



Sunnyvale Urban
Forest Advocates
sunnyvaletrees.org

TREES OF DISTINCTION TREE GUIDE

Araucaria araucana (commonly called the monkey puzzle tree, monkey tail tree, piñonero, or Chilean pine) is an evergreen tree native to central and southern Chile and western Argentina. *Araucaria araucana* is the hardiest species in the conifer genus *Araucaria*. Once established, these trees can live 1000 years. Because of the longevity of this species, it is described as a living fossil. It is also the national tree of Chile. It is often planted as an ornamental tree for its unique branches covered with scaly, triangular leaves resembling those of a succulent. Interestingly, each leaf has an average lifespan of 24 years.

The origin of the popular English language name "monkey puzzle" derives from its early cultivation in Britain, about 1850, when the species was still very rare in gardens and not widely known. Sir William Molesworth, the proud owner of a young specimen at Pencarrow garden near Bodmin in Cornwall, was showing it to a group of friends, one of them – the noted barrister and Benthamist Charles Austin – remarked, "It would puzzle a monkey to climb that". As the species had no existing popular name, first "monkey puzzler", then "monkey puzzle" stuck.

Araucaria heterophylla (synonym *A. excelsa*) is another member of the genus that is quite successful in Sunnyvale. Known by its common name, the Norfolk Island Pine, this tree is both highly adaptable and highly resistant to salt. Originally esteemed for a long and straight trunk, the wood was found to be too soft for use as ship masts. But the trees have luxurious foliage, and they were used as religious symbols by missionaries among indigenous populations due to the branches forming what resembles a cross up on top.

Black Birch, *Betula pendula* -This is a tree found in the Appalachian region of the United States, mostly in moist ravines where there are cool summers. In Ohio, it is only native along the western edge of the Allegheny Plateau. It is prized for its hard, heavy wood (used as a finish wood or veneer, and often stained or varnished), and its excellent yellow fall color. It is named for its mature black bark that resembles that of Black Cherry. Its twigs, if broken, have the strong scent of wintergreen (Yellow Birch also has this trait, but with reduced aroma), and the leaves and twigs may be distilled to extract this flavoring. This tree has very unique, peeling trunks, as if the tree is diseased.

California Pepper, *Schinus molle* (Peruvian pepper, also known as American pepper, Peruvian peppertree, escobilla, false pepper, molle del Peru, pepper tree, peppercorn tree, California pepper tree, pirul, Peruvian mastic and pepperina) is a quick growing evergreen tree that grows to 50 feet (15 meters, native to the Peruvian Andes. It is the largest of all *Schinus* species and potentially the longest lived. It has, however, become widely naturalized around the world where it has been planted. It is known for its strong wood used for saddles. It was part of the Spanish colonies' supply sources for saddles; as an ornamental and for spice production *S. molle* is a drought-tolerant, long-lived, hardy evergreen species that has become a serious invasive weed internationally. The bright pink fruits of *Schinus molle* are often sold as "pink peppercorns" although *S. molle* is unrelated to true pepper (*Piper nigrum*). The word *molle* in *Schinus molle* comes from *mulli*, the Quechua word for the tree. The tree has distinctive grayish bark that twists and dips, sap, and colorful red berries that have been used to make chicha (Incan alcohol), to dye cloth, and as a medicine. The leaves, however, can be toxic.

Catalina Ironwood, *Lyonothamnus floribundus ssp. Asplenifolius* - This is an attractive and unique tree with fern-like fringy leaves native to the Channel Islands off California. In ornamental landscapes, it is a fast growing tree that can reach heights of 25 feet to 50 feet tall with a tall and upright form, but if alternate shoots are not trimmed off the trunk, it may end up with many trunks and a large canopy of 25-35 feet. Creamy white flowers appear in early spring. The leaves are especially appealing, often pinnately divided into 3-7 leaflets with deeply lobed margins.

Camphor Tree, *Cinnamomun camphora* - This is an evergreen tree native to Asia, but it has been introduced to many other countries. In Japan, there are five known camphors with circumferences over 60 feet, with the largest measuring in at just under 80 feet! They have an estimated lifespan of 150 years. Camphor trees are planted around the world as ornamentals in parks and gardens and they are considered naturalized in many places, but in subtropical climates like Florida, they can become invasive. Camphor is a white crystalline substance, obtained from the tree *C. camphora*. Camphor has been used for many centuries as a culinary spice, a component of incense, and as a medicine. It is also an insect repellent and a flea-killing substance, as well as used in the production of smokeless gunpowder and celluloid.

Canary Island Pine, *Pinus canariensis*, is a large evergreen tree native to the outer Canary Islands (Gran Canaria, Tenerife, Hierro and La Palma) in the Atlantic Ocean. It is one of the most drought tolerant conifers, existing in climates with as little as 7.9 inches (200 mm) of rainfall annually. It is the tallest tree in the Canary Islands, but due to overcutting in the past, not many of the really big trees remain. In its native habitat, it serves as an important part of the island water cycle, where the extremely long needles trap condensation from the moist air coming off the Atlantic and drop it onto the soil, where it is quickly absorbed and filters down to the aquifers. The Canary Island Pine is a popular ornamental street tree around the world due to its drought tolerance and impressive height.

Chinese Elm, *Ulmus parvifolia* - Native to Asia, this is a small to medium deciduous or semi-deciduous (rarely semi-evergreen) tree growing to 33-59 feet (10–18 meters) tall and 49-66 feet (15–20 meters) wide with a slender trunk and crown. It is a perfect shade tree where there is limited space for the trunk. It is also called the Lacebark because of its distinctive lacey bark. Elms, hickory and ash all have remarkably hard, tough wood that has made them popular for things like tool handles, bows and baseball bats. Chinese elm is considered the hardest of the elms. It is highly resistant, but not immune to Dutch Elm Disease. Dutch Elm Disease was inadvertently introduced to North America when a shipment of diseased elm carrying Elm Beetles was accepted in NY in 1928. The disease was mainly contained to within 150 miles of NYC with quarantine and sanitation until 1941, when war demands took away the funding. The disease then spread rapidly, killing 75% of an estimated 77 million trees by 1990 (an estimated 58 million trees).

Chinese Pistache, *Pistacia Chinesis* - NOT related to the pistachio, rather this tree is a member of the cashew family. Native to China, it is liked as an ornamental for its spectacular fall foliage and its drought/frost/sun/soil tolerance. The trees occur as either male or females, but the females are sometimes avoided due to their clumps of berries they can drop profusely in the fall. The pollen given by the males is an allergen to many people. Both males and females give us spectacular fall foliage before dramatically dropping their leaves. This is the only scarlet tree in the deserts of Arizona.

Coast Live Oak, *Quercus agrifolia*, is a beautiful evergreen oak that grows predominantly west of the central valleys, as far north as Mendocino County, and as far south as northern Baja California in Mexico. This tree typically has a trunk with many branches and reaches a mature height of 35-100 feet. Some specimens may attain an age exceeding 250 years, with trunk diameters up to three or four meters. Its form is highly variable, making it sometimes difficult to identify, and younger trees are often shrubby. The trunk, particularly for older individuals, may be highly contorted, massive and gnarled. The Coast Live Oak is one of the only California native oaks that actually thrives in the coastal environment, although it is rare on the immediate shore. It enjoys the mild winter and summer climate afforded by ocean proximity, and it is somewhat tolerant of aerosol-borne sea salt. The coastal fog supplies relief from the rainless California summer heat. Due to its versatility and tolerance, as well as its tall and stately nature, the Coast Live Oak is widely planted in urban and suburban areas. It is also well documented that the Coast Live Oak takes in a larger percentage of toxins and pollutants from the environment than many other trees, and therefore is ideal in city settings. There is a movement currently to re-oak California with Coast Live Oaks. (the California native plant society: www.cnps.org)

Coast Redwood, *Sequoia sempervirens* - One of three trees in the Cypress family classified as Redwoods (due to reddish bark). The other two are the Giant Sequoia (*Sequoiadendron giganteum*) and the Dawn Redwood (*Metasequoia glyptostroboides*). The Giant Sequoias are the famous big trees of Northern California, and the Dawn Redwood was thought to be extinct until it was discovered flourishing in the 1940's in China. Incidentally, the Dawn Redwood is a deciduous conifer under the right conditions, unlike the other two. All three species are remnants of a vast prehistoric forest of conifers that covered much of North America and Europe until the last ice age limited their range. The amazing Coast Redwood trees can live over 2000 years and obtain heights of almost 400 feet. They are the tallest living things on earth. The Coast Redwood is home ONLY on the Pacific Coast, from Monterey to Southwest Oregon, ideally in deep valleys and gullies with year-round streams and heavy fog. Redwood bark is very thick and fire resistant. The lumber has been often used as railroad ties and trestles due to its resistance to rot (due to terpenoids and tannins). There are approximately 230 known albino redwoods in California that completely lack chlorophyll, but can survive when fed nutrients from other trees through the interlaced root network.

Copper Beech, *Fagus sylvatica purpurea* - Native to Europe, this beautiful tree is used worldwide as an ornamental for its unique foliage that begins orangey-copper, then holds a deep plum-wine color all summer long before going fiery again in the last gasps before winter. The European Beech is often chosen over the American because it is faster growing - it will grow in 30 years to the same size that the American grows in 40. It is a tree that has a long maturation period, and a crop of beech nuts won't appear on the tree until 30 years have passed. The copper beech will gradually grow to occupy great space, with a mature tree topping out over 50 to 70 feet tall and almost as wide, but specimens have been found that were over 100 feet tall. The wood it produces is good for everything except heavy structural support.

Cork Oak, *Quercus suber* - This gorgeous, long living tree is the source of the cork harvested for wine bottles, flooring and many other products. Native to the Mediterranean region, its thick, insulating bark protects it from forest fires. Cork oaks commonly live more than 200 years. The largest and oldest living specimen is a tree in Spain that is dated at 234 years old and requires five people holding hands to encircle it. Virgin cork (or 'male' cork) is the first cork cut from generally 25-year-old trees. Another 9 to 12 years is required for the second harvest, and a tree can be harvested about twelve times in its lifetime. Cork harvesting is done entirely without machinery, being dependent solely on human labor. The cork left after stoppers have been made is used to make a wide range of products, including insulation panels, floor and wall tiles and sound-proofing in the car industry, as well as for handicrafts and artistic uses. The thick bark is the tree's adaptation to the endemic forest fires of its native habitat. When such a fire occurs, the bark protects the tree and it merely has to regrow the canopy.

Crepe Myrtle, *Lagerstroemia* - Over 50 varieties of this beautiful flowering tree exist, with long lasting flowers ranging from white, yellow, to pink, purple and red and even blue. Native to Southeast Asia, Australia and Oceania, these trees are planted worldwide as ornamentals. They can be from 1 - 100 feet tall and are extremely variable in appearance. They can be pruned into all kinds of shapes and sizes and make wonderful living screens and fences.

Date Palm, *Phoenix canariensis* - *Phoenix canariensis* is a species of flowering plant in the palm family *Arecaceae*, native to the Canary Islands. It is a relative of *Phoenix dactylifera*, the true date palm. It is the natural symbol of the Canary Islands, together with the canary *Serinus canaria*. Mature *P. canariensis* are often used in ornamental landscaping and are collected and transplanted to their new planting location. In some areas, it has proven to be an invasive plant. In Bermuda and the United States (Florida and California) it is considered naturalized. Fossil history proves that date palms have been on Earth for over 50 million years. The first evidence of date palm cultivation dates back 9000 years. Triumphal processions in ancient Rome most likely used the fronds of the date palm to symbolize victory. Dates were introduced to California and Mexico by the Spaniards in 1765. One cultivar sprouted from a seed that was 2000 years old, giving the date palm the record for the oldest viable seed in the world..

Reflecting the maritime trading heritage of Britain, imported chopped dates are added to, or form the main basis of a variety of traditional dessert recipes including sticky toffee pudding, Christmas pudding, and date and walnut loaf. Dates are mentioned more than 50 times in the Bible and 20 times in the Qur'an. Many Jewish scholars believe that the "honey" reference in the Bible to "a land flowing with milk and honey" (Exodus chapter 3) is actually a reference to date "honey", and not honey from bees. In Islamic culture, dates and yogurt or milk are traditionally the first foods consumed for Iftar after the sun has set during Ramadan.

Dawn Redwood, *Metasequoia* - is a fast-growing deciduous tree, one of three species of conifers known as redwoods, and the sole living species in its genus. It is native to Lichuan county in Hubei province, China. Although the shortest of the redwoods, it grows to at least 165 feet (50 meters) in height. Local villagers refer to the original tree from which most others derive as Shui-sa, or "water fir", which is part of a local shrine. Until 1944 it was believed to be extinct, but then a vast forest of the trees was discovered in remote China. It differs from the two other species of Redwoods in that it loses its needles in the winter and often resembles a dead tree until growth resumes in spring. Not all Dawn Redwoods outside of China lose their needles, and it is thought that the northern latitude and the quality or angle of sunlight play a role in this. The dawn redwood has become a popular ornamental and somewhat of a novelty tree, with examples found in various parks in a number of countries.

Southern Blue Gum Eucalyptus, *Eucalyptus globulus*, is a species of tall, evergreen tree endemic to south-eastern Australia. It has mostly smooth bark, juvenile leaves that are whitish and waxy on the lower surface, glossy green, lance-shaped adult leaves, glaucous (grayish-green in color, and sometimes having a light dusting of powder), ribbed flower buds arranged singly or in groups of three or seven, white flowers and woody fruit. There are four subspecies; this is the *Eucalyptus globulus globulus*.

It was introduced to California in the mid-19th century, partly in response to the Southern Pacific Railroad's need for timber to make railroad ties, and is prominent in many parks in San Francisco and throughout the state. Naturalists, ecologists, and the United States National Park Service consider it an invasive species due to its ability to quickly spread via seeds and displace native plant communities, although the United States Department of Agriculture does not list it among its "Invasive and Noxious plants" list in California. Local authorities, especially many fire departments across California, consider it to be a major fire hazard. Due to these factors, programs across the state of California have been established to remove all eucalyptus growth and restore native biomes in certain park areas, such as on Angel Island in San Francisco Bay, and in the hills of Oakland, California.

European Hornbeam, *Carpinus betulus* - is a hornbeam native to Western Asia and central, eastern, and southern Europe, including southern England. It requires a warm climate for good growth, and occurs only at elevations up to 1969 feet(600 meters). It grows in mixed stands with oak, and in some areas, with beech.. Hornbeam was also known as 'Yoke Elm'. The wood is heavy and hard and is used for tools and building construction. It also burns hot and slowly, making it very suitable for firewood. This was the reason for lopping and hence indirectly the saving of Epping Forest, where the hornbeam was a favored pollarding tree.

Fan palm, *Washingtonia robusta*, the **Mexican fan palm** or **Mexican washingtonia**, is a palm tree native to western Sonora and Baja California Sur in northwestern Mexico. It is grown as an ornamental tree, reaching 80-90 feet tall. Field research conducted on *Washingtonia robusta* in its native habitat on the Baja California peninsula concluded that its potential longevity may exceed 500 years. Many of the iconic "sky dusters" of Los Angeles are documented in photography from the 19th century.

Pine, *Afrocarpus gracilior* (formerly known as Podocarpus) - Afrocarpus is a genus of evergreen trees native to Africa. They were reclassified in only 1989, reminding us of constant changes in the field of Taxonomy (the science of classification). The podocarps (the scientific FAMILY of Afrocarpus) are associated with the ancient supercontinent of Gondwana, where they were characteristic of the cool, moist southern Gondwana flora. Gondwana broke up into the continents of South America, Africa, India, Australia, and Antarctica between 160 and 30 million years ago. As Africa drifted north, it became hotter and drier, and the podocarps generally retreated to the cool, moist highlands of eastern and southern Africa. In many ways, Afrocarpus retains many of its prehistoric characteristics. Look at the leaves, which seem to be a cross between an evergreen leaf and a pine needle. I like to think of it as one of the missing links between deciduous and evergreen trees. Afrocarpus is a hardy and variable tree, used often in gardens as a tree, hedge, screen, or espalier (the horticultural and ancient agricultural practice of controlling woody plant growth for the production of fruit, by pruning and tying branches to a frame). It is also a common street tree in Sunnyvale, and there are many large and beautiful specimens throughout the city.

Ginkgo, *Ginkgo biloba* - This is a very special and unique tree, also called the maidenhair tree. Each individual tree can live up to 3000 years, and the species has existed since the time of the dinosaurs. Fossilized ginkgo leaves date back to 270 million years ago! The leaves are unique amongst trees in the lack of a central vein. This tree survives and adapts well, tolerating heat, air pollution and soil salt. The female trees drop ginkgo nuts, which are considered stinky by some people and a delicacy by others. Ginkgo trees offer a lovely rippling effect with wind and turn dramatic yellows in the fall.

Holly Oak, *Quercus ilex* - This Mediterranean native has played an important role in California, even in dear old Sunnyvale. The Spanish name for this tree is 'encinas' and it has given name locations to many locations throughout this state. Even one of Sunnyvale's first names was Encinal or 'where the holly oaks grow' (The others being 'Murphy Station' and 'City of Destiny'). The wood from these trees is hard, tough and perfect for general construction. These are one of the top three trees used for truffle orchards. The acorns are also an important food for pigs in the Iberico ham industry.

Honey Locust, *Gleditsia Triacanthos* - This is one of my favorite trees! Although native to moist river valleys in North America, in many places in the US and especially in Australia, it is considered invasive, due to its extreme tolerance, easy transplanting and weed-like growth in sub-tropical climates. It is a relatively short lived tree (around 120 years), but it is popular as an ornamental, due to its unique yellowish coloring, fringy leaves, interesting zig-zag branch pattern and immense shade from mature trees. The name stems from the sweet legume pulp found in the seed pods that were both food and medicine for Native Americans. There is currently a niche market for honey locust furniture.

Italian Stone Pine, *Pinus pinea*, is a tree prehistorically native to Africa, when the climate was less arid, but is nowadays considered native to the Mediterranean. It has also become naturalized in areas as diverse as North Africa, the Canary Islands, South Africa and New South Wales. Recognized by its umbrella-like canopy and its edible pine nuts, Stone pines are widespread in horticultural cultivation as ornamental trees, planted in gardens and parks around the world. They are notable amongst pine trees as having the longest maturation rate for their cones with the pine nuts (three years). The tree is among the symbols of Rome, where many historic Roman roads, such as the Via Appia, are embellished with lines of stone pines. Stone pines were planted on the hills of the Bosphorus strait in Istanbul for ornamental purposes during the Ottoman period. In the 1700s, *P. pinea* began being introduced as an ornamental tree to other Mediterranean climate regions of the world, and is now often found in gardens and parks in South Africa, California, and Australia.

Jacaranda, *Jacaranda mimosifolia*, is a genus of 49 species of flowering plants in the family Bignoniaceae, native to tropical and subtropical regions of Mexico, Central America, South America, Cuba, Hispaniola, Jamaica, and the Bahamas. This magnificent South American tree was first brought to South Africa in 1880 to add a splash of ornamental color to the dusty palette of the savannah, but it became so comfortable there that it is now considered invasive. In the native habitat, they are deciduous, not because of cold winters, but because of the monsoonal wet and dry seasons. They briefly drop their leaves at the end of the dry season, then leaf up again when the rains come. Trees vary greatly in form, from being shrublike to 100 foot tall trees, with blue to blue-purple flowers. White flowers are also possible, although extremely rare. Several species are widely grown as ornamental plants throughout the subtropical regions of the world, valued for their intense flower displays. The most often seen is the Blue Jacaranda, *Jacaranda Mimosifolia*. The generic name is also used as the common name.

Japanese Fan Palm, *Livistona chinensis* - the Chinese fan palm or fountain palm, is a species of subtropical palm tree of east Asia. It is native to southern Japan, Taiwan, the Ryukyu Islands, southeastern China and Hainan. It can attain heights of about 30 to 50 feet (9 to 15 m) and a spread of 12 feet (4 m). The leaves are fan shaped. This palm is cultivated worldwide as an ornamental.

Japanese Flowering Cherry, *Prunus serrulata* - These are very beautiful and iconic trees, but also prone to diseases and pests. They are bred for their flowers, not fruit, so while considered an ornamental, many of them actually produce small, bitter fruit that humans don't eat, but birds like. In Japan, they are often planted in parks and other public spaces and tend to attract crowds during their spectacular blooming period, which can be as short as one week or up to a month. Cherry blossom festivals in Japan also tend to be solemn occasions, where people think about the brief and ephemeral qualities of life as symbolized by the short-lived colorful eruption of the trees. They are often featured in Eastern art and poetry. However, they do not traditionally appear in private gardens, where plants are chosen for their year-round appeal. The trees themselves are short-lived as well, with most species surviving under 40 years. With over 100 cultivars, these trees have had an amazing amount of diversity bred into the petals. They range from simple, single and somewhat sparse blossoms to dense, double, spectacular, even garish blossoms (in some people's opinions). The blossoms themselves tend to change color, starting off at their darkest and fading.

Japanese Maple, *Acer palmatum* - This is an incredibly variable, much cultivated tree native to Japan. There are over 700 cultivars available, ranging from bonsai to bushes to small trees of all shapes and sizes, with many different attributes in their coloring and leaves. Japanese maples make good garden trees, as they are happy in containers (as long as they have a constant source of water). They also are excellent neighbors with companion plants due to their non-invasive roots.

Japanese Pagoda Tree, *Styphnolobium japonicum* is native to China; despite the name, it was introduced in Japan. It is a popular ornamental tree in Europe, North America and South Africa, grown for its white flowers, borne in late summer after most other flowering trees have long finished flowering. It grows into a lofty tree 33 to 66 feet (10–20 m) tall with an equal spread, and produces a fine, dark brown timber. Its dried leaves constitute one of the 50 fundamental herbs used in Chinese medicine (huai hua mi). The Guilty Chinese Scholar Tree was a historic pagoda tree in Beijing, from which the last emperor of the Ming dynasty, Chongzhen, hanged himself.

Liquidambar styraciflua, American storax, hazel pine, bilsted, redgum, satin-walnut, star-leaved gum, alligatorwood, or simply sweetgum - This is a wonderful fast growing tree that has been planted all over Sunnyvale. It is one of the trees that gives us in the west a true display of fall foliage, when the five-pointed, Maple-like leaves change to vibrant colors of yellow, orange, red and brown. There is even a subspecies that turns purple. Although many people love these trees for their immense shade and fall foliage, they are one of Sunnyvale's least liked trees for two main reasons: 1) Native to the South-Eastern US, these trees prefer deep, well-drained soil and more abundant water than is common in the drought-afflicted west, and 2) The tree drops prolific, spiked, seed capsules that can be dangerous, known as "pokey balls" to children or as spiked fruit that persists for a long time after being dropped by the tree. These are quite painful to walk on barefoot and can be dangerous even with shoes, as many rolled ankles and falls have been attributed to them. In fact, these trees are banned in many cities specifically for these reasons.

Lombardy Poplar, *Populus nigra "Italica"* - This is a species of cottonwood poplar native to Europe, Asia and northern Africa. It is a member of the willow family and is related to the famous 'quaking aspens' (*Populus tremoides*). This species of poplar is tall and thin, its shape is columnar. Lombardy poplar trees grow rapidly. They could grow to a mature height of up to 60 feet, spreading around 12 feet. However, most are killed by canker disease within 15 years, so large specimens are hard to find. Despite its quick growth and attractive fall color display, Lombardy poplars have disadvantages, including the tree's susceptibility to diseases and pests.

London Plane Tree, *Platanus x acerifolia* - Having distinctive mottled trunks with large leaves similar to Maples, the London plane is very tolerant of atmospheric pollution and root compaction. For this reason it is a popular urban roadside tree. It was planted extensively in Victorian times to weather the pollution of London. It is now extensively cultivated in most temperate latitudes as an ornamental and parkland tree. There are so many London Plane trees in New York City (over 10% of the city's trees), that it is now restricted for use as a street tree. It creates magnificent displays of foliage in mature trees. Some people find that the stiff hairs shed by the young leaves and dispersing seeds can exacerbate asthma and other breathing difficulties. It is a hybrid of the western sycamore (*Platanus occidentalis*) and *Platanus acerifolia*.

Melaleuca, *Melaleuca quinquenervia* - a genus of nearly 300 species of evergreen plants in the myrtle family, Myrtaceae, commonly known as paperbarks, honey-myrtles or tea-trees (although the last name is also applied to species of *Leptospermum*). They range in size from small shrubs that rarely grow to more than 3 feet high, to trees up to 100 feet. Their flowers generally occur in groups, forming a "head" or "spike" resembling a brush used for cleaning bottles, containing up to 80 individual flowers. Native mainly to Australia, Melaleucas are planted world-wide as ornamentals due to their adaptability, tolerance and beauty. However, people living under them often find that they need constant maintenance, as they drop organic matter seemingly all year long. Most have distinct oil glands dotted in the leaves, making the leaves aromatic, especially when crushed.

Monterey Pine, *Pinus radiata* - Many of us recognize this as the iconic gnarled tree on Seventeen Mile Drive in Monterey, but without the harshness and salt spray of the ocean, the tree has a completely different look. Native to central California and Mexico, these pine trees, like many others, need fire to open their cones and release the seeds. The wood is a medium softwood, and roots totalling 39 feet in length have been found. In Pacific Grove, wintering Monarch butterflies have been known to stay in a particular group of Monterey pines year after year, despite their short lifespans and the fact that those butterflies have never been there.

Norfolk Island Pine - *Araucaria heterophylla* (synonym *A. excelsa*) is another member of the genus that is quite successful in Sunnyvale. Known by its common name, the Norfolk Island Pine, this tree is both highly adaptable and highly resistant to salt. Originally esteemed for a long and straight trunk, the wood was found to be too soft for use as ship masts. But the trees have luxurious foliage, and they were used as religious symbols by missionaries among indigenous populations due to the branches forming what resembles a cross up on top.

Ohio Buckeye, *Aesculus glabra* - Also known as the horse chestnut, this tree played a role in the history of the American frontier and has become part of the cultural identity of people from Ohio. The first tree west of the Ohio River that was felled by a settler (in 1788) was said to have been a Buckeye. Carrying a Buckeye nut in one's pocket is said to bring good luck, and the tree has become so ingrained in Ohio folklore that both people from Ohio and the mascot of Ohio State University are Buckeyes. A native of the Midwestern and Great Plains states, trees found in the open may reach 60 feet tall by 30 feet wide, but as a native understory it is often half that size. As a member of the Horsechestnut Family, it is related to other Horsechestnuts and Buckeyes, including man-made hybrids between the species.

Red Oak, *Quercus rubra* - commonly called northern red oak or champion oak, this is an oak in the red oak group. It is a native of North America, in the eastern and central United States and southeast and south-central Canada. Under optimal conditions and full sun, northern red oak is fast growing and trees can get as tall as 140 feet. Trees may live up to 400 years according to the USDA and a living example of 326 years was noted in 2001 by Orwig et al. Northern red oak is easy to recognize by its bark, which features bark ridges that appear to have shiny stripes down the center. A few other oaks have bark with this kind of appearance in the upper tree, but the northern red oak is the only tree with the striping all the way down the trunk. The northern red oak is one of the most important oaks for timber production in North America. Quality red oak is of high value as lumber and veneer, while defective logs are used as firewood. Other related oaks are also cut and marketed as red oak, although their wood is not always of as high a quality. *Quercus rubra* is grown in parks and large gardens as a specimen tree.

Saucer Magnolia, *Magnolia x soulangea* - First bred by French plantsman Étienne Soulange-Bodin (1774–1846), a retired cavalry officer in Napoleon's army, who liked the pretty pink flowers that emerge dramatically from its bare branches in spring. One variety 'Grace McDade' has blossoms that grow up to 14 inches across. *Magnolia x soulangeana* is notable for its ease of cultivation, and its relative tolerance to wind and alkaline soils (two vulnerabilities of many other magnolias).

Shamel Ash, *Fraxinus uhdei*- Also known as evergreen ash or tropical ash, shamel ash is a fast-growing tree that can reach heights of up to 80 feet, with a spread of up to 60 feet. The tree is notable for its showy leaves, which may be up to 11-inches long and lined with up to 9 leaflets. A native of Southern California and Mexico, it can tolerate brief periods of temperatures as low as 20 degrees Fahrenheit, though it may drop leaves or suffer some branch dieback. Shamel ash does best in full sunlight, though young specimens can tolerate some shade. An Ash tree by the name of Yggdrasil plays an important role in the Viking creation myth. Like the Vikings, the Gaels also thought of the ash tree (which they called uinsinn, pronounced ooshin) as protective. Of the five legendary guardian trees of Ireland, three were ash. Ash is also the second most popular tree growing beside Irish holy wells, and on the Isle of Man ash trees were said to protect the purity of springs.

Southern Magnolia, *Magnolia grandiflora* - This tree is native to the southeastern United States, from southeastern North Carolina to central Florida, and west to East Texas, yet it is the #1 street tree in Sunnyvale, with over 4000 throughout the city. This is due to the fact that many of the early developers of Sunnyvale were from the South and missed their beloved Magnolias, which attain tremendous height and beauty with unlimited water and space, as is the case in the Deep South. It is a truly magnificent tree, with large glossy dark green leaves that stay much of the year, and large white fragrant flowers. It is considered an evergreen, as the leaves die individually and fall off year round. Incidentally, the leaves offer another reason to not like the trees. Once fallen, they remain intact and even harden as they dry out, instead of crumbling like most leaves do. Therefore, they are easy to rake up, but quite painful to walk on. In its native habitat with abundant water, this tree will reach enormous sizes (approx. 90 feet tall). Until 2018, a Southern Magnolia from Andrew Jackson's own garden at the Hermitage graced the grounds of the White House. It was the oldest tree on the White House grounds and was so famous that it was for decades pictured on the back of the \$20 bill as part of a view of the South Front. (See <https://www.oakridger.com/article/20100216/NEWS/302169988> for the whole story). Another theory to explain their large numbers in Sunnyvale is that it was thought that their vigorous roots would help anchor the loose agricultural topsoil that covers the Santa Clara Valley. Unfortunately, these roots are part of what makes these trees less than ideal for Sunnyvale. Mature trees have tremendous root systems that have broken sidewalks, cracked foundations and destroyed pools. This, coupled with their intense love of water AND the large seed pods they drop (AND their treacherous leaves), is the reason that Sunnyvale is replacing all the Southern Magnolia street trees with other species as they die out.

Sycamore, *Planatus racemosa* (also called western sycamore, California sycamore, California plane tree and aliso in Spanish) - A much beloved shade tree native to riparian areas and wetlands in California and Baja California, this tree is prolific all over California and offers a dramatic change in autumn, when its large Maple like leaves fall. The American sycamore (*Planatus occidentalis*) has been crossed with the London plane tree (*Planatus acerfolia*) to create a tolerant, adaptable and beautiful street tree. Both types have bark that is an attractive patchwork of white, tawny beige, pinkish gray, and pale brown, with older bark becoming darker and peeling away. They are distinguishable from each other almost immediately by location, with California sycamores naturally growing only in wet areas and London plane trees almost exclusively planted in urban areas.

Tulip Poplar, *Liriodendron tulipifera* - Not related to the famous tulip, this tree is native to eastern North America and is the tallest eastern hardwood at an average of 160 feet, often with no branches for the first 80-100 feet, making it a very valuable timber tree. The flowers are erect, cup shaped and greenish-yellow (fading down to almost white). The tallest known specimen is 191 feet. The tree is quick growing without the problems of other fast growing trees (i.e. weak wood and a shorter life). Tulip Poplars need lots of sun to be happy.

Valley Oak, *Quercus lobata* - grows into the largest of North American oaks. It is only found in California, natively growing in the hot interior valleys and foothills. It is one of the two oak species that form the iconic picture of California, with green or golden hills and magnificent sprawling trees (the other being the Coast/Interior Live Oak). Mature specimens may attain an age of up to 600 years. This beautiful oak is remnant of an earlier time in the Santa Clara Valley, when the surrounding hills and valley itself were covered with mighty oaks, as the English explorer George Vancouver noted in 1792: "For about twenty miles it could only be compared to a park which had originally been closely planted with the true old English oak; the underwood, that had probably attended its early growth, had the appearance of having been cleared away and left the stately lords of the forest in complete possession of the soil which was covered with luxuriant foliage." A few years earlier (in 1769-70), when General Gaspar de Portola y Rovira explored New Spain (later California el Norte), he traveled inland from the area that is now Morgan Hill, crossing Santa Clara Valley to be one of the first Europeans to see the San Francisco Bay. He noted how his men did not come out from under the shade of the magnificent Oak trees all day, so dense was their coverage. However, the Valley Oak has not prospered along with the rest of Santa Clara Valley. As the human population grew, the average temperature was raised by only a few degrees, making it difficult for the tree to survive. It is also a tree that needs room to thrive, and the neighboring developments have served to encroach on its space and pollute its air and water.

Variety Tree Grove, Mixed pines and redwoods. The history of this grove goes back to 1921, when a Sunnyvale carpenter, impressed with the big trees in Oregon, smuggled some saplings hidden in his toolbox past the agricultural checkpoint at the border. He planted them in his garden, where they rapidly grew. In 1929, Sunnyvale had a brand new civic center, but had used up all the funds for the building and had nothing left for landscaping. Some enterprising Sunnyvalean proposed that the good citizens donate plants and trees from their yards. And, thus, the Variety Tree Grove was born

Water gum or kanooka tree, *Tristaniopsis laurina* - Native to Australia, *Tristaniopsis laurina* is cultivated as an ornamental tree by plant nurseries, for use in gardens and civic landscaping. It is popular because it is easy to grow and is a good shade tree. Many are planted as street trees, especially in Sydney. Some people find the odor of the blossoms offensive.

Sources: Information obtained from arborists, online sources, and personal experience.