

Ring Mountain Virtual Nature Hike -Teacher Resource Guide

Plants seen in video and their uses:

Bracken Fern - Dormant in the winter and grows in the summer. It has multiple branches and grows in large colonies with last year's dry fronds beneath. Spores border the bottom of each pinna (A leaflet or primary segment of a pinnate compound leaf.)

California Bay Laurel - Nuts can be roasted, leaves placed on the body to relieve stomach pains and headaches, made into tea, used as a steam bath to relieve rheumatism. The leaves are a good insect repellent, used by Dusky-footed Woodrats to line their food caches, and by the Miwok to line granaries.

California Buckeye - Used for fire drills, to relieve toothaches, used to anesthetize fish so they could be caught easily.

Cattail - Used to make mats, textiles, rope, pollen mush, in basketry, and the roots were eaten.

Coast live Oak - Acorns were a staple food after processing. They grow a mold that produces penicillin.

Hayfield Tarplant - This is a spindly, thin-stemmed annual herb growing erect to 10 to 80 centimeters in height. Like other tarweeds the stem and foliage are hairy and have an odor reminiscent of tar.

Ithuriel's Spear - This is a common native perennial herb in the Themidaceae (Lily) family that grows primarily in northern and central California. It tends to grow in openings in forest or woodland with sandy soil, at elevations from 0-4600 feet. It is a geophyte (a perennial plant, which in spring propagates from an underground bulb, tuber, corm or rhizome) related to lilies and onions.

Kellogg's Yampah - The seeds were eaten as a remedy for colds and indigestion and the roots were chewed to relieve sore throat. The flavor ranges in taste from radishes to carrots. Yampah was such an important staple and a commonly used word that it was almost given to the state we know as Colorado.

California Blackberry - This blackberry is a species in the Rosaceae (Rose) family that is native to a large part of western North America. This is a wide, spreading shrub or vine-bearing bush with prickly branches, white flowers and edible fruits. This species is one of the original parents of the hybrids Loganberry and Boysenberry. California Blackberry typically does not set fruit until the second year after planting, and it is typically dioecious (having the male and female reproductive organs in separate individuals) so that only the female plants produce fruit. The sweet-tart fruits are dark purple to black and up to 2 centimeters in length. Delicious fruit, leaves used as tea.

Poison Oak - Deer and birds eat the fruit. Even the bare sticks can cause an allergic reaction. Cures warts and ringworm, Native Americans use it as a dye for tattoos, as cooking sticks and in basketry.

Tiburon Mariposa Lily - Blooms in early June, camouflaged among the serpentine rocks and grasses on Ring Mountain, the only place it grows and is a threatened species.

Toyon - The bright red berries can be roasted and eaten, or made into a jelly. In the 1920's collecting the branches for Christmas became so popular a law was passed forbidding collection on public lands.

Wavy Leaf Soap Root - The bulb is used as soap. It was also mashed up and thrown into pools in rivers. It contains toxins that stupefy the fish and causes them to float up to the surface, where they could easily be caught in nets. This method of fishing is now illegal. It can be boiled to make glue for attaching feathers to arrows, or painted on in layers to create the handle of a brush made from soap root fibers. Deer and jackrabbits like to eat the tender leaves and flower buds. In the spring you can see lots of bite marks on the leaves.

Yellow seep Monkey flower - Stems and leaves eaten, crushed leaves used to treat rope burns and wounds.

Insects seen:

Honey bee
Bumblebee
Beetle (Insect on oak tree)
Ant

Animals seen:

Coyote - are opportunistic omnivores, eating whatever is available. They hunt mice, rabbits, squirrels, frogs and lizards and scavenge for fish, fruit and carrion.

Bewick's Wren - eat the eggs, larvae, pupae, and adults of insects and other small invertebrates.

Western Fence Lizard - eat ticks and release an enzyme rendering the tick unable to transmit Lyme disease. They also eat bees, beetles, grasshoppers, spiders and mosquitos and are eaten by birds, snakes, shrews and many other predators.

Gopher Snake - a type of constrictor (a snake that kills by coiling around its prey and asphyxiating it) that eats mice, gophers, ground squirrels, and lizards. They are known to mimic and are mistaken for rattlesnakes, which often works in their favor.

Jackrabbit - Jackrabbits are born in the open and left in the grass or scrub, sometimes in a simple scraped out depression. The mother jackrabbit visits her young and feeds them throughout the day.

Red-tailed Hawk - most common hawk in North America, identified locally for its rusty red tail feathers. Eats mice, voles, snakes, rabbits, birds, and carrion.

Mule Deer - herbivores that eat forbes, grasses, young scrubs, acorns, leaves of trees and are eaten by mountain lions, bobcats, coyotes and black bears.

Birds heard:

California Scrub Jay

More on Lichen:

Lichen is not a plant; it is composed of fungus (sometimes two types, sac and a club fungus) and a photo partner, either algae or cyanobacteria. They form a mutualistic symbiotic relationship. The fungus provides a home, in which the photo partner feeds, the fungus providing sugar through photosynthesis. Lichen needs clean air to develop. Three common forms of lichen include the following:

Crustose - Think of a bread crust - something hard and dry, even flakey. Crustose lichen sits on a rock and looks like it is attached. Eventually, the rock breaks down into soil.

Foliose - Think of foliage or leaves. Leafy with distinct upper and lower surface.

Fruticose - Think of what hangs from a tree (fruit) is not flat and is good to eat. This lichen is hairy and is used by birds to line nests and eaten by wildlife.

There are hundreds of types of lichen, we mention **Xanthoria**, aka bird poop lichen which is bright red-orange color.

Vocabulary

Algae are a simple, nonflowering, and typically aquatic plant of a large group that includes the seaweeds and many single-celled forms. Algae contain chlorophyll (for photosynthesis) but lacks true stems, roots, leaves, and vascular tissue.

Deciduous trees shed their leaves annually.

Cyanobacteria are aquatic and photosynthetic, that is, they live in the water, and can manufacture their own food. Because they are bacteria, they are quite small.

Fungus are any of a group of spore-producing organisms feeding on organic matter, including molds, yeast, mushrooms, and toadstools. They have cells but cannot make their own food.

Lichen is a composite organism. *See more on lichen above.*

Metamorphic rocks were once igneous or sedimentary rocks, but have been changed (**metamorphosed**) as a result of intense heat and/or pressure within the Earth's crust. They are crystalline and often have a "squashed" (foliated or banded) texture.

Midden (also kitchen *midden* or shell heap) is an old dump for domestic waste which may consist of animal bone, human excrement, botanical material, mollusk shells, sherds, lithics (small rock artifacts), and other artifacts and ecofacts associated with past human occupation.

Preserve is a protected area, often a sensitive habitat where collecting is not allowed.

Prey is an animal that is hunted and killed by another for food. "The kestrel is ready to pounce on unsuspecting prey."

Links:

WildCare

<https://www.discoverwildcare.org/>

Ring Mountain Preserve

<https://www.marincountyparks.org/parkspreserves/preserves/ring-mountain>

Marin Wildlife Picture Index Project:

<https://www.flickr.com/photos/134160534@N06/albums/72157678825043135>

Museum of the American Indian

<https://www.marinindian.com/about>

Oakland Museum of California

<https://museumca.org/>

Wonderful Native American Collection and online search

http://collections.museumca.org/?q=filteredlist&page=&keys=baskets&tid_3=Any&field_collection_item_decade_value=All

Video narrated by Claire, Mare, and Anne, who all contributed still images and video. Appearances by all three and Jan Bricca. Thanks to Bruce Olson for his photograph of a lizard. Stills of other animals courtesy of OneTam, motion sensor camera images captured for the Marin Wildlife Picture Index Project.