

Aesculus californica

(Family: Sapindaceae)

Common Names: California Buckeye, California Horse-chestnut



Taxonomic Description: The California Buckeye is a large native, deciduous shrub or tree that is recognized by its broad, round shape and gray bark usually with a moss or lichen coating. The entire tree can grow between 10 to 25 feet tall (about 12 meters). Its compound leaves grow in leaflets of 5 that range from 5 to 17 centimeters and petiole from 1 to 12 centimeters. The leaves are tender to protect from severe weather damaging. This tree is the first to grow leaves in the spring, the last to bloom, and the first to lose its leaves. Flowers of the California Buckeye are grown from erect panicles; they smell sweet and are colored from white to pale pink. Fruits of this tree are capsules from 5 to 8 centimeters long, shaped as figs. Inside these fruits are smooth, round, 2 to 5 centimeters big orange-brown seeds that are poisonous.

Growth Form/Habitat/Soil: The California Buckeye is adapted to coarse textured soils and medium textured soils for growth. It has no anaerobic tolerance and low CaCO₃ tolerance, high drought tolerance and medium fire tolerance and water use. A pH minimum of 5.5 pH, and a maximum of 7.5 pH in the soil is required. Because the trees are able to grow in crowded, or moist, or even semi-shaded environments, they can commonly be found on dry hills, canyon slopes, and borders of streams.

Distribution (geographic): The California Buckeye is native to the state, and is widely distributed within it. It grows along the central coast, the foothills and lower elevations of the Sierra Nevada, Siskiyou County south to northern Los Angeles county, and even way up in the Cascade range (up to an altitude of 17000 m).

Propagation/Reproduction: The bloom period for the California Buckeye is during the summer, providing a medium fruit and seed abundance. Fruits and seeds begin to appear in the summer and end in the fall. They are propagated by bare root, container, and seed. The main pollinators for this plant are insects since most parts are toxic, and they reproduce from seed (about 70 to 100 seeds per annum from a mature tree) or they can sometimes resprout from their root caps after a fire. Seeds are not dispersed easily due to the large size and toxicity.

Uses: Some of the first native American in California used California Buckeye nuts for food, but only after boiling and leaching toxins from it for 48 hours, at least; they can then be ground into a nutty meal. (The fruit, bark and leaves of the plant have something in it induces hemolysis of red blood cells.) The local Pomo, Yokut, and Luiseño tribes used the toxins to poison fish slightly to make them easier to catch. The toxins in the nectar can also kill insects and honeybees, but livestock could graze while the plant was fairly new (less toxic).

References:

1. http://plants.usda.gov/plantguide/pdf/cs_aeca.pdf
2. http://ucjeps.berkeley.edu/cgi-bin/get_JM_treatment.pl?Aesculus+californica
3. http://en.wikipedia.org/wiki/Aesculus_californica
4. <http://plants.usda.gov/java/charProfile?symbol=AECA>

Plant Information Sheet by **Sarah Chan** (Botany 10, S11)