



Jasper Ridge Biological Preserve

Each one Teach One Flashcards
Plant Guide

BIO ESYS 105

Acknowledgments:

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Chamise (*Adenostoma fasciculatum*)(Rosaceae family): Much branched evergreen shrub to 4m, widespread and drought-tolerant. Leaves are alternate, to 10 mm, needle-like, bright green. Name comes from Greek for glandular mouth, referring to the glands of the sepals, and Latin for bundles of sticks (*fascis*), referring to the arrangement of the leaves. Flowers small, fused, cream to white, in clusters on the outer branches. Widespread and drought resistant, the dry branches are highly flammable. The most common plant in the hard chaparral community.



California buckeye (*Aesculus californica*): This is just one of the many plants with great adaptations for surviving and thriving in a Mediterranean climate. Eastern buckeyes are winter deciduous for example. Only 1 or 2 of the white flowers in the large inflorescence produce fruit and many abort, possibly due to limited resources. This restricts the amount of fruit produced. Nectar is toxic to non-native bees. Although toxic, the fruit was used by natives to poison fish and it can be made edible if cooked, mashed and leached.



California buckeye (*Aesculus californica*): Five palmate, stalked leaflets. Drought deciduous, early bloomer-- they begin to leaf out in February and the leaves will grow until mid-April. Then, when the summer heats up, the leaves will senesce and drop by midsummer. How can they drop all their leaves at the height of the long light days and still survive? By use of stored energy in the branches produced early in the season it is able to produce large seeds which ripen in November.



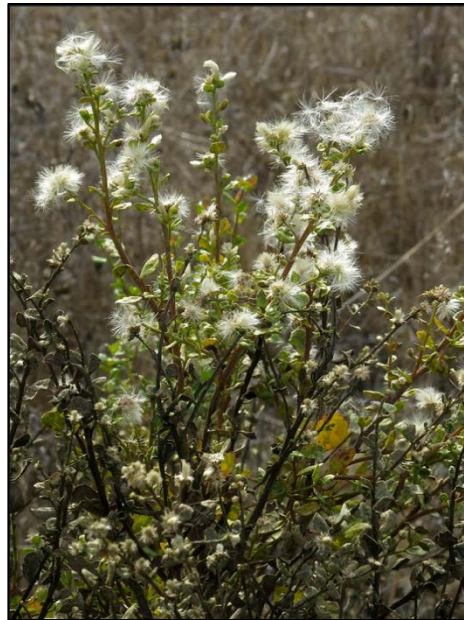
Manzanita (*Arctostaphylos crustacea* ssp. *crustacea*)(Ericaceae family): Evergreen shrub to 3m. Bark red, smooth, with a basal burl which allows the plant to resprout after fire or disturbance. Flowers small, urn shaped. Fruit is a berry-like drupe. Name comes from Greek for bear berries. The berries were cooked or ground into meal to be used as a porridge. The leaves were used to make a wash, or lotion, for poison oak, a drink for headache, or poultice for sores. The wood was used for utensils. Drought-tolerant plant which is part of the hard, or climax, chaparral plant community..



California sagebrush/coast sagebrush (*Artemisia californica*): it is not a sage but has an aroma like one. Late bloomer, sometimes into January. It is in the Sunflower (Asteraceae) family. It is another soft, or successional, chaparral plant. Natives made a tea and a strong wash for wounds. Early pioneers spread branches around beds as a flea control.



Coyote bush (*Baccharis pilularis* ssp. *consanguinea*): A late bloomer, species name refers to tufts of seeds on female plants. It is dioecious (Gr. di= two + oikos=house) with distinctly different male and female flowers. Plant spreads easily and indicates successional chaparral (a secondary pioneer or edge plant). *Baccharis pilularis* is sensitive to herbaceous competition for soil water and can establish in California annual grassland only in years with late spring rain. Late spring rains are necessary for tap roots to grow below the soil level dried by grasses.



Buckbrush/California lilac (*Ceanothus cuneatus*): A tough chaparral shrub with twiggly growth and gray bark. Shiny green, one-ribbed, opposite, roundish leaves, often with notched tips. Lots of tiny whitish aromatic flowers in spring. Natives ground up roots and bark and mixed with water as a mouthwash. *Ceanothus* is also a good source of nutrition for deer, specifically mule deer on the west coast. However, the leaves are not as nutritious from late spring to early fall as they are in early spring.



Soap plant (*Chlorogalum pomeridianum*) Family Agavaceae: Upright herbaceous perennial from a bulb, also known as Amole. Botanical name is derived from Greek: green milk or juice/ of the afternoon referring to the flowers opening in the late afternoon, past (post) the meridian (12 noon). Only 1 or 2 blossoms per stem will bloom each afternoon and last for only that one afternoon and evening. Spanish Californians also called it “Escobeta, little broom,” referring to one use for the fibrous bulb). The name Amole comes from the Aztecs.



Soap plant (*Chlorogalum pomeridianum*) Family Agavaceae: The soap plant was quite useful for the Native Americans and the settlers. It was named because the bulb, stripped of its fibrous outer coating, was used as soap and shampoo. The bulbs were roasted for food and the thick substance that oozed out during cooking was used as a glue. The young leaves produced a green dye and the fibrous outer coating was used as a brush. Crushed bulbs, thrown into streams, would stupefy fish and make them easy to gather up. Herbivores do not confuse this plant with Fremont's star lily and neither should you.



Leatherwood (*Dirca occidentalis*): In bloom in the winter quarter with yellow flowers, which emerge before the leaves. An endemic species to the Bay area, quite rare. Eight exerted stamens, slender style longer than stamens. Name from the pliable branches, used for Indian basketry. Subject of current research at JRBP.



Sticky Monkeyflower (*Diplacus aurantiacus*): A native evergreen shrub to 1 m. Leaves are sticky, dark green, and flowers are fused, bright orange to yellow-orange. Name derived from Greek for two plates, referring to its seeds, and to the color of the flowers (Sanskrit = orange). When the stigma is teased lightly you can see it close. This occurs naturally when an insect brushes against it. Why does the stigma close?



Yerba santa (*Eriodictyon californicum*): 'Holy herb' had many medicinal uses for California Indians and missionaries. Grayish leaves are covered by a thick resin which may function as an anti-herbivoral agent, a screen from harmful UV light, or as an anti-desiccant. Underground runners help the plant to invade disturbed or inhospitable areas, look for smaller plants around the larger ones. Locally its leaves are attacked by the fungus *Heterosporium californicum*, which blackens them from late summer until they fall. New leaves seem to produce a fungicide.



Toyon or Christmas berry (*Heteromeles arbutifolia*)(*Rosacea* family): Name is derived from Greek: different apple/ likeness of the leaves to madrone. This plant has berries which ripen over a long period of time from Aug/Sept to December. The berries turn from green to red just in time for Christmas, hence its name. Several mechanisms protect the fruit during this long ripening process: (1) tannins which are chemicals used to “tan” hides (to make them soft and prevent rotting), make the fruit bitter and thus discourage consumption as well as preventing desiccation and fungi attack; and.....



Toyon or Christmas berry (*Heteromeles arbutifolia*)(Rosacea family) (2): cyanogenic glucoside compounds as well as certain enzymes present in the fruit will come into contact if the fruit is injured and react to produce poisonous cyanide gas! (the level of these compounds will drop to zero by the time the fruit ripens but they remain in the seed); and (3) carbohydrate levels are low in the fruit until they mature, at which time they become sweeter. Berries are dispersed by birds and the color change may be a signal of edibility to the birds. The berries are a favorite of robins and cedar waxwings.



Pitcher sage (*Lepechinia calycina*): A true sage. It is a successional chaparral plant, named after its flower and inflated sepals which together look like an old-fashioned milk pitcher, old flowers can be seen hanging down. Leaves were used by some Native Americans to make a tea to reduce headaches and fever.



Hairy honeysuckle (*Lonicera hispidula*): climbing and twining vine in forested areas. Pink flowers in spring and orangered clusters of fruit in fall. Note the changing angle of the leaves at each node. Upper leaves fused in pairs about the node. Fruit looks like clusters of salmon eggs, not edible by humans, but relished by birds.



California man-root (*Marah fabacea*): A trailing or climbing vine. The common name comes from the fact the root can be as big as a man's torso. Produces large prickly green seedpods. When seeds are ripe the pods pop open with some force and spread the seeds. Fruit is poisonous.



Olive (*Olea europaea*): A non-native from Eurasia and Africa. Evergreen tree to 10 m. Widely cultivated for food and cooking oil for more than 6,000 years. Domingo Grosso, resident of Jasper Ridge, planted olives at his home site not far from Fire Road F. Maybe he planted this one too?



American mistletoe (*Phoradendron leucarpum* ssp. *tomentosum*): Parasitic plant often found on oaks. Name comes from the Greek: 'phor,' a thief, and 'dendron', tree. The brittle stems are attached directly to the branch of the host tree. Their roots have evolved into sucking organs called haustoria. Berries are BB sized, sticky and poisonous to humans but not birds and some other animals. Birds spread the seeds from tree to tree through their feces.



Holly-leaved cherry (*Prunus ilicifolia*)(*Rosaceae* family): Leaves smell like bitter almond, sometimes look similar to Coast live oak. Fruit is edible but there is little fruit surrounding a large seed. Fruit popular with gray foxes, which can climb quite well to reach it. Pits are found in their scat. Native Americans also ate the fresh fruit; made a tea of bark and leaves for coughs; soaked, roasted and ground the inner kernels of the pits to make a flour or meal; and used the wood for bows.



Coast live oak (*Quercus agrifolia*) Evergreen having small hard leaves with spiny edges. Tough tree that is taking over many deciduous oak habitats. Field guides note hairy armpits as diagnostic but no mention of a purpose. The dominant tree of oak-bay woodlands.



Blue oak (*Quercus douglasii*): A deciduous tree common along Fire Road F, west of the serpentine grassland. Leaves are usually smaller and not as deeply lobed as valley oak. The bluish-green color is most pronounced in the late summer or fall and confined to the upper side of the leaf, the underside being pale green. Indian warrior (*Pedicularis densiflora*) is often found under blue oaks. It is a root hemiparasite with distinctive fern-like leaves of a red to purplish color.



Valley oak (*Quercus lobata*): A deciduous tree that can grow up to 35 meters. Leaves are alternate and simple. Deeply lobed. The flowers are unisexual with male and female flowers on the same plant. Male inflorescence is catkin. Female flowers are axillary among upper leaves. Flowering time is March to May with acorns produced every year in the fall. Habitat is open grassland and woodlands. Can live from 400 to 600 years.



Spiny redberry (*Rhamnus crocea*): Like *Ceanothus* but smaller, the shiny leaves are not as stiff, has a twiggy look, and the twigs look like giant thorns but they're not. Small bright red berries in fall.



Hillside gooseberry (*Ribes californicum* var. *californicum*): Intricate leaves, flowers are hanging down, has 3 nodal spines, lower leaf surface nonglandular. Garden variety makes good pies. Native Americans ate the fruits fresh or dried and stored them.



Fremont's star lily (*Toxicoscordion fremontii*) Resembles soap plant but is toxic to humans. Note that leaves are not eaten by herbivores. Browsing is common on soap plant leaves but not on Fremont's star lily. Same genus as Meadow Death camas (*Toxicoscordion venenosum* var. *venenosum*).



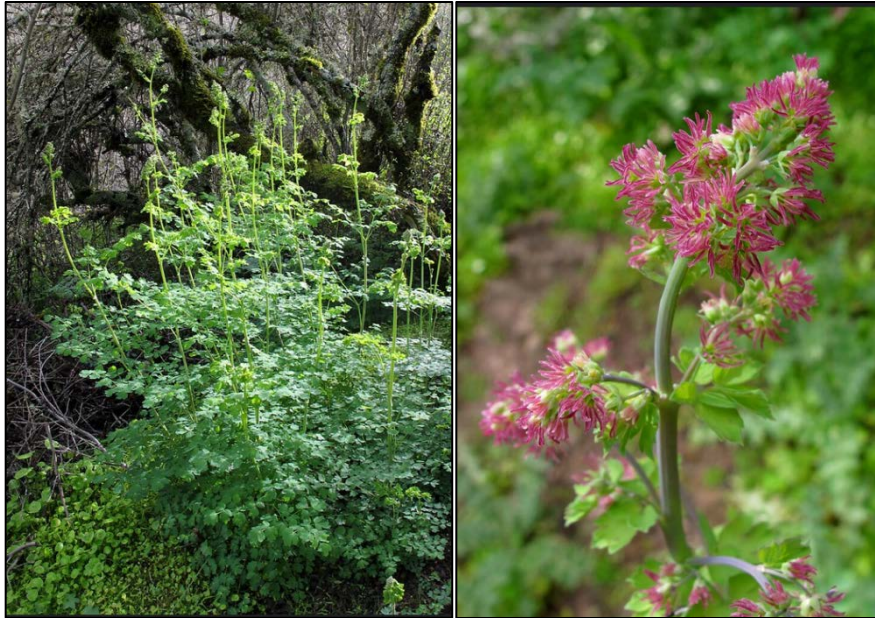
Poison oak (*Toxicodendron diversilobum*): Any part of the plant can cause contact dermatitis due to the organic compound urushiol. Berries are winter food for birds. Deciduous with colorful fall leaves. In winter identify by half-parabola shaped branches. Grows as a shrub or vine. Native Americans, said to be immune, used the juice to remove warts as well as to make black dye for tattoos. The stems were used in making baskets and were popular for their reddish color. It is a successional or soft chaparral plant. Leaves of three let it be. LOOK FOR IT AHEAD AT EVERY STOP!



California bay (*Umbellularia californica*): Can be a magnificent large tree. Mostly found in deep soil in riparian habitats. Leaves are used as remedy for headaches and of course to spice up a stew. The wood is beautiful and used for choice furniture. This is the other common tree in our oak-bay woodlands. Carries an invasive plant pathogen, *Phytophthora ramorum*, which causes Sudden Oak Death disease in Tan Oaks and black oak group oaks (like *Quercus agrifolia*).



Meadow-rue (*Thalictrum fendleri* var. *polycarpum*): Branching herbaceous perennial in the Ranunculaceae family. Plants dioecious. Female flowers with purple stigmas; male flowers with showy yellow anthers.



California coffeeberry (*Frangula californica*): Most often a shrub, but also a small tree. The bark was extensively exported as a valuable laxative, even called “Sacred Bark” by the Mission Fathers. The seeds resemble coffee beans, but have none of coffee’s characteristics. Common understory shrub in oak woodland.



