

Serpentine Grassland Plants of Ring Mountain



Photo By Kristin Jakob

“Pay attention. Be astonished. Tell about it.”

-- Mary Oliver

Ring Mountain Open Space Preserve covers the top of the Tiburon peninsula, overlooking San Francisco Bay. It hosts a beautiful array of California native plants, including the Tiburon Mariposa Lily which is found nowhere else in the world.

This book tells you about them.

Have fun with it!

Introduction

In response to its exotic soil conditions, Ring Mountain's serpentine grassland has evolved, over millions of years, into a distinctive, beautiful and fragile flora.

It's home to several rare plants and one that is unique to the site. The Tiburon Mariposa Lily, *Calochortus tiburonensis*, is found only among the serpentine rock outcrops in the grasslands of the preserve's upper slopes.



Tiburon Mariposa Lily
Photo by Kristin Jakob

This book introduces you to the wildflowers and grasses you're likely to notice in this special ecosystem.

Each plant is presented on a page produced by the authors and artists of PlantID.net, a collaboration of volunteers who love learning about and describing California's plants.

Notes at the end describe serpentine endemics, serpentine geology, the history of Ring Mountain, and a simple glossary.

Many plants in the Ring Mountain serpentine grassland grow smaller than their siblings on more nutritious soil. Their relatively small size has some advantages. They can hide from the wind on the mountaintop, and they can survive tough times better because they have fewer cells to feed.



California Plantain
Photo by Wilde Legard



Sandwort
Photo © Neal Kramer

Although restricted nutritionally, these small beauties thrive here because they're free of all the plants that compete to live in richer soils. And what they lack in size, they sometimes make up for in sheer numbers. Here's a spring wildflower display on Ring Mountain:



Photo by Vernon Smith

Table of Contents

Introduction	2
The Serpentine Grassland	
Wildflowers	5
Grasses	75
Plants on the Edge	90
Notes	
Serpentine Endemics	92
Serpentine Geology	94
Saving Ring Mountain	95
Glossary	97
Acknowledgements	99

Wildflowers



Photo By Kristin Jakob

Look on the next pages of small photos to find your flower. They're organized by color. After that, each flower gets a full-page description, organized alphabetically.

Wildflowers



California Pink
Silene laciniata ssp. *californica*



Scarlet Pimpernel
Lysimachia arvensis



California Poppy
Eschscholzia californica



Yellow Mariposa Lily
Calochortus luteus



Sun Cups
Taraxia ovata



Johnny Jump-Up
Viola pedunculata



Bird's Foot Trefoil
Lotus corniculatus



California Golden Banner
Thermopsis californica



Bigflower Dandelion
Agoseris grandiflora



Goldfields
Lasthenia californica



Golden Yarrow
Eriophyllum confertiflorum var. *confertiflorum*



Gumplant
Grindelia hirsutula

Wildflowers



Hayfield Tarweed
Hemizonia congesta ssp. *lutescens*



Tidy Tips
Layia platyglossa



California Buttercup
Ranunculus californicus



Cream Cups
Platystemon californicus



Cream Sacs
Castilleja rubicundula ssp. *lithospermoides*



Sea Lettuce
Dudleya farinosa



Tiburon Mariposa Lily
Calochortus tiburonensis



Woolly-Fruited Lomatium
Lomatium dasycarpum ssp. *dasycarpum*



Bull Clover
Trifolium fucatum



Chick Lupine
Lupinus microcarpus var. *densiflorus*



Fremont's Star Lily
Toxicoscordion fremontii



Marsh Zigadene
Toxicoscordion fontanum

Wildflowers



Soap Plant
Chlorogalum pomeridianum var.
pomeridianum



Long-Rayed Brodiaea
Triteleia peduncularis



Pitted Onion
Allium lacunosum var. *lacunosum*



California Plantain
Plantago erecta



Nude Buckwheat
Eriogonum nudum var. *nudum*



Yampah
Perideridia kelloggii



Yarrow
Achillea millefolium



Rosin Weed
Calycadenia multiglandulosa



Marin Dwarf Flax
Hesperolinon congestum



Hill Morning Glory
Calystegia subcaulis ssp.
subcaulis



Western Morning Glory
Calystegia purpurata ssp. *purpurata*



Milkmaids
Cardamine californica

Wildflowers



Sandwort
Sabulina douglasii



False Babystars
Leptosiphon androsaceus



Oakland Star Tulip
Calochortus umbellatus



Shortspur Seablush
Plectritis congesta ssp. *brachystemon*



Tiburon Buckwheat
Eriogonum luteolum var. *caninum*



Shooting Star
Primula hendersonii



Redstem Filaree
Erodium cicutarium



Red Maids
Calandrinia menziesii



Purple Owl's Clover
Castilleja exserta ssp. *exserta*



Four-Spot Clarkia
Clarkia purpurea ssp. *quadrivulnera*



Ruby Chalice Clarkia
Clarkia rubicunda



Laciniate Checker Bloom
Sidalcea malviflora ssp. *laciniata*

Wildflowers



Chinese Houses
Collinsia heterophylla



Italian Thistle
Carduus pycnocephalus



California Phacelia
Phacelia californica



Coyote Mint
Monardella villosa ssp. villosa



Purple Sanicle
Sanicula bipinnatifida



Blue Dicks
Dipterostemon capitatus ssp. capitatus



Harvest Brodiaea
Brodiaea elegans ssp. elegans



Ithuriel's Spear
Triteleia laxa



Ground Iris
Iris macrosiphon



Blue-Eyed Grass
Sisyrinchium bellum



Western Larkspur
Delphinium hesperium ssp. hesperium



Sky Lupine
Lupinus nanus

Bigflower Dandelion

AKA Giant Mountain Dandelion, Bigflower Agoseris, California Dandelion, Large Flowered Agoseris



Agoseris grandiflora

Aster Family (Asteraceae)

- CA Bloom Mar - May
- Height 1-3', taller than other bare-stem dandelions.
- The flower head (1.5") and pappus (2") are larger compared to other dandelions.
- The stem is hairy and unbranched.
- Basal leaves are long and narrow. They rise up from the ground.
- Widespread and common on open hills.
- CA native

Photo by Steve Matson



Many (over 100) ray flowers are densely packed. Stamen columns are often reddish brown.

Photo by Steve Matson



Several layers of red-purple rounded leaf-like phyllaries surround the flower. Note the white soft hair at the base.

Photo by Steve Matson



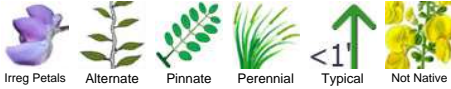
Seeds connect to a flat receptacle. Long white beaks end in tufts to form a big, fluffy sphere, reaching 2" in diameter.

Bird's Foot Trefoil

AKA Broadleaf Birdsfoot Trefoil, Birdfoot Deervetch

Lotus corniculatus

Pea Family (Fabaceae)



- CA Bloom May - Jul
- Tiny fruit clusters look like a bird's foot.
- Short, thin compound leaves make bundles along the stem.
- Find it in open grasslands, wetlands, and compacted soil along roads and trails.
- Other Trefoils
- Not CA native

Photo by Keir Morse



Tiny pea flowers cluster at the end of the stem.

Photo by Steve Matson



Each plant is small. See fruit pods on the left, compound leaves in the middle, and a flower cluster on the right.

Photo © Neal Kramer - all rights reserved



Colonies of Bird's Foot Trefoil can be prominent in grasslands. It is sometimes vine-like, with prostrate stems up to 20 inches.

Blue Dicks

Dipterostemon capitatus ssp. *capitatus*

Brodiaea Family (Themidaceae)



- CA Bloom Feb - Apr
- Height to 2 ft.
- Flowers have 6 segments (tepals)
- Basal leaves are long and narrow.
- Common in a wide variety of habitats.
- Compare to Ookow
- CA native

Photo © Neal Kramer - all rights reserved



6-part flowers bunch tightly together at the top of a long narrow stem.

Photo by Keir Morse



Often purple, this flower can also be pink or white. Notice the three forked, white filament sheaths forming a cylinder around the reproductive parts.

Illustration © Kristin Jakob - all rights reserved



Long narrow leaves grow from the base of the plant. Below, the roots connect to food-storing corms.

Blue-Eyed Grass

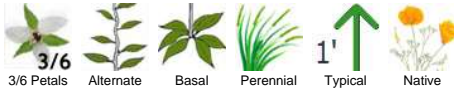
Sisyrinchium bellum



Drawing © Kristin Jakob

Blue-Eyed Grass

AKA Western Blue Eyed Grass



Sisyrinchium bellum

Iris Family (Iridaceae)

- CA Bloom Mar - May
- This is not a grass but an iris.
- At the top of each stem are violet flowers with darker purple lines leading to a yellow center.
- It's common in open, usually moist areas.
- CA native. Endemic to the California Floristic Province.

Photo by Keir Morse



Beautiful 1/2" wide flowers have blue to violet petals and a golden yellow center to guide pollinators in.

Photo by Keir Morse



Leaves are grass-like, narrow with parallel veins.

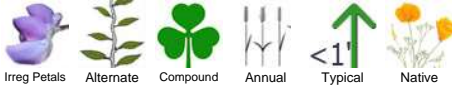
Photo by Steve Matson



The ovary is below the flower and, if pollinated, develops into a capsule-like fruit.

Bull Clover

AKA Sour Clover



- CA Bloom Apr - Jun
- Height to 1 ft.
- Flowers and leaves are as you would expect in a clover, but larger.
- Short pea pods.
- Found in grasslands.
- CA native

Trifolium fucatum

Pea Family (Fabaceae)

Photo © Neal Kramer - all rights reserved



White or yellow clover flowers bunch together in a round ball. Leaves are formed from 3 separate leaflets.

Photo © Neal Kramer - all rights reserved



The base of each flower expands as its fruit develops. Note the green pointed bracts below the flower head.

Photo by William Follette



These large clovers often grow in colonies.

California Buttercup

AKA Common Buttercup



- CA Bloom Feb - May
- This bright yellow flower is 1" across, with 7 to 22 shiny petals.
- Buttercups flower in early spring, and die back (including the leaves) in the summer.
- Found on coastal bluffs, grassland, woodland and moist meadows.
- CA native

Ranunculus californicus

Buttercup Family (Ranunculaceae)

Photo by Keir Morse



The buttercup looks like butter, with 7 to 22 elliptic, overlapping, shiny yellow petals.

Photo by William Follette



Each buttercup flower gets its own stalk. The center is a half sphere of packed green pistils, surrounded by dozens of yellow stamens.

Illustration © John Muir Laws - all rights reserved



Long-stalked basal leaves have 3 deeply-lobed leaflets. Leaves on the flower stems have narrow divisions.

California Golden Banner

AKA California Goldenbanner

Thermopsis californica

Pea Family (Fabaceae)



Irreg Petals



Alternate



Pinnate



Perennial



3'
Typical



Native

- CA Bloom Apr - Oct
- Height to 6 ft.
- Plants grow in colonies, connected by underground stems (rhizomes).
- Seeds have very hard coats and generally only open in fire.
- CA native. Found only in California.

Photo by William Follette



Bright yellow pea-shaped flowers form a spike at the top of the plant.

Illustration © John Muir Laws - all rights reserved



Leaflets are in 3s. Leaves are hairy, with a pair of leaf-like stipules at their base.

Photo by William Follette



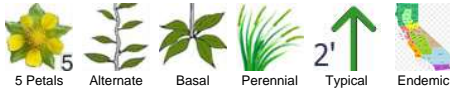
Spikes of yellow flowers extend above the leaves.

California Phacelia

AKA Rock Phacelia, Caterpillar Plant

Phacelia californica

Waterleaf Family (Hydrophyllaceae)



- CA Bloom Mar - Aug
- Many small lavender flowers have long stamens, bunched in a coil at the end of stems.
- Found in central and northern CA.
- CA native

Photo by William Follette



The flower is bell shaped, with 5 rounded lobes.

Photo by William Follette



Leaves are fuzzy, strongly veined, and have smooth edges.

Photo by William Follette



Flower clusters appear fuzzy and are often coiled, looking like a caterpillar.

California Pink

Silene laciniata ssp. californica

AKA Indian Pink, California Indian Pink Pink Family (Caryophyllaceae)



- CA Bloom Apr - Jul
- Stem and leaves grow along the ground. The flower stands upright.
- Found on open ground and rock outcrops, often in serpentine.
- CA native

Photo © Neal Kramer - all rights reserved



Five brilliant red petals are deeply cut about 4 lobes, as if they'd been cut with pinking shears.

Photo by Barry Breckling



California Pink is low and spreading, with bright-red flowers standing up.

Illustration © John Muir Laws - all rights reserved

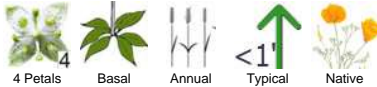


Leaves are narrow and opposite. Flowers sit at the top of stems. Stamens and styles point upwards.

California Plantain

Plantago erecta

AKA Foothill Plantain, Dotseed Plantain Plantain Family (Plantaginaceae)



- CA Bloom Mar - Apr
- About 4" tall.
- Tiny flowers are beautiful when viewed with a magnifying glass.
- A basal rosette of very narrow leaves grows up to 5 inches long.
- The entire plant is hairy.
- Found in open or gravelly areas, often on serpentine.
- CA native

Photo by Keir Morse



This plant is smaller than other plantains, perhaps 4 inches tall. It has long, narrow erect leaves.

Photo by Steve Matson



Tiny 4-petaled flowers form a tight cluster at the top of the stem.

Photo by Keir Morse



California Plantain can grow in dense patches.



California Poppy - Eschscholzia californica

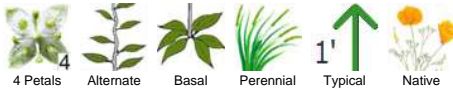
©2010 Kristin Jakob

Drawing © Kristin Jakob

California Poppy

Eschscholzia californica

Poppy Family (Papaveraceae)



- CA Bloom Feb - Sep
- Height to 18".
- Flowers have four large overlapping petals. They're orange most places, but usually yellow with an orange center along the coast.
- CA native, and the state flower

Photo by William Follette



Thin orange petals overlap each other. Notice the sheath covering the young bud. Petals close at night and open in the morning.

Illustration © John Muir Laws - all rights reserved



Leaves are grey-green and are much divided. The round flat base just below the petals is distinctive and edged in rose-pink.

Photo © Neal Kramer - all rights reserved



Across the state, California Poppies fill grassy areas with an orange display from April to July.

Chick Lupine

Lupinus microcarpus var. *densiflorus*

AKA Dense Flowered Platycarpus, Secund Lupine

Pea Family (Fabaceae)



- CA Bloom May - Jun
- Height 1 to 2.5 ft.
- This rather tall annual has stems that are stout and hollow.
- In this variety, even though flowers are in a whorl, seed pods migrate to one side of the stem.
- Found in grasslands.
- CA native

Photo by Wilde Legard



Chick Lupine grows a couple of feet tall, with long clusters of solid white or yellow irregular-shaped pea flowers.

Photo by Bruce Homer-Smith



Flowers arrange themselves in beautiful symmetric whorls around the stem. These whorls turn sideways as pea pods emerge!

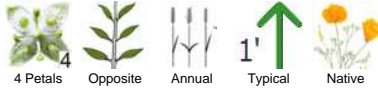
Photo by Keir Morse



Short, hairy pea pods form a whorl on the side of the stem.

Chinese Houses

AKA Purple Chinese Houses



- CA Bloom Feb - Apr
- Height to 2 ft.
- Flowers are irregularly shaped, with two upper and two lower petals.
- Found on slopes in grasslands and open woodlands.
- CA native

Collinsia heterophylla
Plantain Family (Plantaginaceae)

Photo by Keir Morse



Flowers are in tiered whorls along the tops of stems. Pale upper petals have delicate, dark markings.

Photo by Keir Morse



Opposite leaves to 4" long taper from a clasping base and have small teeth along the margins.

Photo by Keir Morse



Chinese Houses is usually found growing in colonies. Stems can be simple or have a few branches.

Coyote Mint

Monardella villosa ssp. *villosa*

Mint Family (Lamiaceae)



- CA Bloom Jun - Aug
- Coyote Mint smells minty, has a square stem and opposite leaves.
- It is often quite hairy.
- Found on rocky outcrops in grasslands or brushy areas.
- CA native. Endemic to the California Floristic Province.

Photo by Keir Morse



Flowers have narrow corolla lobes and are densely clustered in round heads.

Photo by Barry Breckling



Opposite leaves are toothed and have short stalks. Rub them to get a strong minty smell.

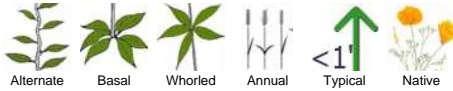
Photo © Robert P. Sikora - all rights reserved



Flowers have nectar, an important source of food for butterflies and other insects. Notice the butterfly's proboscis probing for nectar.

Cream Cups

AKA Creamcups



- CA Bloom Feb - May
- Height to 12".
- Leaves are long, thin, and arranged alternately and in whorls.
- Found in open grasslands and rocky areas, often on serpentine.
- CA native

Platystemon californicus

Poppy Family (Papaveraceae)

Photo © Robert P. Sikora - all rights reserved



Flowers have 4-10 yellow petals, often showing a creamy white at the tips and/or in the center.

Photo by Robert Steers



Cream Cups has different numbers of petals and many stamens.

Photo by Frank Rose

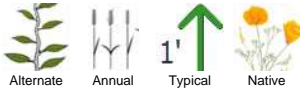


Single flowers grow at the tops of stems that branch from the plant base. Leaves are narrow and concentrated on the lower halves of the stems.

Cream Sacs

Castilleja rubicundula ssp. *lithospermoides*

Broomrape Family (Orobanchaceae)



- CA Bloom Apr - Jun
- Height to 10"
- Flowers feature 3 sacs and a small beak.
- They start pale yellow and then fade to white.
- Cream Sacs is a member of the Paintbrush (*Castilleja*) genus.
- Found in grasslands.
- CA native.

Photo © Robert P. Sikora - all rights reserved



Each flower has 3 lower pouches and a narrow, vertical "beak".

Photo by Doreen L Smith



Leaves have very narrow divisions.

Photo by Robert Steers

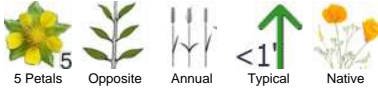


Cream Sacs is native to northern California grasslands. It does well on serpentine soil.

False Babystars

Leptosiphon androsaceus

AKA Lilac Babystars, Common Leptosiphon Phlox Family (Polemoniaceae)



- CA Bloom Mar - Jun
- Height to 8".
- The flower shows a five-lobed corolla with a long narrow tube.
- Found in grasslands.
- CA native

Photo by Wilde Legard



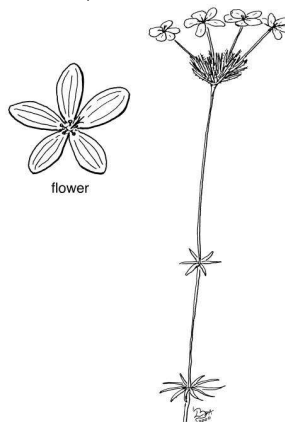
Flowers are about 1/2" wide but extend downward in a thread-like tube about 1". At the base of the flowers are deeply-divided, leaf-like bracts.

Photo © Neal Kramer - all rights reserved



Yellow stamens arise from a dark throat, and a slender, 3-part stigma extends further still.

Illustration by Linda Bea Miller

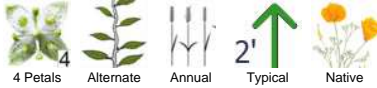


Opposite stem leaves are broadly palmate with narrow divisions.

Four-Spot Clarkia

Clarkia purpurea ssp. *quadrivulnera*

AKA Purple Clarkia, Purple Godetia, Clarkia, Winecup Clarkia Evening Primrose Family (Onagraceae)



- CA Bloom Apr - Jul
- Four petals open wide on this showy spring wildflower.
- Each flower has 8 pale stamens and a dark, 4-parted stigma.
- Common in open, grassy places.
- CA native

Photo by Keir Morse



Sometimes called Winecup Clarkia, petals can be a deep purple.

Photo by Keir Morse



Also called Four-Spot, petals often have a dark spot on or near their tips.

Illustration © John Muir Laws - all rights reserved



Leaves are alternate, narrow and often hairy. Seed capsules are long and narrow.

Fremont's Star Lily

AKA Star Lily, Death Camas



- CA Bloom Mar - May
- It's easy to spot Star Lily, with its bright white starry flowers clustering 3 or 4 feet in the air, and its long narrow leaves.
- It's found in California coastal ranges on grassy, scrub-covered or wooded slopes.
- CA native. Endemic to the California Floristic Province.

Toxicoscordion fremontii

False-hellebore Family (Melanthiaceae)

Photo by Keir Morse



Star-shaped flowers cluster to form a pyramid shape at the top of an erect, thick stem.

Photo by William Follette



Each petal-like tepal is separate and ends in a point. They have raised yellow dots near the center. These are nectar glands.

Photo by William Follette



Flowers grow on sturdy stems that are perhaps 3 feet tall. Note the long leaves with parallel veins.

Golden Yarrow

AKA Yellow Yarrow



- CA Bloom Feb - Aug
- Height 1 - 2 ft.
- Yellow clusters of flowerheads grow at the top of stiff stems; semi-shrubby.
- The stem and the underside of divided leaves are fuzzy.
- Petal-like ray count varies, typically from 4 - 6.
- Common on dry slopes below 10,000 feet.
- CA native

Eriophyllum confertiflorum var. *confertiflorum*

Aster Family (Asteraceae)

Photo by William Follette



Yellow flower clusters grow at the tops of hairy stems.

Photo by Bruce Homer-Smith



Each flowerhead has 4-6 ray flowers (petals) around many disk flowers (central parts).

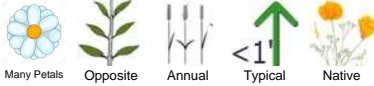
Photo by Keir Morse



Lobed leaves are gray-green on top; white-woolly underneath.

Goldfields

AKA Valley Goldfields, California Goldfields, Common Goldfields



Lasthenia californica
Aster Family (Asteraceae)

- CA Bloom Feb - June
- Height less than 6".
- Goldfields are widespread, from coastal meadows to deserts, often in dense colonies.
- CA native

Photo by Keir Morse



6 - 13 bright yellow petal-like ray flowers surround numerous tiny disk flowers. Each disk flower has nectar to attract pollinators.

Illustration © John Muir Laws - all rights reserved



Opposite leaves are narrow, sometimes with shallow lobes. Solitary flowerheads grow at the tips of stems and side branches.

Photo © Neal Kramer - all rights reserved



Goldfields make quite a display, living up to their name.



Iris macrosiphon

©1997 Kristin Jakob

Drawing © Kristin Jakob

Ground Iris

AKA Bowltube Iris, Long Tubed Iris

Iris macrosiphon

Iris Family (Iridaceae)



- Blooms Mar-May
- This purple iris flower sits low to the ground.
- Leaves are narrow and long, with parallel veins. They're glossy on both sides.
- Found mostly in grassy areas.
- CA native.

Photo by Barry Breckling



Flowers are low to the ground.
Leaves are the same glossy green on top and bottom.

Photo © Neal Kramer - all rights reserved



3 upright inner petals are surrounded by 3 similarly-colored sepals that reflex outward. The sepals have markings that act as nectar guides to pollinators.

Illustration © John Muir Laws - all rights reserved



The flower has a long tube at its base.

Gumplant

AKA Gumweed, Hairy Gumweed



- CA Bloom Jun - Sep
- Height up to 3 ft.
- Many reddish-brown stems reach up to support showy flowerheads.
- This late-summer bloomer is widespread.
- Found in open areas such as grasslands and roadsides.
- CA native

Grindelia hirsutula
Aster Family (Asteraceae)

Photo © Neal Kramer - all rights reserved



Flowerheads, up to 2 inches across, show many wide ray flowers and many central disk flowers.

Photo by William Follette



Hairy Gumweed grows several feet tall, with showy yellow flowerheads. Early flowerheads show a white gummy resin.

Photo © Neal Kramer - all rights reserved



Below the flowerhead is a green spherical collection of overlapping phyllaries with reflexed tips.

Harvest Brodiaea

Brodiaea elegans ssp. *elegans*

Brodiaea Family (Themidaceae)



- CA Bloom Mar - Aug
- The flower has 6 purple tepals (3 petals surrounded by 3 matching sepals).
- A single narrow basal leaf usually withers by flowering time.
- Found in grassland, open woodland, and chaparral.
- CA native

Photo by Keir Morse



Purple tepals have a darker central vein. Around the central pistil, 3 fertile stamens alternate with 3 infertile stamens that look like small white petals.

Photo by Steve Matson



Each tubular flower divides into 6 recurved tepals. The strong central veins are apparent from the outside as well.

Photo by Barry Breckling

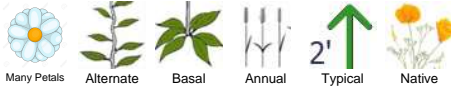


Flower stalks are longer than the flower is tall.

Hayfield Tarweed

Hemizonia congesta ssp. *lutescens*

Aster Family (Asteraceae)



- CA Bloom Jun - Oct
- Height to 3 ft.
- Yellow aster-like flowerheads are about 1" across.
- Glandular hairs exude a pungent, sticky tar-scented oil.
- CA native

Photo © Robert P. Sikora - all rights reserved



The flowerhead center is flat, showing a circle of tiny disc flowers. Outer ray flowers have 3 lobes at the tip.

Photo © Robert P. Sikora - all rights reserved



Yellow ray flowers lay flat, in plane. They're a favorite of native bees. Green phyllaries below the flowerhead form a single row.

Photo by Robert Steers



In the summer and fall, Tarweed fills fields with color and its distinctive tarry smell.

Hill Morning Glory

Calystegia subacaulis ssp. *subacaulis*

AKA Cambria Morning Glory, Hillside False Bindweed, Short Stem Morning Glory Family (Convolvulaceae)



- CA Bloom Apr - Jun
- Height to 4".
- Flowers are white or cream-colored, about 2" wide.
- Found in dry, open areas.
- Both leaves and flowers grow within inches of the ground.
- This subspecies is mostly found in the greater San Francisco Bay Area.
- CA native.

Photo by Wilde Legard



Flowers grow on 1 inch stalks, above a rosette of basal leaves.

Photo © Neal Kramer - all rights reserved



Morning Glory flowers open in the morning and wither by the end of the day.

Photo by Zoya Akulova-Barlow



Leaves grow on 1" stalks. They're shaped like an arrow head, with a wide base and pointed tip.

Italian Thistle

Carduus pycnocephalus

Aster Family (Asteraceae)



- CA Bloom Feb - July.
- Height to 5 ft.
- This invasive plant grows densely in disturbed grasslands and woodland edges.
- Spiny phyllaries form an egg shape below the flower head.
- Not CA native.
- Moderately Invasive

Photo by Wilde Legard



Leaves are fairly flat with spiny, wavy margins.

Photo by Keir Morse



Stems have spiny wings along their length.

Photo by Tony Corelli



Italian Thistles produce hundreds of seeds which grow readily in grasslands, often outcompeting native grasses.

Ithuriel's Spear

Triteleia laxa

Brodiaea Family (Themidaceae)



- CA Bloom Apr - Jul
- Height to 18".
- The flower has 6 petal-like tepals and 6 blue-tipped stamens.
- It's often in heavy soil in grasslands and open woods.
- CA native. Endemic to the California Floristic Province.

Photo by Steve Matson



6 stamens have blue anthers. Petal-like tepals show a darker central vein.

Photo © Robert P. Sikora - all rights reserved



Flowers stalks are fairly long (to 3"). The similar-looking Blue Dicks has flowers clustered tightly together.

Illustration © Kristin Jakob - all rights reserved



The inflorescence is an umbel, with flower stalks like the spokes of an umbrella.

Johnny Jump Up

AKA California Golden Violet, Johnny Jump-Up Violet

Viola pedunculata
Violet Family (Violaceae)



- CA Bloom Feb - Apr
- Height to 10".
- Violet-shaped flowers are golden-yellow.
- This is the only larval food for the federally endangered Callippe silverspot butterfly.
- Found in open areas, generally in full sun.
- CA native

Photo by Keir Morse



Brown lines on the lower petals are nectar guides for pollinators.

Photo by Keir Morse



The top two petals have a red-brown back. Long green sepals protect the flower in bud.

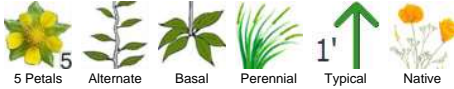
Photo © Neal Kramer - all rights reserved



Flowers and leaves grow on 1-4" stalks from several stems. Leaves are 1-2" wide and roughly triangular, with small teeth.

Laciniate Checker Bloom *Sidalcea malviflora* ssp. *laciniata*

AKA Laciniate Checker Mallow, Dwarf Checkerbloom Mallow Family (Malvaceae)



- CA Bloom May - Aug
- Height to 2 ft.
- Laciniata refers to the deep, irregular, usually pointed lobes of the leaves.
- This subspecies is most frequently found on hills near San Francisco Bay.
- CA native

Photo by Wilde Legard



Like other checkerblooms, petals show different-colored veins and have squared-off, slightly notched petals.

Photo © Neal Kramer - all rights reserved



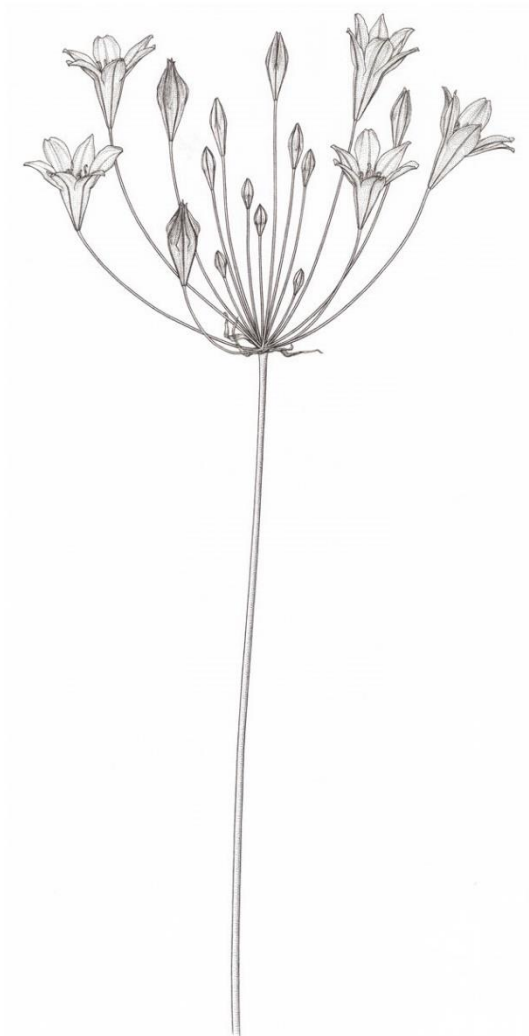
This subspecies has deep, irregular cuts in its leaves. Lower leaves are about 2" across.

Photo by Wilde Legard



Pink-lavender petals are generally separate to their base. Upper leaves are dissected into linear segments.

Long-Rayed Brodiaea *Triteleia peduncularis*



Drawing © Kristin Jakob

Long-Rayed Brodiaea

AKA Marsh Tritelleia, Long Ray Brodiaea

Triteleia peduncularis

Brodiaea Family (Themidaceae)



- CA Bloom May - Jul
- Height to 2 ft.
- This is a Brodiaea with longer, whiter tepals than the others.
- Found in wet, sunny places; often in serpentine soil.
- CA native

Photo by Zoya Akulova-Barlow



6 white petal-like tepals surround a yellow style and white-tipped stamens (the ones in the picture are old).

Photo by William Follette



Flowers form an umbel at the top of a branchless stalk (a scape) that rises from the ground.

Photo by Kathy Korbholz



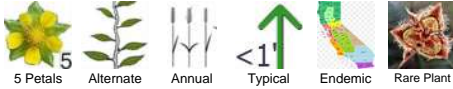
Leaves are quite long (4-12") and narrow (1/4"). The back of the tepals often have a violet flush.

Marin Dwarf Flax

AKA Marin Western Flax

Hesperolinon congestum

Flax Family (Linaceae)



- CA Bloom Apr - Jul
- Height to 6".
- Flowers have 5 separate petals.
- Found in serpentine grasslands.
- CA native. Endemic to the Bay Area and a few counties north.
- Fed Status: Threatened

Photo © Neal Kramer - all rights reserved



Pink buds open to nearly white flowers, about 1/2" across. Pink-tipped stamens stand out from the petals. Sepals are hairy.

Photo by William Follette



Flat-topped flower clusters appear at the tips of many branches.

Photo by Steve Matson



Leaves are alternate, linear and not hairy. They have glandular stipules that exude a protective red resin.

Marsh Zigadene

AKA Marsh Zigadenus



3/6 Petals

Basal

Perennial

Endemic

Rare Plant

- CA Bloom Apr - Jul
- Six petal-like tepals.
- Like other Toxicoscordion, this plant is toxic to people and animals.
- Found in sunny, wet areas along streams, often in serpentine.
- CA native
- Uncommon (CNPS 4)

Toxicoscordion fontanum

False-hellebore Family (Melanthiaceae)

Photo by William Follette



Marsh Zigadene has many flowers, generally smaller than 1/2" across.

Photo by William Follette



It also has many narrow basal leaves.

Photo © Neal Kramer - all rights reserved



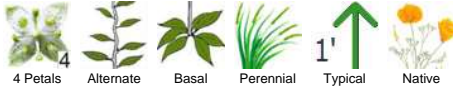
Fruits are capsules. When dry, they open along their length to release many seeds.

Milkmaids

AKA Bitter Cress, California Toothwort

Cardamine californica

Mustard Family (Brassicaceae)



- CA Bloom Jan - May
- These bright white flowers bloom early, starting in January.
- Each flower is about 1/2" across, with 4 petals.
- Petals fold at night and when it rains.
- It's locally common in moist, shaded areas.
- CA native. Found from Washington to Baja.

Photo by Susan Mayne



Four white petals form a flat cross. Stamens and a pistil form a tight bunch in a yellow-green center.

Photo by Susan Mayne



Leaves near the ground are fairly round, like the top of a milkmaid's stool.

Photo by William Follette



Leaves higher up are deeply cut and pointy. Flowers group loosely near the top of the stem.

Nude Buckwheat

Eriogonum nudum var. *nudum*

AKA Naked Stemmed Eriogonum, Naked Buckwheat Buckwheat Family (Polygonaceae)



- CA Bloom May - Aug
- Tall, bare, leafless stems can grow to 4 or more feet.
- Widely distributed along the west coast, it grows on exposed sunny sites.
- It's highly drought-tolerant.
- Flowers are rich in nectar and attract many pollinators.
- CA native

Photo by Steve Matson



Stems have no leaves (thus nudum). Stems are topped with rounded clusters of pale flowers.

Photo by William Follette



Clusters of tiny flowers have long stamens sticking out. Flowers show white, pale pink or yellow.

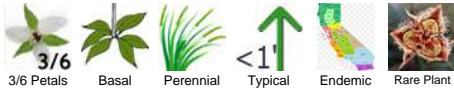
Photo by Keir Morse



Leaves are on long stalks at the base of the plant. They're grey-green above; white-hairy underneath. They have a prominent central vein.

Oakland Star Tulip

AKA Oakland Mariposa Lily



- CA Bloom Mar - May
- Height to 8".
- The flower has 3 petals and 3 smaller sepals, alternating with the petals.
- It grows from an underground bulb that stores food between growing seasons.
- It's found in open areas, often on serpentine soil.
- CA native
- Uncommon (CNPS 4)

Calochortus umbellatus

Lily Family (Liliaceae)

Photo © Jeff Bisbee - all rights reserved



This pale lilac-pink flower is about 1-1/2" across, with purple spots at the center. Anthers can be light blue or pink.

Photo by Steve Matson



A single basal leaf and smaller stem leaves photosynthesize sugars needed to create one or more showy flowers, each on its own stalk.

Photo by William Follette



Seed capsules hang down from the withering plant. When mature, they'll drop to the ground and germinate when exposed to cold, moist conditions.

Pitted Onion

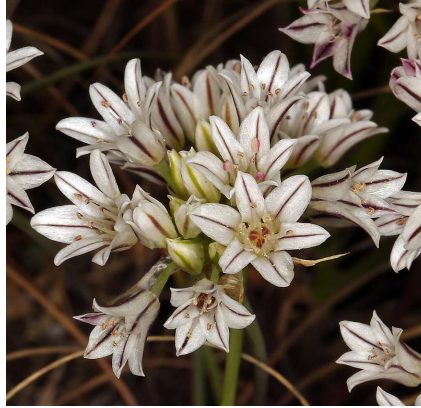
Allium lacunosum var. *lacunosum*

Onion Family (Alliaceae)



- CA Bloom Apr - Jun
- 6-part flowers are small (about 1/3"), white or pale pink, with dark veins.
- Basil leaves smell like onion.
- It's found in serpentine grasslands and rock outcrops.
- CA native

Photo by Steve Matson



Flowers have 6 petal-like tepals with stamens growing directly out of them. Dark veins point toward nectaries, attracting pollinators.

Photo by Steve Matson



Flower stalks form a dense umbel, with 2 bracts at the base of the umbel.

Photo by Steve Matson



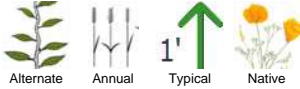
Stems are thick and wavy, up to 1 foot tall. Leaves are long, thin and hollow, and have an onion smell.

Purple Owl's Clover

Castilleja exserta ssp. *exserta*

AKA Pale Purple Owlclover, Exserted Indian Paintbrush

Broomrape Family (Orobanchaceae)



- CA Bloom Mar - Jun
- Owl's Clover is not a clover but a paintbrush.
- Flowers are tubular and narrow, in a densely packed display that attracts hummingbirds and bees.
- Found on grassy hillsides near the coast, it does well in serpentine soils.
- Compare to Dense Flowered Owl's Clover
- CA native

Photo by Keir Morse



Each flower is tubular, ending in 3 white and purple sacs below and a narrow beak on top, creating an owl's face.

Photo by Steve Matson



Leaves are narrow and hairy. Bracts around the flowers are narrow and hairy, with lavender tips.

Photo © Neal Kramer - all rights reserved



Purple Owl's Clover is found on grassy hillsides, especially in serpentine soils.

Purple Sanicle

AKA Snakeroot



- CA Bloom Mar - May
- Each spherical purple flower head is less than 1" across.
- Compound leaves have many irregular divisions.
- It's found in open, often grassy areas from British Columbia to Mexico.
- CA native.

Sanicula bipinnatifida

Carrot Family (Apiaceae)

Photo by Julie Kierstead Nelson



Look for divided leaves and small purple flowers in round heads.

Photo by Keir Morse



Flowerheads form at the top and along the stem.

Photo by Keir Morse

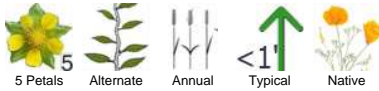


Looking down at this plant, you'll notice purple spots over lots of compound leaves.

Red Maids

Calandrinia menziesii

Pussypaws Family (Montiaceae)



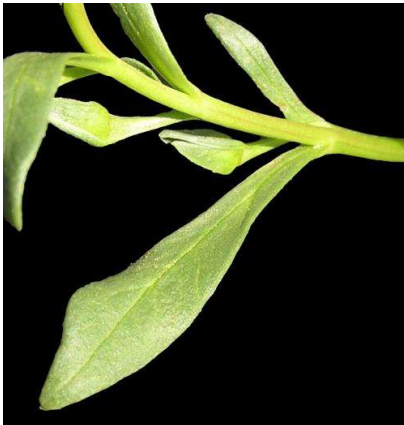
- CA Bloom Feb - May
- This low-growing plant is easy to spot because of its five dark-pink petals surrounding a yellow center.
- It's a relative to Miner's Lettuce and also has thick leaves that are edible and taste sour.
- This annual is found in places with damp spring conditions.
- CA native

Photo © Frank Rose, Arizona-Sonora Desert Museum - all rights reserved



This flower has 5 dark pink petals, yellow-tipped stamens, and is less than 1" wide. Leaves are thick and edible.

Photo © Frank Rose, Arizona-Sonora Desert Museum - all rights reserved



Leaves are alternate, thick, fairly long, and wider towards the tip.

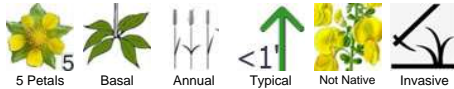
Photo © Neal Kramer - all rights reserved



Red Maids needs wet conditions to germinate and start growing, but does well in full sun and gravelly soil after that.

Redstem Filaree

AKA Coastal Heron's Bill, Red-Stemmed Storksbill, Red Stemmed Filaree



Erodium cicutarium

Geranium Family (Geraniaceae)

- CA Bloom Feb - Jun
- Height to 1 ft.
- This is a common weed, sporting the typical geranium lavender color.
- Its red stem and twice-divided leaves distinguish it from similar geraniums.
- The leaves turn red after flowering, making it stand out from neighboring flowers.
- Like other Erodiums, its fruits have a pointed beak.
- Found in disturbed areas.
- Not CA native
- Somewhat Invasive

Photo © Frank Rose, Arizona-Sonora Desert Museum - all



The flower is small (1/2"), with 5 separate petals and 5 purple-tipped stamens. The stem is red. Both stem and leaves are hairy and sticky.

Photo by Wilde Legard



Leaves are twice-divided with rounded lobes. Leaves turn red after flowering.

Photo by Wilde Legard



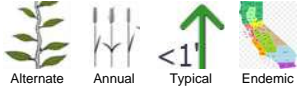
Fruits grow a 2" pointed beak.

Rosin Weed

AKA Sticky Western Rosinweed, Sticky Calycadenia

Calycadenia multiglandulosa

Aster Family (Asteraceae)



- CA Bloom May - Aug
- Height to 1 ft.
- Foliage and stem are glandular-hairy and quite sticky.
- Found in open, gravelly areas, often in serpentine soil.
- CA native. Not a weed, as the name suggests; it's a California endemic.

Photo © Robert P. Sikora - all rights reserved



This is a single aster head. Showy ray flowers surround tubular disc flowers.

Photo © Robert P. Sikora - all rights reserved



Each ray flower has 3 uneven lobes, the middle one smaller. Green, narrow phyllaries have long glandular hairs.

Photo by Robert Steers

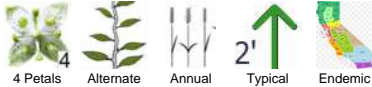


Each flower head is nestled in many narrow, ascending phyllaries. Leaves are hairy, sticky, narrow, and often curl under.

Ruby Chalice Clarkia

Clarkia rubicunda

AKA Farewell To Spring, Reddened Clarkia Evening Primrose Family (Onagraceae)



- CA Bloom May - Aug
- Height to 3 ft.
- These pink and red flowers are bowl-shaped, about 2" across.
- The flower is in fours - 4 petals, 8 stamens, and a 4-part stigma.
- It's found in open areas near the coast.
- CA native

Photo by William Follette



Lilac-pink flowers often have a ruby-red center. A four-part stigma forms a white cross in the center.

Illustration © Kristin Jakob - all rights reserved



Flowers grow from the tips of branches. Alternate leaves are narrow. Seed pods are too.

Photo © Neal Kramer - all rights reserved

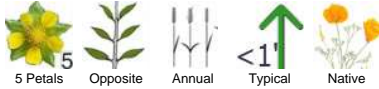


Sometimes called "Farewell To Spring", this flower blankets grasslands until fading in mid-summer.

Sandwort

Sabulina douglasii

AKA Douglas's Sandwort, Douglas' Stitchwort Pink Family (Caryophyllaceae)



- CA Bloom Apr - Jun
- Height less than 8".
- Flowers appear at the tip of branches.
- Found on rocky or sandy slopes, often in serpentine soil.
- CA native

Photo by Keir Morse



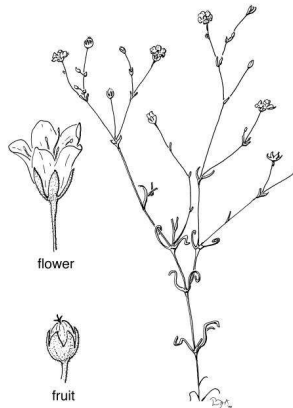
The flower is less than 1/2" across and has a green center. White petals are rounded.

Photo © Neal Kramer - all rights reserved



The small, white flower has 5 pointed, green sepals that are shorter than the petals.

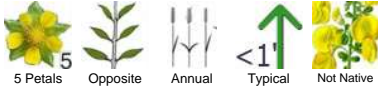
Illustration by Linda Bea Miller



A slender stem often branches. Opposite leaves are curling and threadlike.

Scarlet Pimpernel

AKA Pimpernel



Lysimachia arvensis

Myrsine Family (Myrsinaceae)

- CA Bloom Mar - Sep
- Height to 5".
- 5 reddish-orange petals and long yellow-tipped stamens.
- Stem is square-sided.
- Widespread on disturbed soil and grasslands.
- Not CA native

Photo by Keir Morse



This small flower (up to 1/2 inch across) has a colorful center that provides a target for pollinators.

Photo by Wilde Legard



Flowers are on stalks. Leaves are opposite and touch each other across the stem.

Photo © Neal Kramer - all rights reserved



Occasionally, there are blue versions of this same flower. I love it when I find one!

Sea Lettuce

AKA Sea Bluff Lettuce, Powdery Liveforever, North Coast Dudleya

Dudleya farinosa

Stonecrop Family (Crassulaceae)



- CA Bloom Jun - Aug
- Height to 10".
- Succulent leaves often have a white, waxy covering.
- Found on sea bluffs and rock outcrops along the Pacific coast.
- CA native

Photo © Neal Kramer - all rights reserved



A flat-topped inflorescence of yellow flowers grows at the top of a thick shoot covered in small, alternating leaf-like bracts.

Photo © Neal Kramer - all rights reserved



Succulent, pointed leaves grow in a basal rosette. They can be green or grey.

Photo © Neal Kramer - all rights reserved

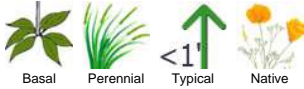


Flowers are somewhat tubular with five pointed lobes at the top.

Shooting Star

Primula hendersonii

AKA Mosquito Bills, Foothill Shooting Star Primrose Family (Primulaceae)



- CA Bloom Feb - Apr
- Pointed pink petals, 1/2 to 1" long, reflex back from a drooping stalk, forming a shooting star.
- Look for these pink beauties in early spring in damp meadows and open woodland.
- CA native

Photo by William Follette



4 or 5 pink petals bend up, and reproductive parts point down.

Photo by William Follette



Flowers form loose groups at the top of a 1-foot-tall leafless red stem.

Photo by Keir Morse

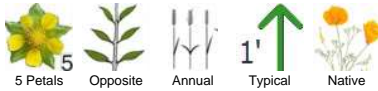


Smooth-edged and smooth-topped leaves are rounded. They're all basal.

Shortspur Seablush

Plectritis congesta ssp. *brachystemon*

Valerian Family (Valerianaceae)



- CA Bloom Mar - Jun
- Like other Valerians, Seablush has showy displays of tiny flowers tightly clustered at stem tips.
- Leaves are opposite and clasp across the stem.
- It grows in seasonally moist soil on slopes from the coastline to mid-elevations.
- CA native

Photo by Steve Matson



Erect, slender stems have opposite leaves and end in a tight cluster of pink, violet or white flowers.

Photo © Neal Kramer - all rights reserved



Each flower is tiny. A tubular base opens up into 5 lobes of different sizes.

Photo © Neal Kramer - all rights reserved

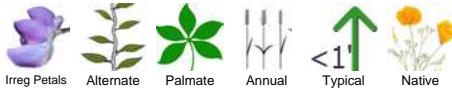


Lower leaves are spoon-shaped with smooth margins.

Sky Lupine

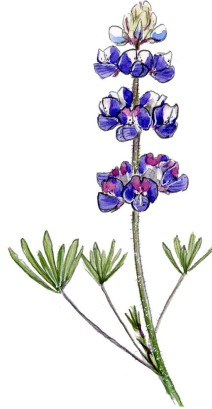
AKA Valley Sky Lupine

Lupinus nanus
Pea Family (Fabaceae)



- CA Bloom Mar - May
- This species is short for a lupine, generally under 1 ft.
- Pea flowers are irregularly shaped and are deep blue and white.
- The stem is erect and hairy.
- Compare to Miniature Lupine
- CA native.

Illustration © John Muir Laws - all rights reserved



This short lupine has whorls of pea flowers on the top 6 to 8 inches of its stem.

Photo by Keir Morse



Banner petals are at least as wide as they are tall. They have a white banner spot in the center that turns maroon with age.

Photo © Neal Kramer - all rights reserved



Sky Lupine is abundant in open and disturbed areas. It's the color of grape juice.

Soap Plant

Chlorogalum pomeridianum var. *pomeridianum*

AKA Common Soaproot, Wavyleaf Soap Plant Agave Family (Agavaceae)



- CA Bloom May - Jul
- Basal leaves are long and have wavy margins.
- Flowers are delicate and open in the late afternoon and evening.
- A fibrous bulb sometimes protrudes from the ground.
- It's found in open, sunny areas, including on trail sides.
- CA native
- Limited to California and southwest Oregon.

Photo © Neal Kramer - all rights reserved



Fragrant flowers have 6 narrow, white segments (tepals). 6 tall yellow or purple-tipped stamens reach up from the center.

Photo by Keir Morse



Flowers attach to a long branching stalk, each blooming for only one day.

Photo by Keir Morse



Leaves grow to 18 inches long, have wavy margins and a rather straight center vein. They mostly lie along the ground.

Sun Cups

AKA Golden Eggs

Taraxia ovata

Evening Primrose Family (Onagraceae)



- CA Bloom Feb - Apr
- This 4-petaled yellow flower is easy to spot in late spring.
- Leaves are fleshy and roughly oval, often with red veins.
- It's primarily found west of the Central Valley, from San Francisco to Mendocino.
- CA native. Endemic to the California Floristic Province.

Illustration © John Muir Laws - all rights reserved



The flower has four separate yellow petals. Long stamens and a pistil emerge from the center.

Photo © Neal Kramer - all rights reserved



Sun cups grows low to the ground, above a rosette of leaves.

Photo © Neal Kramer - all rights reserved

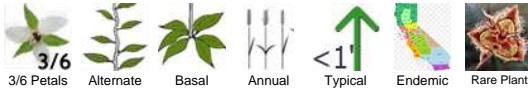


Each flower grows on a separate stalk. The stalks are often red.

Tiburon Buckwheat

Eriogonum luteolum var. *caninum*

Buckwheat Family (Polygonaceae)



- CA Bloom May - Sep
- Tiburon Buckwheat stems are weak and many-branched, often lying on the soil.
- Like other buckweats, tiny flowers cluster into spherical clusters.
- It's found in serpentine soils, in the Bay Area.
- CA native
- Endangered (CNPS 1B)

Photo by



Pink flowers are tiny, with 6 segments and long stamens.

Photo by Wilde Legard



Stems branch frequently, with spherical flower clusters at each tip.

Photo by Wilde Legard



Leaves are mostly basal, roundish and on stalks. They're densely hairy underneath and generally nearly hairless above.

Tiburon Mariposa Lily

Calochortus tiburonensis

Lily Family (Liliaceae)



- CA Blooms May - Jun
- Flowers are greenish-yellow with maroon markings.
- There is one long, copper-tinged basal leaf and a few smaller stem leaves.
- Found in serpentine grassland and rock outcroppings.
- CA native, endemic to Ring Mountain, Tiburon.
- Fed Status: Threatened

Photo by William Follette



Petals often face the sky, revealing distinctive maroon markings. Their pale color tends to blend in with tall grasses around them.

Photo by Steve Matson



Petals are hairy. 6 red-brown anthers surround a 3-lobed style.

Photo © Robert P. Sikora - all rights reserved

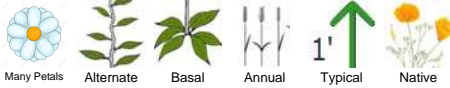


This showy lily grows natively only on Ring Mountain.

Tidy Tips

AKA Coastal Tidytips, Common Tidy Tips Aster Family (Asteraceae)

Layia platyglossa



- CA Bloom February to May.
- Flower heads are fragrant.
- Leaves on the stem are narrow and smooth-edged (entire). Basal leaves have lobes.
- A coastal form has all-yellow petal-like ray flowers; the inland form has white tips.
- Tidy Tips can cover grasslands in yellow.
- CA native.

Photo by William Follette



This inland form has white tips. Note the 3 lobes at the end of each ray flower.

Photo by Robert Steers



Below the flower is a cup of green, hairy, round-tipped phyllaries - one for each ray flower.

Photo by Robert Steers



Leaves are narrow, rough and hairy.

Western Larkspur

AKA Foothill Larkspur



- CA Bloom May - Jul
- Height to 2 ft.
- Flower parts are irregular (not all the same shape).
- Found on slopes and ridges.
- CA native.

Delphinium hesperium ssp. *hesperium*

Buttercup Family (Ranunculaceae)

Photo by Barry Breckling



5 petal-like sepals surround a smaller corolla made up of 4 petals and a long spur. The flower is hairy on the inside.

Photo © Robert P. Sikora - all rights reserved



Flowers form a spike at the top of a single stem. New flowers emerge at the top while older flowers mature below.

Photo by Barry Breckling



Leaves are deeply divided.

Western Morning Glory

Calystegia purpurata ssp. *purpurata*

AKA Smooth Western Morning Glory, Purple Western Morning Glory, Morning Glory Family (Convolvulaceae)
Pacific False Bindweed, Vine Morning Glory



5 Petals



Alternate



Vine



Perennial



Endemic

- CA Bloom Apr - Sept
- This is a vine with funnel-shaped pale pink flowers, arrow-shaped thin leaves, and is not hairy.
- It grows in sunny areas below 1,000 feet.
- CA native

Photo by Susan Mayne



Petals fuse to each other in an open funnel shape. They're white to pink, with darker lines near the folds.

Photo by Keir Morse



Leaves are thin and heart-shaped, ending in a point. Margins are smooth.

Photo by William Follette



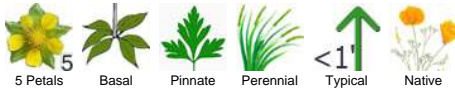
Vine Morning Glory runs along the ground and climbs up other plants. This species is not hairy.

Woolly Fruited Lomatium

Lomatium dasycarpum ssp. *dasycarpum*

AKA Woollyfruit Desertparsley

Carrot Family (Apiaceae)



- CA Bloom Mar - June
- Many small yellow flowers cluster to form spheres.
- A narrow taproot, covered with short, dense hairs, is good at gathering water.
- Found on open grassy and rocky areas, often on serpentine.
- CA native

Photo by Keir Morse



Clusters of yellowish-green flowers grow on thick stalks. The flower clusters grow in an umbrella pattern (an umbel).

Photo by Wilde Legard



Leaves are finely dissected.

Photo by Wilde Legard



Flowers turn into clusters of flat, round seeds.

Yampah

AKA Kellogg's Yampah

Perideridia kelloggii

Carrot Family (Apiaceae)



- CA Bloom Jun - Aug
- Height to 4 ft.
- Small white flowers grow on stalks that are arranged like umbrella spokes (an umbel). The umbel clusters are also connected like an umbrella, forming a double umbel.
- Compound leaves have long, narrow lobes.
- Found in grasslands.
- CA native. Endemic to CA.

Photo by Kathy Korbholz



Rounded clusters of small flowers sit on stalks that join at a point, like an umbrella.

Illustration by Linda Bea Miller

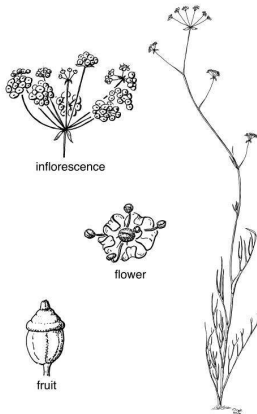


Photo by Kathy Korbholz



Yampah grows in grasslands, often in serpentine soils.

Leaflets near the base of the plant are long and narrow and often forked. Flowers and fruits are tiny and beautiful.

Yarrow

AKA Common Yarrow



- CA Bloom Apr - Aug
- Height to 5 ft.
- Flat-topped clusters of small white flowerheads bloom throughout the summer.
- Leaves are alternate and finely divided.
- Found in grasslands and open areas.
- This common California plant is circumpolar, occurring in Europe and Asia as well as North America.
- CA native

Achillea millefolium
Aster Family (Asteraceae)

Photo by William Follette



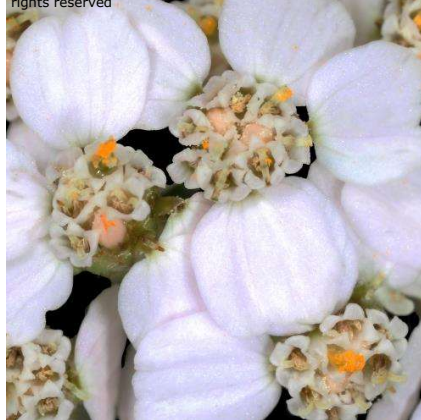
Yarrow has flat clusters of white flowers.

Illustration by Illustrated Flora of the Pacific States



Its leaves are finely-divided. They smell great when you rub them.

Photo © Frank Rose, Arizona-Sonora Desert Museum - all rights reserved



Each composite flower has 3-8 petal-like ray flowers and up to 12 disk flowers.

Yellow Mariposa Lily

AKA Yellow Mariposa



Calochortus luteus

Lily Family (Liliaceae)

- CA Bloom May - June
- Height to 2 ft.
- This is a bowl-shaped yellow lily, with exotic markings.
- It has only a single, narrow basal leaf.
- Found in grasslands in northern California.
- CA native. Endemic to California.

Photo by Steve Matson



3 yellow petals 1 or 2 inches wide, are deep yellow on top and densely decorated in red-brown below.

Photo by Barry Breckling



Narrow sepals grow below and in the gap between petals. Hairs towards the petal bases cover nectar glands.

Photo by William Follette



One to seven flowers bloom on stalks at the top of the plant.

Grasses



Photo By Kristin Jakob

Look on the next page to find your grass. After that, each grass gets a full-page description, organized alphabetically.

Grass descriptions presented here apply to plants across the state. Not surprisingly, serpentine grass heights are generally shorter than those reported for the rest of California.

Grasses



Field Sedge
Carex praegracilis



Slender Wild Oats
Avena barbata



Rattlesnake Grass
Briza maxima



Ripgut
Bromus diandrus



Serpentine Reedgrass
Calamagrostis ophitidis



California Oatgrass
Danthonia californica



Big Squirrel Tail Grass
Elymus multisetus



Italian Ryegrass
Festuca perennis



Meadow Barley Grass
Hordeum brachyantherum



Torrey Melicgrass
Melica torreyana



Purple Needle Grass
Stipa pulchra

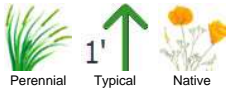


California Brome
Bromus sitchensis var. *carinatus*

Big Squirrel Tail Grass

AKA Big Squirreltail

Elymus multisetus
Grass Family (Poaceae)



- Perennial Bunch Grass 6-24"
- Inflorescence a spike 1-8"
- 2-4 florets per spikelet
- Floret awns to 3.9"
- Each glume is cleft into 3-9 awns to 7.9"
- CA Bloom May - Jul
- As the inflorescence ages, the awns bend sharply outwards.
- More about Elymus
- CA native

Photo © Neal Kramer - all rights reserved



Dense inflorescences with long, purplish awns resemble squirrel tails, especially when they mature.

Photo by Wilde Legard



Here's a closeup of a squirrel tail. It's crowded with spikelets, each producing 8-22 awns!

Photo by Steve Matson



Leaves are narrow and long. Found in open, sandy or rocky areas.

California Brome

Bromus sitchensis var. *carinatus*

Grass Family (Poaceae)



- Perennial Bunch Grass 20"-3 ft.
- Inflorescence branched 6-16"
- 5-10 florets per spikelet
- Floret awns to 0.6"
- CA Bloom Apr - Aug
- CA native

Photo by Wilde Legard



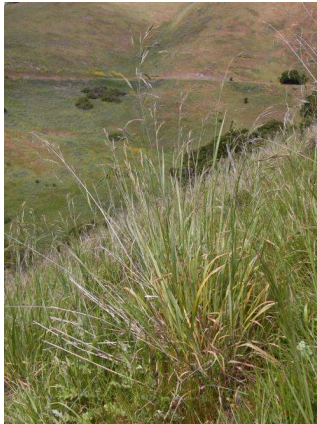
Spikelets attach to the stem on branches. Glumes are short, revealing 5-10 florets above them.

Photo by Wilde Legard



Florets form a flat, woven pattern, each with a 1/2" awn.

Photo by Wilde Legard



Long leaves and inflorescences give this a classic bunch grass look.

California Oatgrass

Danthonia californica

Grass Family (Poaceae)



- Perennial Bunch Grass 1-3 ft.
- Inflorescence branched 1-2"
- Floret awns to 0.5", bent.
- CA Bloom Feb - Mar
- Grows slowly and is long lived.
- California Oatgrass is an important component in native grasslands, and is a dominant grass in coastal prairie.
-
- It grows in a variety of soils, including serpentine.
- CA native

Photo by Tony Corelli



This bunch grass has flat leaves, about 8" long. Flowering stems arch outwards from the plant center.

Photo by Wilde Legard



Only 3-6 spikelets in a short inflorescence (about 2"). Branches are flexible and longer than the spikelets.

Photo by Steve Matson



Mature spikelets open up, with glumes longer than individual florets. There are 3-8 florets per spikelet.

Field Sedge

Carex praegracilis

AKA Clustered Field Sedge, Black Creeper Sedge Sedge Family (Cyperaceae)



- Perennial Sedge 10"-3 ft.
- Stem cross section is triangular
- Inflorescence to 2"
- No awns
- CA Bloom May - Jun
- This common sedge is found in alkaline, moist places.
- CA native

Photo by Steve Matson



The inflorescence is short and dense, with separate male and female florets in the same cluster.

Photo by Steve Matson



Male flowers protrude from their protective scales. Female flowers hide inside brown scales except at maturity.

Photo by Steve Matson



Leaves are long, narrow, and either flat or V-shaped. Praegracilis is Latin for "very slender".

Italian Ryegrass

AKA Italian Rye Grass

Festuca perennis

Grass Family (Poaceae)



- Single-Stem Grass 20"-3 ft.
- Inflorescence a spike 3-10"
- 4-14 florets per spikelet
- CA Bloom May - Sep
- Like other Fescues, the leaf sheath is open and the collar is hairless.
- Italian Rye Grass often outcompetes native grasses, taking over abandoned fields.
- Not CA native
- Moderately Invasive

Photo by William Follette



This grass stands erect and has spikelets alternating up the stem, 2-ranked.

Photo by Keir Morse



Notice how each spikelet fits in an indentation in the stem. Mature anthers show here, spreading their pollen on the wind.

Photo © Neal Kramer - all rights reserved



Spikelets have quite a few florets. Awn length varies - long here and absent in the previous picture.

Meadow Barley Grass *Hordeum brachyantherum*

AKA Meadow Barley

Grass Family (Poaceae)



- Perennial Bunch Grass 8-26"
- Inflorescence a spike 1-4"
- 1 floret per spikelet
- Floret awns to 0.3"
- Glume awns to 0.7"
- CA Bloom Jun - Jul
- More about barley.
- CA native

Photo by William Follette



Arching inflorescences flatten and turn purple at maturity, with spikelets opening up but still connected directly to the stem.

Photo by Wilde Legard



Young spikelets form a dense cylinder. They connect in groups of 3.

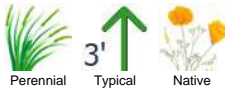
Photo by Steve Matson



Meadow Barley Grass is widespread in pastures, meadows and stream banks.

Purple Needle Grass

Stipa pulchra
Grass Family (Poaceae)



- Perennial Bunch Grass 14"-3 ft.
- Inflorescence branched 7-24"
- 1 floret per spikelet
- Floret awns to 3.9"
- Glume awns to 0.2"
- CA Bloom Mar - May
- *Stipa pulchra* comes from Greek and Latin words meaning "beautiful fiber".
- It will catch your eye, with its waving, purplish spikelets and long awns.
- Purple Needle Grass is widespread and is the California State Grass.
- CA native.

Illustration © Kristin Jakob - all rights reserved



Purple Needlegrass has an open inflorescence and long awns. It has only one floret per spikelet.

Photo by William Follette



Spikelets are purplish. Awns are needle-like and about as long as your pinkie (1.5 to 4"). Awns bend twice when they're mature.

Photo by William Follette



The weight of the spikelets and the length of their awns causes the grass to bend at the top and wave in the wind.

Rattlesnake Grass

Briza maxima

AKA Big Quakinggrass, Big Quaking Grass

Grass Family (Poaceae)



- Annual, Single-Stem Grass 8"-3 ft.
- Inflorescence branched 1-4"
- No awns
- CA Bloom Mar - May
- Found in open grasslands, disturbed areas and the margins of woods.
- Not CA native. Invasive in some areas.
- Somewhat Invasive

Photo by William Follette



This grass is easy to identify, with its nodding spikelets on long, thin stalks that wave in the breeze. They're oval, papery, and have no awns.

Photo by Robert Steers



Spikelets start pale green and become tan with age. They're wide, fairly flat, and appear woven, with 12-20 florets. They look and shake like the tail of a rattlesnake.

Photo by William Follette



Notice the purple shoulders (glumes) on these developing spikelets. Leaves are flat and fairly wide.

Ripgut

AKA Ripgut Brome, Bromegrass, Ripgut Grass

Bromus diandrus

Grass Family (Poaceae)



- Annual Single-Stem Grass 6"-4 ft.
- Inflorescence branched 2-10"
- Floret awns to 2.6"
- CA Bloom Apr - Jun
- Barbs on the florets cause digestive problems for animals that try to eat the grass - thus its name.
- Also, long awns and sharp florets catch in the eyes, nostrils and ears of grazing animals.
- Not CA native
- Moderately Invasive

Photo by Keir Morse



Ripgut develops a distinctive nodding form. Florets have very long (2") awns with barbs that won't let you rub them backwards.

Photo by Keir Morse



Ripgut grows vigorously throughout the rainy winter, maturing in the summer. Spikelets are narrow and long, with 5-8 overlapping florets.

Photo by Keir Morse



Leaf blades and sheaths are hairy and rough. Blades roll inward when dry. Like other bromes, the sheath shows a V neck at the top.

Serpentine Reedgrass

AKA Serpentine Reed Grass

Calamagrostis ophitidis

Grass Family (Poaceae)



- Perennial Bunch Grass 22"-3 ft.
- Inflorescence branched 3-6"
- 1 floret per spikelet
- Floret awns to 0.3"
- CA Bloom Apr - Jul
- Found on sunny serpentine rock outcrops.
- CA native
- Uncommon (CNPS 4)

Photo by Doreen L Smith



This uncommon bunchgrass is found on serpentine rock outcrops.

Photo by Steve Matson



Two glumes cover a single floret and an awn which starts at the base of the floret. The floret opens up when ready to send and receive pollen on the wind.

Photo by William Follette



Flower clusters (inflorescences) start narrow (appressed), open up at maturity, and then contract with age.

Slender Wild Oats

AKA Slim Oat, Slender Oat, Wild Oats

Avena barbata

Grass Family (Poaceae)



- Single-Stem Grass 24"-3 ft.
- Inflorescence branched 6-14"
- Floret awns are long and bent, to 1.8"
- CA Bloom Mar - Jun
- This weed is troublesome, diminishing crop yields and invading wild areas.
- Compare to other California Oats
- Not CA native
- Moderately Invasive

Photo by Zoya Akulova-Barlow



Spikelets hang down in an open inflorescence, making upside-down V's - a hallmark of the oat genus.

Photo by Wilde Legard



2-3 florets nestle inside long glumes. Look for hairy bases and long, bending awns.

Photo by Keir Morse



Leaf sheaths, wrapping around the stem, are hairy. The leaf blade is flat and can grow to about 12" long.



Drawing © Kristin Jakob

Torrey Melicgrass

AKA Torrey's Melicgrass, Torrey's Melic, Slender Melicgrass

Melica torreyana
Grass Family (Poaceae)



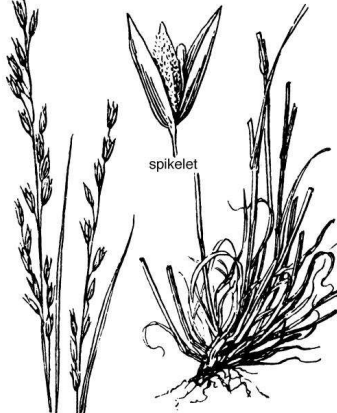
- Perennial Bunch Grass 12"-3 ft.
- Inflorescence 2-10"
- 1-2 florets per spikelet
- Floret awns to 0.1"
- CA Bloom Mar - Jun
- Spikelets are small, each less than 1/3" long.
- Found on slopes and banks, rocky outcrops, and woodland margins.
- More on Melica.
- CA native.

Photo by William Follette



This dense bunch grass often arches under the weight of mature spikelets. Grows to about 3 feet tall.

Illustration by Illustrated Flora of the Pacific States



Clusters of small spikelets crowd together at the top of the stem. Leaves are narrow and end in a point.

Photo by Keir Morse



This dried sample shows spikelets connected on thin branches that stay close to the stem.

Plants at the Edge



Photo By Kristin Jakob

At the edges of the serpentine grassland, below the serpentine crest but still within the Ring Mountain Open Space Preserve, the soil is deeper and richer in organic materials.

The next page presents some plants you're likely to notice in this area.

Plants at the Edge



California Bay Laurel
Umbellularia californica



California Buckeye
Aesculus californica



Coast Live Oak
Quercus agrifolia var. *agrifolia*



Coyote Brush
Baccharis pilularis ssp. *consanguinea*



Douglas Iris
Iris douglasiana



Goldback Fern
Pentagramma triangularis ssp. *triangularis*



Harding Grass
Phalaris aquatica



Poison Oak
Toxicodendron diversilobum



Sticky Monkey Flower
Diplacus aurantiacus



Toyon
Heteromeles arbutifolia



Velvet Grass
Holcus lanatus

Serpentine Endemics on Ring Mountain

While most plants found on Ring Mountain are also found outside serpentine conditions, some plants have evolved in ways that make them dependent on serpentine soil – they're called Serpentine Endemics.

Oakland Star Tulip

Calochortus umbellatus



Photo © Jeff Bisbee

Large Flowered Star Tulip

Calochortus uniflorus



Photo © Jeff Bisbee

Tiburon Paintbrush

Castilleja affinis neglecta



Photo Doreen Smith

Tiburon Buckwheat

Eriogonum luteolum caninum



Photo Wilde Legard

Marsh Zigadene

Toxicoscordion fontanum



Photo © Neal Kramer

Marin Dwarf Flax

Hesperolinon congestion



Photo Kathy Korbholz

Tiburon Mariposa Lily

Calochortus tiburonensis



Photo Robert P. Sikora

Serpentine Reedgrass

Calamagrostis orphitidis



Photo William Follette

Because of how they're formed (see below), serpentine outcrops are uncommon. These plants' dependence on serpentine conditions limits their range, often making them rare.

Their protection was a primary reason for creating the Ring Mountain Open Space Preserve.

Make sure you stay on paths when enjoying this preserve, to avoid damaging this special and fragile ecosystem.

Serpentine Geology

In the middle of the Pacific Ocean, heated magma rises at thin parts of the earth's crust, creating ridges. Mantle minerals such as olivine and pyroxene, rich in magnesium and iron, combine with sea water, forming serpentinite.

Along California's coastal fault line, the Pacific Plate slowly runs into the North American Plate. Some of the serpentinite formed mid-ocean is shoved up into the coastal mountains, joining a jumbled confusion of rocks from both plates.

On the earth's surface, serpentinite breaks up into soil just as other rocks do. However, its concentration of magnesium and heavy metals, and its lack of traditional plant nutrients such as calcium, phosphorus and potassium, make it unlivable for most plants.

Serpentine rocks have been arriving along the coast of California for about 200 million years. Some plants that have lived here for a long time have evolved to thrive in serpentine soil. These serpentine-tolerant plants gain the great advantage of less competition from other plants.

Serpentine soil is found at the surface in the Coast Ranges, Klamath Mountains and Sierra Nevada foothills. When serpentine soil concentrations are high enough, California native plants that have evolved to thrive in them predominate, creating distinctive ecosystems.

Saving Ring Mountain

The rolling grasslands of what is now Ring Mountain Preserve are part of the ancestral home of the Coast Miwok, an indigenous people who occupied the area for over 5,000 years.

In 1834, Ring Mountain was part of an 8,000-acre land grant deeded to John Reed. The Reed family and descendants used it for grazing and started development of the lower slopes in the 1900s.

In the 1940s, the Army took over the property, bulldozing large terraces out of the slopes, and pushed serpentine soil to places it didn't exist before. In the 1950s, the highest part of the mountain served as the location for a large 16" gun installation. When the army left, it removed the bunkers but left the terracing and red chert platforms they had built.

In the 1960s, a descendant of the original land grant family attempted to develop most of the property, with stiff resistance from local conservationists.

Dr. Robert West, a member of the local California Native Plant Society, observed and photographed a lily he didn't recognize while hiking on the ridge in 1971.



Photo Vernon Smith



Photo Steve Matson

The browns of this newly discovered flower and foliage blended in with the drying grasses amongst which it grew, which helps explain why this amazing plant hadn't been noticed before.

Dr. West had discovered a plant that grows nowhere else in the world – the Tiburon Mariposa Lily. This gave new urgency to the fight against development.

In 1980, the Nature Conservancy designated Ring Mountain as a unique example of serpentine grassland and worked with the developers over several years to purchase and restore 572 acres that became known as the Ring Mountain Preserve, dedicated in 1983.

In 1995, the Nature Conservancy transferred ownership to the new-formed Marin County Open Space District, which presently maintains this gem of a plant community.

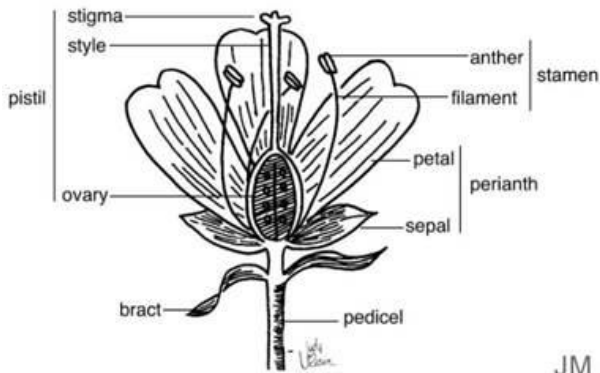
The Marin Chapter of the California Native Plant Society has focused on Ring Mountain for a long time. They've donated funds to the Ring Mountain Fund, led many field trips to the area, and have helped with the restoration of this special site.

In 2022, the Marin Chapter of the California Native Plant Society CNPS and Marin County Open Space developed a program to train and manage docents on Ring Mountain. This book is an outgrowth of that program.

Glossary

Here's a quick glossary. For more, see glossary.PlantID.net.

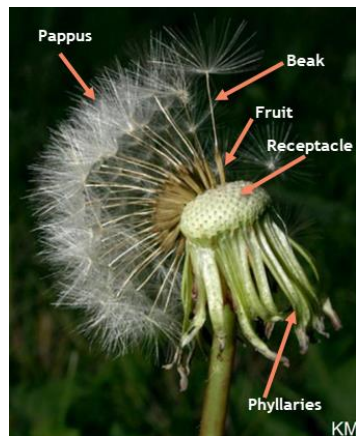
Flower Parts



Male **pollen**, stored in an **anther** sac, blows in the wind or is brought by a **pollinator** to a female **stigma** of another member of the same species. Pollen travels down the **style** to the female **ovary** causing **pollination**, starting a genetically new life. Each species makes variations on this general plan.

Aster (Composite) Flowers

Composite flowers have many individual **florets**: **ray** and/or **disk** flowers. Florets can be male, female, both or infertile, based on the species pattern. **Pollinated** fruit typically grows **pappus** so the mature **seed** can float away on the wind.



Leaf Arrangements



alternate



opposite



whorled

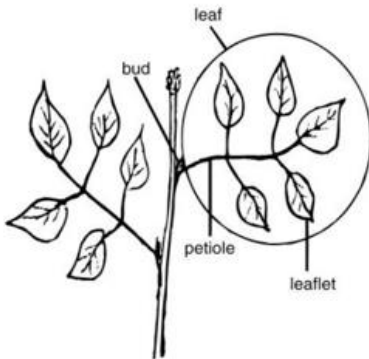


basal

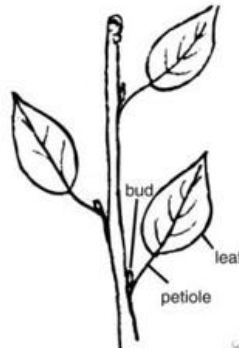
JM

Simple and Compound Leaves

Compound leaflets connect to a stalk that connects to the stem. Simple leaves connect directly to the stem.



Compound Leaf



Simple Leaf

JM

Non-native plants are those that have been recently introduced to an area. **Native** plants have lived there for hundreds or thousands of years, without help from humans.

Endemic plants are found in a specific geographical area and are not native elsewhere in the world. Plants endemic to the **California Floristic Province** grow natively only in California and small adjacent parts of Oregon, Nevada and Baja.

Annual plants grow from seed, reproduce, and die in one growing season. **Perennial** plants grow over several seasons. They're often bigger than annuals.

Acknowledgements

Kristin Jakob has been studying the plants of her native Marin county since she was 12 and has been active on the Marin CNPS board for over 40 years. She's spent many happy hours with Bruce Homer-Smith, choosing species and improving the descriptions that appear here.

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