



PORTLAND PARKS & RECREATION

Healthy Parks, Healthy Portland



Irvington Broadleaf Evergreen Tree Walk

LEARNING LANDSCAPES



Irvington Broadleaf Evergreen Tree Walk 2016 Learning Landscapes Program

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Cover photos (from top left to bottom right):

- 1) The leaves of La Siberia Gregg oak (*Quercus greggii* 'La Siberia') are highly tolerant of drought.
- 2) The showy flowers of pineapple guava (*Feijoa sellowiana*) have long red stamens.
- 3) Japanese chinkapin (*Castanopsis cuspidata*) leaves are a glossy green on top, but coppery underneath.
- 4) Distinctive acorns of bamboo leaf oak (*Quercus myrsinifolia*) have unusual cups with concentric rings.
- 5) *Trachycarpus fortunei* is a hardy palm tree from China
- 6) *Quercus hypoleucoides* is a drought-tolerant Mexican oak.
- 7) The tiny golden flowers of boxleaf azara (*Azara microphylla*).
- 8) The bark of an older Pacific madrone (*Arbutus menziesii*) is a rich orange-red that naturally peels.

Top photo:

The flowers of smiling forest lily tree (*Magnolia maudiae* var. *maudiae*) bloom in February.

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Portland Parks & Recreation

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Commissioner Amanda Fritz
Director Mike Abbaté

Irvington's Broadleaf Evergreens

Irvington has some of the biggest, most beautiful, and ecologically significant broadleaf evergreen trees in Portland. Nurseryman Sean Hogan, who lives in Irvington, has long championed the use of evergreen trees in Portland, believing them eminently suited to our mild Pacific maritime climate. Since the 1990s he has been introducing to his neighbors' yards and planting strips many species of broadleaf evergreens completely new to Oregon. As a result, Irvington has become a showcase for promising tree species seldom seen in the United States.

Citywide, broadleaf evergreens make up only about one percent of Portland's urban canopy. Thanks to Hogan's efforts, Irvington has Portland's richest collection of broadleaf evergreen trees in the public right-of-way. This walk lets people see how these trees have grown, matured, and thrived in our climate. This guide helps locate and provide insight into these special trees.

Why evergreens?

Evergreen trees provide many benefits for wildlife and humans. They are better than deciduous trees at intercepting Portland's rainfall, most of which falls in the winter when deciduous trees are leafless. Evergreen trees also provide wildlife protection from freezing winds when many other trees have lost their leaves. Many are also good pollinator trees, with nectar-rich flowers. Others provide seeds and nuts relished by birds, squirrels, and other animals that share our urban environment.

Trapping air pollutants and reducing noise are major benefits that trees provide in urban areas, but these services are lost for half the year when deciduous trees are leafless. Evergreen trees continue trapping pollutants and buffering us from noise all year long.

Despite these advantages, tree inventories done by Urban Forestry show that in developed parts of the city, 90% to 98% or more of the street trees are deciduous. This lifeless landscape makes winter more challenging – emotionally and environmentally – than it has to be. Evergreen trees provide beautiful green color during our drab, dark, wet winters.

Why broadleaf evergreens?

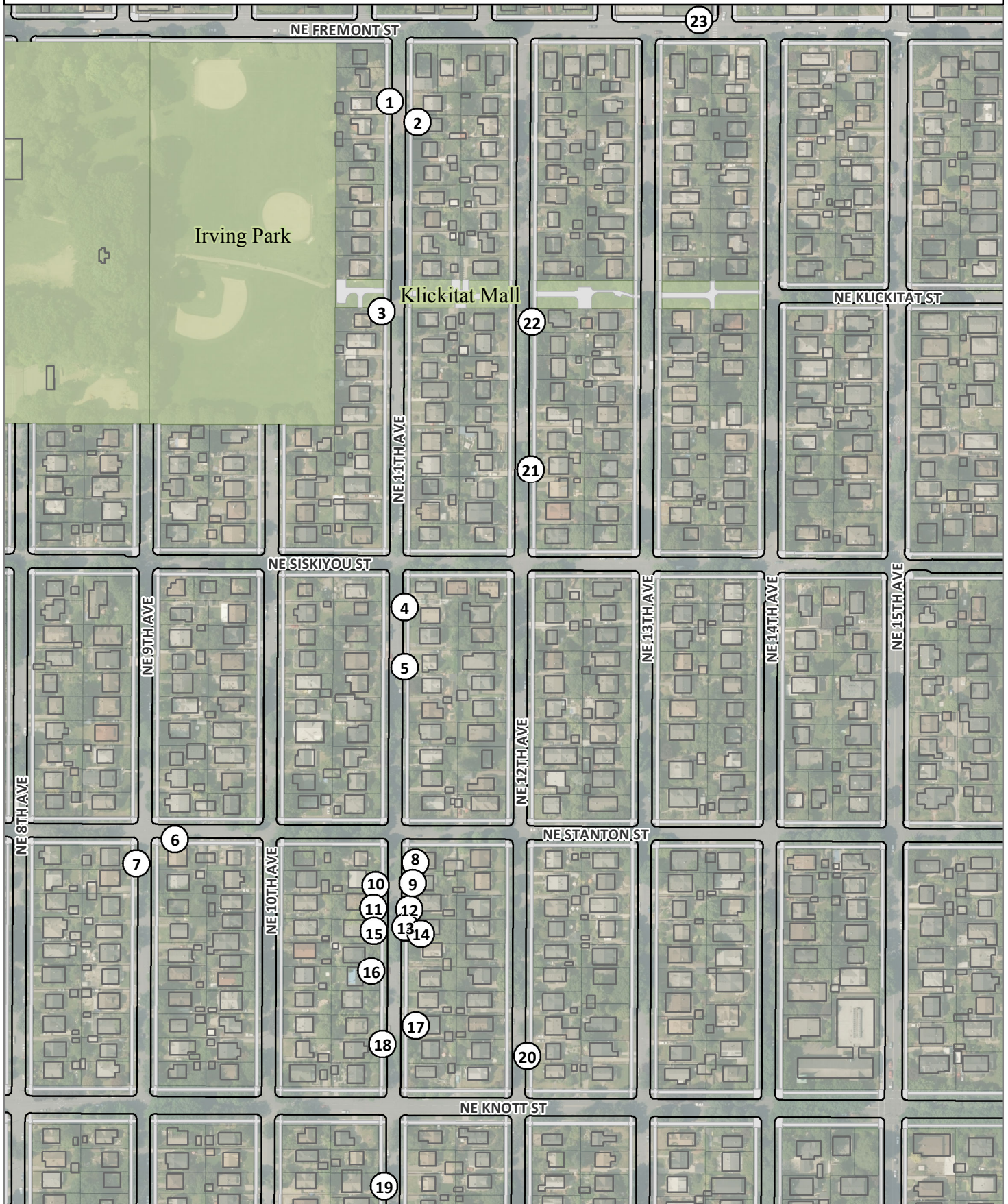
Portland has some great native evergreens, such as Western red-cedar and the ubiquitous Douglas-fir, but these have needle-like leaves. The needles intercept some rainfall, but not to the extent that broadleaves do. And many conifers grow much too large for the typical planting strip or Portlanders' increasingly small yards. As climate and density changes, our urban environments are likely to become even less ideal for growing large, healthy, native evergreens. We need to increase the resilience of our urban forest by diversifying the species that we plant. Fortunately, there are many beautiful and varied broadleaf evergreens that thrive in Portland's climate to choose from.

Irvington is home to unique broadleaf evergreen trees, many new to Oregon and seldom seen in the US



Portland's first planting of silverleaf oak (*Quercus hypoleucoides*) street trees is located in Irvington

Irvington Broadleaf Evergreen Tree Walk



Tree Walk

<http://portlandoregon.gov/parks/trees>

100 Feet



Tree walk tree

Irvington Broadleaf Evergreen Tree Walk

Tree #	Common Name	Scientific Name	Address
1	bambooleaf oak	<i>Quercus myrsinifolia</i>	3427 NE 11th Ave
2	boxleaf azara	<i>Azara microphylla</i>	3416 NE 11th Ave*
3	English holly	<i>Ilex aquifolium</i>	3241 NE 11th Ave*
4	snow gum	<i>Eucalyptus pauciflora</i> ssp. <i>niphophila</i>	3036 NE 11th Ave
5	Omeo gum	<i>Eucalyptus neglecta</i>	3016 NE 11th Ave
6	holly oak	<i>Quercus ilex</i>	2842 NE 9th Ave
7	Texas live oak	<i>Quercus virginiana</i> var. <i>fusiformis</i>	2843 NE 9th Ave
8	Southern magnolia	<i>Magnolia grandiflora</i>	2846 NE 11th Ave*
9	Japanese chinkapin	<i>Castanopsis cuspidata</i>	2836 NE 11th Ave
10	Sierra oak, Canby oak	<i>Quercus canbyi</i>	2835 NE 11th Ave
11	Jounama snow gum	<i>Eucalyptus pauciflora</i> ssp. <i>debeuzevillei</i>	2827 NE 11th Ave
12	Mexican blue oak or Sonoran blue oak	<i>Quercus oblongifolia</i>	2828 NE 11th Ave
13	pineapple guava	<i>Acca sellowiana</i>	2816 NE 11th Ave*
14	Chusan palm or windmill palm	<i>Trachycarpus fortunei</i>	2816 NE 11th Ave*
15	olive	<i>Olea europaea</i>	2815 NE 11th Ave
16	La Siberia Gregg oak	<i>Quercus greggii</i> 'La Siberia'	2747 NE 11th Ave
17	loquat	<i>Eriobotrya japonica</i>	2726 NE 11th Ave*
18	Sartor's oak	<i>Quercus sartorii</i>	2717 NE 11th Ave
19	silver-leaf oak	<i>Quercus hypoleucoides</i>	2627 NE 11th Ave
20	Edith Bogue Southern magnolia	<i>Magnolia grandiflora</i> 'Edith Bogue'	2716 NE 12th Ave
21	sweet bay magnolia	<i>Magnolia virginiana</i> var. <i>australis</i>	3132 NE 12th Ave
22	Pacific madrone	<i>Arbutus menziesii</i>	3242 NE 12th Ave
23	smiling forest lily tree	<i>Magnolia maudiae</i> var. <i>maudiae</i>	1339 NE Fremont St

*yard tree

Tree Facts, A to Z

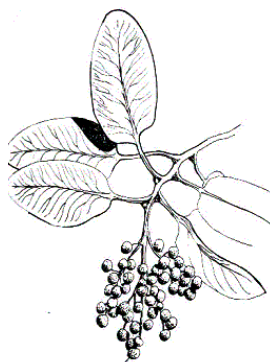
Trees are listed in alphabetic order by botanic name

Pacific madrone *Arbutus menziesii*

Address: 3242 NE 12th Ave, Portland, OR 97212

North America - Oregon and Washington west of the Cascades, n. California and British Columbia, Canada

The Pacific madrone is a native broadleaf evergreen that can grow up to 100'. Young bark is chartreuse and smooth, while the older bark is dark brownish red and peels off. Leaves are simple, alternate, oblong, 3–5" long, and are dark green on top and light green or golden-scaly below. Margins are smooth or finely serrated.



Stems and trunks tend to be lean and twist. Flowers are white, urn-shaped, and fragrant, in large drooping clusters. The fruit appears in fall and is orange-red and pea-sized with a pebbly surface. The species name honors British surgeon and plant hunter Archibald Menzies, who first described the species from a tree seen on the Olympic Peninsula in 1792. A Straits Salish story describes madrone as the tree used by survivors of the Great Flood to anchor their canoe to the top of Mount Newton (B.C.) To this day, the Saanich people do not burn madrone in their stoves because of the important service this tree provided long ago.

boxleaf azara *Azara microphylla*

Address: 3416 NE 11th Ave, Portland, OR 97212

South America - Chile

The hardiest azara, this native of wet forests in Chile grows quickly in cultivation in Oregon to a 20–25' tree. Cold winter winds can cause leaves to blacken and fall, but established trees typically recover in spring and releaf. Bark is cream to light beige-brown in color, relatively smooth. Leaves are small, round and resemble those of boxwood, hence the tree's common name in English. Tiny golden flowers appear in late winter along the branches. Although inconspicuous, they have a delicious, vanilla-scent

when smelled up close. The branching habit is arching, with limbs that curve downward. An understory tree in its native habitat, boxleaf azara tolerates shade. It prefers regular water in summer. Chileans refer to the tree as *chin chin*, the name given it by the local Mapuche Indians. The tree is also seen in a variegated form - *A. macrophylla* 'Variegata'.

Japanese chinkapin *Castanopsis cuspidata*

Address: 2836 NE 11th Ave, Portland, OR 97212

Asia - Japan, South Korea and China

A rounded tree to 80' tall. Glossy, evergreen leaves are 4" long and 1" wide. The leaves are a light brass color underneath, with serrated edges that curl up and a long, narrow drip-tip. Bark is smooth and silvery gray like that of a beech. Showy, cream-colored catkins appear in summer. They resemble chestnut flowers and have a slightly unpleasant smell, somewhat like hawthorn flowers. They are wind pollinated, although in Asia a midge also assists with reproduction. The tree starts producing acorns at about 5 years. In Asia, these are gathered and boiled or roasted. Native to forests and ravines near the sea, this tree does well in full sun or in partial shade in any reasonably well-drained soil. In Japan, the tree is called *shii*. Logs are used to grow certain mushrooms on, hence the name shiitake mushroom. Swedish plant hunter Carl Peter Thunberg thought the tree was an oak and named it *Quercus cuspidata* in 1784. In 1912, Ernst Max Schottky (1888–1915) reclassified it as *Castanopsis*.

loquat *Eriobotrya japonica*

Address: 2726 NE 11th Ave, Portland, OR 97212

Asia - southern and central China

A broadleaf evergreen fruit tree 15' to 30' tall. The English name derives from the Cantonese name *lo guat*, but the Mandarin name is *pipa*. Leathery evergreen leaves 4" to 10" long are velvety below with serrated edges. Sweet-smelling flowers bloom in stiff white or yellowish panicles in autumn or early winter. If freezes haven't damaged the blooms, orange-skinned smooth fruit 1" to 2" long may form.



Omeo gum *Eucalyptus neglecta*

Address: 3016 NE 11th Ave, Portland, OR 97212

Australia - mountains of Victoria

Hailing from high elevations in SE Australia, this tree is one of the hardiest eucalypts for the Northern Hemisphere. Omeo is a mountain town in eastern Victoria where this species is especially abundant. Omeo gum grows as an understory tree along creeks yet is surprisingly drought tolerant. It is one of the few eucalypts that tolerates partial shade. Juvenile leaves are round, becoming more oval as the tree ages. They are smooth-edged, blue-green in color and larger than those of most gum trees. The leaves are fragrant, smelling like Vick's Vap-O-Rub, which contains eucalyptus oil. The oil is used in many products from lozenges to candles and detergents. New growth is tinged purple or lilac. Leaf stems are square. The white flowers are not showy. The brown bark exfoliates in strips to reveal smooth, olive-colored underbark. A fast grower, Omeo gum can reach 40' to 60' tall by 10' to 15' wide.

Jounama snow gum *Eucalyptus pauciflora* ssp. *debeuzevillei*

Address: 2827 NE 11th Ave, Portland, OR 97212

Australia - mountains of New South Wales above 5,000'

The hardiest eucalyptus tree and the most reliable for the Pacific Northwest. An evergreen broadleaf tree, Jounama snow gum has flat, thin, lance-shaped leaves bluish-gray in color. Bark is smooth and peels in attractive white and gray strips and patches. Flowers are white. Trees require full sun. They normally reach 25' to 35'. Snow gums form pure forests at the treeline of Australia's highest mountains in New South Wales and Victoria. Two especially hardy subspecies of snow gum - *niphophila* and *debeuzevillei* - were recognized in 1973. The tree is considered vulnerable to global warming, since there is limited land in Australia at the cooler elevations it needs. Usually disease and pest free in Portland. It was first collected in 1919 by Australian forester Wilfred de Beuzeville. It has been cultivated in North America only since the early 1940s.



snow gum *Eucalyptus pauciflora* ssp. *niphophila*

Address: 3036 NE 11th Ave, Portland, OR 97212

Australia - mountains of Victoria and New South Wales above 5,000'

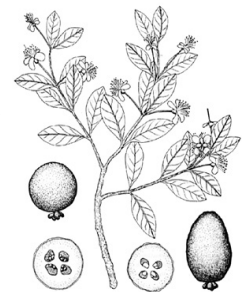
Snow gums are the hardiest eucalyptus trees for the Pacific Northwest. An evergreen broadleaf tree, they have flat, thin, lance-shaped leaves bluish-gray in color. Bark is smooth and peels in attractive white and gray strips and patches, although strips can vary in color from light brown to cream. Flowers are white. Trees require full sun. They normally reach 25' to 35'. Snow gums form pure forests at the treeline of Australia's highest mountains in New South Wales and Victoria. Two especially hardy subspecies of snow gum - *niphophila* and *debeuzevillei* - were recognized in 1973. The tree is considered vulnerable to global warming, since there is limited land in Australia at the cooler elevations it needs. Usually disease and pest free in Portland. It has been in cultivation in North America since about 1940.

pineapple guava *Acca sellowiana*

Address: 2816 NE 11th Ave, Portland, OR 97212

South America - southern Brazil, Uruguay

Densely branched evergreen to 15' in the myrtle family. One of the few South American trees hardy enough to survive outdoors in the Pacific Northwest. Notable for the showy flowers with their long red stamens surrounded by 4 reflexed sepals that are pink fading to white at the edges. If hummingbirds have pollinated them with pollen from a different clone, they may bear green-tinged, egg-shaped fruit 1" to 3" long that matures to yellow. Tasting something like pineapple-spearmint, the fruit ripens in fall. The simple leaves are opposite, oval 1" to 3" long and lustrous dark-green above and whitish, felted and conspicuously veined beneath. No serious disease or insect pests. Discovered in 1819 by German naturalist Friedrich Sellow (1789-1831). He drowned crossing a river while hunting for plants in Brazil.



English holly *Ilex aquifolium*

Address: 3241 NE 11th Ave, Portland, OR 97212

Europe - western and southern Europe including England, Ireland, France, Spain, Portugal, Italy

Birds eat the bright red berries of this spiny European evergreen tree and then spread the seeds into natural areas. The shade-tolerant seedlings survive and slowly crowd out other vegetation, earning them a spot on Portland's list of invasive plants and it is not allowed to be planted. Holly was grown commercially for decades in the Portland area, the foliage being cut at Christmas to make wreaths and other decorations. For millions of years, Europe, and northwest Africa had a wetter climate and were largely covered by forests of evergreen trees like laurel, holly and many other species of *Ilex*. During the last 5 million years the Mediterranean became drier and the laurel forests gradually retreated, replaced by more drought-tolerant plants. Most of the last remaining laurel forests around the Mediterranean are thought to have died out about 10,000 years ago at the end of the last Ice Age. Holly is a relic of those lost forests. The wood was once used to make bagpipes.



Southern magnolia *Magnolia grandiflora*

Address: 2846 NE 11th Ave, Portland, OR 97212

North America - from eastern Texas across the coastal southern states to North Carolina

Southern magnolia grows to about 60' tall. The leaves have a dark green waxy surface and a fuzzy red-brown underside. This species is native to the southeastern United States and has been cultivated as an urban or yard tree for 250 years. The oldest specimen in Portland was planted in the 1890s on SW 2nd Ave. Flowers don't appear until the tree is at least twenty years old. However, some would say



the flowers are worth waiting for. Each milky white and strongly fragrant flower can be up to a foot in diameter, the size of a dinner plate. The large petals fall off leaving a large green fruit (up to 4" long) which some people say looks like a pickle. In the southern United States, evergreen magnolias have been planted in hurricane regions because of their wind-resistance.

Edith Bogue Southern magnolia

Magnolia grandiflora 'Edith Bogue'

Address: 2716 NE 12th Ave, Portland, OR 97212

North America - a cultivar of a species native to the southeast USA

Edith Bogue is a form of the evergreen Southern magnolia selected for its ability to resist snow and ice without its limbs breaking, and for its general hardiness to cold. Thick, leathery leaves help make the tree adaptable to full sun and moderate drought once established. This is the most common evergreen magnolia cultivar in Portland. Rounded tree 30' to 35' tall by 15' to 20' wide. Light brown indumentum under the leaves, although not as showy as on D.D. Blanchard or other cultivars. Large, pure white flowers to 8" across appear sporadically throughout the summer and have a strong lemon fragrance. Magnolias are among the oldest of the flowering plants. Fossils show they were growing at least 100 million years ago. Once widespread across the entire Northern Hemisphere, they survived the Ice Ages only in Asia, the southeastern U.S. and Mexico. Mississippi's state tree is the magnolia, with *Magnolia grandiflora* most typically used to represent that genus.

smiling forest lily tree, Maude magnolia

Magnolia maudiae var. *maudiae*

Address: 1339 NE Fremont St, Portland, OR 97212

Asia - China in the provinces of Southern Anhui, Fujian, Guangdong, Guangxi, Guizhou, Jiangxi, Hunan and southern Zhejiang

Since the reopening of mainland China to Western plant explorers in the 1980s, a number of tree species previously unknown in the Northwest have been introduced. One of the showiest is the smiling forest lily tree. This broadleaf evergreen came from China via British Columbia. In its homeland the tree grows at elevations from 1,800' to 5,000'. Its leaves are elliptic

to obovate, and lighter underneath. The smooth bark is gray. The lightly scented white flowers are its chief attraction, being five to six inches across. Flowers of these first trees planted in Portland (in 1997) bloom in February, continuing for several weeks. Severe cold can damage tender new leaves, although trees fully recover. This magnolia does best in good soils with consistent moisture. When irrigated, it grows fairly quickly into an upright, oval shape. Mature trees in the wild have reached 65' but growers suggest cultivated trees are more likely to be 20-30' tall.

Southern sweet bay magnolia *Magnolia virginiana*
var. *australis*

Address: 3132 NE 12th Ave, Portland, OR 97212

North America - eastern USA from Texas to Florida and north to Massachusetts

Trees from northern parts of the range are deciduous - those from deeper south are semi-deciduous to evergreen. Forms an upright tree.

Oblong-lanceolate leaves are light-green above and silvery white underneath.

Cup-shaped, white to cream flowers 2-3" long are lemon-scented and appear in summer. Deep orange-red seeds appear in cone-like clusters in fall. Trees grow 25 to 35' but individual trees have achieved 80' or more. The root of this tree was used by early colonists to bait beaver traps, which earned the species the nickname Beaver Tree.



olive *Olea europaea*

Address: 2815 NE 11th Ave, Portland, OR 97212

Europe, Africa, Asia - was a component of the original Mediterranean forests in southern Europe, Turkey, Israel, and North Africa; subspecies occur throughout much of Africa, the Middle East, the Canary Islands, Arabian Peninsula and east into China

Olive trees have been cultivated in the Mediterranean for some 5,000 to 6,000 years. So valued were they that it was forbidden to cut them down, even if they belonged to an enemy. So olive branches came to

symbolize peace, abundance and glory. The Spanish planted the first olives in the New World in Lima, Peru in 1560. The first olive groves in this country were planted by Spanish missionaries in California at San Diego between 1769 and 1795. Today there are an



estimated 865 million olive trees worldwide. About 90% of olives are turned into olive oil. In Swahili the tree is called *mzaituni*. The French call the olive tree *olivier*, the Portuguese call it *oliveira* (also a common last name), the Spanish *olivero*, the Germans call it *olivenbaum* or *olbaum*, and the Chinese *mu xi lian*.

Sierra oak, Canby oak *Quercus canbyi*

Address: 2835 NE 11th Ave, Portland, OR 97212

North America - the Chisos Mountains of Texas in the USA and in Mexico in the states of Nuevo Leon and Tamaulipas

A member of the red oak group, this species is native only to two states in Mexico and the Chisos Mountains in Texas. The tree matures quickly into a broadly spreading form 30' to 50' by 30' to 40' wide. It requires full sun but is tolerant of heat and drought. The shiny leaves are 3 inches long, lanceolate to narrowly elliptical with pointed apexes. They resemble holly but have gentler spines. New leaves emerge a reddish color, fade to green in the summer, and then turn red again in autumn. They are shed late in the season, so the tree is leafless only briefly. The stalkless acorns are borne singly or in pairs, with 1/4 or 1/3 of the length covered by a shallow cup. The bark is dark gray. The species was first scientifically described only in 1924.

La Siberia Gregg oak *Quercus greggii* 'La Siberia'

Address: 2747 NE 11th Ave, Portland, OR 97212

North America - a cultivar derived from a tree found at high elevation in Tamaulipas, Mexico

About a fifth of Mexico is covered by oak or oak-pine forest. One of the hardiest of that nation's 161 or so species is Gregg oak. It ranges between 6,000' to 11,000' in elevation. Sean Hogan of Cistus Nursery

on Sauvie Island collected acorns from stunted oaks he found in eastern Mexico. Trees that grew from those acorns have proven hardy. Hogan named the variety 'La Siberia' after the Mexican village near where he found the parent trees. *Quercus greggii* reaches 20-25' tall, more if grown on good soils. Gregg oak does best in full sun and is highly tolerant of drought. Its elliptic to obovate evergreen leaves have wavy margins that roll under at the edges. The leaf surface is crinkled and covered in fuzz, with a prominent midrib and lateral veins. The undersides are covered in brownish hairs. The bark is dark gray and scaly. Young twigs have small white dashes known as lenticels. Acorns are produced singly or in pairs.

silverleaf oak *Quercus hypoleucoides*

Address: 2627 NE 11th Ave, Portland, OR 97212

North America – Chihuahua and Sonora in Mexico to Arizona, New Mexico and west Texas in the USA

Evergreen oak typically grows to 30' but on good soils can reach 50-60'. The tree's lance-shaped leaves are dark gray above and silver underneath. Male flowers are 4-5" long catkins appearing in spring. Female flowers are stemless or short-stalked. Acorns are 1/2 to 2/3 of an inch long. The bottom third is covered in a scaly cup. The smooth bark of young trees becomes deeply furrowed and cracked into black or dark gray plates. The trees have strong central leaders and round, dense foliage. They grow at elevations from 5,000' to 7,000' in northern Mexico's Sonora and Chihuahua states, and across the border in the mountains of New Mexico, Arizona and west Texas. A promising tree for its drought tolerance and rapid growth. Silverleaf oak belongs to the red oak group.

holly oak *Quercus ilex*

Address: 2843 NE 9th Ave, Portland, OR 97212

Europe-Africa – Mediterranean, including Morocco and Algeria in North Africa, Malta, Spain, Portugal, and Italy

A long-lived evergreen white oak from the Mediterranean attaining 65' to 90' tall. The Latin name for the species means "holly" because often leaves on young trees are spiny, resembling those of a holly. Leaves are pale white underneath. Acorns

are long and quite pointed at the tip. Bark is dark brown to almost black, with many cracks and fissures forming small plates and ridges. In Morocco, holm oak grows in association with Atlas cedar. The first ones planted in England in the 1500s are still living. Some trees in stands there are also reputed to be more than 500 years old. Holm oak is the national tree of Malta. They are known as *encina* or *carrasca* in Spanish and *alzina* in Catalan.



bambooleaf oak *Quercus myrsinifolia*

Address: 3427 NE 11th Ave, Portland, OR 97212

Asia - Japan, Korea, Laos, Vietnam, north Thailand, Taiwan and China in the provinces of Anhui, Fujian, Guangdong, Guangxi, Guizhou, Henan, Hunan, Jiangsu, Jiangxi, Shaanxi, Sichuan, Yunnan and Zhejiang

An evergreen broadleaf oak 35-45' typically but capable of reaching 65'. Spread is usually 20' x 30'. Lance-shaped (hence the name "bamboo-leaf" oak), unlobed leaves with slightly toothed margins are an olive-green. They emerge with a violet-purplish hue that quickly fades to green. They have 9 to 14 vein pairs and are somewhat larger than those of the similar Asian species *Q. glauca*. Bark is smooth and gray. The tree has proven resistant to snow and ice, without major breakage issues and is the most cold tolerant of all Asian evergreen oaks. It grows at elevations between 660' and 8,250'. The Chinese name is *xiao ye qing gang*. The Japanese call the tree *shira-kashi* (meaning "oak"). First scientifically described in 1850 by German-Dutch botanist Karl Ludwig von Blume (1796-1862). British plant hunter Robert Fortune introduced this tree to Western cultivation in 1854.

Mexican blue oak, Sonoran blue oak
Quercus oblongifolia

Address: 2828 NE 11th Ave, Portland, OR 97212

North America - Arizona, New Mexico and west Texas and in Mexico in the states of Baja California, Sonora, Chihuahua, and Coahuila

Sonoran blue oak gets its name from the bluish tinge

of the evergreen leaves. The 1" to 2" long leaves are unlobed and leathery, usually oblong to elliptic but can be lance-shaped or oval. Sonoran blue oak is common in high grasslands and woodlands on mesas and in canyons at elevations from 4,000' to 5,200'. It grows 16' to 30' tall. The oval to oblong acorns are 1/2 to 3/4 inches long and are borne singly or in pairs. They are eaten by bighorn sheep, deer and peccaries. They were also a staple for some native North American tribes. After leaching out the tannins over winter in boggy ground, the acorns would be ground into a powder and used as a thickener in stews, or mixed with cereals to make bread. The tree was first scientifically described in 1853 by American botanist John Torrey (1796 to 1873). He based the species on material collected on a U.S. government expedition that explored the territories newly won from Mexico in the war of 1848. A white oak, it is very drought tolerant.

Sartor's oak *Quercus sartorii*

Address: 2717 NE 11th Ave, Portland, OR 97212

North America - Guatemala, Honduras, El Salvador, Nicaragua and Mexico in the states of Veracruz, Nuevo Leon, Hidalgo, Puebla, Oaxaca and Tamaulipas

Despite being called *encino blanco* or "white oak" in Spanish, *Quercus sartorii* is actually classified as a red oak. In its Mexican homeland it grows in cloud forests at elevations between 4,000' and 7,500', where it grows amid sweet gums, redbuds and a subtropical species of maple, magnolia, *Podocarpus* and *Clethra*. It also occurs in drier oak woodlands at slightly lower elevation. Tough, drought tolerant and fast growing, it can form a sizable shade tree up to 100' tall in good conditions. Logging and forest destruction due to fire and grazing has reduced its numbers. The bark is dark gray and scaly. The acorns are rounded and mature in one year. It was scientifically classified in 1854.

Texas live oak *Quercus virginiana* var. *fusiformis*

Address: 2843 NE 9th Ave, Portland, OR 97212

North America - the Texas variety of the widespread southern live oak, also found in southern Oklahoma

The widespread Southern live oak extends far into Texas and Oklahoma. Trees from this drier western zone are known as variety *fusiformis*. They have

greater tolerance to heat and drought. Texas live oak tends to be a more upright tree. It usually grows to about 40' but is capable of reaching 80' in ideal conditions. The dark green leaves are oblong to elliptic, smooth margined, often with rounded ends and a yellow midrib. Acorns



of Texas live oak are dark brown, oblong and about 1 inch long by 1.5 inches wide. The bark is dark brown, rough, and furrowed on the trunk and large branches, with age developing thick, interlacing ridges. Some specimens have thinner, paler, scaly bark. The wood is hard, heavy, strong and tough. It is light brown in color with nearly white, thin sapwood. The wood formerly was used to build ships and wagon wheel hubs.

Chusan palm, windmill palm *Trachycarpus fortunei*

Address: 2816 NE 11th Ave, Portland, OR 97212

Asia - China

This is the northernmost palm tree in the world and the hardiest palm that forms a trunk. Although there are 9 species of *Trachycarpus*, *T. fortunei* from central China south to Myanmar is almost the only tree-forming palm regularly planted in Portland. Many old specimens have survived cold winters for decades in Portland. Easily distinguished by the long gray fibers, like hair, entwining its stout trunk. Stiff needles are palmately compound in big fans up to 3' across. Yellow male flowers or green female ones are borne in big panicles from the top of the trunk. Female trees produce kidney-shaped, yellow to blue-black drupes. The palm is known as *zong lu* in Chinese. Technically not a tree but a dicot. Named for Scottish plant hunter Robert Fortune (1812-1880), who introduced the palm to Western cultivation in 1843. Palms are resistant to verticillium wilt.