

# THE MUTSUN

## Relearning Project



STICKY MONKEY FLOWER *Mimulus aurantiacus*

This pamphlet has been prepared as an interpretive supplement to the artwork of Claudia Stevens in collaboration with:

University of California Santa Cruz Arboretum  
<http://arboretum.ucsc.edu>

Sara Reid, Ethnobotanist

The Mutsun Tribal Council  
<http://www.AmahMutsun.org>

Claudia Stevens, Botanical Artist  
[www.cstevensstudios.com](http://www.cstevensstudios.com)

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## About the Artist

In the art of traditional botanical painting, each flower is painted from real life plant specimens with the purpose of documenting exotics, natives, medicinal, and endangered plant species, and increasing public awareness of the importance to respect and save our biotic resources. “I am fascinated with the architecture and complexity of plant structure and inspired with the beauty of plant life.”

Claudia works in watercolor and gouache with silverpoint. Using a dry brush technique on hot press paper, she works with translucent layering and glazing. Her technique begins by gathering plant specimens directly from the natural environment.

Claudia lives in coastal California and derives much of her creative energy from nature. The Mediterranean climate of Santa Cruz County provides a wide range of plant specimens, both California natives and world-wide exotics. Claudia gathers botanical specimens from international tropical rain forests as well as California’s Sierra Nevada and the Big Sur coast.

She is currently a recipient of the Creative Work Fund: collaborating with University of California Santa Cruz Arboretum and the Amah Mutsun Tribal Council to complete four traveling exhibits. Her work has appeared in Sunset Magazine, Bantam Books, Academic Press, Harcourt Brace & Co., Rodale Press, University Press, and elsewhere. Visit: [www.cstevensstudios.com](http://www.cstevensstudios.com)

## AMAH MUTSUN TRIBAL COUNCIL

The Amah Mutsun Tribal Band is comprised of the documented descendants of Missions San Juan Bautista and Santa Cruz. The Amah Mutsun are often referred to as Ohlone or Costanoan; however this is a nonnative, geographic term and the Tribe prefers to be identified as Amah Mutsun.

The plants included in this exhibition are a select few of the many plants considered special or useful by the Mutsun People - who have inhabited the shores and valleys of the Monterey Bay region for nearly as long as the plants themselves. Today, Mutsun People are actively involved in recovering and sharing their ancestral knowledge of plants, their uses, management, and restoration.

As with the other Tribal Peoples of California, the relationship between Mutsun and the diverse plant life of their territory is complex and multifaceted. Through waves of colonization, prohibition of fire and other management regimes, and dispossession of land - Mutsun plant knowledge still exists as an important element of their identity and culture.

When viewed through the artist's eye, and recreated in such magnificent detail - one can gain a new appreciation for some of our most special plant relatives, and hopefully a new passion for their conservation in our modern landscapes.

The Creator chose the Amah Mutsun to protect and defend the plant, animal, air, water, and other life forms that are their brothers. The Amah Mutsun respect their important role as environmental stewards of their traditional territory and work hard to fulfill the edict of the Creator.

## THE AMAH MUTSUN RELEARNING GARDEN

AT THE UNIVERSITY OF CALIFORNIA SANTA CRUZ ARBORETUM

The Amah Mutsun Relearning Garden is a collaborative learning project that highlights native plants traditionally used by the Mutsun people and provides a place for the practice of California Indian land management techniques. The Relearning Garden was born in 2009, from the Arboretum and the Amah Mutsun Tribe's shared interest in ethnobotany. Under leadership from the Arboretum, guidance from the Amah Mutsun tribal elders and council, involvement of the UCSC American Indian Resource Center, and the dedication of a Student Council formed in 2010, the Relearning Garden will unfold as a place where traditional plant-gathering and tending can co-exist with educational and interpretive programs.

The Amah Mutsun Relearning Garden will be integrated into the California Native Gardens, which occupy 55 acres of the Arboretum and UCSC Natural Reserve lands and are currently in development. The Amah Mutsun's historical territory includes both coastal and inland habitats, and plants used by the Amah Mutsun will be planted in the California Native gardens according to their regional geography and plant communities. The Relearning Garden

will be a space for the Amah Mutsun to continue traditions such as plant gathering, basketweaving, and traditional land management, and these activities will provide opportunities for the larger community to learn more about California Indian lifeways. Interpretation, outreach, and education are being considered as methods for sharing this knowledge with generations to come. Funding for all phases of the Relearning Garden is being sought from public and private donors and grant opportunities.

Paintings and ethnobotanical information from this exhibit will be used for interpretive signs in the Relearning Garden.

## COOPERATIVE HABITAT RESTORATION IN PINNACLES NATIONAL MONUMENT

McCabe Canyon is an area of Pinnacles National Monument that attracts unique cultural and ecological interest. The canyon preserves impressive native grassland with two acres of deergrass (*Muhlenbergia rigens*), and a riparian corridor blanketed in over three acres of white root sedge (*Carex barbaræ*). These species are important basketweaving materials for the Amah Mutsun and other California Indian tribes, and both are less abundant today than they once were in California.

Recognizing the significance of this area as a botanic and cultural resource, Pinnacles is collaborating with the Amah Mutsun Tribe, the University of California Santa Cruz Arboretum, and researchers from various universities

to test California Indian land management techniques in McCabe Canyon. California Indian groups traditionally managed deergrass and white root sedge to improve the quality of basketweaving material and maintain healthy plant populations. Pinnacles, with the help of the Amah Mutsun Tribe, will test traditional management techniques such as prescribed burning of the deergrass and tending of sedge beds in McCabe Canyon within the scope of a cooperative habitat restoration project.

In addition to experimenting with traditional management, a fire history study and an archaeological investigation will help park managers to better understand the ways the first peoples shaped the historic landscape of Pinnacles. The research on wild plant populations in McCabe Canyon will inform management and provide plant specimens for the Amah Mutsun Relearning Garden at the UC Santa Cruz Arboretum, where traditional native management can be practiced in an educational setting.

# The Mutsun Relearning Project



## Mutsun Relearning Garden Plants:



**Mutsun name:** cuktuS

**Common name:**

manzanita

**Scientific name:**

*Arctostaphylos tomentosa*

**Plant family:** Ericaceæ

### Plant Description

*Arctostaphylos tomentosa* is a wide, erect shrub with a prominent burl at the base. The burl allows the plant to resprout after fire. It has dark red, shedding bark that reveals older gray bark on the stem. The slightly cupped leaves are ovate, up to five centimeters long, bright green on top, and dull green with short, wooly hairs on the bottom. Flowers hang in crowded clusters and the entire inflorescence and fruit is finely tomentose, or covered in many fine, bristly hairs.

### Cultural Significance

The Mutsun used various species of manzanita for food, drink and medicine (Ascencion Solorsano, cited in Bocek, 1984). There are roughly 60 species and subspecies of manzanita in California, and over a dozen in Mutsun territory. They all have red to grey to cinnamon-brown bark that can be smooth to shedding, and dusty red fruits that resemble small apples--thus the name manzanita (Spanish for little apple). The fruits vary in size and taste by species, and some were probably preferred fresh, others dried, and

others in a beverage the Mutsun called *hupi-cuktuS*. Historic Mutsun ethnobotanic sources do not specify uses by species, but Ascencion Solorsano, Mutsun elder interviewed in the 1920's, says there were two kinds of manzanita, a big kind and a small kind. She explains the fruits of either manzanita were used to make *hupi-cuktuS*. "One takes the little fruits and grinds them well on the metate and then puts cold water on them and leaves it stand a half day so it will soak up and get the taste of the fruit, and then strains it and the water is drunk as a refreshment" (Ascencion Solorsano, cited in Harrington n.d.).



**Mutsun name not found**

**Common name:**

California poppy

**Scientific name:**

*Eschscholzia californica*

**Plant family:**

Papaveraceæ

### **Plant Description**

The California poppy can be an annual or perennial herb that flowers for much of the year. The basal leaves are finely dissected and have a green to blue or reddish color. The vibrant orange flowers have four wedge shaped, free petals, and a small hard ring at the base. The California poppy grows abundantly in the lower altitudes of California and is the state flower.

### **Cultural Significance**

The Mutsun used California poppy petals to treat lice (Ascencion Solorsano, cited in Bocek, 1984). Other Indigenous people in California, such as the Chumash, also used poppies

in this way (Garcia and Adams, 2005). Herbalists identify mildly sedative and pain relieving properties in the California poppy (Moore, 2003), and California Indian groups throughout the state have various uses of poppy from pain killer to food. Interestingly, the Mutsun believed the sedative properties of the poppy could be felt just by proximity with the plant. Poppy flowers were placed under a child's bed to put them to sleep, but were not taken internally (Ascencion Solorsano, cited in Bocek, 1984). Pregnant or lactating Mutsun women avoided California poppies because their smell was thought to be poisonous (Ascencion Solorsano, cited in Bocek, 1984).



**Mutsun name not found**

**Common name:**

sticky monkeyflower

**Scientific name:**

*Mimulus aurantiacus*

**Plant family:** Phrymaceæ  
(formerly Scrophulariaceæ)

### **Plant Description**

This is an evergreen shrub common to the chaparral ecosystems of California. It has opposite, narrow, oblong leaves that are dark green on top and especially sticky on the underside. The flowers are usually orange, but some varieties can be white, red, maroon, pink, or yellow. Flower petals are fused with five unequal lobes, and four stamens in pairs, a key characteristic of the Phrymaceæ family.

### **Cultural Significance**

The Mutsun people used sticky monkey flower as an internal medicine for the urinary tract (Ascencion Solorsano, cited in Bocek, 1984). Other California Indian tribes harvested

different *Mimulus* species as a wild green (Anderson, 1993), and the Mutsun may have done the same. Various species of *Mimulus* have edible parts. Wild greens contain important vitamins and minerals and were added to foods such as soups and acorn mush (Anderson, 1993).



**Mutsun name:** muumuci

**Common name:**

California wild rose

**Scientific name:**

*Rosa californica*

**Plant family:** Rosaceæ

### **Plant Description**

The wild rose grows in spiny thickets in most of California, generally in moist areas and stream banks. The shrubs are usually three to four feet tall but can easily grow head high. The leaves are oval shaped with finely toothed margins. The flower is pink to white with five petals that are usually 10-20 mm long. In the center of the petals there are many stamens, attached to a superior ovary. After the rose loses its petals, the urn shaped hypanthium matures to a brilliant red, and this fruit is referred to as a rose hip.

### **Cultural Significance**

The Mutsun people used rose hips as an internal medicine and as a wash for scabs and sores (Ascencion Solorsano, cited in Bocek, 1984). Rose hips have a sweet and pleasant flavor, and they can be eaten fresh, dried, or used to make tea. Rose hips are a nutritious wild fruit, full of vitamin C, calcium, beta-carotene, and antioxidants.

Flavonoids and triterpenes are compounds with medicinal properties found in the plant. (Garcia and Adams, 2005). Rose hips were harvested at the end of fall, and some tribes considered the flavor of the fruits to be best after the first freeze (Anderson, 1993).



**Mutsun name:**

eenena; reteti

**Common name:**

California blackberry

**Scientific name:**

*Rubus ursinus*

**Plant family:** Rosaceae

### **Plant Description**

The California blackberry is a common bramble or shrub throughout California. Non-native blackberries, also common in California, have larger, wider, and more curved prickles, while the native blackberry has more slender and straight prickles on round stems. The California blackberry leaf is composed of three leaflets, which are wide with irregularly toothed edges. The flowers have five white petals and many stamens. The black fruit is spheric and oblong.

### **Cultural Significance**

The fruits (*eenena*) of the California blackberry were a favorite food for the Mutsun, and they were gathered in great quantities (Ascencion Solorzano, cited in Bocek, 1984). Blackberry brambles (*reteti*) (Mason, 1916) may have been pruned or burned in order to control their growth and concentrate berry production (Anderson, 1993). Burning also may have been a strategy to keep the thorny, and

bear attracting, bushes a safe distance away from Mutsun settlements.

As a medicinal plant, California blackberry is considered the most effective Mutsun remedy for diarrhea and dysentery, and the roots were used to treat infected sores (Ascencion Solorzano, cited in Bocek, 1984). Early Europeans relied on blackberry for similar ailments, probably because of the high concentrations of tannins and flavonoids in the leaves and roots (Chevallier, 1996). The berries, in addition to being a delicious food, contain antioxidants and vitamin C, which can help treat and prevent viral infections (Chevallier, 1996; Garcia and Adams, 2005).



**Mutsun name:** pattih

**Common name:** chia

**Scientific name:**

*Salvia columbaria*

**Plant family:** Lamiaceae

### **Plant Description**

Chia is an aromatic, annual herb. It has basal leaves that are finely dissected and hairy or bristly. The flowers are two-lipped, lobed, and deep blue to purple. Flowers are formed in whorled clusters around a square stem, and these clusters are persistent after the flowers have matured. The dried flower heads contain many small, edible seeds that are tan to gray colored and often speckled.

## **Cultural Significance**

Chia is found throughout Mutsun territory and is most common in warm climates and rocky soils. It was a highly valued, favorite food of the Mutsun. California Indians in almost half the state traditionally harvested chia seeds for food, a testament to the importance of this herb in Native Californian diets (Anderson, 1993). Chia seeds are highly nutritious, containing omega-3 fatty acids, proteins, and calcium (Garcia and Adams, 2005; Timbrook, 2007). They store well and can be used to make flour and pinole, and mixing the seeds with sufficient water makes a refreshing drink. The gelatinous coating on wet seeds causes the proteins and sugars of chia to absorb more slowly into the body, making it a high energy food that lasts (Timbrook, 2007). Reportedly, the Mutsun used chia seeds to make excellent ‘pastries’, that may have been offered to the Spanish at first contact (Ketchum, 2011).

The Mutsun traditionally gathered chia with a stick and a large tray basket that was shaped like a plate. Ascencion Solorsano, Mutsun elder, explains “...we would bend the little plant of chia over the tray basket...so that the tray basket would be underneath and then with a little stick we would hit the plant gently and in that way we would keep gathering chia” (Ascencion Solorsano, cited in Harrington, n.d.). As Mutsun people hit the seed heads, seeds would escape and bounce out of the tray, thus spreading seeds for next year’s crop. Many California Indian groups burned the dried grasses and dead wildflowers in the fall, which cleared the soil and encouraged wildflowers such as chia to grow back in the next year (Anderson, 1993).



**Mutsun name not found**

**Common name:** black sage

**Scientific name:**

*Salvia mellifera*

**Plant family:** Lamiaceae

### **Plant Description**

Black sage is an aromatic shrub common to chaparral habitats in California. The leaf is entire, elliptic, rough on the upper surface and lighter green and fuzzy on the bottom surface. Small, white to lavender flowers are clustered in whorls along a long, square stem. The flowers, blooming generally from April to July, attract bees, butterflies and hummingbirds, and quail eat the black seeds.

### **Cultural Significance**

The Mutsun people used black sage to relieve pain, calm stomach problems, and treat disorders of the heart (Ascencion Solorsano, cited in Bocek, 1984). Black sage has anti-inflammatory, anti-bacterial, and astringent properties. It also has a strong sage aroma and can be used as a culinary herb. Most sages have edible seeds, and while the Mutsun had access to the preferable *Salvia columbaria* seeds, other California Indian tribes ate roasted black sage seeds. Mutsun territory contains ideal habitat for black sage to grow in abundance, from the coastal sage scrub of Santa Cruz to the inland chaparral of Paicines. Today black sage is recommended for use in greenbelts and revegetation projects because it grows quickly, is drought-resistant, controls erosion and can act as a biological monitor for air pollution (USFS Fire Effects, 2011).



**Mutsun name not found**

**Common name:** checker lily

**Scientific name:**  
*Fritillaria affinis*

**Plant family:** Liliaceæ

### **Plant Description**

The checker lily has dark burgundy to brown petals, mottled with flecks of green and yellow. The inflorescence is a raceme with bell shaped, nodding flowers along a tall stem. Beneath the ground is a many-scaled bulb with attached bulblets.

### **Cultural Significance**

Sometimes called ‘rice-root’ for the appearance of small, white, bulblets surrounding the main bulb, the underground parts of the checker lily were an important food for many Native American tribes (USDA NRCS, 2011). Bulbs were steamed, put in soups, made into puddings, roasted and dried (Moerman, 1998).

Today you are less likely to see checker lilies in the same abundance seen 300 years ago when Mutsun and other California Indian tribes managed the land. California Indian management included centuries of tending of *Fritillaria* and other edible bulbs. Bulblets, the small reproductive structures attached to the mother bulb, were re-dispersed in the gathering process, often into weed free beds of loosened soil (Anderson, 1993). In this way underground plant foods were cared for to provide high quality, sustainable food.



**Mutsun name not found**

**Common name:**

white globe lily; fairy lantern

**Scientific name:**

*Calochortus albus*

**Plant family:** Liliaceæ

### **Plant Description**

The globe lily or the fairy lantern earns its name from the white, nodding flowers that are spherical and closed, catching the sunlight inside and seeming to glow. Flowers hang in umbel-like groups along a branched stem up to two and a half feet tall. Leaves are basal and small bulblets, protruding from the underground bulb, are sometimes seen around the stem. The globe lily grows in the Coastal Ranges, the Sierra Nevada Foothills and the Channel Islands.

### **Cultural Significance**

Today some Mutsun elders still have memories of older relatives eating or referring to Indian potatoes, a generic term for the abundance of tubers, bulbs, corms and roots that were part of the traditional diet (Mondragon, 2010). The various edible species of *Calochortus* were considered sweet or maple like in flavor and were eaten raw or cooked like potatoes—steamed, boiled, baked or roasted (Møerman, 1998). Ascencion Solorsano, Mutsun elder and tribal leader in the 1920s and 1930s, tells of wild roots with the taste of a sweet potato and explains, “The foods of long ago were more wholesome than they are now, because it was pure food” (Ascencion Solorsano, cited in Harrington, n.d.).

*Calochortus* bulbs were dug with a digging stick, with an antler or with the hands (Anderson, 1993). In California

Indian times it would not be uncommon to find large, thick patches of the globe lily because digging stimulated reproduction in this and many other plants with bulbs or corms. Today increased development, invasive plant species, livestock and wild boars decrease quality habitat for the globe lily.

## Mutsun Ethnobotany

### Works Cited

Anderson, M. Kat. (2005). *Tending the Wild: Native American Knowledge and the Management of California's Natural Resources*. Berkeley: University of California Press.

Bocek, Barbara. (1984). Ethnobotany of Costanoan Indians, California, Based on Collections by John P. Harrington. *Economic Botany*, Vol. 38, No. 2, pp. 240-255.

Chevallier, Andrew. (1996). *The Encyclopedia of Medicinal Plants*. New York: DK Publishing Inc.

Garcia, Cecilia and James D. Adams Jr. (2005). *Healing with Medicinal Plants of the West: Cultural and scientific basis for their use*. La Crescenta, California: Abedus Press.

Harrington, John Peabody. (n.d.). Costanoan field notes. *John Peabody Harrington Papers*, National Anthropological Archives, Smithsonian Institute, Washington, DC.

Ketchum, Ed. (2011). Personal communication. 20 June 2011.

Mason, J. A. (1916). "The Mutsun Dialect of Costanoan Based on the Vocabulary of De La Cuesta." *University of California Publications in American Archaeology and Ethnology* 11(7): 399-472.

Moerman, Daniel. (1998). *Native American Ethnobotany*. Portland: Timber Press.

Mondragon, Paul. (2010). Personal communication. January 2010.

Moore, Michael. (2003). *Medicinal Plants of the Mountain West*. Santa Fe: Museum of New Mexico Press.

Timbrook, Jan. (2007). *Chumash Ethnobotany: Plant knowledge among the Chumash people of southern California*. Santa Barbara: Santa Barbara Museum of Natural History.

USDA Forest Service. (2011). *Fire Effects Information System* (Online). US Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: <http://www.fs.fed.us/database/feis> [2011, June 22].

USDA NRCS. (2011). *Plant Guide: Chocolate Lily*. US Department of Agriculture, Natural Resource Conservation Service. Available: [http://plants.usda.gov/plantguide/pdf/cs\\_fraf2.pdf](http://plants.usda.gov/plantguide/pdf/cs_fraf2.pdf) [2011, June 22].

# MUTSUN RELEARNING GARDEN PLANTS



MANZANITA



CALIFORNIA  
POPPY



MONKEY FLOWER



WILD ROSE



CALIFORNIA  
BLACKBERRY



CHIA



BLACK SAGE



CHECKER LILY



GLOBE LILY