .4" wide; light brown
Flower: White, pink, red or pale yellow
Common Insects/Disease: Beetle borers, thrip, chlorosis and *Phytophthora*









Eucalyptus spathulata (Narrow-leaved gimlet, Swamp mallee)

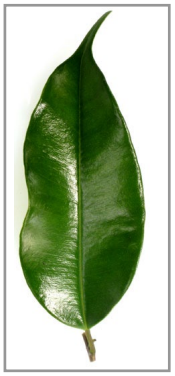
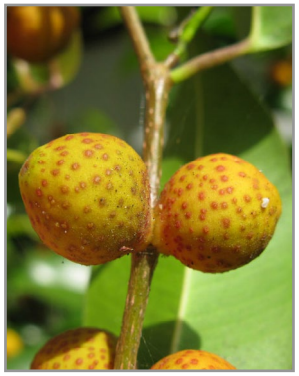
Family: Myrtaceae **Species code: EUSP**
Height: 20' **Width:** 20'
Form: Erect or spreading with an oval canopy shape
Leaf: Lanceolate (tapered) to linear; ribbon-like and bright green; evergreen foliage
Bark: Smooth and reddish brown
Fruit: Brown or green capsule (.25-.5")
Flower: Cream or yellow with showy stamens
Common Insects/Disease: Beetle borers

Eucalyptus torquata (Coral gum)

Family: Myrtaceae **Species code: EUTO11**
Height: 10-35' **Width**: Nearly equal to height
Form: Erect or weeping
Leaf: Lanceolate (tapered) with blunt, pointed tip; 3" long; gray to light green
Bark: Smooth, ranging in color from white and grey to red-brown, which is shed in long ribbons
Fruit: Small (.5") purple or red capsule on a short stalk
Flower: Showy, red or yellow; approximately 1" across
Common Insects/Disease: Beetle borers and *Phytophthora*





Ficus benjamina (Benjamin fig, Weeping fig)

Family: Moraceae **Species code: FIBE**
Height: 45-60' **Width:** 60-80'
Form: Symmetrical weeping or round shape with a spreading and dense crown
Leaf: Glossy, pointed, oval to elliptic leaves up to 4" long
Bark: Smooth and pale gray-brown
Fruit: Round, fleshy and red; under .5"
Flower: Non-descript
Common Insects/Disease: No significant

Ficus retusa ssp. nitida (Indian laurel fig)

Family: Moraceae **Species code: FIRE4**
Height: 30-65' **Width**: 30'
Form: Spreading, rounded or vase shape
Leaf: Glossy, oval, dark green, leathery leaves alternate up the stem; densely clothed on large, somewhat weeping branches
Bark: Smooth and grey; trunk can grow to 3' in diameter
Fruit: Small, yellowish-white to green rounded nut
Flower: Small, red flower; insignificant
Common Insects/Disease: Scales and thrip







Geijera parviflora (Australian willow)

Family: Rutaceae **Species code: GEPA**
Height: 30' **Width**: 20'
Form: Spreading or weeping with a low canopy
Leaf: Lanceolate (tapered) to linear with prominent midvein; medium green; up to 6" long
Bark: Gray and deeply fissured
Fruit: Small red or yellow drupe
Flower: Small creamy yellow or white flowers in terminal branched clusters
Common Insects/Disease: *Phytophthora*

Magnolia grandiflora (Southern magnolia)

Family: Magnoliaceae **Species code: MAGR**
Height: 80' **Width**: 70'
Form: Erect or spreading and requires ample growing space
Leaf: Elliptic to broadly ovate and glossy dark green
Bark: Gray and rough; furrowed in thick plates
Fruit: Very large purple or red follicle
Flower: Showy, fragrant and white
Common Insects/Disease: Aphids, scales, spider mites and *Verticillium*








Malus species (Apple)

Family: Rosaceae **Species code: MA2**
Height: 13-40' **Width**: 20-25'
Form: Erect or spreading with a low, oval or umbrella canopy
Leaf: Simple, alternate leaf with a serrated margin; 1-4" long
Bark: Gray, brown or reddish-brown; young trees are smooth while older trees have knotty bark
Fruit: Prolific red, yellow or mostly green pome (typical apple)
Flower: Flat-topped cluster of 5 petals; may be white, pink or red with a darker bud emerging in April or May
Common Insects/Disease: Aphids, beetle borers, coddling moths and psyllid, brown rot, canker, crown rot, powdery mildew, scab and sooty mold

Populus species (Cottonwood)

Family: Salicaceae **Species code: PO**
Height: 60-100' **Width**: 20-100'
Form: Large open-crowned tree with massive trunk and branches
Leaf: Simple, lanceolate (tapered) and glossy; 2-3" across; light to medium green
Bark: Thick gray or brown bark with deep horizontal grooves
Fruit: Female cottonwoods produce fluffy, white, cotton-like covered seeds
Flower: Dioecious; catkins on males
Common Insects/Disease: Wood decay, fall webworm, leaf blight, Western tent caterpillar and epidermal miners








Populus balsamifera (Balsam poplar)

Family: Salicaceae **Species code: POBAB2**
Height: 65' **Width**: 20-40'
Form: Straight and cylindrical with an open crown
Leaf: Ovate or broadly lanceolate; shiny green above and pale green below with finely toothed margins
Bark: Smooth and light gray to gray-brown; furrows with age
Fruit: Small brown capsule (.25-.50" long) containing numerous small seeds; fruiting in May-July
Flower: Clusters are 2-3.5" with many small flowers; male flowers have 20-30 reddish stamens, female catkins are 4-6"
Common Insects/Disease: Aphids, beetle borers, scales, thrip, anthracnose, canker, mistletoe and sooty mold

Populus fremontii (Fremont cottonwood)

Family: Salicaceae **Species code: POFR**
Height: 20-90' **Width**: 30-50'
Form: Erect or spreading single stem
Leaf: Cordate (heart-shaped); 1.2-2.8" with an elongated tip; white veins and coarse crenate teeth along the sides
Bark: Smooth when young, becoming deeply fissured with whitish cracked bark on older trees
Fruit: Wind dispersed achene (like hanging patches of cotton)
Flower: Long drooping catkin, blooms from March to April
Common Insects/Disease: Aphids, beetle borers, anthracnose, fall webworm, Western tent caterpillar, and mistletoe





Prunus species (Plum)

Family: Rosaceae **Species code: PR**
Height: Generally between 12-30' **Width**: Equal to height
Form: Low crown with spreading branches; some with thorn-like side branches
Leaf: Simple, alternate, usually lanceolate (tapered), unlobed and often with nectaries (glands) on the leaf stalk
Bark: Smooth and marked by lines running around the stem
Fruit: Fleshy drupe (a "prune") with a single large, hard-coated seed (a "stone")
Flower: White to pink, may be red; 5 petals and 5 sepals
Common Insects/Disease: Aphids, beetle borers, spider mites, rust, sooty mold and *Verticillium*

Prunus armeniaca (Apricot)

Family: Rosaceae **Species code: PRAR**
Height: 25' **Width**: 20-50'
Form: Erect or spreading with a low canopy
Leaf: Round to ovate and light green
Bark: Bronze or light green; furrowed or scaly
Fruit: Prolific large orange drupe
Flower: Showy, pink or white
Common Insects/Disease: Aphids, beetle borers, scales, thrip, canker, powdery mildew, sooty mold and *Verticillium*





Prunus cerasifera (Cherry plum)

Family: Rosaceae **Species code: PRCE**
Height: 15-30' **Width**: 15-25'
Form: Single stem
Leaf: Ovate, elliptic or obovate; thin, serrate leaves up to 2.5"
Bark: Dark brown and furrowed
Fruit: Small berries
Flower: White, showy, fragrant flowers
Common Insects/Disease: Aphids, beetle borers, caterpillars, scales, spider mites, rust, sooty mold and *Verticillium*

Prunus dulcis (Sweet almond)

Family: Rosaceae **Species code: PRDU**
Height: 13-30' **Width**: Up to 20'
Form: Rounded with low canopy; branches erect or horizontally spreading with many short branchlets
Leaf: Alternate and finely-toothed (serrate); 3-5" long and 1-2.5" wide; often with glands on the petiole (leaf stalk)
Bark: Greyish and furrowed
Fruit: Fuzzy, down-covered drupe (outer hull with hard shell and seed inside); fruit held close to the branch
Flower: White to pink, single or in pairs, with 5 or more petals; flowers are short-stalked and held close to the branch
Common Insects/Disease: Bacterial cankers, fungal cankers and anthracnose







Prunus persica (Peach)

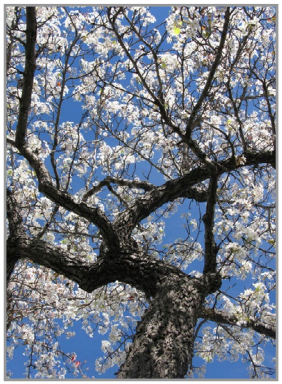
Family: Rosaceae **Species code: PRPE2**
Height: 10-30' **Width**: 10-15'
Form: Erect or spreading with low canopy and single or multiple stems
Leaf: Simple and alternate; 2-4" long; dark green
Bark: Light green to gray and scaly
Fruit: Yellow or whitish flesh with a delicate aroma and a skin that is either velvety or smooth
Flower: Pink with burgandy striations
Common Insects/Disease: Aphids, beetle borers, husk fly, scales, canker, leaf blight, *Phytophthora*, powdery mildew, rust, sooty mold and *Verticillium*

Pyrus communis (Common pear)

Family: Rosaceae **Species code: PYCO**
Height: 25-30' **Width**: 12-20'
Form: Single stem, upright branching and pyramidal form
Leaf: Simple, alternate and ovate with finely serrated margins; 1-4" long; shiny green above, paler and dull below
Bark: Gray-brown to reddish brown, becoming grayish brown with shallow furrows and flat-topped scaly ridges
Fruit: Medium to large golden-yellow pear
Flower: Clusters of showy white flowers, each .5-.75" across
Common Insects/Disease: Fireblight, particularly in years with warm and wet spring weather; anthracnose, canker, scab and powdery mildew









Pyrus kawakamii (Evergreen pear, Chinese evergreen pear)

Family: Rosaceae **Species code: PYKA**
Height: 25' **Width:** 25'
Form: Spreading with low, rounded canopy unless trained as a tree
Leaf: Elliptic to ovate and glossy medium green
Bark: Dark brown or light green and blocky
Fruit: Small, brown or green pome (less than .25") fruiting in spring or summer
Flower: Showy white clusters
Common Insects/Disease: Aphids and sooty mold

Quercus muehlenbergii (Chinkapin oak)

Family: Fagaceae **Species code: QUMU**
Height: 20-70' **Width**: 50-70'
Form: Single trunk dividing into many branches
Leaf: Alternate, glossy, oblong to slightly obovate with deeply or shallowly crenate (rounded) margins
Bark: Light to dark gray; flaky to papery with deep, irregular furrows
Fruit: Small chestnut brown to nearly black acorn (up to .75" long), singly or in pairs; ripens in September or October
Flower: Insignificant monoecious yellowish-green flowers
Common Insects/Disease: Anthracnose, oak wilt, acorn weevils, spittlebugs and gypsy moth








Quercus suber (Cork oak)

Family: Fagaceae **Species code: QUSU**
Height: 40-65' **Width**: Generally equal to height
Form: Erect or spreading; medium-sized with single stem
Leaf: Weakly lobed or coarsely toothed; 1.6-2.8" long; dark green above, paler beneath; leaf margins often downcurved
Bark: Gray, deeply fissured and loosely attached
Fruit: Acorns are .8-1.2" long, in a deep cup fringed with elongated scales
Flower: Insignificant
Common Insects/Disease: *Phytophthora* and spittlebugs

Quercus virginiana (Live oak)

Family: Fagaceae **Species code: QUVI**
Height: 50' **Width**: Generally greater than height
Form: Erect or spreading with a high canopy
Leaf: Elliptic to ovate and glossy dark green
Bark: Gray or brown/black and furrowed longitudinally
Fruit: Medium brown acorn
Flower: Insignificant
Common Insects/Disease: Spider mites, spittlebugs, insect galls and *Phytophthora*







Salix species (Willow)

Family: Salicaceae **Species code: SA**
Height: 40-65' **Width**: 35-45'
Form: Single or branching stem
Leaf: Alternate leaves about 2-4.5" long and .25-.75" wide; occur along the twigs and shoots; narrowly elliptic or lanceolate in shape and finely serrated along margins
Bark: Gray, rough and deeply fissured
Fruit: Small brown capsule, fruiting in summer
Flower: Male flowers arranged in narrowly cylindrical catkins about 1-2.5" long
Common Insects/Disease: Aphids, fall webworm and Western tent caterpillar

Salix x sepulcralis Simonkai (Weeping willow)

Family: Salicaceae **Species code: SABA**
Height: Up to 40' **Width**: Up to 40'
Form: Spreading crown; trunk often splits low to the ground
Leaf: Simple, alternate, lanceolate (tapered) to narrowly ovate and finely serrated; 2-4" long; shiny green above, white-ish and silky below
Bark: Grayish brown; irregularly furrowed into narrow ridges
Fruit: 1-2" long cluster of valve-like, light brown capsules, containing many fine, cottony seeds
Flower: Upright, yellowish, fuzzy catkins, 1.5-2" long, appearing before or with the leaves
Common Insects/Disease: Fall webworm








Thevetia peruviana, Thevetia nereifolia, Cascabela thevetia (Luckynut, Yellow oleander, "Be-still" tree)

Family: Apocynaceae **Species code: THPE3**
Height: 8-20' **Width:** 8-20'
Form: Shrub or spreading small tree (if trained)
Leaf: Shiny, dark green, narrow and linear up to 6" long
Bark: Dark or light gray and rough
Fruit: Hard, angular drupe that is green then red and later turns black; .5-1.5"
Flower: Showy, fragrant, apricot-colored flowers, 2" across; appear in clusters almost year round
Common Insects/Disease: No significant

Ulmus parvifolia (Chinese elm)

Family: Ulmaceae **Species code: ULPA**
Height: 40-60' **Width**: 25-40'
Form: Single stem
Leaf: Small, lustrous green, single-toothed leaves (.75-2" long and .75-1.25" wide)
Bark: Mottled greys with tans and reds
Fruit: Samara; elliptic to ovate; 4-5" long and 2.25-3.25" wide
Flower: Greenish yellow in late summer
Common Insects/Disease: Aphids, beetle borers, caterpillars, scales, Dutch elm disease, sooty mold and *Verticillium*




SIMPLE LOBED ALTERNATE LEAVES

Bauhinia variegata (Mountain ebony)

Family: Fabaceae **Species code: BAVA**
Height: 30-40' **Width**: 20-30'
Form: Spreading with a low, rounded or umbrella-shaped canopy
Leaf: Long, broad, rounded, and bilobed at base and apex
Bark: Rough gray/brown; appears to grow in strips
Fruit: Flattened pod, green and transparent when young, drying to blackish- brown
Flower: Pure white to deep pink, usually with a dark purple-red center on the upper petal
Common Insects/Disease: Aphids




Ficus carica (Common fig)

Family: Moraceae **Species code: FICA**
Height: 25' **Width**: 25'
Form: Broadly spreading shrub or small tree
Leaf: Simple, alternate; about 5" in diameter but sometimes larger; palmately lobed with (usually) 5 finger-like lobes; dark green above and lighter green below
Bark: Smooth and silvery gray, somewhat warty
Fruit: An edible fig, 1-2"; commonly purple-brown but can range from yellow to black; pear- or onion-shaped
Flower: Small, not showy; green, fleshy and rounded; located on the inner surface of a hollow receptacle
Common Insects/Disease: Canker and fusarium

Morus alba (White mulberry)

Family: Moraceae **Species code: MOAL**
Height: 30-50' **Width**: 30-50'
Form: Spreading with a high canopy
Leaf: Ovate to cordate (heart shaped) and sometimes lobed; dark green; gold in fall
Bark: Light green and fissured
Fruit: Prolific black, purple or white multiple fruit drupelets; .5-1.5" and edible; fruiting in summer
Flower: Usually dioecious; male catkins are narrow, small (1-2" long); female flowers are plump and 1" long
Common Insects/Disease: Beetle borers, caterpillars, spider mites, white fly, chlorosis and crown rot








Platanus racemosa (California sycamore)

Family: Platanaceae **Species code: PLRA**
Height: 75' **Width**: 20-50'
Form: May have 2 or more trunks splitting into many branches
Leaf: Large palmately lobed leaves up to 9.75" wide; 3 or 5 pointed lobes; range from bright green, brown or red in fall
Bark: Cream, light brown or light green; smooth or furrowed and exfoliating
Fruit: Brown or mostly green achene; .5-1.5"
Flower: Yellow
Common Insects/Disease: Leaf miner, scales, spider mites, *Phytophthora*, mistletoe and anthracnose

Platanus wrightii (Arizona sycamore)

Family: Platanaceae **Species code: PLWR2**
Height: 50-100' **Width**: Up to 55'
Form: Single vertical trunk produces a high number of branches that grow in every direction
Leaf: Alternate, simple and 6-9" long; somewhat star-shaped with 3-5 pointed lobes; swollen petiole base; green above, pale green and fuzzy below
Bark: Exfoliating white with patches of brown
Fruit: Seeds that hang on flowers from stalks
Flower: Red flowers that grow in bunches of 2-4
Common Insects/Disease: Leaf miner, scales, spider mites and anthracnose





PINNATELY COMPOUND OPPOSITE LEAVES

Fraxinus uhdei (Evergreen ash)

Family: Oleaceae **Species code: FRUH**
Height: 80' **Width**: 60'
Form: Erect or spreading and requires ample growing space
Leaf: Pinnately compound and odd; glossy dark green
Bark: Light gray and fissured
Fruit: Medium sized yellow or mostly green winged seed (.5-1.5") fruiting in summer or fall
Flower: Insignificant; flowers in spring
Common Insects/Disease: Aphids, scales, white fly, fusarium, fall webworm and sooty mold









***Fraxinus velutina* (Velvet ash)**

Family: Oleaceae **Species code: FRVE**
Height: 50' **Width**: 20-50'
Form: Single stem splitting into several large branches
Leaf: Pinnately compound; usually 3-5 leaflets per leaf, leaflets .75-2.5" long; upper surface glossy green, lower surface soft and velvety
Bark: Light gray and fissured
Fruit: Yellow or mostly green winged seed
Flower: Produced in small clusters in early spring
Common Insects/Disease: Beetle borers, fall webworm, spider mites, white fly, anthracnose, mistletoe and *Verticillium*

PINNATELY COMPOUND ALTERNATE LEAVES

Carya illinoinensis (Pecan)

Family: Juglandaceae **Species code: CAIL**
Height: 66-130' **Width**: 35-75'
Form: Spreading, oval or rounded shape; single stem
Leaf: Pinnate with 9-17 leaflets, each leaflet 2-4.7" long; narrow, pointed, and curved at the tip with tooth margins; yellow-green above and paler below
Bark: Dark brown or dark gray; furrowed, ridged or scaly
Fruit: Large (1.5-3"), brown nut in a husk; fruiting in fall
Flower: Male catkins up to 7" long and hanging; female catkins are small with 3-6 flowers clustered together
Common Insects/Disease: Aphids, beetle borers, beetle grubs and caterpillars, chlorosis, mistletoe, *Phytophthora*, sooty mold and *Verticillium*




Ceratonia siliqua (Algarrobo europeo, Carob tree)

Family: Fabaceae **Species code: CESI3**
Height: 35' **Width**: 67'
Form: Round and spreading canopy; coarsely branched with a single stem
Leaf: Pinnately compound and alternate; glossy dark green; 4-6" long with leaflets in pairs of 2 or 3
Bark: Dark brown and scaly
Fruit: Large brown pod
Flower: Red with unpleasant fragrance
Common Insects/Disease: No significant

Dalbergia sissoo (India rosewood, Sisoo)

Family: Fabaceae **Species code: DASI**
Height: 80' **Width**: Nearly equal to height
Form: Single stem
Leaf: Pinnately compound and alternate; leathery and approximately 6" long
Bark: Gray and deeply fissured
Fruit: Oblong, flat, thin, strap-like pods; 1.6-3.1" long and .4" wide; light brown
Flower: Whitish to pink and fragrant
Common Insects/Disease: Gunner bees and whiteflies; fusarium wilt is rare








Gleditsia triacanthos (Honeylocust)

Family: Fabaceae **Species code: GLTR**
Height: 50-80' **Width**: 50-80'
Form: Erect or spreading with a single stem
Leaf: Pinnately compound on older trees but bipinnately compound on young trees
Bark: Black or dark brown and furrowed, ridged or scaly; wild specimens may have simple and branched thorns up to 8" long on the trunk
Fruit: Very large (over 3") flat brown pod; matures in early fall
Flower: Strongly scented and cream-colored
Common Insects/Disease: Caterpillars, insect galls, pod gall midge and spider mites, mistletoe and *Phytophthora*

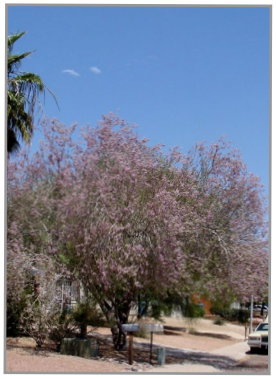
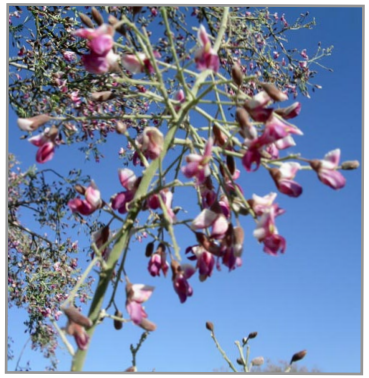
Grevillea robusta (Silk oak)

Family: Proteaceae **Species code: GRRO**
Height: 30-80' **Width**: 30-40''
Form: Single verticle stem
Leaf: Bipinnate and delicately dented; dark green; reminiscent of a fern frond
Bark: Gray, irregular and deeply fissured
Fruit: Woody, boat-shaped follicles
Flower: Horizontal, one-sided, brush-like inflorescences; orange-yellow
Common Insects/Disease: *Phytophthora* and scales








Olneya tesota (Tesota, Ironwood)

Family: Fabaceae **Species code: OLTE**
Height: 15-30' **Width:** Equal to height
Form: Erect or spreading and rounded or vase-shaped with a low canopy
Leaf: Pinnately compound, even and gray-green; evergreen
Bark: Light gray, scaly and striated; branches thorny in youth
Fruit: Light brown or green pod (1.5-3" long)
Flower: Clusters of lavender-pink pea-shaped flowers in spring
Common Insects/Disease: No significant

Parkinsonia aculeata (Jerusalem thorn)

Family: Fabaceae **Species code: PAAC**
Height: 25' **Width**: 15-25'
Form: Rounded, umbrella or vase form with low spreading or weeping canopy
Leaf: Bipinnately compound and medium green
Bark: Green or red-brown; scaly or smooth
Fruit: Large brown pod (over 3") fruiting in fall
Flower: Showy, fragrant, yellow flowers in spring or summer
Common Insects/Disease: No significant







Pistacia chinensis (Chinese pistache)

Family: Anacardiaceae **Species code: PICH**
Height: 50-100' **Width**: 20-50'
Form: Umbrella top, coarse branch architecture, oval to rounded high canopy
Leaf: Alternate and 1.5" long with leaflets in 6-10 pairs; leaflets reaching 1-2 .5" long and .75" wide
Bark: Dark brown, light gray or light green; furrowed or scaly
Fruit: The female produces a small, round (.25" diameter) orange to red nut
Flower: Red
Common Insects/Disease: *Phytophthora* and *Verticillium*

Schinus molle (California peppertree)

Family: Fabaceae **Species code: SCMO**
Height: 26' **Width**: 25-40'; generally greater than height
Form: Single stem with an open, spreading canopy
Leaf: Pinnately compound with 19-41 alternate leaflets
Bark: Rough and fissured; grayish; drips sap
Fruit: Round drupes with woody seeds that turn from green to red, pink or purplish and grow in dense clusters
Flower: Yellow-green or greenish-white conical panicles
Common Insects/Disease: Aphids, psyllid, scales, thrip, *Phytophthora*, sooty mold and *Verticillium*








***Sophora secundiflora* (Mescal bean, Texas mountain laurel)**

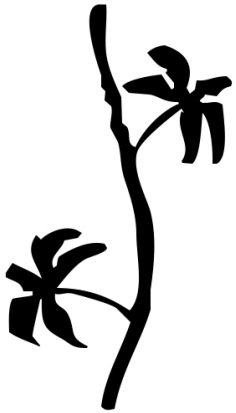
Family: Fabaceae **Species code: SOSE**
Height: 20-30' **Width:** 20'
Form: Erect or spreading with a low canopy
Leaf: Pinnately compound and even; obovate leaflets that are glossy dark green; evergreen foliage
Bark: Light green to dark brown; furrowed or scaly
Fruit: Silver-gray woody pods; more than 3" long; bright red seeds
Flower: Fragrant blue, purple or white flowers in 8" clusters
Common Insects/Disease: No significant

PALMATELY COMPOUND OPPOSITE LEAVES

Vitex agnus-castus (Chaste tree, Monk's pepper tree)

Family: Verbenaceae **Species code: VIAG**
Height: 15-25' **Width**: 10-20'
Form: Spreading with a low canopy
Leaf: Palmately compound opposite; 2-6"across; usually 5 leaflets per leaf (sometimes 7), leaflets mostly lanceolate with entire margins; dark and shiny green above and pale pubescent below; very aromatic when crushed
Bark: Dark or light gray; blocky, furrowed or smooth
Fruit: Small, black drupe
Flower: Spikes of lavender flowers in late summer
Common Insects/Disease: No significant

PALMATELY COMPOUND
ALTERNATE LEAVES



Rhus lancea (African sumac)

Family: Anacardiaceae **Species code: RHLA**
Height: 30-40' **Width**: Slightly greater than height
Form: Spreading or weeping with a low canopy
Leaf: Trifoliate (3 leaflets); leaflets are narrow and lanceolate (tapered), up to 4"; light green when young, growing darker when mature
Bark: Gray and deeply fissured
Fruit: Small, red or yellow drupe, usually hidden under canopy
Flower: Insignificant, greenish in winter; musty fragrance
Common Insects/Disease: Aphids

BIPINNATELY COMPOUND ALTERNATE LEAVES

Acacia species (Acacia)

Family: Fabaceae **Species code: ACSP2**
Height: 20-40' **Width**: 12-20'
Form: Generally erect or weeping shape with a low canopy
Leaf: Small, finely divided leaflets that give the leafstalk a feathery or fernlike (i.e. bipinnate) appearance
Bark: Variable; can be furrowed, smooth or scaly; light green, brown or light to dark gray; some species with thorns or spines
Fruit: Generally large legume seed pods
Flower: 5 very small petals, almost hidden by the long stamens and arranged in dense clusters; yellow or cream-colored in most species, whitish, purple, or red in some
Common Insects/Disease: Caterpillar







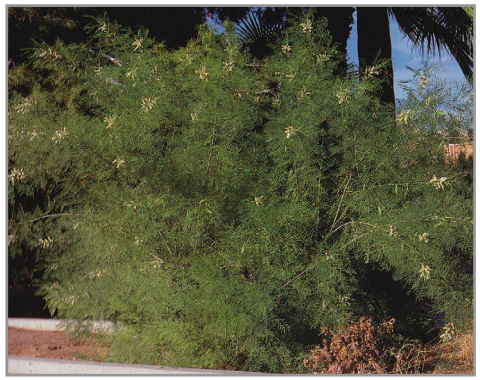


Acacia farnesiana (Sweet acacia)

Family: Fabaceae **Species code: ACFA**
Height: 25' **Width**: Generally greater than height
Form: Stems erect or ascending; armed with thorns, spines or prickles
Leaf: Bipinnately compound; blue green or dark green
Bark: Dark brown, dark gray, light gray or light green; scaly or smooth
Fruit: Light brown pods
Flower: White or yellow
Common Insects/Disease: Caterpillars

Acacia millefolia (Milfoil wattle, Santa Rita acacia)

Family: Fabaceae **Species code:ACMI**
Height: 12' **Width:** 15'
Form: Rounded
Leaf: 6" long, light green, divided into 5-10 pairs of leaflets each 1" long, which are further divided into 20-30 leaflets; leaves arch gracefully downward
Bark: Light gray and furrowed
Fruit: Papery light brown/tan pods 4" long by .5" wide
Flower: Cream color and arranged in spikes that are 2" long and .5" wide
Common Pests/Diseases: No significant








Albizia julibrissin (Mimosa)

Family: Fabaceae **Species code: ALJU**
Height: 15-40' **Width**: 20'
Form: Spreading with a low, rounded canopy
Leaf: Fern-like, 5-8" long and 3-4" wide; alternate along the stems; finely divided into 6-12 pairs of pinnae, each with 20-30 pairs of leaflets
Bark: Dark greenish grey; striped vertically when older
Fruit: Flat brown pod containing several seeds; 4-7.75" long and .75-1" wide
Flower: Fragrant pink with white base, 1.5" long resembling pom-poms; arranged in panicles at ends of branches
Common Insects/Disease: Caterpillars and fusarium

Cercidium praecox (Sonoran palo verde)

Family: Fabaceae **Species code: CEPR**
Height: 10-30' **Width**: generally greater than height
Form: Single or multiple stems; erect or spreading, round shape
Leaf: Small, pinnately compound leaves
Bark: Green and smooth
Fruit: Light brown pods
Flower: Brilliant yellow flowers
Common Insects/Disease: No significant








Ebenopsis ebano, Pithecellobium flexicaule (Texas ebony)

Family: Fabaceae **Species code: EBEB**
Height: 30' **Width:** 15'
Form: Spreading oval or vase-shaped
Leaf: Pinnately compound, even and deep green; evergreen
Bark: Smooth and gray
Fruit: Brown woody pods 4-6" long; edible
Flower: Creamy-yellow catkin-like flowers in dense clusters
Common Insects/Disease: Palo verde beetle borers

Jacaranda mimosifolia (Jacaranda)

Family: Bignoniaceae **Species code: JAMI**
Height: 16-50' **Width**: 15-60'
Form: Spreading, arching vase-shaped crown (commonly pruned into one dominant trunk in urban areas)
Leaf: Alternate, bipinnately compound, 8-15" long, 13-25 pairs of major leaflets with a similar number of minor leaflets
Bark: Thin; gray-brown; smooth when young, scaly when older
Fruit: Round, flat, reddish brown, woody capsule, 1.5 2" in diameter, containing numerous small winged seeds
Flower: Lavender, tubular, 1" long, appearing in dense 6-10" terminal clusters in spring
Common Insects/Disease: *Phytophthora* and aphids









Lysiloma microphylla var. thornberi, Lysiloma watsoni (Feather bush)

Family: Fabaceae **Species code: LYMI**
Height: 15-20'(5' in frost conditions) **Width:** 25'(5' in frost)
Form: Erect or spreading, rounded to vase shape
Leaf: Pinnately compound, odd and medium to light green
Bark: Dark or light gray; scaly or smooth
Fruit: Flat brown pods 4-8" long, appear in fall and remain on tree for long periods
Flower: Creamy white clusters of puffballs
Common Insects/Disease: No significant

Melia azedarach (Chinaberry)

Family: Meliaceae **Species code: MEAZ**
Height: 50' **Width**: 20-50'
Form: Single stem branching into several with a rounded crown
Leaf: Alternate, long-petioled, two or three times compound (odd-pinnate); the leaflets are dark green above and lighter green below, with serrate margins
Bark: Purplish to reddish
Fruit: Marble-sized drupe that is light yellow at maturity
Flower: Purple or white
Common Insects/Disease: No significant







Parkinsonia florida (Blue paloverde)

Family: Fabaceae **Species code: CEFL**
Height: 40' **Width:** Equal to or greater than height
Form: Multi-trunk deciduous tree
Leaf: Bipinnate leaves, each segment having only 2-4 pairs of relatively large leaflets
Bark: Green
Fruit: Pods contain 1 or 2 flattened, extremely hard seeds the size of small lima beans
Flower: Loose clusters of bright yellow flowers with 5 lobes
Common Insects/Disease: No significant

Parkinsonia microphylla (Yellow paloverde, Foothill paloverde)

Family: Fabaceae **Species code: CEMI**
Height: 16-25' **Width**: 12-18'
Form: Spiny shrub or small tree that branches about 8" from the ground into 4-6 major stems
Leaf: Pinnately compound leaves about 1" long with minute leaflets
Bark: Thin, green and photosynthetic
Fruit: 2-3" long; 1-5 seeds with constrictions between the seeds
Flower: Bright yellow flowers with 5 lobes in clusters .5" across
Common Insects/Disease: No significant







Prosopis species (Mesquite)

Family: Fabaceae **Species code: PR6**
Height: Up to 30' **Width**: Up to 30'
Form: Single or multiple stems
Leaf: Narrow, alternate, bipinnate; 2-3" with secondary leaflets that are sharply pointed
Bark: Rough and gray/brown
Fruit: Legume; abundant large seedpods that are constricted between seeds
Flower: Yellow flowers with 5 petals
Common Insects/Disease: No significant

Prosopis alba (Argentine mesquite)

Family: Fabaceae **Species code: PRAL2**
Height: Up to 40' **Width**: Up to 60'
Form: Oval, rounded or umbrella; spreading with a low canopy
Leaf: Bipinnately compound in groups of 2 or 4; closely-spaced, paired leaflets; 25-50 leaflets per pinnae
Bark: Dark gray and furrowed; thorns usually present, sometimes strongly, usually large (1") thorns in zig-zag form
Fruit: Very large (over 3") brown pod fruiting in summer
Flower: Green or yellow flowers in spring; male and female parts in each flower
Common Insects/Disease: Aphids







Prosopis chilensis (Algarrobo, Chilean mesquite)

Family: Fabaceae **Species code: PRCH**
Height: 30' **Width**: 30'
Form: Single or multiple stems; presence of thorns is variable
Leaf: Bipinnately compound and dark green color
Bark: Smooth when young, growing darker and rough with maturity
Fruit: Tan to greenish pods; 3-5" long and .5" across
Flower: Small, yellowish or cream catkin
Common Insects/Disease: No significant

Prosopis glandulosa (Honey mesquite)

Family: Fabaceae **Species code: PRGL2**
Height: 13-20' **Width**: Equal to or greater than height
Form: Spreading, rounded canopy, single stem
Leaf: Alternate, bipinnate with 1-2" linear leaflets; shiny, bright green
Bark: Rough and gray/brown; appears to grow in strips
Fruit: Straight and nearly as thick as they are broad; legumes are reddish-brown in color and constricted between seeds
Flower: Yellow, axillary spikes that are .25-.375" long with 10 stamens and white woolly ovaries
Common Insects/Disease: No significant








Prosopis pubescens (Screwbean mesquite)

Family: Fabaceae **Species code: PRPU2**
Height: 10-30' **Width**: 10-30'
Form: Single or multi-stemmed; vase shaped, open, and spreading canopy
Leaf: Alternate, bipinnately compound; hairy with as many as 18 leaflets
Bark: Gray and rough with deep fissures
Fruit: Spirally coiled seed pods
Flower: Radial, small, greenish white or yellow
Common Insects/Disease: No significant

Prosopis velutina (Velvet mesquite)

Family: Fabaceae **Species code: PRVE**
Height: 30-50' **Width**: Generally greater than height
Form: Single or multiple stems that may have 1" thorns on young branches
Leaf: 3-6" long, fine, and bipinnately compound
Bark: Young bark is reddish-brown and smooth; becomes dark, dusty gray or brown and takes on a shredded texture with maturity
Fruit: Light brown pods
Flower: Brilliant yellow flowers in dense cylindrical clusters (catkins) roughly 4" long
Common Insects/Disease: No significant

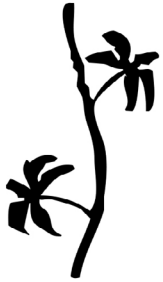




PALM TREES

PINNATELY COMPOUND ALTERNATE LEAVES

PALMATELY COMPOUND ALTERNATE LEAVES



Arecastrum romanzoffianum, Syagrus romanzoffiana (Queen palm)

Family: Arecaceae **Species code: ARRO**
Height: 50' **Width:** 20'
Form: Erect with a high canopy
Leaf: Long, arching pinnately compound fronds up to 10' long with distinct frond sheaths and up to 200 leaflets per leaf; medium to bright glossy green; evergreen
Bark: Gray-brown and shallowly furrowed; segmented
Fruit: Stalks of .5-1.5" orange husked drupes
Flower: Feather duster stalks of showy white flowers
Common Insects/Disease: Scales and spider mites












Phoenix canariensis (Canary Island date palm, Pineapple palm)

Family: Arecaceae **Species code: PHCA**
Height: 60' **Width:** 20-30'
Form: Erect, feather palm
Leaf: Long, sometimes half-twisting pinnately compound fronds up to 20'; medium green; evergreen
Bark: Light brown and fibrous
Fruit: Orange or yellow clusters of drupes; .5-1.2"
Flower: Waxy yellow to white clusters on stalks
Common Insects/Disease: Fusarium

Phoenix dactylifera (Date palm, Arab date)

Family: Arecaceae **Species code: PHDA4**
Height: 60' **Width:** 25'
Form: Erect, feather palm, multi-trunked if left untrained
Leaf: Pinnate frond up to 15' long; gray-green; evergreen
Bark: Gray-brown, fibrous and corky
Fruit: Large, brown drupe (1.5-3")
Flower: Small yellow flowers on spreading stalks
Common Insects/Disease: No significant










Brahea armata (Mexican blue palm, Blue hesper palm, Rock palm)

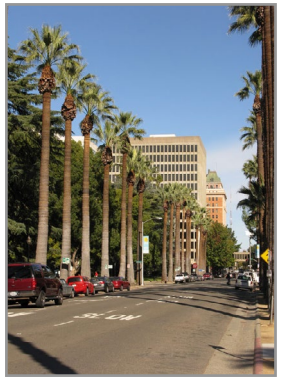
Family: Arecaceae **Species code: BRAR**
Height: 20-50' **Width:** 12-25'
Form: Erect fan palm with a low canopy
Leaf: Large fronds with a longitudinal rib; silver-gray, evergreen foliage
Bark: Gray and furrowed to smooth
Fruit: Reddish-brown; hard, berry-like structures that hang below fronds
Flower: Fragrant cream or white flowers hang on garlands that can extend 15-18'
Common Insects/Disease: Crown rot

Chamaerops humilis (Mediterranean fan palm)

Family: Arecaceae **Species code: CHHU**
Height: 10-20' **Width:** 20' clusters
Form: Erect fan palm with evergreen foliage
Leaf: Palmately compound and blue-green or medium to dark green with thorny stems
Bark: Fibrous and dark brown to light green
Fruit: Clusters of small, shiny dark brown beads develop on stalks below leaves
Flower: Yellow green clusters of small, unobtrusive flowers
Common Insects/Disease: No significant









Washingtonia filifera (California fan palm)

Family: Arecaceae **Species code: WAFI**
Height: 80' **Width:** 20-40'
Form: Erect, fan palm
Leaf: Large fan-shaped fronds with hairy filaments on young fronds extending from frond margin; dark gray-green; becomes straw-colored thatch if not pruned
Bark: Red-brown and furrowed to smooth
Fruit: Small stalks of black drupes (.25-.5")
Flower: Streamer-like stalks that hold white blossoms
Common Insects/Disease: No significant

Washingtonia robusta (Mexican fan palm)

Family: Arecaceae **Species code: WARO**
Height: 80-100' **Width:** 10-15'
Form: Erect, fan palm
Leaf: Large fan-shaped, palmately compound fronds; dark green; evergreen foliage
Bark: Red-brown and furrowed or smooth
Fruit: Black drupes (.25-.5") develop on streamers
Flower: Streamers with sprays of tiny white flowers
Common Insects/Disease: Crown rot








GLOSSARY

Achene: simple dry fruit containing one seed produced by many species of flowering plants

Alternate: leaf attachments are singular at nodes, and leaves alternate direction, to a greater or lesser degree, along the stem

Apex: the end furthest from where the leaf attaches to the stalk; terminus

Axillary: the upper (adaxial) angle between a leaf and a stem; often the location of a bud

Bipinnate: pinnately compound leaves in which the leaflets are themselves pinnately compound

Calyx: the outermost group of floral parts; the sepals

Catkin: a slim, cylindrical flower cluster, with inconspicuous or no petals, usually wind-pollinated; contain many, usually unisexual flowers, arranged closely along a central stem which is often drooping

Conifer: mostly needle-leaved or scale-leaved, chiefly evergreen, cone-bearing gymnospermous trees or shrubs such as pines, spruces, and firs

Cordate: heart-shaped, with the petiole or stem attached at the indentation

Crenate: leaf margin or edge is wavy-toothed; dentate with rounded teeth

Deciduous: a tree that sheds leaves annually

Dioecious: a species that has male and female reproductive parts on different plants

Drupe: any fruit consisting of an outer skin, a usually pulpy and succulent middle layer, and a hard and woody inner shell usually enclosing a single seed, as a peach, cherry or plum

Drupelet: a small drupe, such as one of the many subdivisions of a raspberry or blackberry

Elliptic: leaf margins curve with the widest section in the middle

Evergreen: having green leaves throughout the entire year, the leaves of the past season not being shed until after the new foliage has been completely formed

Falcate: hooked or curved like a sickle

Fissured: a long narrow opening; a crack or indentation; a natural division or groove

Follicles: dry open fruit which splits on one side only; may contain one or many seeds

Hesperidium: a berry with a tough, aromatic rind as an orange, grapefruit or lemon

Lanceolate: tapering from a rounded base toward an apex; lance-shaped

Legume: fruit or seed from a plant in the family Fabaceae (or Leguminosae); a pod, such as that of a pea or bean, that splits into two capsules with the seeds attached to one edge of the capsules

Lenticel: one of the small, corky or spongy pores or narrow lines on the bark of woody plants that allows the interchange of gases between the interior tissue and the surrounding air

Monoecious: male and female flowers occur on the same plant

Nectaries: a gland-like organ, located outside or within a flower, that secretes nectar

Oblong: leaves almost resemble a rectangle, except that their corners are rounded; at least twice as long as they are wide

Obovate: leaves are shaped like an egg, with the broader end of the leaf farthest from the petiole

Odd-pinnate: leaflets occur on each side of the petiole with a single leaflet at the tip of the petiole

Opposite: leaves occur one on each opposite side of the stem

Ovate: leaves are shaped like an egg, with the broader end of the leaf nearest the petiole

Palmate: consisting of leaflets or lobes radiating from the base of the leaf

Palmately lobed: indented with the indentations reaching to the center

Panicles: a branched cluster of flowers

Petiole: the stalk attaching the leaf blade to the stem

Photosynthetic: process by which plants use energy from the sun and chlorophyll to convert carbon dioxide, water, and certain inorganic salts into carbohydrates

Pinnae: the leaflets or segments in ferns

Pinnate: featherlike compound leaf that is divided up into many small leaflets, arranged in rows along either side of an axis

Pinnate compound: once-divided leaf blades having leaflets arranged on both sides of a rachis (main axis of a compound structure)

Pistil: the female reproductive part of a flower; centrally located, typically consists of a swollen base, the ovary, which contains the potential seeds, or ovules; a stalk, or style, arising from the ovary; and a pollen-receptive tip, the stigma, variously shaped and often sticky

Pome: fleshy fruit with a thin skin, not formed from the ovary but from another part of the plant; seeds are contained in chambers in the center of the fruit as in apple and pear

Radial: roughly identical petals, sepals, and stamen occur at regular intervals around the center of the flowers

Samara: type of dry fruit where one seed is surrounded by papery tissue that helps carry the seed away from the tree as the wind blows; often found in large groups on the tree

Sepals: one of the four basic parts of a flower; found below the petals and often small and green; when flowers do not have petals the sepals may be big and colorful

Serrate: saw-toothed with asymmetrical teeth pointing forward

Stamen: the pollen-producing reproductive organ of a flower; typically consists of a stalk called the filament and an anther

Striation: a series of ridges, furrows or linear marks

Trifoliate: a leaf divided into three leaflets

Whorl: three or more leaves attach at each point or node on the stem

INDEX OF SCIENTIFIC AND COMMON NAMES

Species Code	Scientific Name	Common Name	Page
CHLI	*Chilopsis linearis*	Desert willow	20R
CISP	*Citrus* species	Citrus	28R
CUSE	*Cupressus sempervirens*	Italian cypress	17L
CYOB	*Cydonia oblonga*	Quince	29L
DASI	*Dalbergia sissoo*	India rosewood	51R
EBEB	*Ebenopsis ebano* *Pithecellobium flexicaule*	Texas ebony	61L
EU1	*Eucalyptus* species	Gum	29R
EUCA1	*Eucalyptus camaldulensis*	Red gum eucalyptus	30L
EULE	*Eucalyptus leucoxylon*	White ironbark	30R
EUMI2	*Eucalyptus microtheca*	Coolibah tree	31L
EUPO	*Eucalyptus polyanthemos*	Silver dollar gum eucalyptus	31R
EURU	*Eucalyptus rudis*	Desert gum eucalyptus	32L
EUSI	*Eucalyptus sideroxylon*	Red ironbark	32R
EUSP	*Eucalyptus spathulata*	Narrow-leaved gimlet, Swamp mallee	33L
EUTO11	*Eucalyptus torquata*	Coral gum	33R
FIBE	*Ficus benjamina*	Benjamin fig, Weeping fig	34L
FICA	*Ficus carica*	Common fig	46L
FIRE4	*Ficus retusa ssp. Nitida* *Ficus microcarpa ssp. Nitida*	Indian laurel fig	34R
FRUH	*Fraxinus uhdei*	Evergreen ash	48R
FRVE	*Fraxinus velutina*	Velvet ash	49L

Species Code	Scientific Name	Common Name	Page
GEPA	*Geijera parviflora*	Australian willow	35L
GLTR	*Gleditsia triacanthos*	Honeylocust	52L
GRRO	*Grevillea robusta*	Silk oak	52R
JAMI	*Jacaranda mimosifolia*	Jacaranda	61R
JU	*Juniperus* species	Juniper	17R
LAIN	*Lagerstroemia indica*	Common crapemyrtle	21L
LILU	*Ligustrum lucidum*	Chinese, Glossy or Common privet	21R
LYMI	*Lysiloma microphyllum* *Lysiloma watsoni*	Feather bush	62L
MAGR	*Magnolia grandiflora*	Southern magnolia	35R
MA2	*Malus* species	Apple	36L
MEAZ	*Melia azedarach*	Chinaberry	62R
MOAL	*Morus alba*	White mulberry	46R
MYCO	*Myrtus communis*	Myrtle	22L
NEOL	*Nerium oleander*	Oleander	22R
OLEU	*Olea europaea*	Olive	23L
OLTE	*Olneya tesota*	Tesota, Ironwood	53L
PAAC	*Parkinsonia aculeata*	Jerusalem thorn	53R
CEFL	*Parkinsonia florida*	Blue paloverde	63L
CEMI	*Parkinsonia microphylla*	Yellow paloverde, Foothill paloverde	63R

Species Code	Scientific Name	Common Name	Page
PHCA	*Phoenix canariensis*	Canary Island date palm, Pineapple palm	68L
PHDA4	*Phoenix dactylifera*	Date palm, Arab date	68R
PI2	*Pinus* species	Pine	13R
PICA	*Pinus canariensis*	Canary Island pine	14L
PIEL2	*Pinus eldarica*	Afghan, Desert or Elder pine	14R
PIHA	*Pinus halepensis*	Aleppo pine	15L
PICH	*Pistacia chinensis*	Chinese pistache	54L
PLRA	*Platanus racemosa*	California sycamore	47L
PLWR2	*Platanus wrightii*	Arizona sycamore	47R
THOR	*Platycladus orientalis*	Oriental arborvitae, Thuja orientalis	18L
PO	*Populus* species	Cottonwood	36R
POBAB2	*Populus balsamifera ssp. balsamifera*	Balsam popular	37L
POFR	*Populus fremontii*	Fremont cottonwood	37R
PR6	*Prosopis* species	Mesquite	64L
PRAL2	*Prosopis alba*	Argentine mesquite	64R
PRCH	*Prosopis chilensis*	Algarrobo, Chilean mesquite	65L
PRGL2	*Prosopis glandulosa*	Honey mesquite	65R
PRPU2	*Prosopis pubescens*	Screwbean mesquite	66L
PRVE	*Prosopis velutina*	Velvet mesquite	66R
PR	*Prunus* species	Plum	38L

Species Code	Scientific Name	Common Name	Page
PRAR	*Prunus armeniaca*	Apricot	38R
PRCE	*Prunus cerasifera*	Cherry plum	39L
PRDU	*Prunus dulcis*	Sweet almond	39R
PRPE2	*Prunus persica*	Peach	40L
PYCO	*Pyrus communis*	Common pear	40R
PYKA	*Pyrus kawakamii*	Evergreen or Chinese pear	41L
QUMU	*Quercus muehlenbergii*	Chinkapin oak	41R
QUSU	*Quercus suber*	Cork oak	42L
QUVI	*Quercus virginiana*	Live oak	42R
RHLA	*Rhus lancea*	African sumac	57R
SA	*Salix* species	Willow	43L
SABA	*Salix x sepulcralis Simonkai*	Weeping willow	43R
SCMO	*Schinus molle*	California peppertree	54R
SOSE	*Sophora secundiflora*	Mescalbean, Texas mountain laurel	55L
ARRO	*Arecastrum romanzoffianum,* *Syagrus romanzoffiana*	Queen Palm	67R
TACH2	*Tamarix chinensis*	Fivestamen tamarisk, Saltcedar	18R
TAMU	*Taxodium mucronatum* *Taxodium huegelii*	Montezuma cypress	19L

Species Code	Scientific Name	Common Name	Page
THPE3	*Thevetia peruviana* *Thevetia nereifolia* *Cascabela thevetia*	Luckynut, Yellow oleander, Be still tree	44L
ULPA	*Ulmus parvifolia*	Chinese elm	44R
VIAG	*Vitex agnus-castus*	Chaste tree	56R
WAFI	*Washingtonia filifera*	California palm	70L
WARO	*Washingtonia robusta*	Mexican fan palm	70R

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