Flora of the Peninsula

An efield Guide to the Vascular Native Plants of the Palos Verdes Peninsula




By: Neil Uelman

Dedication

This efield guide is dedicated to the native plants of the Palos Verdes Peninsula; thank you for letting me tell your story and teaching me your secrets. This efield guide is also dedicated to all the people that have strived to protect, preserve, and educate about the native plants and open spaces of the Palos Verdes Peninsula.

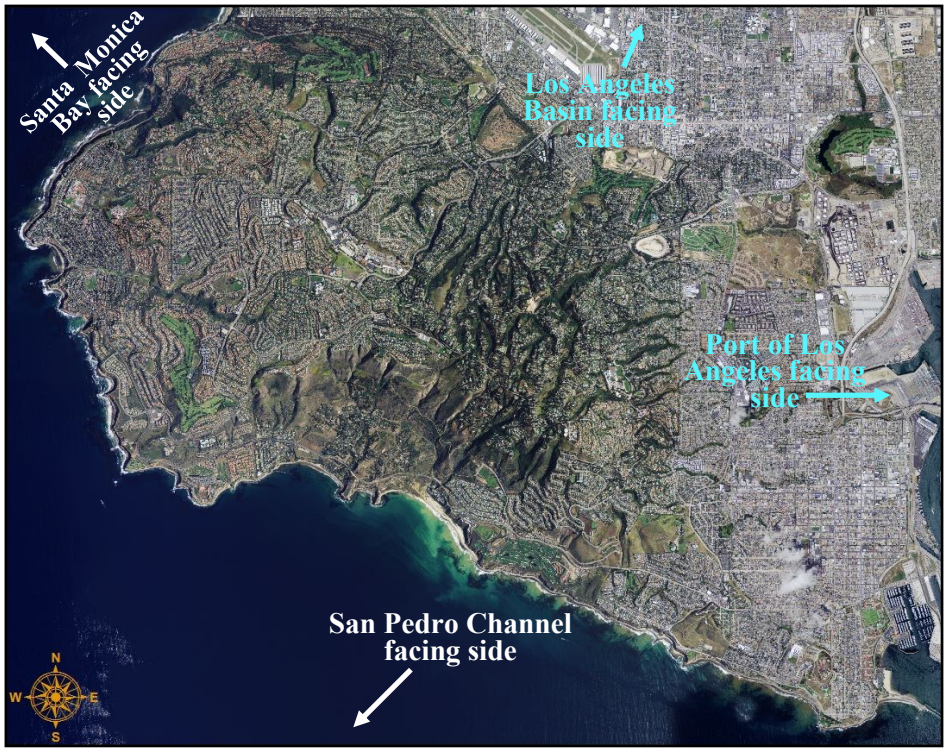


Preface

Rolling hills, breathtaking vistas, rugged and windswept bluffs, carved canyons, cloud-filled skies−set to the background of a vast blue ocean or bathed in a deep marine layer−the Palos Verdes Peninsula possesses all of these and more. The native plants of the Palos Verdes Peninsula bring all these scenes alive with color, texture, smells, and excitement. This is an efield guide to the native vascular flora of the Palos Verdes Peninsula. It encompasses 12 years of fieldwork and shows all vascular native plants that I have encountered in and out of nature reserves on the Palos Verdes Peninsula. This efield guide is designed to help you identify the native plants you come across on the Palos Verdes Peninsula. In this efield guide, 242 species are represented. Each species page is accompanied by full color photographs showing everything from overalls of the plants to microscope photos of plant parts. In addition, common names, scientific names, flowering times, and plant descriptions accompany each page. Get outside and start enjoying all the wonders and excitement that the native vascular plants of the Palos Verdes Peninsula have to offer. Cheers!



Palos Verdes Peninsula (PVP)



The Palos Verdes Peninsula (PVP) is situated on the southwestern edge of Los Angeles County and extends into the Pacific Ocean from the mainland. The PVP is known for its cool, moist maritime climate, steep coastal bluffs, terraced hillsides, island history, and remnant patches of native plant communities such as coastal sage scrub, willow riparian, back dune, coastal bluff scrub, grassland, and chaparral. These remnant patches dot the landscape and represent some of the last remaining stands of these plant communities between Orange County and the Santa Monica Mountains.

It is characterized by steep coastal bluffs up to 60 m tall, terraced hillsides, and numerous drainages, including Miraleste Canyon, Que Viento Canyon, Altamira Canyon, Agua Amarga Canyon, Malaga Canyon, and George F Canyon, among others. The PVP is 15 km long and 8 km wide and includes both the Palos Verdes Hills and the San Pedro Hill. These hills have a mixture of suburban communities and open space. Access to most open spaces is via over 1,700 acres managed by the Palos Verdes Peninsula Land Conservancy. Elevation of the PVP ranges from sea level to 451 m at the top of San Pedro Hill. The PVP has a Mediterranean climate and typically receives its rainfall from late fall through late spring (November to April). The average rainfall on the PVP is up to 16 inches (Gale 1988). The temperature on the PVP typically varies from 51˚F to 76˚F and is rarely below 46˚F or above 84˚F (Gale

1988). Frost events on the PVP are rare. The PVP has a strong maritime influence, and dense sea fog is common year-round. The dense sea fog is especially prevalent during late spring and early summer (May through July), and these months often see cloudiness persist for weeks. The PVP has an intriguing geological history that is relevant to the biogeography of its extant flora and fauna. Tectonic movements that eventually gave rise to the peninsula began in the Pliocene (5.3 mya to 2.6 mya) and resulted in the submarine formation of a doubly plunging anticline along the south side of the northwest-trending Palos Verdes fault (Woodring et al. 1946, Dibble 2000). This anticline emerged first as an island during the early Pleistocene (ca. 2.8 mya), becoming part of the mainland Los Angeles Basin only by the end of the Pleistocene, around 11,700 ya (Woodring et al. 1946, Dibble 2000). The oldest rocks found on the PVP are from the Jurassic Period (150 mya). These rocks, known as Catalina Schist, form the lowest layer of the PVP. Lying atop the Catalina Schist is a diverse mixture of sands, silts, gravels, and clay, which provides numerous substrate types for the vegetation communities of the PVP. Coastal sage scrub (CSS), which is one of the major plant communities found on the PVP, primarily consists of *Artemisia californica*, *Salvia leucophylla*, *Encelia californica*, *Eriogonum cinereum*, *Eriogonum fasciculatum*, *Opuntia oricola*, *Opuntia littoralis*, *Malosma laurina*, *Stipa lepida*, *Melica imperfecta*, *Elymus condensatus*, and *Rhus integrifolia*. An interesting component of the PVP CSS is that it is dominated by *Rhus integrifolia*. Another major plant community found on the PVP is riparian woodland. The PVP's riparian woodland can be found in most canyons where there is seasonal or perennial water flow. The riparian woodland primarily consists of *Salix lasiolepis*, *Salix laevigata*, *Artemisia douglasiana*, *Baccharis salicifolia* subsp. *salicifolia*, *Urtica dioica* subsp. *holosericea*, *Toxicodendron diversilobum*, *Rhus integrifolia*, *Rubus ursinus*, and *Sambucus mexicana*. The last major plant community on the PVP is coastal bluff scrub. The PVP's coastal bluff scrub primarily consists of *Atriplex lentiformis*, *Encelia californica, Opuntia littoralis*, *Opuntia oricola*, *Cylindropuntia prolifera*, *Suaeda taxifolia, Lycium californicum*, *Isocoma menziesii var. sedoides*, *Extriplex californica*, *Eriogonum parvifolium*, *Rhus integrifolia*, and *Cleomella arborea* var. *arborea*.

The unique biogeographical relationships of the PVP to the Channel Islands and coastal southern California present numerous interesting questions and conservation concerns regarding its vascular flora.



Palos Verdes Peninsula



Santa Monica Bay facing side



Los Angeles Basin facing side

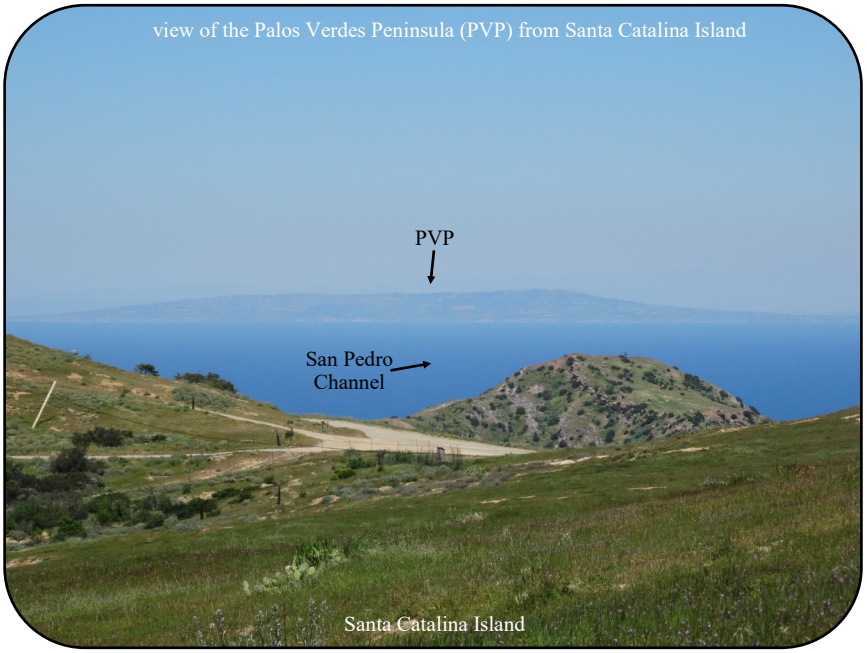


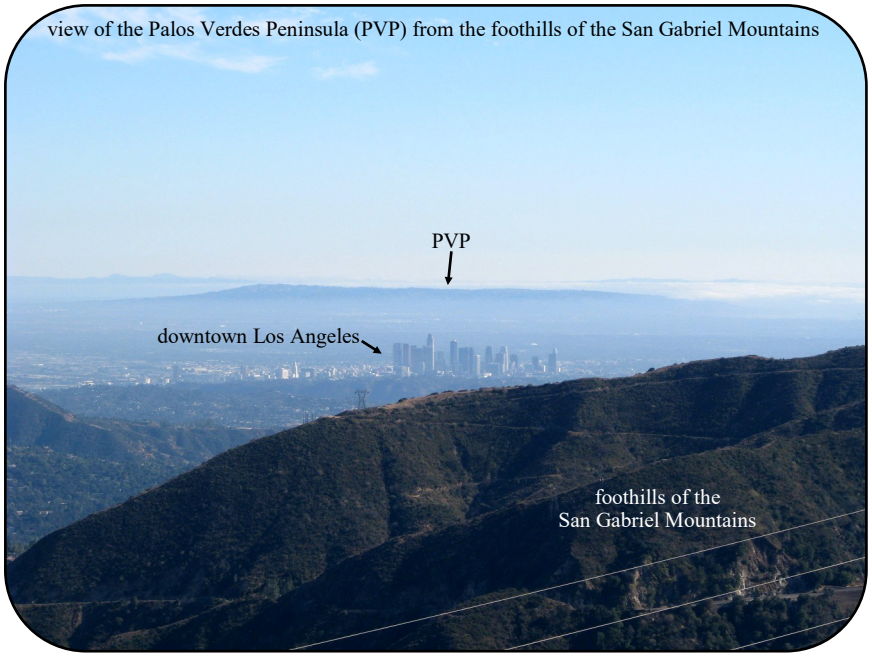
San Pedro Channel facing side



Port of Los Angeles facing side

Palos Verdes Peninsula





Palos Verdes Peninsula
Plant Communities

The native plant communities found on the PVP are coastal sage scrub, coastal bluff scrub, chaparral, back dune, grassland, riparian woodland, and marine rocky intertidal.









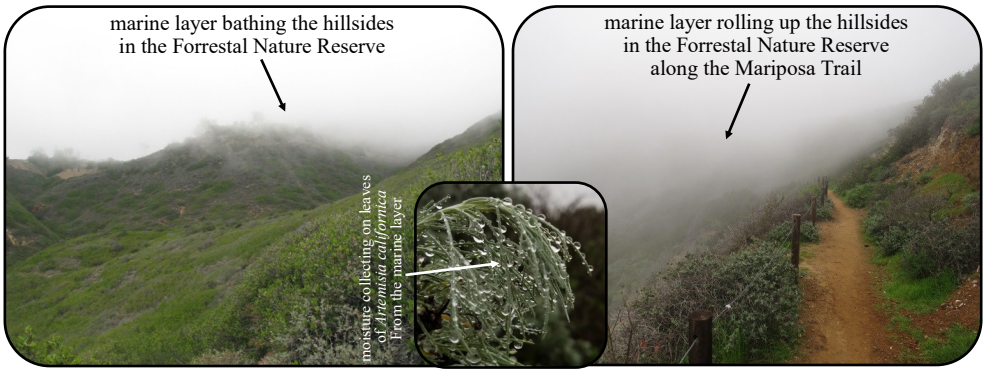






Palos Verdes Peninsula
Plant Communities

Since the PVP is situated on the coast of the South Bay area in southern California, temperatures on the PVP are fairly pleasant year around, and in addition, it can often become bathed in a marine layer throughout the year. This coastal marine layer provides the plants of the PVP with much needed supplemental moisture (outside of average rainfall) throughout the year, especially during the summer months.





PVP Plant Communities
Marine Rocky Intertidal Surfgrass

Marine rocky intertidal surfgrass community is found throughout the coast of the PVP. It is in the area between marine and terrestrial habitat in turbulent waters at or below the low tide line. The organisms of this zone are well adapted to being exposed for periods of time with fluctuating tides and wave action. The aquatic flowering plant that dominates this turbulent rocky area along the PVP waters is *Phyllospadix torreyi* or commonly known as surfgrass (and yes this plant produces underwater flowers!). This species also provides a whole suite of ecosystem services as well as provides refuge for many marine organisms.


Phyllospadix torreyi exposed at low tide

exposed



submerged




Phyllospadix torreyi submerged

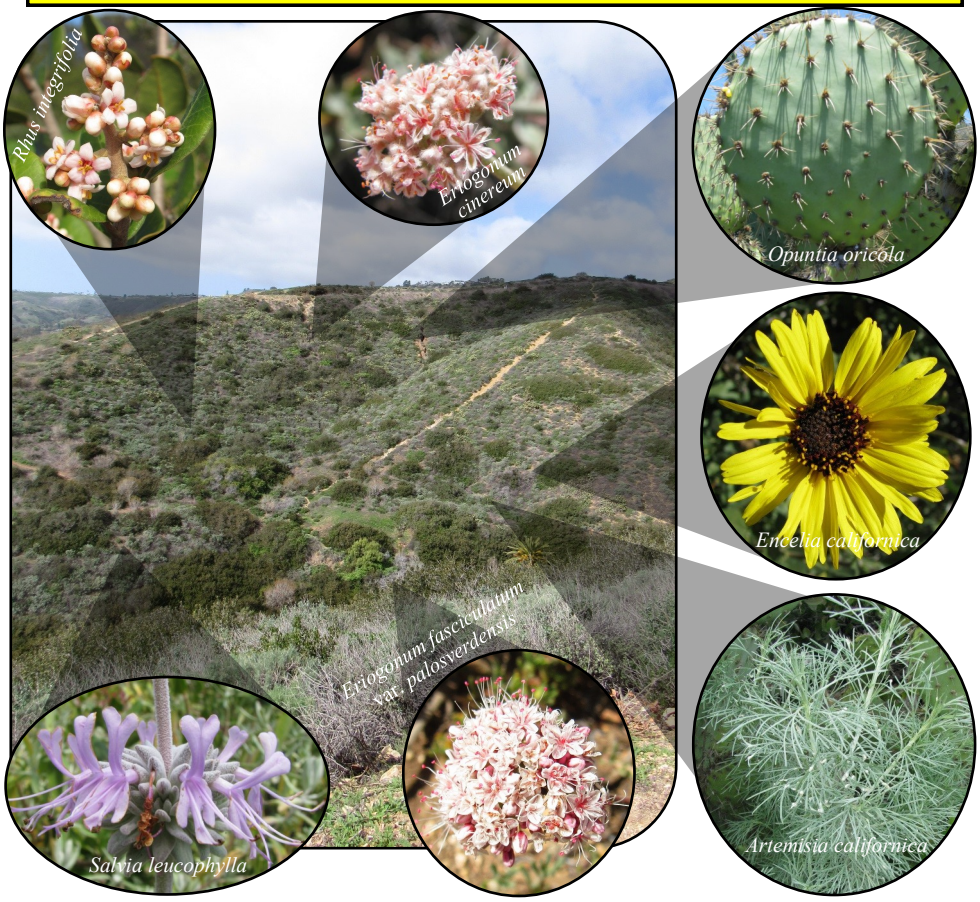
PVP Plant Communities
Coastal Bluff Scrub

Coastal bluff scrub is found throughout the steep coastal bluffs PVP. This plant community is constantly exposed to high salinity, fierce winds, extreme exposure, and erosion. The plants of this community are shrubs, subshrubs, herbs, and succulents. The dominant plants of this community on the PVP are *Atriplex lentiformis*, *Dudleya lanceolata*, *Dudleya virens* subsp. *insularis*, *Encelia californica*, *Rhus integrifolia*, *Cylindropuntia prolifera*, *Opuntia oricola*, *Opuntia littoralis*, *Isocoma menziesii* var. *vernonioides*, *Isocoma menziesii* var. *sedoides*, *Extriplex californica*, *Eriogonum parvifolium*, *Mirabilis laevis* var. *crassifolia*, *Suaeda taxifolia*, *Lycium californicum*, *Peritoma arborea* var. *arborea*, *Aphanisma blitoides*, *Phacelia hubbyi*, and *Lupinus succulentus*.



PVP Plant Communities
Coastal Sage Scrub

Coastal sage scrub is the most commonly encountered plant community on the PVP. It is found throughout the PVP, most extensively on south-facing slopes. Soft shrubs and subshrubs often comprise this plant community. The native plants in this community usually have soft foliage and many species are aromatic. A good amount of the plants of this community go dormant in response to drier times (summer to fall). As ground moisture becomes less available, the plants drop leaves (drought deciduous) or reduce leaf size to conserve water. Other plants will completely die back to the ground and hangout in underground storge organs until moisture is available, while some other types of plants store water in stems or leaves (e.g., *Dudleya*, *Opuntia.*) and can be active year around. The dominant plants that make up coastal sage scrub of the PVP are *Artemisia californica*, *Salvia leucophylla*, *Salvia mellifera*, *Encelia californica*, *Eriogonum cinereum*, *Eriogonum fasciculatum* var. *palosverdensis* (unpublished name), *Opuntia oricola*, *Opuntia littoralis*, *Rhus integrifolia*, *Malosma laurina*, *Stipa lepida*, *Melica imperfecta*, *Elymus condensatus*, and *Galium angustifolium* subsp. *angustifolium*.



PVP Plant Communities
Riparian Woodland

Riparian woodland is found along stream channels throughout the PVP. Most of these stream channels are found along canyons and have seasonal or perennial water flow. Since water is available in the ground for most of the year, the stream channels become dominated by large woody tree species. Other native plant species found in this community take advantage of the shade and cooler temperatures. The dominant plants in the riparian woodlands of the PVP are *Salix lasiolepsis*, *Salix leavigata*, *Artemisia douglasiana*, *Baccharis salicifolia* subsp. *salicifolia*, *Urtica dioca* subsp. *holosericea*, *Toxicodendron diversilobum*, *Sambucus mexicana* and *Rubus ursinus*.



PVP Plant Communities
Riparian Woodland



PVP Plant Communities
Chaparral

Chaparral is usually found along north-facing slopes on the Santa Monica Bay and Los Angeles Basin facing sides of the PVP. Due to the extensive development on these sides of the PVP, its occurrence nowadays is patchy and restricted primarily to canyons. The plants that make up this community are more arboreal (developing a single main trunk and producing a canopy) than shrubby and tend to be evergreen and hard-leaved. These plants also have extensive taproots that tap into the deep ground water allowing them to stay green all year. The dominant plants that comprise this community on the PVP are *Rhus integrifolia*, *Heteromeles arbutifolia*, and *Prunus ilicifolia* subsp. *lyonii*. The PVP chaparral community appears similar to chaparral seen on nearby Santa Catalina Island.



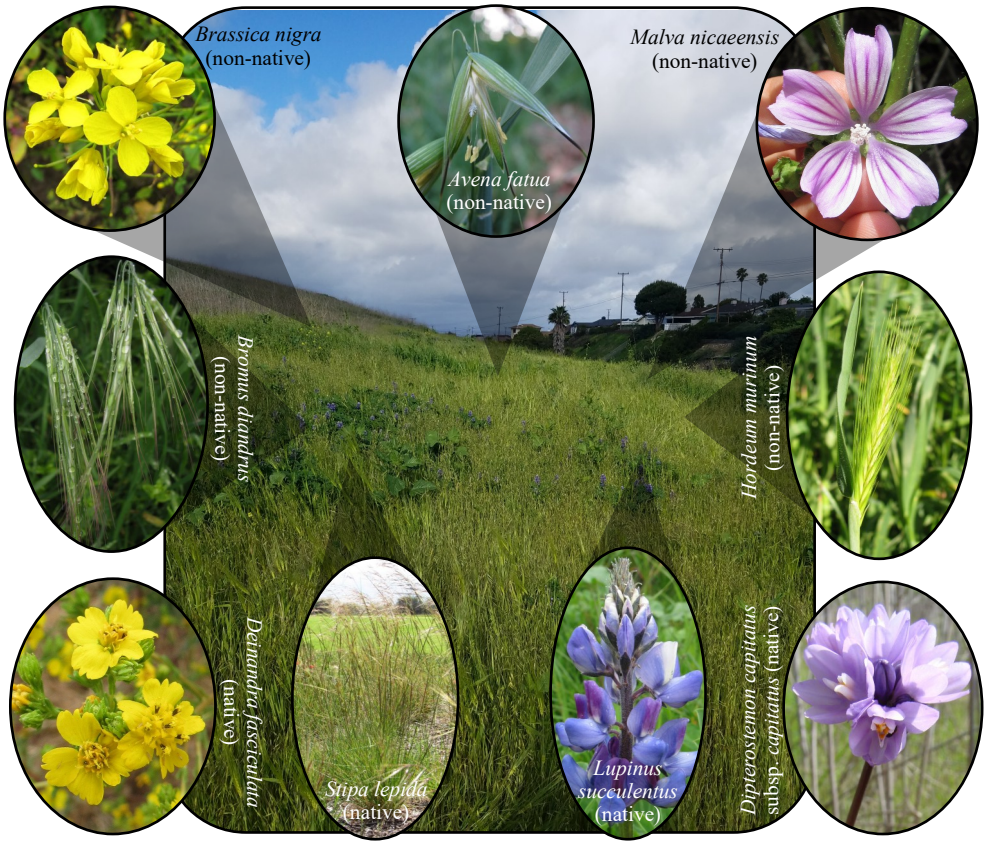
PVP Plant Communities
Back Dune

A back dune plant community is found at Malaga Dunes on the PVP. The Malaga Dunes area is a back dune that was once part of an extensive dune system that covered the coastal area of the present day South Bay area. This back dune is situated furthest back from the historical frontal dunes and is unique and special. The soil is a sandy clay combination. The dominant native plants that make up this back dune community are *Clarkia purpurea* subsp. *quadrivulnera*, *Croton californicus*, *Acmispon glaber* var. *glaber*, *Lupinus truncatus*, *Camissoniopsis lewsii*, *Camissoniopsis bistorta*, *Ericameria ericoides*, *Phacelia ramosissima*, *Rumex hymenosepalus*, *Artemisia dracunculus*, and *Pseudognaphalium stramineum*.

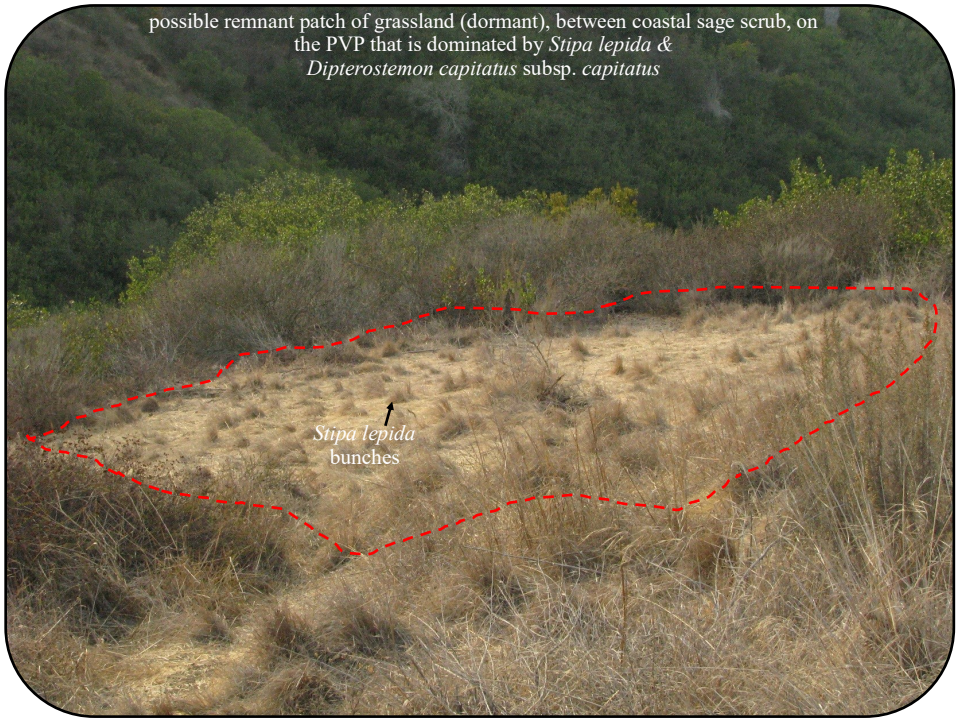


PVP Plant Communities
Grassland

Grasslands are found throughout the PVP. Nowadays, these grasslands have become type converted to mostly non-native grasslands and have increased in size due to historical disturbances such as extensive grazing, agriculture (dry farming), and development on the PVP. Historical native grasslands on the PVP were probably small patches found in spaces between coastal sage scrub on the hillsides (see pg. 18). These native grasslands were probably dominated by *Stipa lepida*, *Stipa cernua*, *Bromus sitchensis* var. *carinatus*, *Festuca microstachys, Dipterostemon capitatus* subsp. *capitatus*, *Brodiaea terrestris subsp. kernensis*, *Lupinus succulentus*, *Calochortus catalinae*, *Castilleja exserta*, *Deinandra fasciculata*, *Amsinckia intermedia*, and *Asclepias fascicularis.* The native plant species that can still be found in the present-day PVP grasslands are *Stipa lepida*, *Stipa cernua, Bromus sitchensis* var. *carinatus, Dipterostemon capitatus* subsp. *capitatus*, *Deinandra fasciculata*, and *Lupinus succulentus.* However, these grasslands are now dominated by non-natives species such as *Avena fatua*, *Avena barbata*, *Bromus catharticus*, *Bromus diandrus*, *Bromus madritensis*, *Brassica nigra*, *Hordeum vulgare*, *Hordeum murinum*, *Malva nicaeenis*, *Malva parviflora*, and *Centaurea melitensis*.

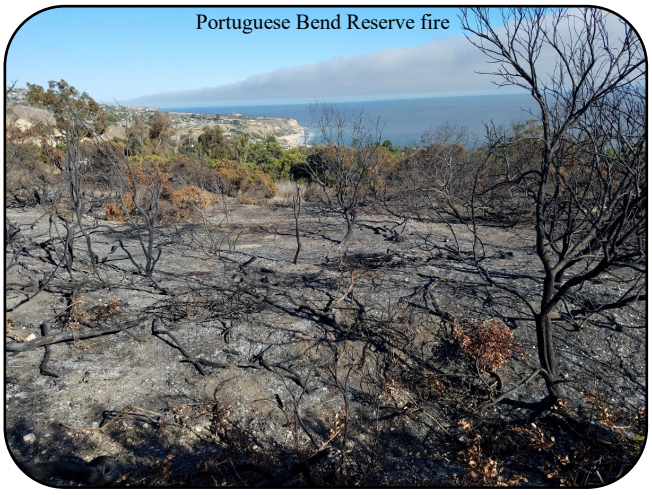


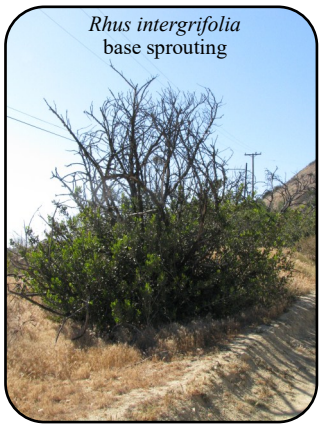
PVP Plant Communities
Grassland



Palos Verdes Peninsula
Fire

Many of the native plants on the PVP appear to be fire adapted. Perennial shrubs such as *Rhus integrifolia*, *Artemisia californica*, *Heteromeles arbutifolia, Malosma laurina, and Isocoma menziesii var. vernonioides* have been found resprouting after fires. Native annual species and corms/bulbs have also come up in great abundance following fires, like *Emmenanthe penduliflora* (see pg. 21) and *Calochortus catalinae*. Historically fire probably opened up plant communities on the PVP and helped to maintained a good balance of native plants. Nowadays, fires on the PVP convert the areas that burn to non-native grasslands or monocrops of *Brassica nigra*.


Portuguese Bend Reserve fire


Rhus intergrifolia
base sprouting


Three Sisters Reserve fire


Heteromeles arbutifolia
base sprouting

Palos Verdes Peninsula
Fire



Isocoma menziesii var. *vernonioides*
base sprouting after a fire

Palos Verdes Peninsula
Fire

Emmenanthe penduliflora following the
2009 Portuguese Bend Reserve Fire



Emmenanthe penduliflora

Palos Verdes Peninsula
Historical Plants & Herbaria

Herbaria records have helped to shed light on what native plants where historically found on the PVP. Currently, a few species appear to be extirpated from the PVP as they are only seen in herbaria records but are no longer able to be found in the wild on the PVP. For example, plants such as *Cirsium occidentale* and *Ranunculus californicus* appear to be extirpated.



Cirsium occidentale from 1931

Ranunculus californicus from 1931



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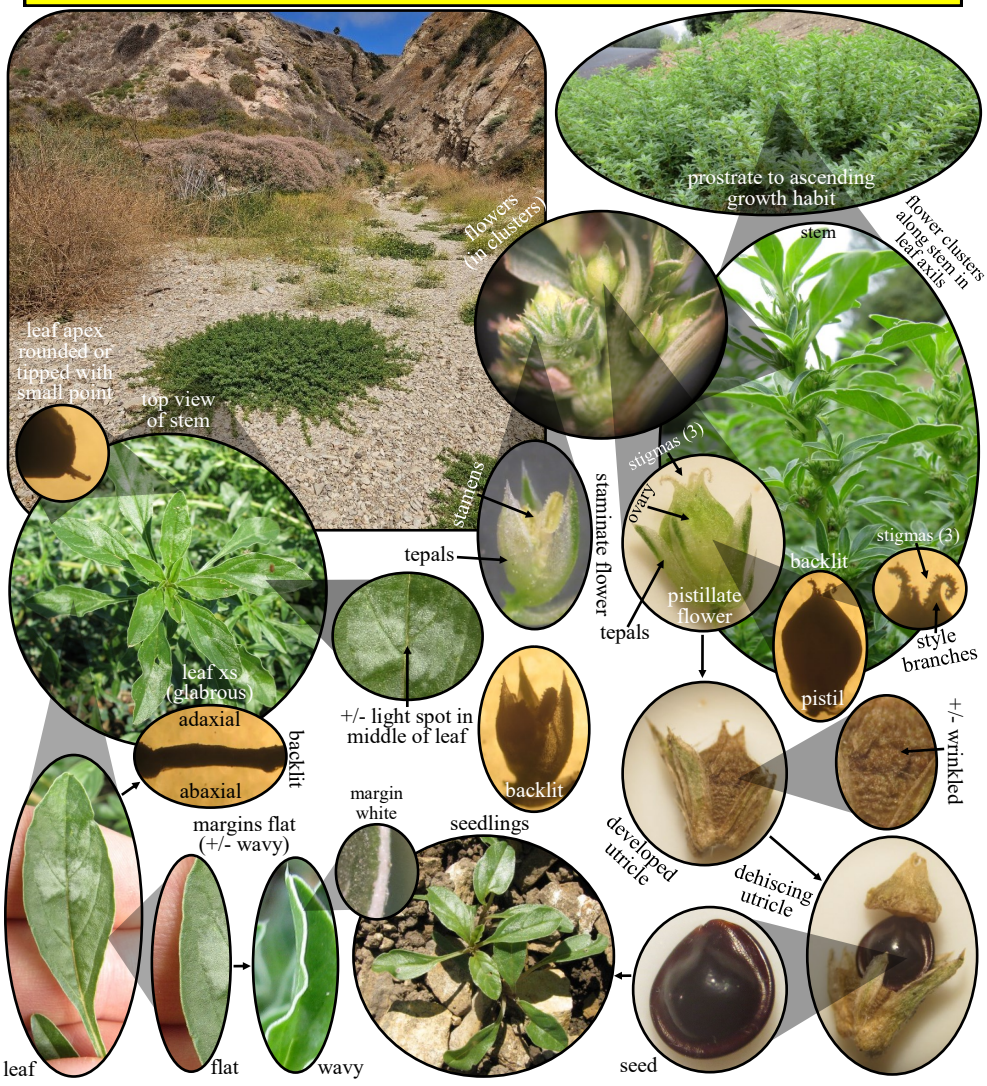
Prostrate Amaranth (*Amaranthus blitoides*)

Order: Caryophyllales

Family: Amaranthaceae (Spinach Family)

Flowers: July - November

Amaranthus blitoides is an annual herbaceous plant that is prostrate to ascending. It is found throughout the peninsula mostly in disturbed areas where it can form large mats. The overall plant is glabrous. The petiole of the leaf is usually long and the blade is obovate, elliptic, or spatulate. Leaf margins are usually entire (sometimes with white coloration), and can sometimes be undulated. The flowers are in clusters in the leaf axils and the staminate flowers are intermixed with the pistillate flowers. Staminate flowers have 3 to 4 tepals and 3 stamens. Pistillate flowers have 3 to 5 tepals and the style branches are spreading with usually 3 stigmas. The fruit is an utricle. The seed is black, shiny, and lenticular.



Laurel Sumac (*Malosma laurina*)

Order: Sapindales

Family: Anacardiaceae (Cashew Family)

Flowers: June - July

Malosma laurina is an evergreen shrub to occasional small tree. It is found throughout the peninsula near canyons and on slopes. The evergreen leaves are simple and leathery. The petiole is long. In drier times, the leaves can fold along the midrib giving them a “taco shape”. New growth is a deep red color. The plant is polygamodioecious (staminate plants are present, pistillate plants are present as well as andromono-



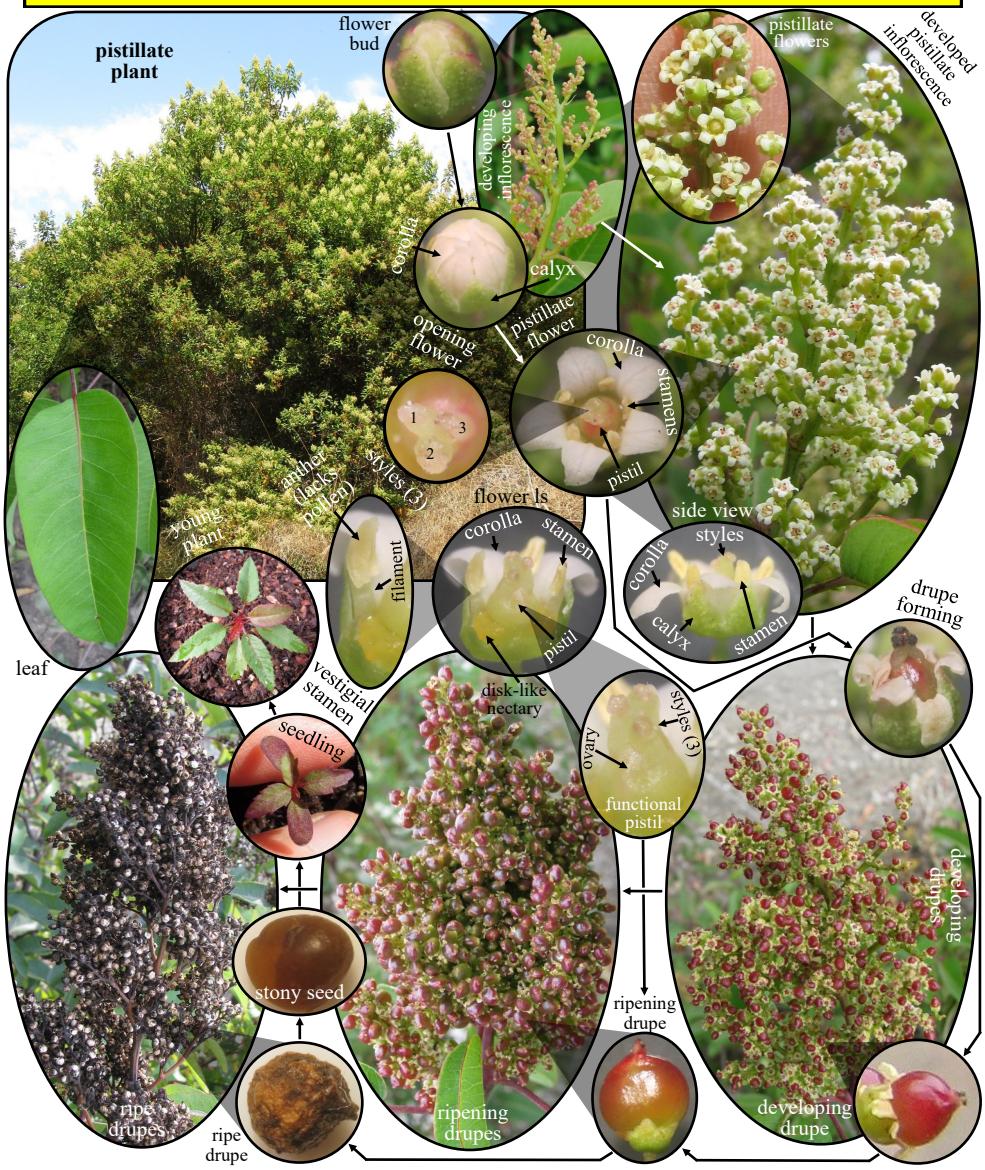
Laurel Sumac (*Malosma laurina*)

Order: Sapindales

Family: Anacardiaceae (Cashew Family)

Flowers: June - July

ecious plants). For the andromonoecious plants, the majority of flowers are staminate but bisexual flowers are also present. All flower types are small with white corollas. Staminate flowers have large fertile stamens (pollen present) and vestigial pistils. Pistillate flowers have fertile pistils with vestigial stamens (anthers lack pollen, filaments reduced). Bisexual flowers have fertile pistils and stamens. Fruit is a drupe. The seed is brownish, +/- spherical and stony.



Putative Hybrid PVP Lemonade Berry

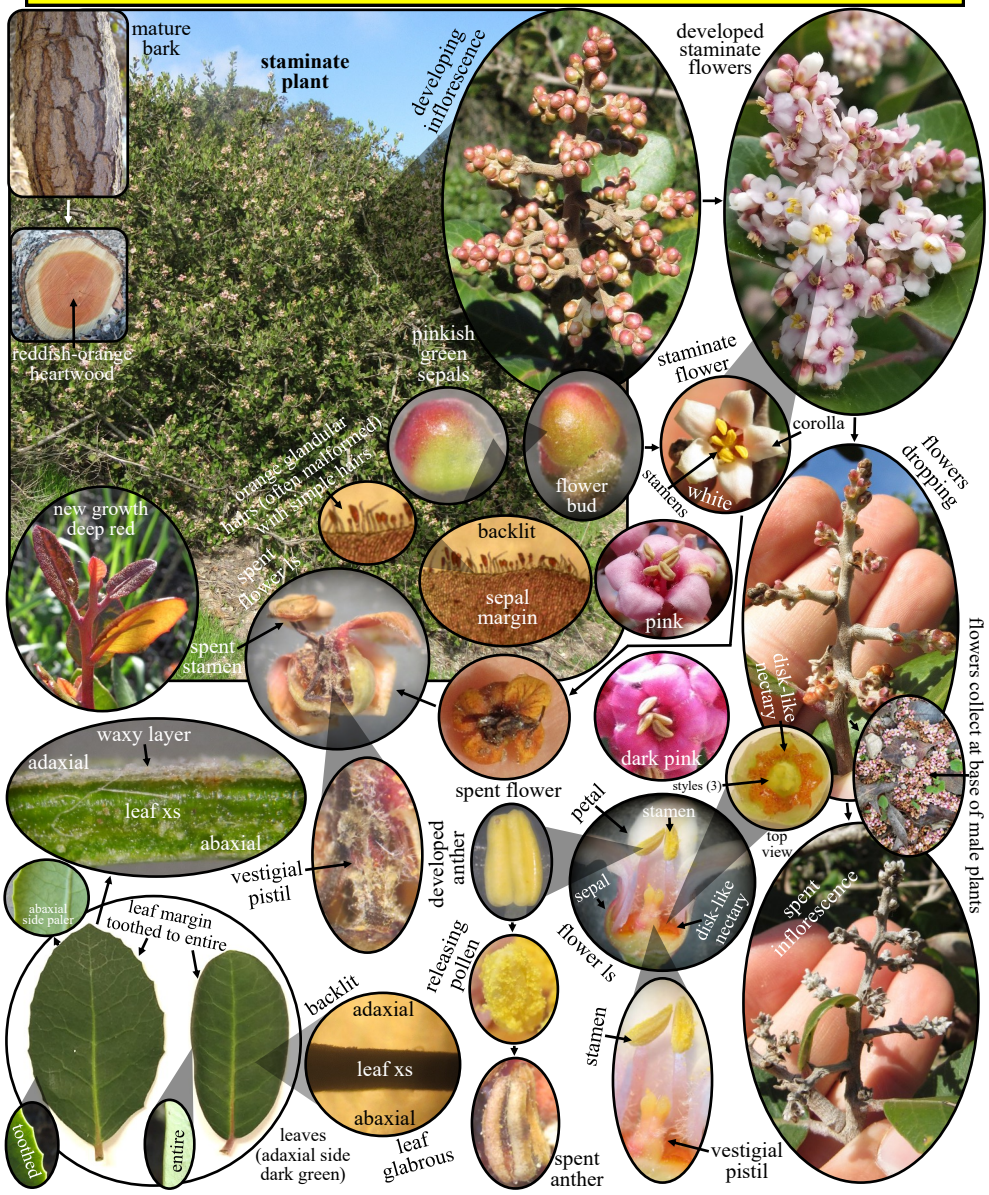
(*Rhus integrifolia* x *Rhus ovata*)

Order: Sapindales

Family: Anacardiaceae (Cashew Family)

Flowers: February - May

The Palos Verdes Peninsula's Lemonade Berry (*Rhus intergrifolia* x *Rhus ovata*) is a large evergreen shrub to tree. It is found abundantly (historically and present day) throughout the peninsula and is one of the most commonly encountered plants (in some areas, it can cover entire hillsides, such as in the Forrestal Nature Reserve). The author puts forth an hypothesis that the population of *R. integrifolia* on the peninsula



Putative Hybrid PVP Lemonade Berry

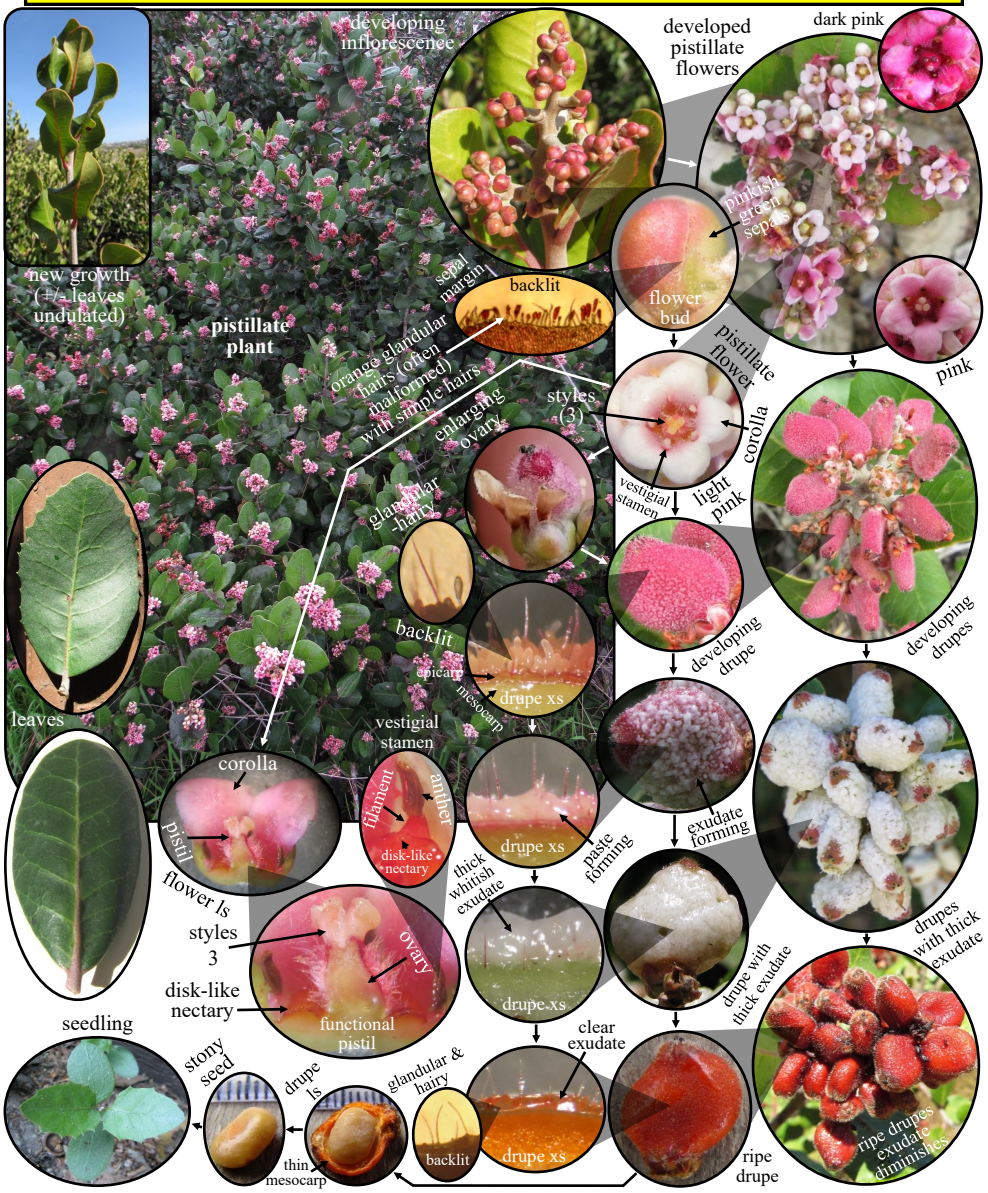
(*Rhus integrifolia* x *Rhus ovata*)

Order: Sapindales

Family: Anacardiaceae (Cashew Family)

Flowers: February - May

may be of hybrid origin (putative hybrid) and represent a stable zone of introgression (hybrid zone). The population may also be exhibiting hybrid vigor. If the peninsula's *Rhus integrifolia* population is of hybrid origin, this might help to explain the extreme abundance, vigor, and success of this plant on the peninsula (further research on this is needed). The peninsula's Lemonade Berry exhibits more of the *R. integrifo-*



Putative Hybrid PVP Lemonade Berry

(*Rhus integrifolia* x *Rhus ovata*)

Order: Sapindales

Family: Anacardiaceae (Cashew Family)

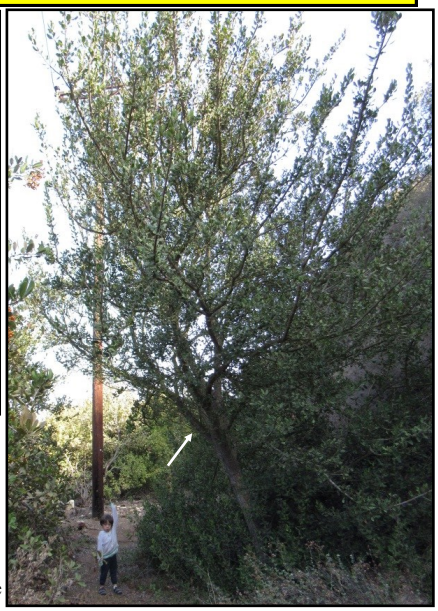
Flowers: February - May

lia parent characteristics, and less of the *R. ovata* parent characteristics, and these plants are fertile. The peninsula's Lemonade Berry also doesn't fit well with keys for *R. integrifolia*. Furthermore, plants in the field that are putative hybrids where *R. ovata* parent characteristics are more expressed and less of the *R. integrifolia* parent characteristics are expressed have been found, but these putative hybrids are very uncommon (3 total individuals known) and potentially less fertile. The population of Lemonade Berry on the peninsula appears to be mostly dioecious, but some andromonoecious (plants containing staminate flowers and bisexual flowers on the same plant) plants have been found. The andromonoecious plants appear to be uncommon. The leaves of the peninsula's Lemonade Berry are simple, leathery and have a blade that is wide-elliptic to lance-elliptic. The leaves can be flat to wavy-undulated (undulated leaves seen a lot in new growth) and have leaf margins that are entire to toothed. Branches can also sometimes curve inwards. The sepals of the flowers are pinkish green and have sepal margins that have simple hairs intermixed with orange glandular hairs (glandular hairs often malformed). Petal color can range from white to pink to dark pink. Staminate flowers contain vestigial pistils with functional stamens, and the flowers fall off the plant once spent. The pistillate flowers have vestigial stamens with functional pistils and the flowers don't fall off the plant. The fruit is a drupe that is pinkish when young and a reddish-orange color when fully ripe. Developing drupes become covered in a thick whitish exudate that is sour tasting. For fully ripe drupes, the exudate diminishes, becomes transparent, and the drupes are a reddish-orange color. The seed is stony and tannish.

See paper for more information: Young 1974 - Introgressive Hybridization in Two Southern California Species of Rhus (Anacardiaceae)). Link to JSTOR and the paper under the resource page of the website.



in some areas Lemonade Berry is the dominant plant covering hillsides



the peninsula's Lemonade Berry can reach tree like size

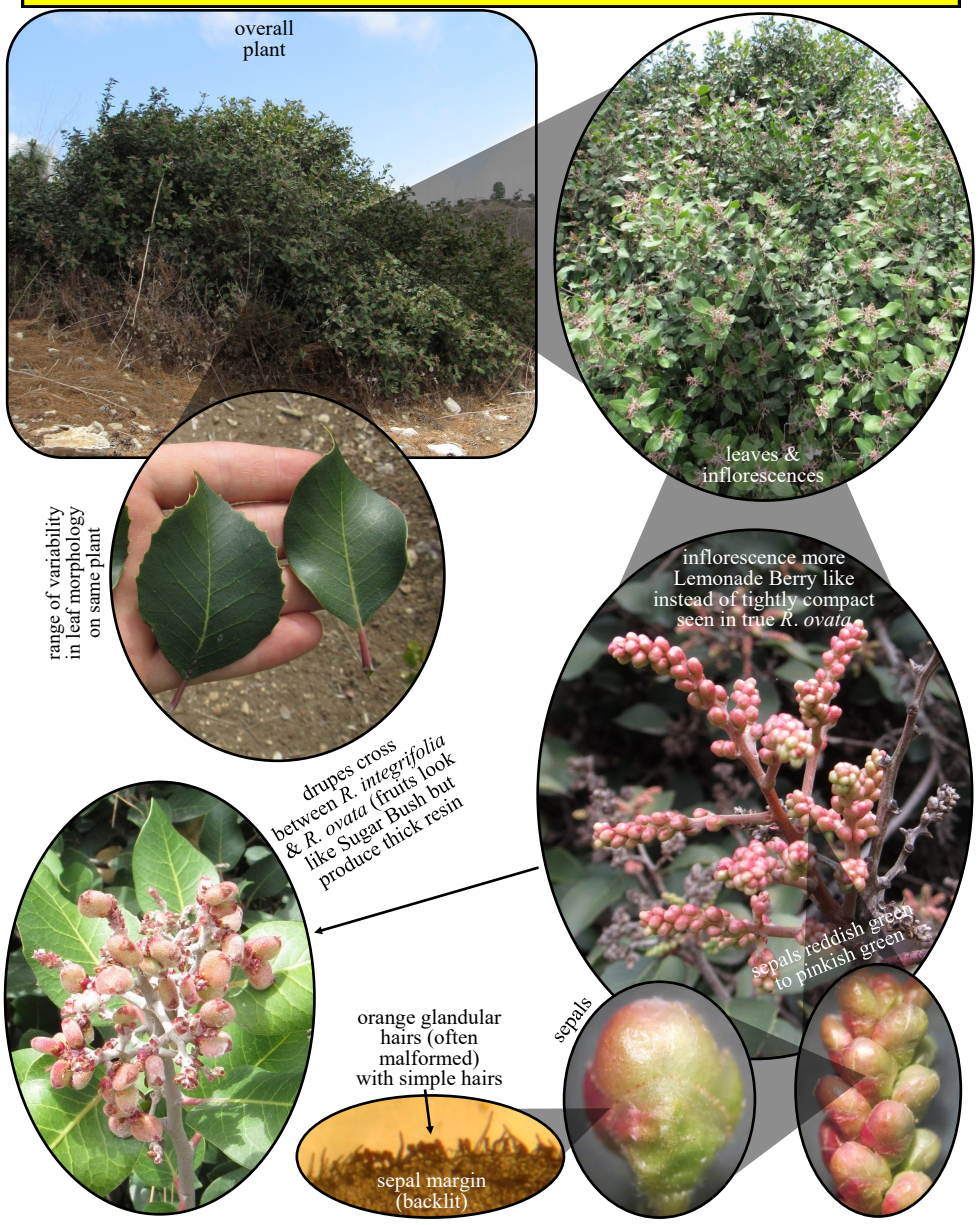
Putative Hybrid (*Rhus ovata* x *Rhus integrifolia*)

Order: Sapindales

Family: Anacardiaceae (Cashew Family)

Flowers: February - May

Putative hybrid plants where *R. ovata* parent characteristics are the dominant characteristics expressed are found on the peninsula, but these plants are very uncommon (3 known plants). These putative hybrid plants look more like Sugar Bush but have features of Lemonade Berry as well. The leaves can exhibit margins that are smooth or



Putative Hybrid (*Rhus ovata* x *Rhus integrifolia*)

Order: Sapindales

Family: Anacardiaceae (Cashew Family)

Flowers: February - May

or not as well as leaf undulation or not. There is also leaf lobing present (partial to complete lobing - making leaves 3 leaflet leaves). All these characteristics can be displayed on one individual hybrid plant.



range of leaf lobing
seen in R. ovata x R. integrifolia
putative hybrid





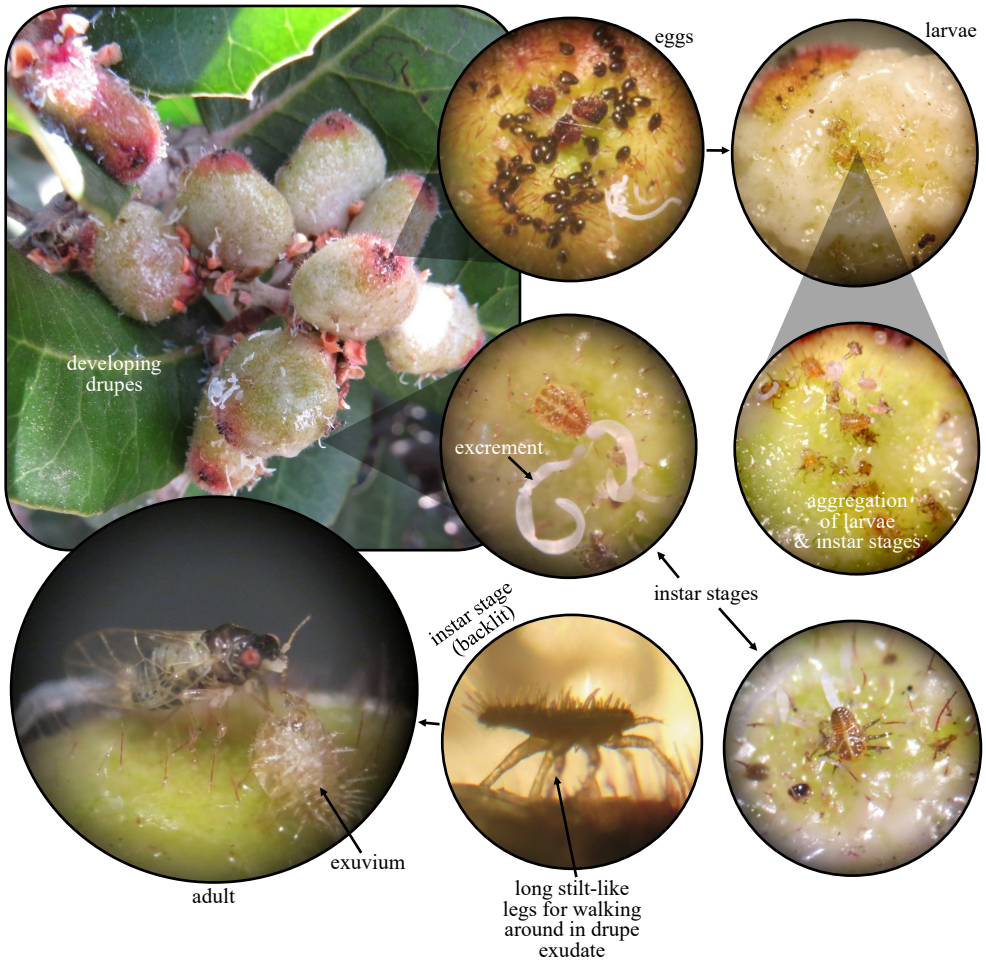




Lemonade Berry Psyllid
Calophya californica

Calophya californica is a native and endemic plant licein that is associated with *Rhus* species in California. For this species, there are leaf limited generations and fruit limited generations. Below are pictures of the fruit limited generations that can be found in abundance when the drupes are forming on Lemonade Berry on the peninsula. Eggs are deposited on terminal ends (area lacking exudate) of developing drupes and then the larvae migrate out on the exudate and then submerge in it. Once submerged, the larvae probe down through the exudate to make contact with the pericarp of the drupe to begin feeding. The rest of the instars take place in the exudate and by eclosion, the adult emerges out of the raised and anchored exuvium to fly off.

See paper for more information: Nicholas 2011 - Host induced polyphenism in the psylloid, Calophya californica Schwarz (Hemiptera: Calophyidae). Link to BioOne Complete and the paper under the resource page of the website.



Putative Hybrid PVP Lemonade Berry

(*Rhus integrifolia* x *Rhus ovata*)

Order: Sapindales

Family: Anacardiaceae (Cashew Family)

Flowers: February - May

Old growth bark of Lemonade Berry on the peninsula can support corticolous liverworts such as *Porella bolanderi*. This was seen in the Forrestal Nature Reserve.



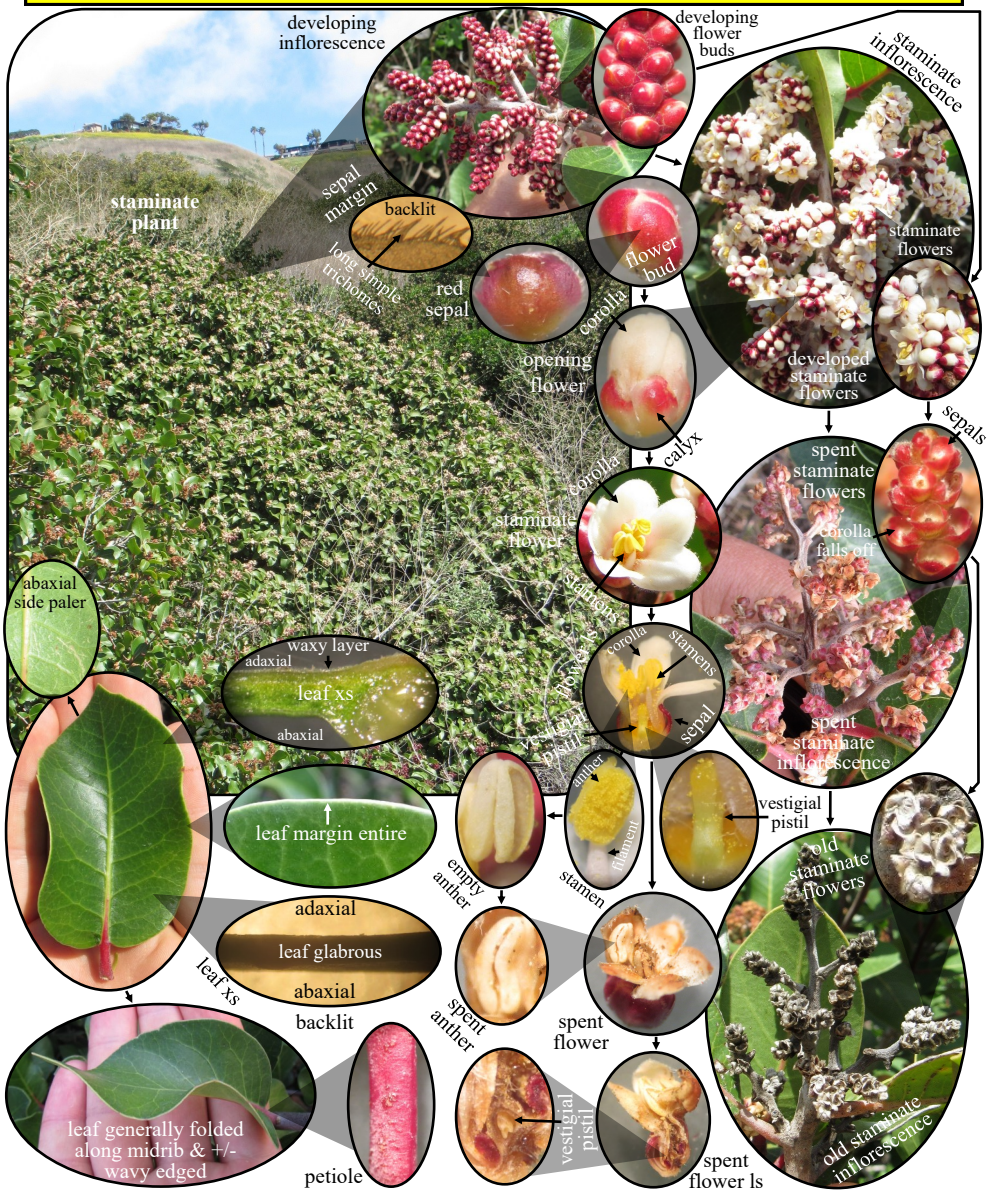
Sugar Bush (*Rhus ovata*)

Order: Sapindales

Family: Anacardiaceae (Sumac Family)

Flowers: March - May

Rhus ovata is an evergreen large shrub. It is uncommon on the peninsula and is found in a few locations. The leaves are simple, wide-ovate to elliptic, leathery, covered in a thick waxy layer, evergreen, generally folded along the midrib, and margins may be wavy-edged. Plants are generally dioecious but gynomonoecious plants can be present. Flowers have deep red sepals that have margins with long simple trichomes.



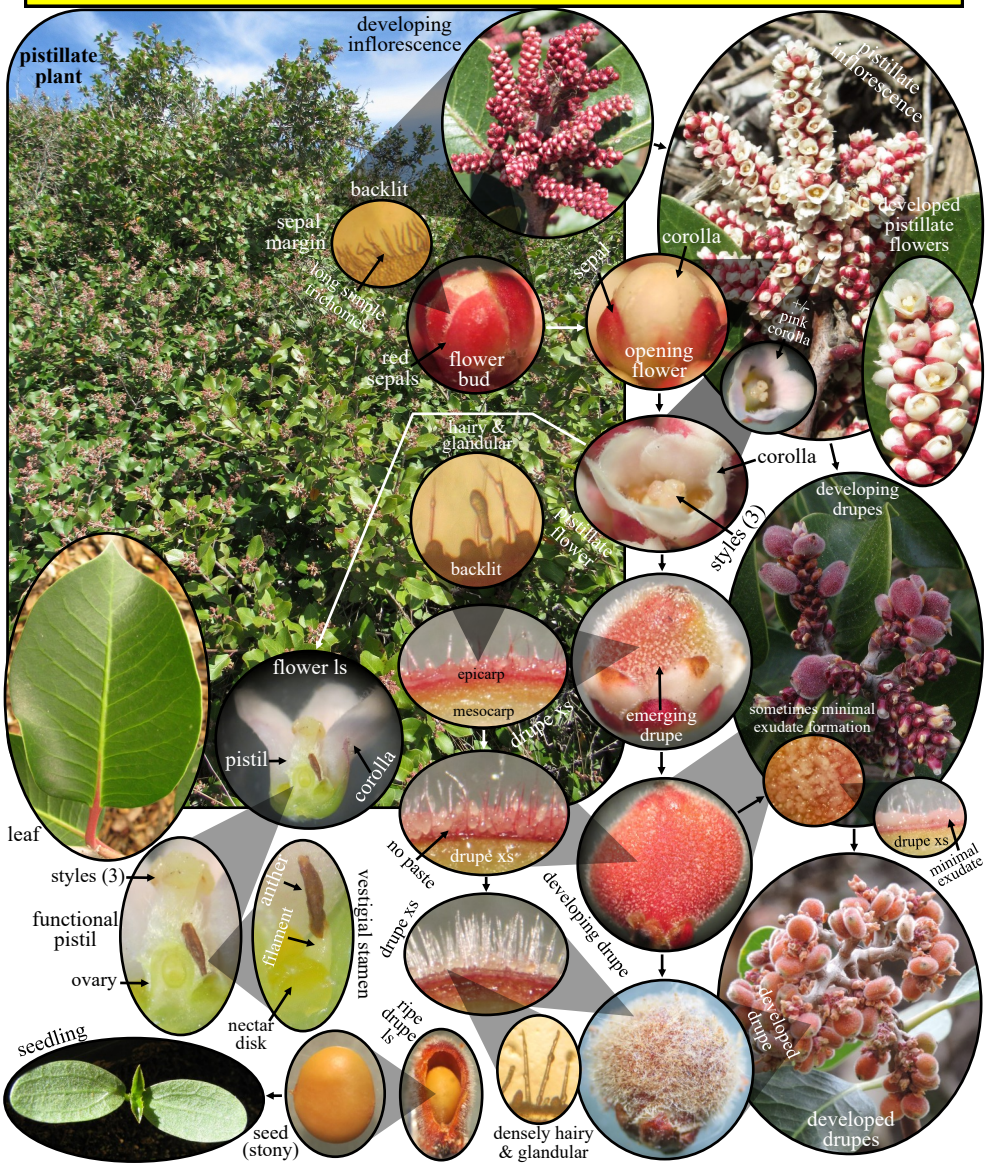
Sugar Bush (*Rhus ovata*)

Order: Sapindales

Family: Anacardiaceae (Sumac Family)

Flowers: March - May

The corolla is white but can be +/- pink. Pistillate flowers have fertile pistils and vestigial stamens. Staminate flowers have fertile stamens and vestigial pistils. Bisexual flowers have fertile pistils and stamens. The fruit is a +/- red, +/- flat drupe that is covered with many simple hairs and minimally glandular. Maturing drupes typically do not produce the whitish paste as seen in *R. integrifolia* drupes. Fully ripe drupes are fuzzy (densely hairy) in appearance. The seed is stony and tannish brown.



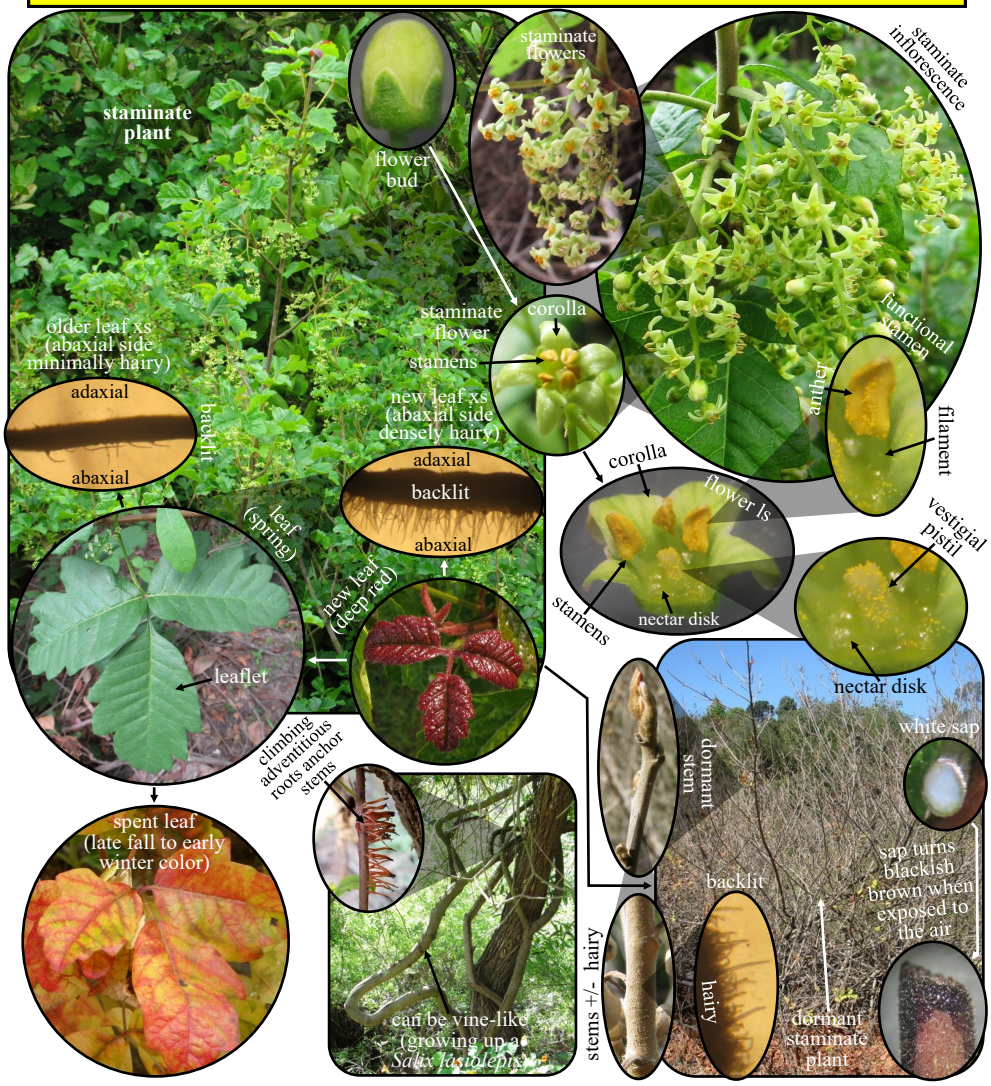
Poison Oak (*Toxicodendron diversilobum*)

Order: Sapindales

Family: Anacardiaceae (Sumac Family)

Flowers: April - June

Toxicodendron diversilobum is a perennial shrub or vine-like plant. It is found throughout the peninsula mostly within canyons. It is dioecious. The leaf (which contains urushiol that causes severe contact dermatitis) is made up of 3 leaflets (rarely 5, 7, or 9) that are resinous (giving it a shiny appearance) and generally resemble the leaves of an oak. New leaves in early spring, start out a deep red color and have an adaxial side that is glabrous while the abaxial side is densely hairy. Leaves by mid-spring, progress to a shiny green and the adaxial side is glabrous while the abaxial side is +/- sparsely hairy. This plant is a late fall to winter deciduous plant with leaves turning reddish yellow to yellowish orange color by fall. The stems are gray to



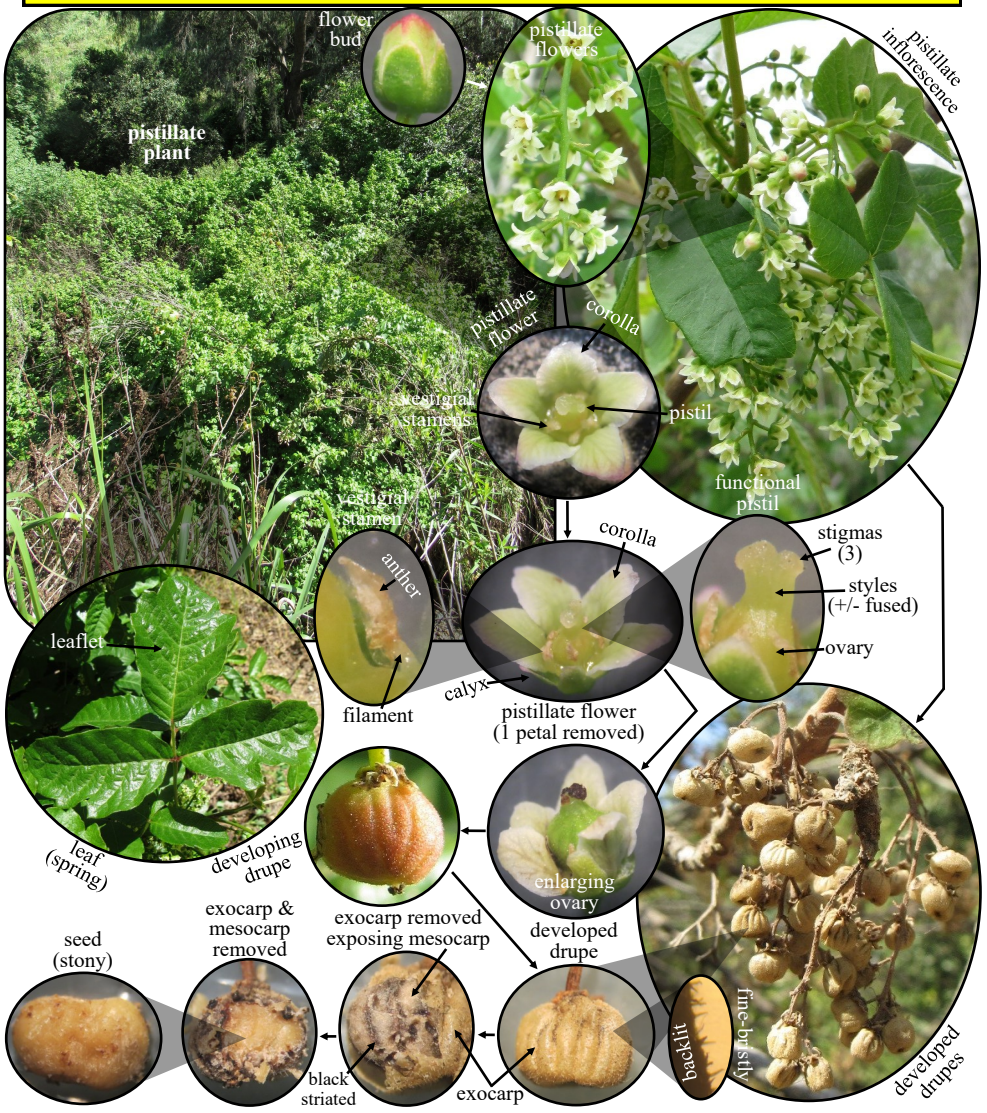
Poison Oak (*Toxicodendron diversilobum*)

Order: Sapindales

Family: Anacardiaceae (Sumac Family)

Flowers: April - June

reddish brown and are generally glabrous. The sap is milky white but dries to a black-ish color when exposed to the air. Staminate flowers have a calyx that is green and a corolla that is yellowish to white-green. Staminate flowers contain functional stamens and vestigial pistils. Pistillate flowers have a calyx that is green and a corolla that is yellow to white-green. Pistillate flowers contain functional pistils and vestigial stamens. The fruit is a drupe that is spherical and compressed with an exocarp (outer skin) creamy white, glabrous to fine-bristly (papery and +/- wrinkled when dry). The mesocarp (pulp) is white to black-striated. The seed is stony and tannish brown.



Poison Oak (*Toxicodendron diversilobum*)

Order: Sapindales

Family: Anacardiaceae (Sumac Family)

Flowers: April - June



as poison oak transitions to winter dormancy the plant produces vibrant fall colors that leaves local riparian areas full of color

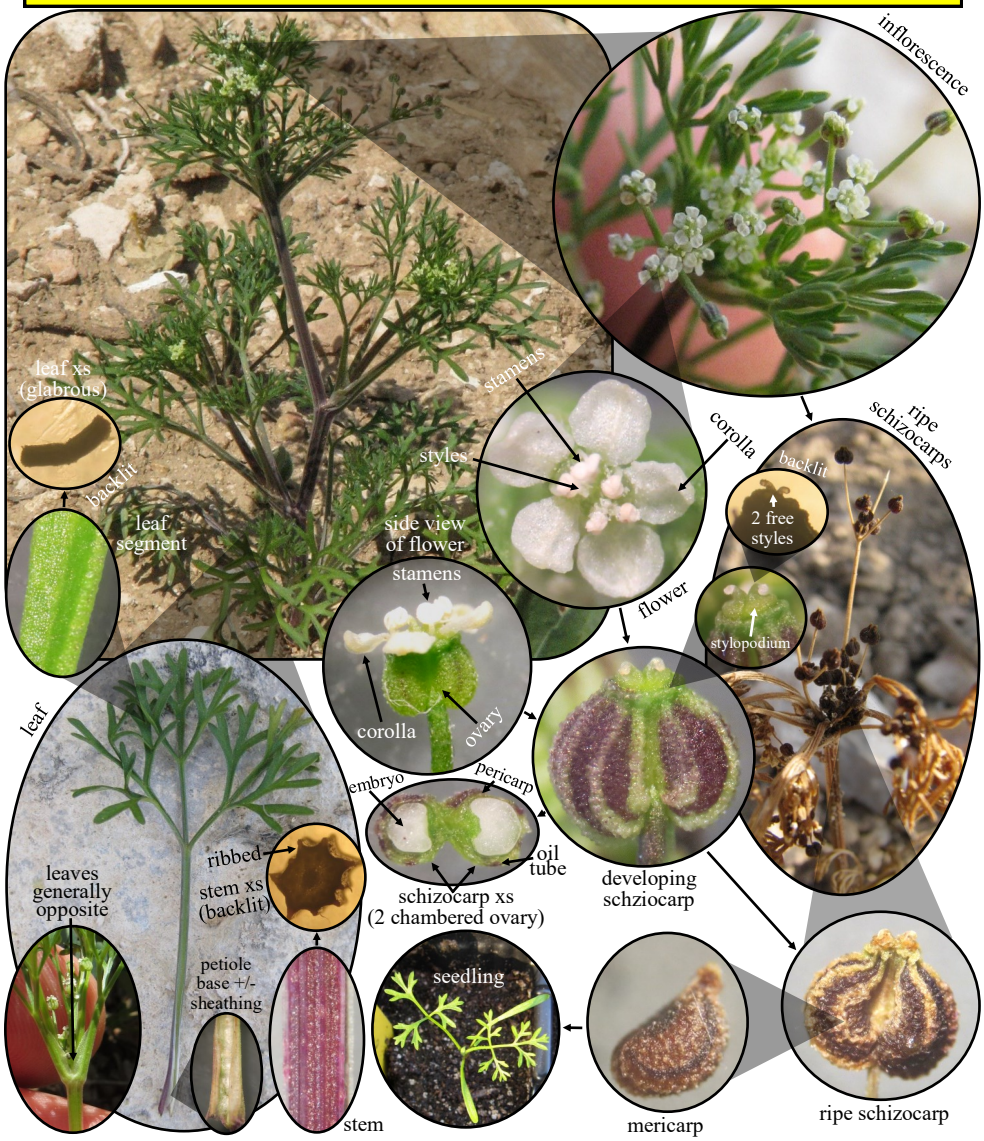
Wild Celery (*Apiastrum angustifolium*)

Order: Apiales

Family: Apiaceae (Carrot Family)

Flowers: March - April

Apiastrum angustifolium is a small herbaceous annual. It is mostly found on the channel facing side of the peninsula. The leaves are mostly cauline, generally opposite and finely ternately dissected. The inflorescence lacks bracts or bractlets and is a compound umbel bearing small bisexual flowers. The flowers lack calyces and the corolla is white. The fruit is a schizocarp that is elliptic-cordate, compressed side to side, ribbed (ribs thread-like), usually papillate-roughened, and the axis is divided to the base. The schizocarp breaks into 2 mericarps that contain the seeds.



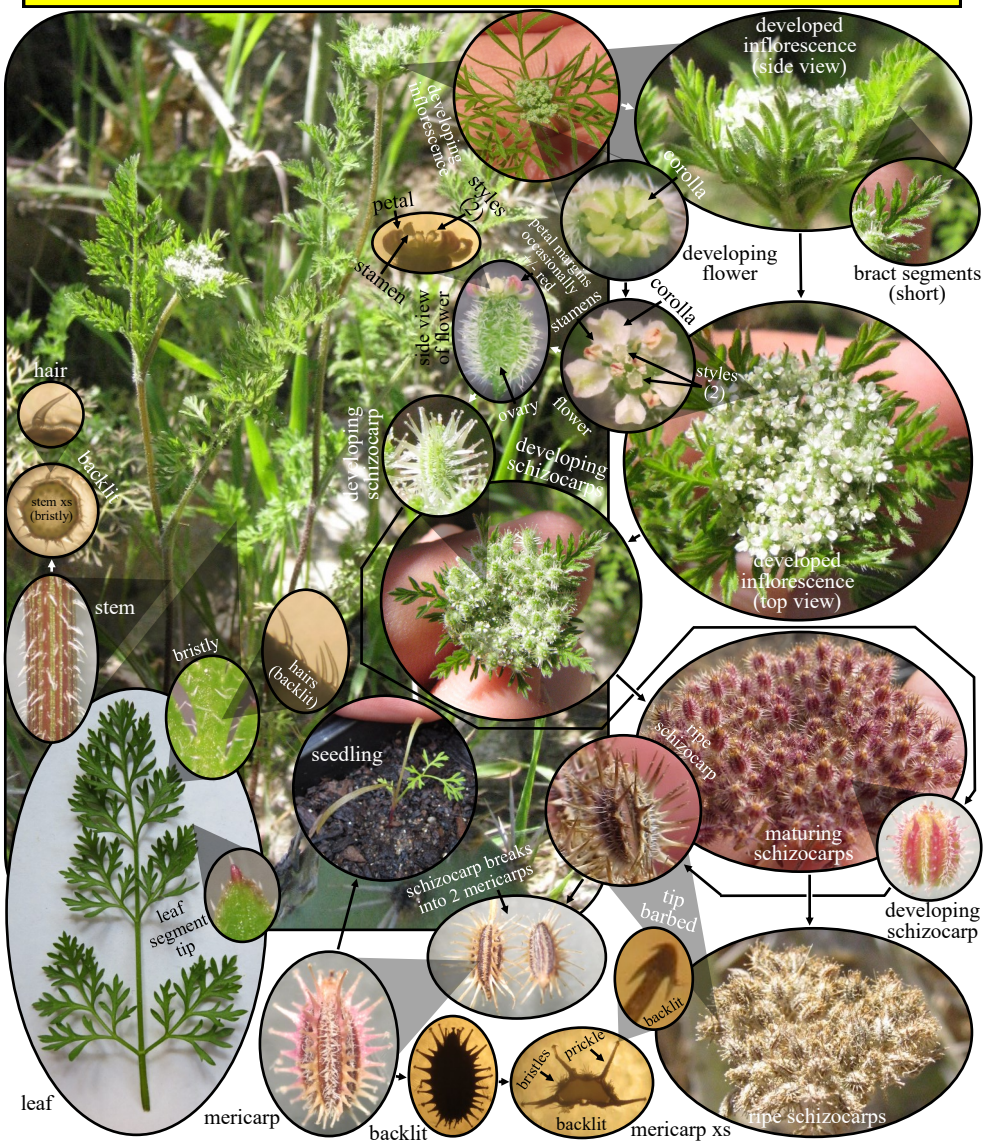
Wild Carrot (*Daucus pusillus*)

Order: Apiales

Family: Apiaceae (Carrot Family)

Flowers: April - June

Daucus pusillus is a small herbaceous annual. It is mostly found on the channel facing side of the peninsula, especially along the coastal bluffs. The leaves are pinnately dissected and usually bristly. The inflorescence is a compound umbel with bract segments short and linear to lanceolate. The small, bisexual flowers lack a calyx and the corolla is white (petal margins sometimes reddish). The fruit is a schizocarp that is oblong to ovate, compressed front to back, ribbed (10), bristly and prickly (prickles barbed tipped). The schizocarp breaks into 2 mericarps that contain the seeds.



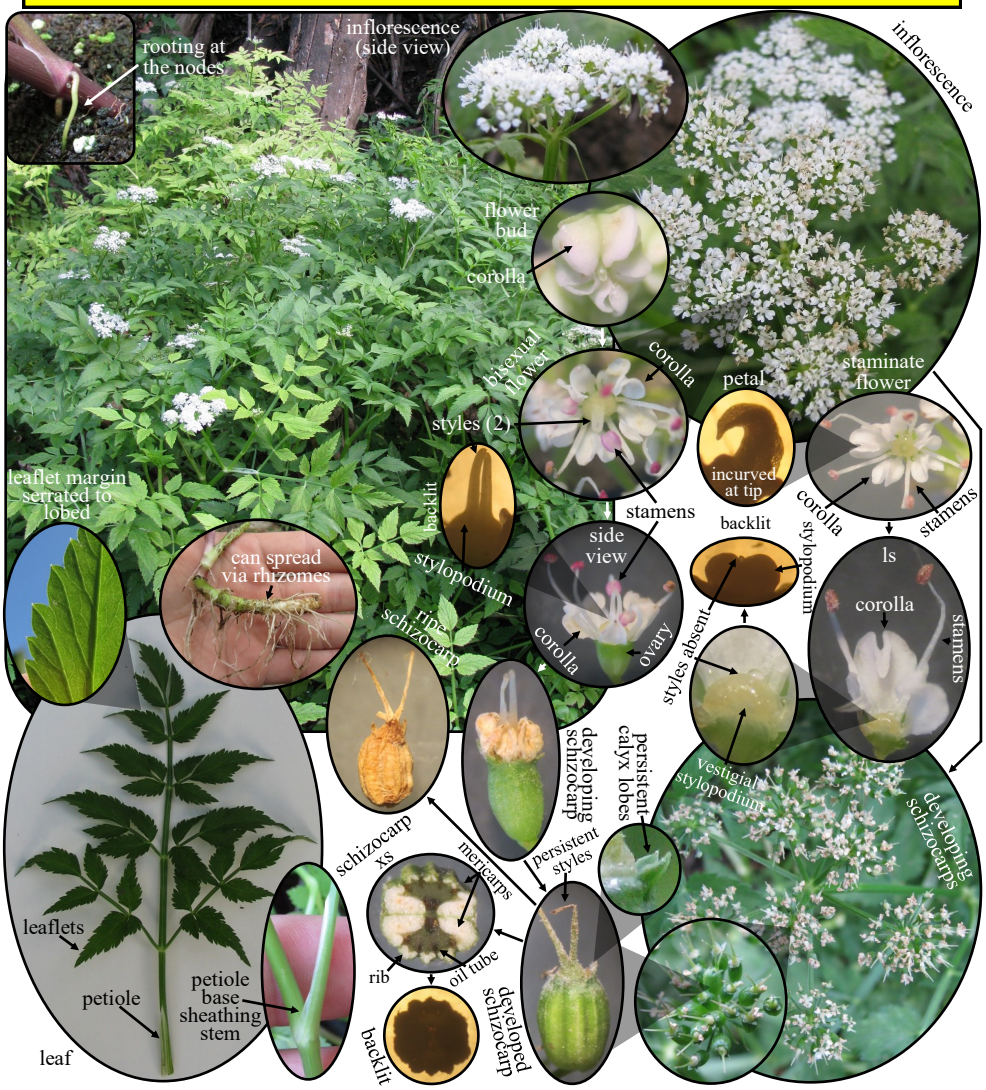
Water Parsley (*Oenanthe sarmentosa*)

Order: Apiales

Family: Apiaceae (Carrot Family)

Flowers: July - October

Oenanthe sarmentosa is a perennial herbaceous plant from tuberous roots or rhizomes. It has only been found along one perennial stream on the peninsula. The leaves are generally 2-pinnate. The leaflets are usually ovate and serrated to lobed. The inflorescence is a compound umbel with many bractlets present. Outer flowers of the inflorescence can be bisexual or staminate and occasionally bilateral. Inner flowers of the inflorescence are generally bisexual and are radial. The calyx is green and persistent. The corolla is white. The styles of the flowers are persistent. The fruit is a schizocarp that is oblong-ovate to round and usually cylindric with ribs that are low. The schizocarp breaks into 2 mericarps that contain the seeds.



Pacific Sanicle (*Sanicula crassicaulis*)

Order: Apiales

Family: Apiaceae (Carrot Family)

Flowers: March - May

Sanicula crassicaulis is a perennial herbaceous plant from a taproot. It is found in a few spots on the peninsula. Leaves are generally palmate or palmate-ternate with 3 to 5 lobes that have margins finely serrated. Flowers are small and clustered in simple heads. Each head contains 3 to 8 bisexual flowers (generally with short pedicels) and 3 to 5 staminate flowers (generally with long pedicels). The calyx is green with the lobes fused at the base, and is persistent. The corolla of both flower types is yellow. In bisexual flowers, 2 styles are present and are often exserted out past the corolla. The fruit is a schizocarp that is usually round and covered in stout bulbous-based prickles. The schizocarp breaks into 2 mericarps that contain the seeds.



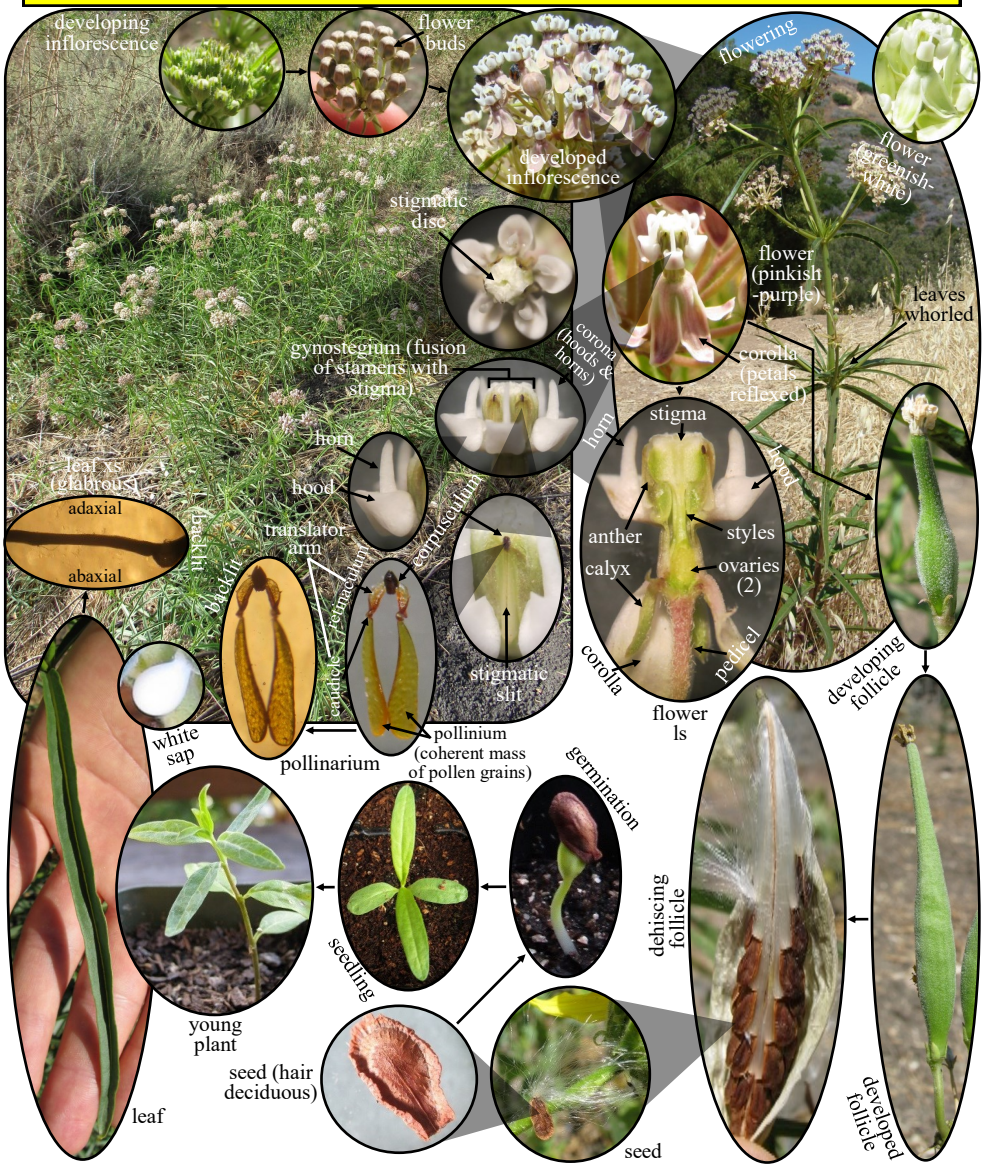
Narrow-leaf Milkweed (*Asclepias fascicularis*)

Order: Gentianales

Family: Apocynaceae (Periwinkle Family)

Flowers: May - October

Asclepias fascicularis is a perennial herbaceous plant. It is found throughout the peninsula. It is generally glabrous and it has white sap. The leaves are narrowly-lanceolate and opposite or whorled (whorls of 3-5 leaves). It produces greenish white to slightly pinkish-purple flowers that are greatly modified with the corolla reflexed and calyx hidden under the corolla. Pollen is contained in pollinarium. The fruit is a follicle that is dehiscent. The seed is brown with a tuft of hair.



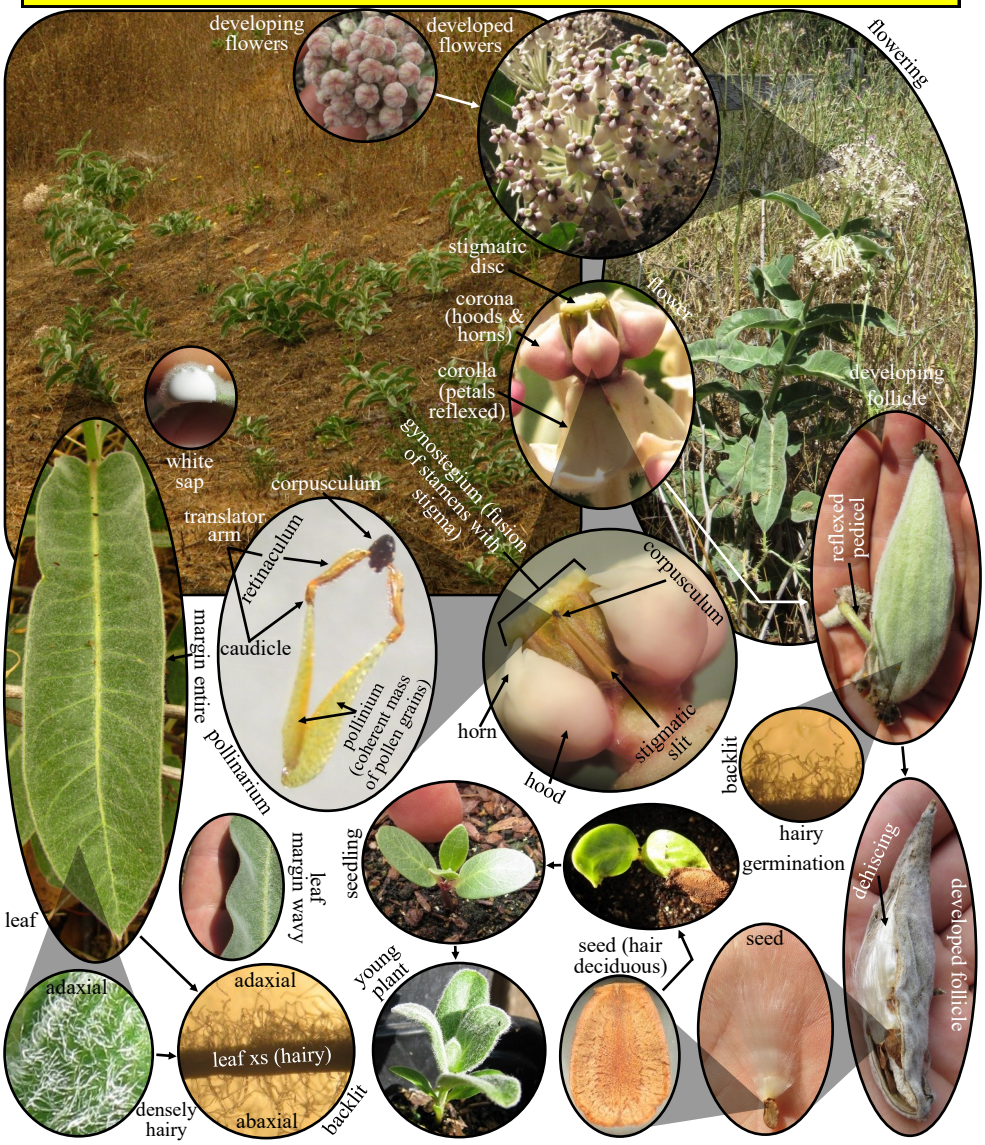
Wollypod Milkweed (*Asclepias eriocarpa*)

Order: Gentianales

Family: Apocynaceae (Periwinkle Family)

Flowers: May - October

Asclepias eriocarpa is a perennial herbaceous plant. It is uncommon on the peninsula and has only been found in two locations. The overall plant is hairy. The leaves are elliptic, lanceolate or ovate with very short to petioles. Leaves are arranged in whorls of 3-4 leaves. The leaf margin is entire and can sometimes be wavy. The flowers are greatly modified. The corolla is creamy white to pink-tinged and is reflexed or can be ascending. The calyx is hidden by the corolla. Pollen is contained in pollinarium. The fruit is a follicle that is dehiscent. The seed is tannish brown with a tuft of hair.



Minute Duckweed (*Lemna minuta*)

Order: Alismatales

Family: Araceae (Calla-lily Family)

Flowers: August

Lemna minuta is a minute perennial floating aquatic plant. It is found throughout the peninsula usually along calm streams. The fronds (1 or up to 4 but generally in 2's) of the plant body are floating and form large mats on the surface of the water. In the full sun, the fronds become very crowed together and plant bodies are generally in 2's. The fronds have 1 vein (nerve), that is sometimes faint, that extends beyond the mid-point to about 2/3 of the distance between node and apex. The fronds have air filled spaces (aerenchyma) inside that provide buoyancy for the fronds. The adaxial side of the frond can have a row of papillae along the midline or not. There is 1 root per frond and the root sheath is not winged. Anthocyanins and turions are not present. The flowers, when present, are extremely minute and very rare to occur.



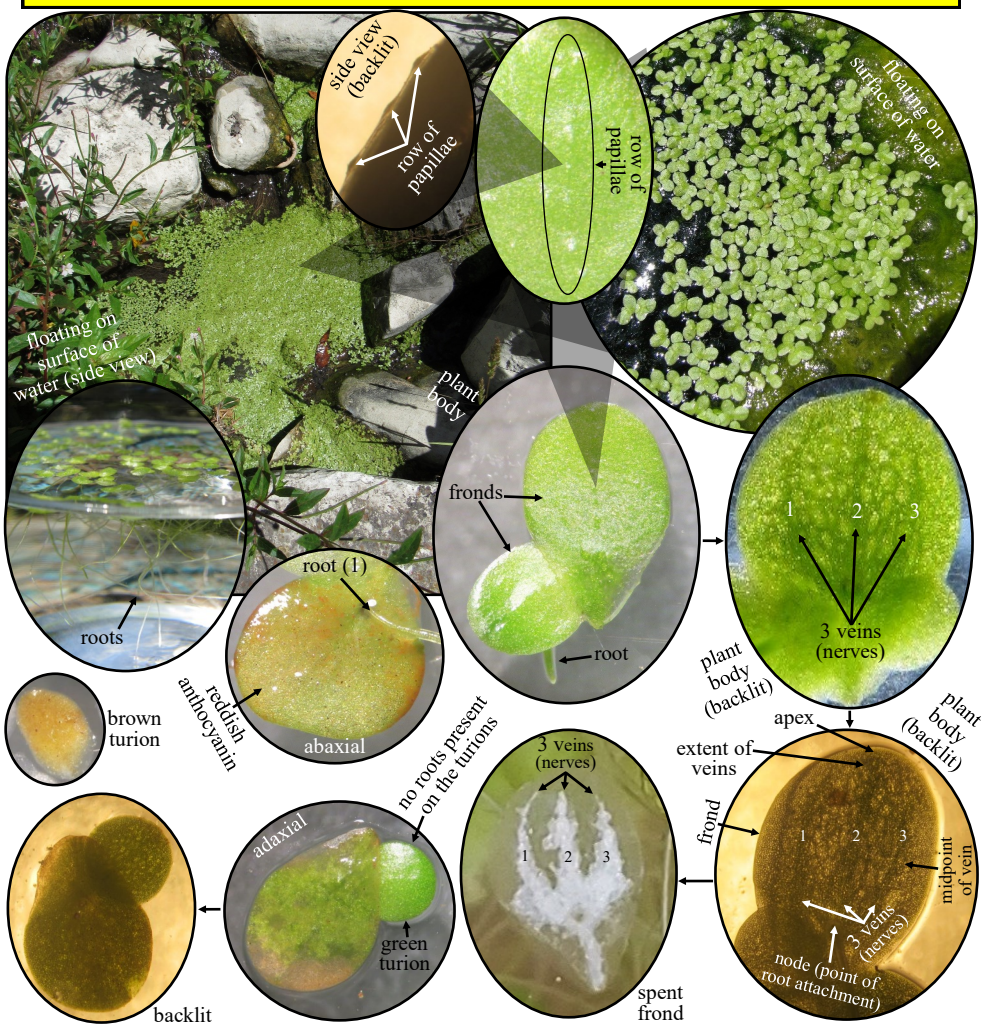
Turion Duckweed (*Lemna turionifera*)

Order: Alismatales

Family: Araceae (Calla-lily Family)

Flowers: August

Lemna turionifera is a minute perennial floating aquatic plant. It has only been found in one spot on the peninsula. The fronds (1 or up to 4 but generally in 2's or 3's) of the plant body are floating and form large mats on the surface of the water. The fronds have 3 veins (nerves). All the veins are equal in length or the lateral veins slightly longer than the middle vein. The adaxial surface has a distinct row of papillae (bumps) on the midline. The fronds have air filled spaces (aerenchyma) inside that provide buoyancy for the fronds. There is 1 root per frond and the root sheath is not winged. Anthocyanins are present and will give the fronds a reddish color (the reddish color is more intense on the abaxial side of the frond). Turions (wintering buds with no roots) are also present and are green or brown (with the brown color in fall). Turions sink to the bottom. Flowers are extremely minute and very rare.



Sacapellote (*Acourtia microcephala*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Mutisieae

Flowers: May - July

Acourtia microcephala is a perennial herbaceous plant from a woody caudex. It can be found growing throughout the peninsula mostly in canyons. Leaves are large and have dentated margins. Leaf bases generally clasp the stem. The heads contain bisexual florets that are zygomorphic. The corolla is lavender-pink and 2-lipped (bilabiate) with the outer lip liguliform and inner lip deeply 2-lobed. The fruit is a cypsela with pappus (bristle type) persistent.



Dwarf Coastplant (*Amblyopappus pusillus*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Heliantheae

Flowers: March - June

Amblyopappus pusillus is a small herbaceous annual. It is found throughout the peninsula along the shoreline and coastal bluffs. The entire plant is usually covered in sticky-tipped glandular hairs. The plant is strongly aromatic and has a sweet odor that is reminiscent of pineapple or sweet chamomile. Leaves are usually fleshy and can be entire to pinnately lobed. The disciform (or minutely radiate heads) contain two types of disc florets. Peripheral florets are pistillate and fertile with corollas yellow. The inner disc florets are bisexual and fertile with corollas yellow. The fruit is a cypsela with pappus (scale type). The pappus is persistent.



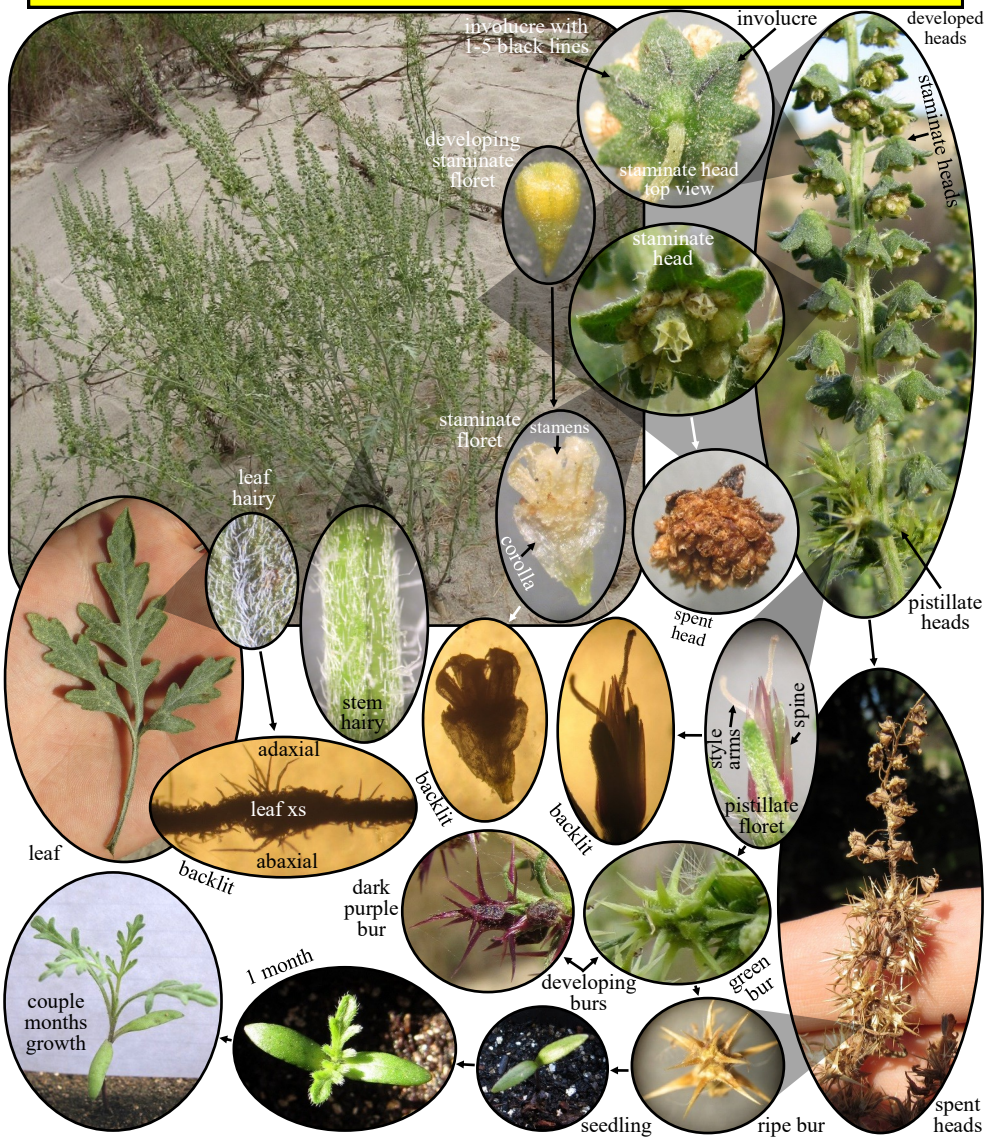
Annual Bur Sage (*Ambrosia acanthicarpa*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Heliantheae

Flowers: July - November

Ambroisa acanthicarpa is an annual herbaceous plant. It is found in sandy locations on the peninsula. The stems and leaves are hairy. The discoid heads are unisexual with the pistillate heads proximal to the staminate heads. Pistillate heads are clustered and contain 1 pistillate floret. Staminate heads have a bowl-shaped involucre usually with 1 to 5 black lines on it and it usually contains 6-12 staminate florets. Fruit is a cypsela that is enclosed within a bur that is covered in stout spines and can be golden or dark purple in color.



Beach Bur (*Ambrosia chamissionis*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Heliantheae

Flowers: April - November

Ambroisa chamissionis is a perennial herbaceous plant from a caudex or taproot and is usually mat-forming. On the peninsula, it can be found growing on the shore near the Malaga Cove area. The stems and leaves are densely hairy. Due to the dense covering of hairs the plant appears silvery green. The discoid heads are unisexual with the pistillate heads proximal to the staminate heads. Pistillate heads are clustered and contain 1 pistillate floret. Staminate heads have a +/- bowl-shaped involucre and it usually contains 8-25 staminate florets. Fruit is a cypsela that is enclosed within a bur that is covered in stout spines and is golden.



Weak Leaved Burweed (*Ambrosia confertiflora*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Heliantheae

Flowers: May - September

Ambroisa confertiflora is a perennial herbaceous plant that is rhizomatous. It can form large patches. It is an uncommon plant on the peninsula and has only been found in one spot. The stems and leaves are hairy but the hairs are short and stiff. The discoid heads are unisexual with the pistillate heads proximal to the staminate heads. Pistillate heads are clustered and contain 1 (sometimes 2) pistillate floret. Staminate heads have a +/- bowl-shaped involucre and it usually contains 5-20 staminate florets. Fruit is a cypselae that is enclosed within a bur that is covered in spines. The tips of the spines are bent like a hook.



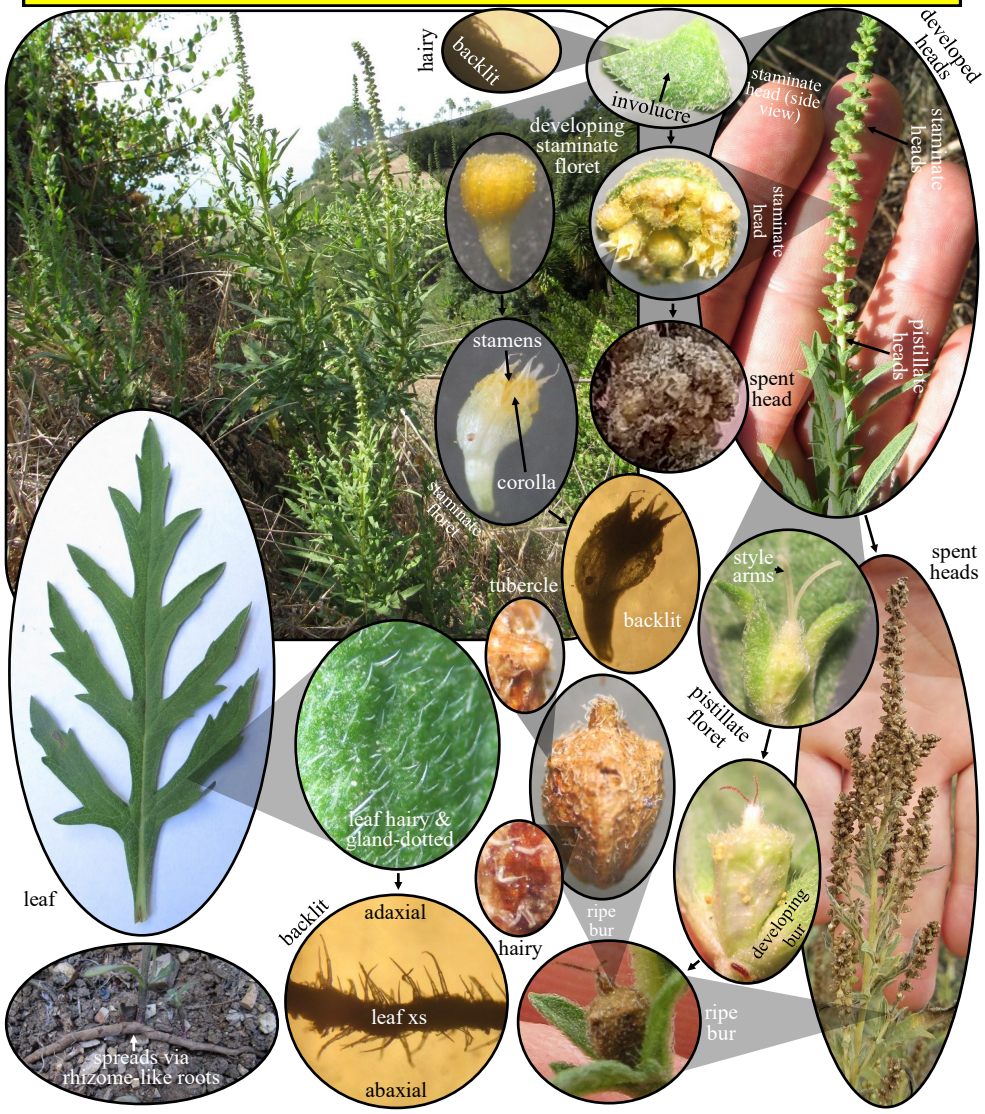
Western Ragweed (*Ambrosia psilostachya*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Heliantheae

Flowers: July - October

Ambroisa psilostachya is a perennial herbaceous plant that is rhizomatous. It is an uncommon plant on the peninsula and has only been found in two spots. It can form large patches. The stems and leaves are hairy with the hairs being short and stiff. The discoid heads are unisexual with the pistillate heads proximal to the staminate heads. Pistillate heads are clustered and contain 1 pistillate floret. Staminate heads have a +/- bowl-shaped involucre and it usually contains 5-15 staminate florets. Fruit is a cypsela that is enclosed within a bur that can have spines or tubercles (1-6 at distal end) or none at all.



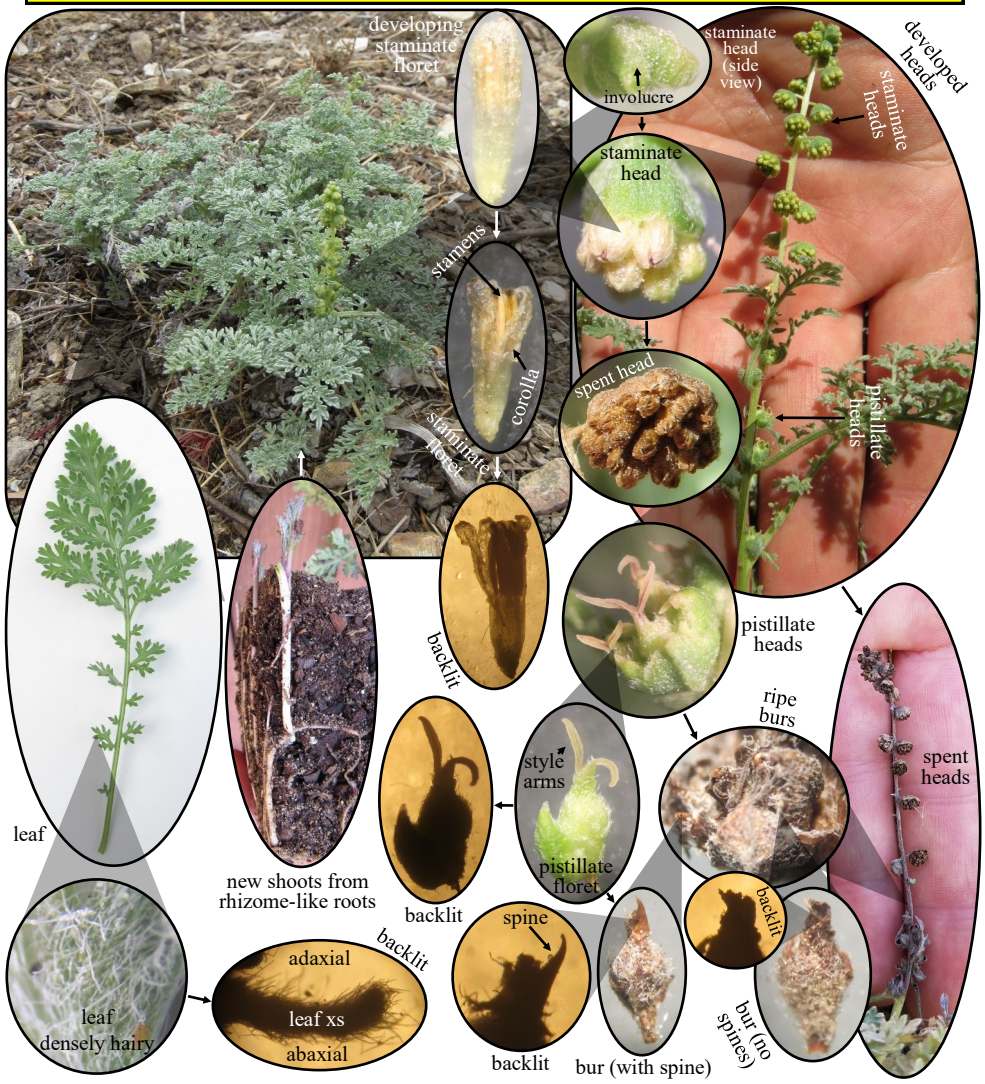
San Diego Ambrosia (*Ambrosia pumila*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Heliantheae

Flowers: May - June

Ambrosia pumila is a perennial herbaceous plant that is rhizomatous. It is an uncommon plant on the peninsula and has only been found in one spot. It has a CNPS rare plant (rank 1B.1) and it is a federally listed endangered species. The overall plant and leaves are densely hairy (short hairs) giving it a bluish gray look. It can form large patches. The discoid heads are unisexual with the pistillate heads proximal to the staminate heads. Pistillate heads are clustered and contain 1 pistillate floret. Staminate heads have a bowl-shaped involucre and it usually contains 8-25 staminate florets. Fruit is a cypsela that is enclosed within a bur that can have spines or tubercles (1-5 on the distal end of the bur) or none at all.



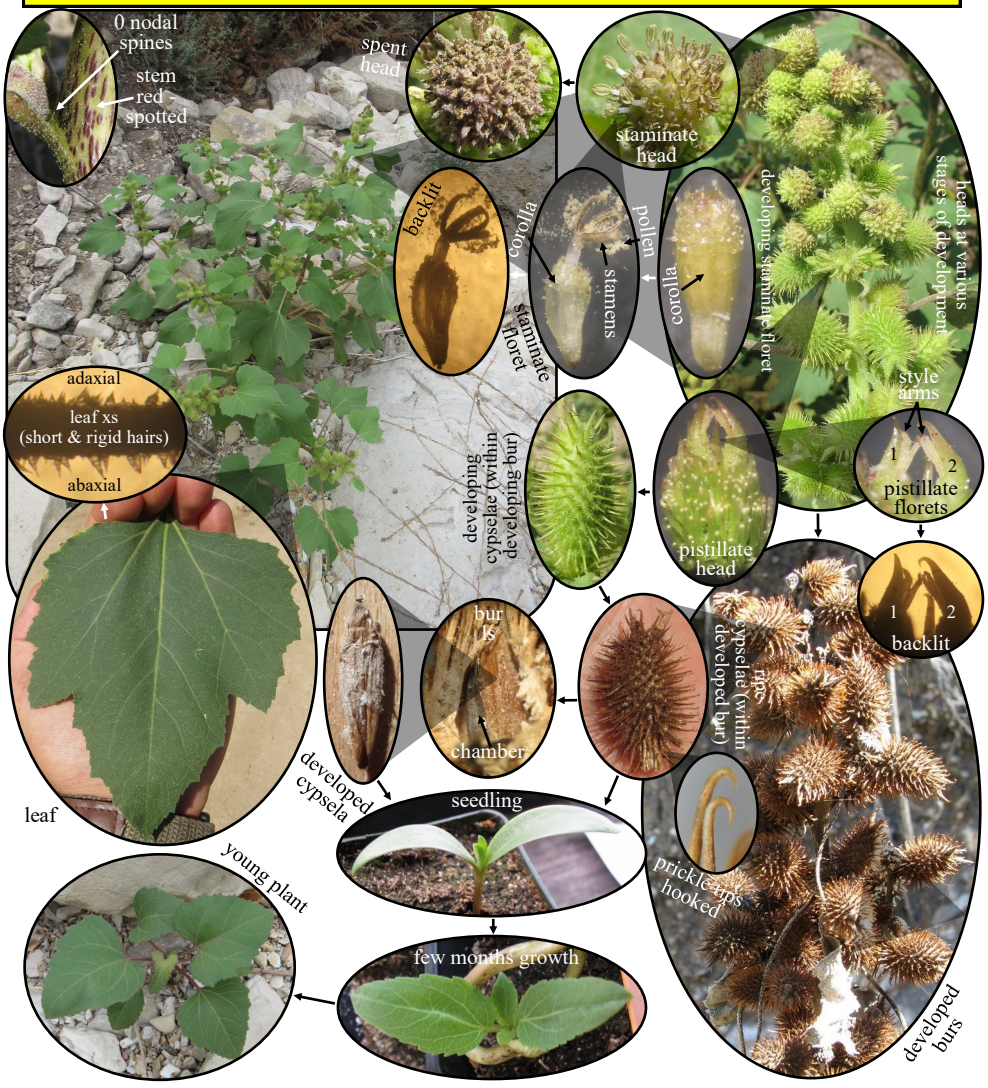
Rough Cocklebur (*Xanthium orientale*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Heliantheae

Flowers: July - October

Xanthium orientale is an annual herbaceous plant. It is found throughout the peninsula mostly in disturbed and seasonally wet places. The leaves are large and can be palmately or pinnately lobed. Leaf margins are entire or toothed. The surface of the leaf has short and short hairs. Stems can be green to red-spotted with no spines present at the nodes. The discoid heads are axillary and unisexual. The pistillate heads are generally proximal and the staminate generally distal on the inflorescence. The staminate heads contain florets that are functionally staminate with corollas whitish. The pistillate heads contain 2 florets. The fruit is a cypsela that is enclosed in a hard and prickly bur that has 2 chambers with each chamber containing 1 cypsela.



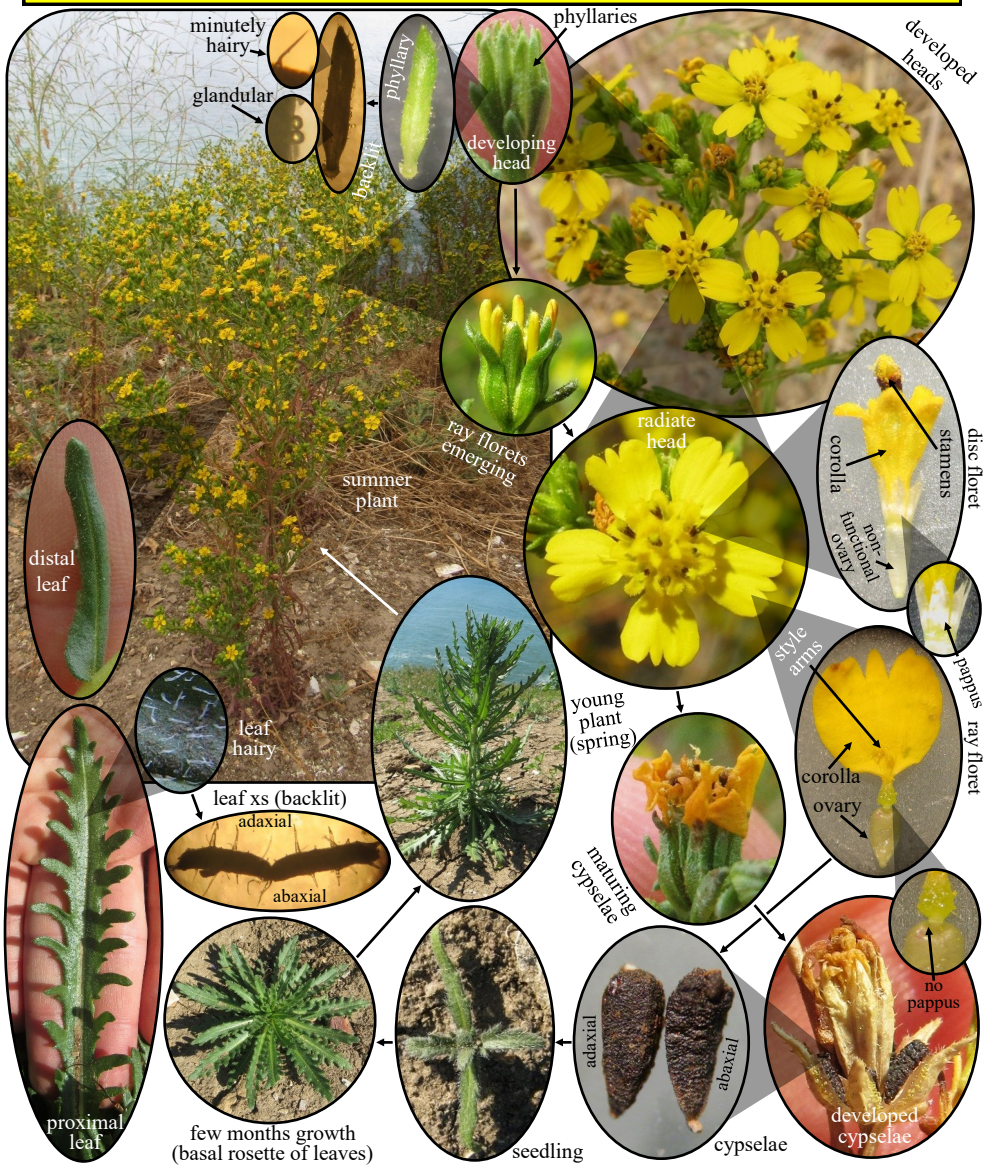
Clustered Tarweed (*Deinandra fasciculata*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Heliantheae

Flowers: April - September

Deinandra fasciculata is a herbaceous annual. It is found along the coastal bluffs and hillsides of the peninsula. The proximal leaves are toothed and senesce by flowering time (summer). Distal leaves are small and have entire margins. The radiate heads contain disc florets (5-12) that are all or mostly functionally staminate with yellow corollas. The ray florets (5) are pistillate (fertile) with yellow corollas. Ray florets develop into cypselae with no pappi.



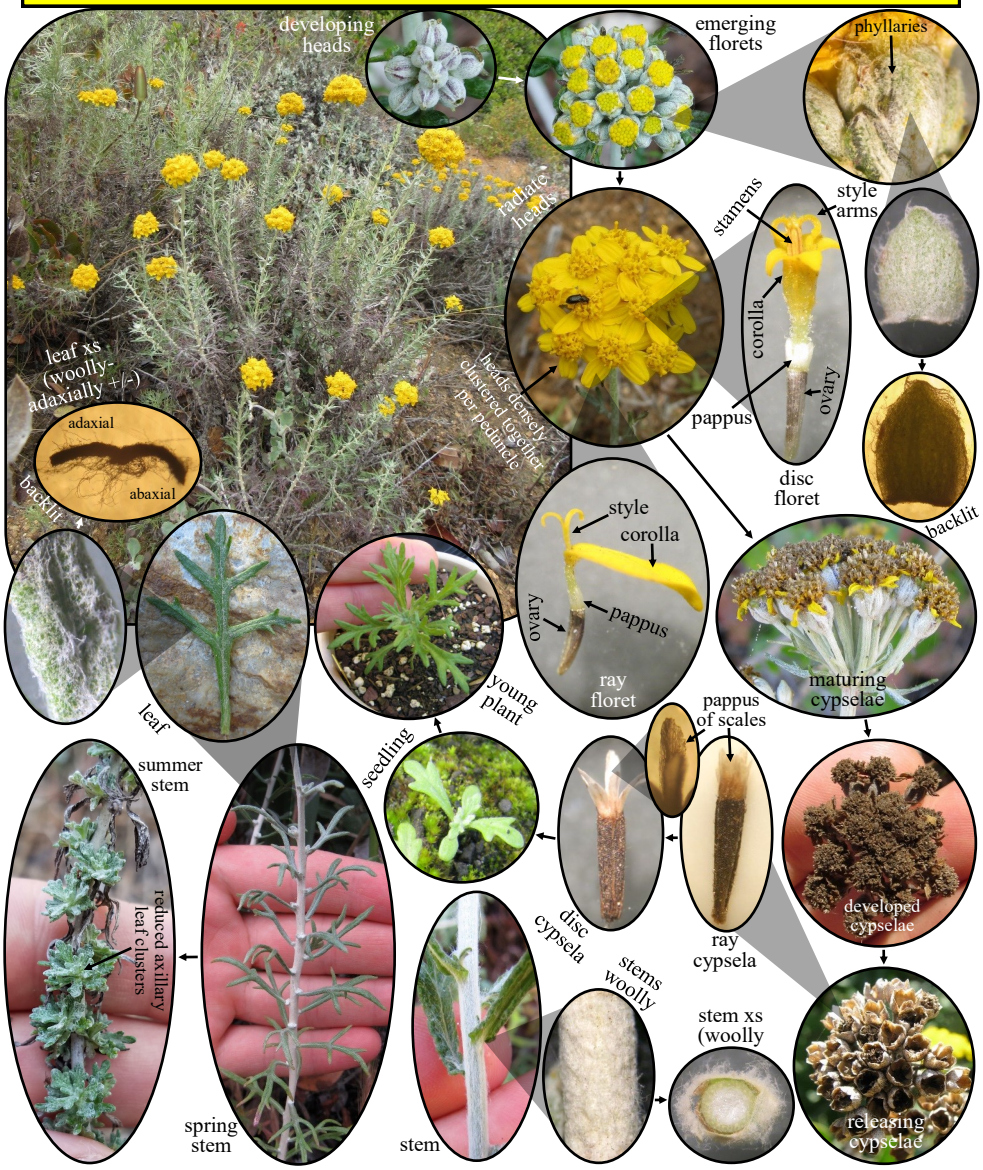
Golden Yarrow (*Eriophyllum confertiflorum* var. *confertiflorum*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Heliantheae

Flowers: March - July

Eriophyllum confertiforum var. *confertiflorum* is a perennial herbaceous plant. It is found throughout the peninsula often on north facing slopes. The entire plant is densely hairy giving it a woolly look. The radiate heads contain disc florets that are bisexual (fertile) with corollas yellow as well as ray florets that are pistillate (fertile) with corollas that are yellow. Fruit is a cypsela with pappus (scale type) persistent. Pappus is a crown of scales.



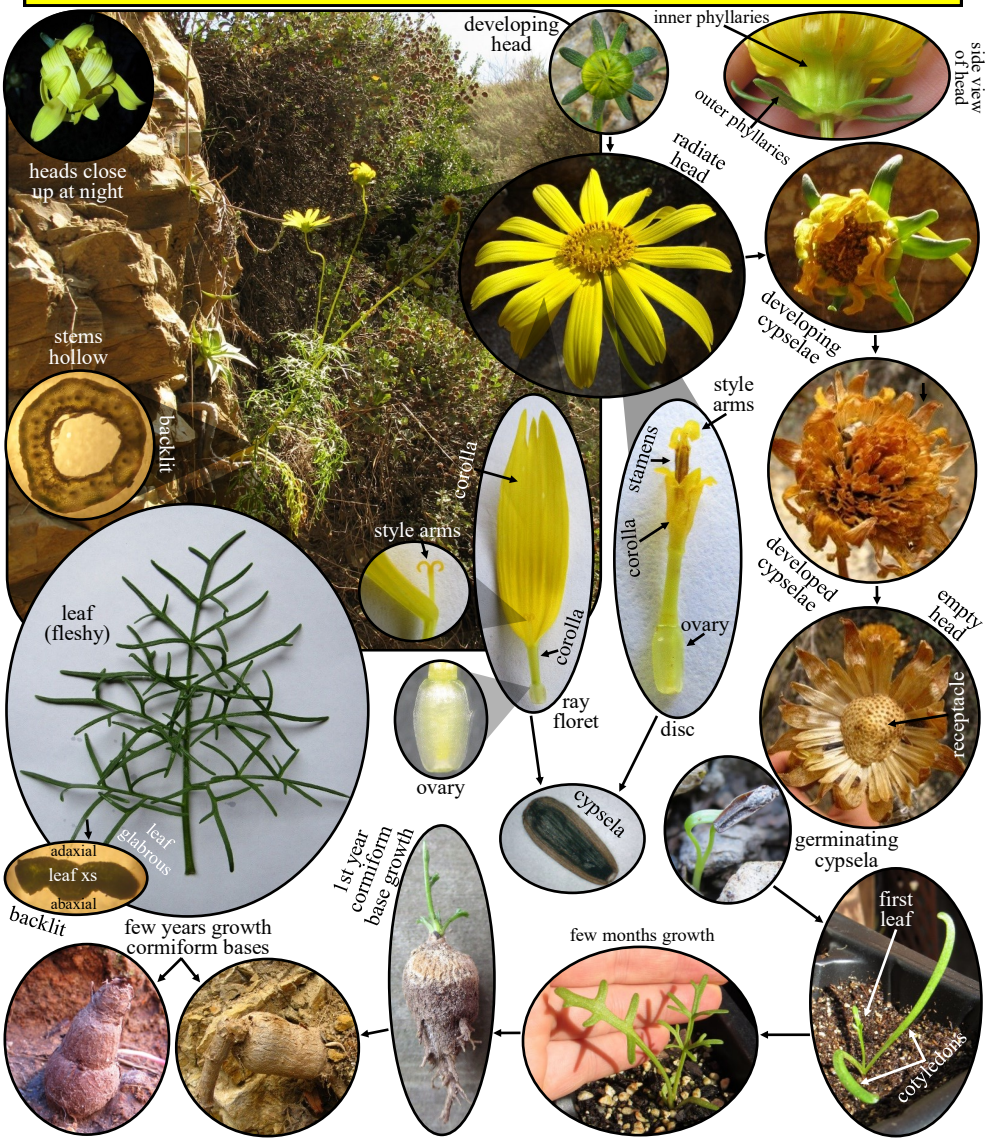
Sea Dahlia (*Leptosyne maritima*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Heliantheae

Flowers: February - June

Leptosyne maritima is a perennial herbaceous plant with a fleshy taproot and cormiform base. It is a rare plant on the peninsula and found in only one canyon along the coastal bluffs. It has a CNPS rare plant rank of 2B.2. The leaves are fleshy and 2-3 pinnately divided. The stems are hollow and fleshy. The radiate heads contain disc florets that are bisexual (fertile) with corollas that are yellow as well as ray florets that are pistillate (fertile) with corollas that are yellow. Fruit is a cypsela with no pappus present.



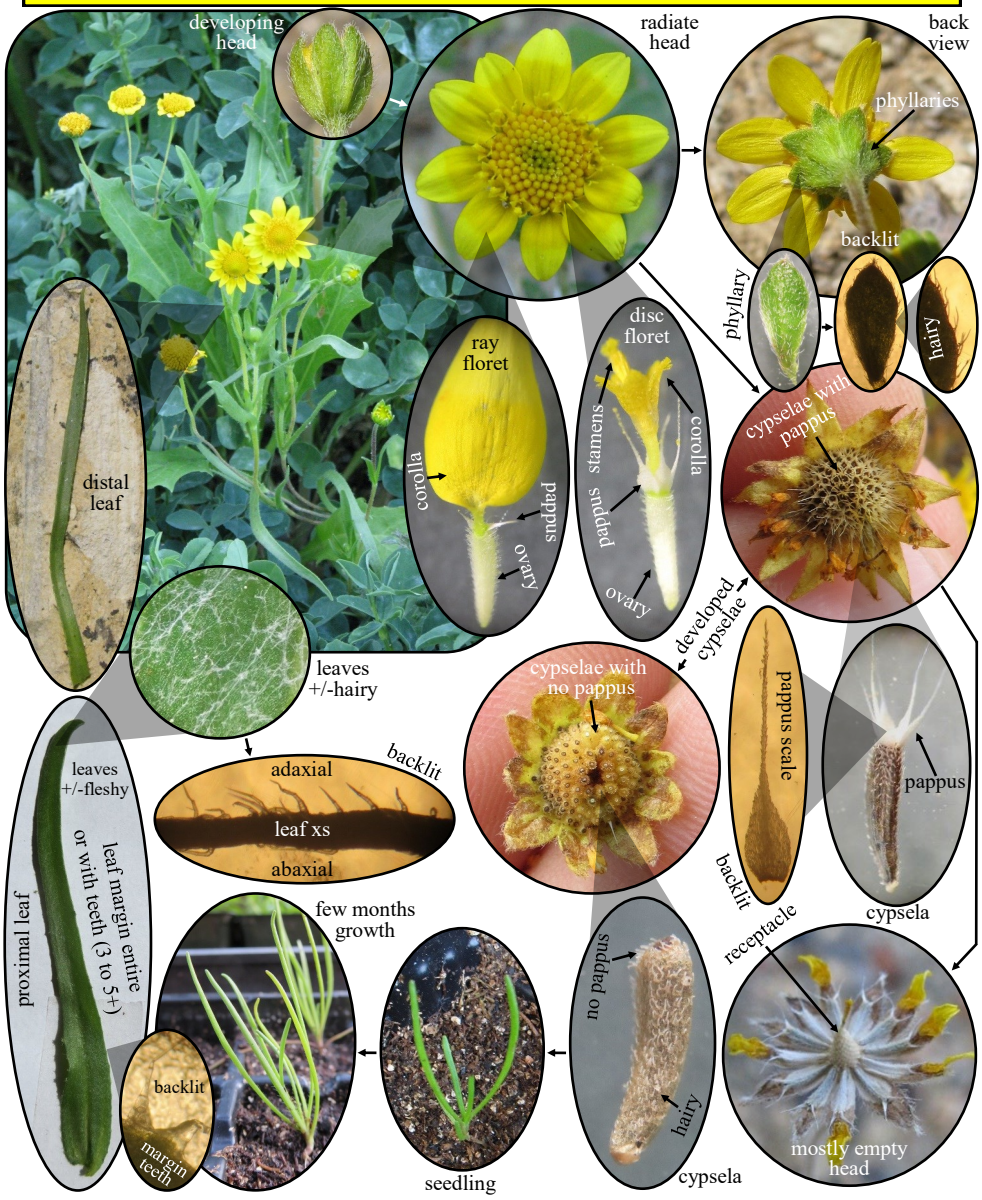
Needle Goldfields (*Lasthenia gracilis*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Heliantheae

Flowers: February - June

Lasthenia gracilis is an annual herbaceous plant. It is uncommon on the peninsula and found in one spot. The leaves of this plant are long, narrow, fleshy, and hairy. The radiate heads contain disc florets that are bisexual (fertile) with corollas yellow as well as ray florets that are pistillate (fertile) with corollas that are yellow. The fruit is a cypsela with pappus (scales) persistent or with no pappus present.



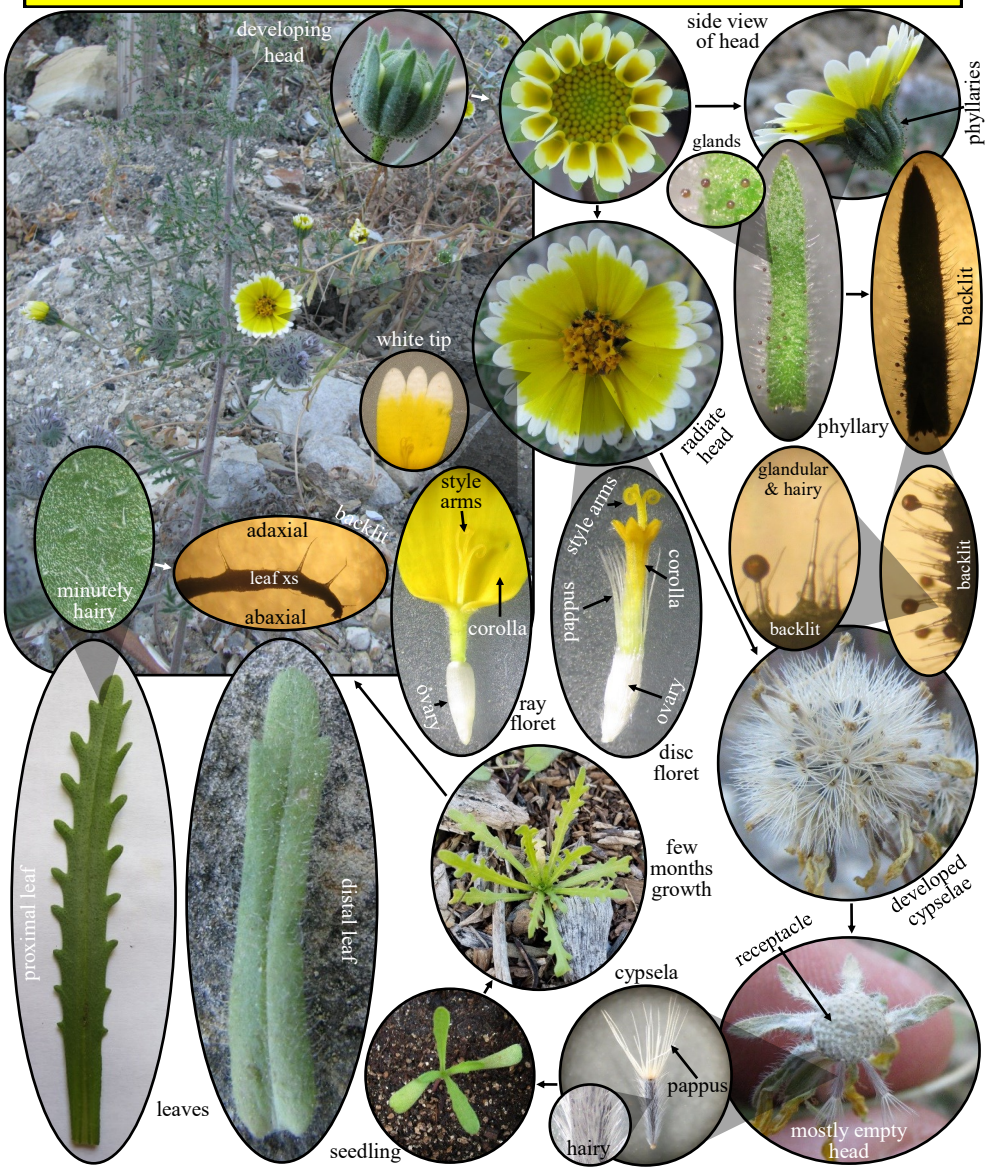
Coastal Tidy Tips (*Layia platyglossa*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Heliantheae

Flowers: February - July

Layia platyglossa is an annual herbaceous plant. It is found in one spot on the peninsula. The plant is glandular and the proximal leaves are usually lobed while the distal leaves are entire to minutely lobed. The radiate heads contain disc florets that are bisexual (fertile) with corollas that are yellow as well as ray florets that are pistillate (fertile) with corollas all yellow or bicolored (proximally yellow and distally white). Fruit is a cypsela with pappus (bristle type) persistent.



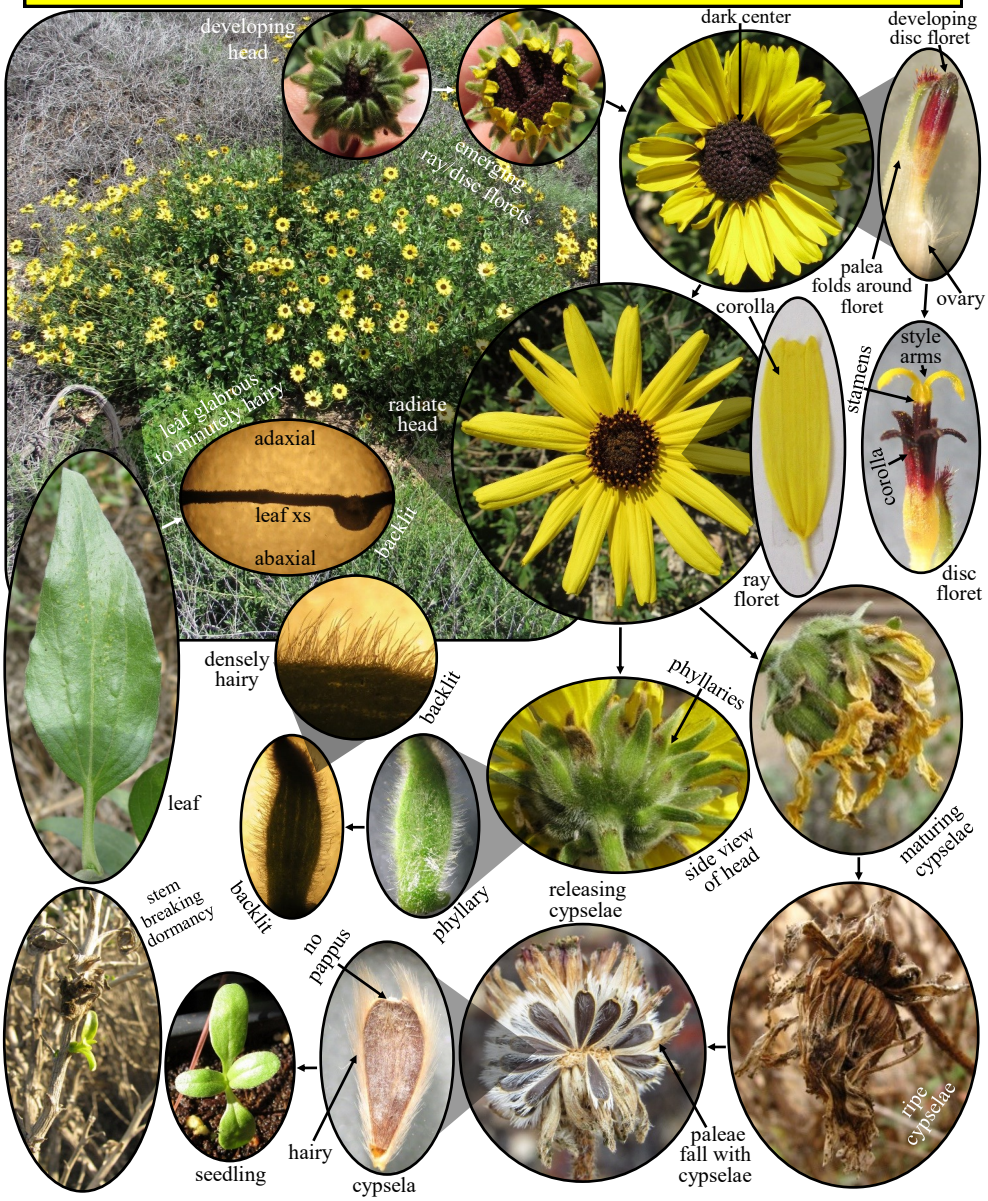
Bush Sunflower (*Encelia californica*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Heliantheae

Flowers: February - October

Encelia californica is a perennial shrub. It is found throughout the peninsula and in a few spots can cover entire hillsides. The eaves are simple with margins that are entire or somewhat toothed. The radiate heads contain disc florets that are bisexual (fertile) with corollas brown-purple as well as ray florets that are sterile with corollas that are yellow. Fruit is a cypsela with no pappus. This shrub is drought deciduous.



Bush Sunflower (*Encelia californica*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Heliantheae

Flowers: February - October



covering entire hillsides

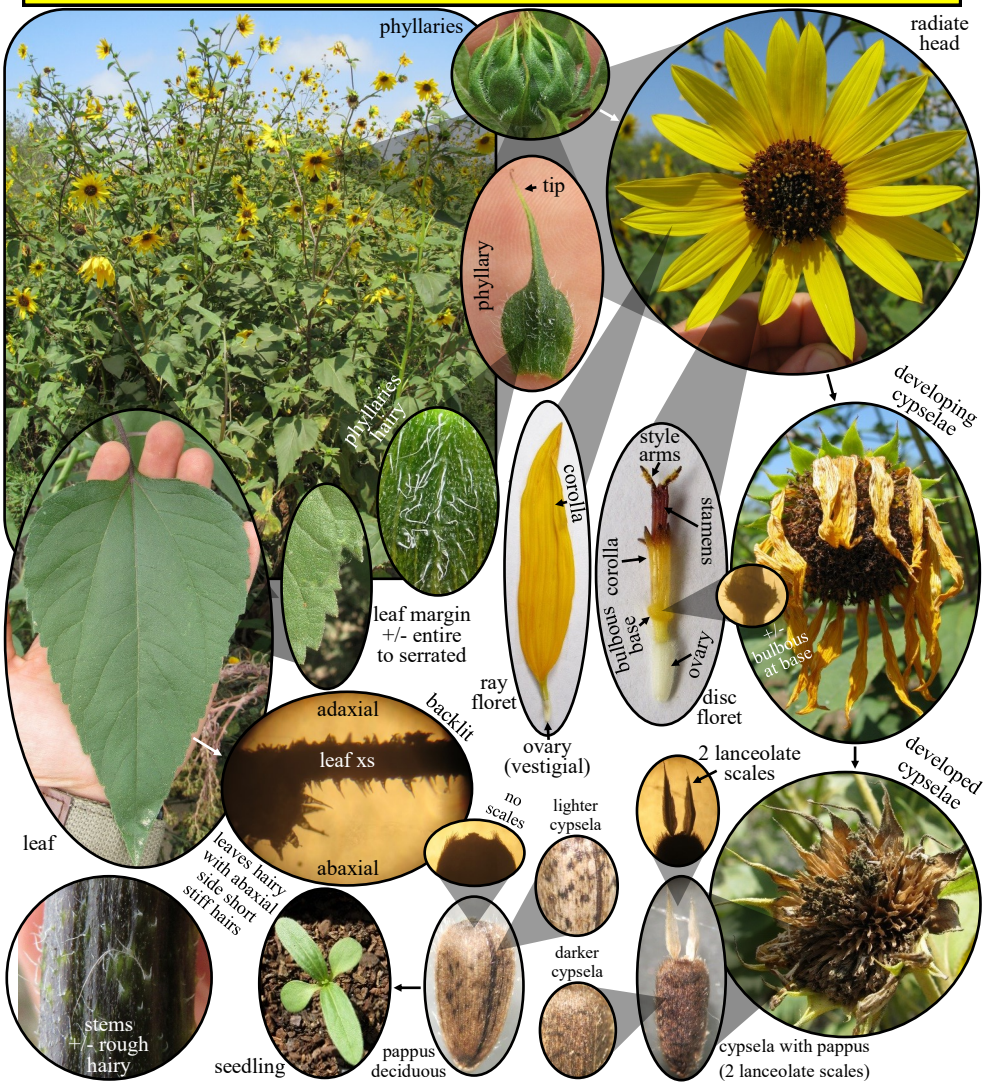
Common Sunflower (*Helianthus annuus*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Heliantheae

Flowers: May - October

Helianthus annus is a tall annual herbaceous plant. It is found in a few locations on the peninsula. The leaves are large with the abaxial side covered in short stiff hairs which make the leaves feel rough to the touch. The margin of the leaf is also usually entire but can sometimes have a little serration. Phyllaries are usually hairy, gland-dotted and have an abruptly narrowed tip. The radiate heads contain disc florets that are bisexual (fertile) with corollas reddish (sometimes yellow) and with corolla throats bulbous at the base. The ray florets are sterile and have a corolla that is yellow. Fruit is a cypsela (glabrous or minutely hairy) with pappus of 2 deciduous lanceolate scales (sometimes with up to 4 shorter scales in addition).



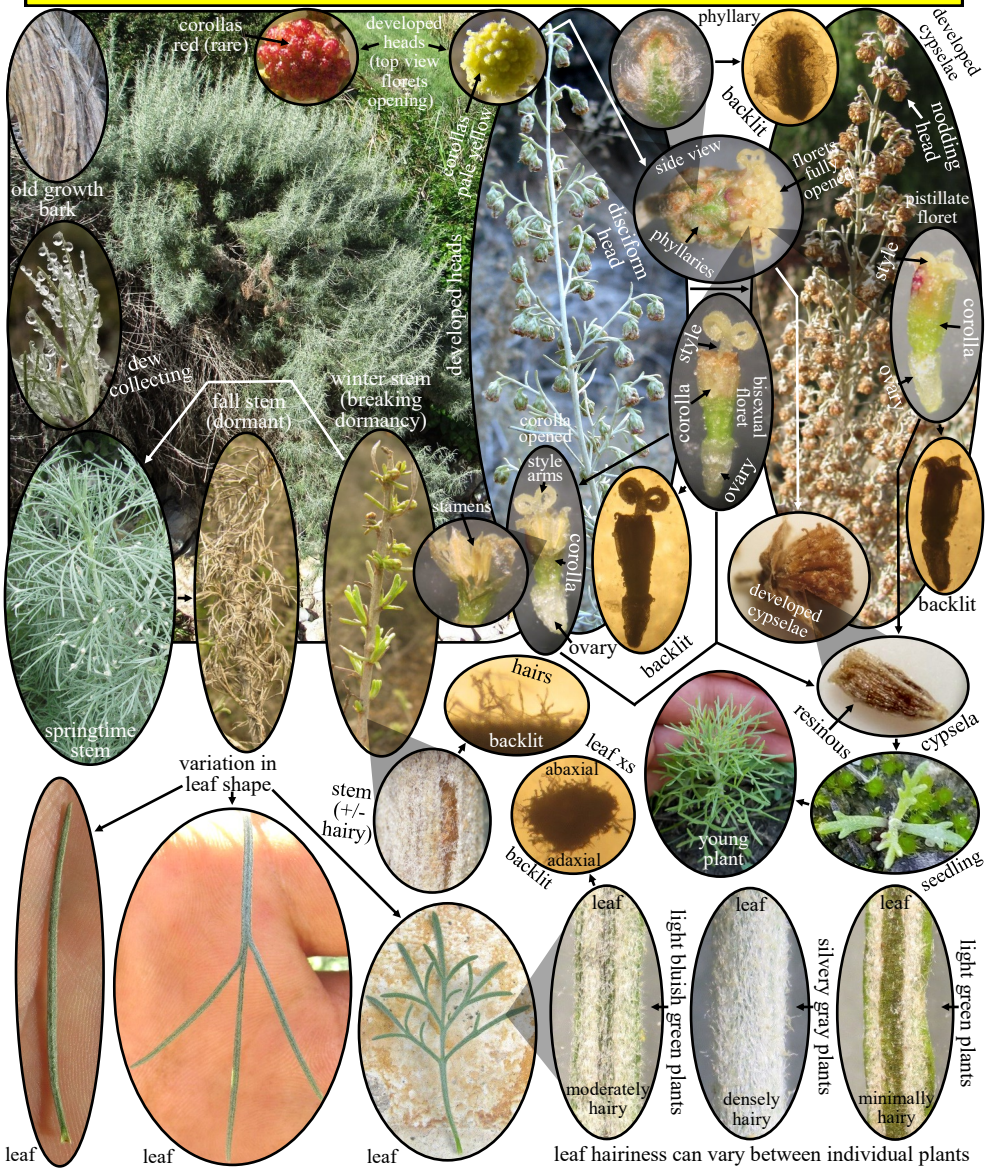
California Sagebrush (*Artemisia californica*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Anthemideae

Flowers: August - November

Artemisia californica is a perennial shrub. It is found throughout the peninsula. The thread-like leaves can be entire or pinnately divided and leaf margins rolled under. It is strongly aromatic. Plants can range in color from a light green to a silvery gray (due to degree of hairiness). The disciform heads contain disc florets that are bisexual (fertile) and pistillate florets (fertile) with corollas pale yellow. Ray florets are absent. Heads nod when fully developed. The fruit is a cypsela with pappus coroniform.



Mugwort (*Artemisia douglasiana*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Anthemideae

Flowers: May - November

Artemisia douglasiana is a herbaceous, rhizomatous perennial plant. It is aromatic and found throughout the peninsula mostly in canyons. The leaves are bicolored with proximal leaves lobed (3-5 lateral lobes) and distal leaves entire. The disciform heads contain disc florets that are bisexual (fertile) and pistillate florets (fertile) with corollas pale yellow. Ray florets are absent. The fruit is a cypsela with pappus coronifrom.



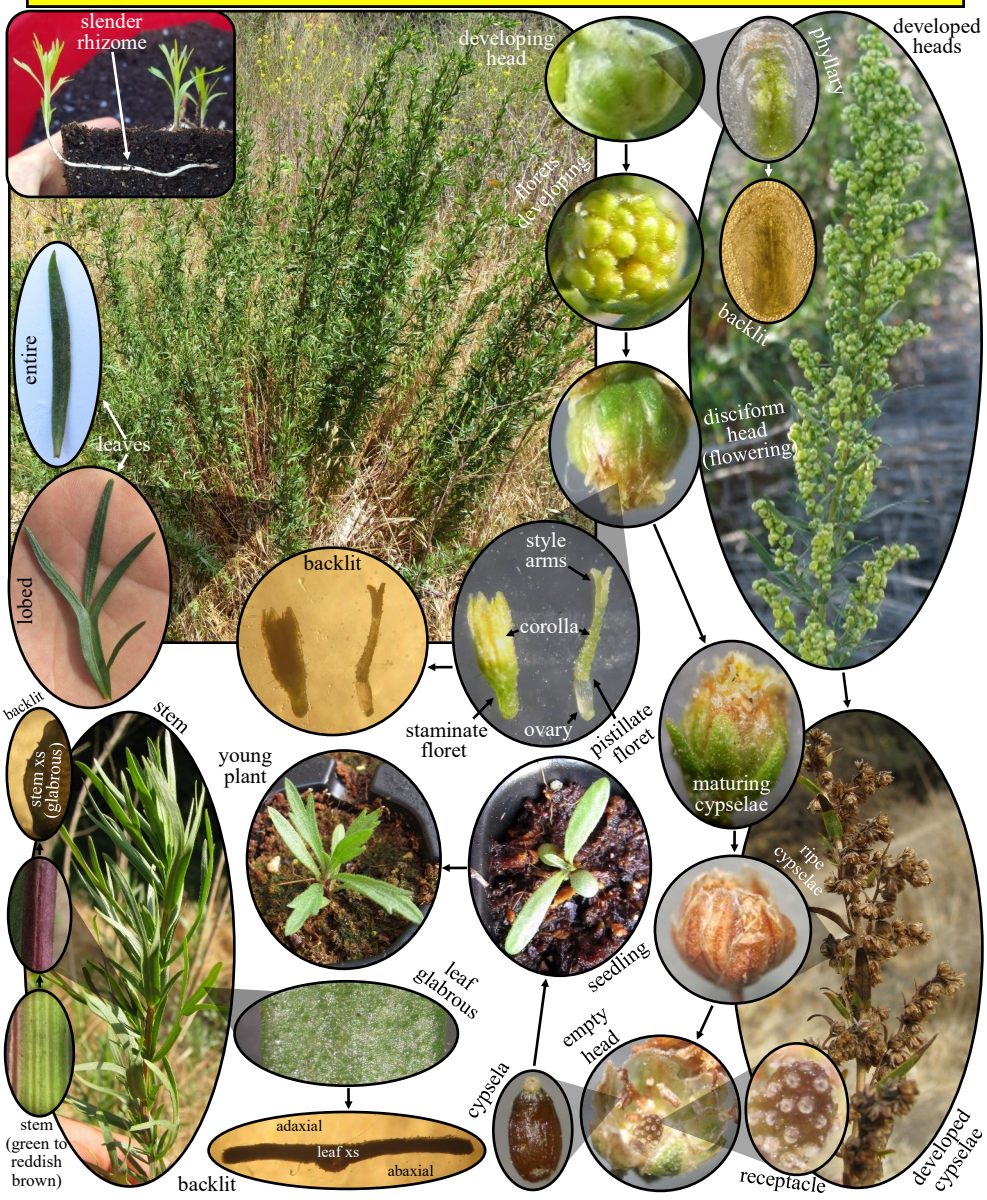
Wild Tarragon (*Artemisia dracunculus*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Anthemideae

Flowers: August - October

Artemisia dracunculus is a rhizomatous or from a woody caudex herbaceous perennial plant. It is found in sandy soil locations on the peninsula. It can be tarragon-scented or odorless. The leaves can be entire or with a few lobes. The disciform heads contain disc florets that are functionally staminate and pistillate florets (fertile) with corollas pale yellow. Ray florets are absent. The fruit is a cypsela with pappus absent.



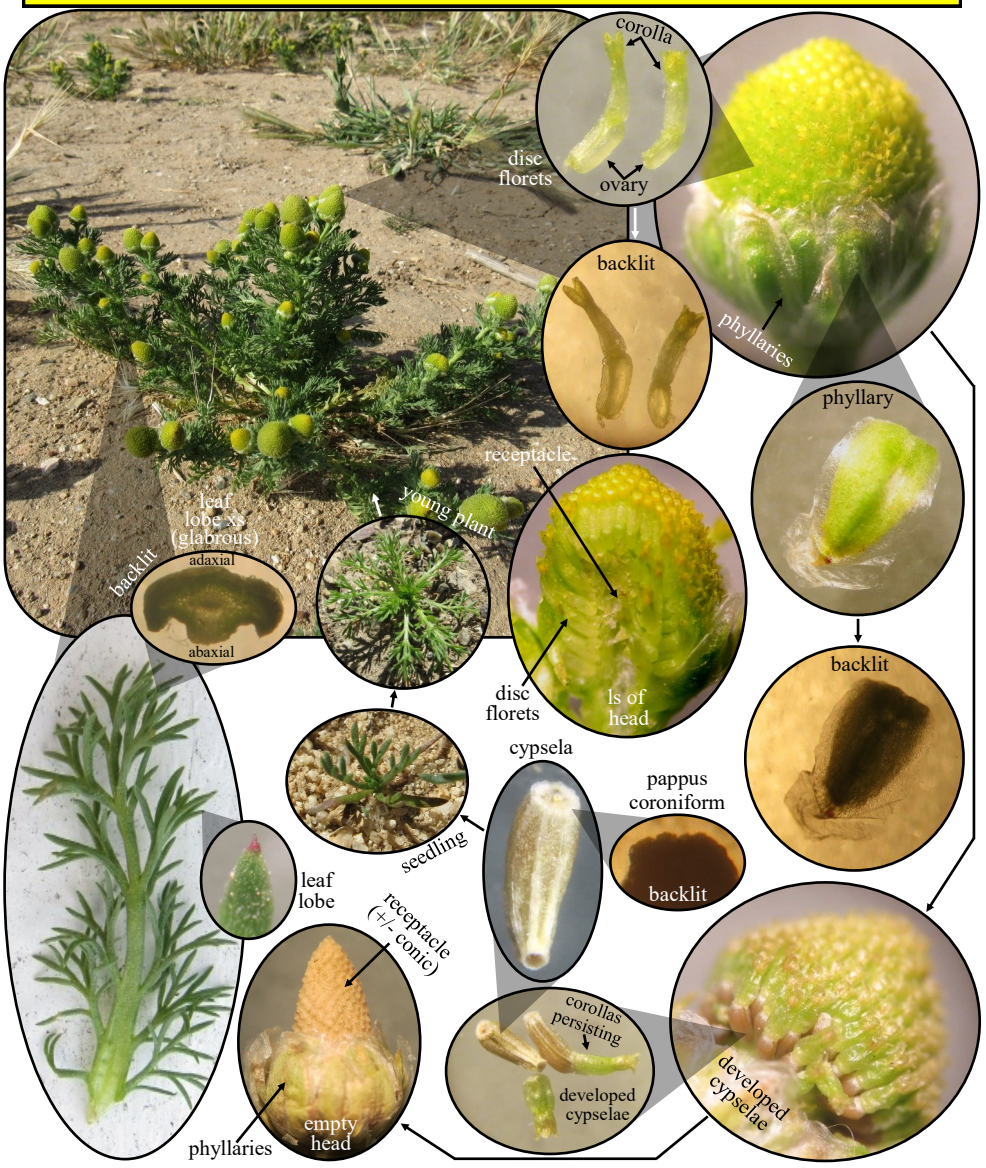
Pineapple Weed (*Matricaria discoidea*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Anthemideae

Flowers: February - August

Matricaria discoidea is an annual herbaceous plant. It is found in canyons and in disturbed areas on the peninsula. The plant is aromatic and has a pineapple-like or chamomile odor. The leaves are glabrous and irregularly 2-3 pinnately lobed. The discoid heads contain disc florets that are bisexual (fertile) with corollas greenish yellow (corollas persisting in fruit). Ray florets are not present. The receptacle is usually conic . Fruit is a cypsela with pappus not present or coroniform that is entire.



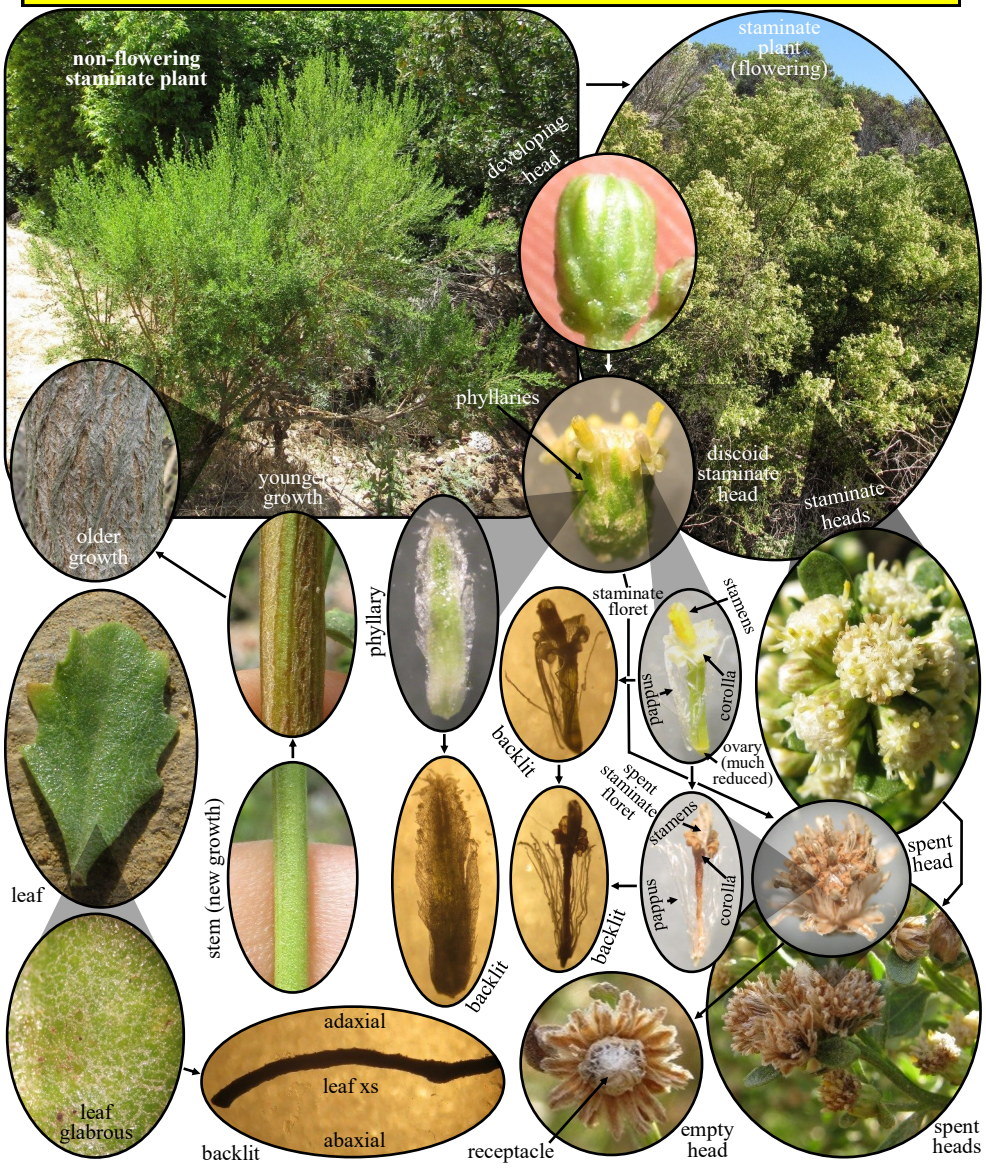
Coyote Brush (B*accharis pilularis* subsp. *consanguinea*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: July - December

Baccharis pilularis subsp. *consanguinea* is a perennial shrub from a woody base. This plant is dioecious and both male and female plants can be found throughout the peninsula. The leaves are small and glabrous with a short petiole. The leaf margins are finely toothed or entire. Male plants produce discoid heads that contain functionally staminate florets with corollas that are white to pale yellow. Female plants produce discoid heads that contain pistillate florets with whitish corollas that are tubular.



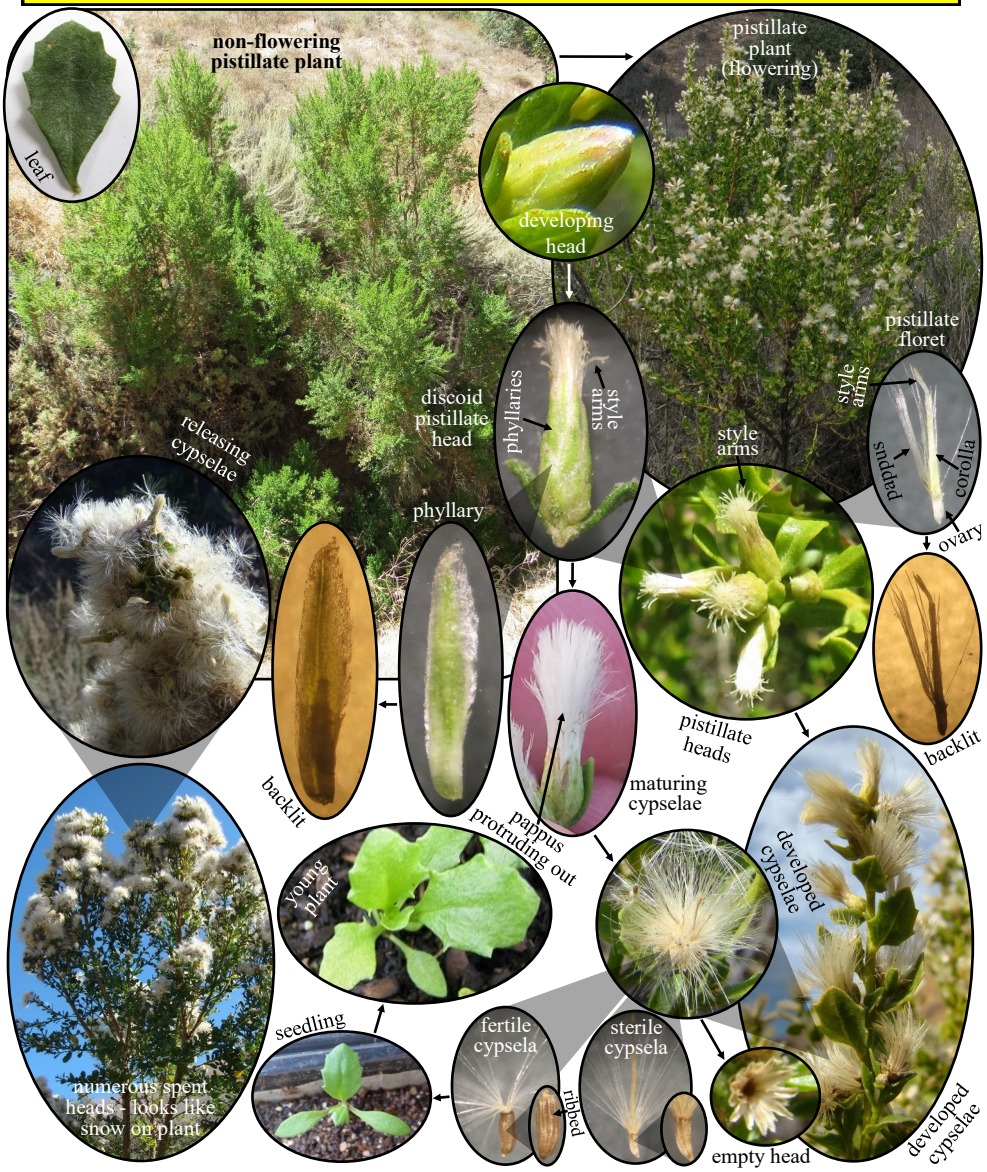
Coyote Brush (B*accharis pilularis* subsp. *consanguinea*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: July - December

The style of the pistillate florets are long. As the pistillate heads mature, the pappus of the pistillate florets protrude out past the phyllaries. Once the pistillate heads are spent, the heads expand open to release numerous wind dispersed cypselae. Fruit is a cypsela with pappus (bristle type) persistent. One female plant can produce numerous heads and once the spent heads are dispersing cypselae, it can look like the entire plant is covered in snow.



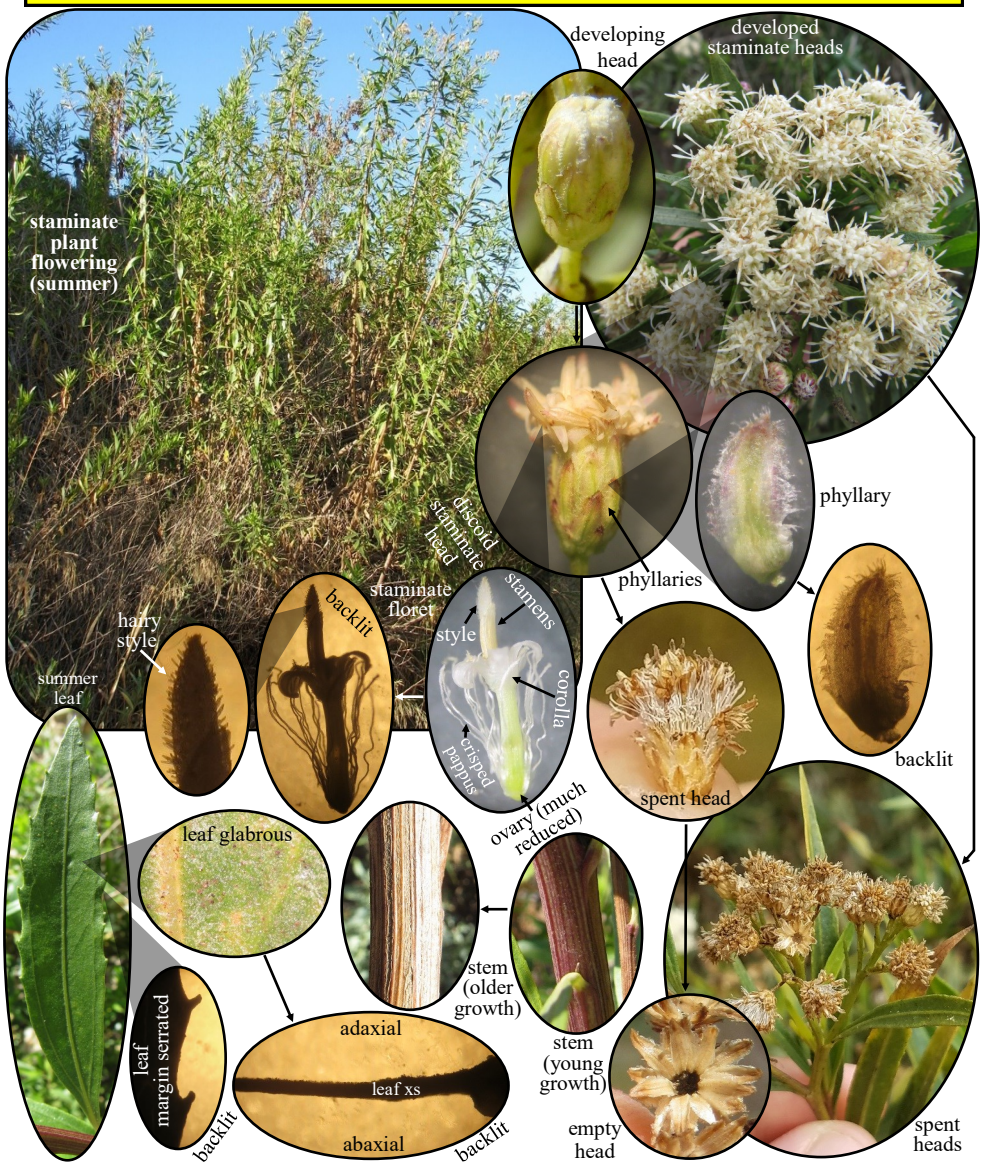
Mulefat (*Baccharis salicifolia* subsp. *salicifolia*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: mostly all year

Baccharis salicifolia subsp. *salicifolia* is a perennial shrub. This plant is dioecious and both male and female plants can be found throughout the peninsula (most commonly in canyons). The leaves of this plant are long and willowlike with margins that are serrated or entire. This plant exhibits seasonal dimorphism. Summer plants have flowerheads terminal and most leaves have serrated leaf margins. During the winter months plants have flowerheads lateral and have entire leaf margins. Male plants pro-



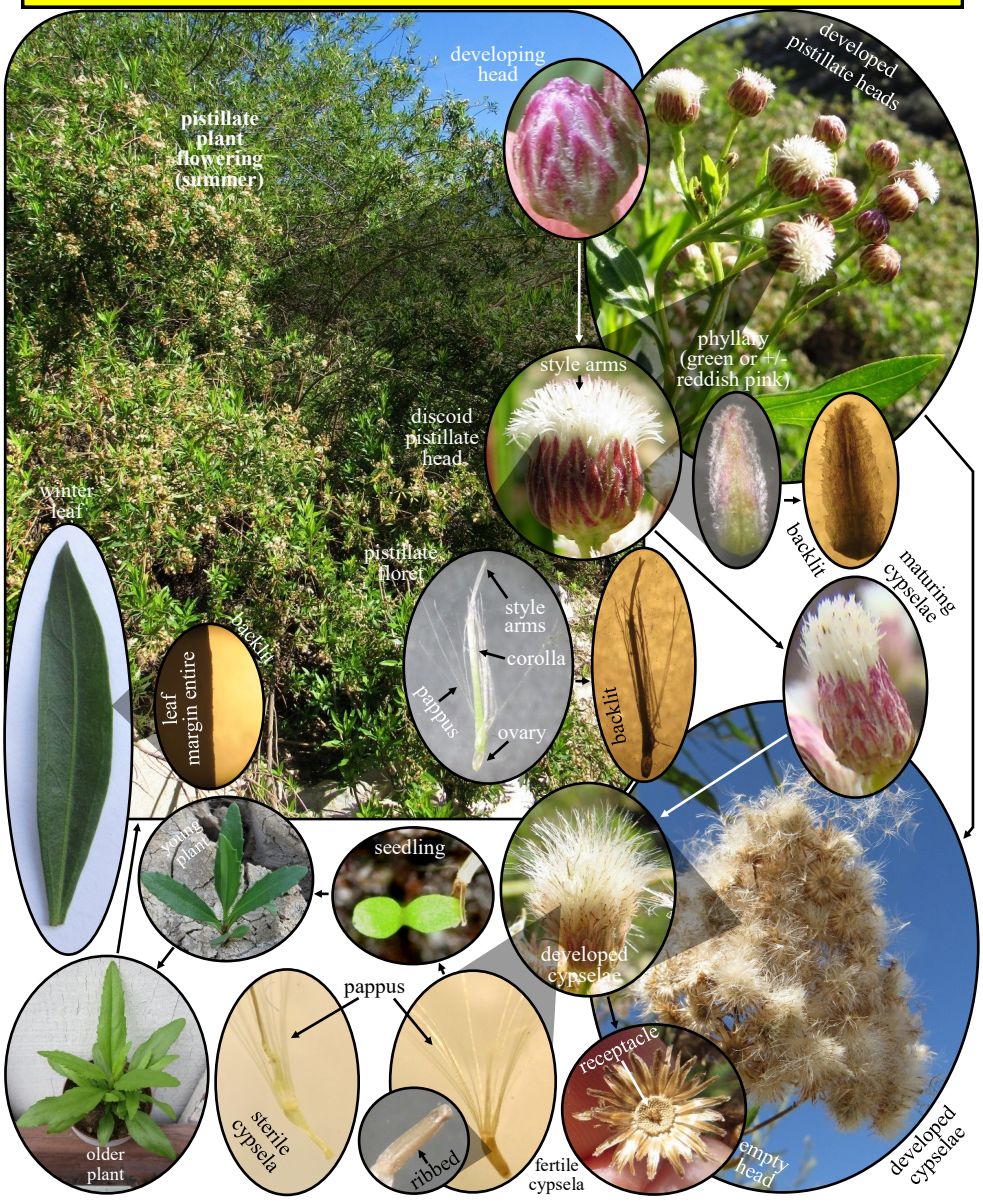
Mulefat (B*accharis salicifolia* subsp. *salicifolia*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: mostly all year

duce discoid heads that contain functionally staminate florets with corollas that are greenish-white. Female plants produce discoid heads that contain pistillate florets with greenish-white corollas that are tubular. When in the flowering stage, the style of the pistillate florets is long and protrudes out past the phyllary tips. Fruit is a cypsela with pappus (bristle type) persistent.



Mulefat (B*accharis salicifolia* subsp. *salicifolia*)
Order: Asterales
Family: Asteraceae (Daisy Family) - **Tribe:** Astereae
Flowers: mostly all year

stems can root from cuttings



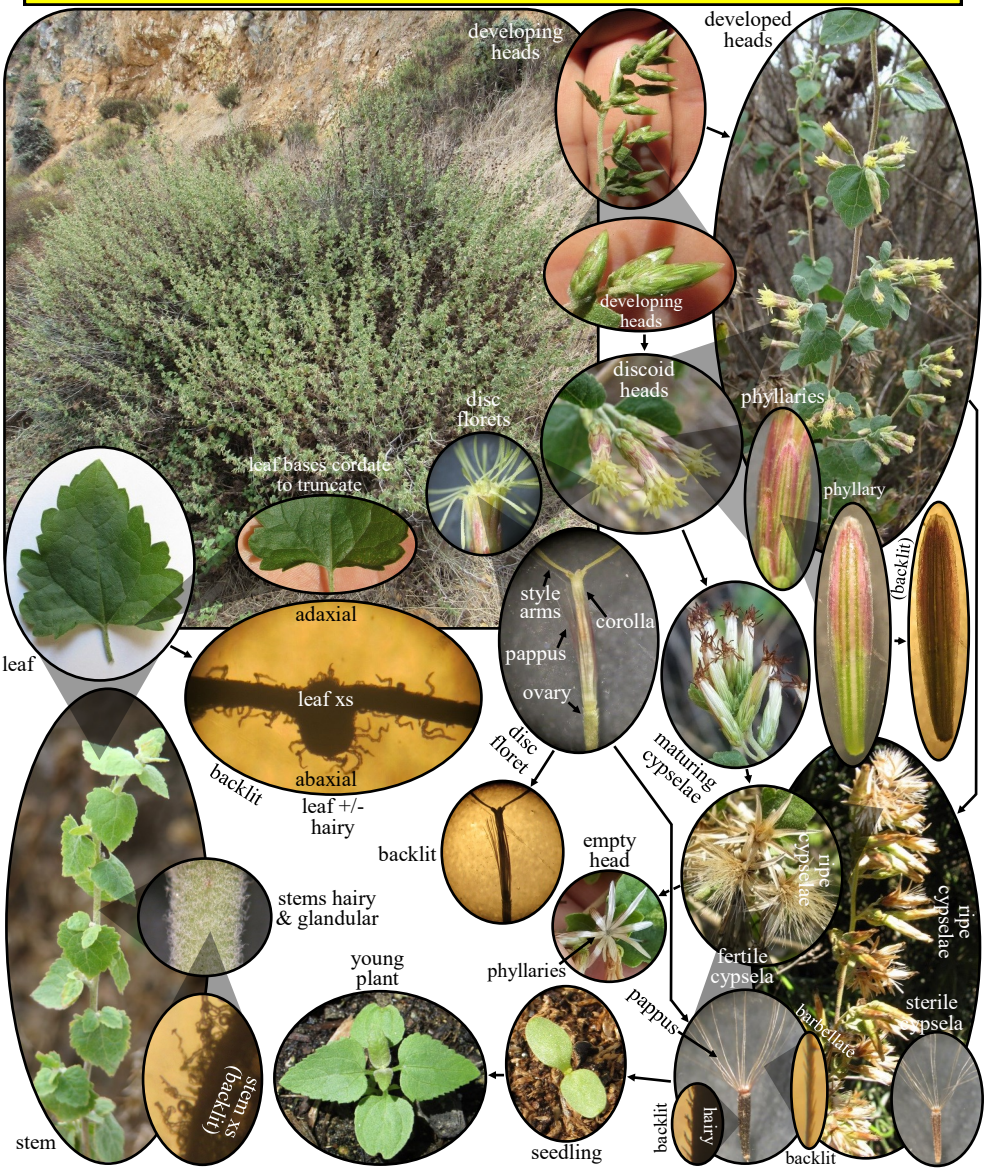
California Brickellbush (*Brickellia californica*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: July - October

Brickellia californica is a perennial shrub. It is an uncommon plant on the peninsula It can be found on dry rocky hillsides and the coastal bluffs. The leaves are triangular to oval with bases somewhat heart-shaped. The leaf margins toothed. The discoid heads contain bisexual disc florets that are bisexual (fertile) with corollas yellowish. Ray florets are absent. The fruit is a cypsela with pappus (bristle type) persistent. Florets become very aromatic in the evening and produce a strong sweet smell.



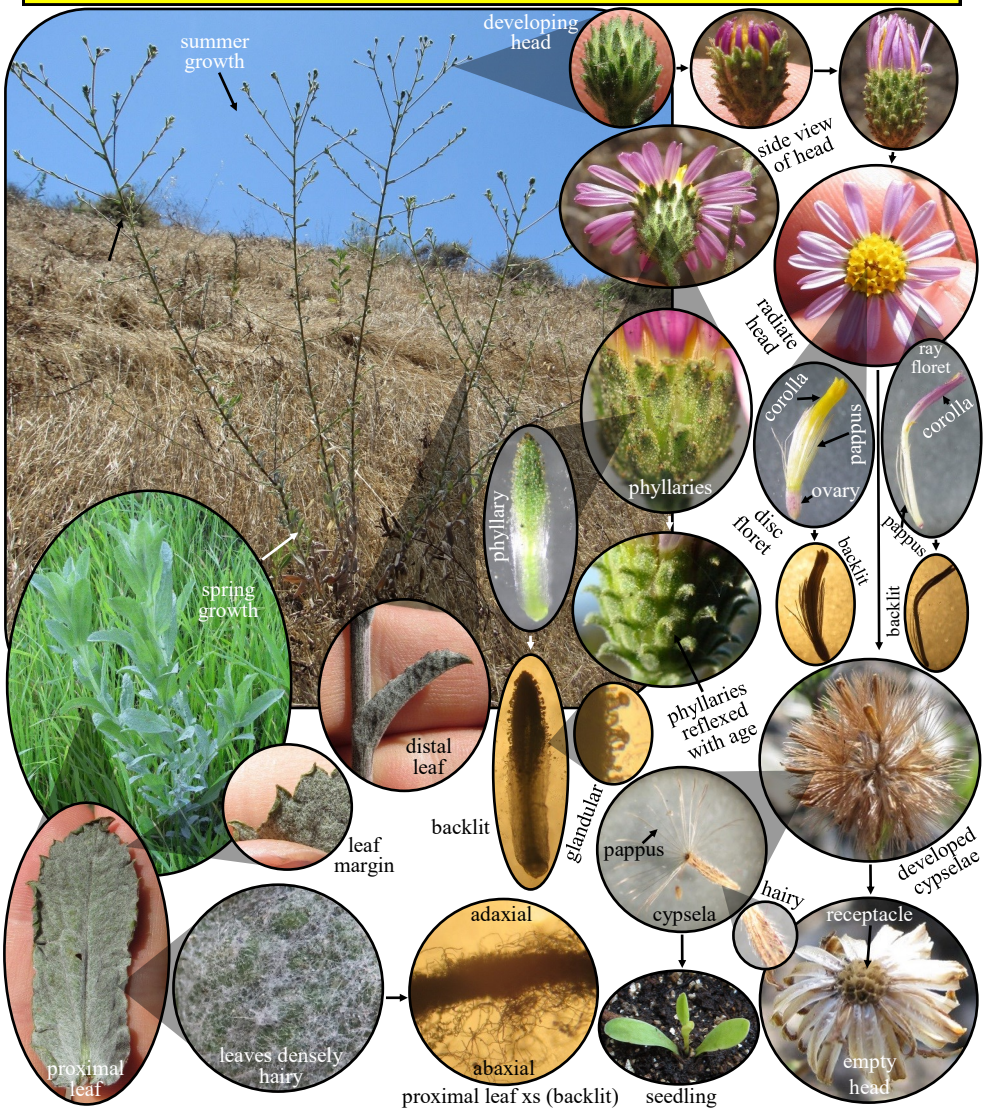
Cudweed Aster (*Corethrogyne filaginifolia*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: July - November

Corethrogyne filaginifolia is a perennial herbaceous to subshrub plant. It is an uncommon plant on the peninsula. The leaves of this plant are densely hairy and appear bluish-gray. By summer, the large proximal leaves senesce and the plant produces numerous spindly stems (with tiny reduced leaves) terminating into radiate heads. The radiate heads contain disc florets that are bisexual (fertile) with yellow corollas as well as ray florets that are sterile with corollas purple or pink to white. The phyllaries become reflexed with age. The fruit is a cypsela with pappus (bristle type) persistent.



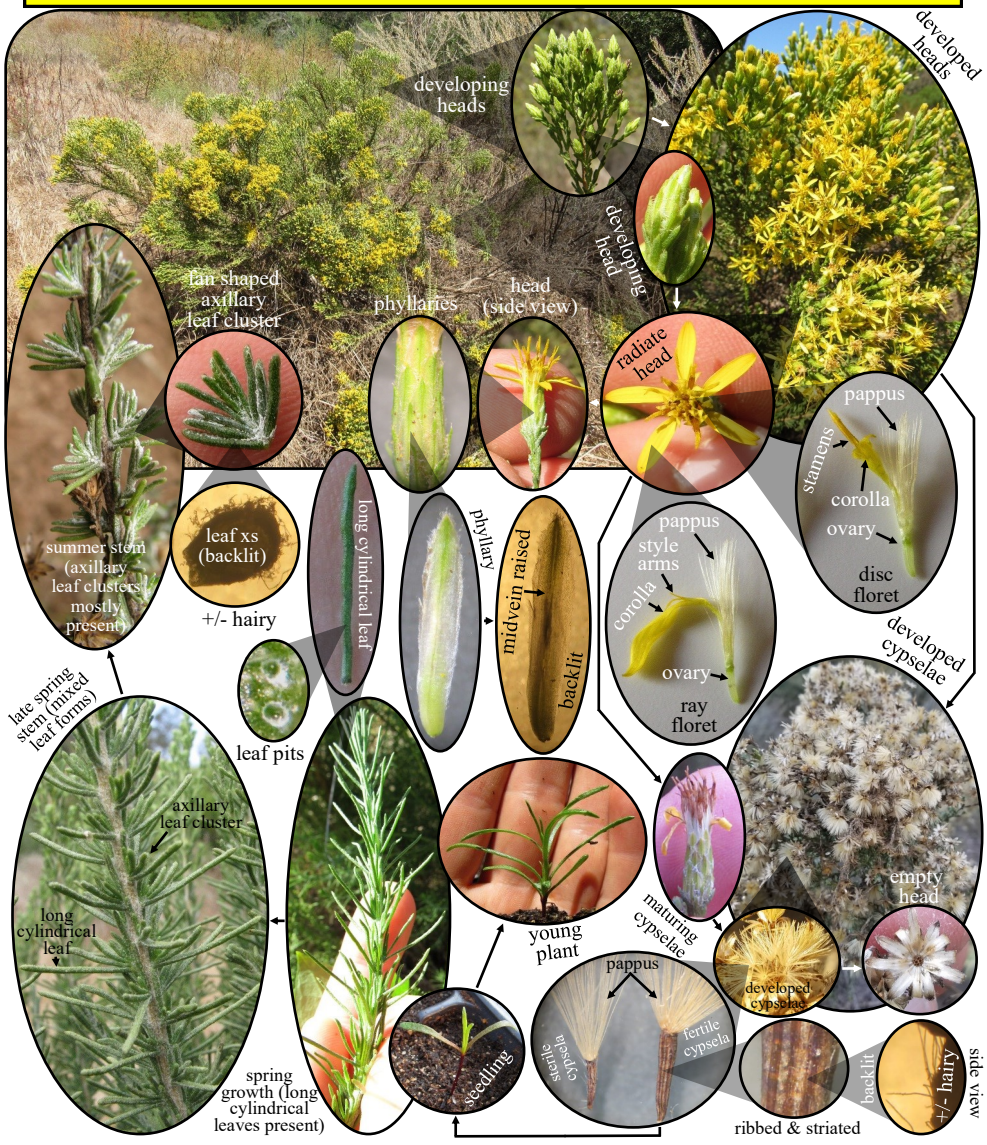
Mock Heather (*Ericameria ericoides*)

Order: Asterales

Family: Asteraceae (Sunflower Family) - **Tribe:** Astereae

Flowers: September - November

Ericameria ericoides is a large perennial shrub. It is an uncommon plant on the peninsula and only found in one location. In spring, the leaves are crowed together and long cylindrical. During summer through fall, leaves are usually reduced in length and form fan-shaped axillary leaf clusters. The radiate heads contain disc florets (5-14) that are bisexual (fertile) with yellow corollas as well as ray florets (2-6) that are pistillate (fertile) with yellow corollas. Fruit is a cypsela with pappus (bristle type) persistent. This plant is an endemic to California.



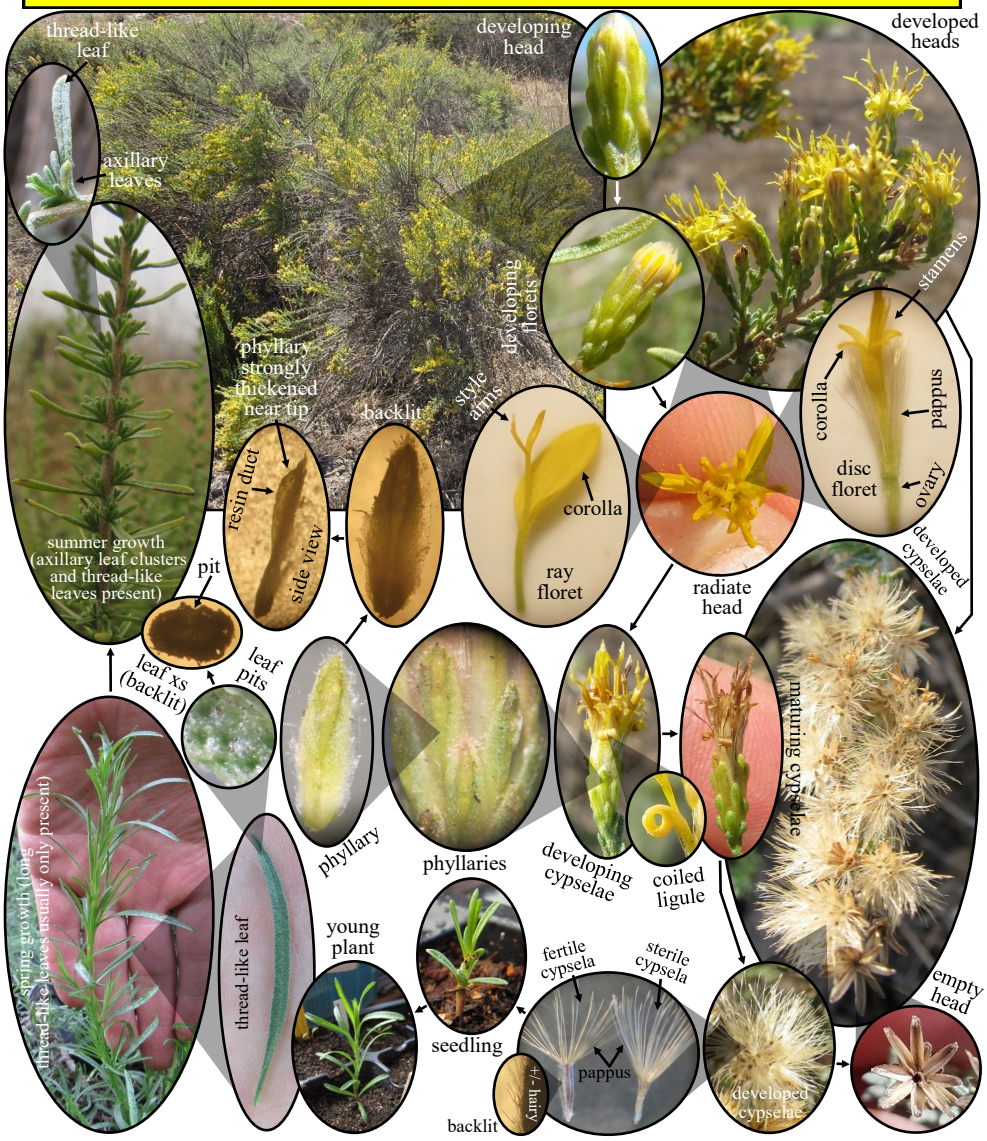
Palmer's Goldenbush (*Ericameria palmeri* var. *pachylepis*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: August - December

Ericameria palmeri var. *pachylepis* is a perennial shrub. It is an uncommon plant on the peninsula. It can be found in sandy and clay soil. The leaves of this plant are often long and thread-like (mostly in spring) as well as reduced to axillary leaf clusters (mostly in summer). The radiate heads contain disc florets (6-12) that are bisexual (fertile) with yellow corollas as well as ray florets (1-6) that are pistillate (fertile) with corollas yellow. The phyllaries of the heads are strongly thickened near the tip. Fruit is a cypsela with pappus (bristle type) persistent. It is an endemic to California.



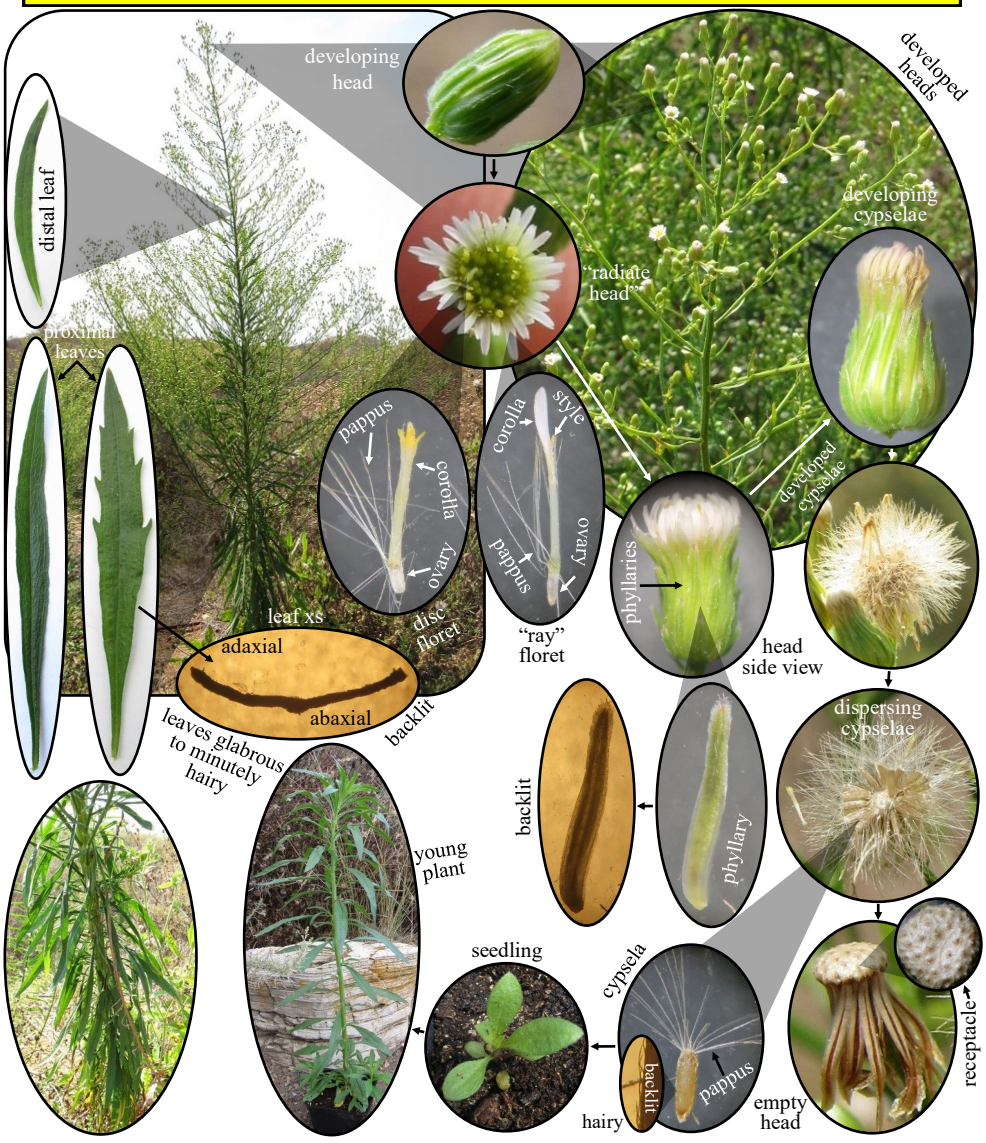
Common Horseweed (*Conyza canadensis*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: mostly all year

Conyza canadensis is a tall erect herbaceous annual. It is found throughout the peninsula often in disturbed areas. Proximal leaves are large with serrated margins and distal leaves are smaller with entire margins. The small "radiate heads" contain disc florets that are bisexual (fertile) with corollas yellowish. It also contains peripheral ("ray") florets that are pistillate (fertile) with corollas whitish and a ligule that has a very short length (0.3-1 mm). This short length can make it sometimes seem inconspicuous). Fruit is a cypsela with pappus (bristle type) persistent.



Palos Verdes Daisy (*Erigeron palosverdensis*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: June - November

Erigeron palosverdensis is a perennial herbaceous plant that is rhizomatous. It is found in a few canyons on the peninsula and is an endemic to the peninsula. The leaves are oblanceolate to oblong (8-20 mm wide) and older leaves are +/- reddish-purple. The radiate heads contain disc florets (+/- 120) that are bisexual (fertile) with corollas yellow as well as ray florets (15-35) that are pistillate (sterile) with corollas pale purple to purple. Fruit is a cypsela with pappus (bristle type) persistent. This



Palos Verdes Daisy (*Erigeron palosverdensis*)

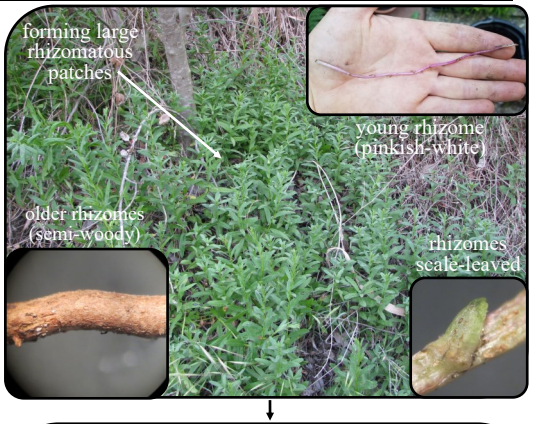
Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: June - November

plant forms large rhizomatous patches from subterranean rhizomes. This plant was recently described as a new species (Uelman 2022).















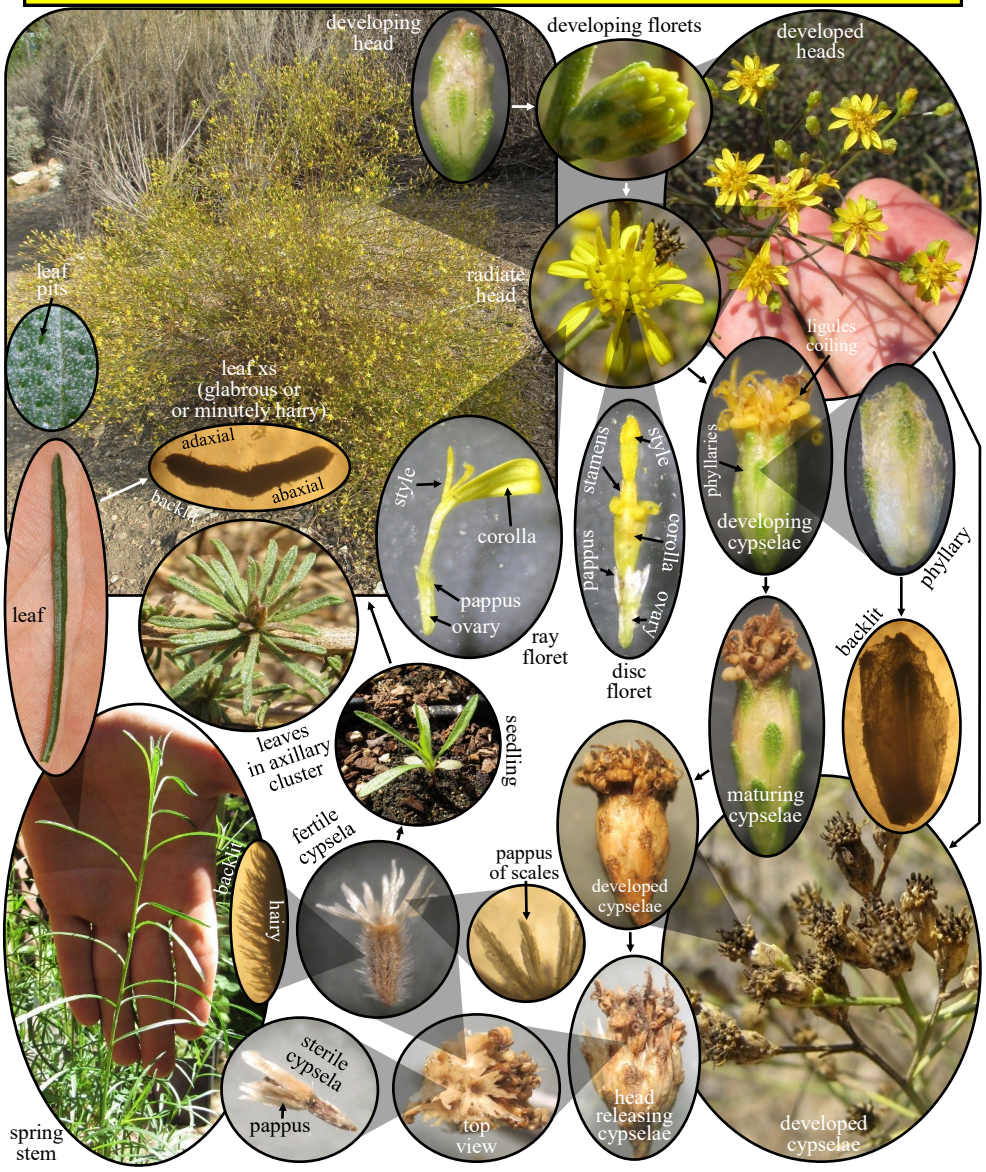
Snakeweed (*Gutierrezia californica*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: April - November

Gutierrezia californica is a herbaceous perennial subshrub. It is found in a few locations on the peninsula. Basal leaves are long and thin and wither at flowering. Cauline leaves are thin and +/- long but are often reduced distally and can be in axillary clusters (fall). The radiate heads contain disc florets (4-13) that are bisexual (fertile) with corollas yellow as well as ray florets (4-13) that are pistillate (fertile) with corollas yellow or whitish. Fruit is a cypsela with pappus (scale type) persistent.



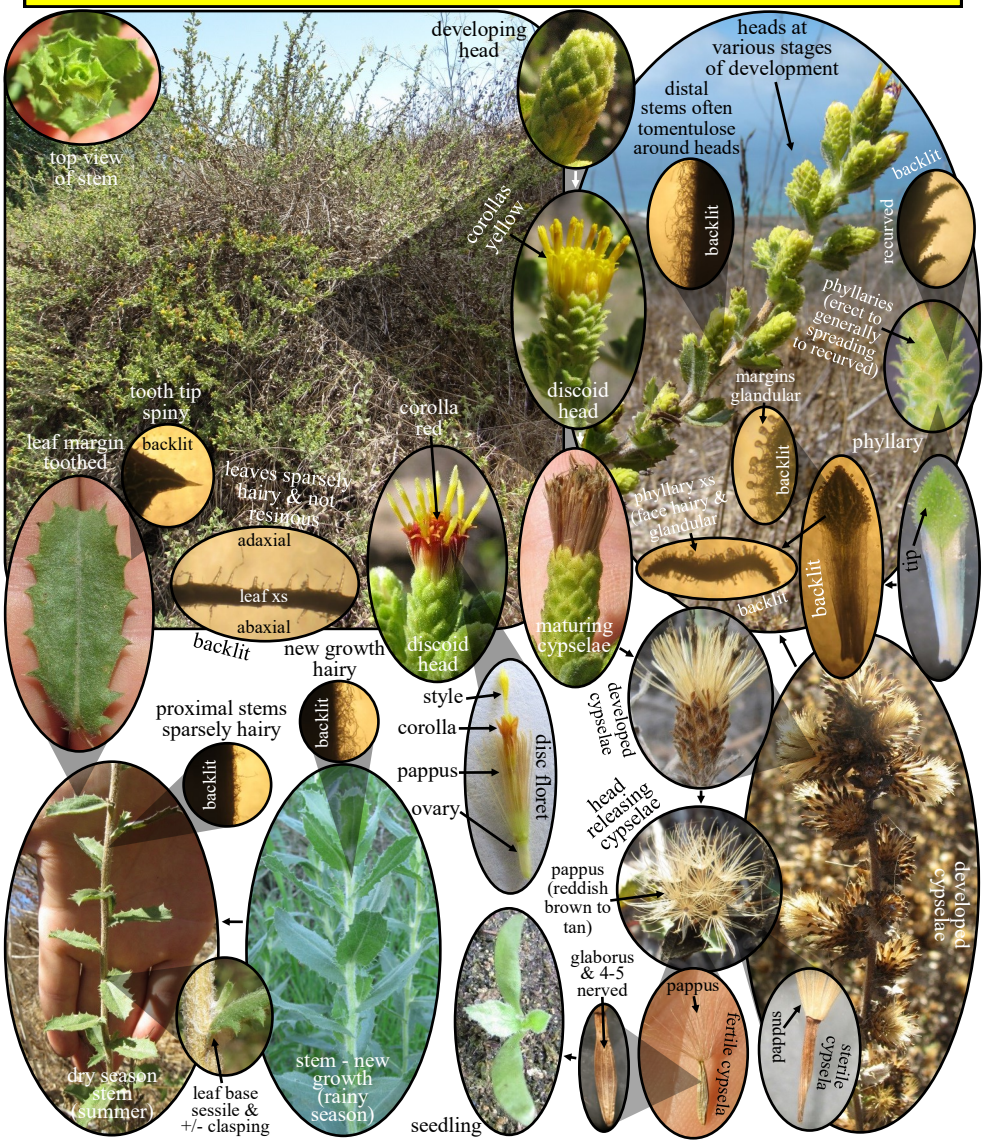
Sawtooth Goldenbush (*Hazardia squarrosa* var. *grindelioides*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: July - October

Hazardia squarrosa var. *grindeliodes* is a perennial shrub. It is found throughout the peninsula often in canyons. The leaves are leathery, sessile (sometimes clasping), sparsely hairy, and not resinous. The stems are sparsely hairy; however, stems near the heads are usually densely hairy. New growth can also be hairy. Phyllary tips are spreading to recurved, glandular (margins also glandular), and hairy. The discoid heads contain disc florets (9-16) that are bisexual (fertile or sterile) with corollas yellow (sometimes red). Ray florets 0. Fruit is a cypsela with pappus (bristle type) persi-



Sawtooth Goldenbush (*Hazardia squarrosa* var. *grindelioides*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: July - October

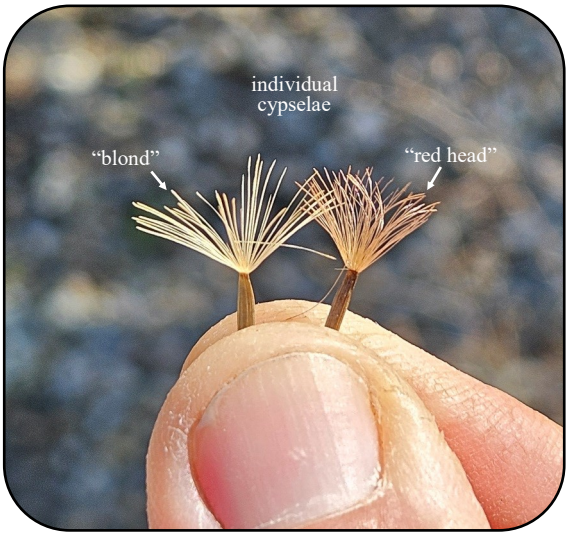
stent. Pappus can be straw colored (“blondies”) or reddish purple (“red heads”).

“blondies”



“red heads”





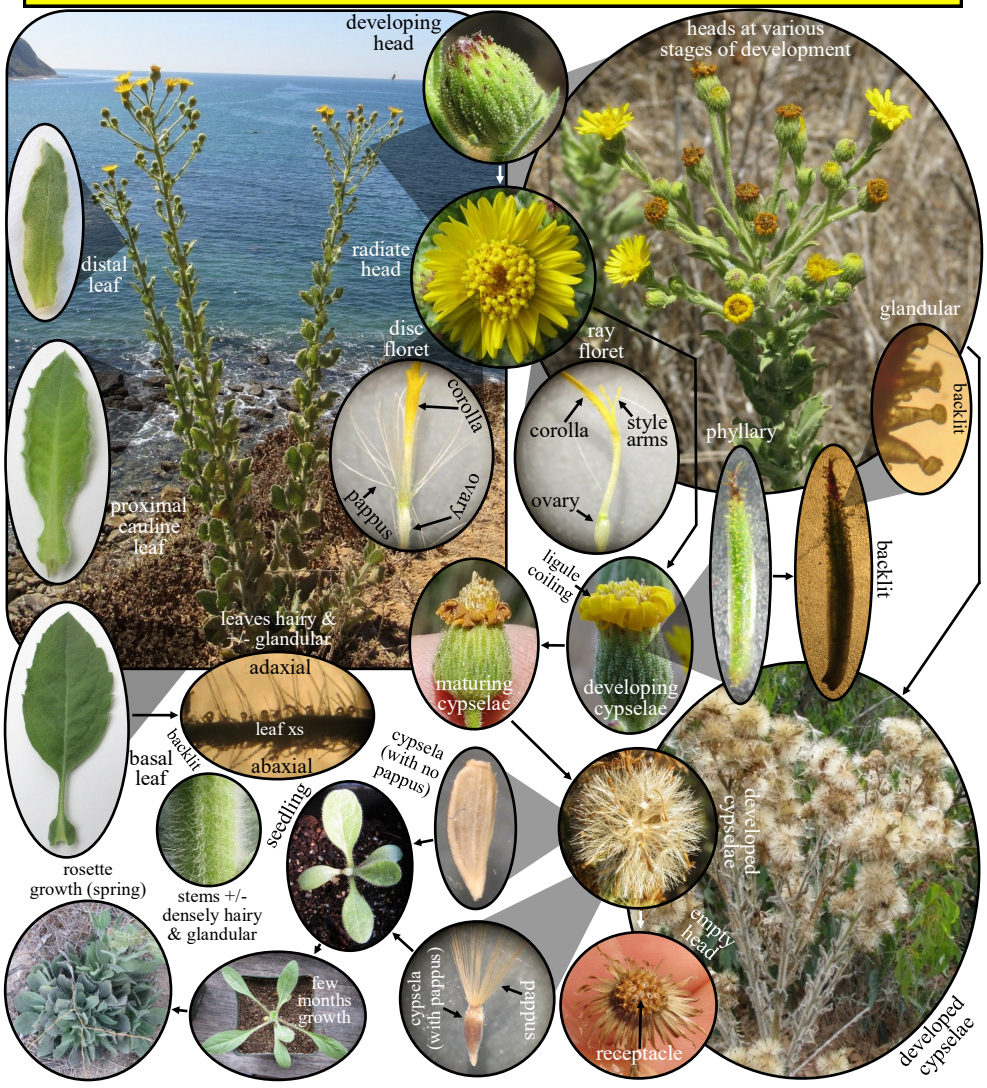
Telegraph Weed (*Heterotheca grandiflora*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: April - December

Heterotheca grandiflora is an annual or short-lived perennial herbaceous plant. It is found throughout the peninsula often in disturbed areas. The overall plant is moderately to densely hairy. The basal and proximal cauline leaves have petioles while distal leaves are sessile. The leaf margins can be flat to occasionally undulated and can be serrated or entire. The radiate heads contain disc florets that are bisexual (fertile) with corollas yellow as well as ray florets that are pistillate (fertile) with corollas yellow. The fruit is a cypsela with pappus (bristle type). Cypselae in this plant are dimorphic. Ray cypselae lack pappus while the disc cypselae have pappus. This plant is an endemic to California.



Menzies' Goldenbush (*Isocoma menziesii* var. *menziesii*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: August - January

Isocoma menziesii var. *menziesii* is a perennial erect to slightly spreading shrub. This variety of *I. menziesii* appears to have been introduced on the peninsula and has only been encountered in restoration and city project sites (also appearing to be an aggressive spreader out from these areas). The leaves of this plant are not hairy and have leaf margins that are entire or with 1 to 2 pairs of teeth near the distal end. Stems (new & older growth) are glabrous and to slightly glandular. The discoid heads contain disc florets that are bisexual (fertile) with corollas yellow. No ray florets are present. Fruit is a cypsela with pappus (bristle type) persistent. *I. menziesii* varieties hybridize easily and hybrids with *var. vernonioides* on the peninsula have been found. This potentially threatens the peninsulas local varieties of *I. menziesii.*



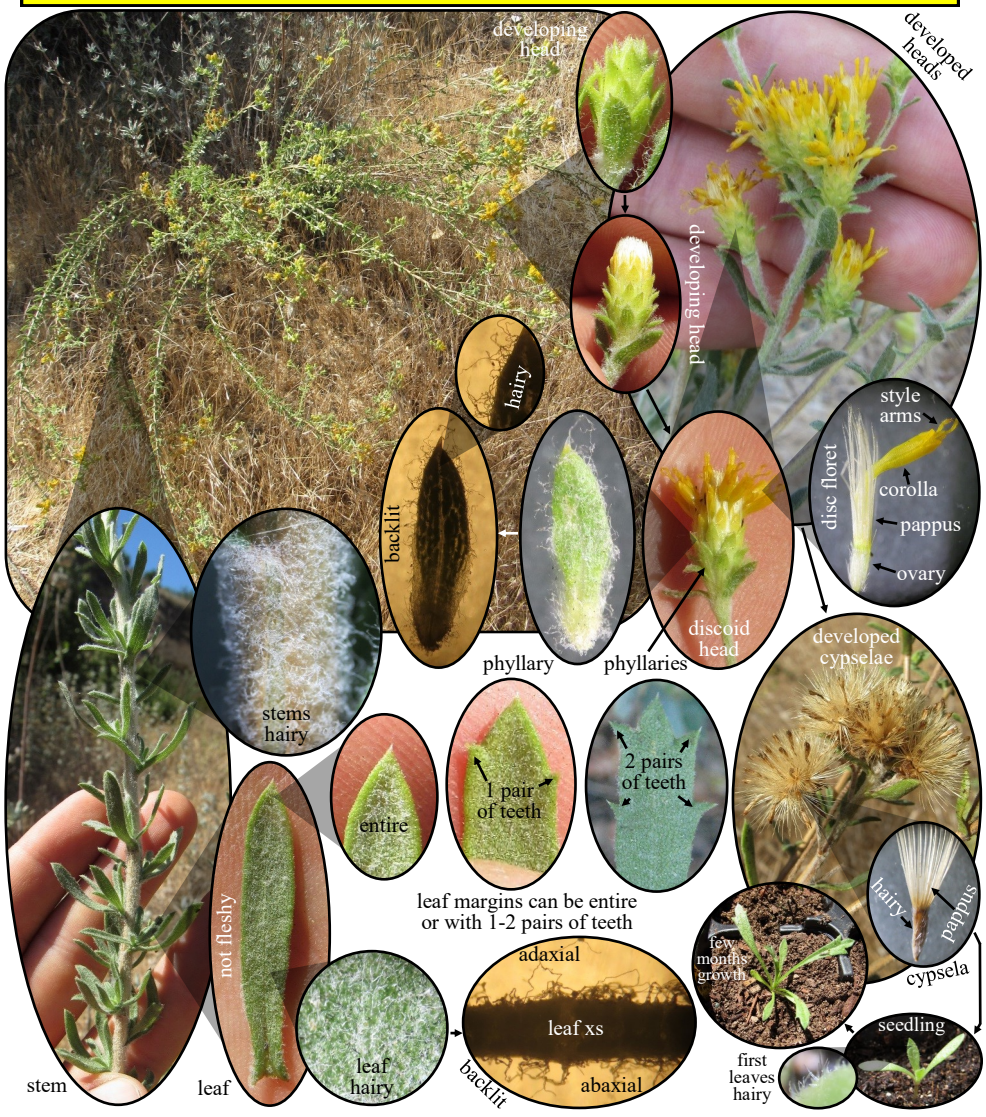
Decumbent Goldenbush (*Isocoma menziesii* var. *decumbens*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: July - November

Isocoma menziesii var. *decumbens* is a perennial decumbent to prostrate to occassionally erect shrub. It is uncommon on the peninsula and has only been found in one canyon. The stems (new and older growth) of this plant are densely hairy to glabrous and minutely glandular. The leaves are hairy and have leaf margins that are entire or with 1 to 2 pairs of distal teeth. Phyllaries are hairy and the discoid heads contain disc florets that are bisexual (fertile) with corollas (often with goblet-shaped throats) yellow. No ray florets are present. The fruit is a cypsela with pappus (bristle type) persistent. This plant has a CNPS rare plant rank of 1B.2.



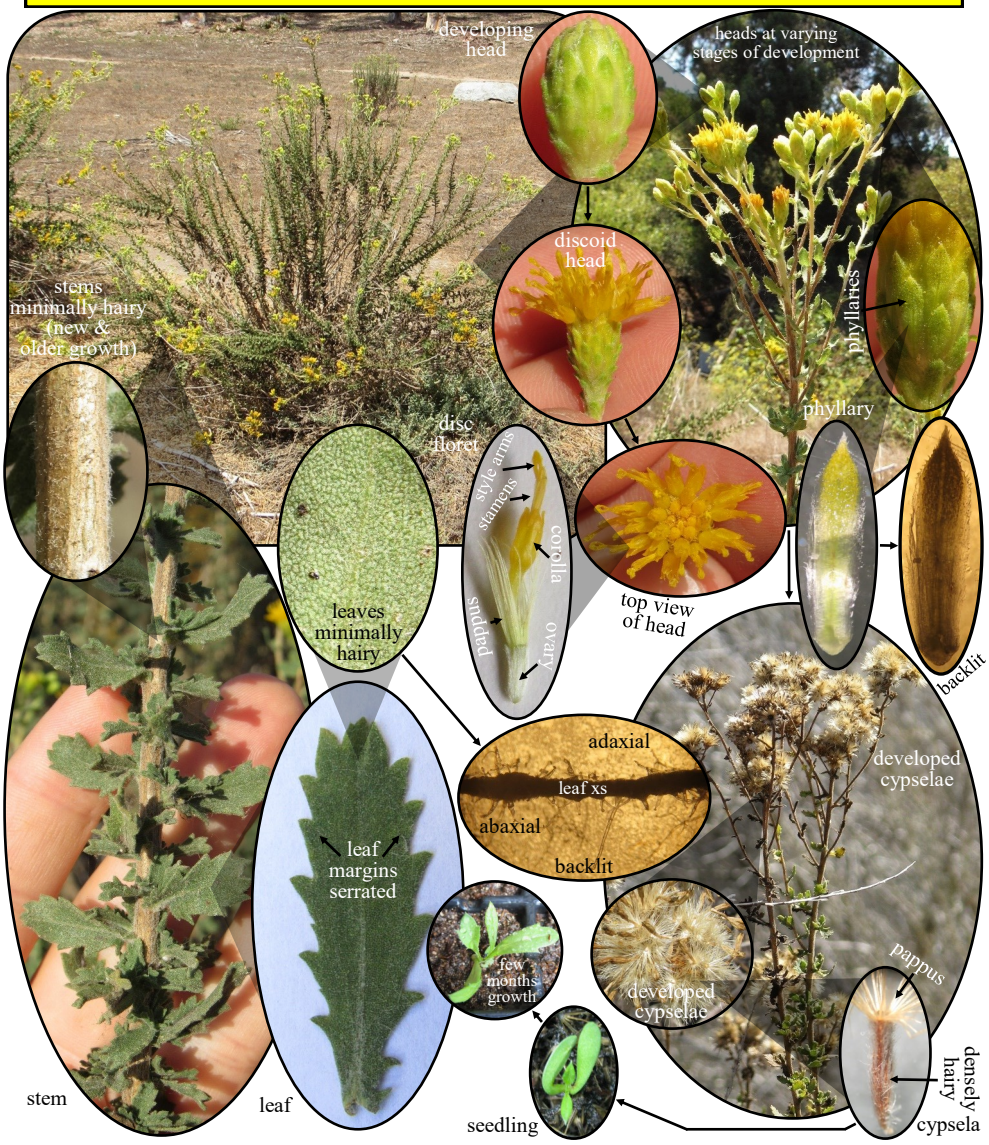
Coastal Goldenbush (*Isocoma menziesii* var. *vernonioides*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: July - December

Isocoma menziesii var. *vernonioides* (minimally hairy form) is a perennial ascending or decumbent shrub (occasionally slightly erect). It is found in a few places on the peninsula along the bluff tops. Stems (new & older growth) are minimally hairy and occasionally glandular. The leaves are minimally hairy with the entire leaf margin toothed (serrated). The discoid heads contain disc florets that are bisexual (fertile) with corollas (often with goblet-shaped throats) yellow. No ray florets are present. Fruit is a cypsela with pappus (bristle type) persistent.



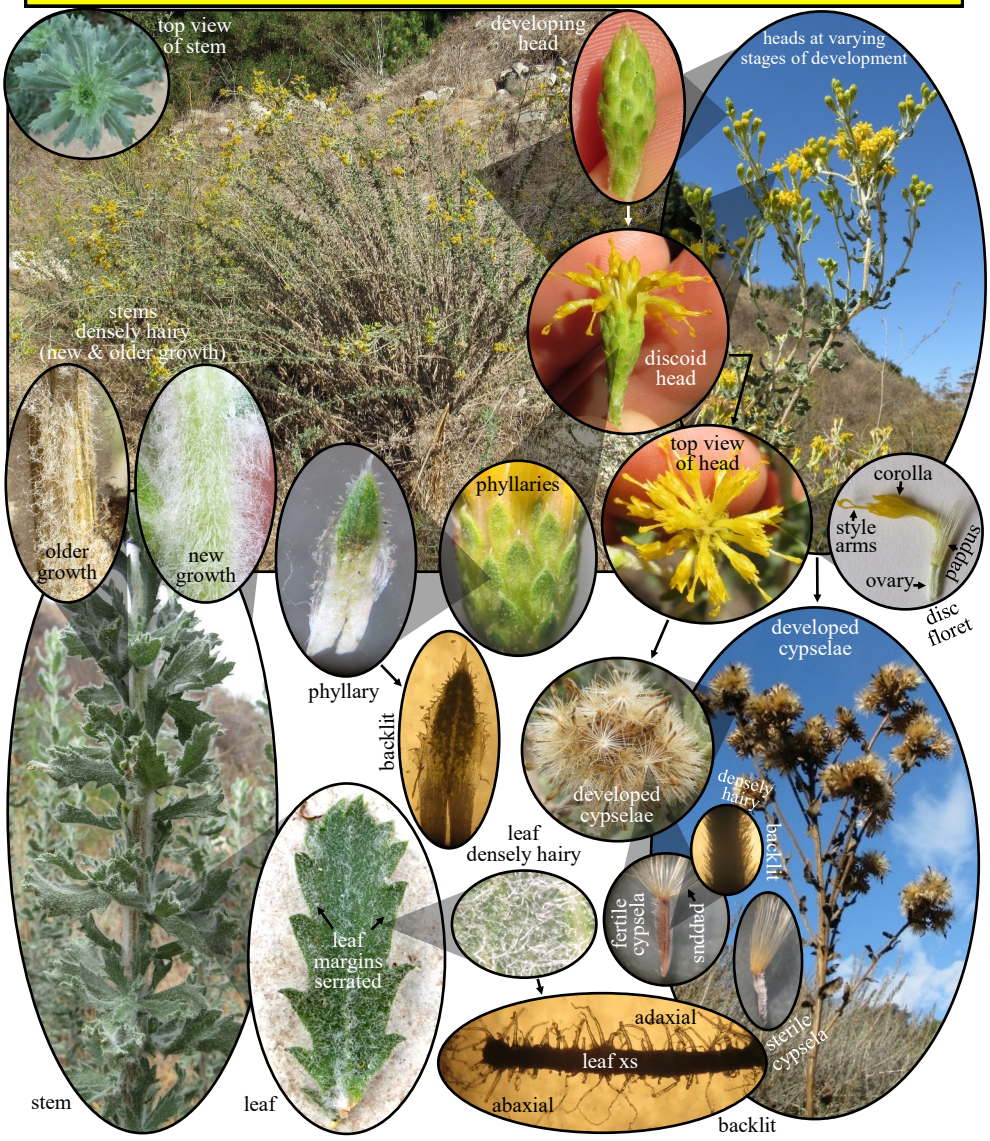
Coastal Goldenbush (*Isocoma menziesii* var. *vernonioides*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: July - December

Isocoma menziesii var. *vernonioides* (densely hairy form) is a perennial ascending or decumbent shrub (occasionally slightly erect). It is found throughout the peninsula mostly in canyons and on hillsides away from the coastal bluffs. Stems (new & older growth) are densely hairy and occasionally glandular. The leaves are densely hairy with the entire leaf margin toothed (serrated). The discoid heads contain disc florets that are bisexual (fertile) with corollas (often with goblet-shaped throats) yellow. No ray florets are present. Fruit is a cypsela with pappus (bristle type) persistent.



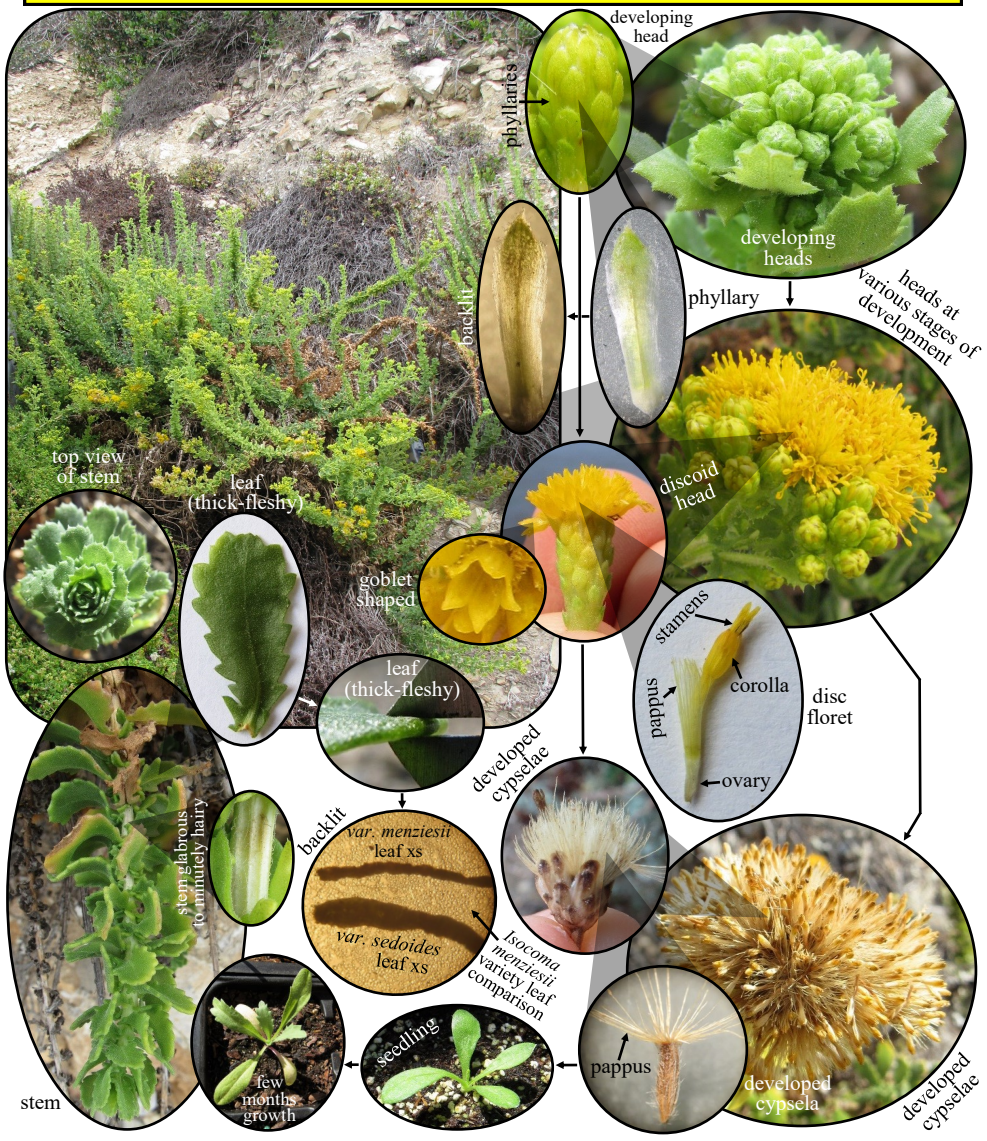
Succulent Goldenbush (*Isocoma menziesii* var. *sedoides*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: June - December

Isocoma menziesii var. *sedoides* is a perennial decumbent to prostrate subshrub. It is found along some stretches of the coastal bluffs on the peninsula. The leaves of this plant are thick-fleshy ("succulent"), not hairy, and have leaf margins that are serrated along the whole margin. Stems of this plant are glabrous (older growth) to minutely hairy (new growth) and not glandular. The discoid heads contain disc florets that are bisexual (fertile) with corollas (often with goblet-shaped throats) yellow. No ray florets are present. The fruit is a cypsela with pappus (bristle type) persistent.



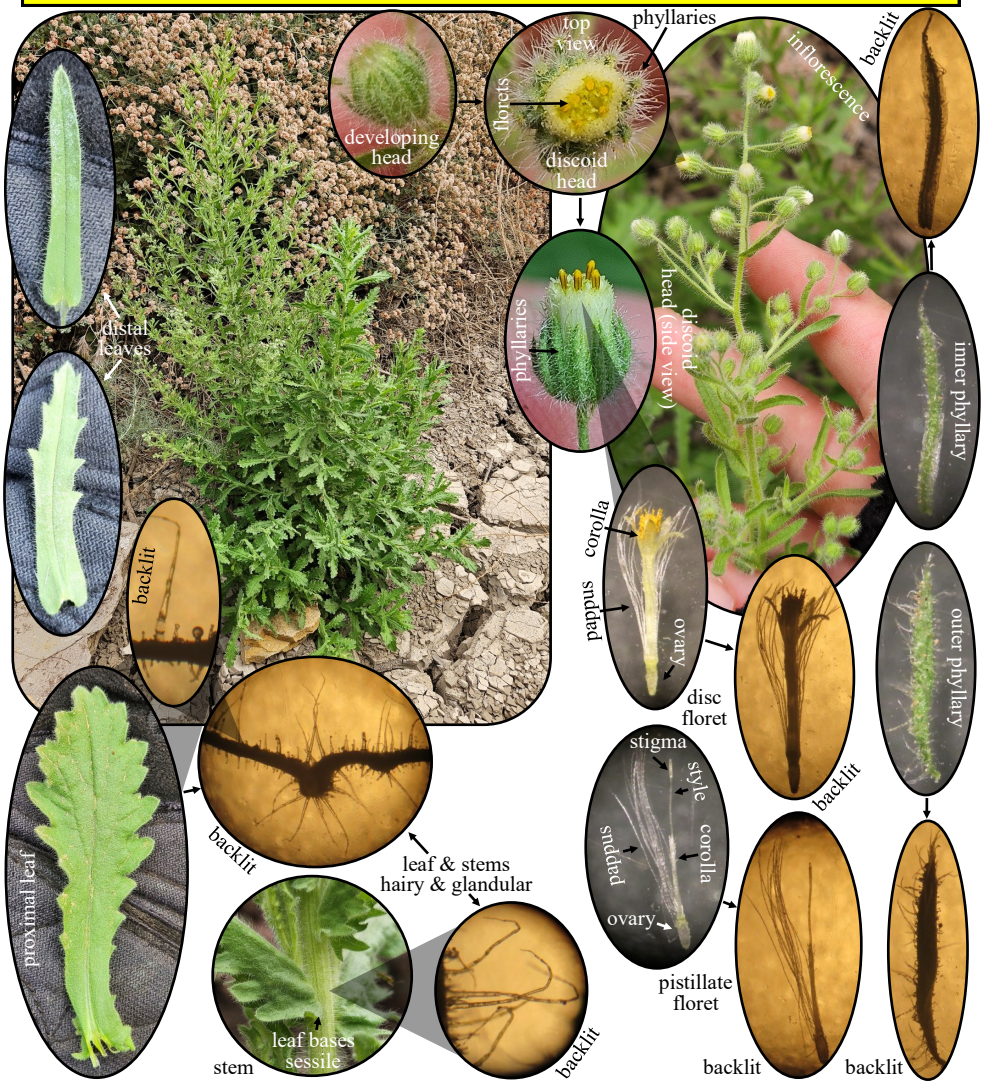
Coulter's Horseweed (*Laennecia coulteri*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: May - November

Laennecia coulteri is an annual herbaceous plant. It is found in a few locations in disturbed or wet sites on the peninsula. This plant is tallish with numerous stems or just a few. Much branching happens towards the distal end of the plant. The leaves are cuneate to obovate. Proximal leaves have margins completely toothed. Distal leaves are reduced with margins entire or just a few teeth. Leaves are hairy (long soft hairs) and glandular. Leaf bases are sessile. Phyllaries are in 2 series. The disciform heads contain disc flowers (fertile) with corollas somewhat yellow and flared open. Pistillate flowers (fertile) are also present with narrow corollas (whitish) and exserted styles. Fruit is a cypsela with pappus (bristle type) that easily detaches.



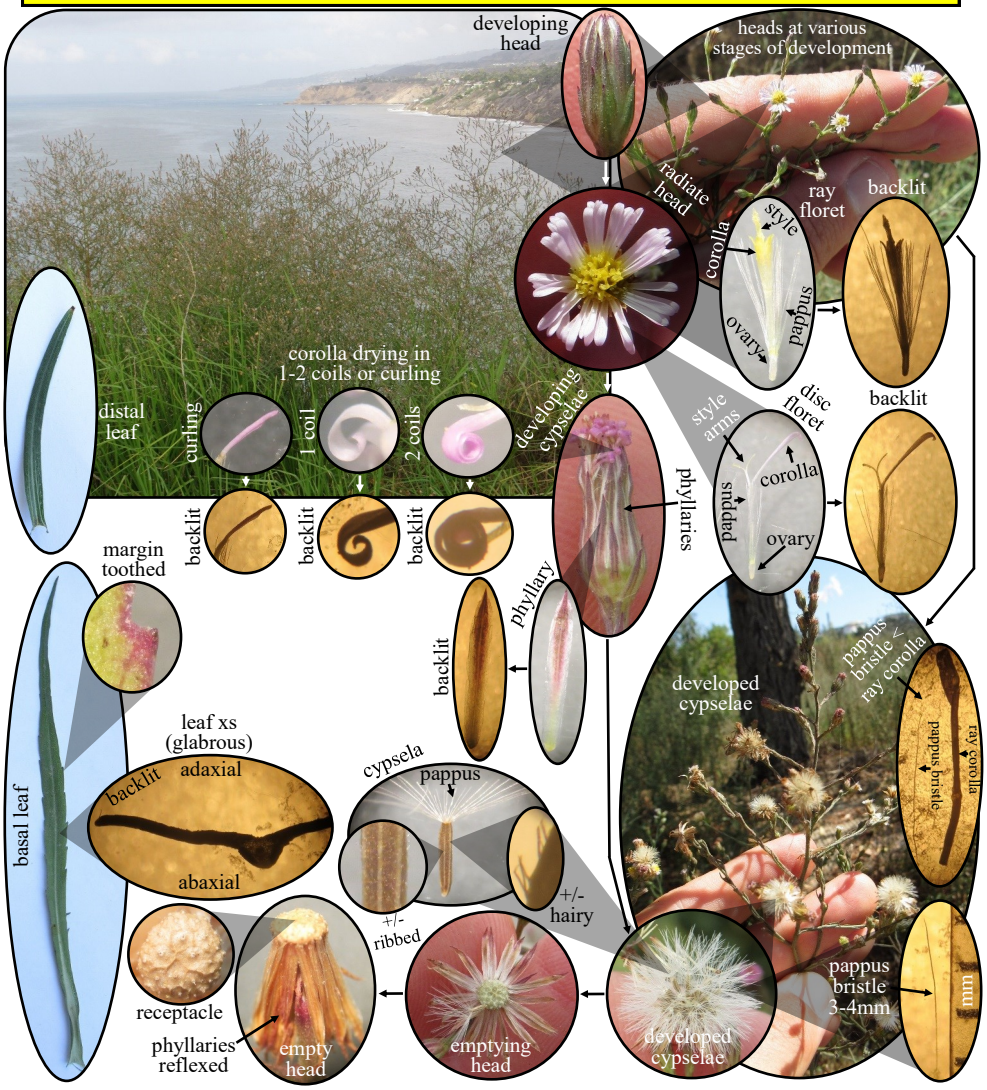
Saltmarsh Aster (*Symphyotrichum subulatum* var. *parviflorum*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Astereae

Flowers: July - November

Symphyotrichum subulatum var. *parviflorum* is annual herbaceous plant. It is found in only a few spots on the peninsula. The leaves are glabrous with the leaf margins entire or slightly toothed. The basal leaves are thin and long with long petioles and they wither at flowering time. The proximal cauline leaves are thin and can have a petiole or be sessile and the also wither at flowering. The distal leaves are reduced and are sessile. The radiate heads contain disc florets that are bisexual (fertile) with corollas that are yellow as well as ray florets that are pistillate (fertile) with corollas white, pink or lavender. The corollas of the ray florets, when the cypselae are developing, will curl up in 1 to 2 coils. Fruit is a cypsela with pappus (bristle type) persistent.



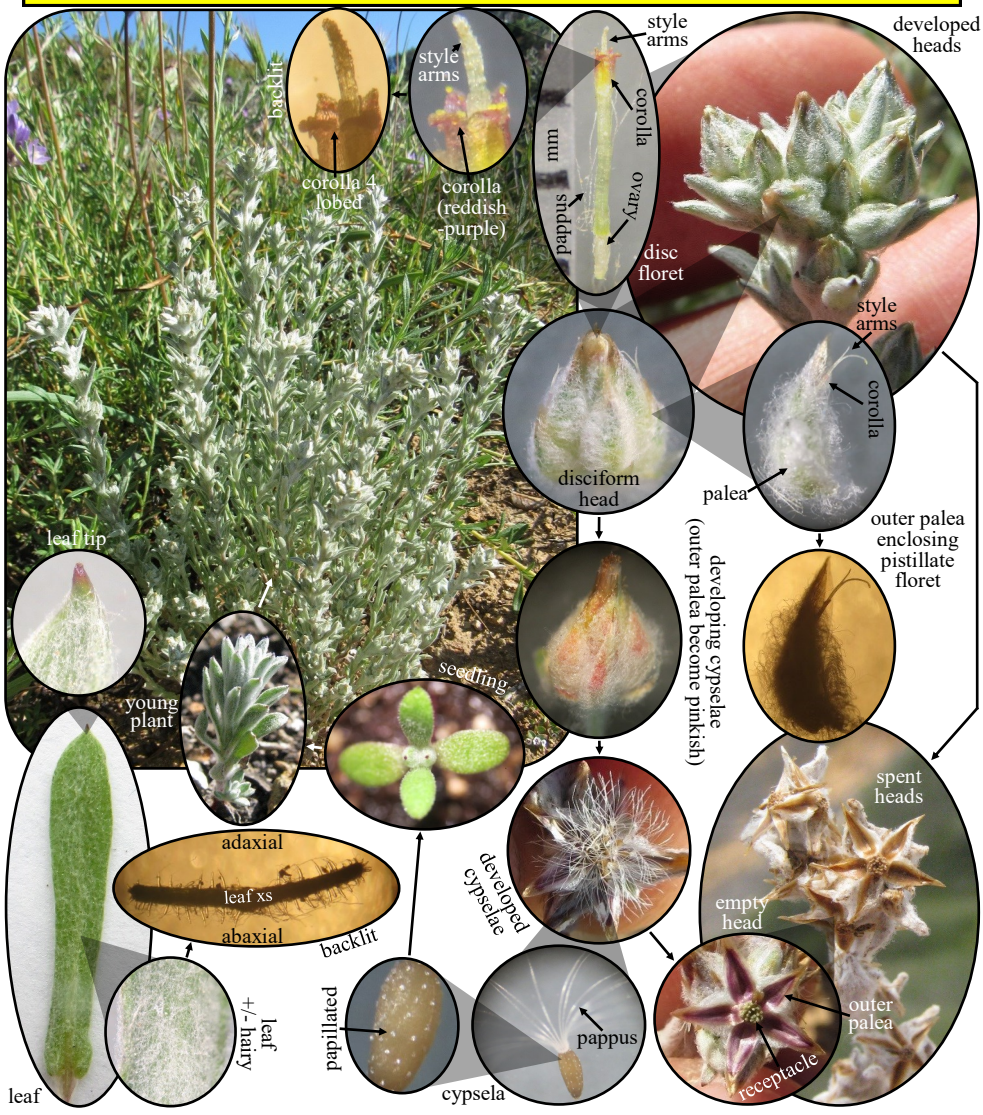
California Cottonrose (*Logfia filaginoides*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Gnaphalieae

Flowers: February - July

Logfia filaginoides is a small herbaceous annual plant. It is found in one spot on the peninsula. This plant is densely hairy. The leaves are small, narrow, and hairy. The disciform heads lack an involucre and the outer paleae make it look like one. Outer paleae enclose pistillate florets. Innermost paleae surround pistillate florets. The disciform heads also contain bisexual disc florets that have a corolla with 4 lobes that is reddish-purple. Fruit is a cypsela with pappus (bristle type); however, inner pistillate and bisexual floret cypselae have pappus while the outer pistillate floret cypselae have no pappus.



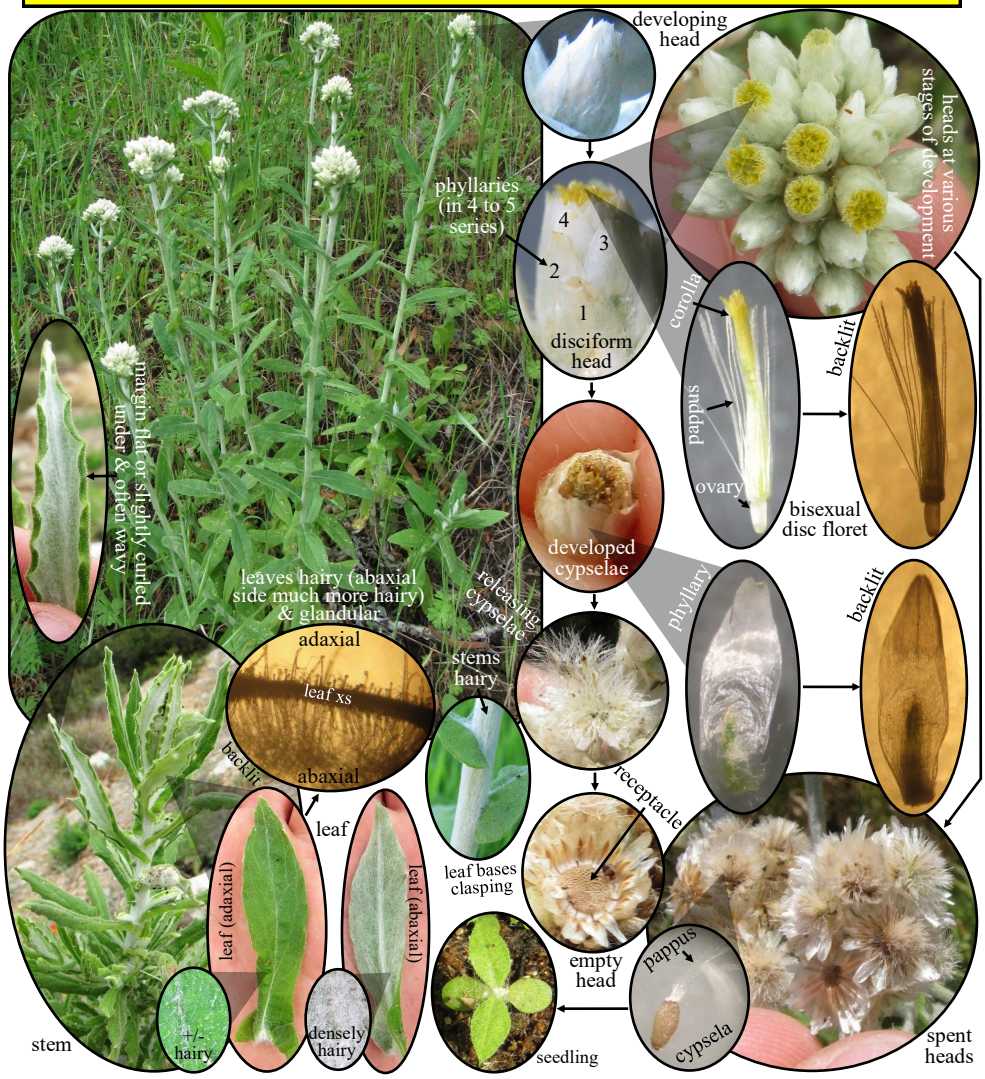
Bicolor Everlasting (*Pseudognaphalium bioletti*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Gnaphalieae

Flowers: April - June

Pseudognaphalium bioletti is a perennial herbaceous plant. It is found throughout the peninsula. The leaves of this plant are strongly bicolored with the adaxial side a light green color (minimally hairy and glandular) and the abaxial side whitish (densely hairy). The base of the leaves clasp the stem but are not decurrent. The leaf margins are somewhat curled under and wavy. The stems of this plant are hairy distally and this plant is aromatic. The disciform heads contain two types of disc florets. Peripheral florets are pistillate (often more numerous than bisexual florets) with corollas yellowish. The inner disc florets are bisexual with corollas yellowish. Fruit is a minute cypsela with pappus (bristle type) that are not persistent.



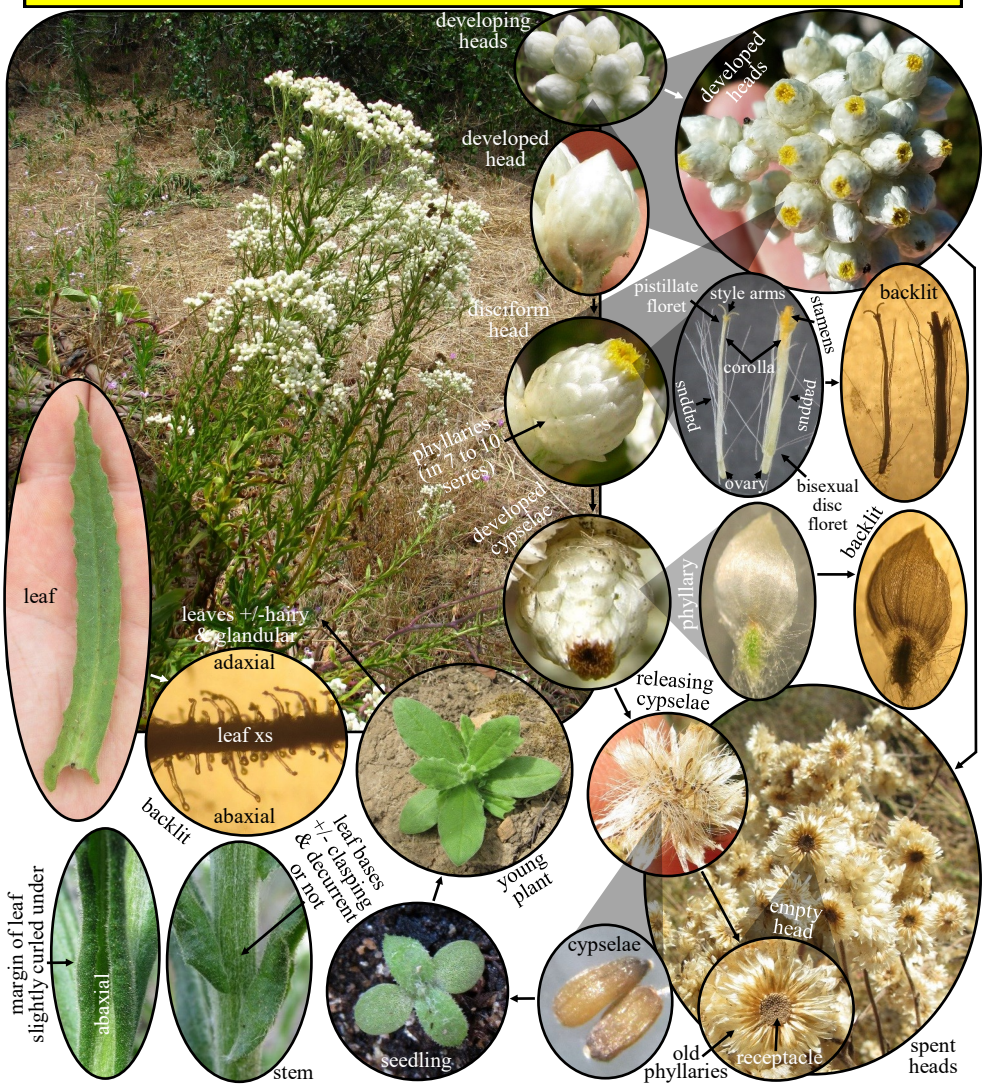
California Everlasting (*Pseudognaphalium californicum*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Gnaphalieae

Flowers: April - July

Pseudognaphalium californicum is an annual, biennial, or perennial herbaceous plant. The leaves of this plant are the same color on both sides, with the color usually light green to dark green. The leaves are glandular and somewhat hairy. The leaf base is +/- clasping the stem or not and it can be decurrent or not. The leaf margin is slightly curled under and sometimes wavy. The stems are glandular and somewhat hairy. This plant is strongly aromatic. The disciform heads contain two types of disc florets. Peripheral florets are pistillate (often more numerous than bisexual florets) with corollas yellowish. The inner disc florets are bisexual with corollas yellowish. Fruit is a minute cypsela with pappus (bristle type) that are not persistent.



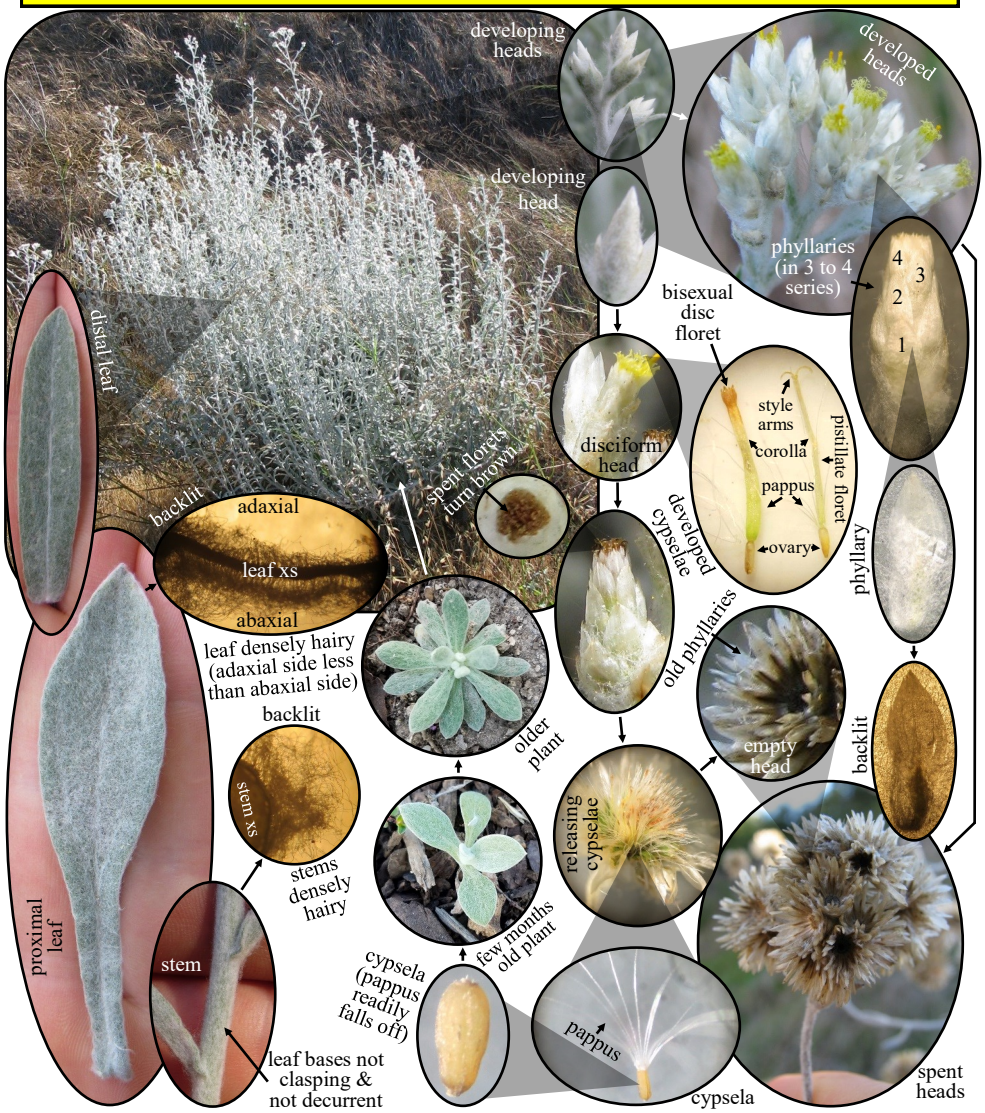
Wright's Cudweed (*Pseudognaphalium canescens*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Gnaphalieae

Flowers: August - November

Pseudognaphalium canescens is an annual or perennial plant. It is found throughout the peninsula. This plant is not aromatic (unscented). The stems are densely hairy. The leaves of this plant are densely hairy with the adaxial side less densely hairy (sometimes with sessile glands) than the abaxial side. Leaf bases are not clasping or decurrent and the leaf margins are flat. The disciform heads contain two types of disc florets. Peripheral florets are pistillate (often more numerous than bisexual florets) with corollas yellowish. The inner disc florets are bisexual with corollas yellowish. Fruit is a minute cypsela with pappus (bristle type) that are not persistent.



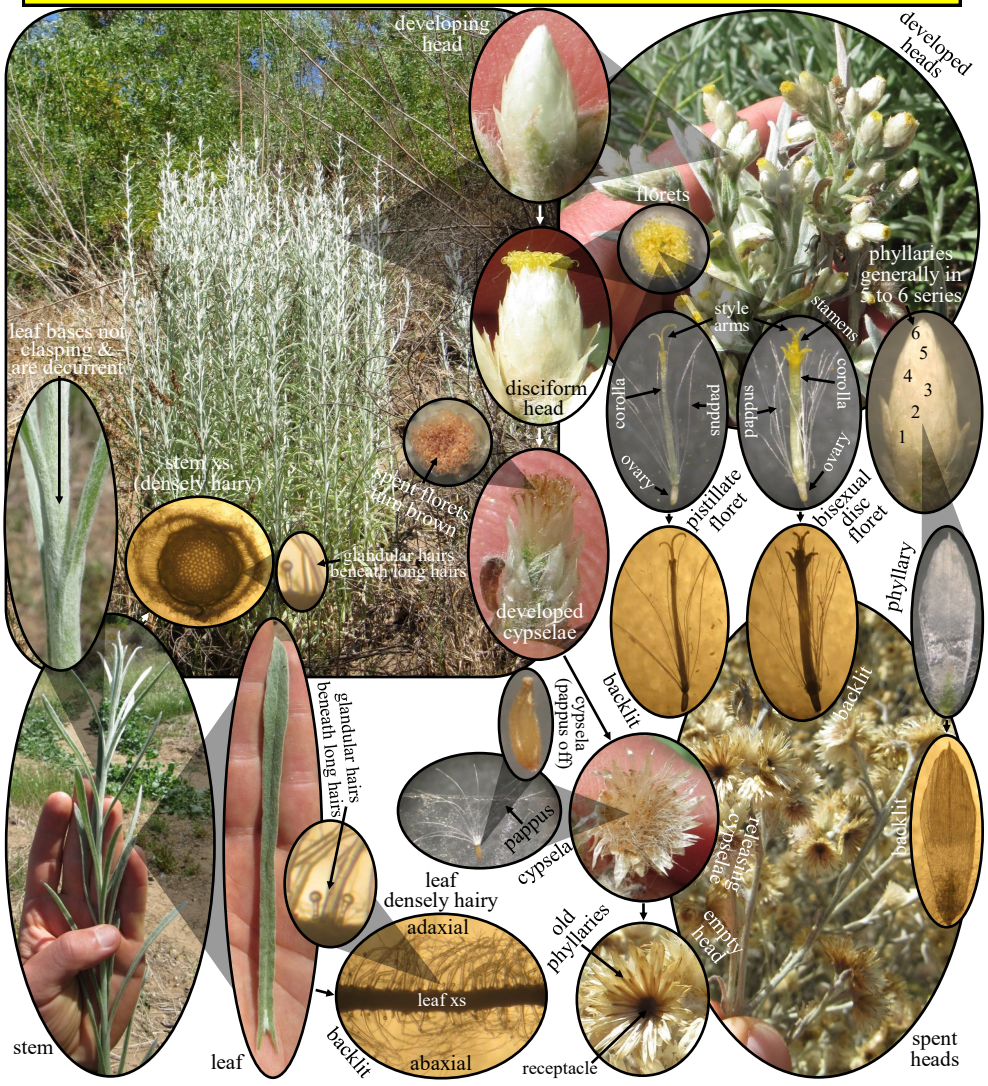
Cudweed (*Pseudognaphalium beneolens*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Gnaphalieae

Flowers: June - October

Pseudognaphalium beneolens is an annual or short-lived perennial plant. It is found in a few locations on the peninsula usually in more sandy soils. This plant is aromatic. The stems are densely hairy and not glandular. The leaves of this plant are mostly linear with margins flat. The leaf bases do not clasp the stem but are decurrent. The leaves are also hairy with glandular hairs scattered beneath the hairs. The disciform heads contain two types of disc florets. Peripheral florets are pistillate (often more numerous than bisexual florets) with corollas yellowish. The inner disc florets are bisexual with corollas yellowish. Fruit is a minute cypsela with pappus (bristle type) that is not persistent.



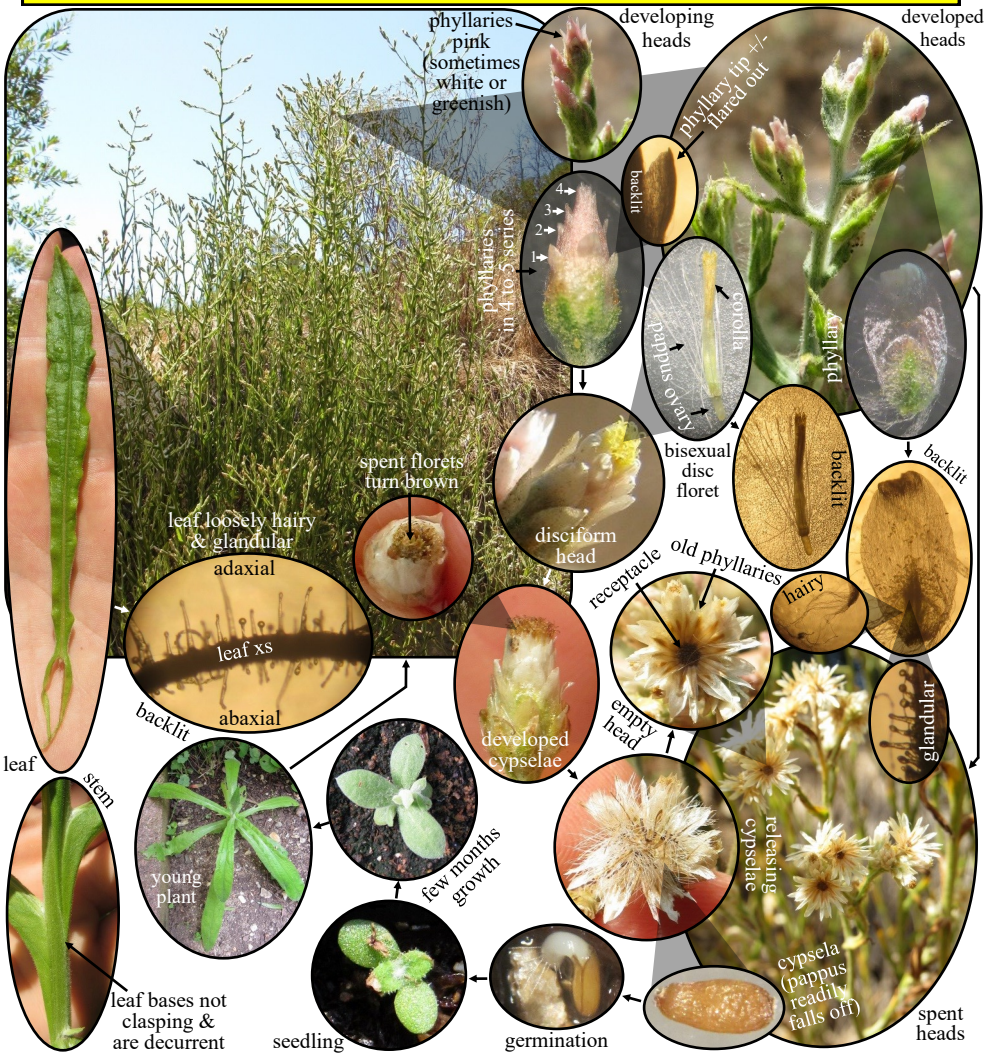
Pink Everlasting (*Pseudognaphalium ramosissium*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Gnaphalieae

Flowers: July - September

Pseudognaphalium ramosissium is a biennial herbaceous plant. It is found throughout the peninsula. This plant is strongly aromatic. The stems are hairy and glandular. The leaves of this plant are somewhat hairy and glandular. The adaxial and abaxial sides of the leaf are the same color. Leaf bases do not clasp the stem and are decurrent. The leaf margin is curled under and somewhat wavy. The phyllaries of the heads are pink tinged (sometimes white or greenish). The disciform heads contain two types of disc florets. Peripheral florets are pistillate (often more numerous than bisexual florets) with corollas yellowish. The inner disc florets are bisexual with corollas yellowish. Fruit is a minute cypsela with pappus (bristle type) that are not persistent. This plant is an endemic to California



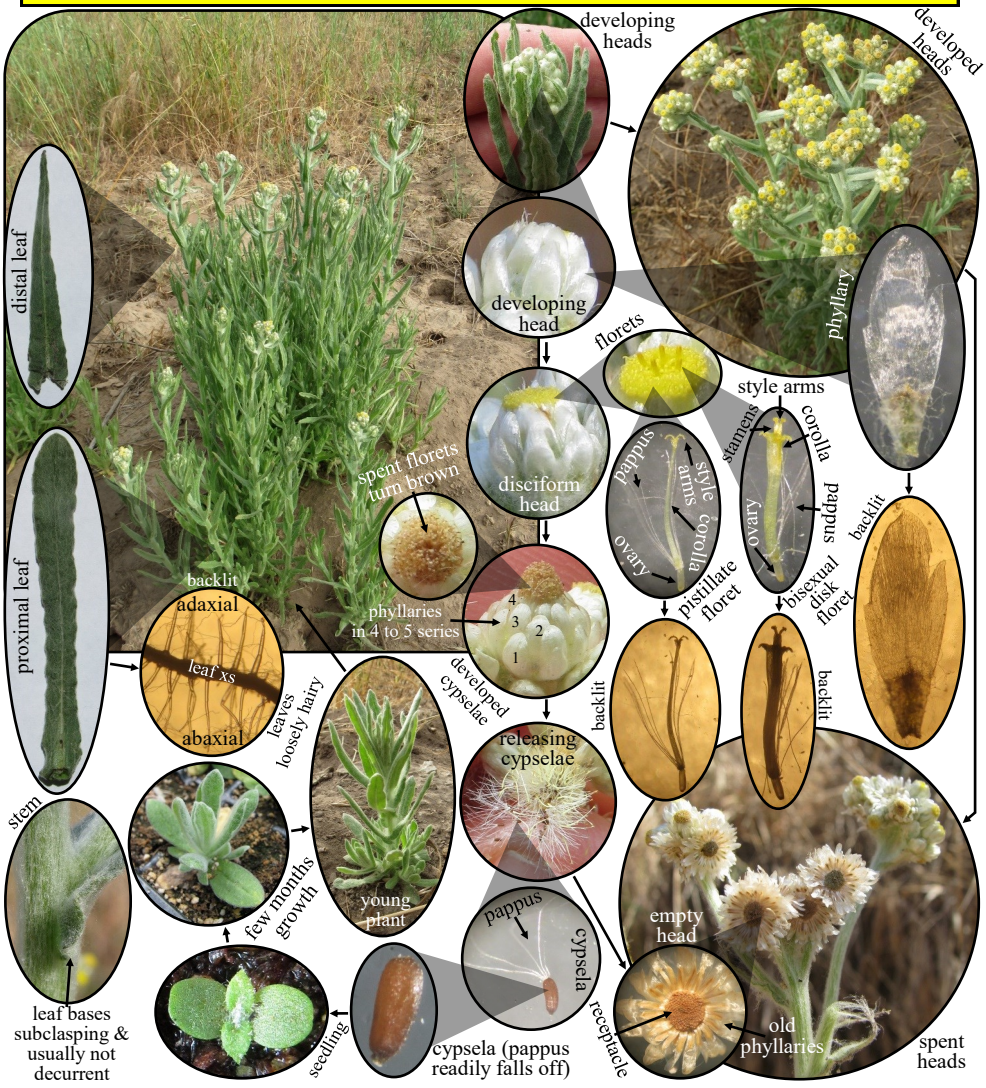
Cotton Everlasting (*Pseudognaphalium stramineum*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Gnaphalieae

Flowers: March - October

Pseudognaphalium stramineum is an annual or biennial herbaceous plant. It is found throughout the peninsula but commonly found on sandy soil. The plant is not aromatic (unscented). The stems are loosely hairy and not glandular. The leaves of this plant are loosely hairy, not gladnular and are the same color on both sides. Leaf bases are subclasping and usually not decurrent with leaf margins flat or slightly curled under. The disciform heads contain two types of disc florets. Peripheral florets are pistillate (often more numerous than bisexual florets) with corollas yellowish. The inner disc florets are bisexual with corollas yellowish. Fruit is a minute cypsela with pappus (bristle type) that are not persistent.



Snake's Head (*Malacothrix coulteri*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Cichorieae

Flowers: March - May

Malacothrix coulteri is an annual herbaceous plant. This plant is uncommon on the peninsula and has only been found on the coastal bluffs. Basal leaves are somewhat fleshy, wavy lobed, and linear to ovate. The proximal leaves are oblanceolate, toothed, and parted to the midrib. Distal leaves are reduced with bases clasping. The liguliflorous heads contain ligulate florets that are bisexual (fertile) that have corollas that are light yellow to white. Outer ligules of the heads are exserted. Fruit is a cypsela with outer pappus (bristle type) persistent and inner pappus readily deciduous.



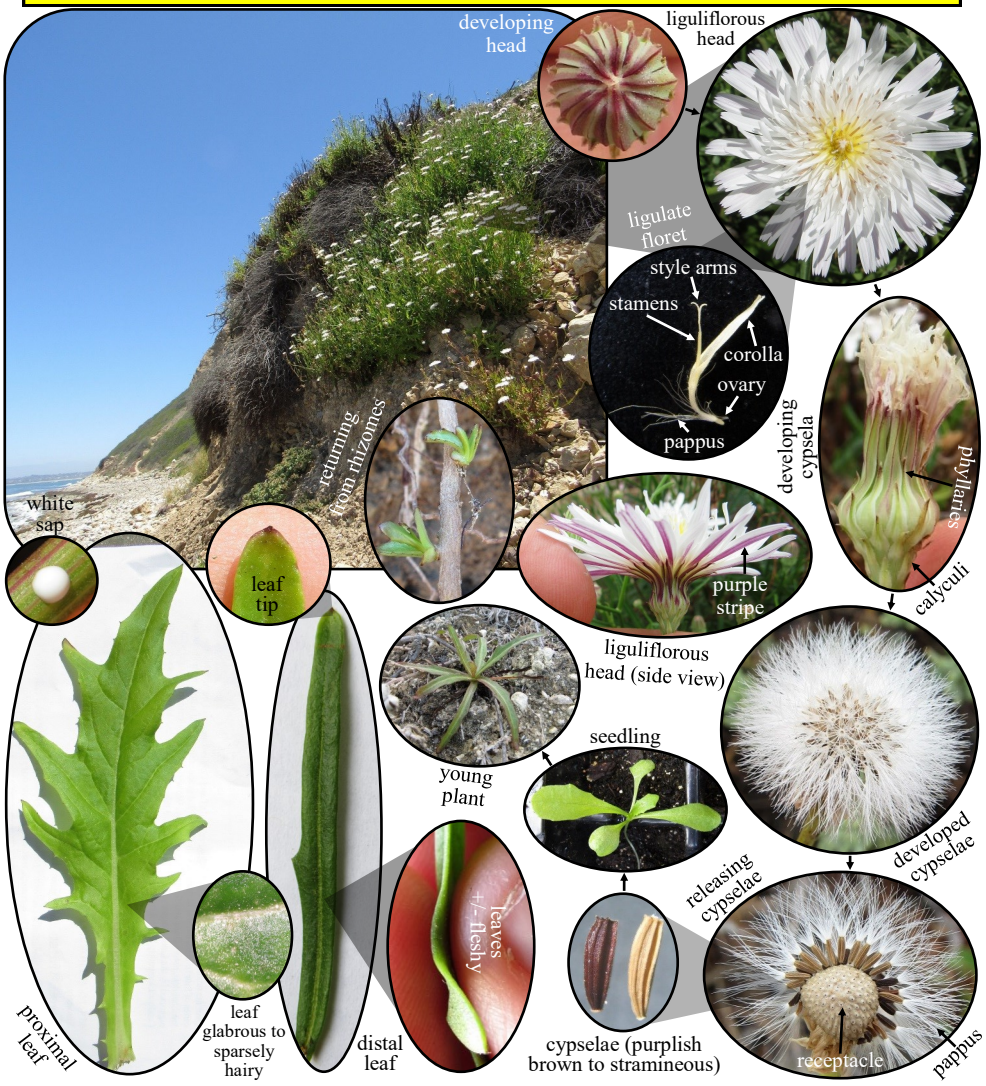
Cliff Aster (*Malacothrix saxatilis* var. *saxatilis*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Cichorieae

Flowers: March - December

Malacothrix saxatilis var. *saxatilis* is a perennial (rhizomatous or with woody caudices) herbaceous plant. It is found only along the coastal bluffs of the peninsula. It has a CNPS rare plant rank of 4.2 and is an endemic to California. The overall plant is glabrous to sparsely hairy. The leaves are somewhat succulent. The proximal leaves are not pinnately lobed and have margins that are entire to irregularly toothed. Distal leaves are ovate to linear with margins entire to obscurely toothed. The liguliflorous heads contain ligulate florets that are bisexual (fertile) that have corollas that are white (usually with a purple stripe on the abaxial side). The outer ligules of the heads are exserted. Fruit is a cypsela with pappus (bristle type) persistent.



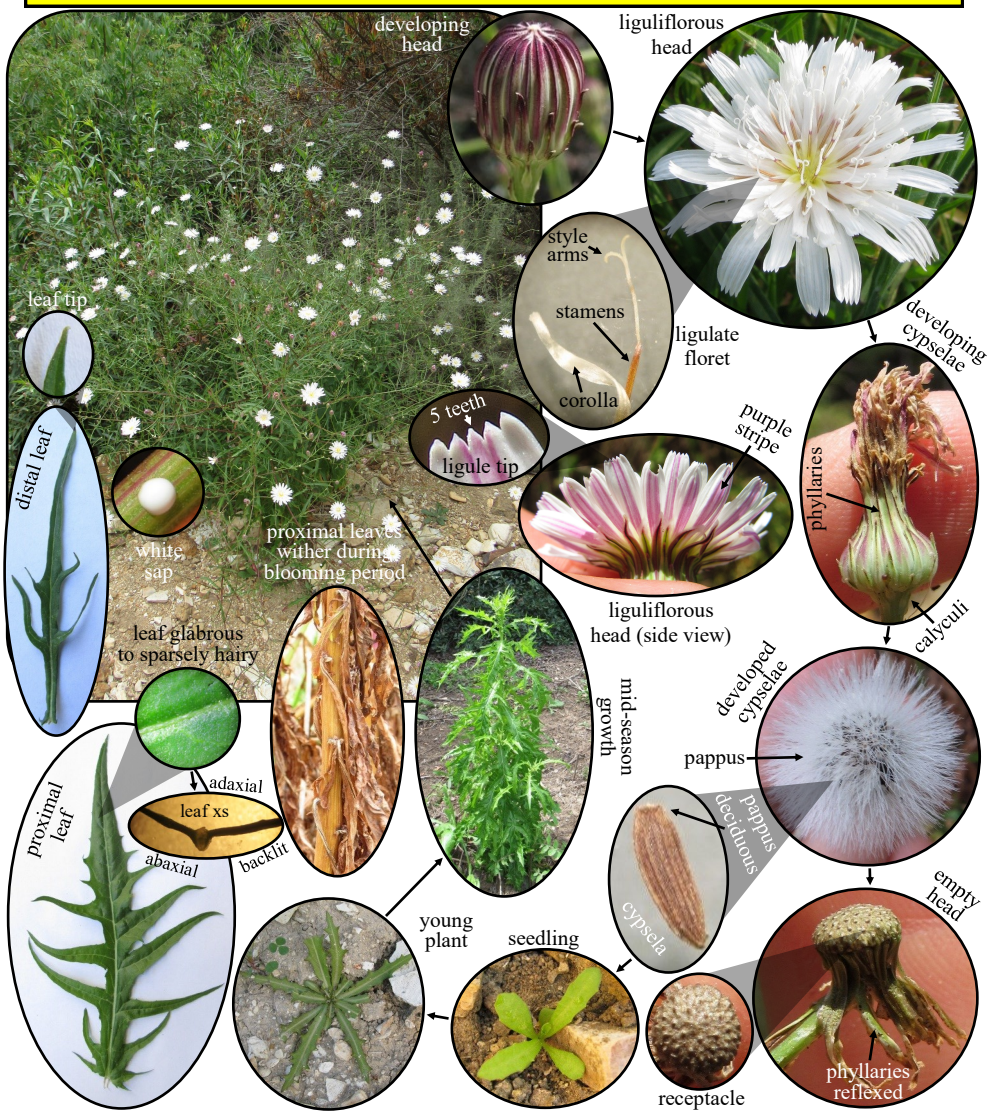
Cliff Aster (*Malacothrix saxatilis* var. *tenuifolia*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Cichorieae

Flowers: March - December

Malacothrix saxatilis var. *tenuifolia* is a perennial (with woody caudices) herbaceous plant. It is found throughout the peninsula mostly in canyons and on hillsides. The overall plant is glabrous to sparsely hairy. The proximal leaves are usually 1-pinnately lobed. The distal leaves can be linear to filiform or pinnately lobed (lobes linear to filiform). The liguliflorous heads contain ligulate florets that are bisexual (fertile) that have corollas that are white (usually with a purple stripe on the abaxial side). The outer ligules of the heads are exserted. Fruit is a cypsela with pappus (bristle type) persistent.



California Chicory (*Rafinesquia californica*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Cichorieae

Flowers: April - June

Rafinesquia californica is an annual herbaceous plant. It is found on the coastal bluffs and hillsides of the peninsula. The stems (often a reddish pink to green color) are hollow and not hairy. The sap of this plant is milky white. The basal leaves are large with a petiole or can be sessile and are pinnately-lobed. The cauline leaves are smaller, sessile (sometimes minutely clasping the stem) and entire. The liguliflorous heads contain ligulate florets that are bisexual (fertile) that have corollas that are white (sometimes with purplish stripes on the abaxial side). The outer ligules of the heads surpass the phyllaries by 5-7 mm. Fruit is a cypsela (with 5 ribs) with pappus (bristle type) somewhat persistent. Some cypselae are tan and others a molted gray-brown color. Inner cypselae are glabrous while the outer cypselae are hairy.



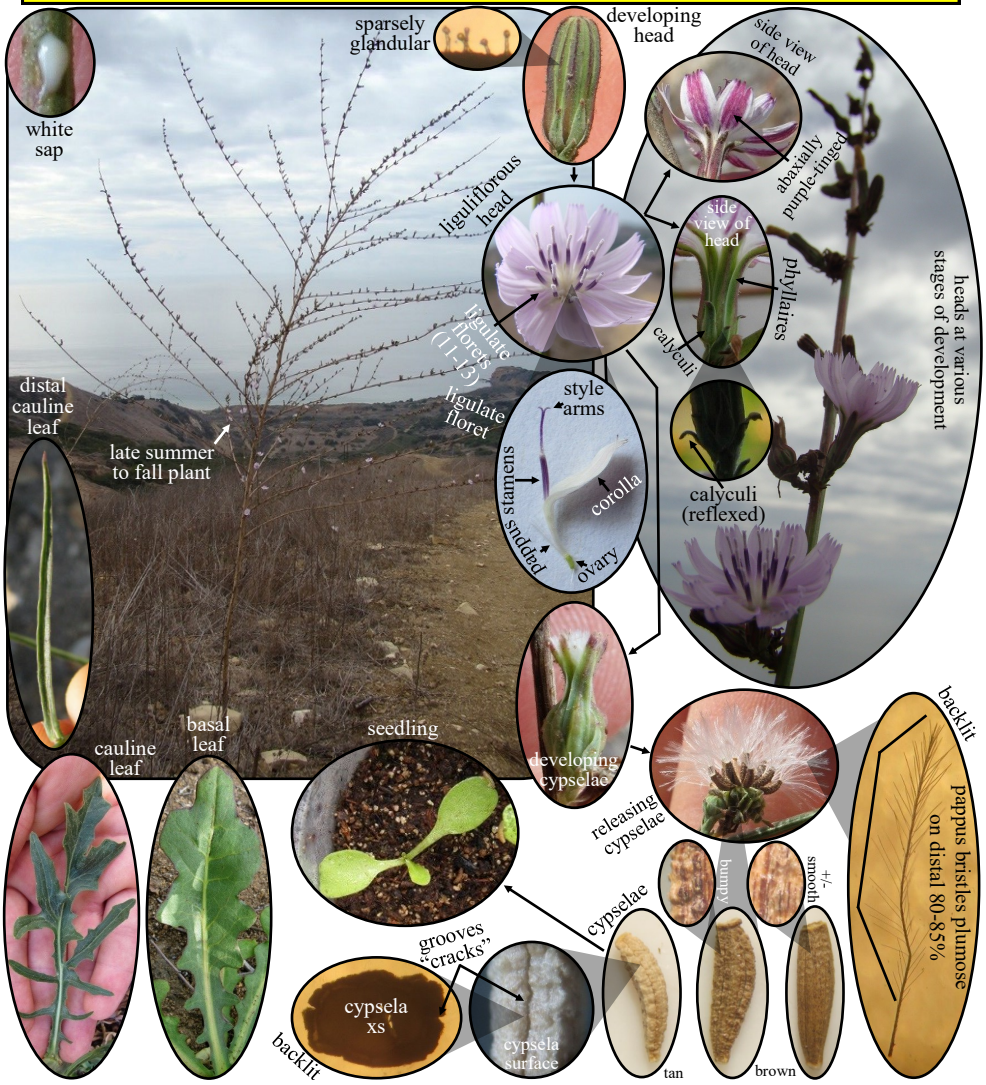
Wreathplant (*Stephanomeria diegensis*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Cichorieae

Flowers: August - November

Stephanomeria diegensis is a tall annual plant. It is found throughout the peninsula. In early growth (spring), the plant has large basal leaves (not hairy and usually sessile) that are entire to pinnately-lobed as well as reduced sessile cauline leaves (not hairy and bractlike). By flowering time (late summer to fall), the plant is quite tall and all the leaves have withered. The liguliflorous heads contain ligulate florets (11-13) that are bisexual (fertile) that have corollas that are lavender to white (often purple-tinged abaxially). Fruit is a cypsela (with 5 ribs) with pappus (bristles that are plumose on distal 80-85%) somewhat persistent. Cypselae are light tan to brown with faces smooth, bumpy or tuberculate and grooved (cracks). Sap of this plant is white.

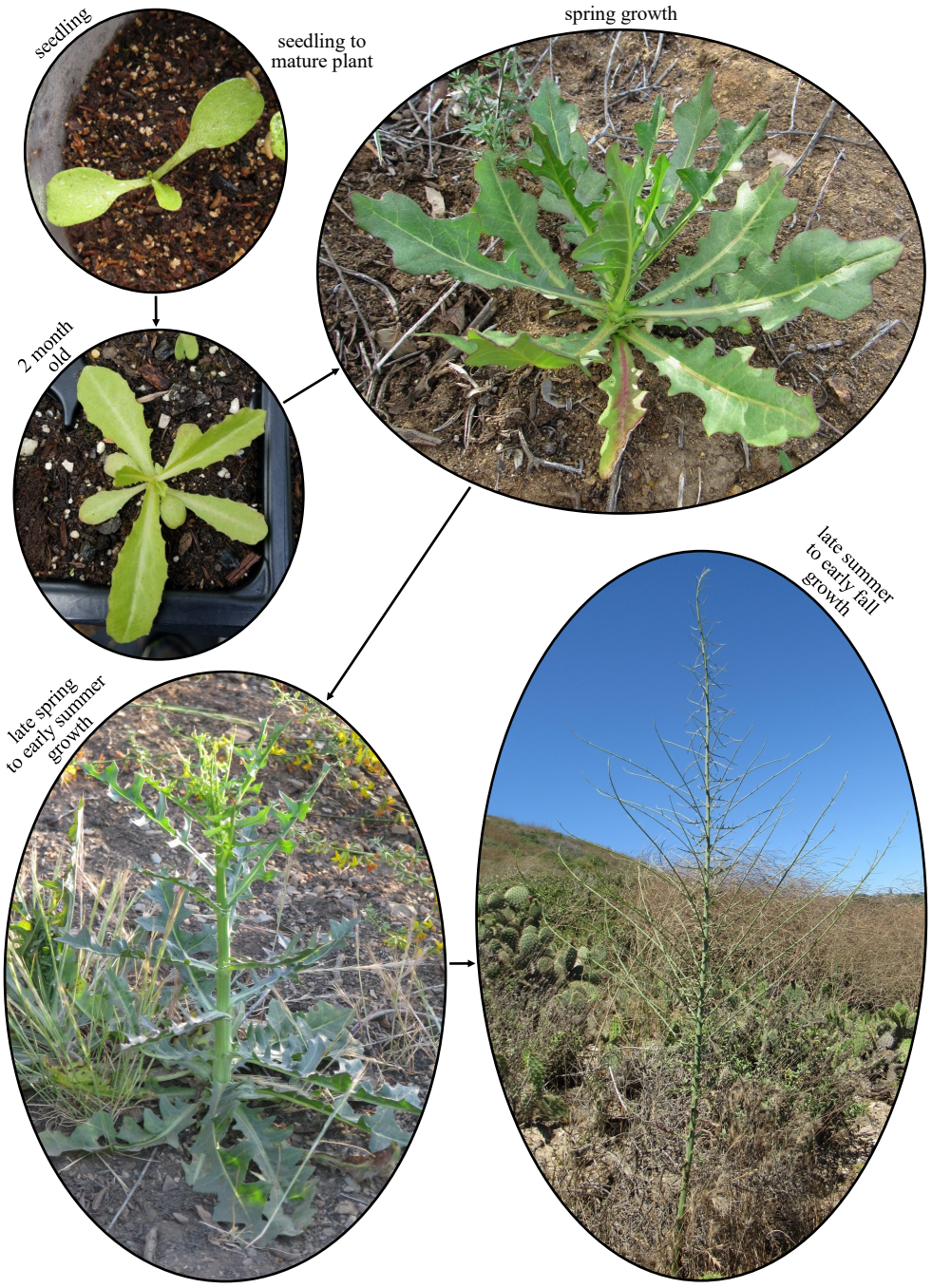


Wreathplant (*Stephanomeria diegensis*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Cichorieae

Flowers: August - November



Grassland Stebbinsoseris (*Stebbinsoseris heterocarpa*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Cichorieae

Flowers: April - June

Stebbinsoseris heterocarpa is an annual herbaceous plant with white sap. This plant is uncommon on the peninsula and has only been found in one location. The leaves are long and slender with margins that can be entire to somewhat pinnately lobed. The leaves are usually basal and the entire plant can be glabrous to somewhat mealy. The heads (liguliflorous) are held up by a long and erect peduncle (one head per peduncle). Developing peduncles tend to be nodding until full development is reached by the heads. Phyllaries are in multiple series and they surround the 8 to many florets. The ligules of the florets can be white or yellow. The fruit is a cypsela that is minutely ribbed and somewhat hairy. The pappus scales are flat and wide with a brownish stripe. The tip of the pappus scale is notched and has a slender bristle emerging out of it. The bristle is equal to or slightly longer than the length of the flattened scale.



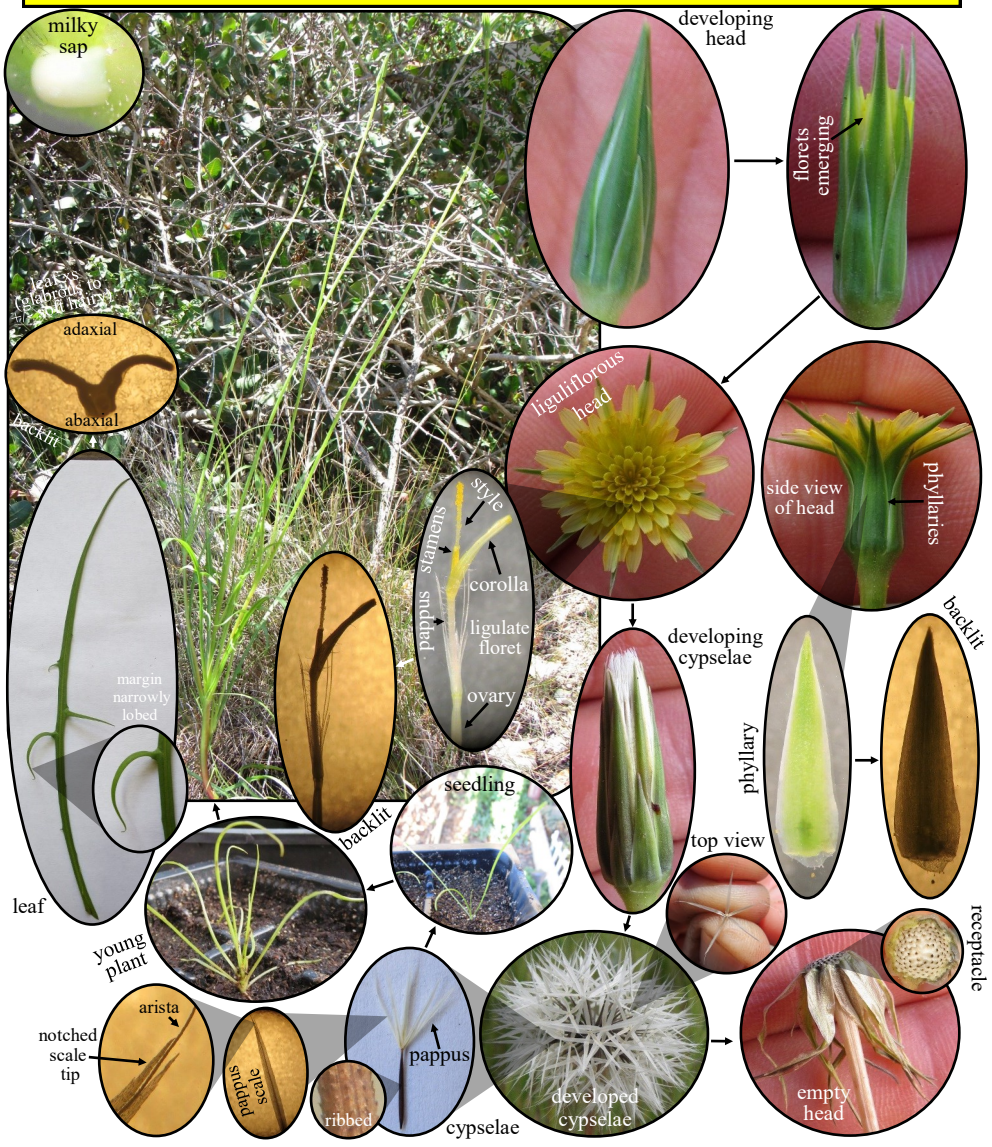
Silverpuffs (*Uropappus lindleyi*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Cichorieae

Flowers: March - May

Uropappus lindleyi is an annual herbaceous plant. This plant is uncommon on the peninsula and has only been found in one location. The leaves are long and narrow and mostly basal. Leaves are somewhat soft hairy and leaf margins are entire to narrowly lobed or toothed. The sap of this plant is white. The liguliflorous heads contain ligulate florets that are bisexual (fertile) that have corollas that are pale yellow. Fruit is a cypsela with pappus (aristate scales) not persistent. The pappus apices are notched and the aristae are smooth.



Silverpuffs (*Uropappus lindleyi*)

Order: Asterales

Family: Asteraceae (Daisy Family) - **Tribe:** Cichorieae

Flowers: March - May

plant in full fruit



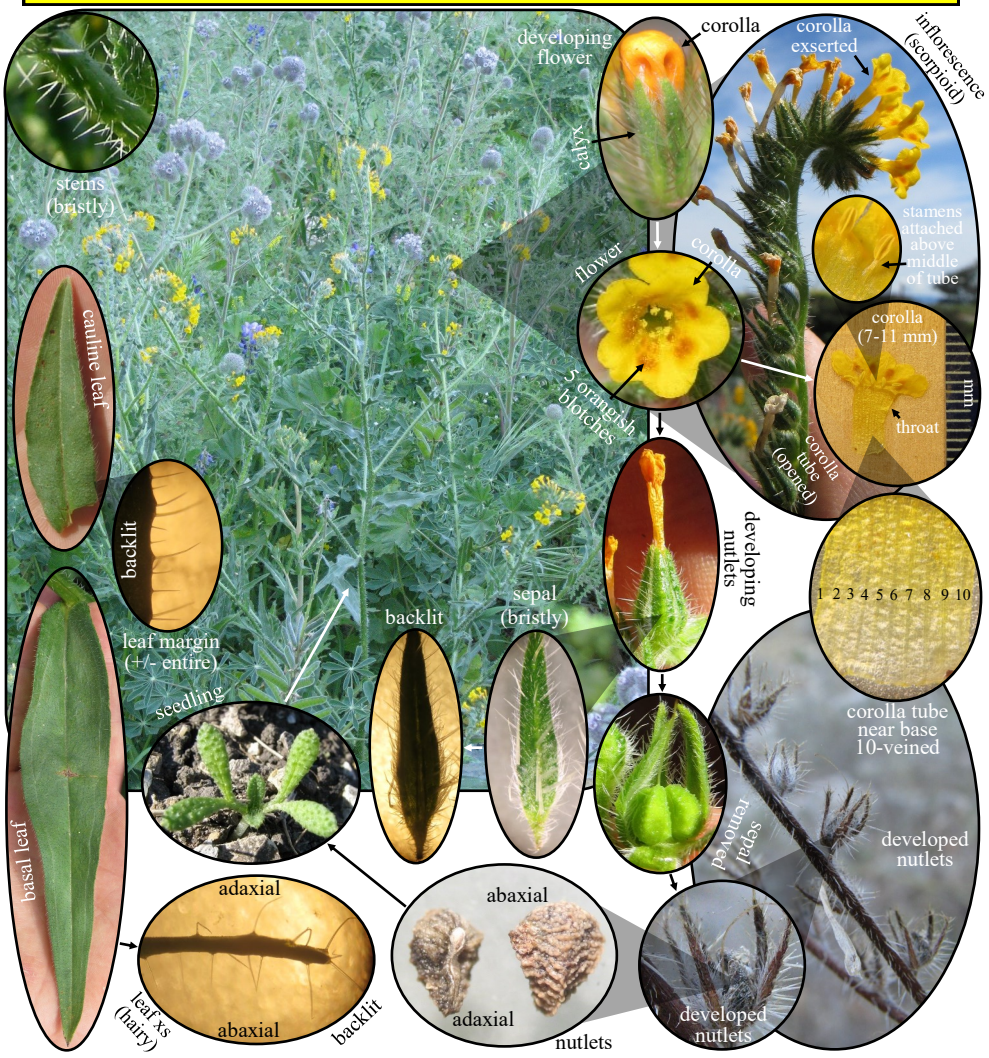
Common Fiddleneck (*Amsinckia intermedia*)

Order: Boraginales

Family: Boraginaceae (Borage Family)

Flowers: March - June

Amsinckia intermedia is an annual herbaceous plant. This plant is self-pollinated and is greatly variable. It is found throughout the peninsula and often encountered in disturbed grassy fields. The leaves are not succulent and the leaf margins are entire. The cauline leaves are usually smaller and the basal are often large. The calyx of the flower is hairy (bristly) and not fused above the base. The corolla of the flower is tubular and exserted out past the calyx. The corolla is yellow to somewhat orange and generally has 5 orangish blotches. The corolla tube is also 10-veined near the base. Stamens are attached above the middle of the tube and the anthers are generally appressed to the stigma. The style terminates at the throat of the corolla tube. The fruit is a nutlet (generally 4 per flower) that is tubercled and occasionally ridged.



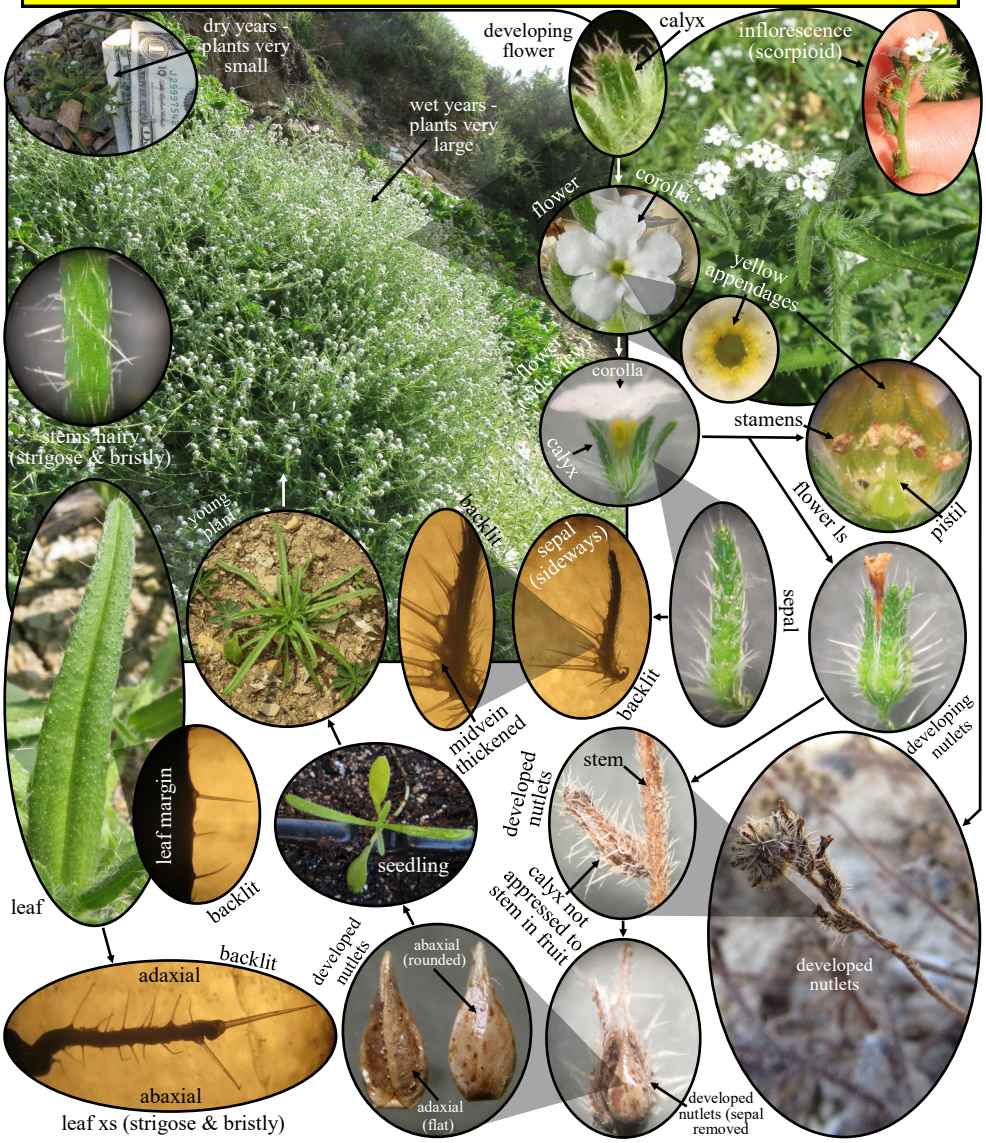
Coastal Cryptantha (*Cryptantha clevelandii* var. *florosa*)

Order: Boraginales

Family: Boraginaceae (Borage Family)

Flowers: March - June

Cryptantha clevelandii var. *florosa* is an annual herbaceous plant. It is found throughout the peninsula, most commonly along the coastal bluffs. The leaves are hairy (generally strigose and bristly), generally sessile, and are reduced distally on the stem. The calyx of the flower is densely strigose and bristly and has a midvein that is thickened. The calyx is persistent and encloses the fruit when developed. The calyx is also not appressed to the stem when in fruit. The corolla is white with 5 yellowish appendages near the top of the throat. The fruit is a nutlet (generally 4 per flower).



California Mustard (*Caulanthus lasiophyllus*)

Order: Brassicales

Family: Brassicaceae (Cabbage Family)

Flowers: March - May

Caulanthus lasiophyllus is an annual herbaceous plant. It is found throughout the peninsula mostly along the coastal bluffs. The plant is stiff hairy. The basal leaves are pinnately-lobed to dentate. The distal cauline leaves are short petioled and much smaller. The calyx is not urn/sac shaped and the sepals are erect. The corolla is white to creamy white, not channeled or crisped, and the claw of the petal is undifferentiated from the blade. The fruit is a silique that can be ascending and descending (majority of siliques descending). The seed is somewhat spheric and orangish.



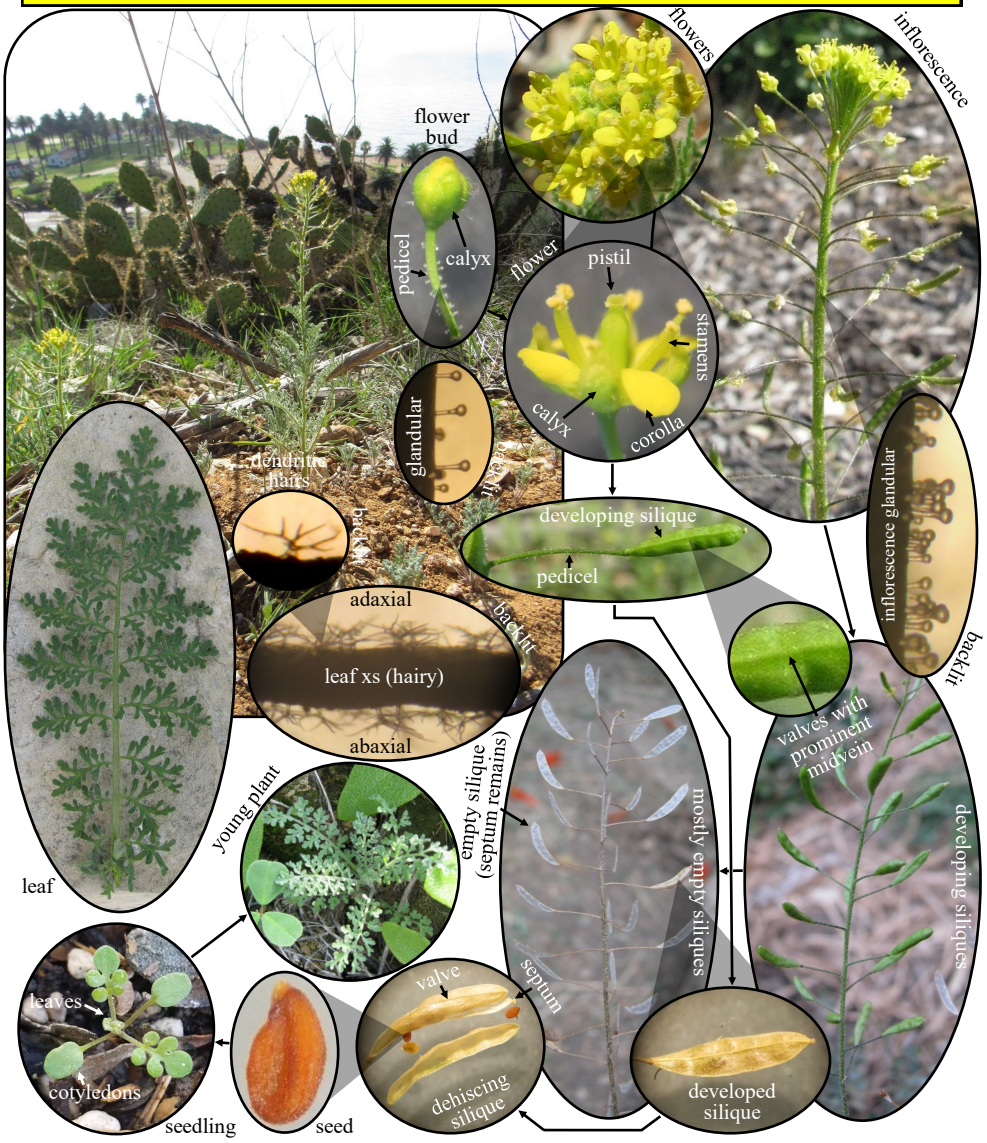
Tansyleaf Mustard (*Descurainia pinnata* subsp. *brachycarpa*)

Order: Brassicales

Family: Brassicaceae (Cabbage Family)

Flowers: March - July

Descurainia pinnata ssp. *barchycarpa* is an annual herbaceous plant. It is found in only a few spots on the peninsula mostly along the coastal bluffs. The plant is generally glandular but can be hairy. The basal and proximal cauline leaves are 1 or 2-pinnately lobed and the distal cauline leaves are sessile or short-petioled. The inflorescence is usually glandular. The sepals are erect to spreading and the base is not sac-like. The corolla is yellow or lavender. The fruit is a silique (club-shaped) that can be ascending to spreading to +/- descending. The seed is orangish and oblong.



Western Wallflower (*Erysimum suffrutescens*)

Order: Brassicales

Family: Brassicaceae (Cabbage Family)

Flowers: January - July

Erysimum suffrutescens is a perennial or subshrub plant. It is only found in one spot on the peninsula. This plant is a CNPS listed rare plant (4.2) and an endemic to California. The basal leaves are linear to linear-oblanceolate with margins usually entire (sometimes sparsely denticulated) and are hairy. The cauline leaves are sessile and similar to the basal. The hairs of the leaves are 2-rayed and can sometimes be mixed with 3 or 4-rayed hairs as well. The sepals of the calyx are oblong to linear-oblong and the corolla is yellow . The fruit is a silique that can be ascending to spreading, narrowly linear and 4-angled. The seed is oblong and +/- orange.



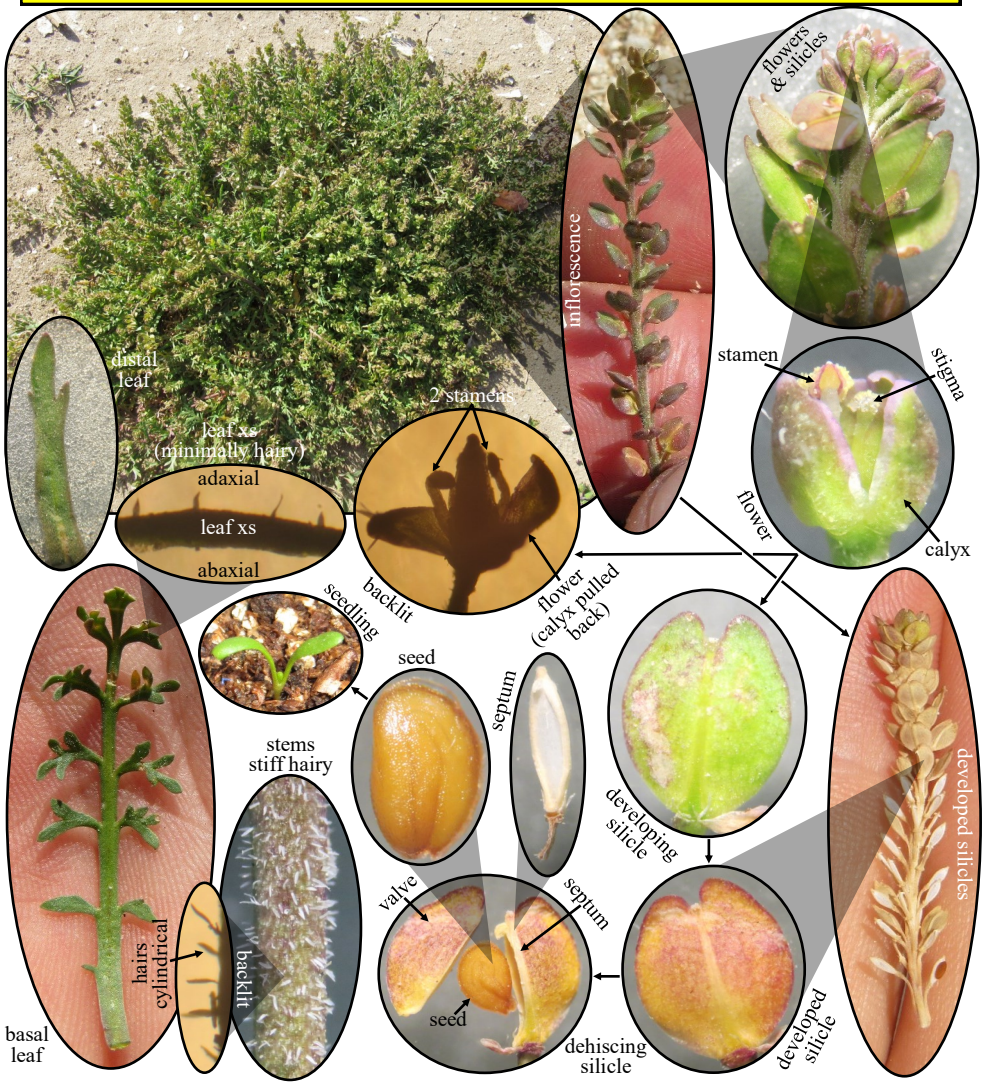
Wayside Peppergrass (*Lepidium oblongum*)

Order: Brassicales

Family: Brassicaceae (Cabbage Family)

Flowers: March - August

Lepidium oblongum is an annual herbaceous plant. It is found in a few spots on the peninsula mostly in disturbed areas and along the coastal bluffs. This plant often has several stems arising from the base which are erect to ascending or decumbent and are hairy. The basal leaves are not rosulate and the cauline leaves are usually sessile and obovate to oblanceolate. The cauline leaf margin can be dentate to laciniate or pinnatifid. The calyx is ovate to broadly oblong and is slow to fall off to somewhat persistent. The corolla is absent to barely present. When the corolla is present, it is white. Only 2 stamens are present. The fruit is a silicle that is roundish with a notch at the tip and is flattened. The seed is ovate and orangish.



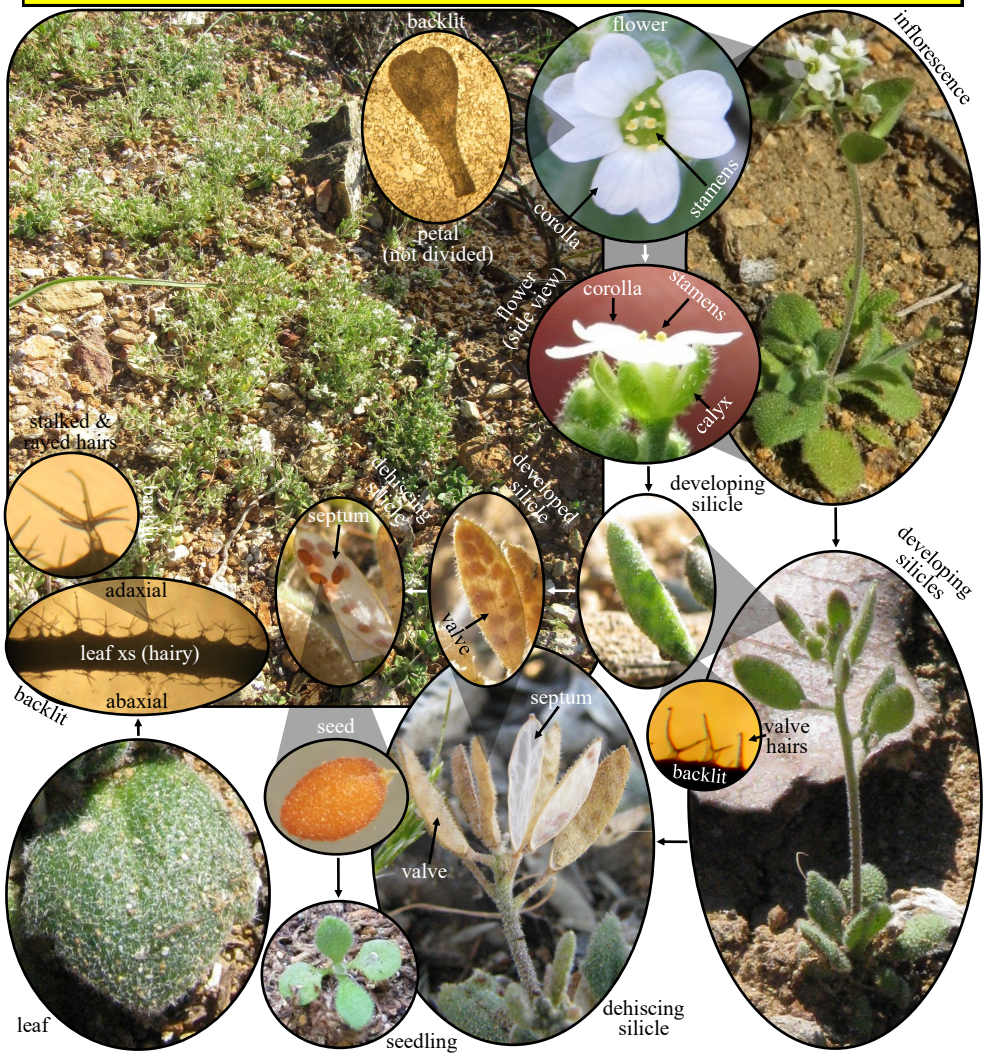
Wedgeleaf Draba (*Draba cuneifolia* var. *cuneifolia*)

Order: Brassicales

Family: Brassicaceae (Cabbage Family)

Flowers: January - May

Draba cuneifolia var. *cuneifolia* is an annual herbaceous plant. It is only found in one location on the peninsula. The leaves are hairy with the hairs being stalked and 2-4 rayed and occasionally mixed with simple hairs. The basal leaves of this plant are not rosetted. The overall leaf shape is oblanceolate to spatulate or broadly ovate. The leaf margin is also dentated with the dentation towards the apex of the leaf. The calyx can be green or pink and the sepals are oblong. The corolla is white and the petals are spatulate and not divided (small notch at tip may be present). Late season flowers are cleistogamous and apetalous. The fruit is a silicle that is football-shaped and flattened. The valves of the silicle are covered in simple hairs and sometimes with 2-rayed hairs. The seed is broadly ovoid and +/- orange.



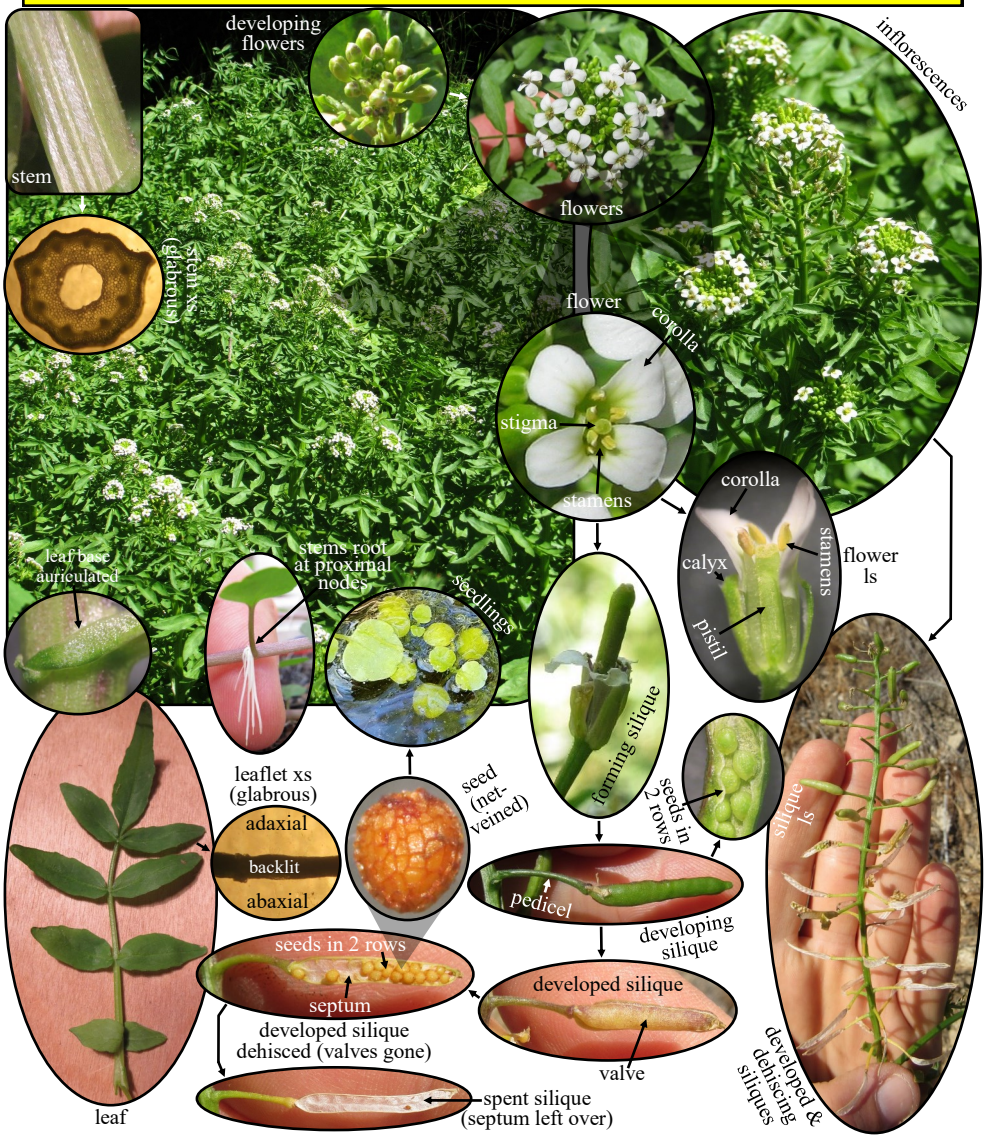
Watercress (*Nasturtium officinale*)

Order: Brassicales

Family: Brassicaceae (Cabbage Family)

Flowers: February - September

Nasturtium officinale is a perennial herbaceous aquatic plant. It is found along a few perennial streams on the peninsula. It spreads via rhizomes. It can also root along the proximal nodes of the stem. The leaves are pinnately compound, the petiole is not winged and the base is auriculated. The sepals of the calyx are oblong and erect. The corolla is white. The fruit is a silique with the pedicels spreading. The seed is ovoid, reddish brown and arranged in two rows (biseriate) in the silique. The seed is also coarsely net-veined (reticulated).



Coastal Prickly Pear (*Opuntia littoralis*)

Order: Caryophyllales

Family: Cactaceae (Cactus Family)

Flowers: April - June

Opuntia littoralis is a perennial shrub (stems succulent). It is found throughout the peninsula. It has spreading to sprawling stems and usually forms large low-growing clumps. The stems (pads) are flattened and oblong-elliptic to narrowly obovate. There are 4-11 spines per areole and the major spines are generally round. The spines are also generally coated whitish. The inner tepals of the flowers are yellow to dull red. Stamens are numerous. The style is pink to red and the stigma lobes are yellow-green to green. The fruit is berrylike, dark red-purple, and obovoid (pear shaped). The seeds are grayish brown and subcircular. Numerous viable seeds are produced by the plant.



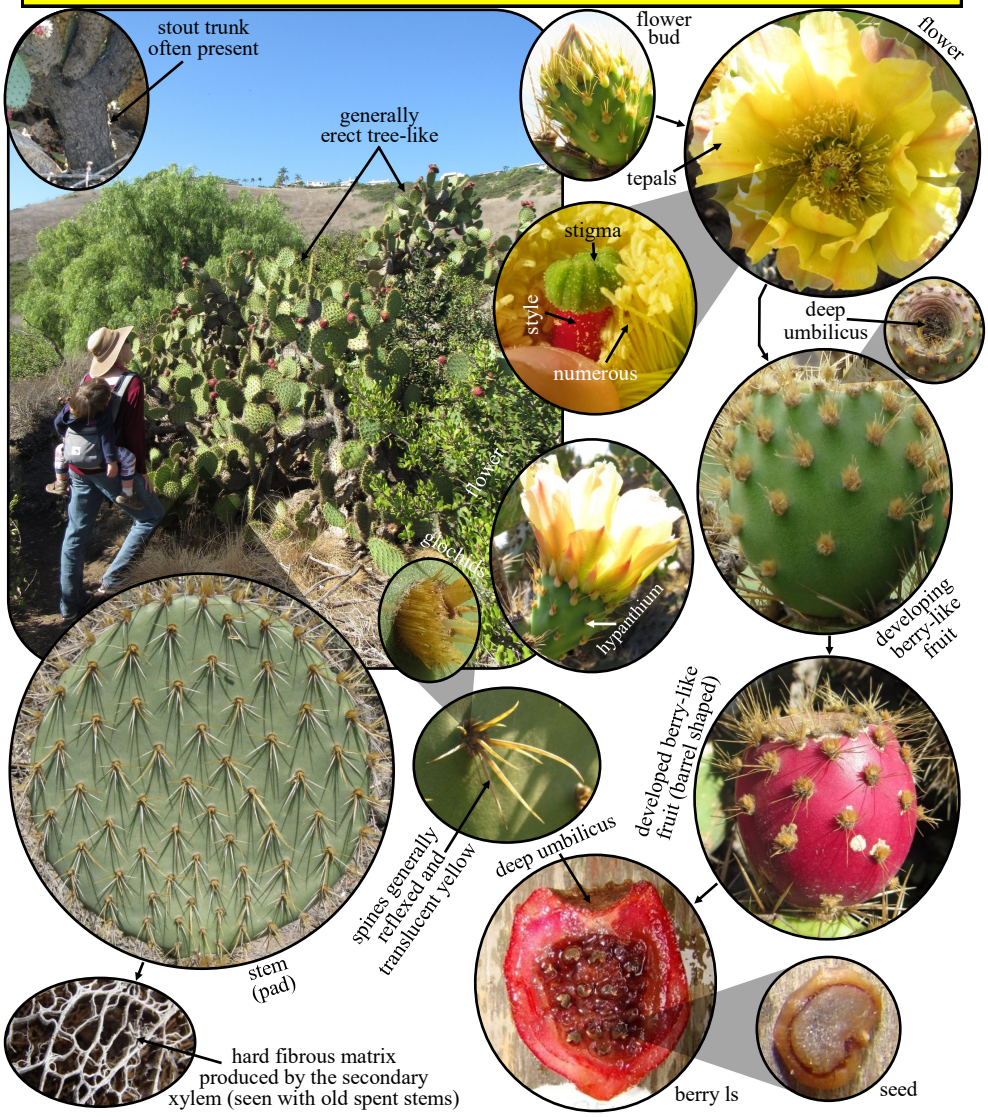
Pancake Pricklypear (*Opuntia oricola*)

Order: Caryophyllales

Family: Cactaceae (Cactus Family)

Flowers: April - May

Opuntia oricola is a perennial generally upright and tall plant (stems succulent). It is found throughout the peninsula. Large specimens can have a stout trunk. The stems (pads) are flattened and subcircular to broadly obovate. There are 5-13 spines per areole and they are usually reflexed, translucent yellow (aging red-brown) and curved. The inner tepals of the flowers are yellow throughout. Stamens are numerous. The style is red and the stigma lobes are green or light green. The fruit is berrylike, red to red-purple and spheric to barrel-shaped. The seed is grayish brown and subcircular to semicircular. Few viable seeds are produced by the plant.



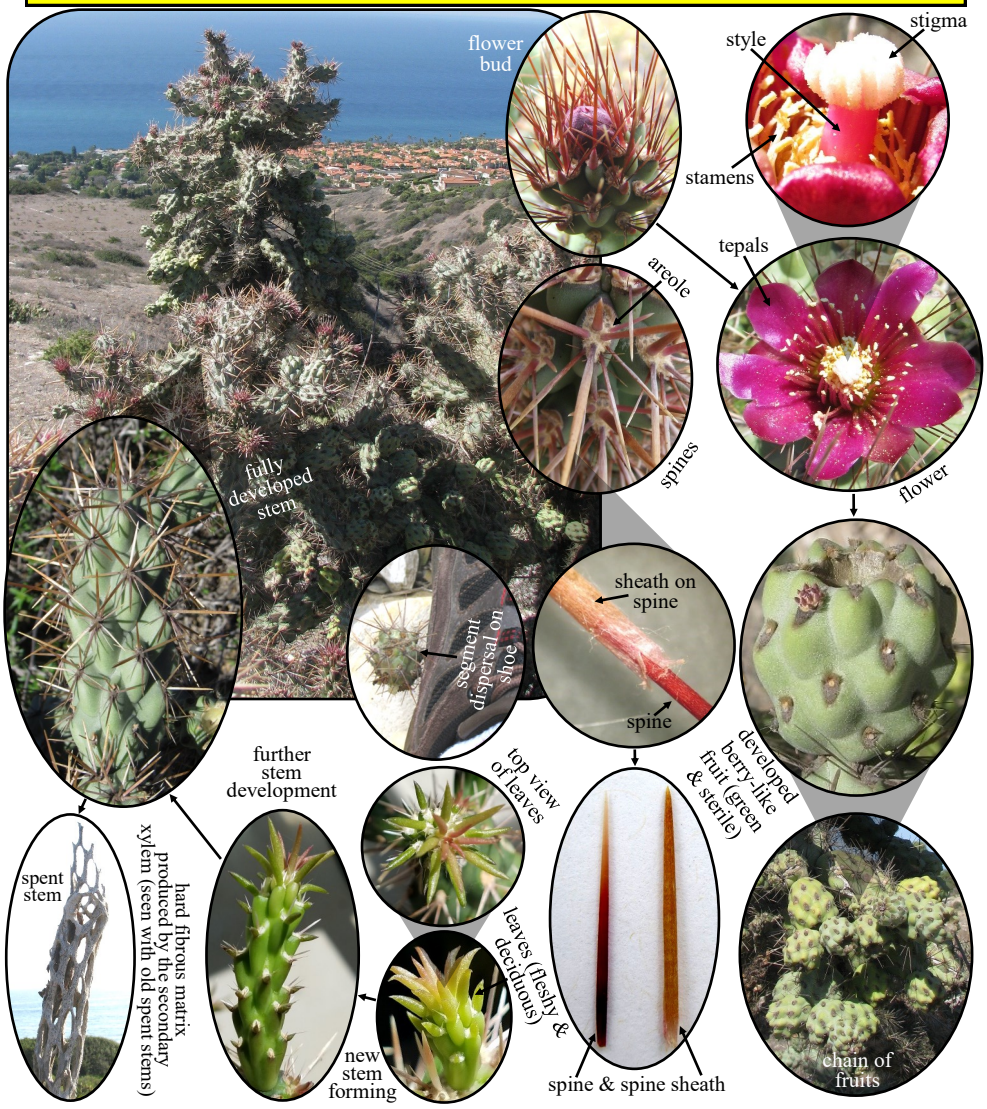
Coastal Cholla (*Cylindropuntia prolifera*)

Order: Caryophyllales

Family: Cactaceae (Cactus Family)

Flowers: April - July

Cylindropuntia prolifera is a perennial shrub to upright plant (stems succulent). It is found throughout the peninsula mostly along the coastal bluffs. The stem are cylindrical and easily detached. There are 6-12 spines per areole that are spreading and have a pale yellow-brown sheath that is shiny. The inner tepals of the flowers are magenta. Stamens are numerous and the filaments are yellow-green to distally tinted pink to magenta. The style is greenish yellow to often pink distally with stigma lobes yellow to white. The fruit is berrylike, green and usually sterile (fruits often clustered together into short chains of 2-5 fruits). Seeds are rare. *C. prolifera* is of hybrid origin.



Coastal Cholla (*Cylindropuntia prolifera*)

Order: Caryophyllales

Family: Cactaceae (Cactus Family)

Flowers: April - July



developed berry-like fruit



longitudinal section of fruit showing sterile seeds

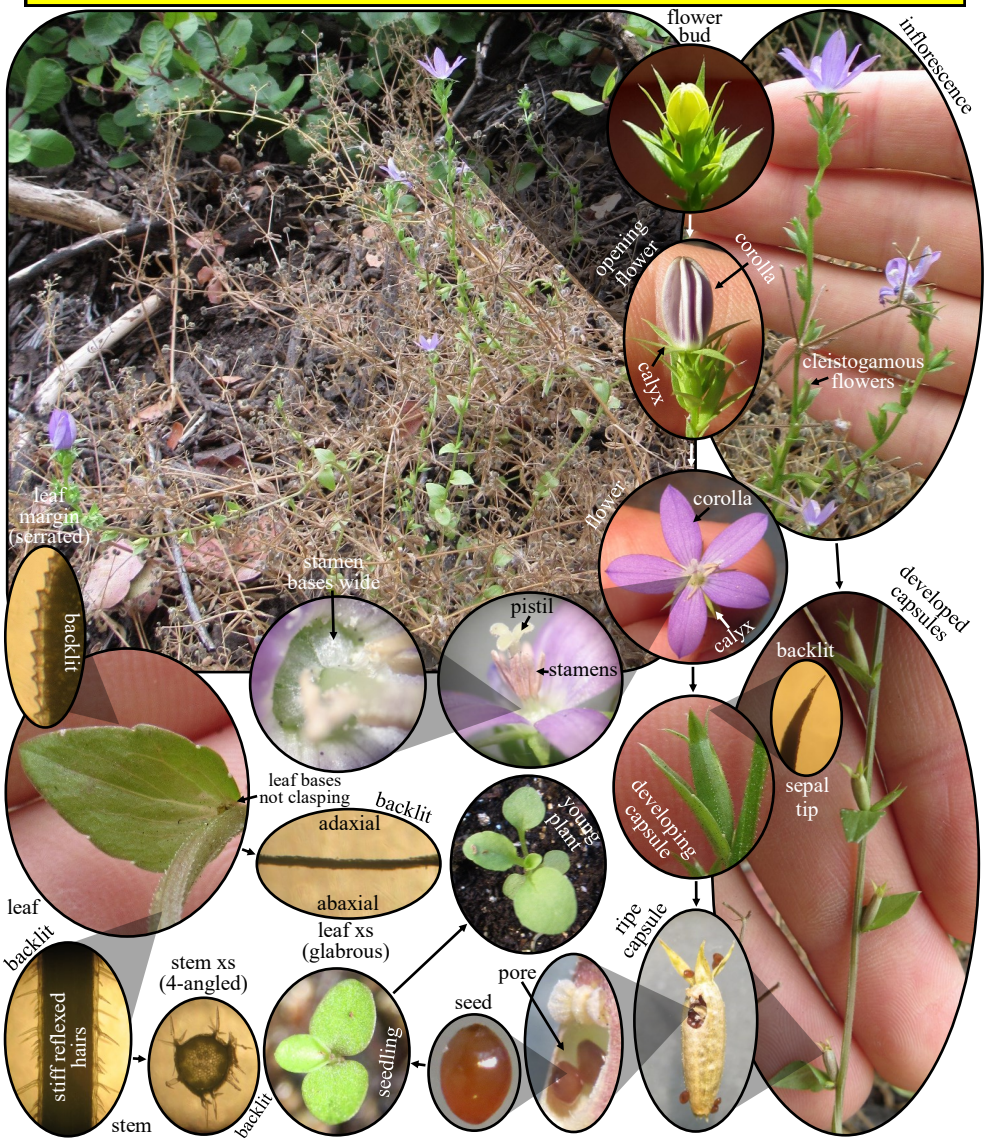
Venus Looking Glass (*Triodanis biflora*)

Order: Asterales

Family: Campanulaceae (Bellflower Family)

Flowers: April - June

Triodanis biflora is an annual herbaceous plant. It has only been found in one spot on the peninsula along a canyon. The leaves are thin, widely lanceolate to ovate, and the leaf base is sessile. The leaf margins are serrated and the stems are 4-angled. The lower flowers on the stems are cleistogamous, while the flowers along the upper stems open up. The sepals are spreading and narrowly triangular. The corolla is rotate and a purplish color. The fruit is a capsule with a pore at the top that opens at maturity. The seed is minute and brownish.



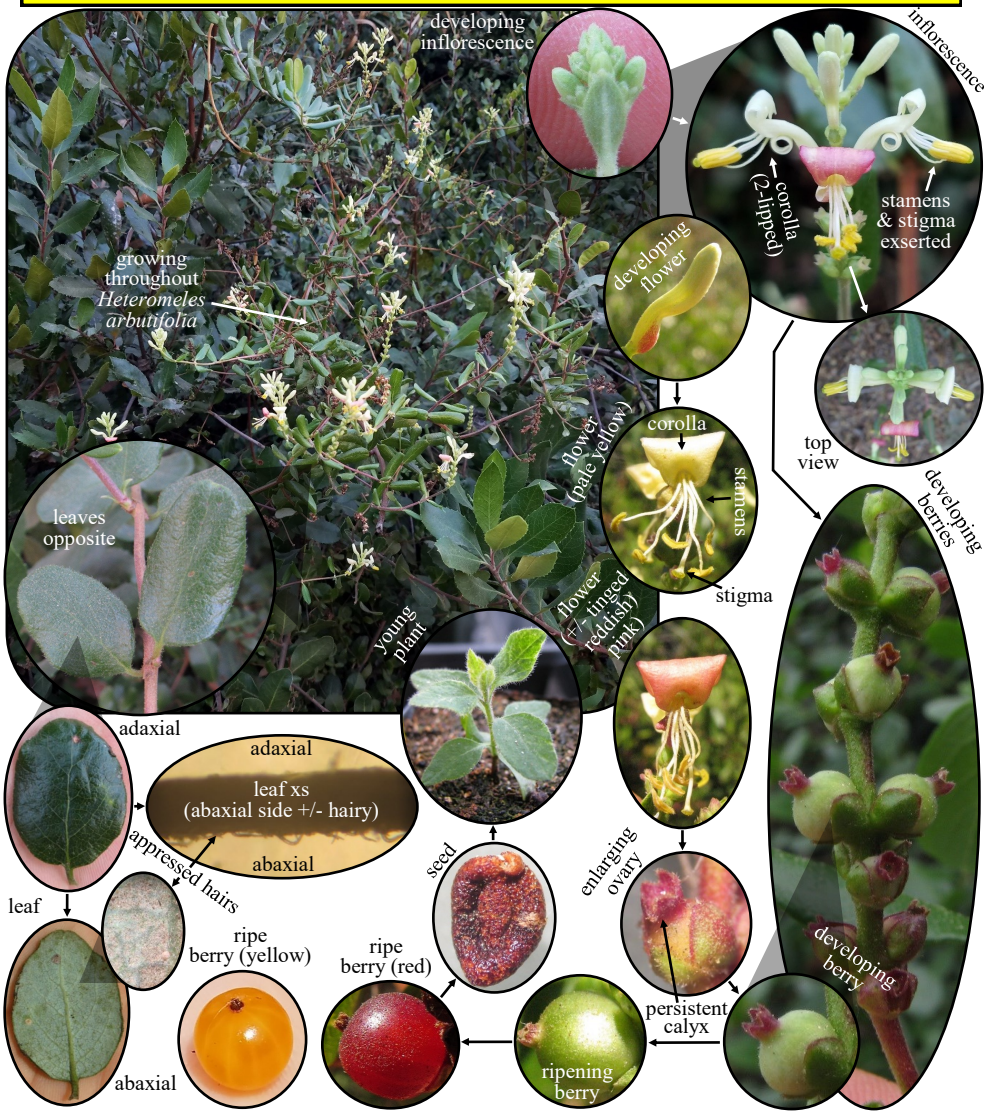
Southern Honeysuckle (*Lonicera subspicata* var. *denudata*)

Order: Dipsacales

Family: Caprifoliaceae (Honeysuckle Family)

Flowers: June - July

Lonicera subspicata var. *denudata* is a perennial shrub that is generally climbing up through other plants. It is found in a few canyons on the peninsula. The leaves are wide elliptic to roundish. The upper pair of leaves are not fused around the stem. The calyx is 5-toothed and persistent. The corolla is strongly 2-lipped, generally hairy, and pale yellow (sometimes tinged reddish pink). The stamens and the stigma are exserted. The fruit is a berry that can be red or yellowish-orange. The seed (generally > 2 per berry) is small and brownish (ear shaped). This plant is a CNPS listed rare plant (1B.2) and is an endemic to California.



Snowberry (*Symphoricarpos mollis*)

Order: Dipsacales

Family: Caprifoliaceae (Honeysuckle Family)

Flowers: April - May

Symphoricarpos mollis is a perennial shrub spreading out with rhizomes. It is found in a few canyons throughout the peninsula. The leaves are simple, opposite, short-petioled, glabrous to soft hairy, and drought deciduous. The blade of the leaf is generally elliptic to round but some blades can be lobed. There are 2-8 flowers per inflorescence. The calyx is 5-toothed, persistent, and spreading. The corolla is bell-shaped, pink, often reddish on the outside. Half way down the corolla, on the inside, it is hairy. There are also 5 nectary glands (1 below each corolla lobe) present on the inside towards the base of the corolla. The fruit is a berry that is white to pinkish. The seed (2 per berry) is small and whitish.



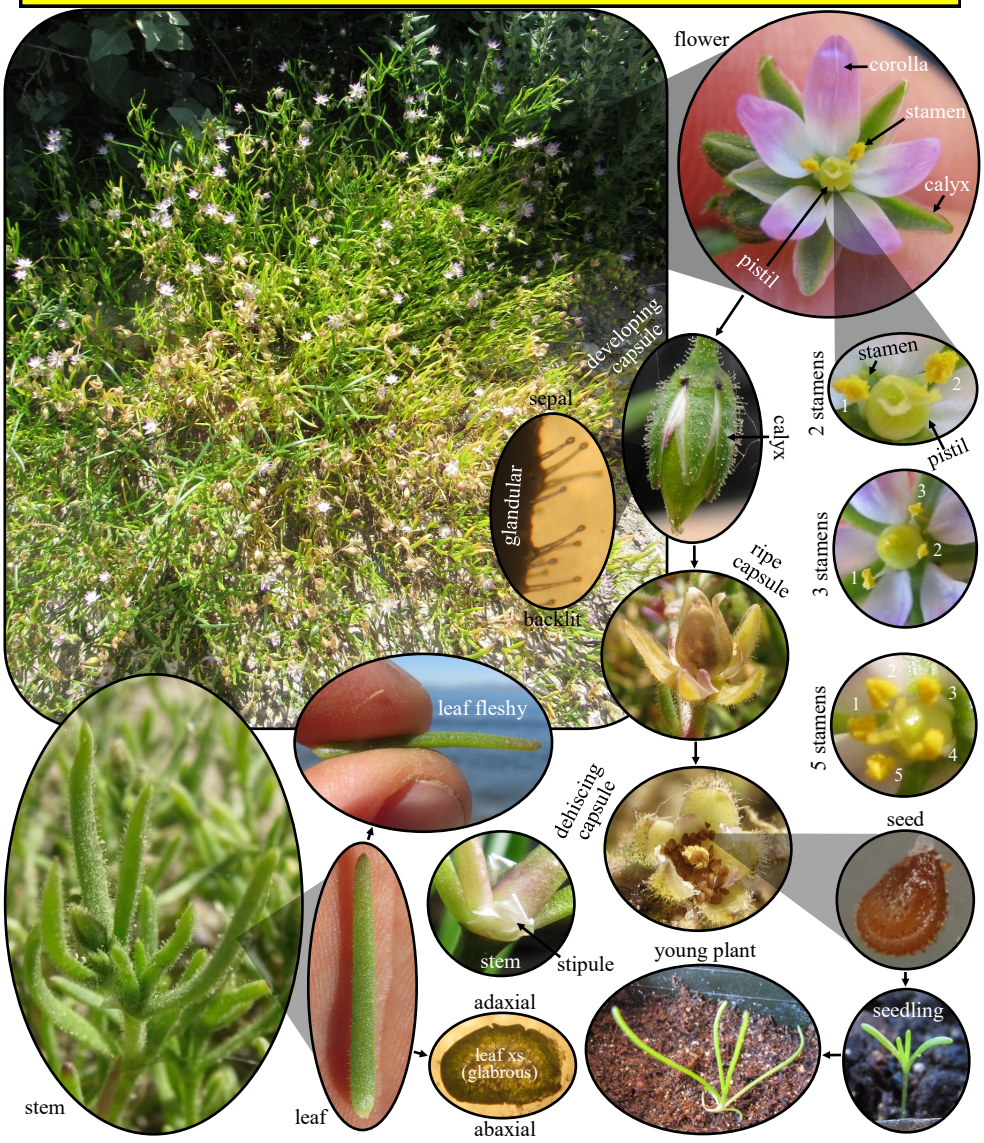
Saltmarsh Sand Spurry (*Spergularia marina*)

Order: Caryophyllales

Family: Caryophyllaceae (Pink Family)

Flowers: March - September

Spergularia marina is an annual herbaceous plant. It is found only in a few spots along the coastal bluffs of the peninsula. The leaves are fleshy, glabrous, and the blade is linear. There are no axillary leaf clusters along the stems. Stipules are inconspicuous and widely triangular along the stem. The calyx of the flower is green, ovate to elliptic, and glandular. The corolla is white or pinkish. There can be 2-5 stamens per flower. The fruit is a capsule with 3 valves. The seed is light brown to red-brown and usually no wing is present. The outside of the seed is roughened and papillated.



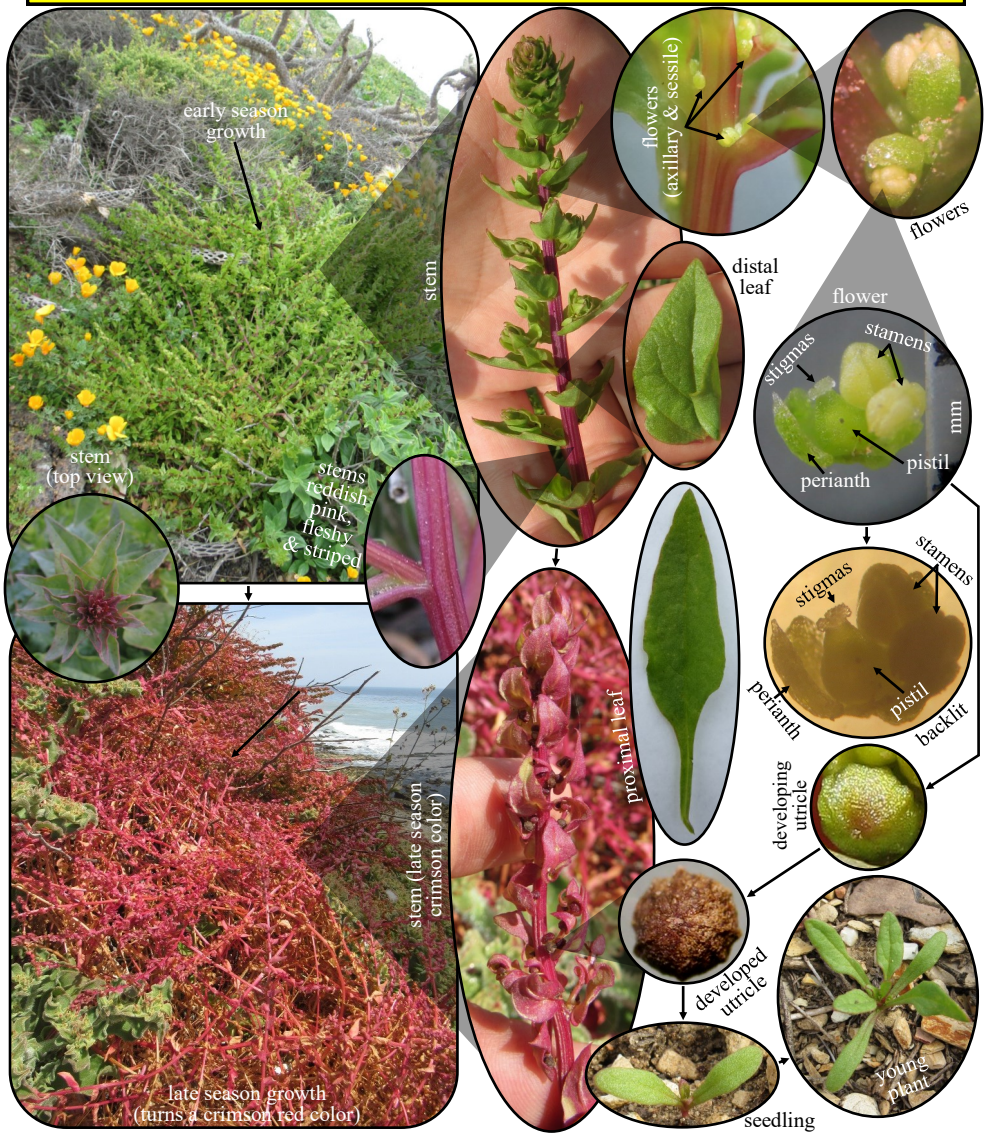
Aphanisma (*Aphanisma blitoides*)

Order: Caryophyllales

Family: Chenopodiaceae (Goosefoot Family)

Flowers: June - September

Aphanisma blitoides is an annual herbaceous plant. It is primarily found along the coastal bluffs. Proximal leaves have petioles and are spatulate, oblanceolate, or oblong. Distal leaves are ovate-oblong to cordate-oblong, often reduced and the bases clasp the stem. Leaf margins are entire. The stems of this plant are fleshy and have a pinkish-red color with faint stripes. The bisexual flowers are found in the leaf axils. Flowers have 3 stigmas and 1 to 2 stamens. Fruit is an utricle. The seed is lenticular and has a brownish-black seed coat. This is a CNPS rare plant (CNPS ranking 1B.2).



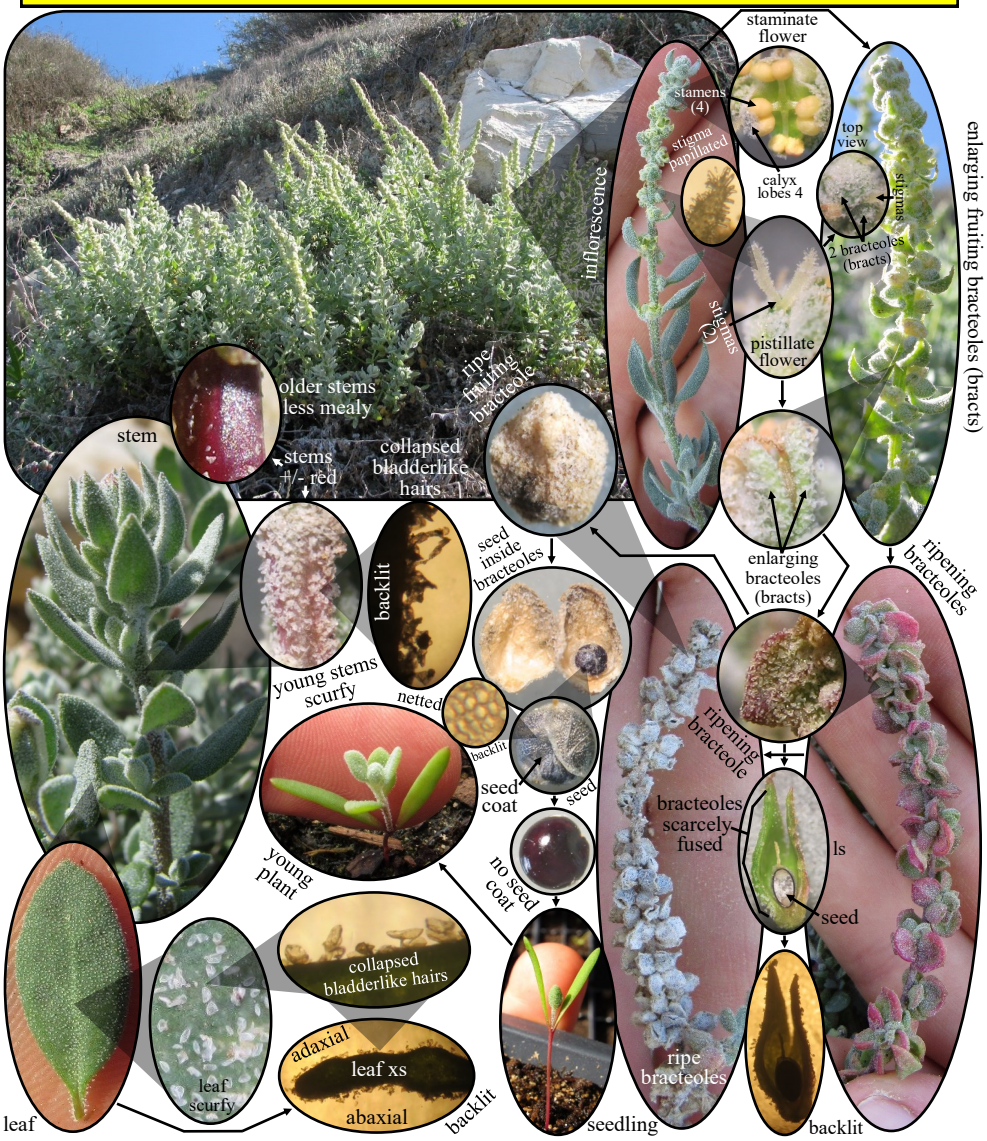
California Orach (*Extriplex californica*)

Order: Caryophyllales

Family: Chenopodiaceae (Goosefoot Family)

Flowers: April - October

Extriplex californica is a mat to erect forming perennial herbaceous plant. It is found along the coastal bluffs on the peninsula. It is monoecious or dioecious. The overall plant is white scurfy (especially new growth and the leaves). Leaves are narrowly lanceolate. Staminate flowers are 4-merous and terminal on the inflorescence or they can be mixed with the pistillate flowers in axillary clusters. Pistillate flowers lack a calyx, have 2 stigmas, and have 2 foliaceous bracteoles (bracts). Fruiting bracteoles are sessile and are rarely united. Seed coat is papery. Seed is black and lenticular.



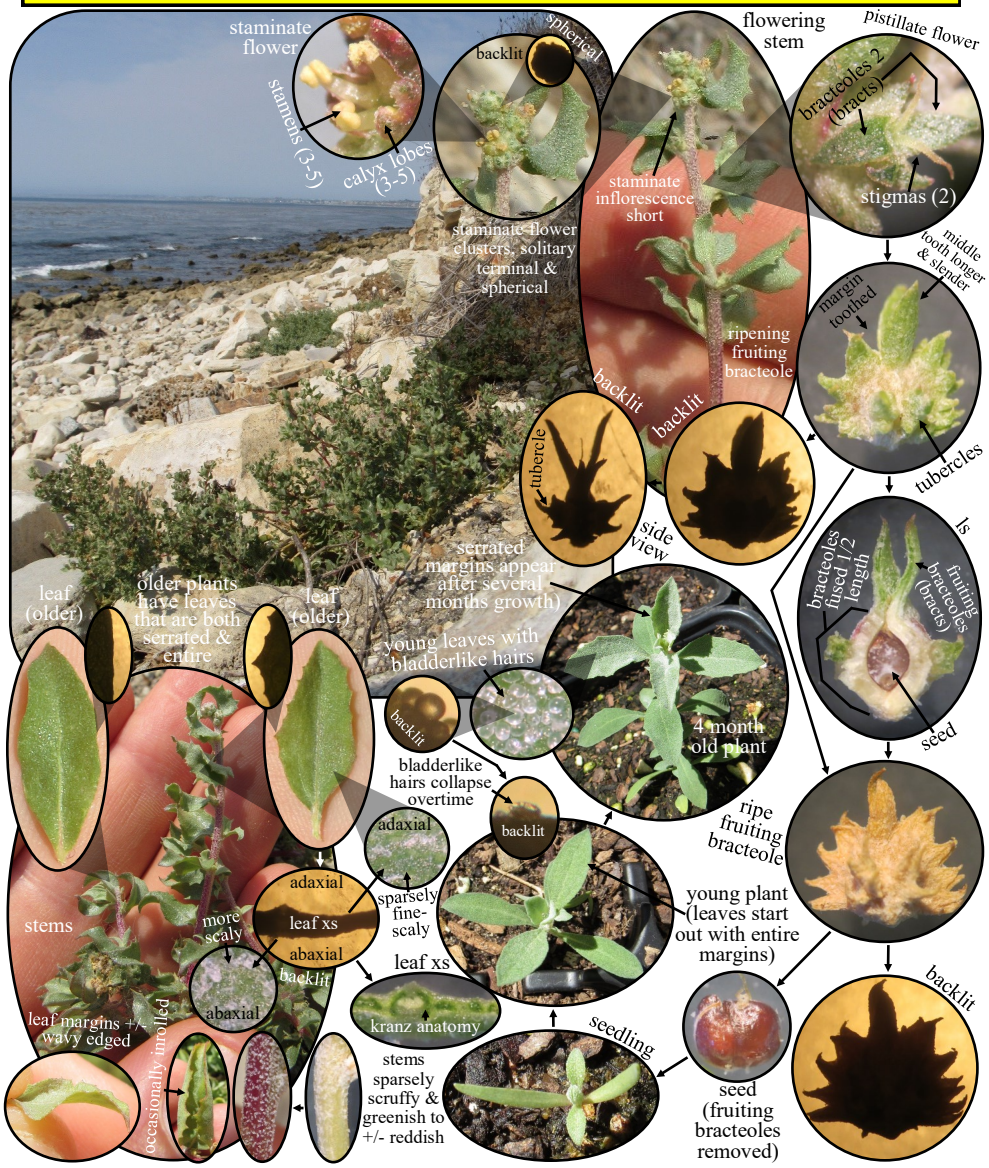
Davidson's Saltscale (*Atriplex serenana* var. *davidsonii*)

Order: Caryophyllales

Family: Chenopodiaceae (Goosefoot Family)

Flowers: April - October

Atriplex serenana var. *davidsonii* is an annual herbaceous plant that is often mat-like. It is found along one section of the coastal bluffs on the peninsula. It is a CNPS rare plant (CNPS 1B.2). It is monoecious. Stems can be a greenish yellow to reddish and are scruffy. Leaves (have kranz anatomy) are elliptic to lanceolate with margins generally irregularly dentated; however, leaves with entire margins can also be produced on the same plant. Interestingly, very young plants (1-3 months) produce leaves with



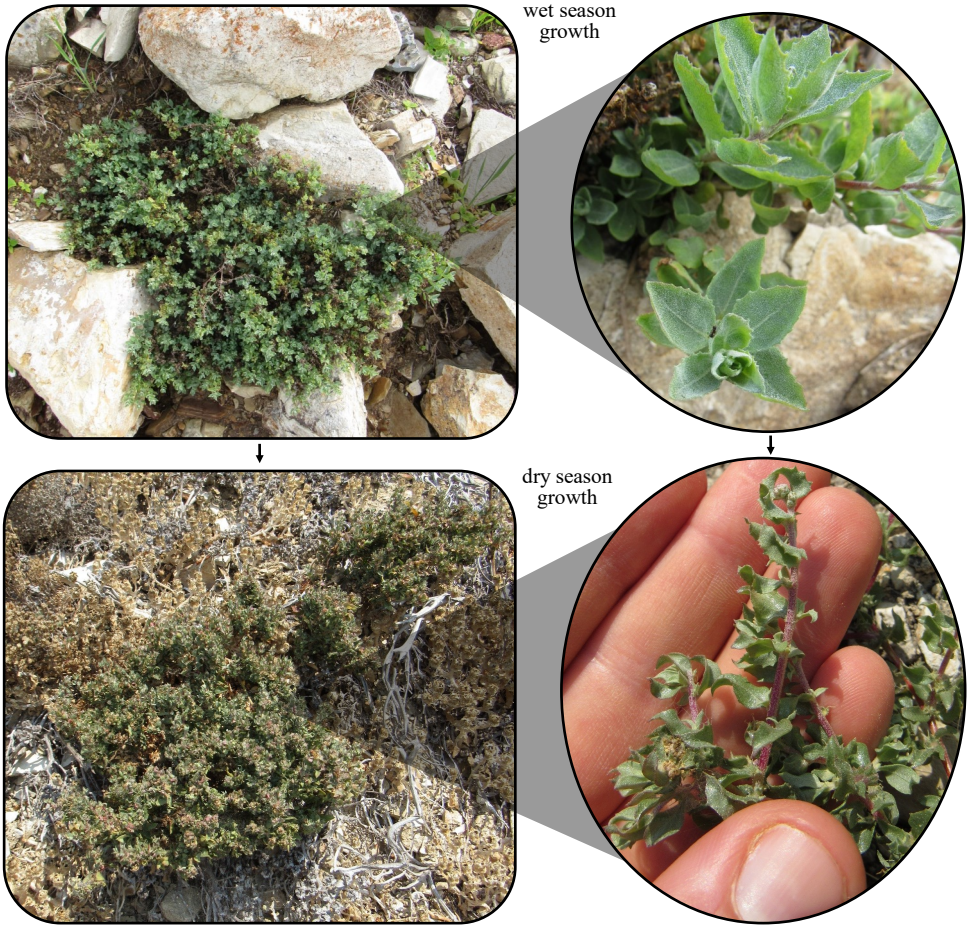
Davidson's Saltscale (*Atriplex serenana* var. *davidsonii*)

Order: Caryophyllales

Family: Chenopodiaceae (Goosefoot Family)

Flowers: April - October

entire margins but then shift to irregularly dentated leaves around 3-4 months. Older plants then have mostly irregularly dentated leaves but occasionally make entire leaves as well. New leaves have inflated bladderlike hairs that then deflate overtime making a scaly (adaxial side being less scaly than the abaxial side) surface to older leaves. Leaves can also have wavy margins and be occasionally inrolled. Staminate inflorescences are spherical, short, and only terminal. Pistillate flowers are in small clusters and axillary. Pistillate flowers have 2 stigmas and are surrounded by 2 foliaceous bracteoles (bracts). The fruiting bracteoles are fused 1/2 their length and the surface can be tuberculated or smooth. The fruiting bracteoles margins are sharply dentated (toothed) with the middle tooth longer and slender than the rest. The seed is spherical and brown. The overall plant can look quite different depending on which time of the year it is (wet season growth versus dry season growth).



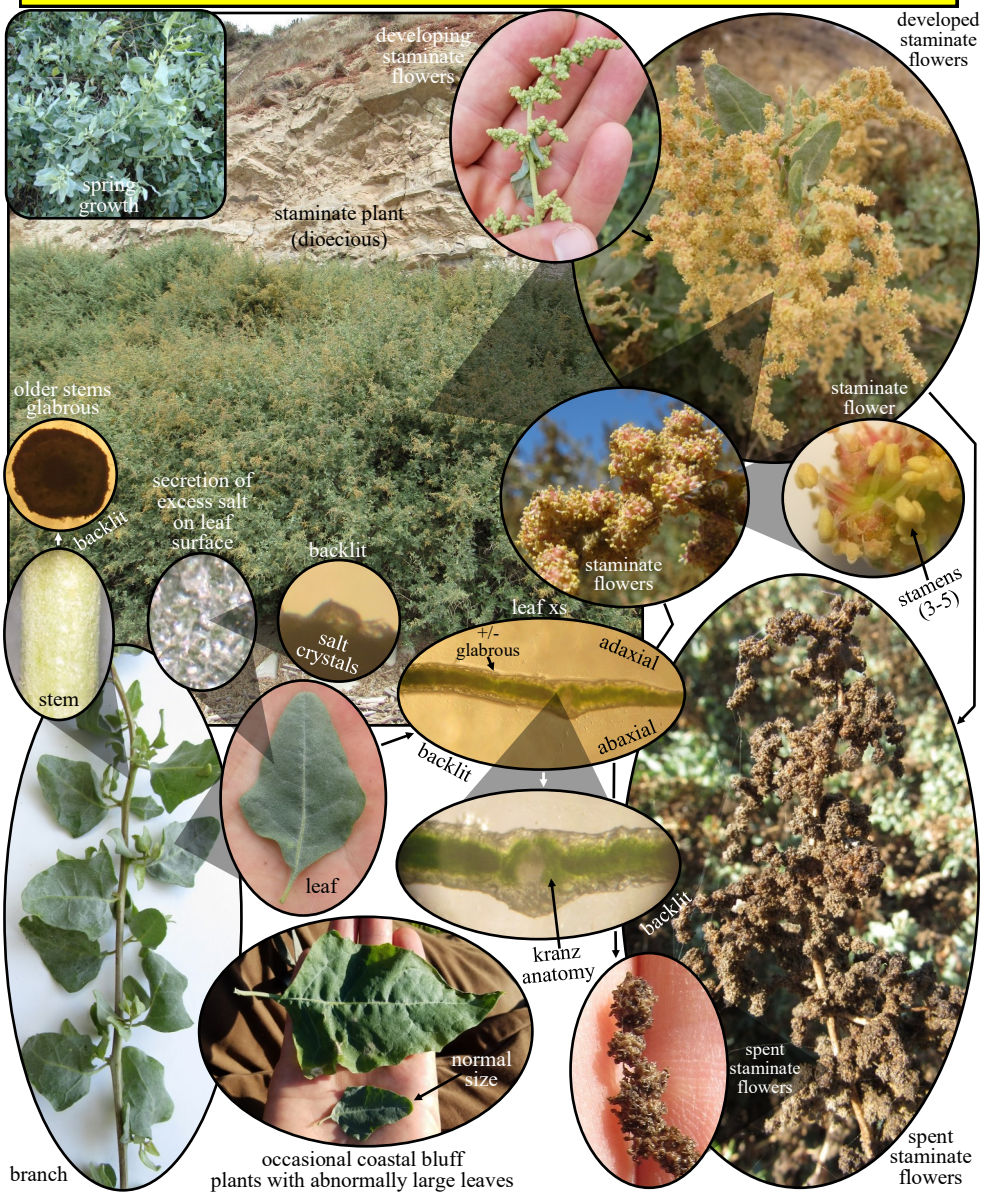
Big Saltbush (*Atriplex lentiformis*)

Order: Caryophyllales

Family: Chenopodiaceae (Goosefoot Family)

Flowers: July - October

Atriplex lentiformis is a perennial shrub. It is found throughout the peninsula especially along the coastal bluffs. It can be dioecious or less commonly monoecious. Leaves are deltate to rhombic, ovate to oblong-elliptic. The leaves are also scurfy, grayish-green and have kranz anatomy. Stems are primarily circular in cross section (terete) and are densely-fine scaly when young and glabrous when older. Staminate



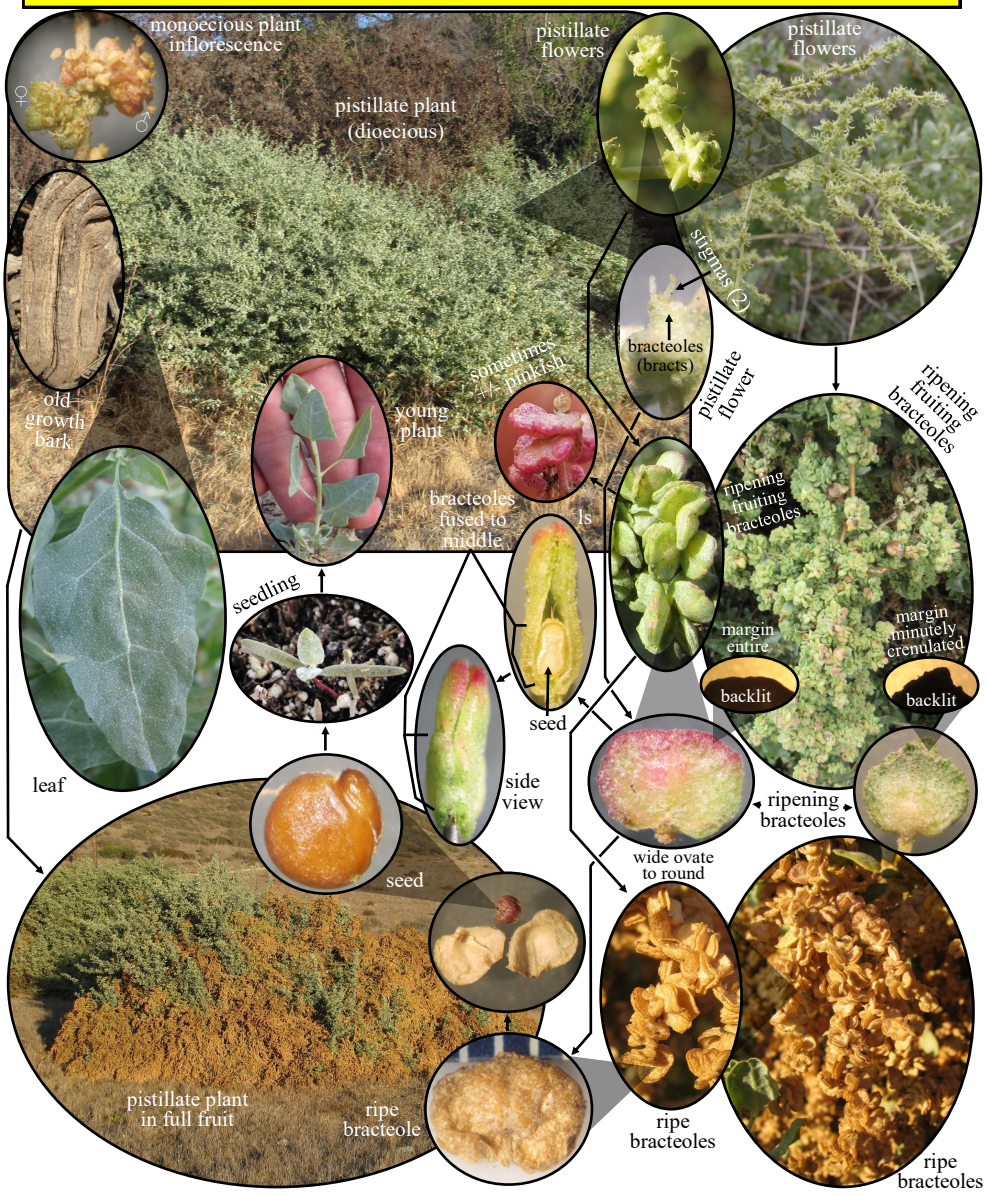
Big Saltbush (*Atriplex lentiformis*)

Order: Caryophyllales

Family: Chenopodiaceae (Goosefoot Family)

Flowers: July - October

flowers are small with 3 to 5 stamens and are in clusters. Pistillate flowers are small with 2 stigmas and subtended by two bracteoles (bracts) and are also in clusters. The fruiting bracteoles are fused to the middle. The fruiting bracteoles are wide ovate to round, sometimes compressed, and have margins entire to minutely crenulated. The seed is brownish and somewhat spherical.



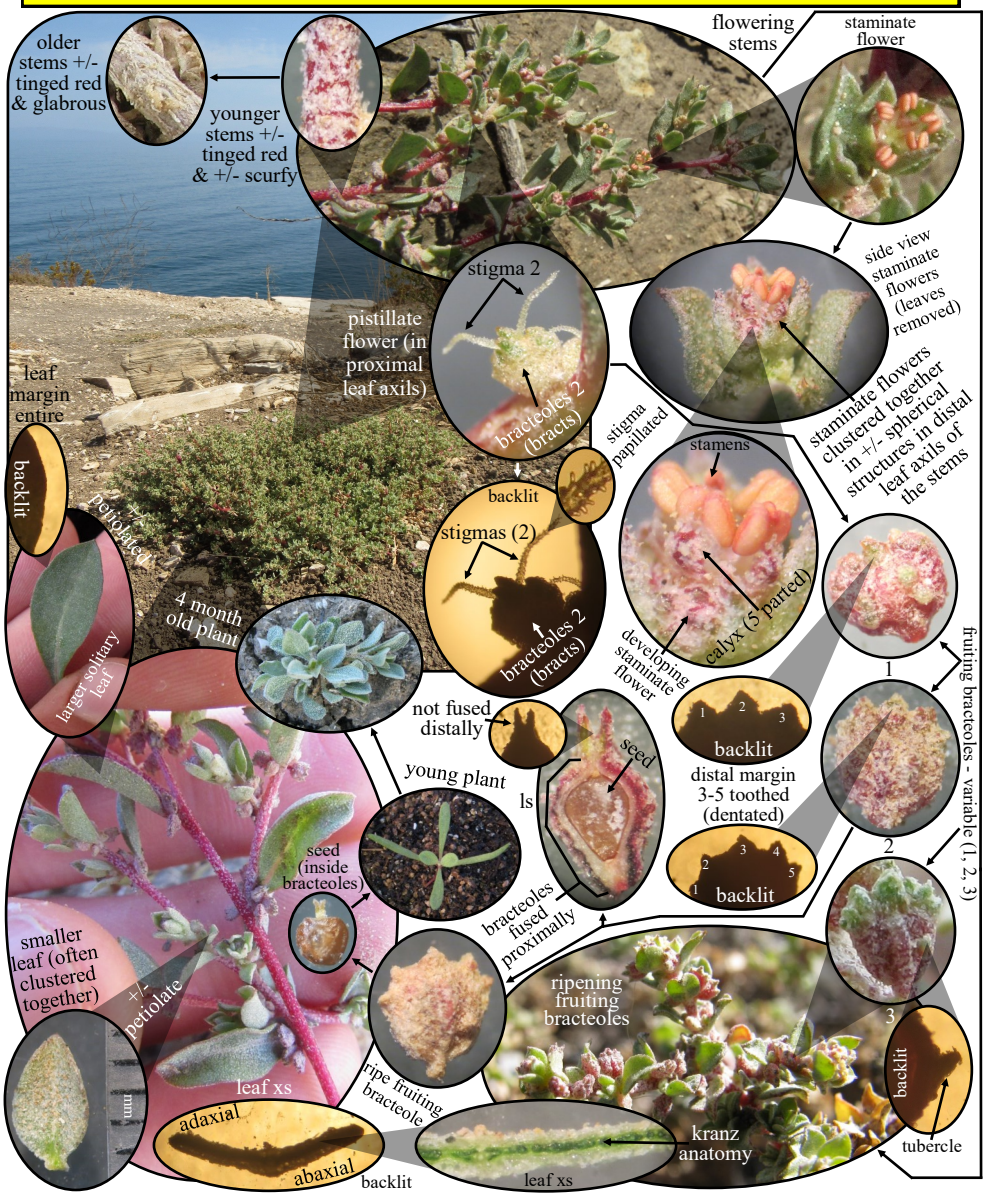
South Coast Saltscale (*Atriplex pacifica*)

Order: Caryophyllales

Family: Chenopodiaceae (Goosefoot Family)

Flowers: March - October

Atriplex pacifica is an annual herbaceous plant. Its overall growth habit is generally mat-like. It is primarily found along the coastal bluffs on the peninsula. It is a rare plant (CNPS ranking 1B.2). Plants are monecious. Older stems are usually brownish (occasionally tinged red) and glabrous. Younger stems are usually tinged red and are generally scurfy. Leaves (kranz anatomy present) are elliptic to oblanceolate or obov-



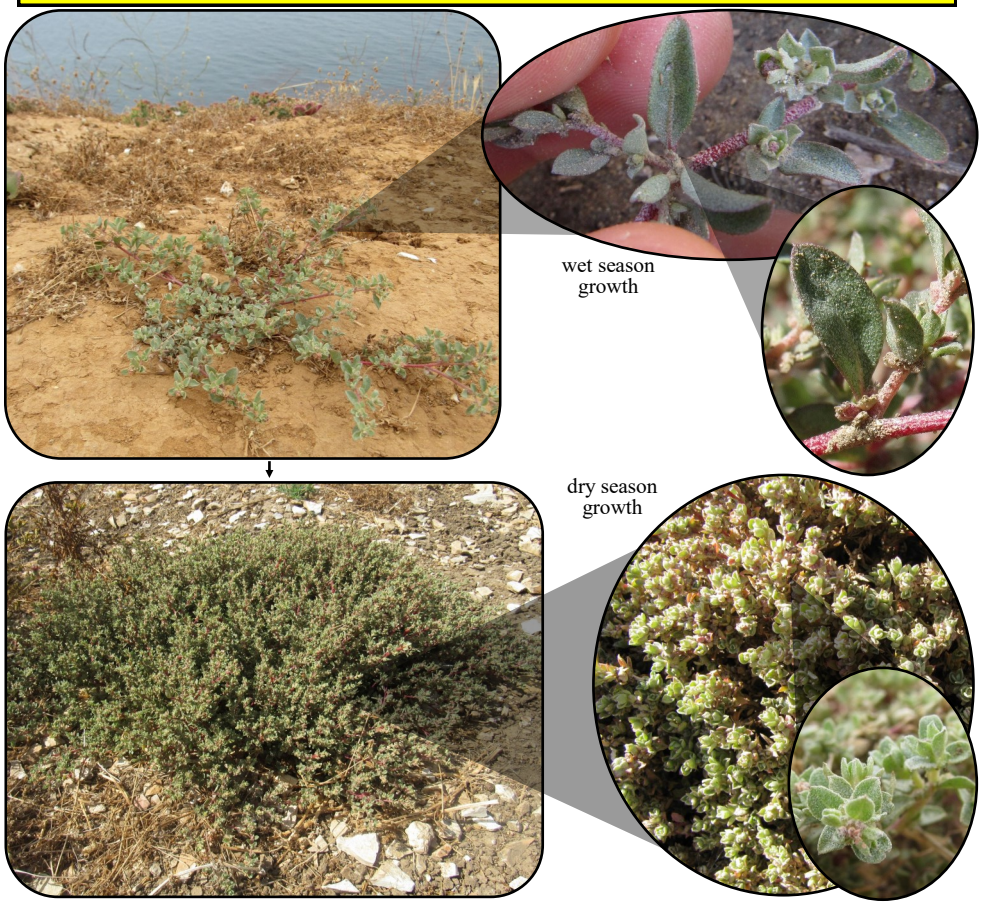
South Coast Saltscale (*Atriplex pacifica*)

Order: Caryophyllales

Family: Chenopodiaceae (Goosefoot Family)

Flowers: March - October

-ate and have entire margins. During the wet season, larger solitary petiolated leaves are usually more abundant along the stems. During the dry season, usually smaller sessile leaves are more abundant along the stems and are often more densely clustered together. Staminate inflorescences are in somewhat spherical clusters and usually in distal bractless leaf axils of the stems. Staminate flowers have 3 to 5 stamens and a 5 parted calyx. Pistillate inflorescences are usually in the proximal leaf axils of the stems. Pistillate flowers have 2 stigmas and are surrounded by 2 small foliaceous bracteoles (bracts). The fruiting bracteoles are fused proximally (middlish area). The fruiting bracteoles surfaces are usually smooth but can also be tuberculated. The margins of the fruiting bracteoles are minutely 3 to 5 toothed (dentated) at the apex. The seed is brownish and somewhat spherical. An odd thing about the peninsulas *A. pacifica* is that it tends to have more of a have perennial life duration rather than an annual life duration. Although annual life duration has been encountered as well, but appears to be less frequent.



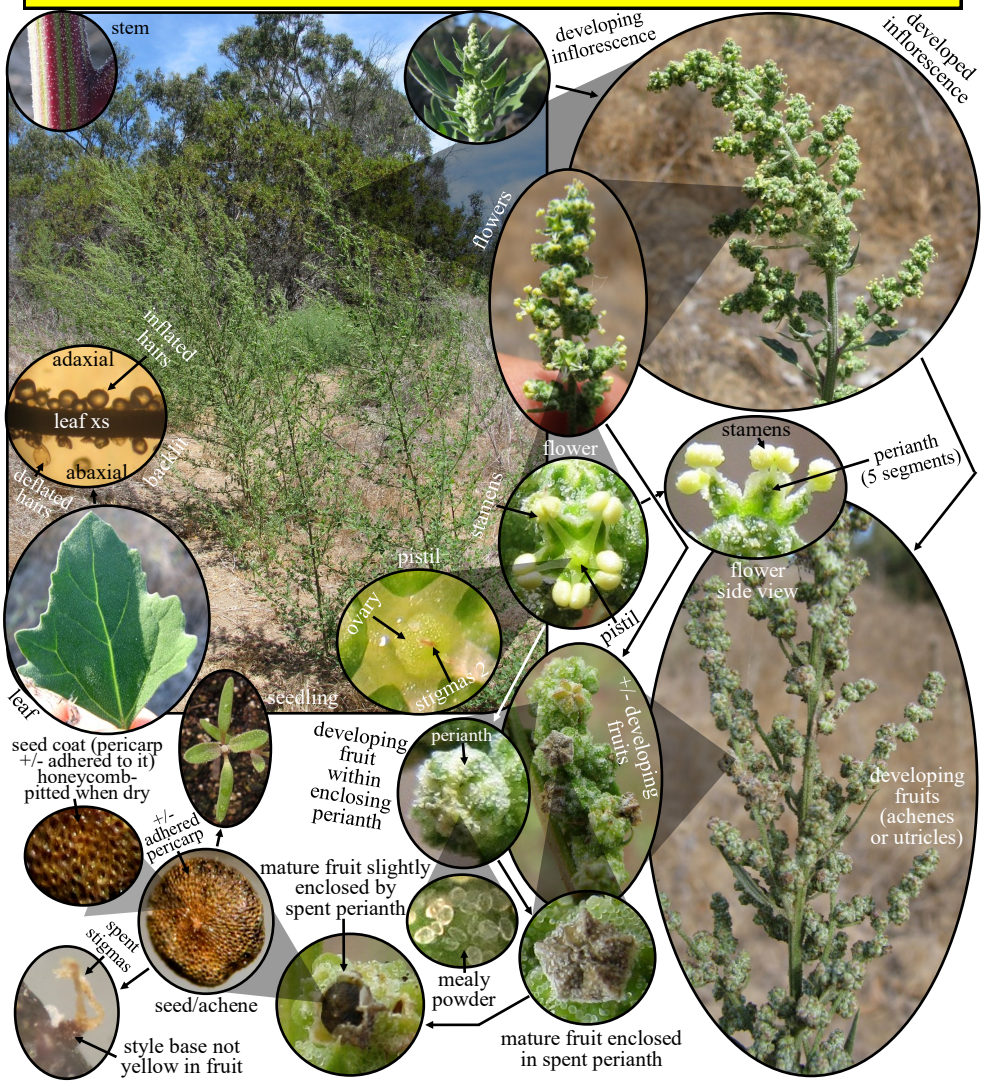
Pitseed Goosefoot (*Chenopodium berlandieri* var. *sinuatum*)

Order: Caryophyllales

Family: Chenopodiaceae (Goosefoot Family)

Flowers: July - September

Chenopodium berlandieri var. *sinuatum* is an annual herbaceous plant. It is found in a few locations on the peninsula. The entire plant is often covered with a mealy powder (farinose) and is scentless. The leaves are somewhat diamond-shaped and usually have 2 lobes near the base. Leaf margins can be serrated to irregularly toothed or entire. The leaves are usually covered in inflated hairs and have a mealy powdery feeling to them. Flowers are bisexual with 5 stamens, 2 stigmas (style base is not yellow when in fruit) and 5 perianth segments. The fruit is an utricle that is generally enclosed by the persistent perianth segments. The seed when fully matured and dried, has a seed coat that can be brown to black and is honeycomb pitted.



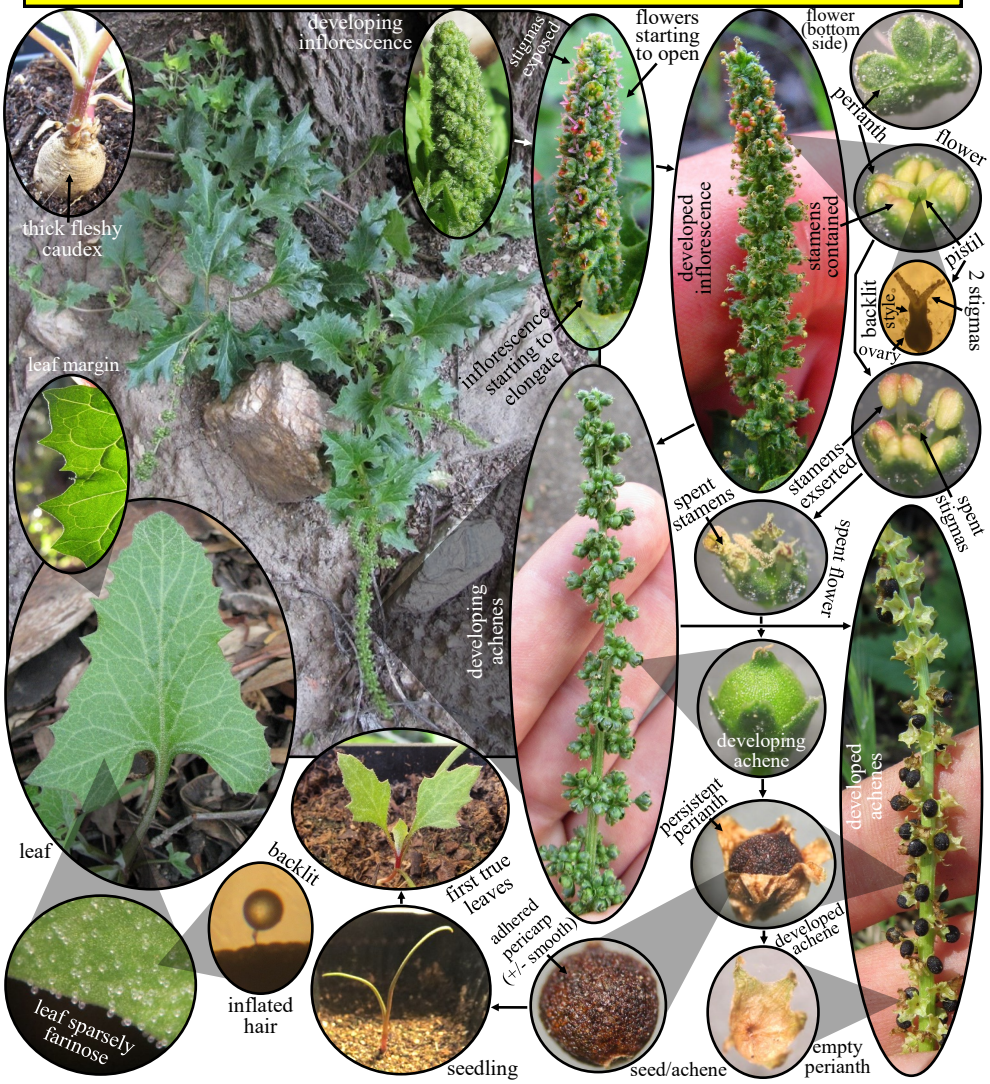
California Goosefoot (*Chenopodium californicum*)

Order: Caryophyllales

Family: Chenopodiaceae (Goosefoot Family)

Flowers: March - September

Chenopodium californicum is a perennial herbaceous plant. It returns each year from a stout taproot. This plant is found throughout the peninsula. The petioles of the leaves are long and the overall leaf shape is generally arrowhead-shaped. The leaves are also minimally farinose and the leaf margin is sinuate-dentate. The flowers are borne on a long inflorescence and are bisexual. The perianth segments are green and connate fused. The perianth is also persistent but does not entirely cover the fruit at maturity. Flowers have 4 to 5 stamens with 2 stigmas. The fruit is an achene that has a pericarp that is adherent to the seed and is generally smooth. The seed is obovoid or roundish with a seed coat that is black and rugose.



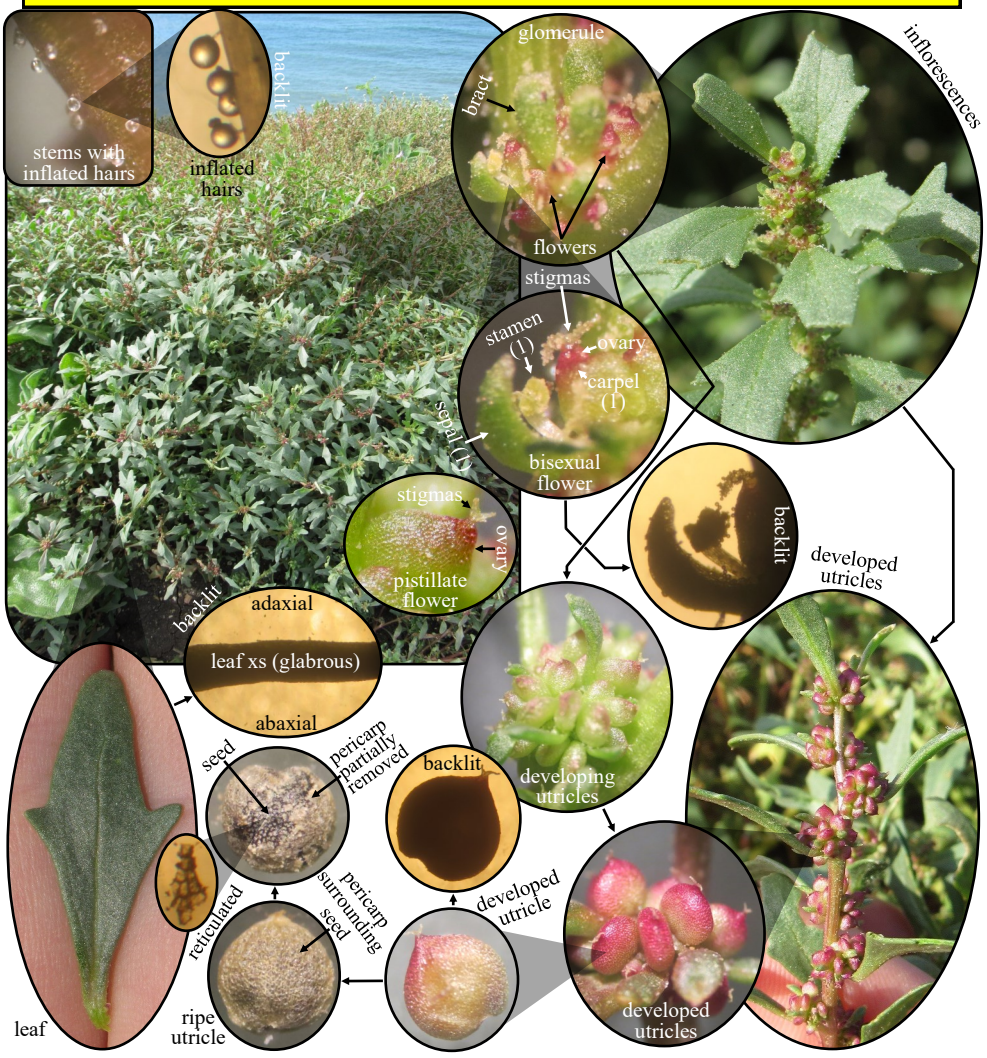
Nuttall's Povertyweed (*Monolepis nuttalliana*)

Order: Caryophyllales

Family: Chenopodiaceae (Goosefoot Family)

Flowers: April - September

Monolepis nuttalliana is an annual herbaceous plant. It is found along the coastal bluffs of the peninsula. It likes to grow in disturbed soils. The stems are prostrate to ascending. The leaves are petioled and the blade of the leaf can be hastately lobed near the base, generally triangular, lanceolate or linear. The margins of the leaves are generally entire but can occasionally have a few teeth distally. Stems and leaves can be glabrous or have inflated hairs. The inflorescence is made up of a cluster (glomerule) of 5 to many flowers in the leaf axils. The flowers can be bisexual or pistillate and only have 1 sepal. There is only 1 stamen per bisexual flower. The fruit is utricle. The pericarp is whitish, membranous, reticulated, and generally separates from the seed. The seed is laterally flattened and a blackish brown color.



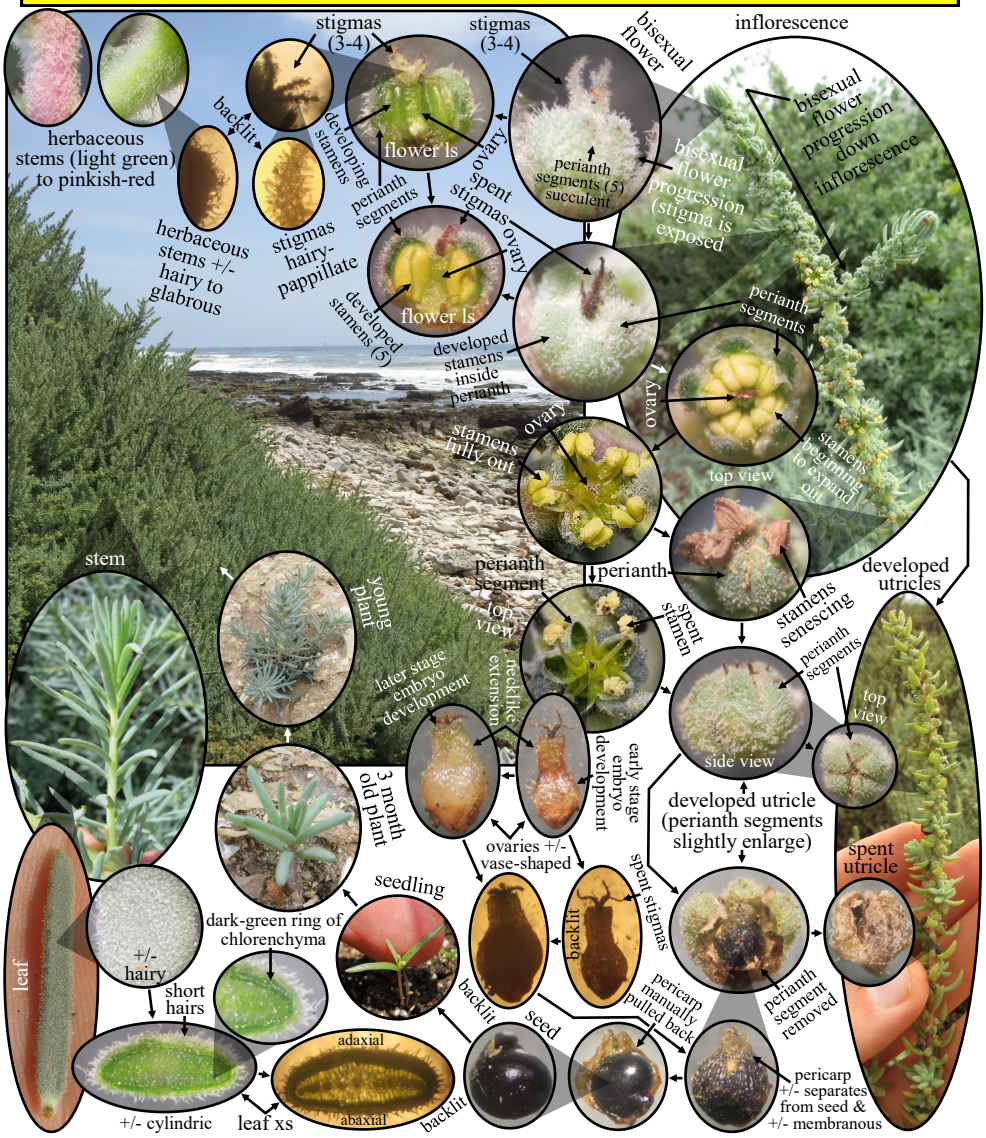
Woolly Sea Pear (*Suaeda taxifolia*)

Order: Caryophyllales

Family: Chenopodiaceae (Goosefoot Family)

Flowers: nearly all year

Suaeda taxifolia is a perennial subshrub to shrub. It is found along the coastal bluffs of the peninsula and is a rare plant (CNPS ranking 4.2). The leaves are usually blue-green, lanceolate to narrowly ovate, and somewhat cylindrical. The leaves are usually hairy but can sometimes be glabrous. Flowers are bisexual or sometimes pistillate. Bisexual flowers have 5 stamens, 3 to 4 stigmas, and 5 perianth segments. The ovary is pear-shaped. Fruits are utricles that are enclosed by persistent perianth segments that are succulent. The blackish somewhat spherical seed has a membranous pericarp.



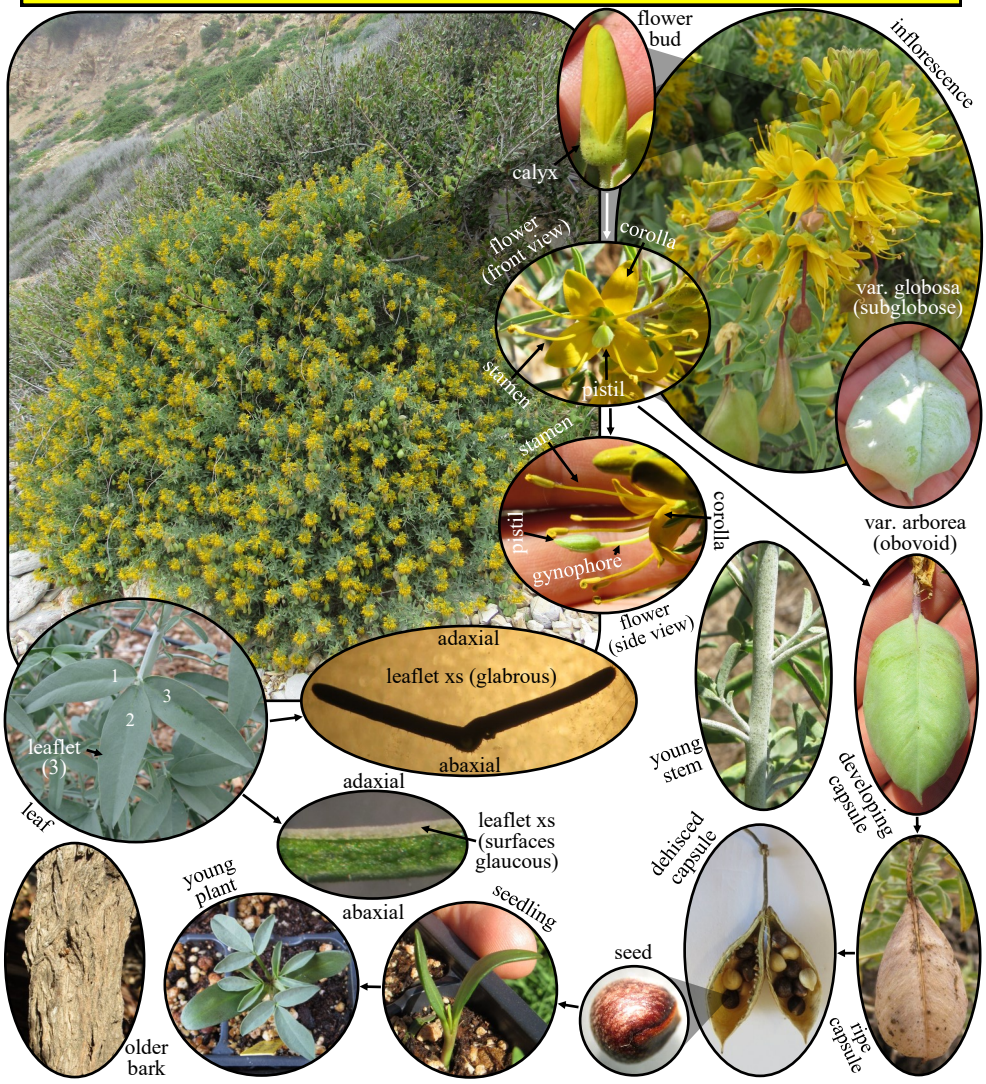
Bladderpod (*Cleomella arborea* var. *arborea*)

Order: Brassicales

Family: Cleomaceae (Spiderflower Family)

Flowers: nearly all year

Cleomella arborea var. *arborea* is a perennial shrub. It is found throughout the peninsula. The leaf is composed of 3 leaflets that are oblong-elliptic and glabrous (sometimes minutely hairy). The sepals of the flower are fused near the base and often persistent. The petals (4) are large and yellow. Stamens are yellow and exserted. The ovary is held out of the surrounding flower by a gynophore that elongates as the fruit develops. The ripe fruit is a capsule that is usually inflated, obovoid, and is late to dehisce. The seed is dark brown, obovoid, smooth, and can have slight pattering. Older bark can be corky. *Cleomella arborea var. globosa* (capsules subglobose) has also been found on the peninsula but appears to be very uncommon.



South Coast Morning Glory

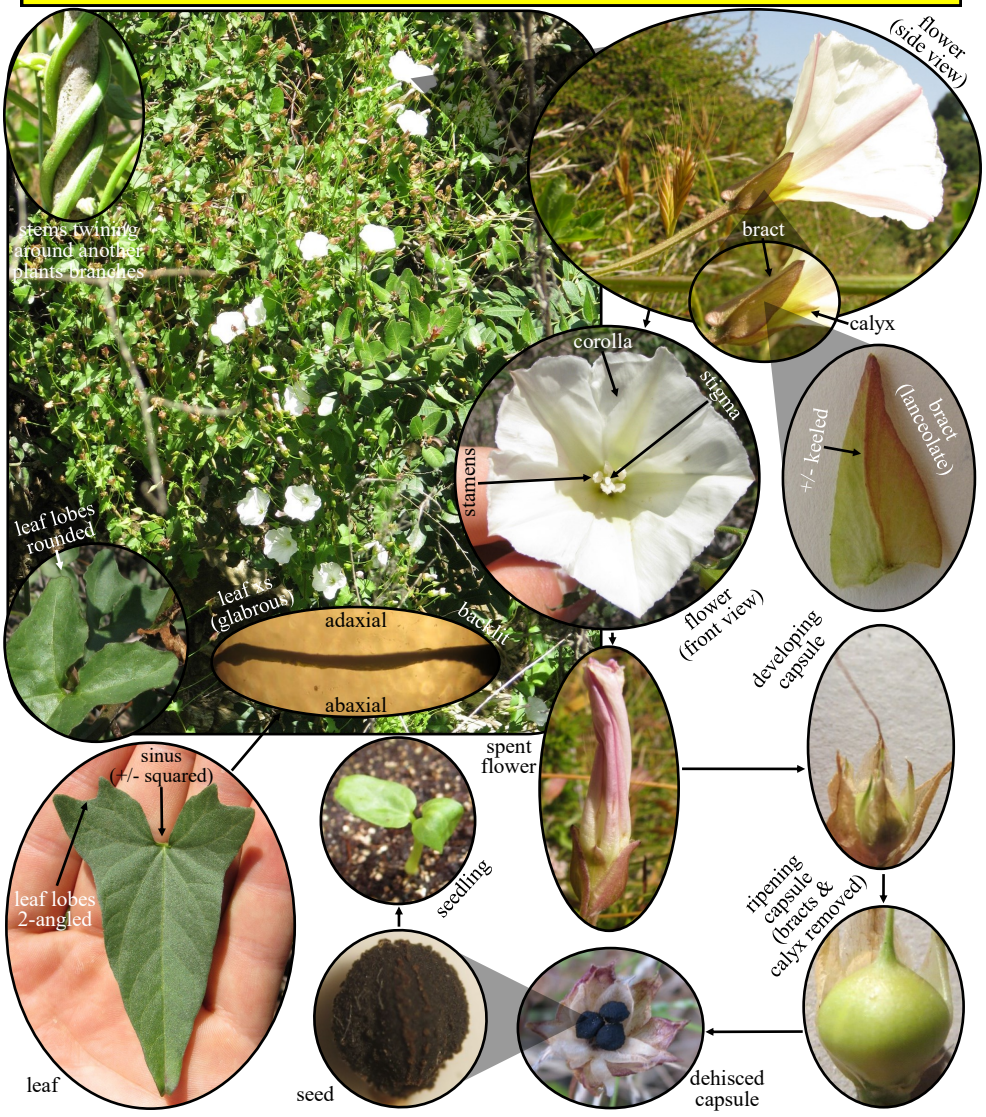
(*Calystegia macrostegia* subsp. *intermedia*)

Order: Solanales

Family: Convolvulaceae (Morning Glory Family)

Flowers: March - August

Calystegia macrostegia subsp. *intermedia* is a perennial herbaceous vining plant that is a subshrub from a woody caudex. It is found throughout the peninsula. The stems are trailing or climbing and the overall plant can be glabrous to hairy. The leaves are widely triangular, lobed (lobes rounded to 2-angled) and the sinus of the leaf is usually acute to rounded or squared. The bracts of the inflorescence are lanceolate and are usually keeled. The bracts also hide the calyx. The corolla is large and white (with the white fading to pink). The fruit is a capsule that is usually spheric. The seed is usually spheric and black.



Coast Morning Glory

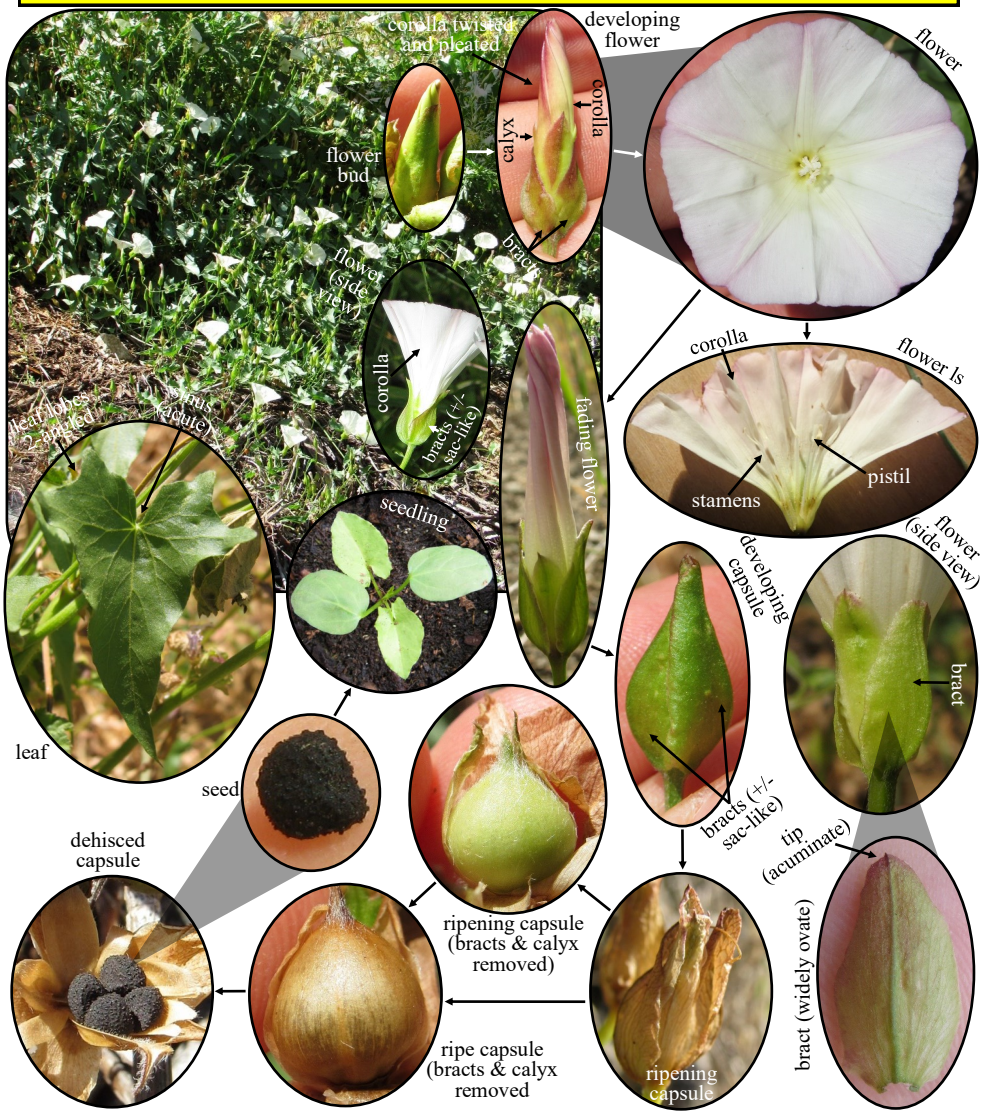
(*Calystegia macrostegia* subsp. *cyclostegia*)

Order: Solanales

Family: Convolvulaceae (Morning Glory Family)

Flowers: March - August

Calystegia macrostegia subsp. *cyclostegia* is a perennial herbaceous vining plant that is a subshrub from a woody caudex. It is found in a few spots on the peninsula. The stems are trailing or climbing and the overall plant can be glabrous to hairy. The leaves are triangular, lobed (lobes generally 2-tipped) and the sinus of the leaf is usually acute, rounded or occasionally squared. The bracts of the inflorescence are widely ovate to round and can be flat to somewhat sac-like. The tips of the bracts can be notched or acuminate. The bracts also hide the calyx. The corolla is large and white (fading to pink). The fruit is a capsule that is spheric. The seed is spheric and black.



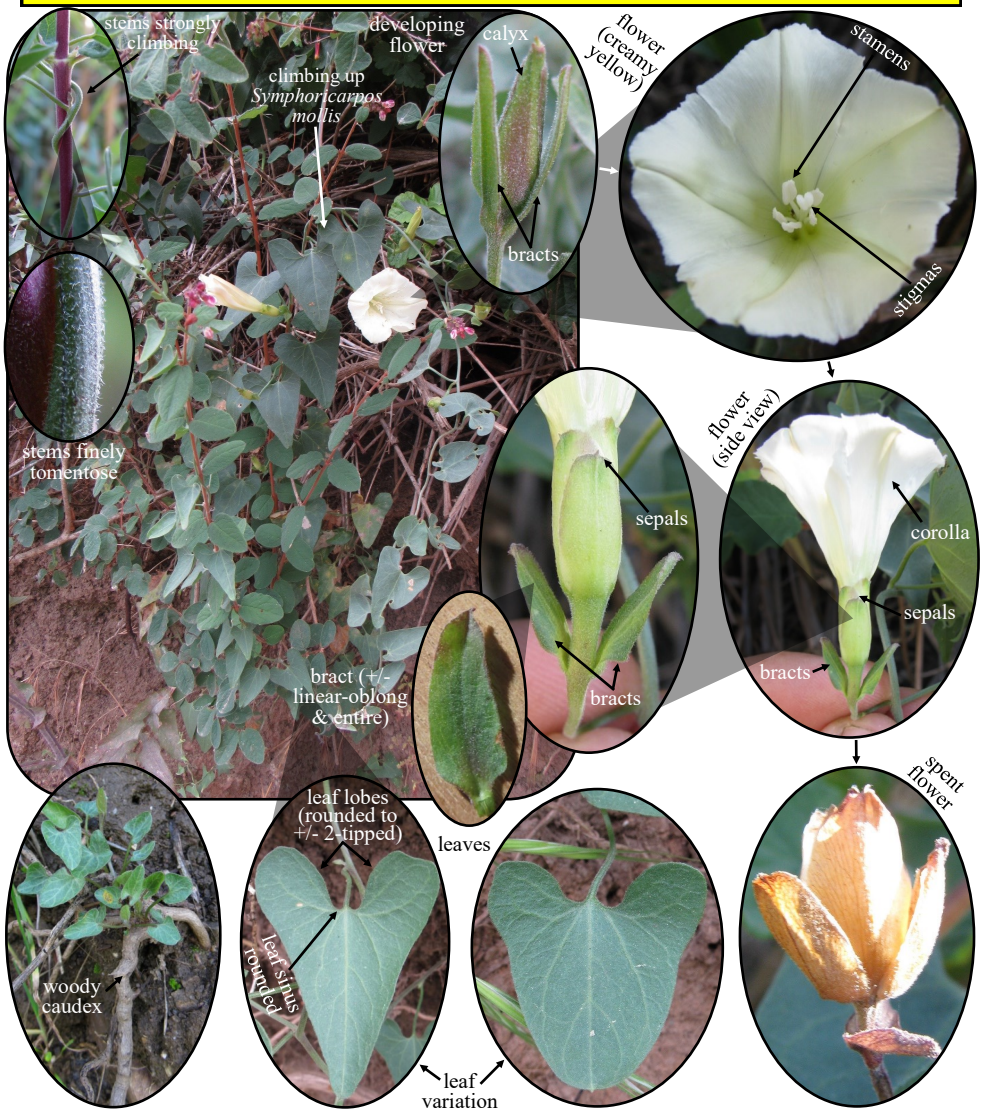
Western Glory (*Calystegia occidentalis* subsp. *occidentalis*)

Order: Solanales

Family: Convolvulaceae (Morning Glory Family)

Flowers: May - July

Calystegia occidentalis subsp. *occidentalis* is a perennial herbaceous vining plant that is a subshrub from a woody caudex. It has only been found in one canyon on the peninsula. The stems are strongly climbing and the overall plant can be finely hairy. The leaves are triangular with leaf lobes generally indistinct and generally 2-tipped. The bracts of the inflorescence are 1 mm to 7 mm below the calyx and do not hide the calyx. The bracts are linear-oblong and not lobed like the leaves. The corolla is large and a white to cream color. The fruit is a capsule that is usually spheric. The seed is generally spheric and black.



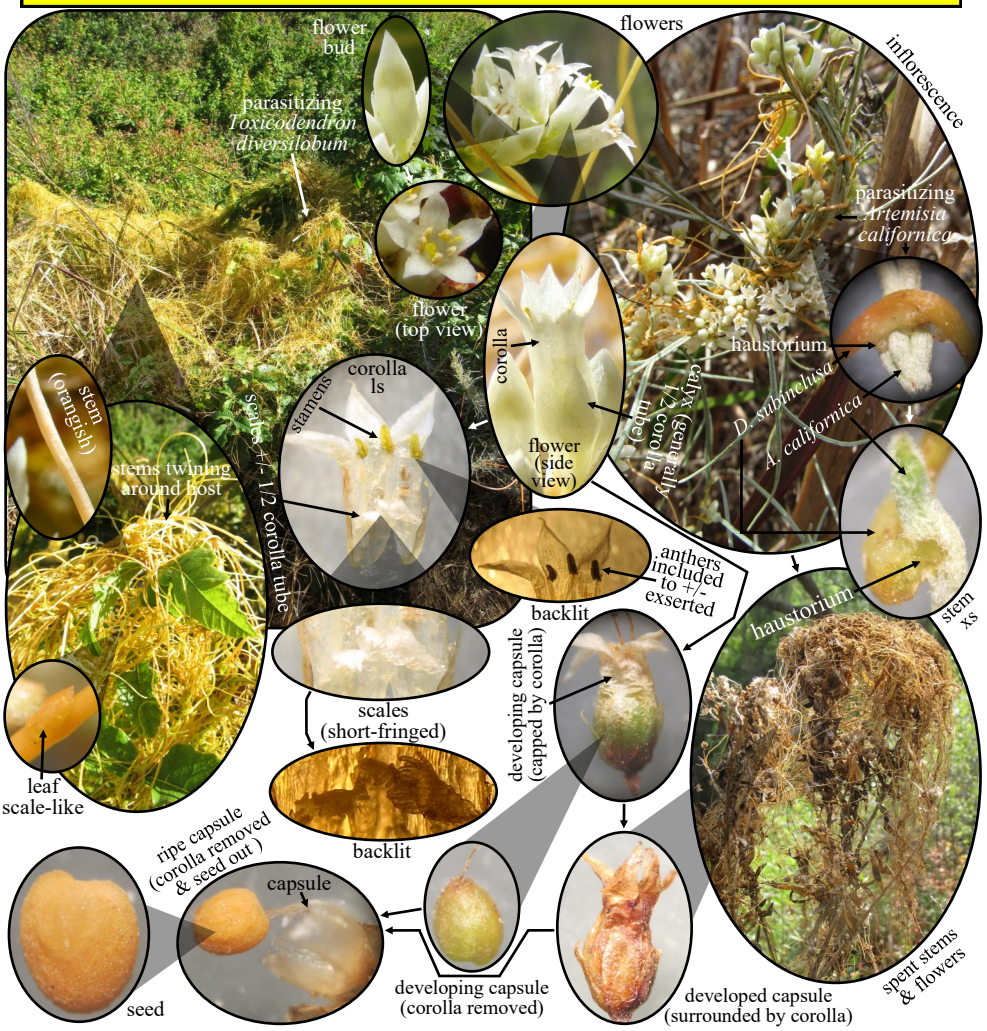
Canyon Dodder (*Cuscuta subinclusa)*

Order: Solanales

Family: Convolvulaceae (Morning Glory Family)

Flowers: March - October

Cuscuta subinclusa is an annual herbaceous vining plant. It is non-photosynthetic and gets all its water and nutrients from its host (holoparasitic) via specialized roots (haustoria). It is found in a few canyons on the peninsula. It can be found parasitizing *Artemisia californica, Baccharis salicifolia* subsp. *salicifolia*, *Malosma laurina*, and *Toxicodendron diversilobum*. Leaves are absent (or scale-like) and the stems are orangish. The tiny bisexual flowers have a whitish calyx that is generally 1/2 the corolla tube with lobe bases generally not overlapping. The corolla is tubular with the corolla lobes 1/4 to 1/3 the tube and the overall color is whitish. Corolla scales are usually 1/2 the corolla tube on the inside and irregularly short-fringed. The fruit is a dry capsule (generally indehiscent) that has a persistent corolla that surrounds it. The seed is small and generally spheric to widely ovoid.



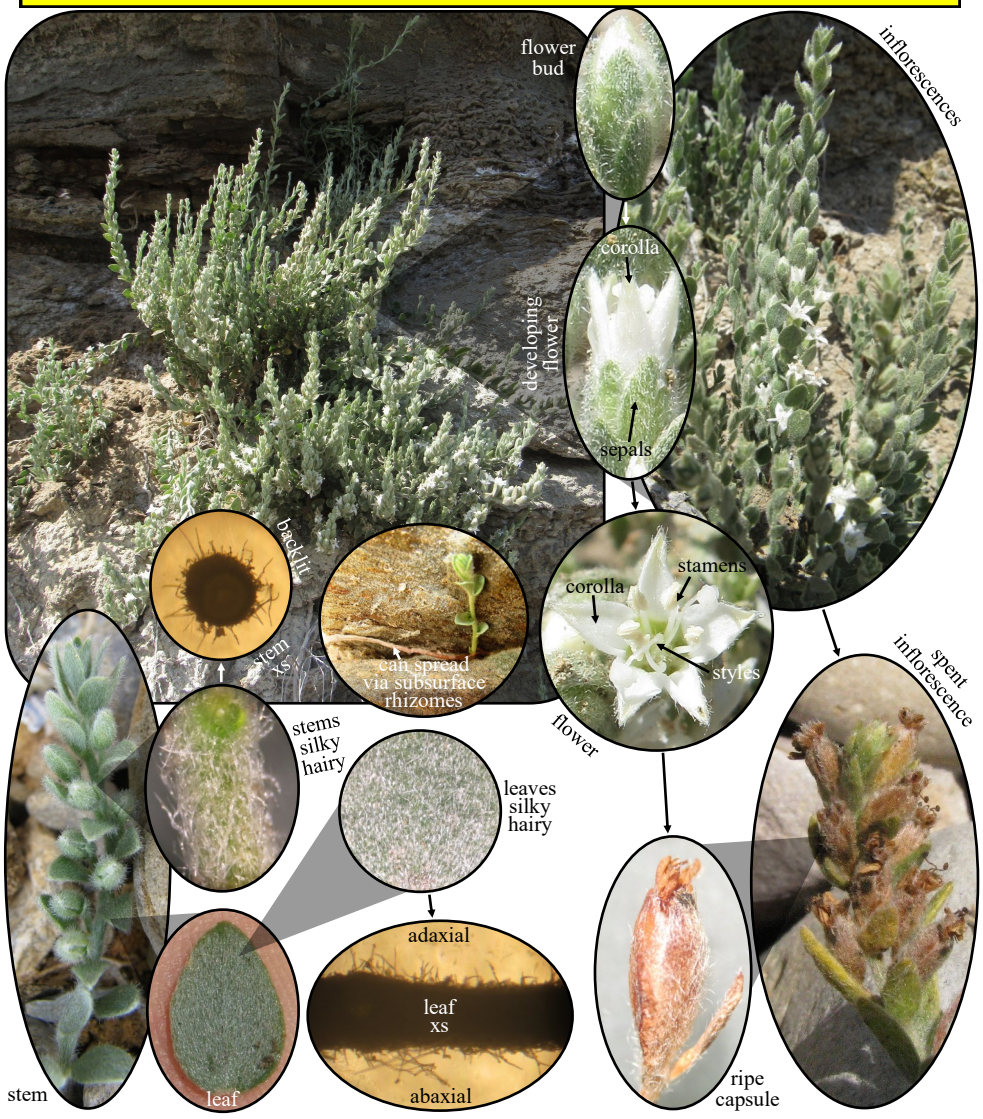
Spreading Alkaliweed (*Cressa truxillensis*)

Order: Solanales

Family: Convolvulaceae (Morning Glory Family)

Flowers: May - October

Cressa truxillensis is a perennial herbaceous plant. It can be a subshrub and spread out via shallow rhizomes. It is found in a few spots along the coastal bluffs of the peninsula. The overall plant is densely hairy (silky-canescent) and the stems are not twining. The leaves are sessile, elliptic and generally overlapping. The sepals of the flowers are green and generally hide the corolla tube. The corolla is white, with lobes pointed. The corolla is also persistent. The 5 stamens and the 2 styles are exserted out past the corolla and the stigma is head-like. The fruit is a dry capsule usually with only 1 seed and seeds are rare. The seed is small and orangish brown.



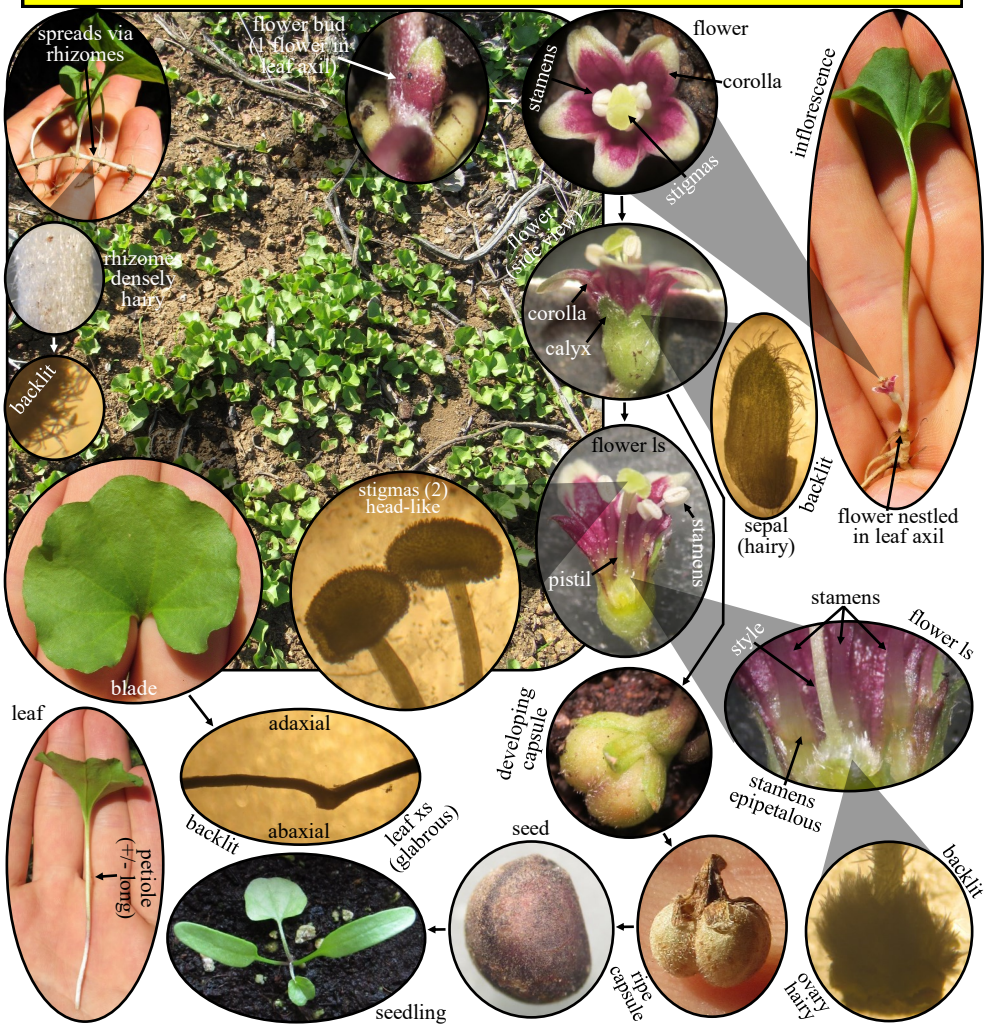
Western Dichondra (*Dichondra occidentalis*)

Order: Solanales

Family: Convolvulaceae (Morning Glory Family)

Flowers: March - June

Dichondra occidentalis is a perennial herbaceous plant. It spreads via rhizomes and stolons. It is found in only a few locations on the peninsula. The stems of the plant are densely hairy. The leaves are reniform with a very long petiole. The leaves are also glabrous to sparsely hairy. The flowers are inconspicuous (usually hidden underneath the leaves) and found just slightly above the soil line. There is 1 flower per leaf axil. The calyx of the flower is deeply lobed with 5 lobes present and is persistent when in fruit. The corolla of the flower is reddish to purple and is usually greater than the calyx. There are 2 styles and they are usually united only at the base. The stigmas are head-shaped or mushroom shaped. The stamens are epipetalous. The fruit is a capsule that is usually 2-lobed (sometimes only 1 lobe is present). The seed is generally spheric and brownish. This plant is a CNPS listed rare plant (CNPS ranking 4.2).



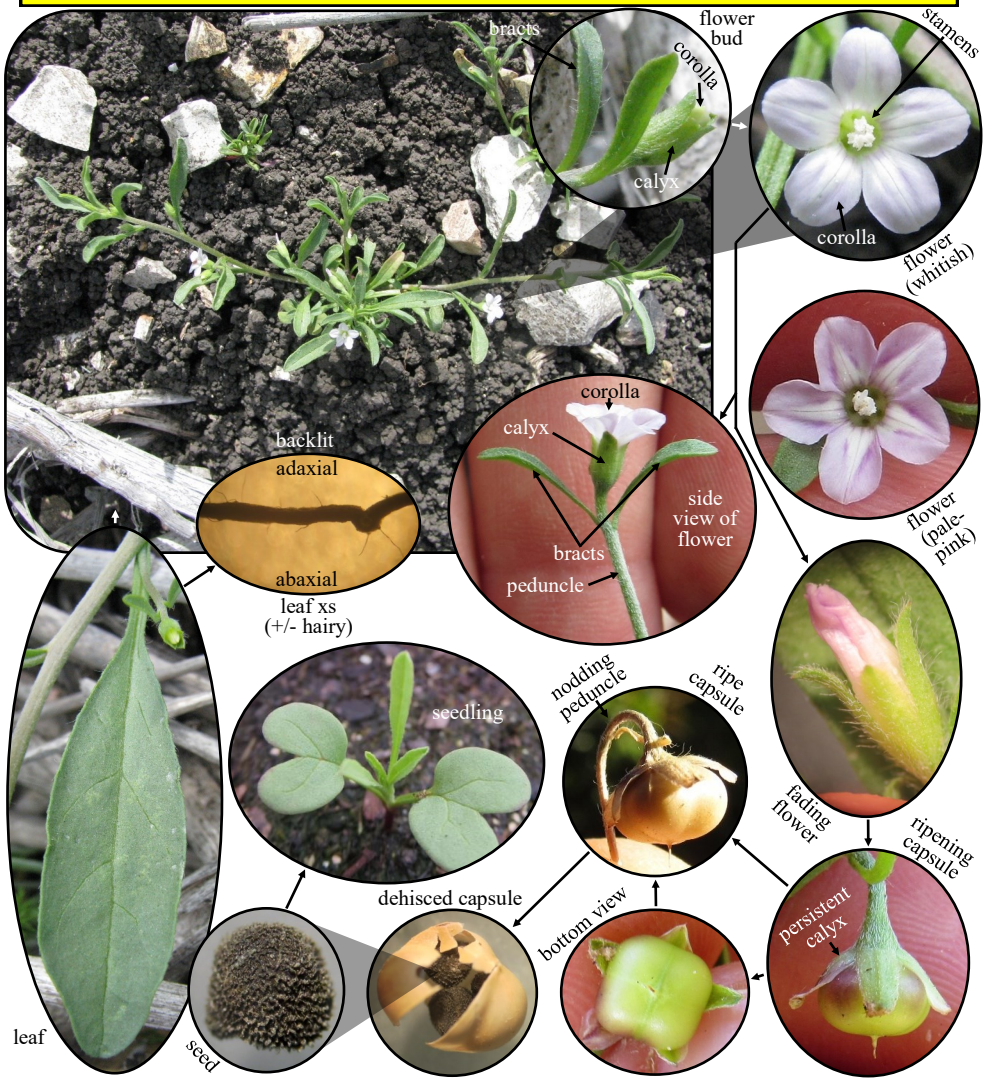
Small Morning Glory (*Convolvulus simulans*)

Order: Solanales

Family: Convolvulaceae (Morning Glory Family)

Flowers: April - June

Convolvulus simulans is an annual herbaceous plant. It is found in only a few locations on the peninsula. The overall plant has a bluish-green appearance to it and is covered in short stiff adpressed hairs. The leaves are oblanceolate, generally sessile, and have leaf margins that are entire. The inflorescence is 1-flowered. The calyx of the flower is green and the lobes are oblong to obovate. The corolla of the flower is bell-shaped and can range in color from white to purplish-pink. The fruit is a capsule that is usually spheric. The peduncle of the flower generally nods when the capsule is fully ripe. The seed (generally 4 per capsule) is spheric, blackish, and textured. This plant is a CNPS listed rare plant (CNPS ranking 4.2).



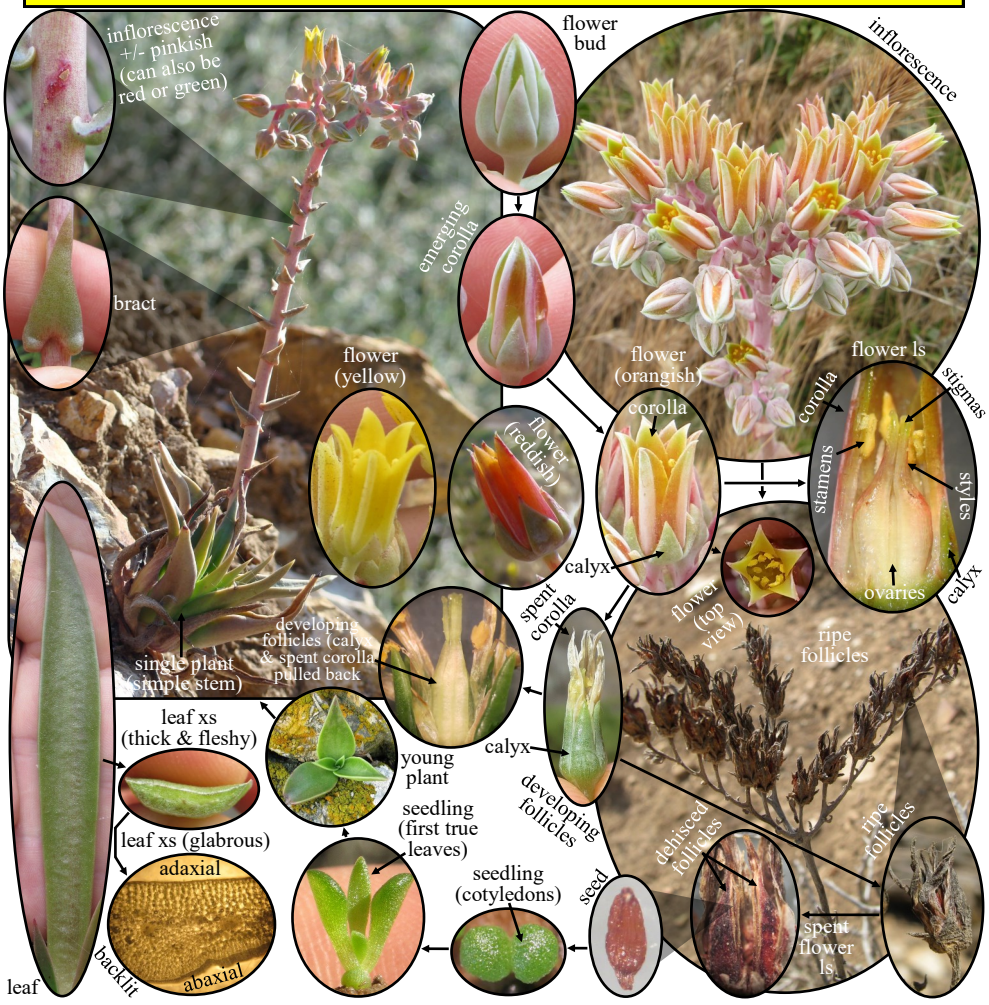
Lance-leaved Dudleya (*Dudleya lanceolata*)

Order: Saxifragales

Family: Crassulaceae (Stonecrop Family)

Flowers: April - July

Dudleya lanceolata is a perennial herbaceous succulent plant. It is found throughout the peninsula usually along the hillsides and within canyons. The stem or stems of the plant are above ground (caudices) and can be simple or branched at the tip and cespitose. The leaves are oblong-lanceolate, fleshy, and form rosettes. The leaves can also be glaucous, minimally glaucous, or not glaucous. Older leaves wither and often cover the stem (caudex) for years. The inflorescence is a cyme and mostly 2-3 branched. The flowers are 5-merous and the sepals of the calyx are connately fused towards the bottom and are shorter than the petals. The petals of the corolla are erect, generally forming a cylindric tube that is connately fused from the base to the middle. The corolla can be yellow, reddish or orangish. There are 10 stamens and 5 connivent pistils. The fruit is a follicle and there are 5 follicles for each flower and are generally erect. The seed is very small, brownish, and striated.



Lance-leaved Dudleya (*Dudleya lanceolata*)

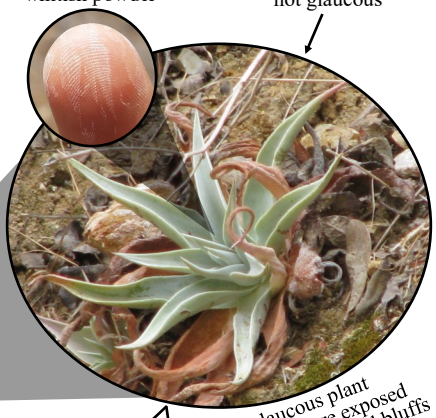
Order: Saxifragales

Family: Crassulaceae (Stonecrop Family)

Flowers: April - July



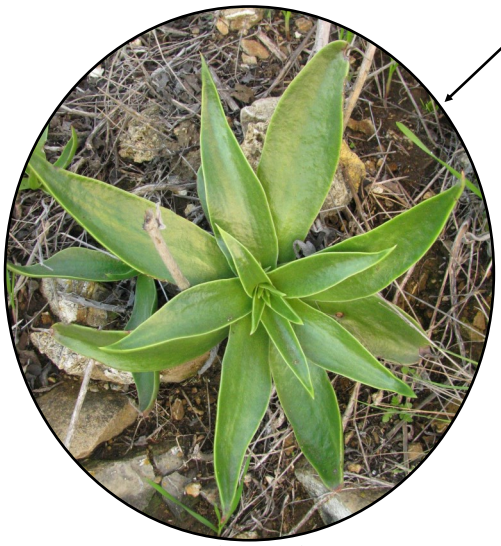
apically branched & cespitose



whitish powder

plants can be glaucous, minimally glaucous to not glaucous

glaucous plant (seen in more exposed sites such as coastal bluffs & hillsides)



not glaucous plant (seen in more shaded sites such as canyons)



minimally glaucous plant (seen in more partially exposed sites on hillsides)

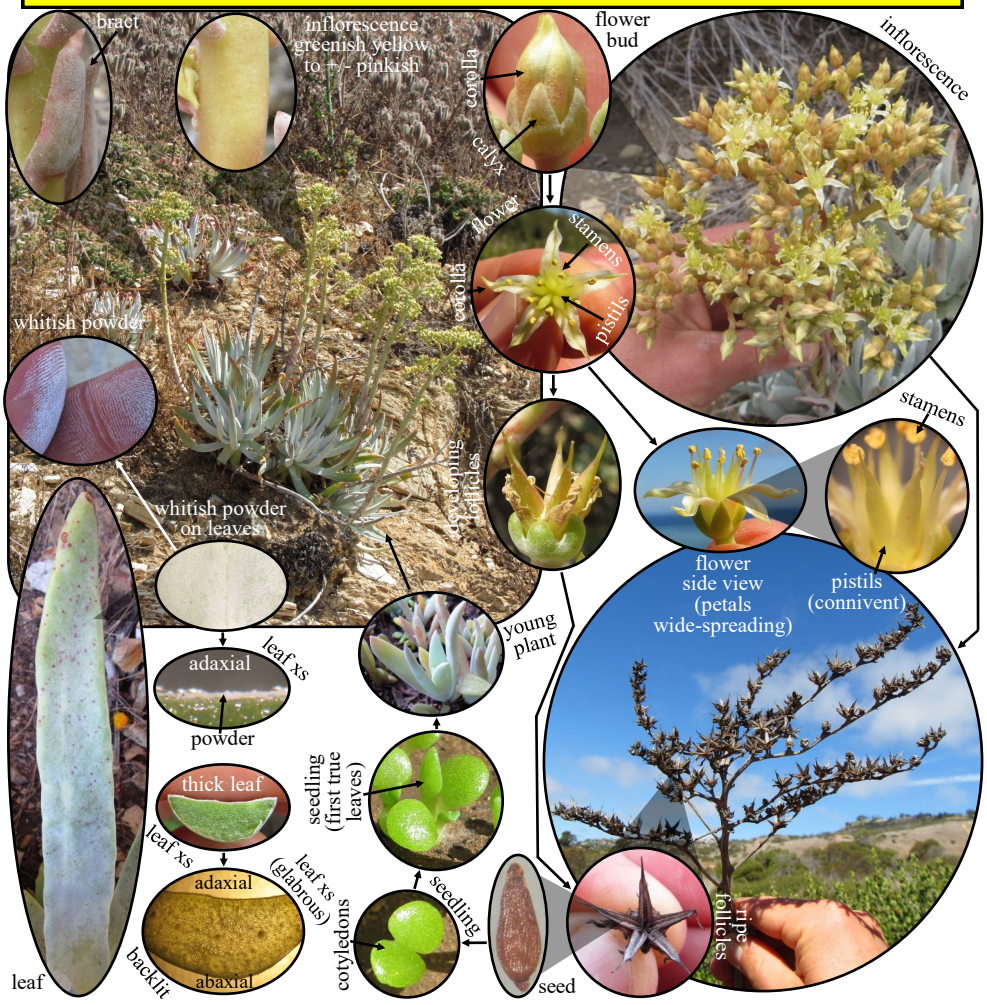
Island Green Dudleya (*Dudleya virens* subsp. *insularis*)

Order: Saxifragales

Family: Crassulaceae (Stonecrop Family)

Flowers: April - June

Dudleya virens subsp. *insularis* is a perennial succulent herbaceous plant. It is found along the coastal bluffs of the peninsula. This plant is a rare plant (CNPS ranking 1B.2). The stems of the plant are above ground (caudices) and can form large clumps. The leaves are linear to triangular-lanceolate, whitish to light green, the surfaces can sometimes be farinose (covered in a whitish powder), are fleshy, and can form rosettes. Older leaves wither and often cover the stem (caudex) for years. The inflorescence is a cyme with several branches that are 1-3 times bifurcated. The flowers are 5-merous and the sepals of the calyx are connately fused basally and are shorter than the petals. The petals of the corolla are wide-spreading or can be slightly reflexed from the middle. The corolla can be whitish-yellow. There are 10 stamens and 5 connivent pistils. The fruit is a follicle. There are 5 follicles for each flower that are generally spreading at maturity. The seed is very small, brownish, and striated.



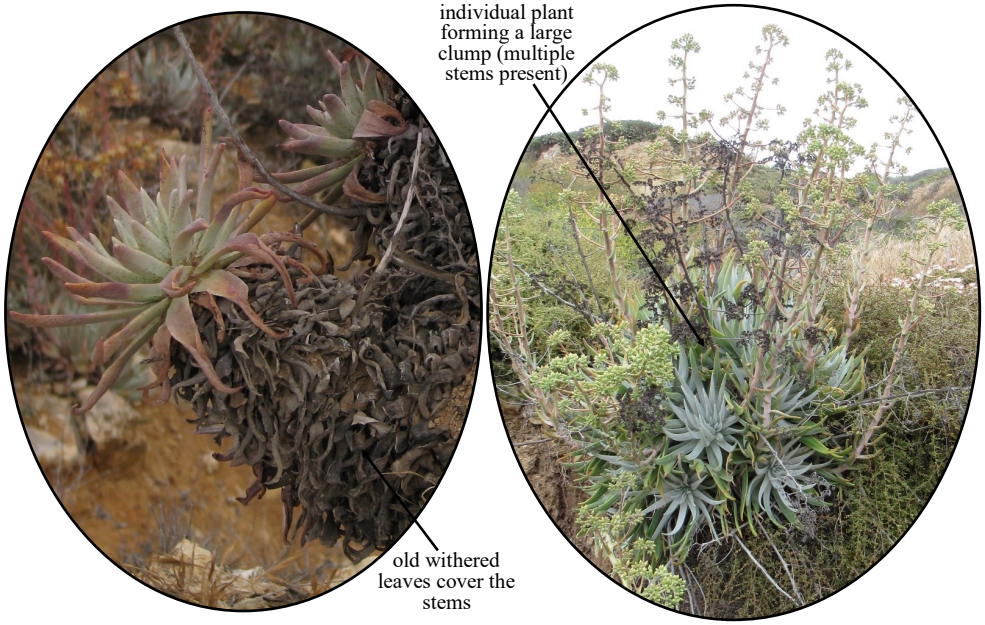
Island Green Dudleya (*Dudleya virens* subsp. *insularis*)

Order: Saxifragales

Family: Crassulaceae (Stonecrop Family)

Flowers: April - June





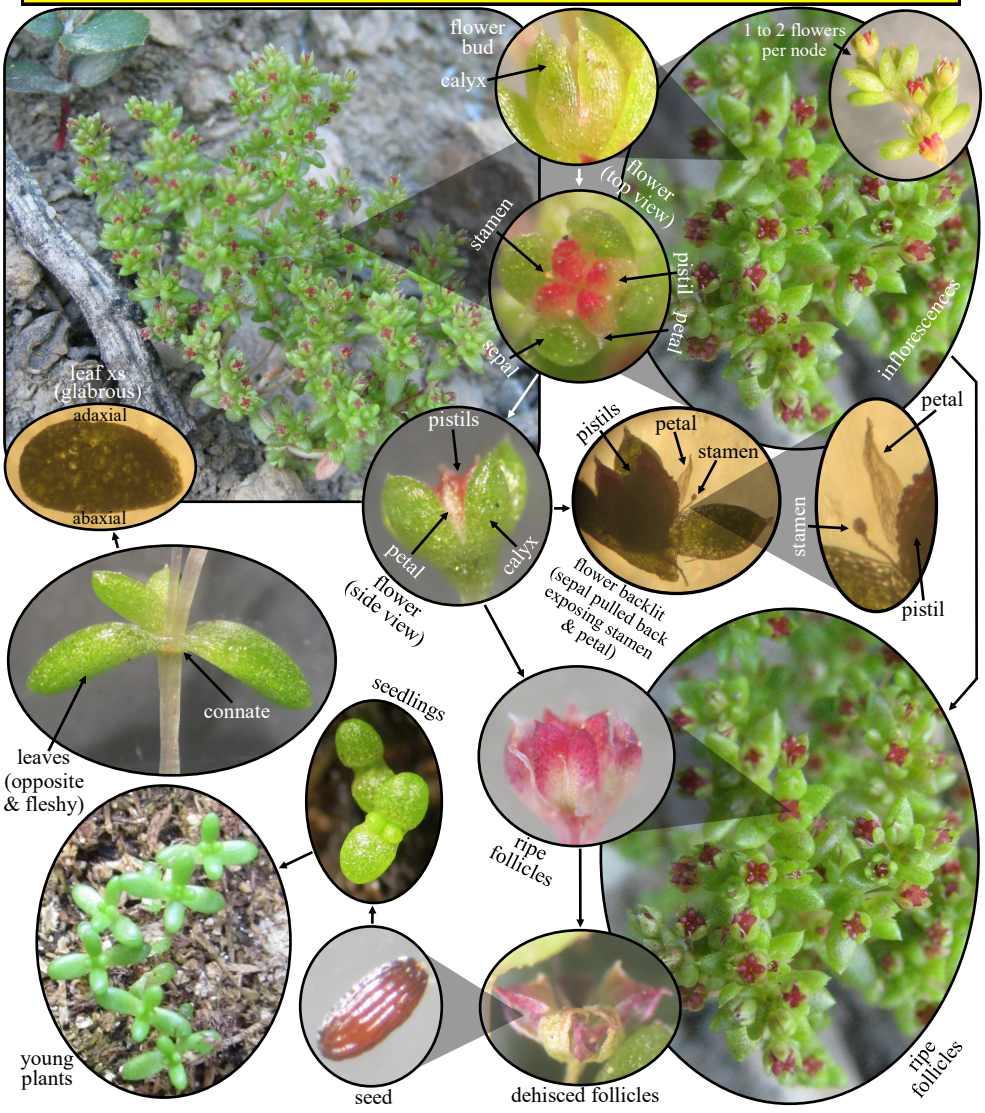
Pygmy Stonecrop (*Crassula connata*)

Order: Saxifragales

Family: Crassulaceae (Stonecrop Family)

Flowers: February - May

Crassula connata is an annual herbaceous plant. It is found in a only few locations on the peninsula mostly along canyons. The stems are erect and generally a light reddish color in age. The leaves are ovate to oblong, opposite, sessile, fused basally, and fleshy. There are 1 to 2 flowers per node. The flowers have a green calyx with 3 to 4 sepals with narrowly pointed tips. The whitish corolla is sometimes visible but usually hidden by the sepals. There are 4 stamens that are somewhat visible and there are 4 pistils present. The fruit is a follicle. There are 4 follicles for each flower and develop a blush of red as they mature. The seed is very small and orangish-brown.



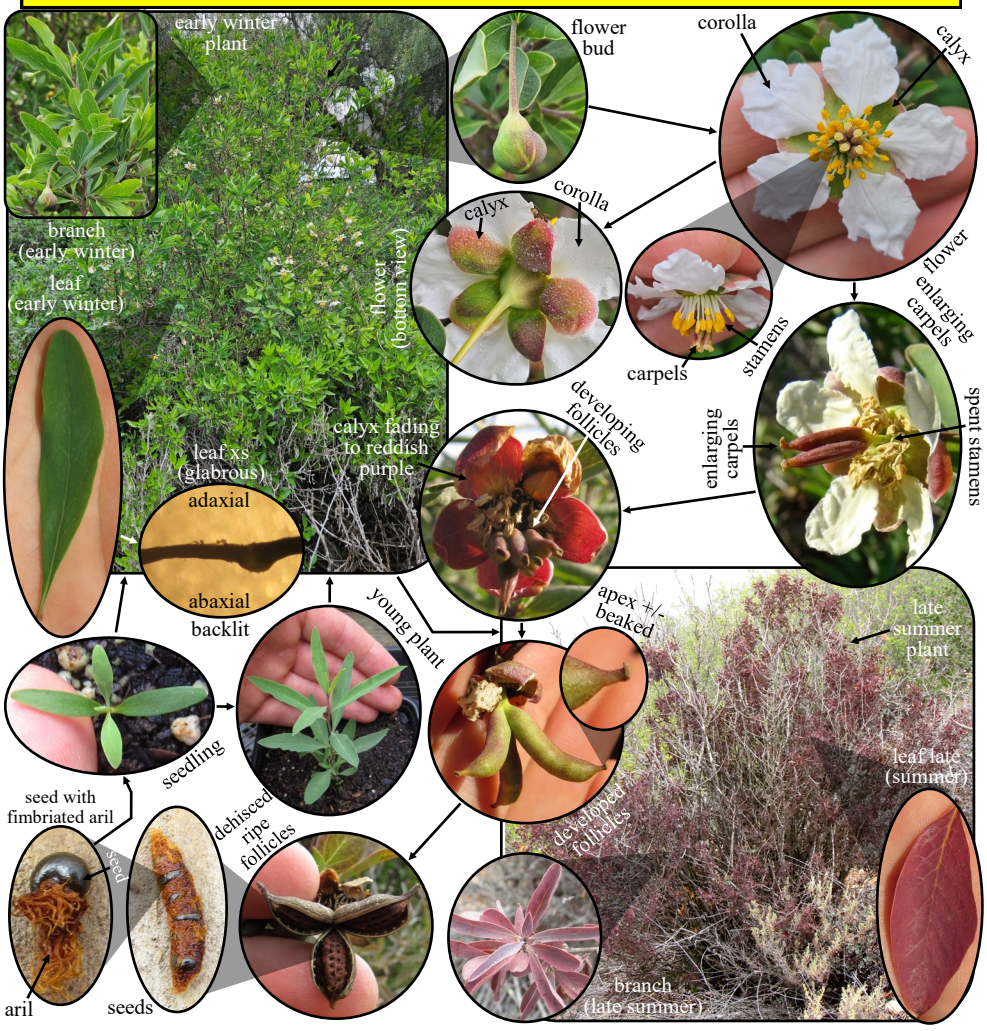
California Rockflower (*Crossosoma californicum*)

Order: Crossosomatales

Family: Crossosomataceae (Crossosoma Family)

Flowers: February - March

Crossosoma californicum is a perennial shrub or occasionally small tree. It occurs along one hillside on the seaward side of the peninsula. This plant is a rare plant with a CNPS ranking 4.2. The leaf is oblong (can sometimes be obovate to spoon-shaped) and glabrous. In summer, the leaves turn reddish purple. The leaves are also drought deciduous. The flowers are bisexual and occur solitarily in the leaf axils. The corolla is white and deciduous. The calyx is green when young and fades to a reddish purple with age. There are 15 to 50 stamens surrounding 2 to 9 distinct carpels. The fruit is a slightly curved follicle and there can be 2 to 9 per flower. Sometimes the follicles can be slightly beaked at the apex. The seed is spherical, black, shinny, and has an aril that is deeply fimbriated. This plant is only found on the Palos Verdes Peninsula, San Clemente Island, Santa Catalina Island, and Guadalupe Island (Baja California).



Wild Cucumber (*Marah macrocarpa*)

Order: Cucurbitales

Family: Cucurbitaceae (Groud Family)

Flowers: February - March

Marah macrocarpa is a perennial herbaceous plant that is trailing or climbing. It is found throughout the peninsula. It returns each year from an enormous (several meters in length) underground tuber that can reach weights of 220 lbs or more! The stems are somewhat hairy with tendrils branched (2-3 branched). This plant is an impressive climber. The leaves are roundish to cordate, and are generally deeply 5 to 7 lobed (rarely 8). Leaf shape, however, can be highly variable among individuals. The plant is monoecious. The staminate flowers are clustered together in axillary panicles or racemoid panicles. They have a white corolla (occasionally creamy yellow) that is



Wild Cucumber (*Marah macrocarpa*)

Order: Cucurbitales

Family: Cucurbitaceae (Groud Family)

Flowers: February - March

shallowly cup-shaped and adnate with a greenish calyx which forms a hypanthium. The filaments of the stamens are connately fused. The anthers are fused and twisted around a head like structure. The pistillate flowers are solitary and in the same axils as the staminate flowers. The corolla is white and the sepals of the calyx are deltate, greenish, and sometimes vestigial. The 1 stigma is discoid to subglobose. The 1 style is short to vestigial. The fruit is a capsule that is irregular-dehiscent from the tip, short -ellipsoid to broadly ovoid, rounded at both ends, and usually has a prominent beak (can be short to very long) at the tip. Seeds are usually oblong and can vary in color.



Wild Cucumber (*Marah macrocarpa*)

Order: Cucurbitales

Family: Cucurbitaceae (Groud Family)

Flowers: February - March

various seed colors
seen in fully developed seeds



beak very
prominent on fruit





good rain years female
plants can produce many fruits

Wild Cucumber (*Marah macrocarpa*)

Order: Cucurbitales

Family: Cucurbitaceae (Groud Family)

Flowers: February - March

germination of seedling with differentiating parts

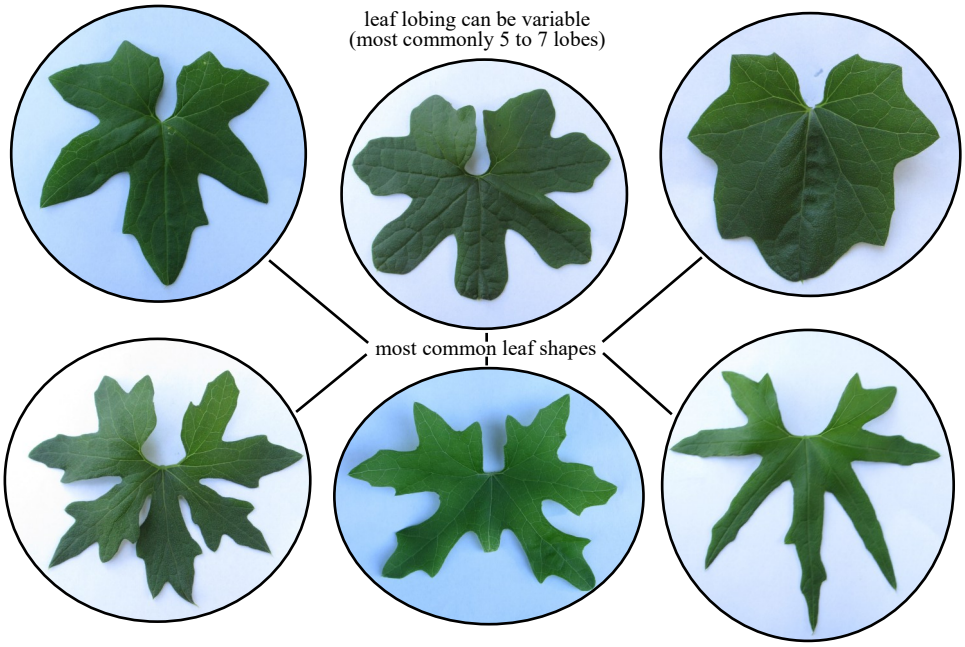


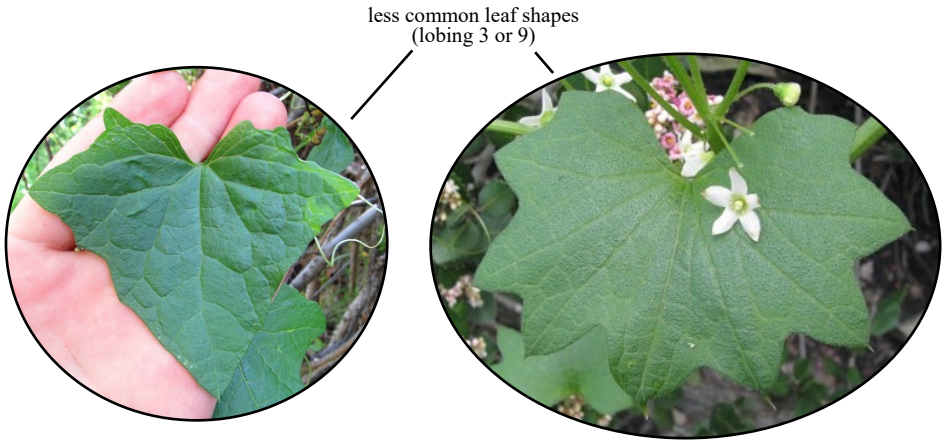
Wild Cucumber (*Marah macrocarpa*)

Order: Cucurbitales

Family: Cucurbitaceae (Groud Family)

Flowers: February - March



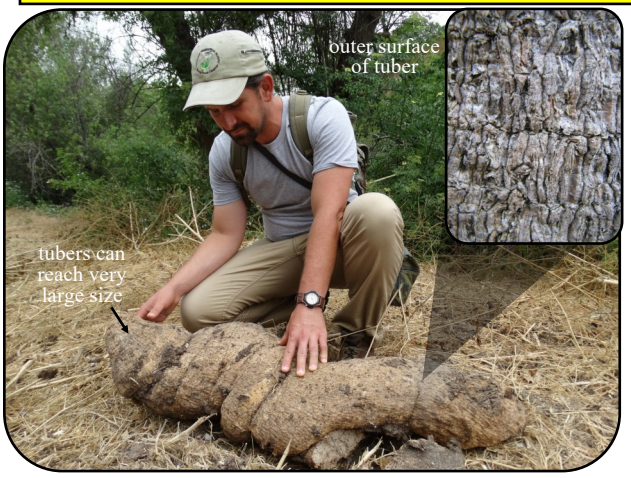


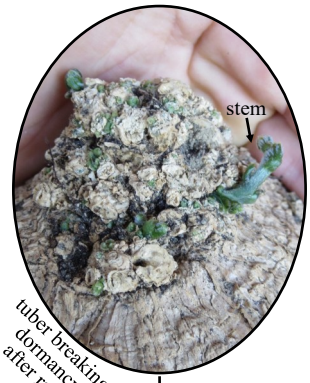
Wild Cucumber (*Marah macrocarpa*)

Order: Cucurbitales

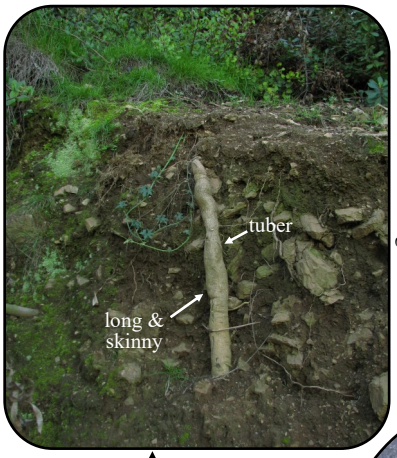
Family: Cucurbitaceae (Groud Family)

Flowers: February - March

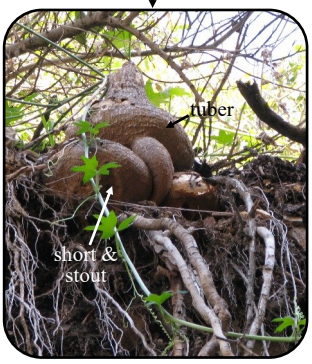








tubers can be variously shaped







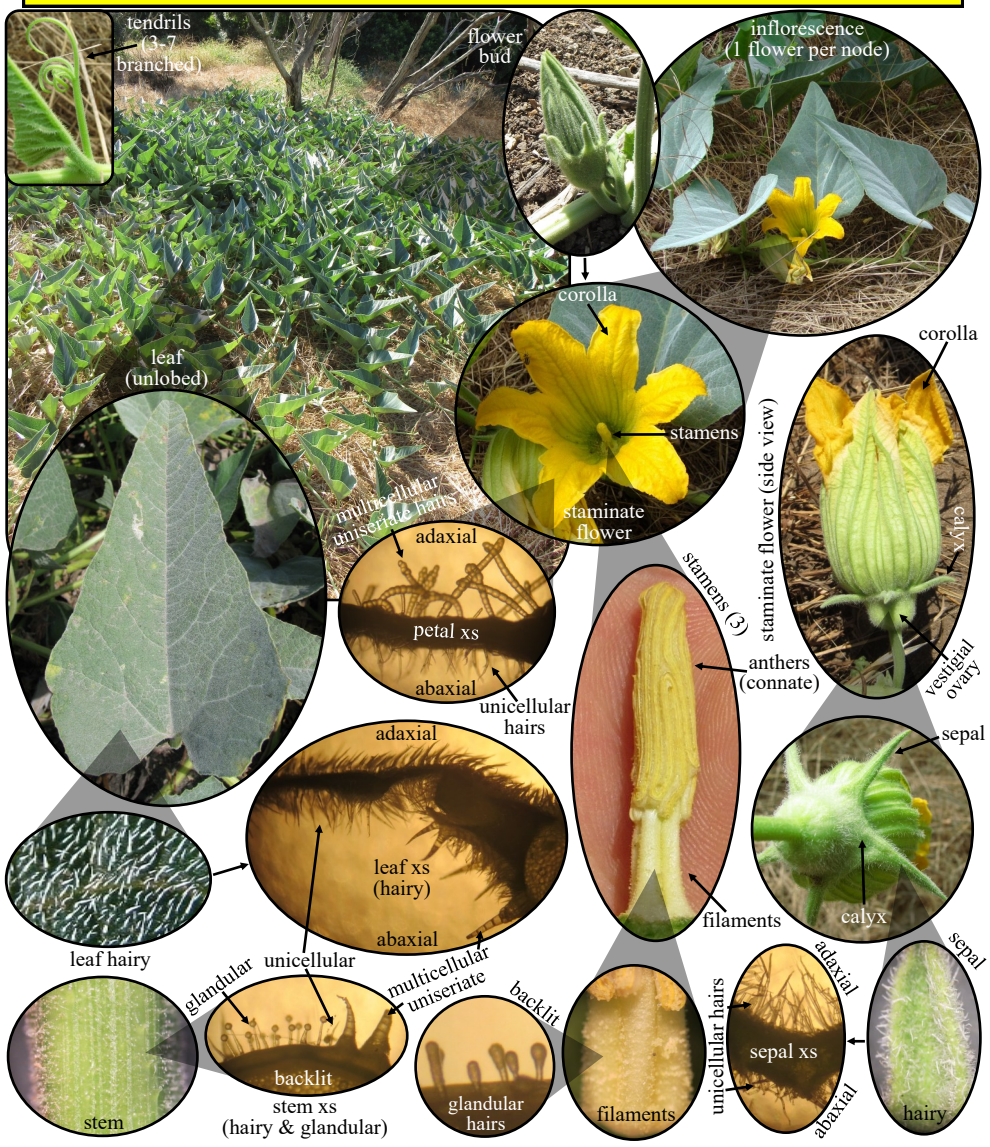
Calabazilla (*Cucurbita foetidissima*)

Order: Cucurbitales

Family: Cucurbitaceae (Gourd Family)

Flowers: May - August

Cucurbita foetidissima is a perennial vining plant. It is found in a few spots on the peninsula and can be found growing in clay and sandy soils. It returns each year from a large fleshy tuberous root that can reach weights of 160 lbs or more! The overall plant is aromatic with an unusual smell that can be pleasant to some people and unpleasant to other people. The plant is monoecious. The stems are generally prostrate, hairy (thick based) and glandular. The leaves are generally triangular-ovate, longer than wide, gray-green, coarsely hairy, glandular, and can be unlobed or shallowly 2-



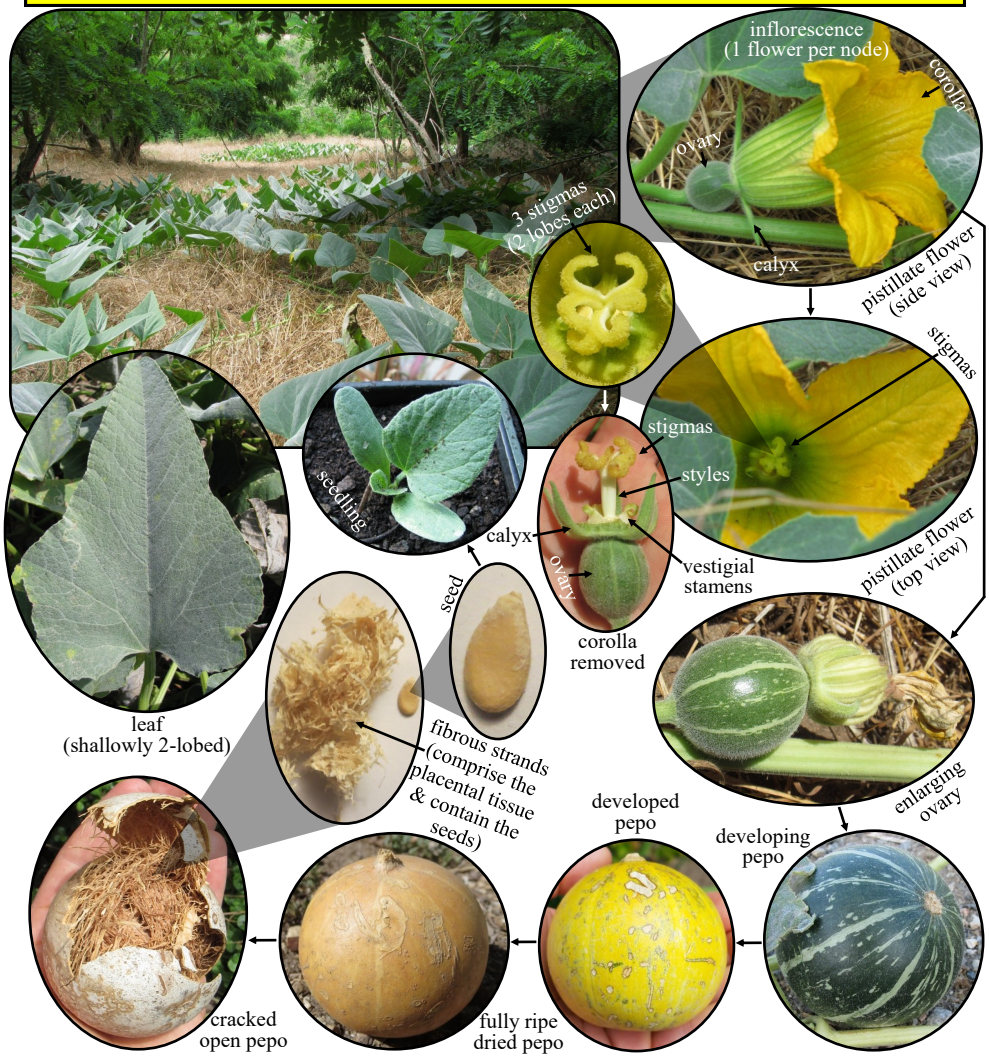
Calabazilla (*Cucurbita foetidissima*)

Order: Cucurbitales

Family: Cucurbitaceae (Gourd Family)

Flowers: May - August

lobed. The tendrils are 3-7 branched. The staminate and pistillate flowers are solitary and found along the nodes of the stem. The corolla is yellow to orangish with multicellular uniseriate hairs lining the inside and unicellular hairs lining the outside. There are 5 green sepals. The calyx is fused to the corolla producing a hypanthium. Staminate flowers have 3 stamens with anthers fused and the filaments, which can be hairy, are free (sometimes slightly fused). The pistillate flowers have 3 stigmas that are 2-lobed. The fruit is a pepo that is generally spheric. Developing pepo's are green with white stripes and white-mottled. Developed pepo's are yellowish orange and firm. Dried ripe pepo's are a tannish color and hard. The seeds are oblong-ovate and white to tannish. Dried pepo's can make great Halloween decorations!



Calabazilla (*Cucurbita foetidissima*)

Order: Cucurbitales

Family: Cucurbitaceae (Gourd Family)

Flowers: May - August



dried pepo's make great
Halloween decorations

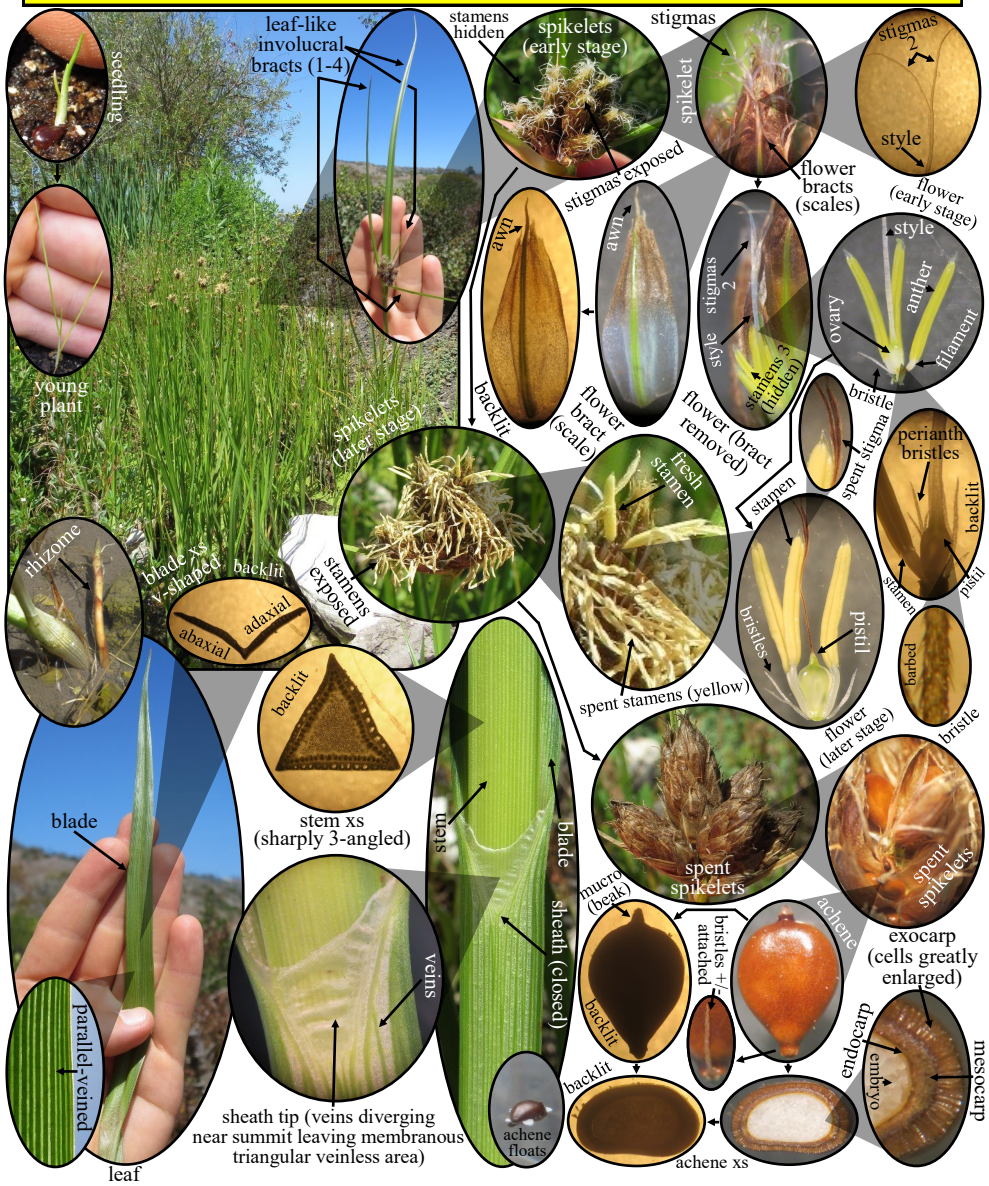
Alkali Bulrush (*Bolboschoneus maritimus* subsp. *paludosus*)

Order: Poales

Family: Cyperaceae (Sedge Family)

Flowers: July - September

Bolboschoenus maritimus subsp. *paludosus* is a rhizomatous herbaceous perennial plant. It is found in only one spot on the peninsula. The stems are 3-angled. Flower bracts are usually brown to translucent. The spikelets contain bisexual flowers and the pistil has 2 stigmas. There are 3 stamens that are yellow and remain yellow when spent. The fruit is an achene that is brownish, generally flattened, and buoyant.



Tall Cyperus (*Cyperus eragrostis*)

Order: Poales

Family: Cyperaceae (Sedge Family)

Flowers: May - November

Cyperus eragrostis is a rhizomatous herbaceous perennial plant. It is an uncommon plant on the peninsula and found along a few perennial streams. The stems are generally 3-sided. The flowers are bisexual and the flower bracts are lance-ovate to acute and generally green when young to tannish when older. Each flower contains a pistil with 3 stigmas and generally only 1 stamen. The fruit is an achene that is trigonous.



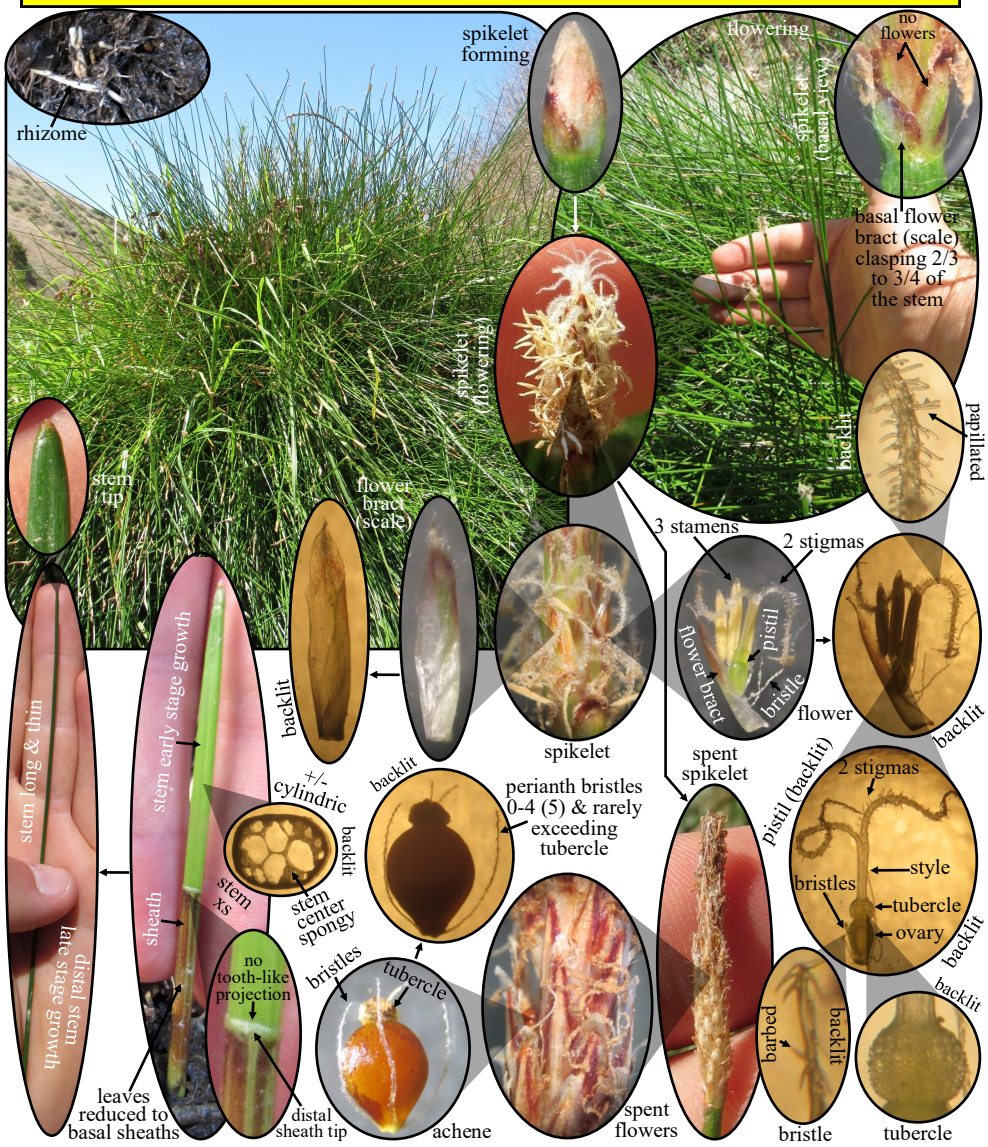
Common Spikerush (*Eleocharis palustris*)

Order: Poales

Family: Cyperaceae (Sedge Family)

Flowers: June - September

Eleocharis palustris is a rhizomatous herbaceous perennial plant. It is found in only one spot on the peninsula. The stems are generally cylindric. The distal leaf sheaths are persistent and tough. The spikelets are found at the tips of the stems. Basal flower bracts (scales) are clasping 2/3 to 3/4 of the stem and are next to the basal bracts without a flower. The flower has a pistil with 2 stigmas and 3 stamens. The fruit is an achene that is flattened, brownish, has a tubercle, and usually has perianth bristles.



Coastal Wood Fern (*Dryopteris arguta*)

Order: Polypodiales

Family: Dryopteridaceae (Wood Fern Family)

Sporulating: late spring - summer

Dryopteris arguta is a perennial pteridophyte. It is found in only a few locations on the peninsula. The rhizomes are short-creeping, stout, and have scales that are brown. The fronds are monomorphic and green through winter. The stipe is 1/4 to 1/3 the length of the blade and usually brown. The blade is green to a yellowish green, usually glandular, ovate-lanceolate, and 1-2-pinnate. The pinnae are generally the longest near the base of the blade. The segments of the pinnae have margins that are serrated with spinelike teeth. The veins on the segments end into the teeth. The sori are located on the abaxial side of the segments and are covered with indusia that are roundish to kidney-shaped, usually persistent, and whitish-gray at maturity. Spore is brown.



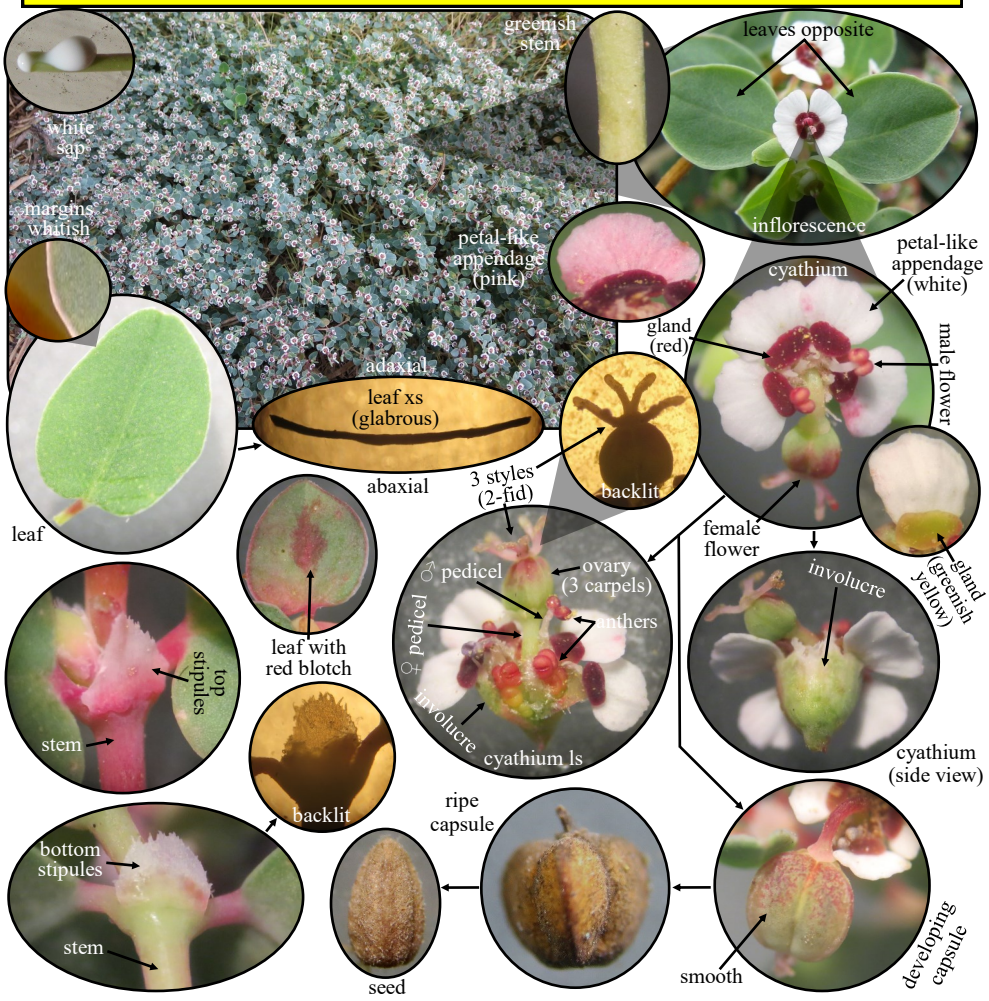
Rattlesnake Sandmat (*Euphorbia albomarginata*)

Order: Malpighiales

Family: Euphorbiaceae (Spurge Family)

Flowers: April - November

Euphorbia albomarginata is a herbaceous perennial plant. It is found throughout the peninsula often in disturbed spaces. The stems are usually prostrate and numerous forming large mats on the ground. The stems are pink to yellowish green. The sap of plant is white and slightly sticky. The leaves are opposite, glabrous and can have a red blotch in the center or not. The blade is ovate, oblong or orbiculate. Leaf margins are entire and whitish. The stipules on the top and bottom of the stem are fused into a whitish scale that is deltate or ovate. The staminate and pistillate flowers are contained in cyathia that have involucres that are bell shaped. There are 4 glands on the involucre that are greenish-yellow to red. There is also 4 white to pink petal-like appendages (entire to slightly scalloped) that are wider than the gland. The ovary of the pistillate flower is glabrous and there are 3 styles that are split near the tip. The fruit is a capsule that is glabrous. The seed is 4-angled and white to gray to brownish red.



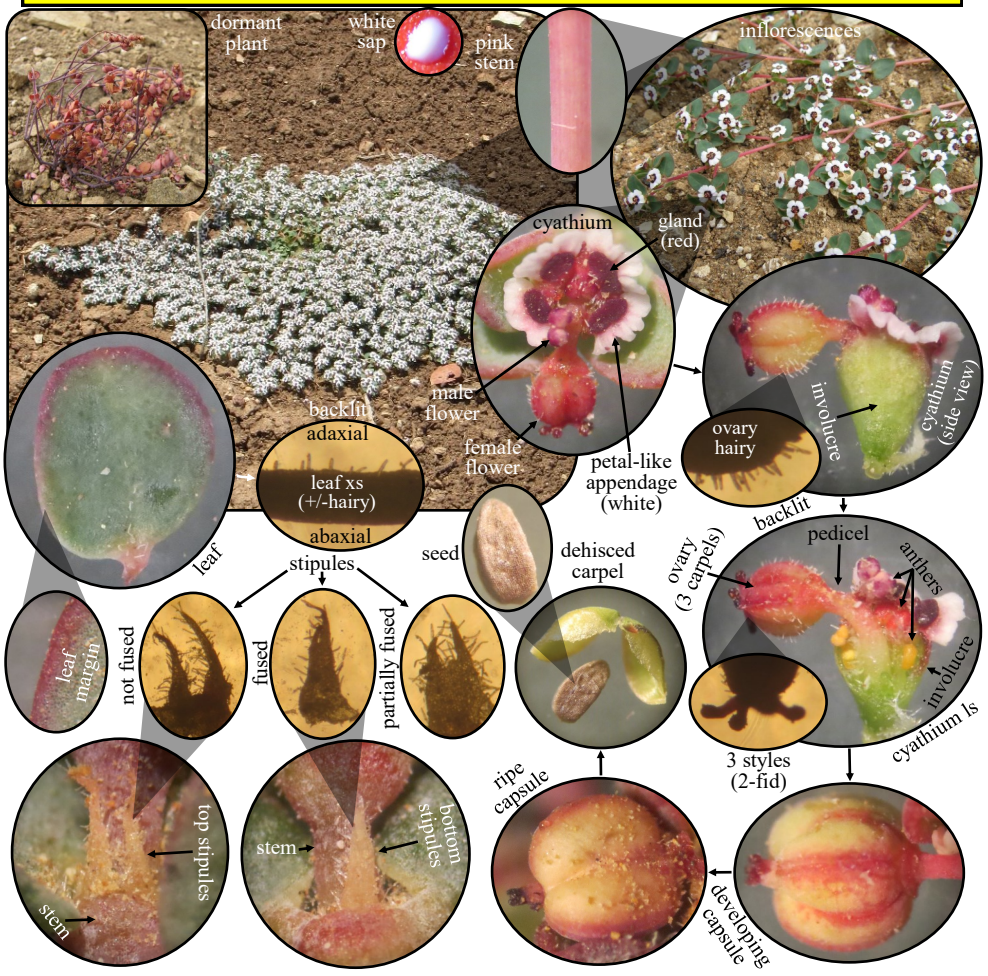
Smallseed Sandmat (*Euphorbia polycarpa*)

Order: Malpighiales

Family: Euphorbiaceae (Spurge Family)

Flowers: April - October

Euphorbia polycarpa is a herbaceous perennial plant. It is found in only a few locations on the peninsula. The stems are prostrate to ascending and can form flat mats or small mounds. Stems are glabrous to sometimes minimally hairy and are pink to yellowish green. The sap of the plant is white and slightly sticky. The leaves are opposite, glabrous to sometimes hairy and the blade is round to ovate with margins entire. The stipules on the top side of the stem are not fused while the stipules on the bottom side are not fused, partially fused or completely fused. The stipules are also +/- triangular and somewhat hairy. The staminate and pistillate flowers are contained in cyathia that have involucres that are bell shaped and can be glabrous to sometimes hairy. There are 4 glands on the involucre that are red to sometimes black. There is also 4 white to red petal-like appendages (entire to scalloped) that are narrower to wider than the gland. The pistillate flower ovary is glabrous to sometimes hairy. There are 3 styles that are split near the tip. The fruit is a capsule. The seed is grayish to brown.



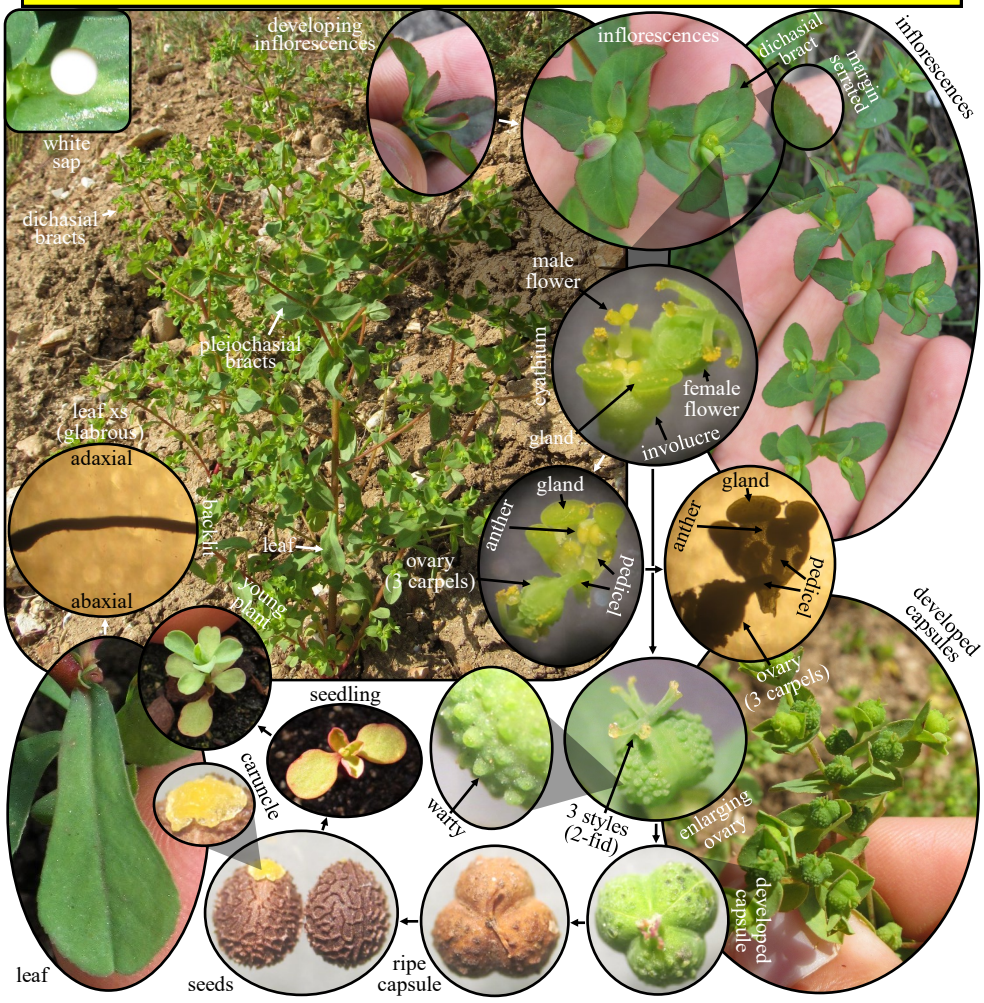
Warty Spurge (*Euphorbia spathulata*)

Order: Malpighiales

Family: Euphorbiaceae (Spurge Family)

Flowers: March - June

Euphorbia spathulata is a herbaceous annual plant. It is found in a few locations on the peninsula. The stems are erect to ascending and glabrous. The sap of the plant is white. The leaves are sessile to somewhat petioled, obovate to spatulate and have margins finely serrated. The staminate and pistillate flowers are contained in cyathia that have involucres that are bell-shaped. There are 4-5 glands on the involucre that can be elliptic, oblong or somewhat reniform. There are no petal-like appendages on the involucre. There are two types of bracts in the inflorescence. The first bracts are the pleiochasial bracts which are ovate to ovate-oblong. The second bracts are the dichasial bracts which are broadly ovate to ovate-triangular to ovate-elliptic and have margins that are finely serrated. There can be many staminate flowers per cyathium. Pistillate flowers have styles that are split at the tip. The fruit is a capsule that is 3-lobed and warty. The seed is brownish, surface net-like, and a caruncle is present.



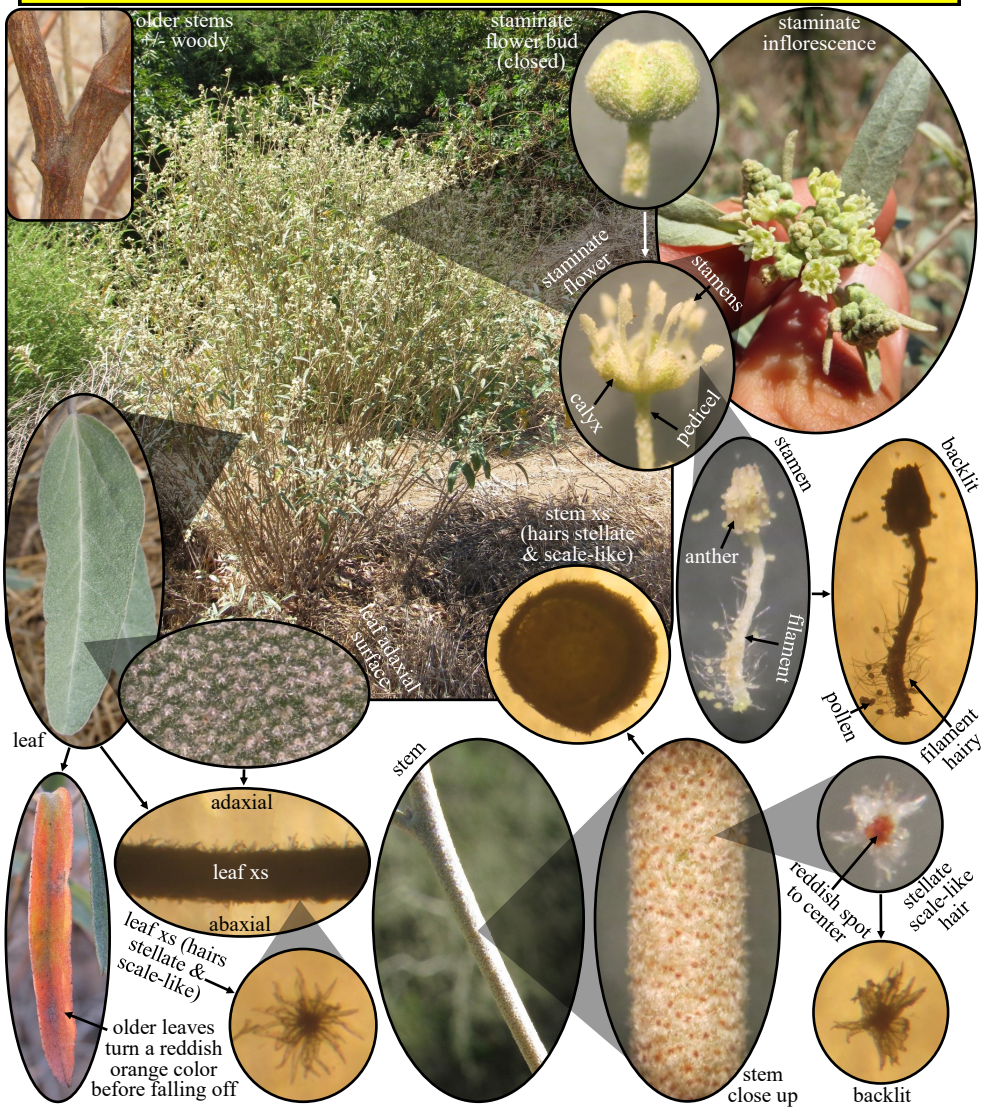
California Croton (*Croton californica*)

Order: Malpighiales

Family: Euphorbiaceae (Spurge Family)

Flowers: April - August

Croton californica is a perennial herbaceous to subshrub plant. It is found in only a few locations on the peninsula. It is dioecious. The plant is covered in stellate hairs that are scale-like. The leaves are elliptic to narrowly oblong and the abaxial side is light green while the adaxial side is a darker green. The entire leaf surface is covered in stellate hairs that are scale-like and the leaf margin is entire. Older leaves turn an orange color before dropping off the plant. Older stems are woodish and orangish brown. The staminate flowers have 5 sepals that are covered on the abaxial side with stellate hairs that are scale-like. No petals are present in the staminate flowers and



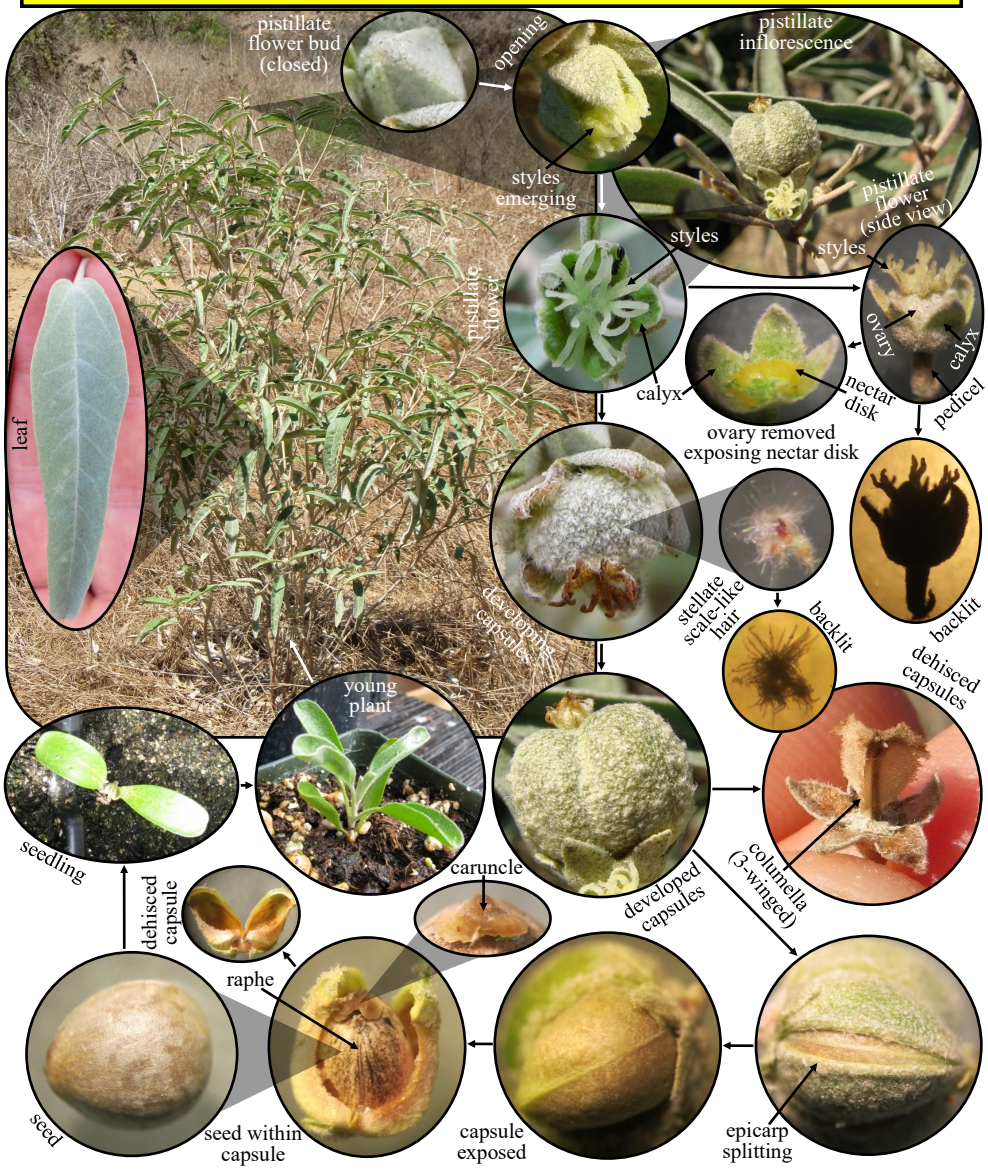
California Croton (*Croton californica*)

Order: Malpighiales

Family: Euphorbiaceae (Spurge Family)

Flowers: April - August

there are 10-15 stamens. The staminate nectar disk is divided. The pistillate flowers have 5 sepals and no petals. The abaxial side of the sepals are covered in stellate hairs that are scale-like. The ovary of the pistillate flower is 3-chambered and there are 3 styles that are split in 4's at the tip. The pistillate nectar disk is entire. The fruits are capsules that are covered in stellate hairs that are scale-like. The columella is 3-winged. The seed is usually circular, smooth, and somewhat mottled.



Tomcat Clover (*Trifolium willdenovii*)

Order: Fabales

Family: Fabaceae (Pea Family)

Flowers: March - June

Trifolium willdenovii is a herbaceaeous annual plant. It is found in a few locations on the peninsula. The entire plant is glabrous. The stipules of the leaves are generally dissected and spined tipped. The leaves are made up of 3 leaflets that are linear to obovate and have margins that are serrated. The leaflets can sometimes have a clear blotch to the center of them. The overall inflorescence is head-like with an involucre that is usually circular and lobed (many flowers per head). The tube of the calyx is split between the upper lobes. The calyx lobes (3) are less than the calyx tube and are spined tipped. The corolla is lavender to purple with the tip sometimes white. The fruit is a small legume and is generally concealed within the persistent calyx and corolla. The seed is usually round, smooth, and can be mottled or a tannish color.



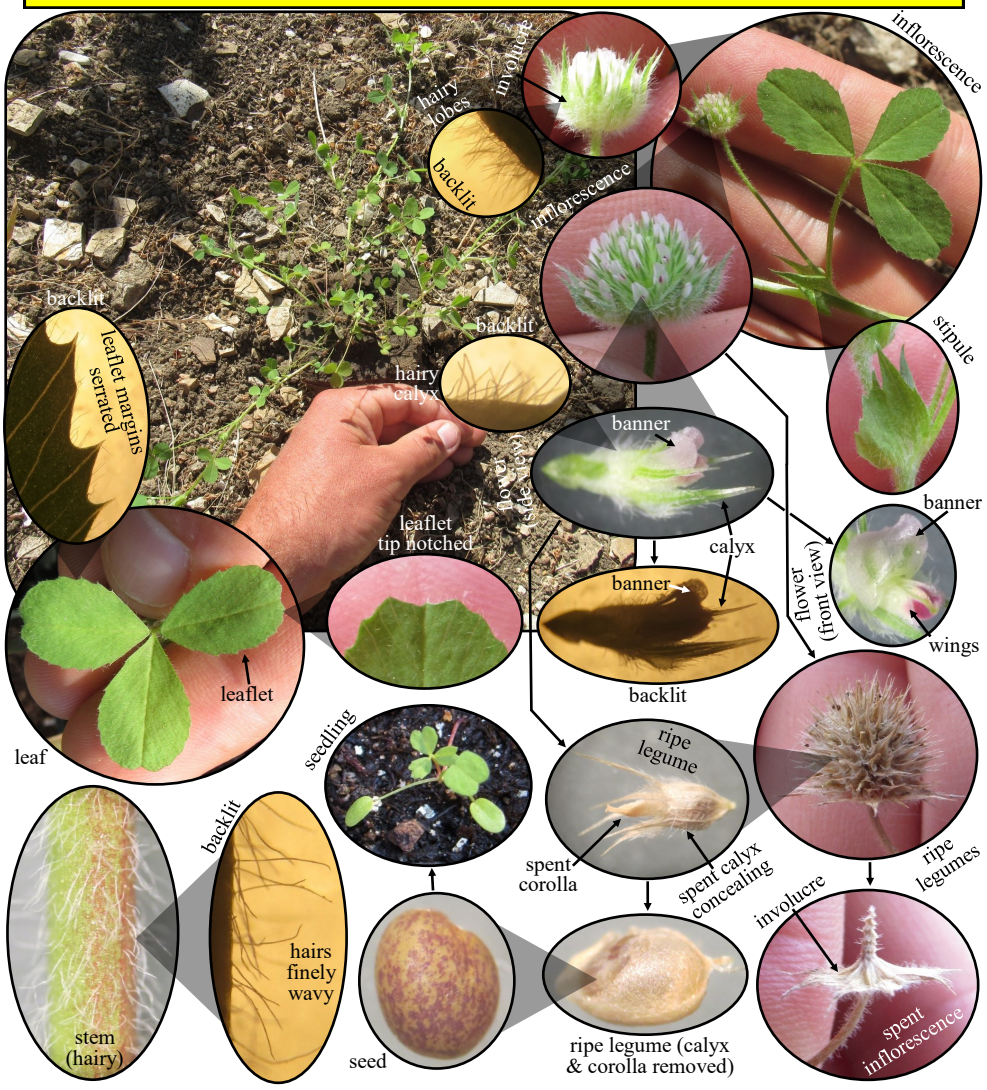
Hairy Clover (*Trifolium microcephalum*)

Order: Fabales

Family: Fabaceae (Pea Family)

Flowers: April - August

Trifolium microcephalum is a herbaceaeous annual plant. It is found in only one location on the peninsula. The entire plant is hairy with the hairs usually wavy. The stipules of the leaves generally have tips with small points. The leaves are made up of 3 leaflets that are obovate and have a notch in the tip. The leaflets can sometimes have a clear to blackish blotch to the center of them. The overall inflorescence is head-like with an involucre that is saucer shaped with lobes. Each head contains many flowers. The lobes of the calyx are entire and spined tipped The corolla is usually whitish but can sometimes be pink to lavender. The fruit is a very small legume that is contained within a persistent calyx and corolla. The seed is roundish and mottled.



Notch Leaf Clover (*Trifolium bifidum* var. *decipiens*)

Order: Fabales

Family: Fabaceae (Pea Family)

Flowers: April - June

Trifolium bifidum var. decipiens is an annual herbaceous plant that is sprawling to sometimes erect. It is found in only one location on the peninsula. The leaf is made up of 3 leaflets that are oblanceolate to obovate and have tips that are shallowly notched or truncate. The leaf margins are dentated or entire. The stipules are short-awned. The overall inflorescence is head-like with 5 to numerous flowers present. Young heads have flowers that are held upright. With age, the flowers on the heads become reflexed. The calyx lobes of the flower are much longer than the tube of the corolla, are awn-like, are glabrous to minimally hairy, and are persistent in fruit. The corolla of the flower is pinkish purple. The fruit is a very small legume that is contained within the persistent calyx. The seed is generally round, smooth and can be slightly mottled or a tannish color. Each legume contains 1 to 2 seeds.



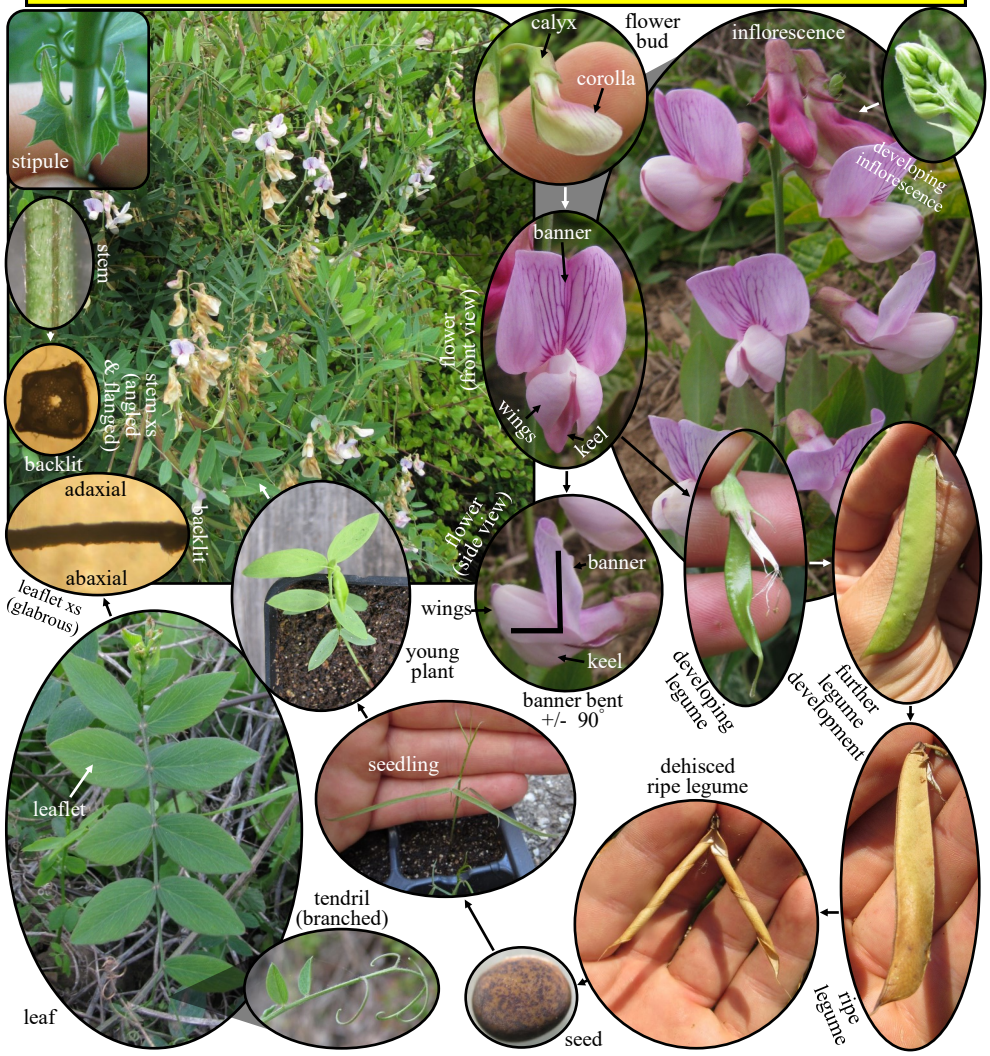
Common Pacific Pea (*Lathyrus vesitus* var. *vesitus*)

Order: Fabales

Family: Fabaceae (Pea Family)

Flowers: February - May

Lathyrus vesitus var. *vesitus* is a perennial herbaceous plant. It is found in a few locations on the peninsula (mostly in canyons) and often climbing up through other plants. The plant is generally glabrous. The stems are often angled and can also be sometimes flanged. The leaf is made up of 8 to 12 leaflets that are linear to elliptic. The tip of the leaf ends in a tendril and the tendril is branched and often coils. The inflorescence is dense with 8 to 15 flowers present. The calyx tube of the flower is less than or greater than the lower lobes of the calyx. The corolla of the flower is pale lavender to purple with a banner bent or reflexed around 90°. The fruit is a legume that is somewhat flat, minimally hairy early in early development, and then glabrous when fully developed. The seed is generally circular, smooth, and mottled.



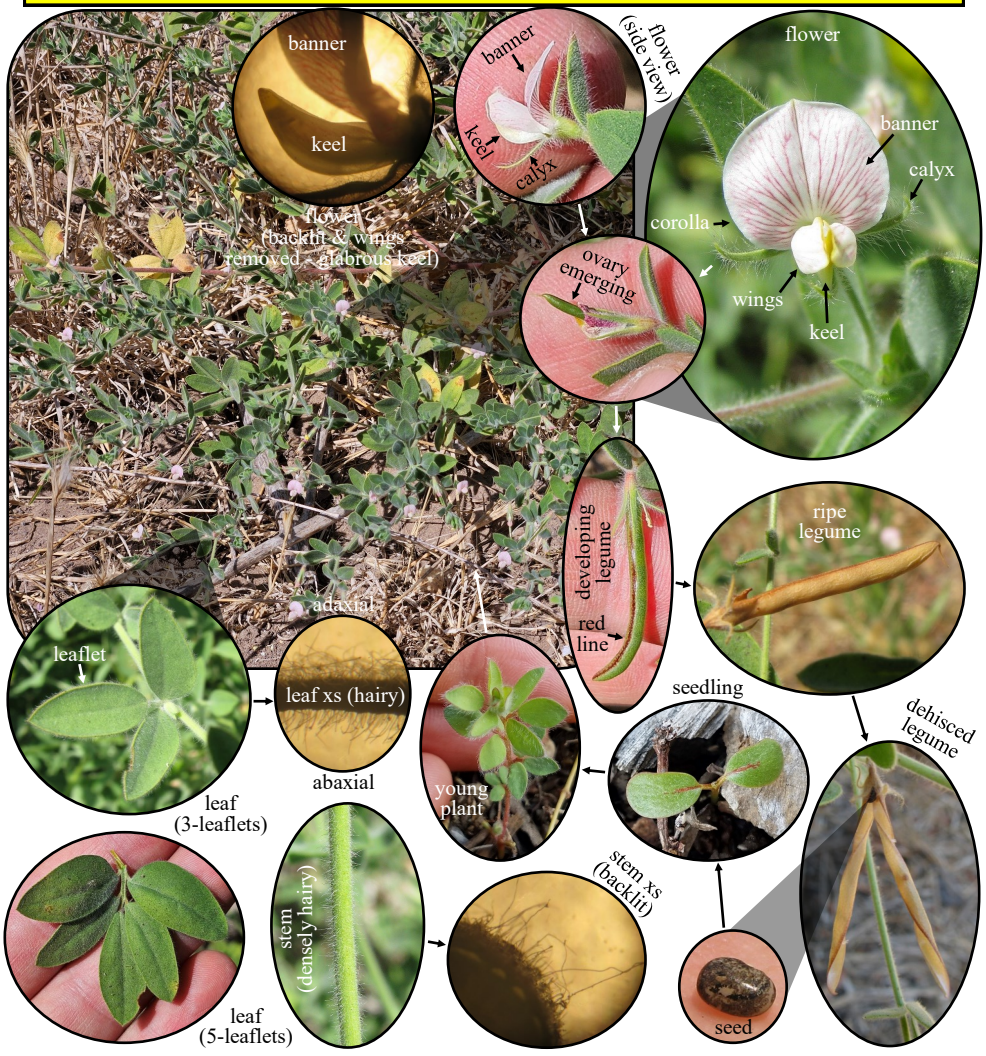
American Trefoil (*Acmispon americanus* var. *americanus*)

Order: Fabales

Family: Fabaceae (Pea Family)

Flowers: March - August

Acmispon americanus var. americanus is an annual herbaceous plant. It is found in one location on the peninsula. The entire plant is covered with shaggy and soft hairs and is usually prostrate to slightly erect. The leaves can be pinnate or simple with usually 3 leaflets present (sometimes up to 5 leaflets). There is usually 1 flower per node. The calyx of the flower has lobes that are skinny, hairy, and long. The corolla is usually white with pink streaks in the banner. The wings of the corolla are white and are the same length as the keel. The keel of the corolla is white and glabrous throughout. The fruit is a legume. In the early developmental stage of the legume, it can have a red line running along the top half of it. The seed is mottled and roundish. Cotyledons of the seedlings tend to have red lines in the middle of the cotyledons.



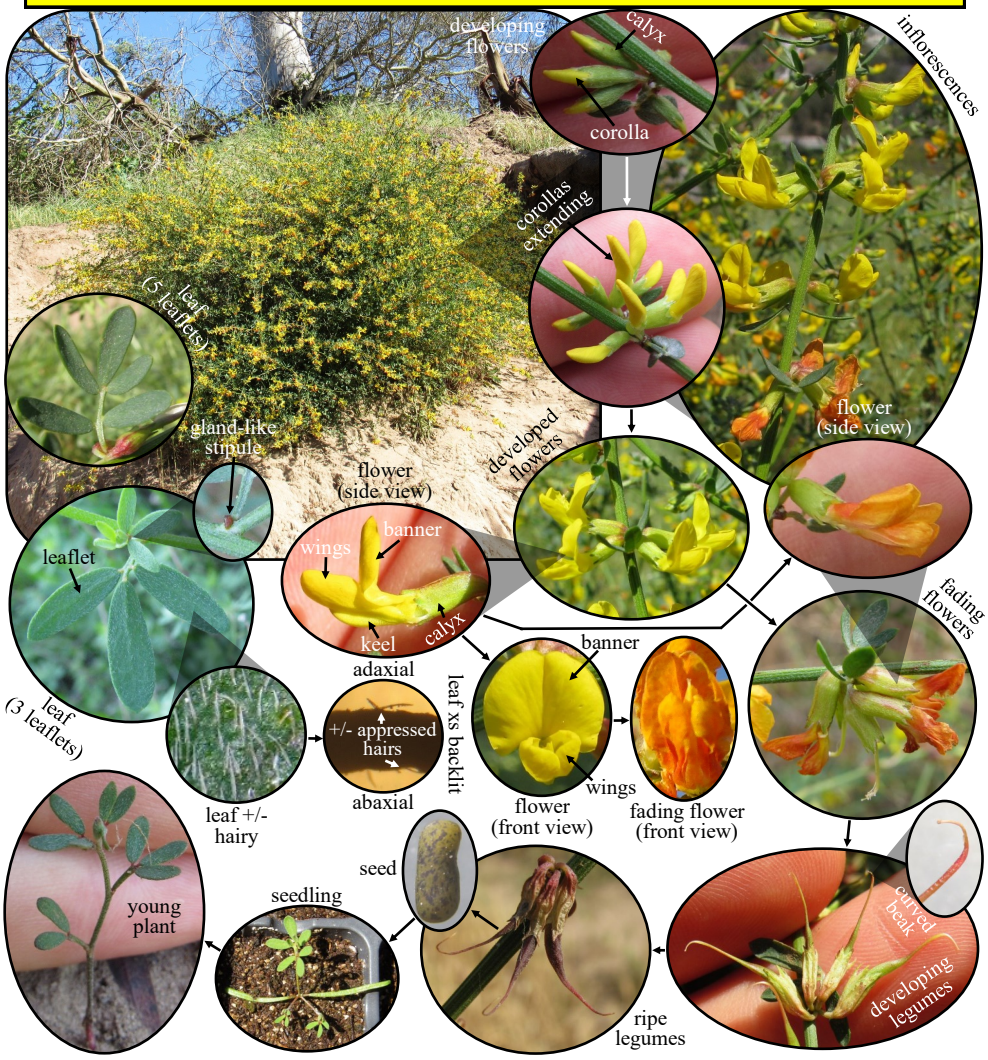
Deerweed (*Acmispon glaber* var. *glaber*)

Order: Fabales

Family: Fabaceae (Pea Family)

Flowers: March - August

Acmispon glaber var. *glaber* is a perennial herbaceous to subshrub plant. It is found in a few locations on the peninsula. The overall plant can be glabrous or finely hairy. The leaf is generally pinnate, made up leaflets (3, 5 or 6), and generally hairy (hairs appressed). The stipules are gland-like or absent. The calyx of the flower is glabrous. The corolla of the flower is yellow and turns orangish-red when pollinated. The keel of the corolla is not prominent. The keel can also be shorter or equal to or slightly longer than the wings of the corolla. The fruit is an indehiscent legume that is exserted from the calyx, slightly curved, not flat, and has a beak that is generally curved. The seed is generally oblong and mottled. This plant is a host plant for the endangered PV blue butterfly (*Glaucopsyche lygdamus palosverdesensis*).



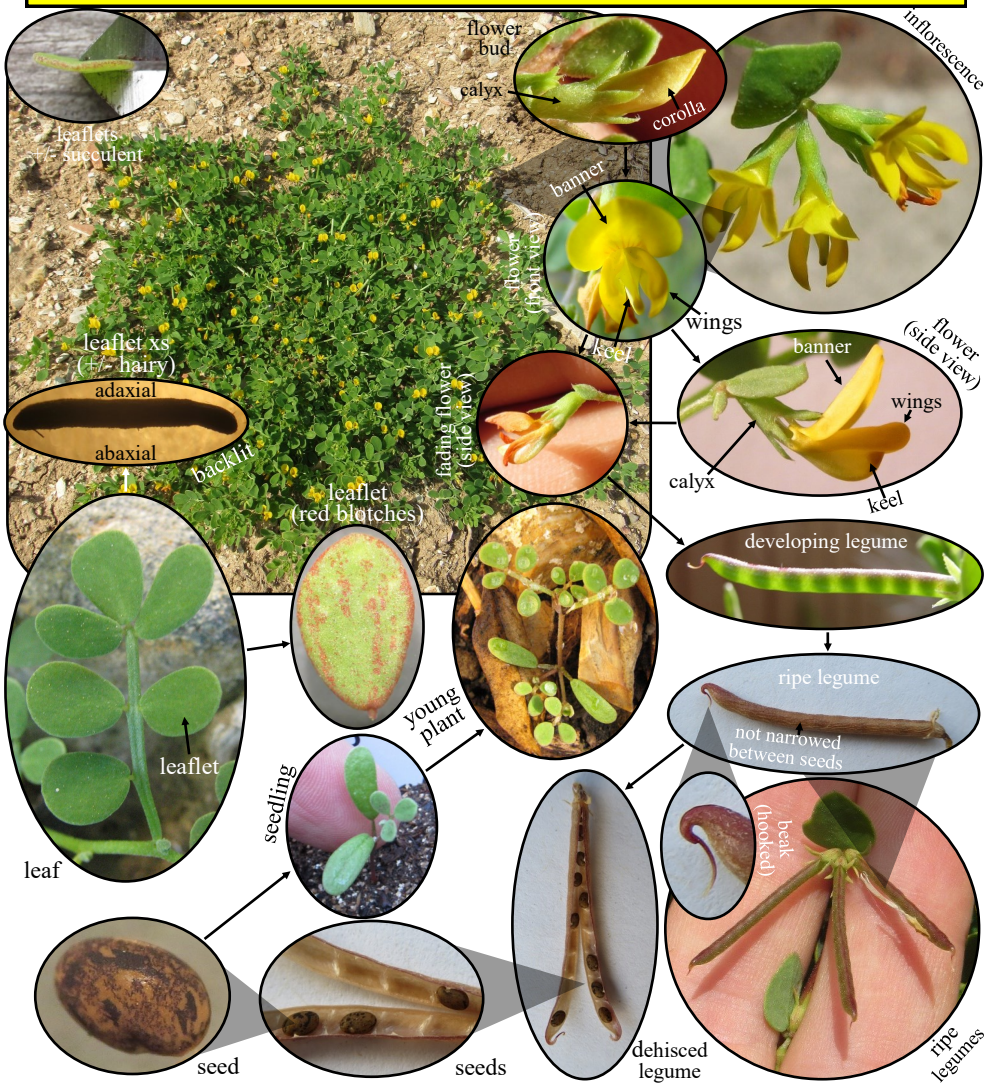
Coastal Lotus (*Acmispon maritimus* var. *maritimus*)

Order: Fabales

Family: Fabaceae (Pea Family)

Flowers: March - June

Acmispon maritimus var. *maritimus* is an annual herbaceous plant. It is found throughout the peninsula (often very abundant after a fire). It can be somewhat fleshy and hairy or not. The stems are usually prostrate to decumbent. The leaf is made up of 3 to 7 leaflets that are obovate to roundish. The leaflets can also sometimes have red blotches. The inflorescence usually has 2 to 4 flowers. The flowers have a calyx that is hairy and with lobes that are less than the calyx tube. The corolla has a banner and wings that are yellow with a prominent yellow keel. The fruit is a legume that is dehiscent and is not narrowed between the seeds. The fruit is also slightly curved, has a hooked beak, and somewhat hairy. The seed is roundish and is mottled.



Coastal Lotus (*Acmispon maritimus* var. *maritimus*)

Order: Fabales

Family: Fabaceae (Pea Family)

Flowers: March - June

A dense covering of *Acmispon maritimus* var. *maritimus*, in the spring of 2010, on the hillsides in Portuguese Bend Nature Reserve following the fire that happened in August 2009.





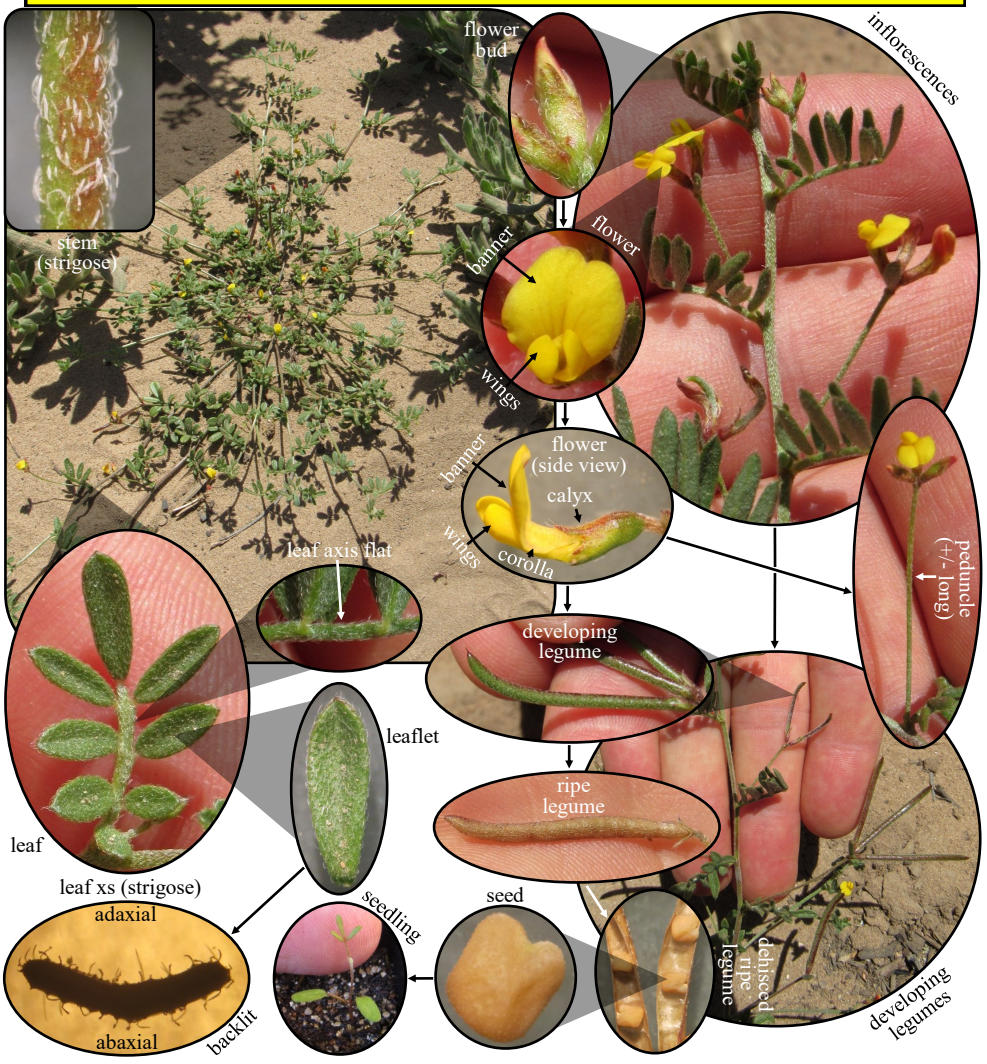
Strigose Lotus (*Acmispon strigosus*)

Order: Fabales

Family: Fabaceae (Pea Family)

Flowers: March - June

Acmispon strigosus is an annual herbaceous plant that is prostrate and usually forms a small mat. It is found in only one location on the peninsula. The plant is generally can strigose. The leaves are irregularly pinnate and made up of 4 to 9 leaflets that are ob-lanceolate to obovate. The stipules are gland-like. The is usually 1 to 2 flowers per inflorescence with the flowers held out on a long peduncle. The flower has a calyx that has lobes that are less than the tube of the corolla and is generally strigose. The corolla is usually yellow but can be orangish yellow and then it fades to an orangish red with age. The keel of the corolla is less than the wings and hidden within them. The fruit is a legume that is straight, generally curved at the tip, has a beak that is curved, and is dehiscent. The seed is roundish and tannish.



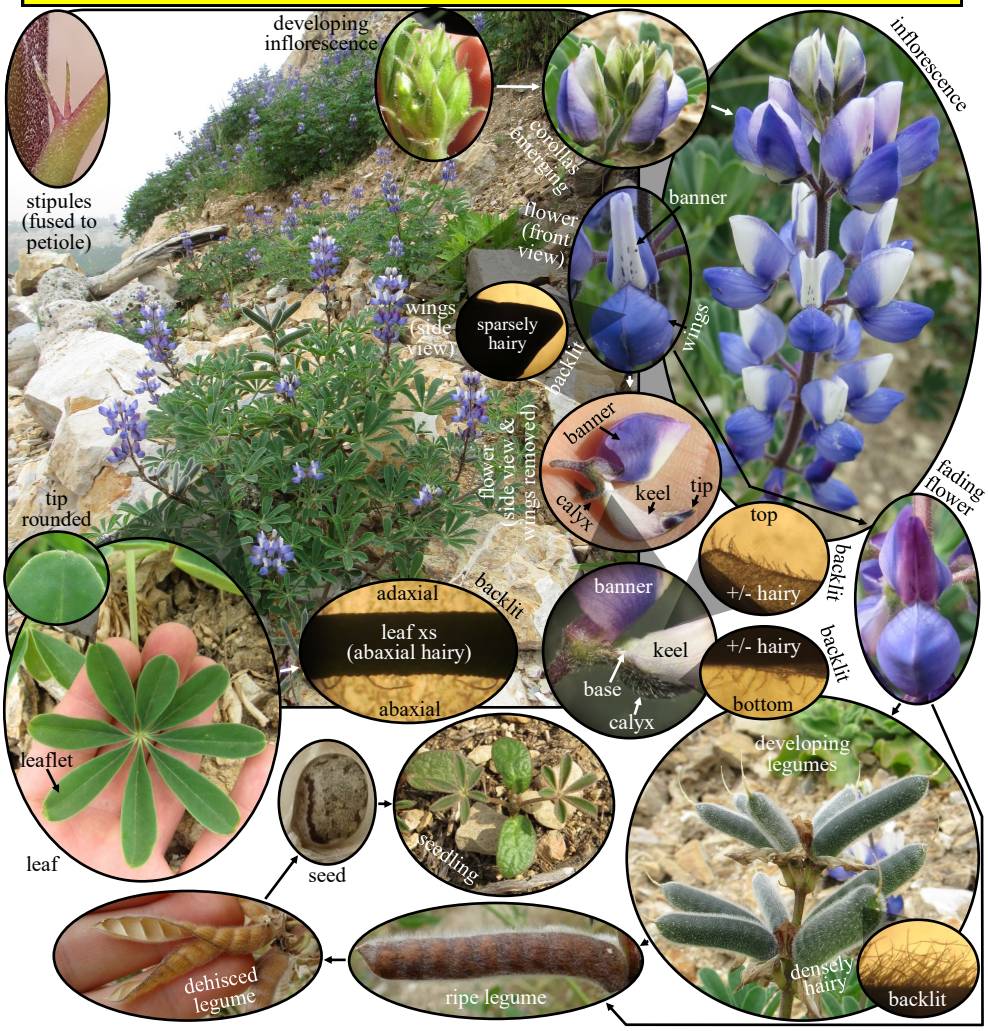
Arroyo Lupine (*Lupinus succulentus*)

Order: Fabales

Family: Fabaceae (Pea Family)

Flowers: February - May

Lupinus succulentus is an annual herbaceous plant. It is found throughout the peninsula. The overall plant is succulent and generally glabrous but can also be hairy. The leaf is palmately compound and made up of 7 to 9 leaflets (adaxial side glabrous and abaxial side somewhat hairy). The tips of the leaflets are rounded. The stipules are fused to the petiole. The flowers are whorled in the inflorescence. The calyx is generally hairy and reduced. The corolla of the flower is usually bluish purple with the banner region white with black spots. The banner fades to a magenta with age. The upper margins of the wings near the base are sparsely hairy. The upper and bottom part of the keel, near the base, is generally hairy. The fruit is a legume that can be minimally hairy to densely hairy (densely hairy legumes often seen on the coastal bluff plants). The seed is roundish and mottled.



Arroyo Lupine (*Lupinus succulentus*)

Order: Fabales

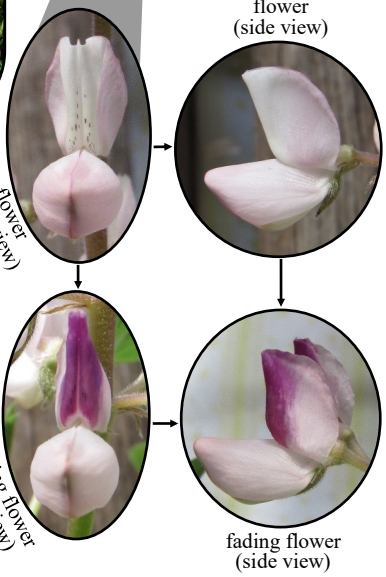
Family: Fabaceae (Pea Family)

Flowers: February - May

The whitish-pink flowered *Lupinus succulentus* is rare on the peninsula and has only been found in a few spots.









Bush Lupine (*Lupinus longifolius*)

Order: Fabales

Family: Fabaceae (Pea Family)

Flowers: March - August

Lupinus longiflolius is a perennial shrub. It is found in a few locations on the peninsula. The plant is covered in short soft hairs. The leaf is made up of 5 to 10 long leaflets which are covered in short soft hairs that generally give them a silvery look. The inflorescences are long with the flowers generally whorled. The calyx somewhat hairy and reduced. The corolla is whitish-violet to light blue. The banner of the corolla generally has a white to yellowish spot in the center with faint black spots. The back of the banner is glabrous. The upper margins of the keel are hairy from the middle to the tip. The lower part of the keel is glabrous. The fruit is a legume that is hairy. The seed is roundish and mottled. This lupine has the ability to resprout after a disturbance that can remove most above ground vegetation



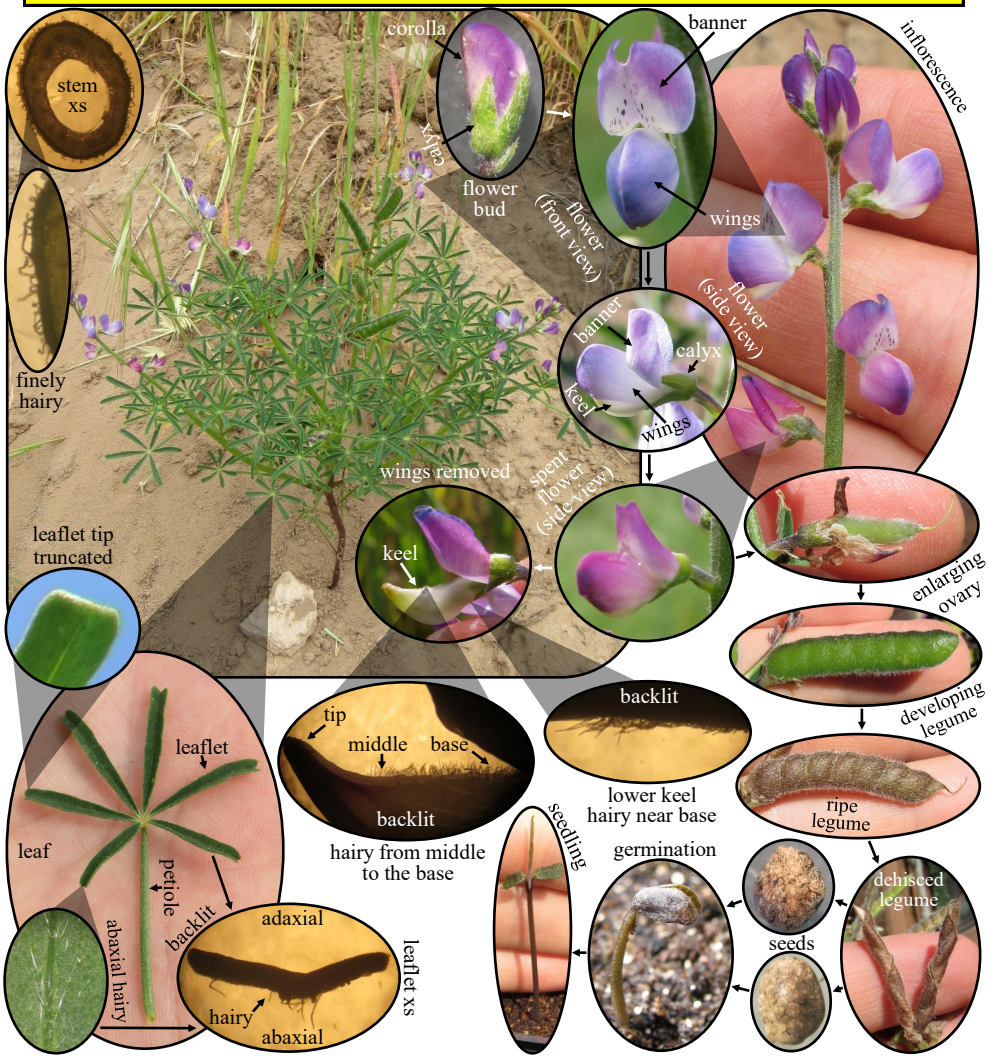
Truncate Leaf Lupine (*Lupinus truncatus*)

Order: Fabales

Family: Fabaceae (Pea Family)

Flowers: March - May

Lupinus truncatus is an annual herbaceous plant. It is found in only a few locations on the peninsula. The entire plant is finely hairy. The leaf is made up of 5 to 8 leaflets that have tips that are truncate. The adaxial side of the leaflets are glabrous and the abaxial side is somewhat hairy. The flowers of the inflorescence are spiraled. The lobes of the calyx are somewhat equal with the upper part of the caly deeply lobed. The banner and wings of the corolla are usually magenta. The banner of the corolla has a spot that is white to yellowish with black spots. With age, the banner turns a dark magenta. The keel of the flower is hidden by the wings of the corolla. The margins of the upper and lower part of the keel, from the middle to the base, is hairy. The fruit is a legume that is hairy. The seed is roundish and mottled.



Bicolored Lupine (*Lupinus bicolor*)

Order: Fabales

Family: Fabaceae (Pea Family)

Flowers: March - June

Lupinus bicolor is a annual herbaceous plant. It is found in only a few locations on the peninsula. The entire plant is hairy. The leaf is made up of 5 to 7 leaflets that are hairy adaxially and abaxially. The flowers of the inflorescence are typically in whorls of 2 to 5 flowers. The upper lip of the calyx is deeply lobed and the calyx is hairy. The corolla is generally blue but can sometimes be light blue, pink or white. The banner spot is white to bluish with black spots. When the flower has aged it fades to magenta. The upper margins of the keel are generally hairy from middle to the tip. The fruit is a legume that is hairy. The seed is roundish and mottled. This lupine is one of the smallest lupine encountered on the peninsula.



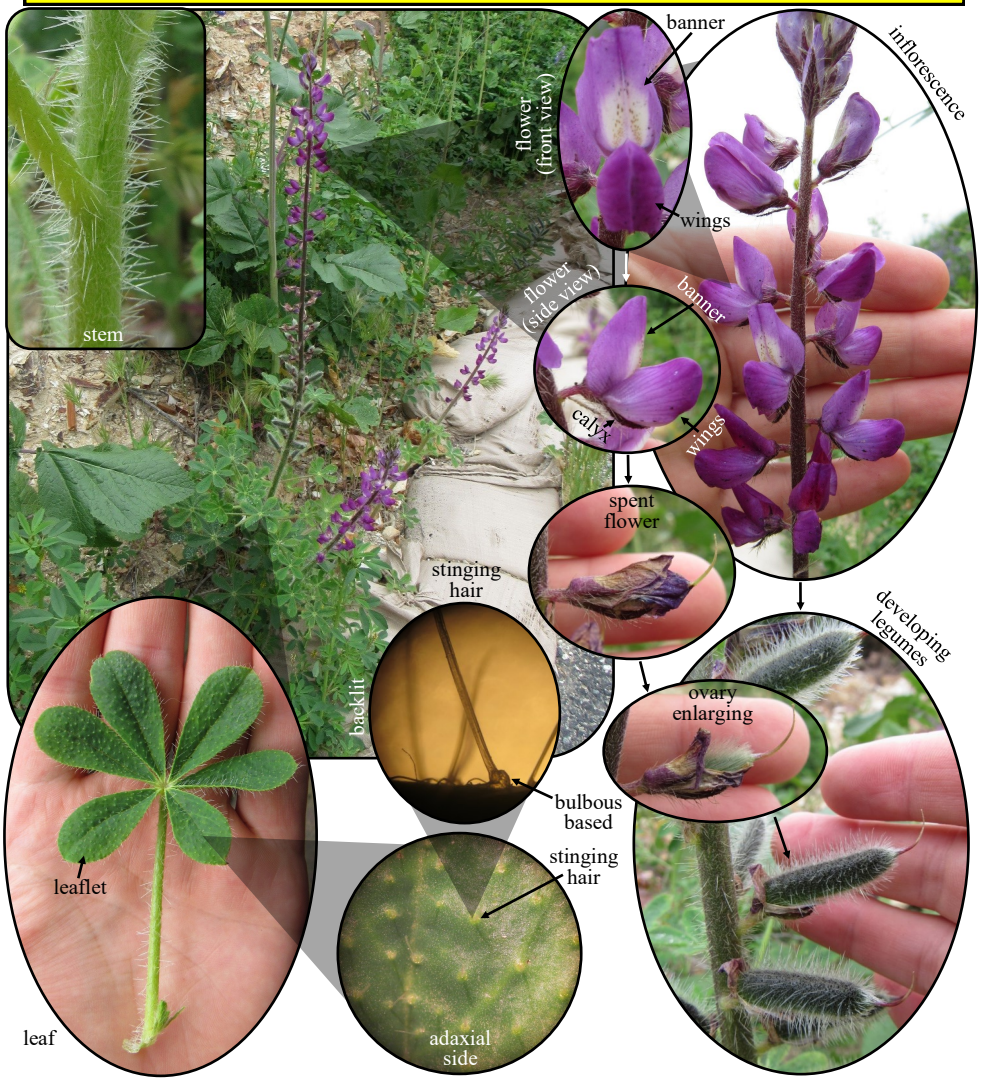
Stinging Lupine (*Lupinus hirsutissimus*)

Order: Fabales

Family: Fabaceae (Pea Family)

Flowers: March - May

Lupinus hirsutissimus is an annual herbaceous plant. It has been found in only one spot on the peninsula. The entire plant is hairy and covered in stinging hairs. The stinging hairs are bulbous based and stiff. The leaf is made up of 5-8 leaflets that are hairy and covered in bulbous based stinging hairs. The flowers of the inflorescence are spiraled. The upper lobe of the calyx is deeply lobed. The corolla can range from a dark pink to magenta and have a banner spot that is somewhat yellow when young and magenta when older. The upper margins of the keel are glabrous. The lower margins of the keel are densely ciliated from the middle to the tip. The fruit is a legume that is densely hairy. The seed is roundish and mottled.



Rattlepod (*Astragalus trichopodus* var. *lonchus*)

Order: Fabales

Family: Fabaceae (Pea Family)

Flowers: March - May

Astragalus trichopodus var. *lonchus* is a perennial herbaceous plant. It can often form a small shrub. It is found throughout the peninsula. The entire plant can be somewhat hairy. The leaf is made up of 15 to 39 leaflets that are lanceolate. There are usually 12 to 36 flowers per inflorescence. The calyx of the flower is greenish with the corolla being a creamish color. The banner is recurved 40° to 45°. The fruit is a legume that becomes inflated (bladdery). Developed legumes are green, inflated, and usually glabrous. Fully ripe legumes become papery, stramineous (sometimes pink tinged or with cheetah spots) and slightly dehisce from the tip. The seed is compressed, notched, and brownish. It is one of the host plant for the PV blue butterfly (*Glaucopsyche lygdamus palosverdesensis*).



Rattlepod (*Astragalus trichopodus* var. *lonchus*)

Order: Fabales

Family: Fabaceae (Pea Family)

Flowers: March - May

color/pattern variation
seen in ripe legumes

stramineous



pink tinged



cheetah pattern



Alkali Heath (*Frankenia salina*)

Order: Caryophyllales

Family: Frankeniaceae (Frankenia Family)

Flowers: April - September

Frankenia salina is a perennial often sprawling subshrub. It spreads out via rhizomes. It occurs in a few locations on the peninsula. Stems can be hairy or glabrous. The leaves are opposite, generally leathery and have a fused sheath. The blade of the leaf can be obovate to oblong-oblanceolate or elliptic and have margins entire or hairy. The leaf can be glabrous to somewhat hairy (especially near base of blade). The leaf margins are slightly rolled under. The leaves also become salt encrusted. The corolla of the flower can range in color from white to dark pink or a bluish-purple. The stamens are exserted out of the corolla and often have purplish anthers. The style is also exserted out of the corolla and is 3 to 4 branched. The fruit is a loculicidal capsule that is contained within a persistent calyx. The seed is a brownish color.



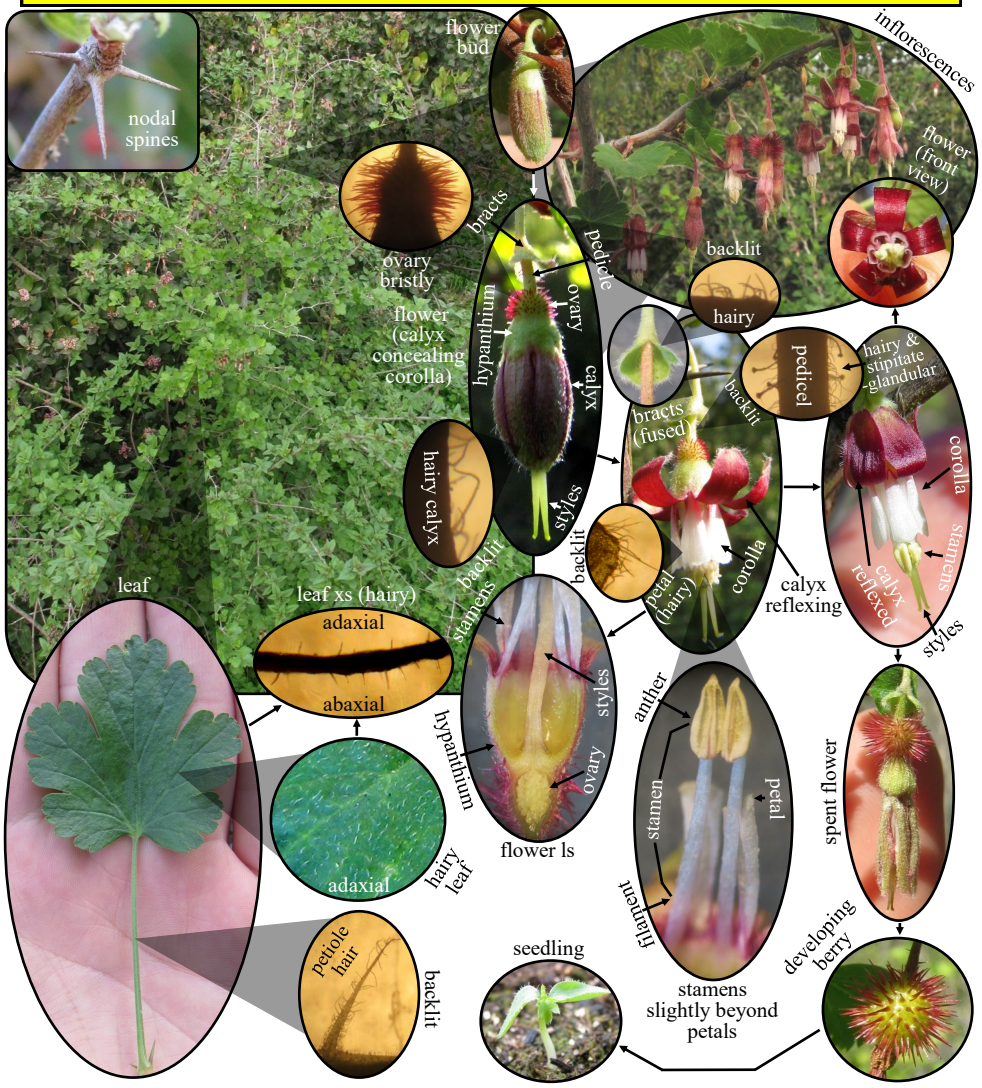
Hillside Gooseberry (*Ribes californicum* var. *hesperium*)

Order: Saxifragales

Family: Grossulariaceae (Gooseberry Family)

Flowers: December - March

Ribes californicum var. *hesperium* is a perennial shrub. It is found in only a few locations on the peninsula. The nodes along the stem have 2-3 spines. The leaves are roundish and are often 3 to 5 lobed (lobes shallow). The flowers have a hypanthium (glabrous or hairy) that is greenish and bowl shaped. The sepals become reflexed with flower development and stay seperated. The sepals are also crimson red or can be a light green with a tinge of red. The petals are erect and generally white. The length of the stamens can be less than or equal or just slightly beyond the petals. The fruit is a berry that is red, generally spherical with stiff red bristles, and it can be glandular or not. The seed is brown and ellipsoid. It is an endemic to California



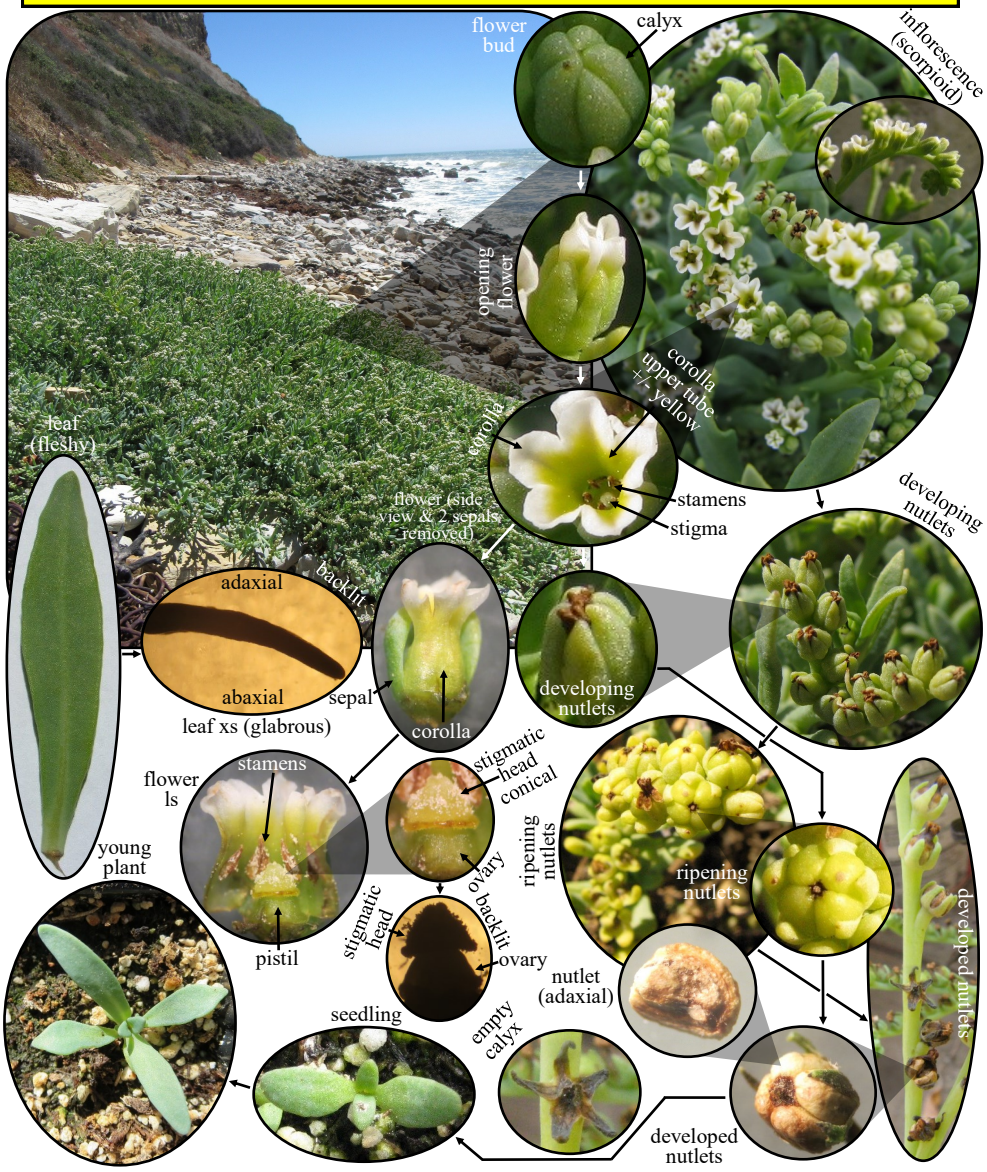
Seaside Heliotrope (*Heliotropium curassavicum* var. *oculatum*)

Order: Boraginales

Family: Heliotropiaceae (Heliotrope Family)

Flowers: February - October

Heliotropium curassavicum var. *oculatum* is a perennial herbaceous plant. It is found along the coastal bluffs of the peninsula. It forms large prostrate mats. The leaves are fleshy and glabrous. The stems are fleshy and glabrous. The calyx is fleshy, glabrous, and generally encloses the fruit (persistent). The corolla is salverform to bell-shaped and is white. The throat of the corolla is generally purplish with the upper tube somewhat yellow. The stigmatic head is conical. The fruit is a nutlet that is smooth.



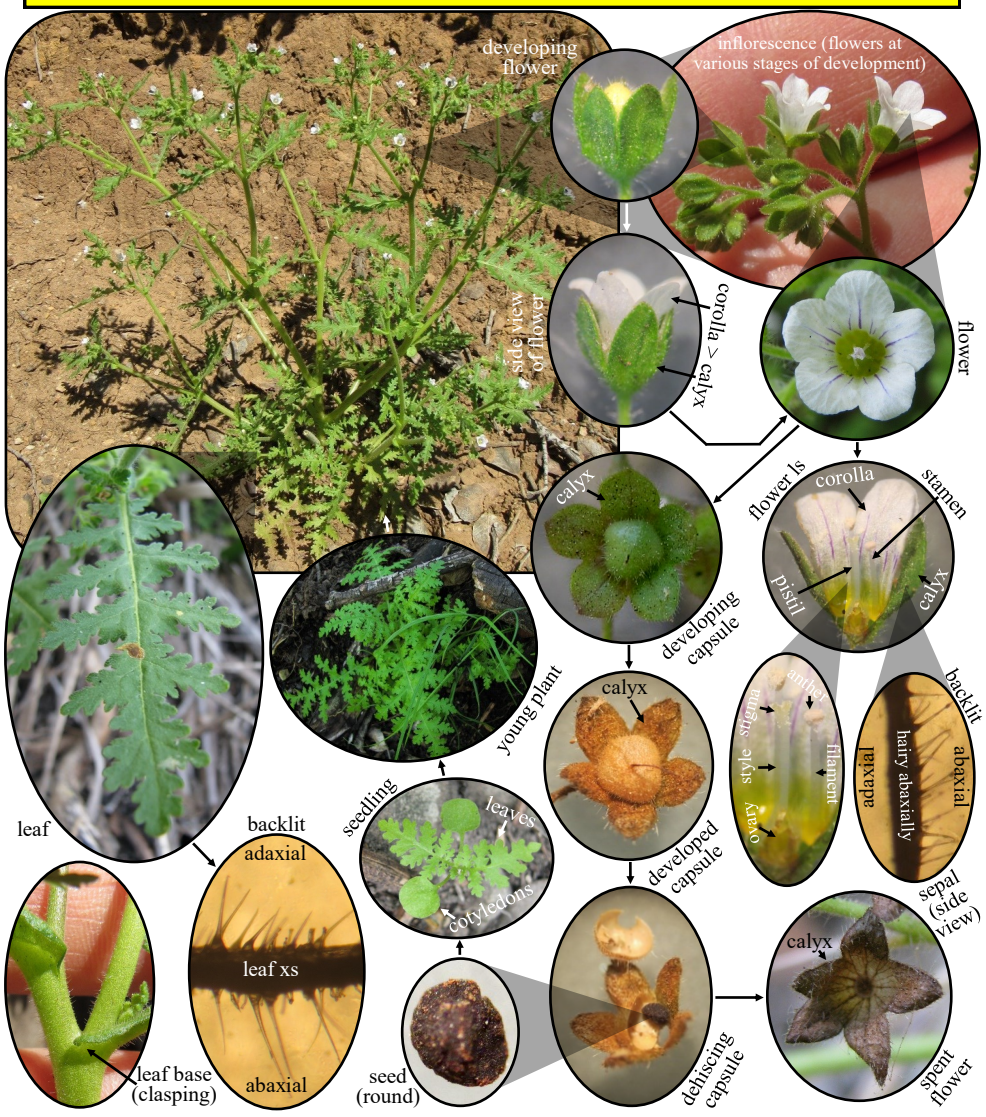
Eucrypta (*Eucrypta chyrsanthemifolia* var. *chyrsanthemifolia*)

Order: Boraginales

Family: Hydrophyllaceae (Waterleaf Family)

Flowers: March - June

Eucrypta chrysanthemifolia var. *chrysanthemifolia* is an annual herbaceous plant. It is found throughout the peninsula. The lower leaves are 2-3 pinnately lobed, hairy, minutely glandular, and have petioles (generally wide) with bases clasping the stems. Upper leaves are usually smaller, hairy, minutely glandular, and less lobed but with bases clasping. The flower has a calyx with lobes spreading and when fruit is present, the calyx does not enclose the fruit. The corolla is bell shaped, whitish, it is greater than the calyx, and is generally streaked with purple strips on the inside of the throat. Fruit is a somewhat spherical capsule. The seed is roundish, blackish, and bumpy.



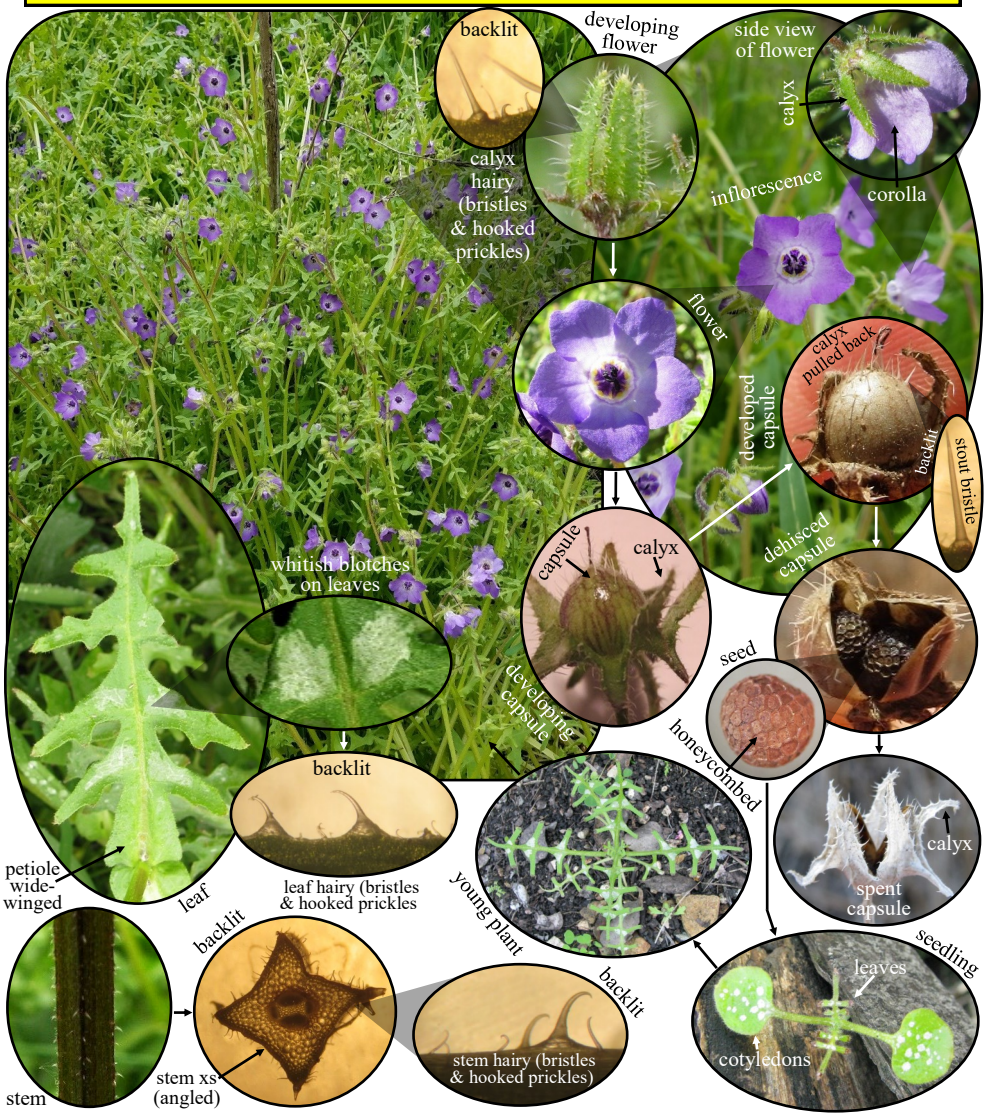
Fiesta Flower (*Pholistoma auritum* var. *auritum*)

Order: Boraginales

Family: Hydrophyllaceae (Waterleaf Family)

Flowers: March - June

Pholistoma auritum var. *auritum* is an annual herbaceous plant. It is found throughout the peninsula mostly in canyons. The petioles of the leaves are wide-winged and clasp the stem. The leaf has 7-13 lobes, is hairy (bristles and hooked prickles) and usually has faint white blotches. The stems are often prostrate to reclined, brittle, hairy (bristles and hooked prickles), and angled. The calyx is hairy (bristles and hooked prickles) and encloses the fruit. The corolla of the flower is rotate and is purple to bluish. The fruit is a spheric capsule that is hairy (stout bristles). The seed is spheric and honeycombed.



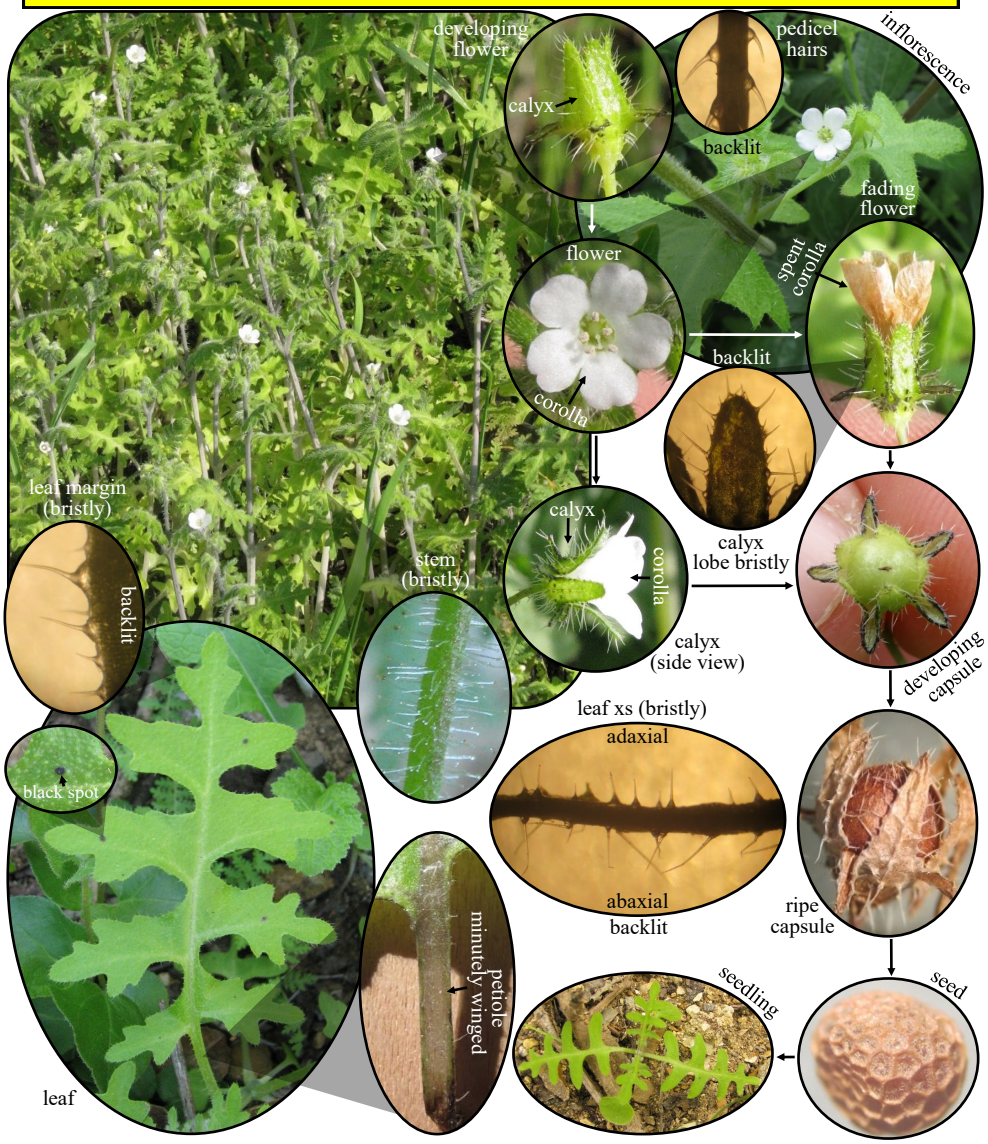
Racemed Fiestaflower (*Pholistoma racemosum*)

Order: Boraginales

Family: Hydrophyllaceae (Waterleaf Family)

Flowers: February - May

Pholistoma racemosum is an annual herbaceous plant. It is an uncommon plant on the peninsula and has only been found along the coastal bluffs in one spot. The petioles of the leaves are narrowly winged and clasp the stem. The leaf has 5-9 lobes, is hairy, and usually has black spots throughout the leaf. The stems are prostrate or reclined, brittle, hairy, and angled. The calyx is hairy and encloses the fruit. The corolla of the flower is rotate and is white to blueish. The fruit is a spheric capsule that is hairy. The seed is spherical and honeycombed.



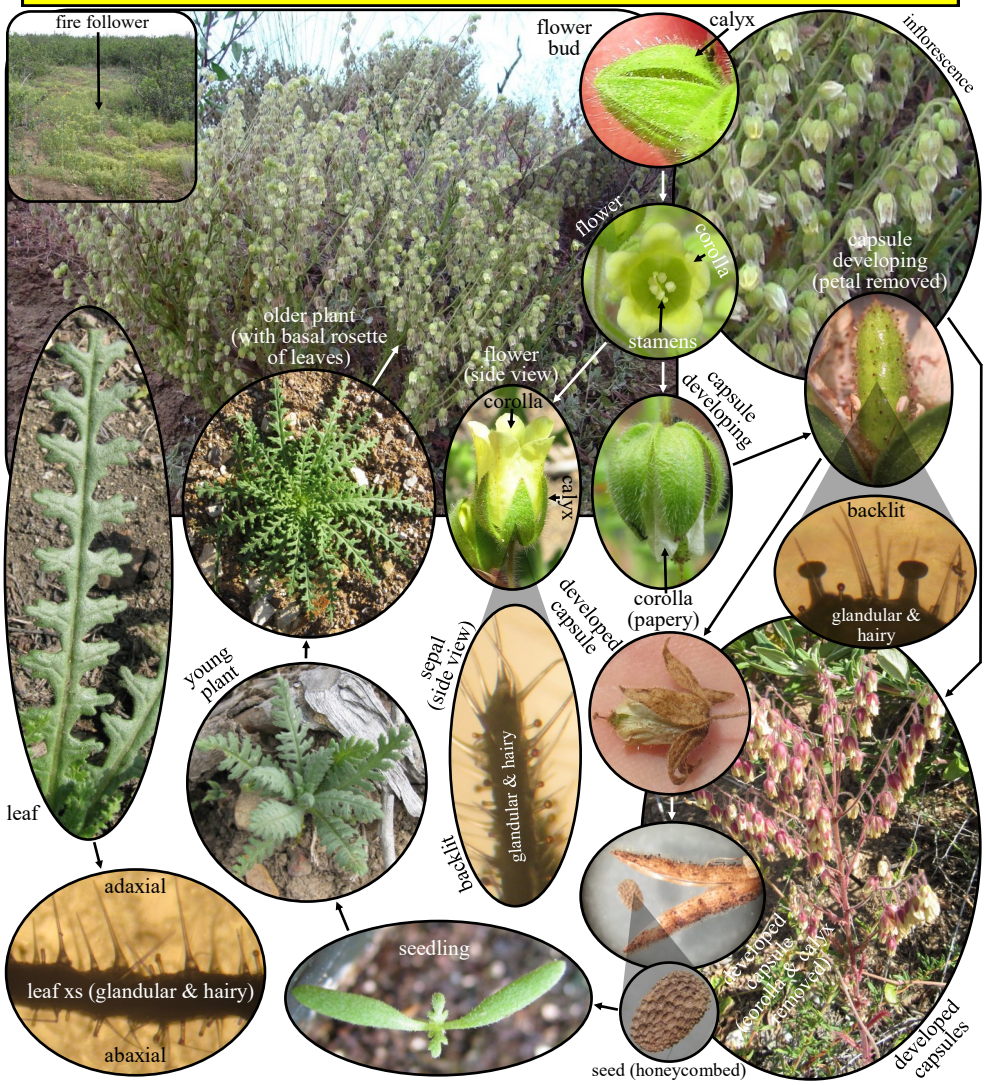
Whispering Bells (*Emmenanthe penduliflora*)

Order: Boraginales

Family: Hydrophyllaceae (Waterleaf Family)

Flowers: April - July

Emmenanthe penduliflora is an annual herbaceous plant. It is found throughout the peninsula. It is also a fire follower plant and was seen in great abundance on the burned hillsides following the 2009 Portuguese Bend Preserve fire. The leaves are toothed to deep pinnately lobed and the lower leaves are short petioled, while the upper leaves are sessile. The leaves are also hairy and glandular. The calyx is hairy, glandular, and persistent with age. The corolla is bell-shaped and is white to yellow. The corolla is also glandular-hairy and withers with age becoming papery and encloses the developed fruit (persistent). The fruit is a capsule that is glandular. The seeds are flat, brown, and the surface is honeycombed.



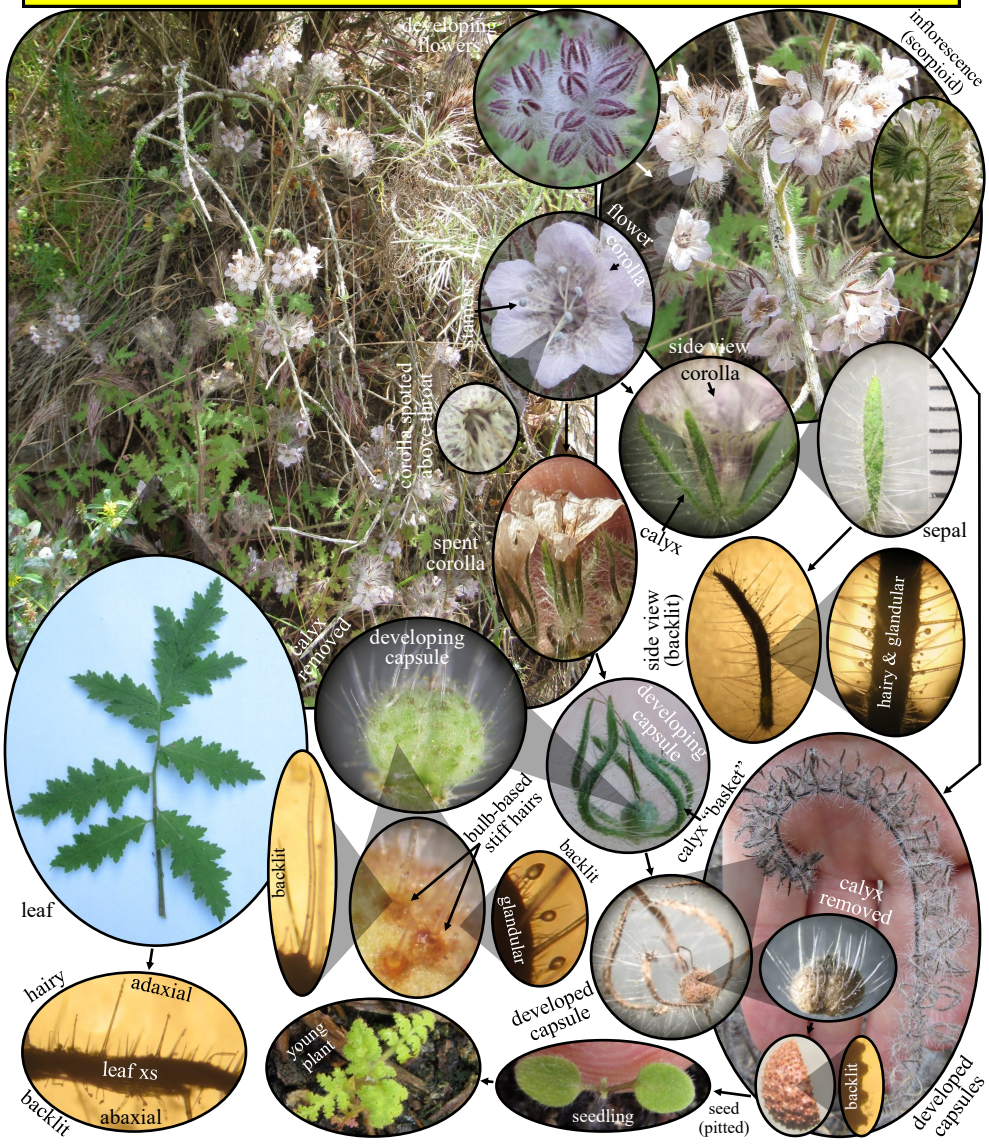
Caterpillar Phacelia (*Phacelia cicutaria* var. *hispida*)

Order: Boraginales

Family: Hydrophyllaceae (Waterleaf Family)

Flowers: February - June

Phacelia cicutaria var. *hispida* is an annual herbaceous plant. It is an uncommon plant on the peninsula and mostly found on the seaward side of the peninsula. The leaves are deeply lobed to compound and hairy. The calyx lobes are thin, long, and stiff hairy. The calyx is also persistent and forms a calyx "basket" around the fruit. The corolla is bell-shaped and is lavender to light lavender. The fruit is a capsule that is spheric, sparsely short-hairy, and has large bulb-based stiff hairs on it. The seed is angled, brownish, and pitted.



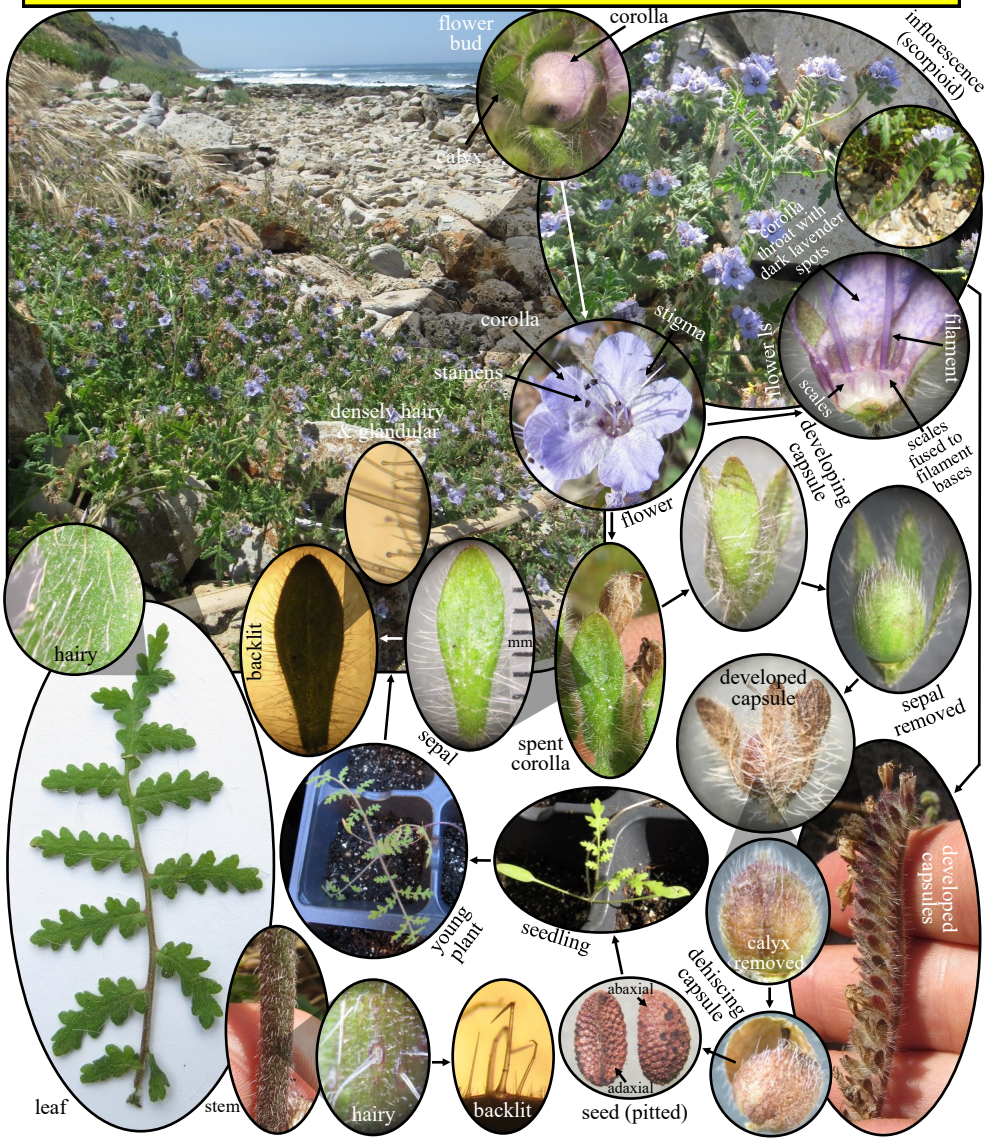
Distant Phacelia (*Phacelia distans*)

Order: Boraginales

Family: Hydrophyllaceae (Waterleaf Family)

Flowers: March - May

Phacelia distans is an annual herbaceous plant. It is an uncommon plant on the peninsula and found along the coastal bluffs. The leaves are generally 1 to 2 compound and hairy. The calyx is densely hairy, glandular, and the sepals are narrowed at the base and wide towards the tip but can also vary and not be alike. The corolla is funnel to bell-shaped and is blue to blue-lavender. The corolla throat has dark lavender spots. The filament bases are fused with the corolla scales. The fruit is a capsule that is spheric to oblong and hairy throughout. The seed is brownish and pitted.



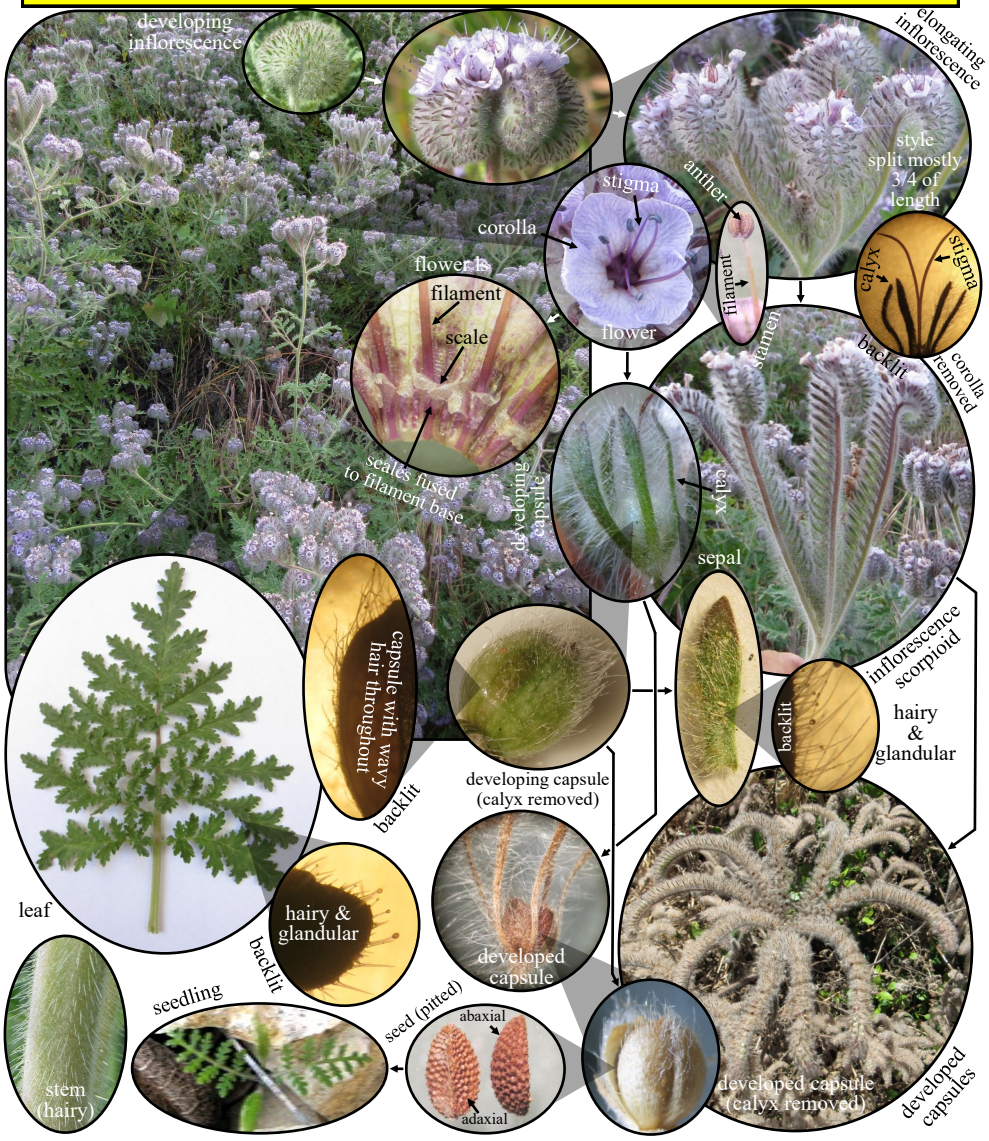
Hubby's Phacelia (*Phacelia hubbyi*)

Order: Boraginales

Family: Hydrophyllaceae (Waterleaf Family)

Flowers: April - June

Phacelia hubbyi is an annual herbaceous plant. It is found throughout the peninsula (most common Phacelia). This plant is a CNPS listed rare plant with ranking 4.2. The leaves are deeply lobed to compound, hairy, and glandular. The calyx lobes are usually linear, thinnish, shaggy-hairy, and glandular. The calyx is persistent and covers the fruit. The corolla is bell-shaped, lavender and has scales that are fused to filament bases. The style is divided 3/4 of its length. The fruit is a capsule that is spheric and wavy-hairy throughout the surface. The seed is angled, brownish and pitted.



Hubby's Phacelia (*Phacelia hubbyi*)

Order: Boraginales

Family: Hydrophyllaceae (Waterleaf Family)

Flowers: April - June

this plant likes talus slopes
and can form large stands on good rain years



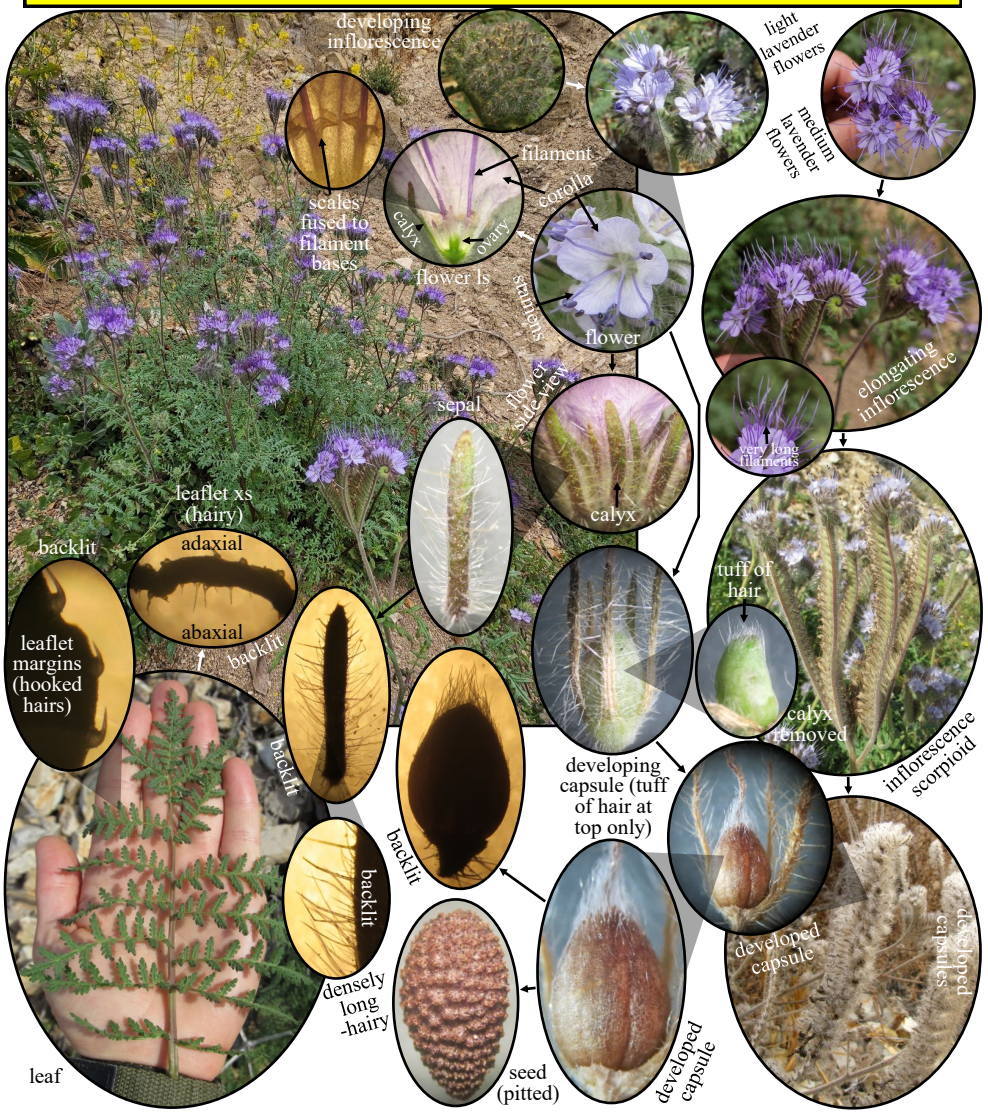
Tansy Phacelia (*Phacelia tanacetifolia*)

Order: Boraginales

Family: Hydrophyllaceae (Waterleaf Family)

Flowers: March - May

Phacelia tanacetifolia is an annual herbaceous plant. It is found throughout the peninsula usually along the coastal bluffs on rocky slopes. The leaves are generally compound and hairy. The calyx lobes are generally linear and densely long-hairy. The corolla is widely bell-shaped, light lavender to dark lavender, and has scales that are fused to the filament bases. The filaments of the stamens are long and are generally exserted well past the corolla. The style is divided 2/3 to 3/4 of its length. The fruit is a capsule that is ovoid, glabrous proximally and short-hairy distally. The seed is angled, brown, and pitted.



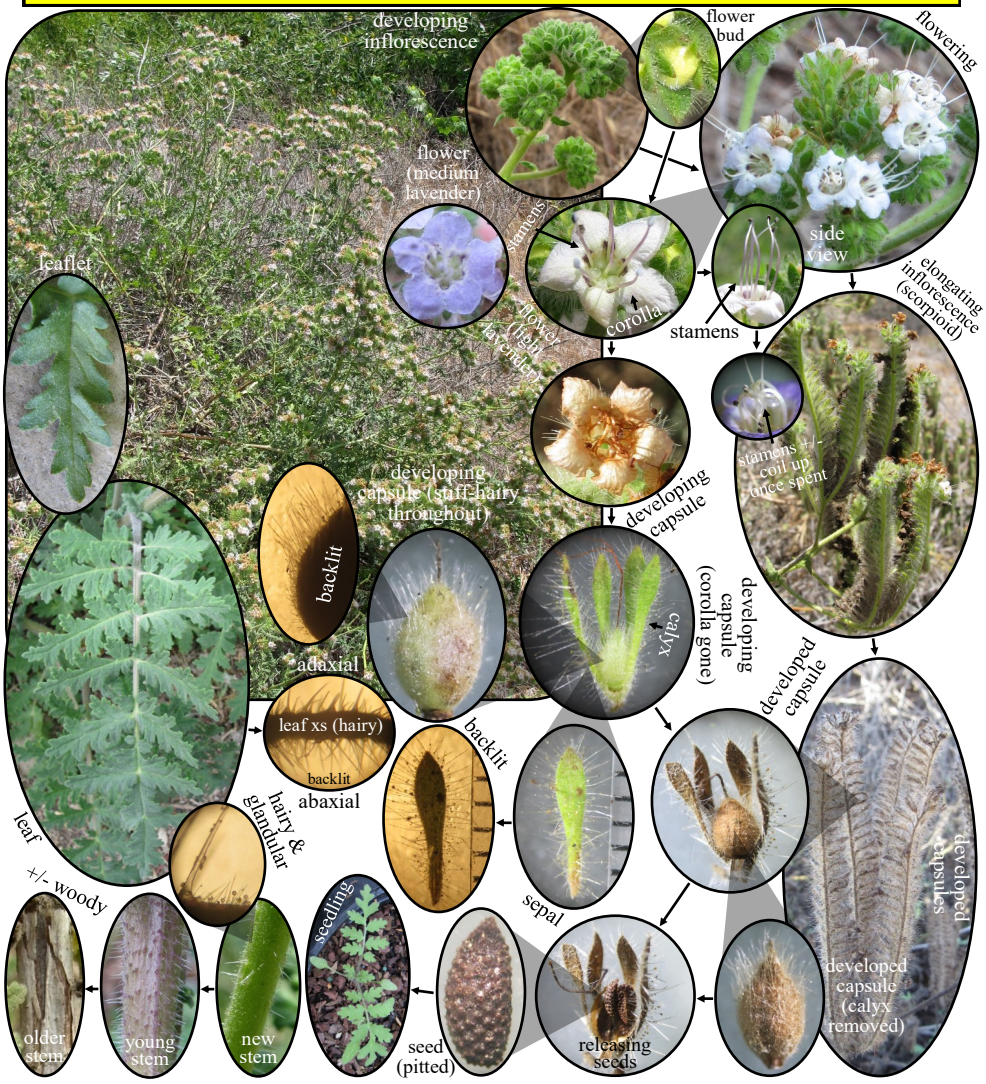
Branching Phacelia (*Phacelia ramosissima*)

Order: Boraginales

Family: Hydrophyllaceae (Waterleaf Family)

Flowers: April - October

Phacelia ramosissima is a perennial herbaceous subshrub plant. It is only found in two places on the peninsula. The young stems can be glabrous or hairy and generally glandular. Older stems are usually woody. The leaves are compound and hairy. The calyx is persistent, usually not alike, densely hairy, and glandular. The corolla is funnel to bell-shaped and can range in color from white to lavender to bluish. The corolla scales are also fused to the filament bases. The stamens are unequal, can be white or purple and usually coil up when spent. The style is divided 2/3 of its length. The fruit is a capsule that is ovoid and stiff-hairy throughout. The seed is angled, brownish, and pitted.



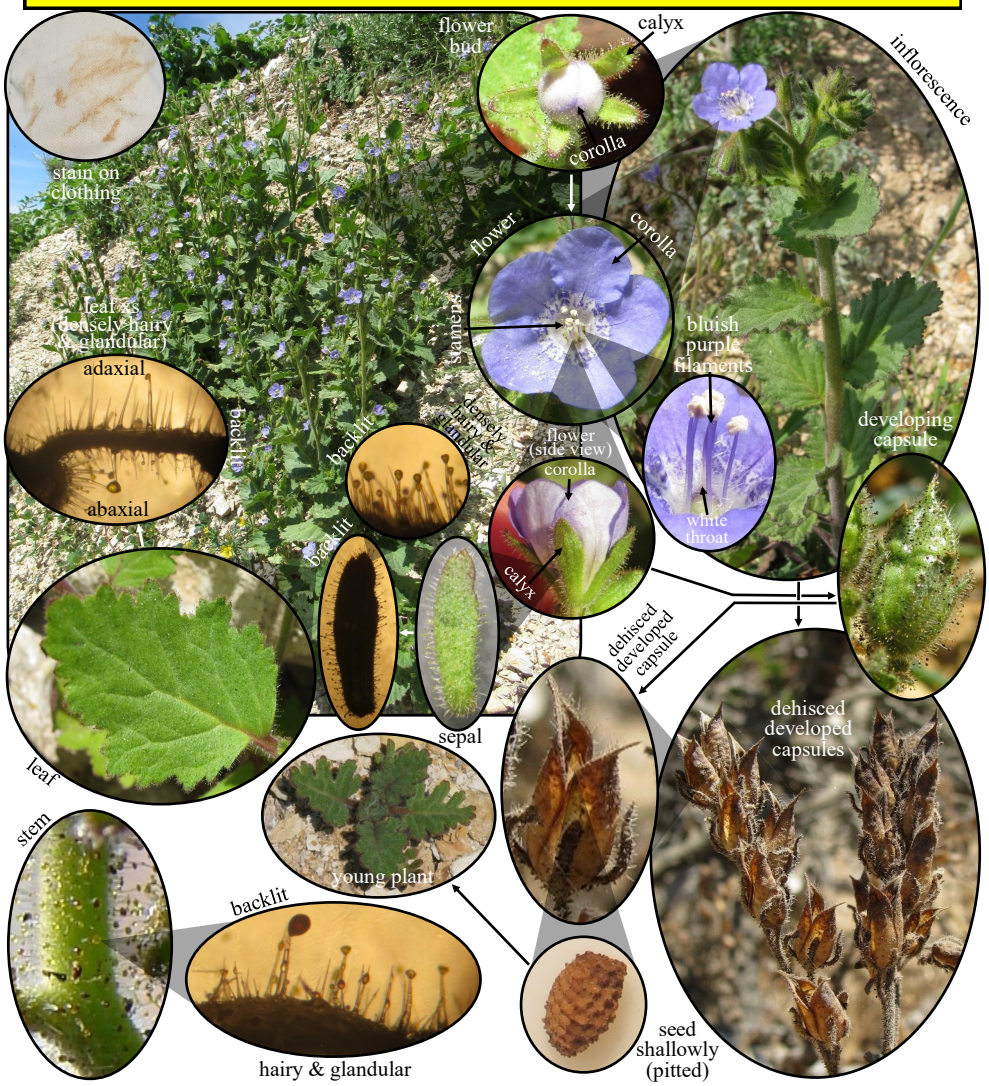
Sticky Phacelia (*Phacelia viscida* var. *viscida*)

Order: Boraginales

Family: Hydrophyllaceae (Waterleaf Family)

Flowers: February - June

Phacelia viscida var. viscida is an annual herbaceous plant. It is found throughout the peninsula. The entire plant is densely glandular as well as having short stiff hairs. The leaves are generally elliptic to broadly ovate; however, some basal leaves can be deeply lobed sometimes. The calyx is persistent and is densely glandular and short hairy. The corolla is bluish and rotate with a short tube (throat of tube can be white or purple). Corolla scales are present on the inside. Stamen filaments are bluish purple and the style is divided 2/3 of its length. The fruit is a capsule that is glandular and short hairy. The seed is angled, brownish, and shallowly pitted. This plant will stain clothing a brownish color as a result of the glandular hairs.



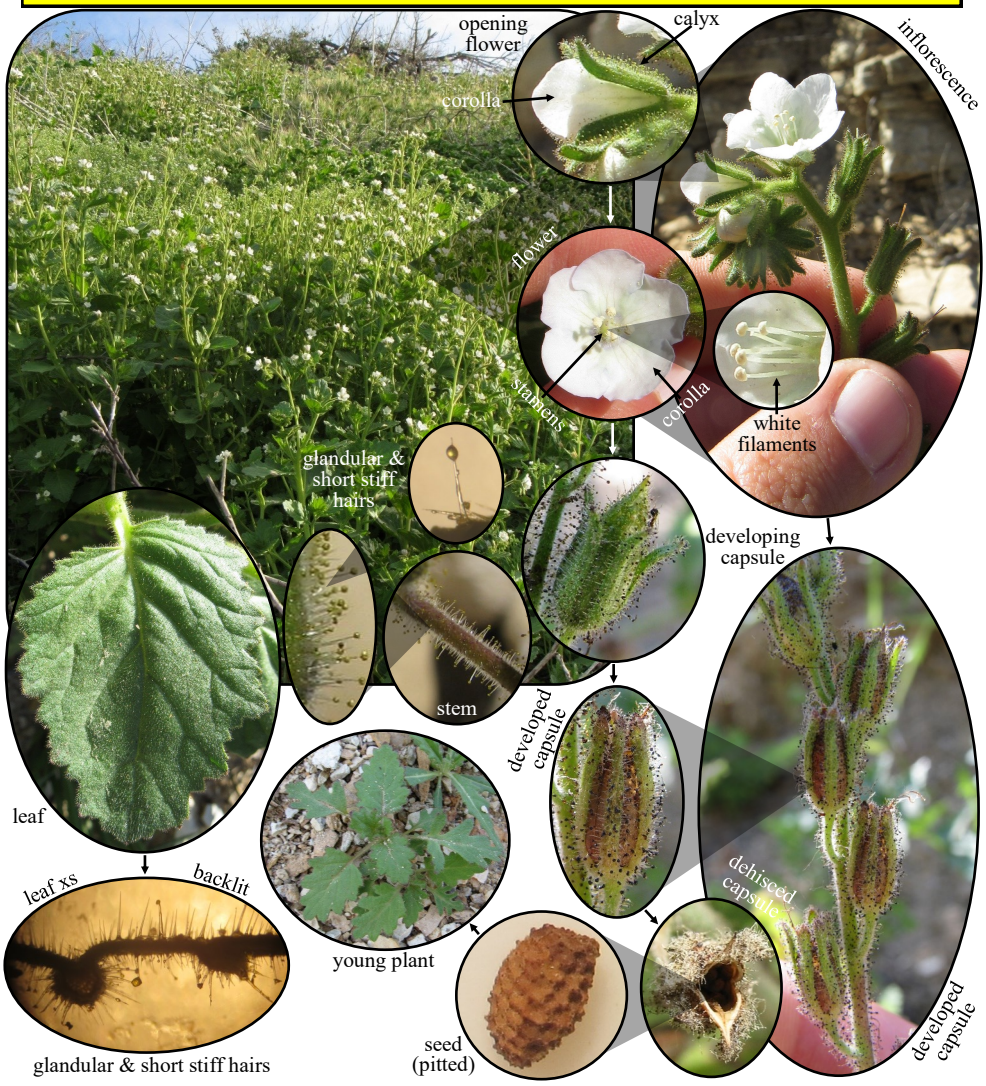
White Phacelia (*Phacelia viscida* var. *albiflora*)

Order: Boraginales

Family: Hydrophyllaceae (Waterleaf Family)

Flowers: March - June

Phacelia viscida var. albiflora is an annual herbaceous plant. It is found throughout the peninsula. The entire plant is densely glandular as well as having short stiff hairs. The leaves are generally elliptic to broadly ovate; however, basal leaves can sometimes be deeply lobed. The calyx is persistent and is densely glandular and short hairy. The corolla is white, rotate with a short tube (throat of tube is white). Corolla scales are present on the inside. Stamen filaments are white and the style is divided 2/3 of its length. The pollen of this plant is also white. The fruit is a capsule that is glandular and short hairy. The seed is angled, brownish, and shallowly pitted. This plant will stain clothing a brownish color as a result of the glandular hairs.



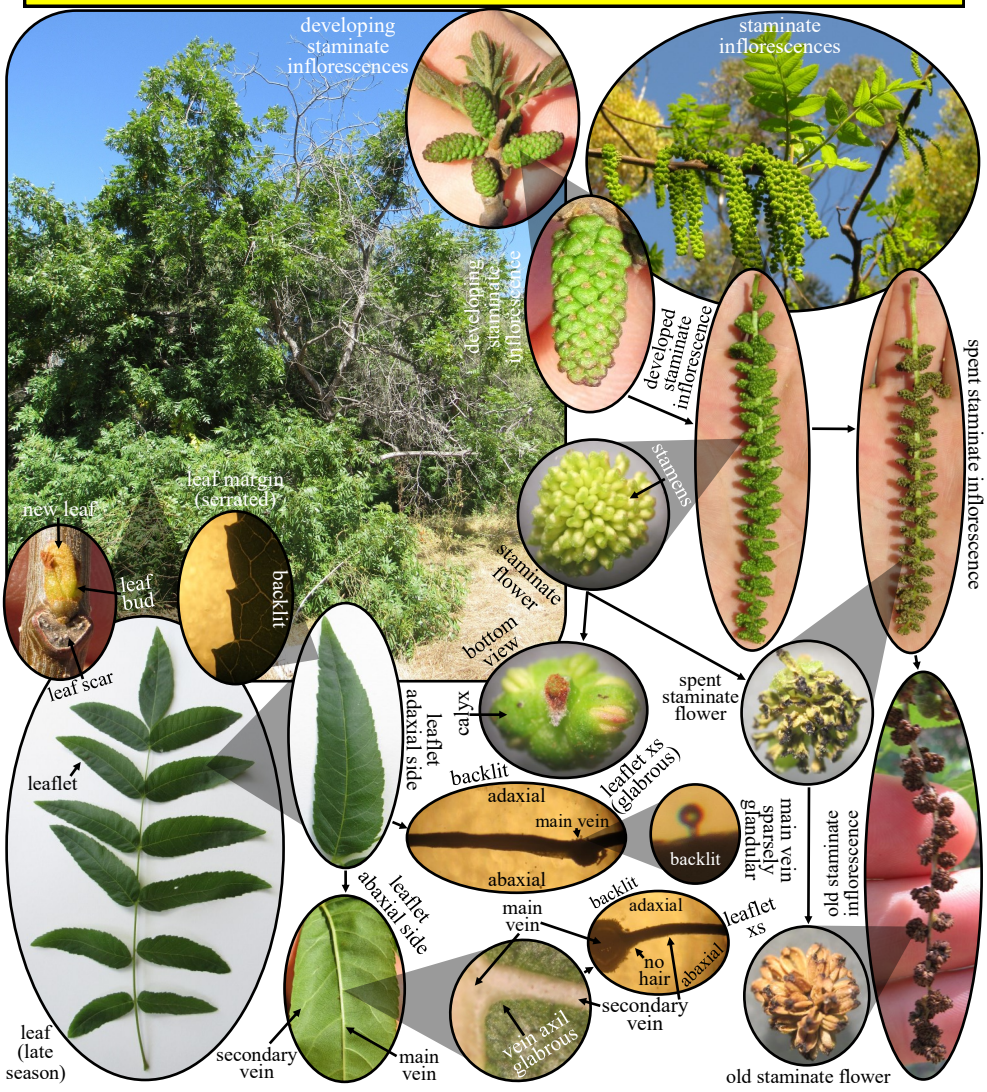
Southern Black Walnut (*Juglans californica*)

Order: Fagales

Family: Juglandaceae (Walnut Family)

Flowers: March - May

Juglans californica is a perennial shrub to medium tree. It is found in only a few locations on the peninsula (mostly along canyons). It is a winter deciduous plant. The leaves are made up of 11 to 15 (sometimes 9 or 17) leaflets that are usually narrowly oblong-elliptic to lance-elliptic (sometimes lanceolate). The tips of the leaflet are rounded to acute. The margins of the leaflets are finely serrated. The adaxial and abaxial side of the leaflet is glabrous; however, the main vein of the leaflet can sometimes be glandular. In addition, the vein axils on the abaxial side of the leaflets do not have tufts of hair (check for this on late season leaves). The staminate flowers are contained within catkins. The staminate flowers have a calyx with 4 lobes (sometimes



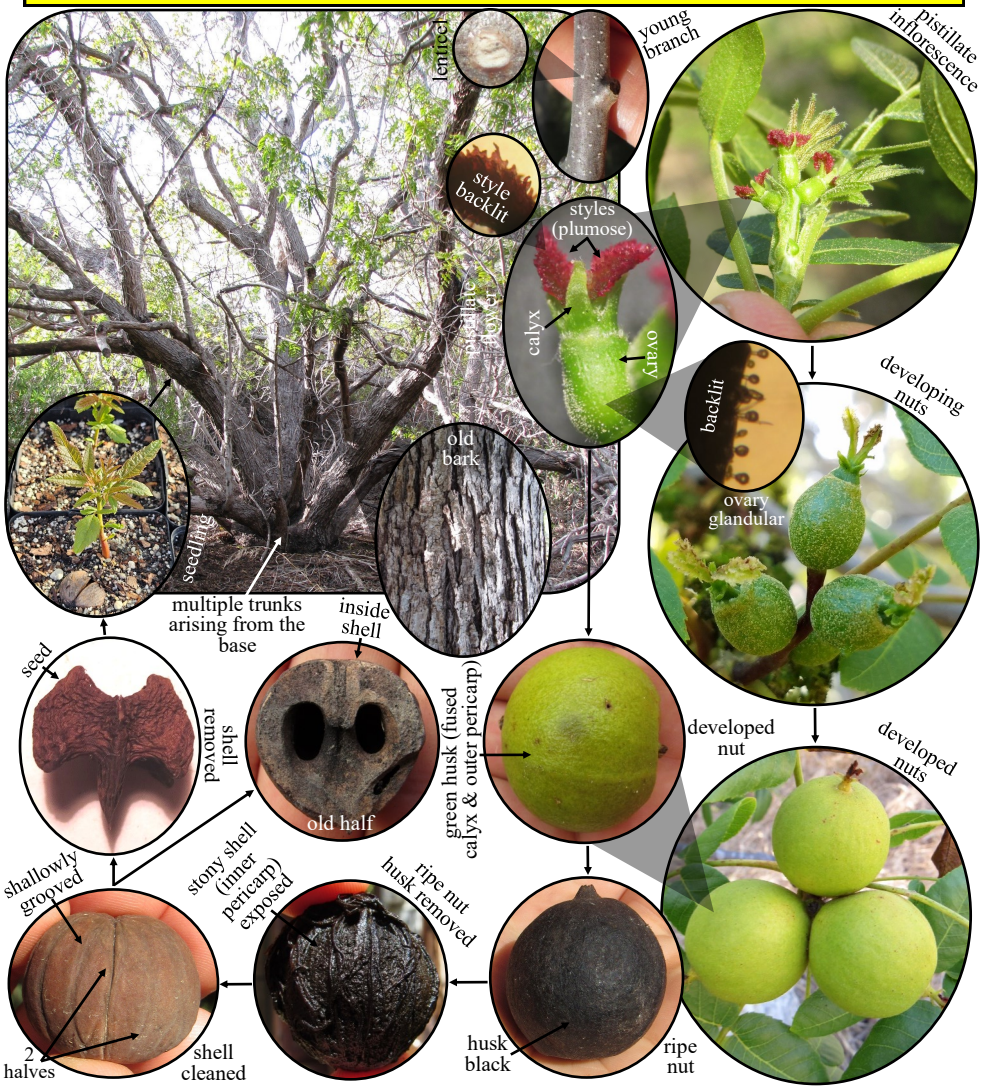
Southern Black Walnut (*Juglans californica*)

Order: Fagales

Family: Juglandaceae (Walnut Family)

Flowers: March - May

2 or 6 lobes), no corolla, 15 to 35 stamens and no pistil present. The pistillate flowers are solitary and erect. For each pistillate inflorescence (located at the tips of new twigs), there can be 1 to 3 flowers present. The pistillate flowers have a calyx with 4 lobes, no corolla, no stamens, 1 ovary with 2 styles that are plumose and reddish purple. The fruit is a nut (unwinged) enclosed in a leathery husk (fused calyx and outer pericarp) that is indehiscent. The shell (inner pericarp) of the nut is thick, shallowly grooved and contains the seed. Older bark becomes greatly furrowed with age and takes on a grayish-brown color. The plant tends to have multiple trunks arising from the base. It is an endemic to California.



Southern Black Walnut (*Juglans californica*)

Order: Fagales

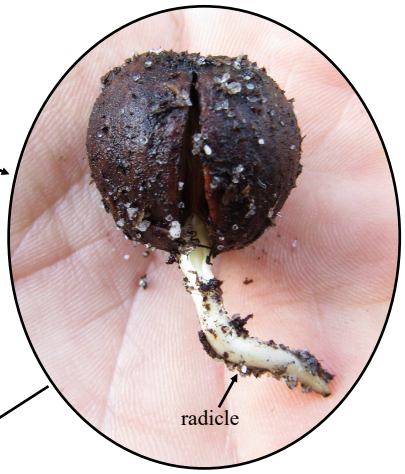
Family: Juglandaceae (Walnut Family)

Flowers: March - May

germination of nut



nut cracks and radicle emerges



first shoot is second to emerge



fully emerged seedling



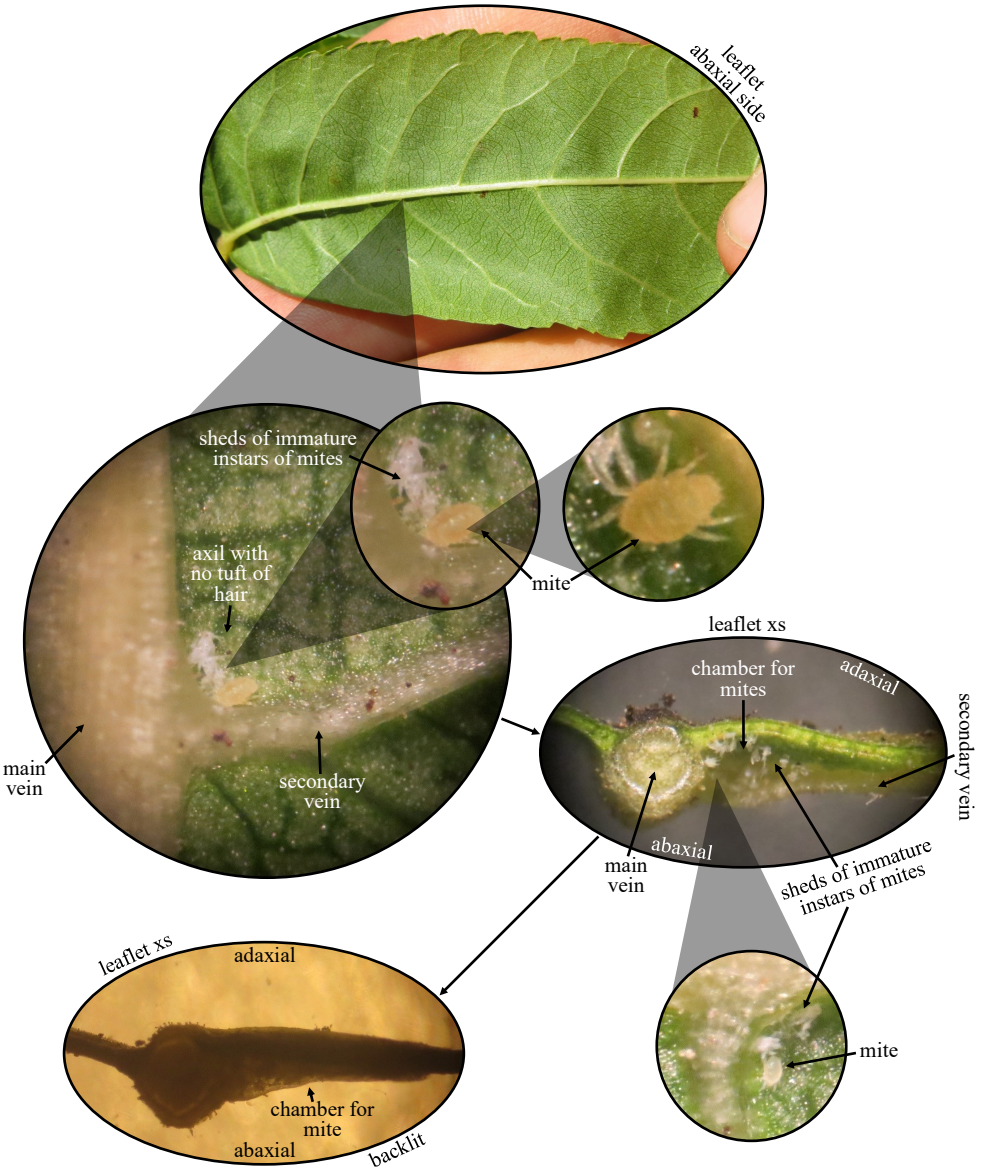
Southern CA Black Walnut (*Juglans californica*)

Order: Fagales

Family: Juglandaceae (Walnut Family)

Flowers: March - May

For the *Juglans californica* on the peninsula, leaf domatia are present and scattered throughout the abaxial side of the leaflets in the vein axils. The domatia appear to house mites.



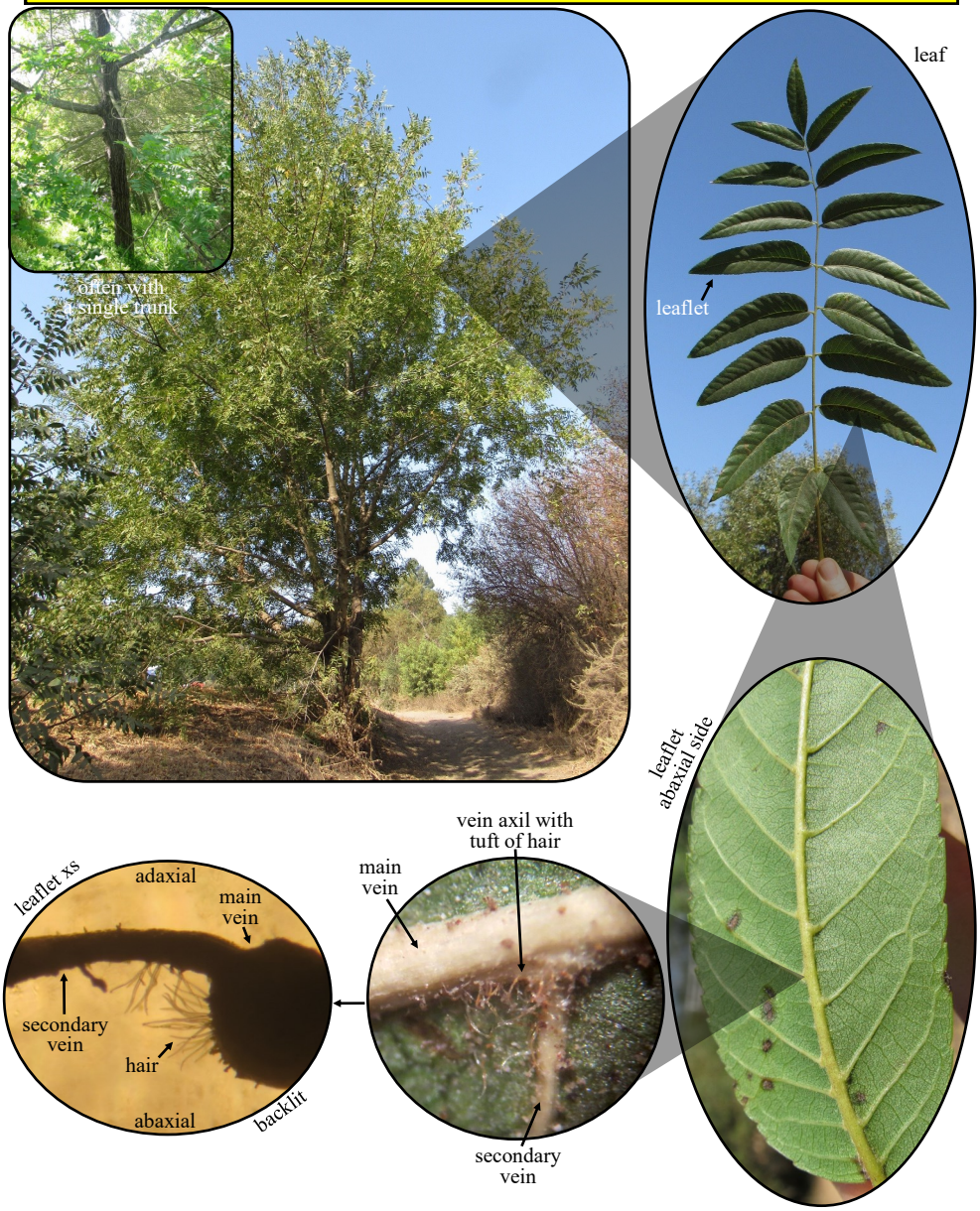
Northern CA Black Walnut (*Juglans hindsii*)

Order: Fagales

Family: Juglandaceae (Walnut Family)

Flowers: April - May

Juglans hindsii is a perennial tree. It is found scattered throughout the peninsula and has been introduced via use as a rootstock for grafting of *J. regia* (which is also present on the peninsula and very numerous throughout the residential areas). On the abaxial side of the leaflets there are tufts of hair present in the vein axils.



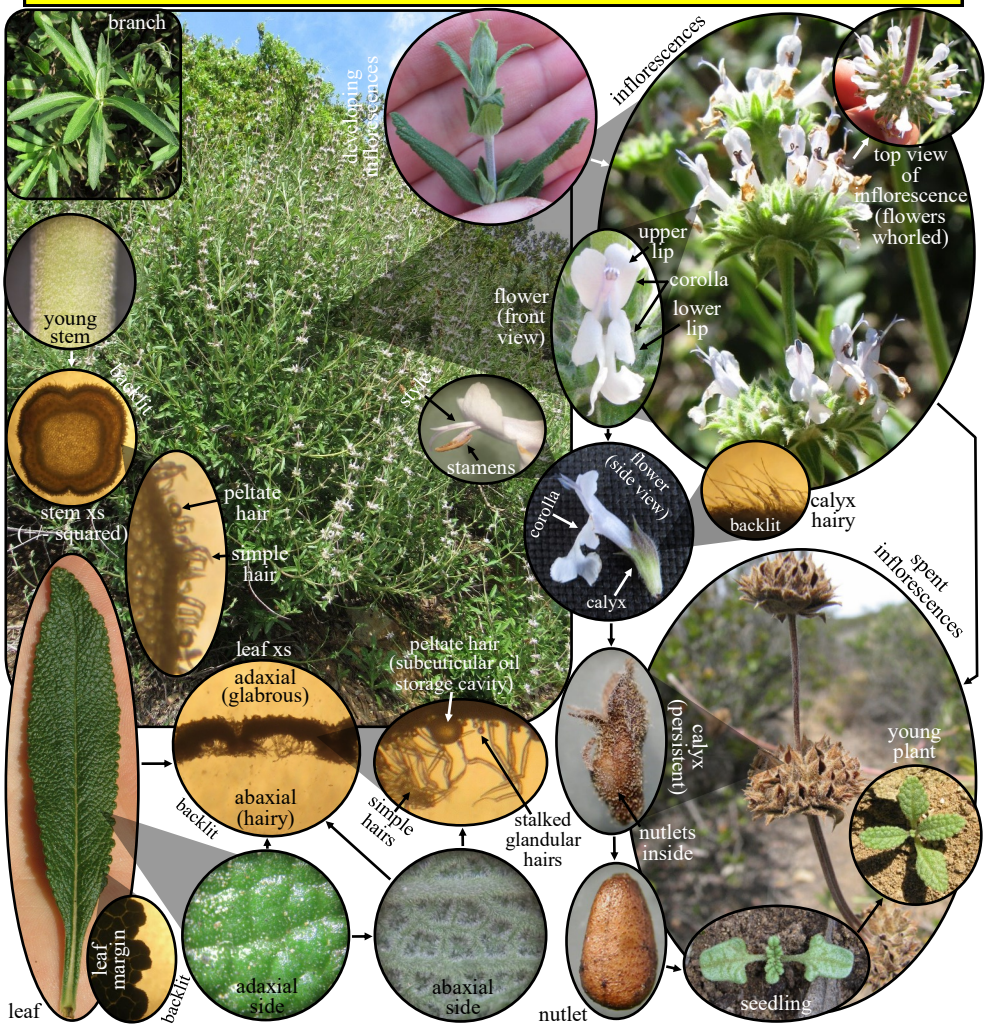
Black Sage (*Salvia mellifera*)

Order: Lamiales

Family: Lamiaceae (Mint Family)

Flowers: March - June

Salvia mellifera is a perennial shrub that is erect (occasionally prostrate). It is found throughout the peninsula. This plant is very aromatic. The leaf is oblong-elliptic to obovate with the adaxial side usually glabrous and the abaxially side densely hairy (simple hairs mixed with stalked glandular hairs and peltate hairs). The inflorescence is made up of flowers that are clustered together in head-like structures that are usually spheric and spaced out along a flowering stem (many heads per flowering stem). The calyx is hairy, the upper lip is shallowly 3-lobed, and the lower lip is 2-lobed. The corolla tube can be white to sky blue or lavender. The upper lip of the corolla is 2-lobed and the lower lip is 3-lobed and generally spreading. The stamens and style are generally exserted out past the corolla. The fruit is a schizocarp with 4 single seeded nutlets found within a dry persistent calyx. Nutlets are brown and smooth.



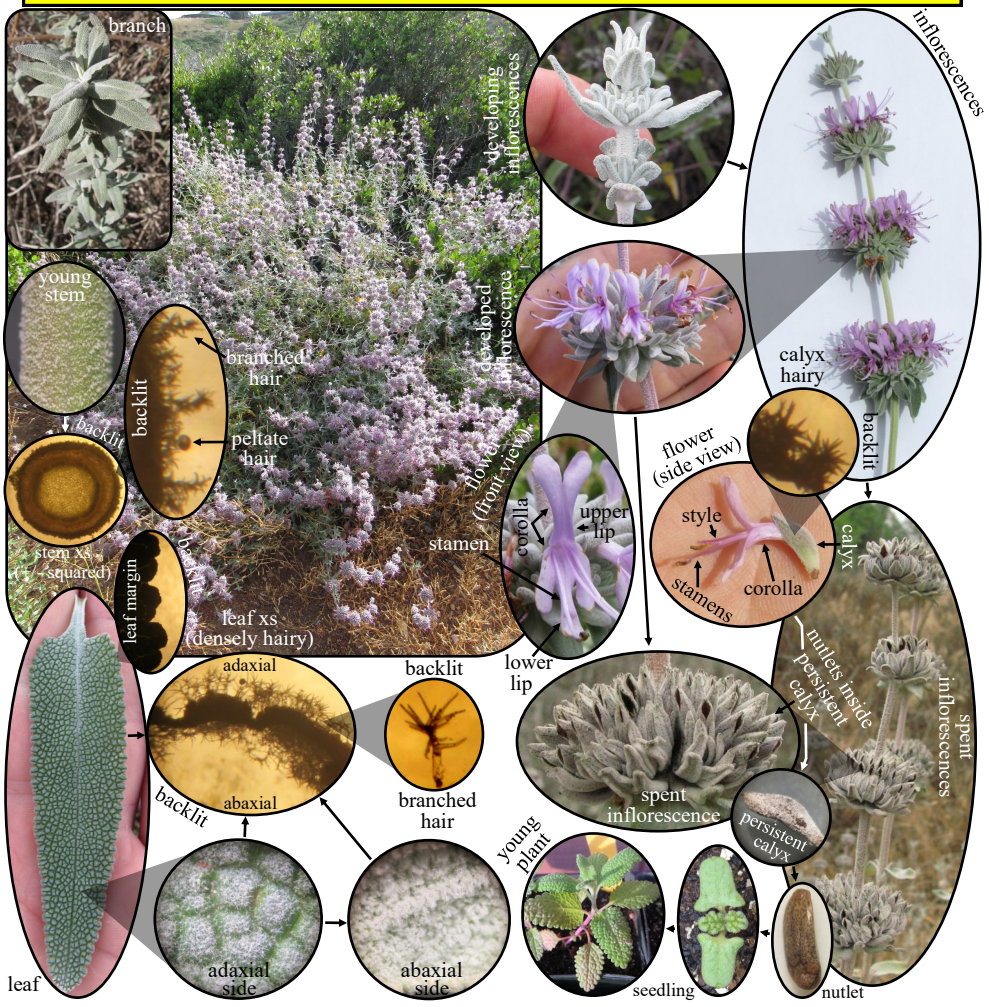
Purple Sage (*Salvia leucophylla*)

Order: Lamiales

Family: Lamiaceae (Mint Family)

Flowers: April - June

Salvia leucophylla is a perennial shrub that is generally erect. It is found throughout the peninsula. This plant is very aromatic and densely hairy with the hairs branched. The blade of the leaf is lance-oblong with the base being generally truncate to sometimes cordate. The adaxial side of the leaf is densely hairy as well as the abaxial side making it have a whitish-silvery color. The inflorescence is made up of flowers that are clustered together in head-like structures that are spheric and spaced out along a flowering stem (many heads per flowering stem). The calyx is hairy and the upper lip of the calyx is entire, acute, and not spine-tipped. The lower lip of the calyx is usually not present. The corolla is pinkish to lavender. The upper lip of the corolla is generally the same length as the lower lip. The stamens and the style are exserted out pass the corolla. The fruit is a schizocarp with 4 single seeded nutlets found within a dry persistent calyx. Nutlets can be brown, gray, or mottled and are smooth.



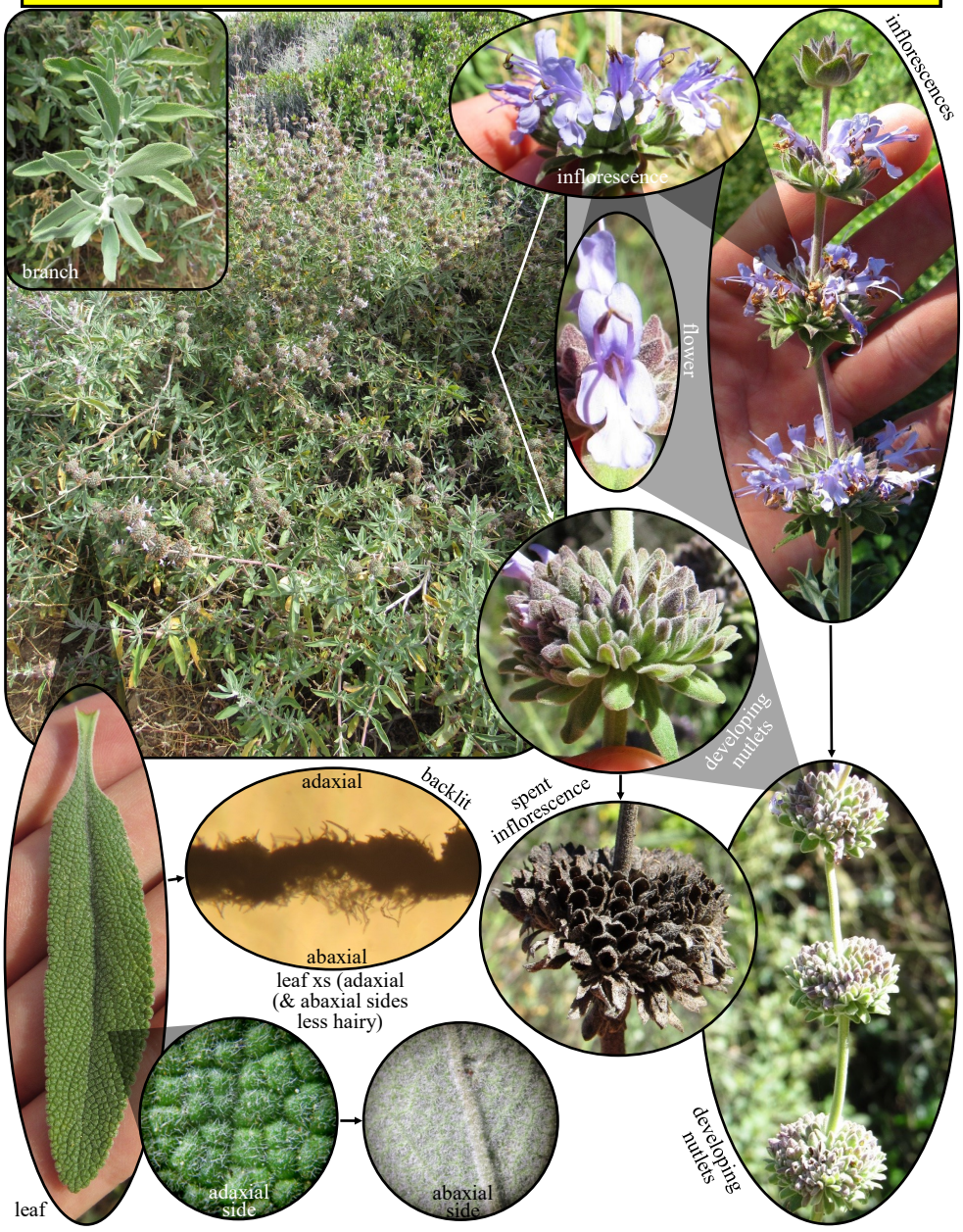
Sage Hybrid (*Salvia mellifera* x *Salvia leucophylla*)

Order: Lamiales

Family: Lamiaceae (Mint Family)

Flowers: April - June

This naturally occurring sage hybrid is located in a few spots on the peninsula where *S. melliera* and *S. leucophylla* grow in close proximity. Hybrid plants can vary in appearance based on which parent plant they are expressing the most.



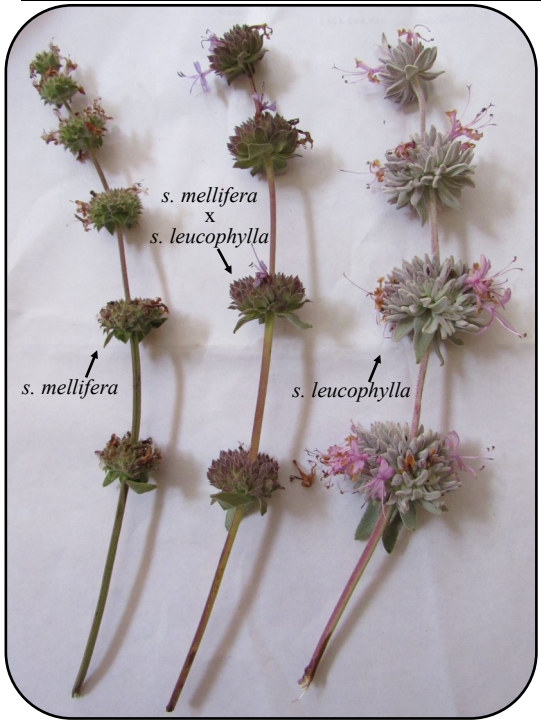
Sage Hybrid (*Salvia mellifera* x *Salvia leucophylla*)

Order: Lamiales

Family: Lamiaceae (Mint Family)

Flowers: April - June

Comparing *S. leucophylla*, *S. mellifera* and *S. leucophylla x S. mellifera*.



comparison of inflorescences



comparison of leaves

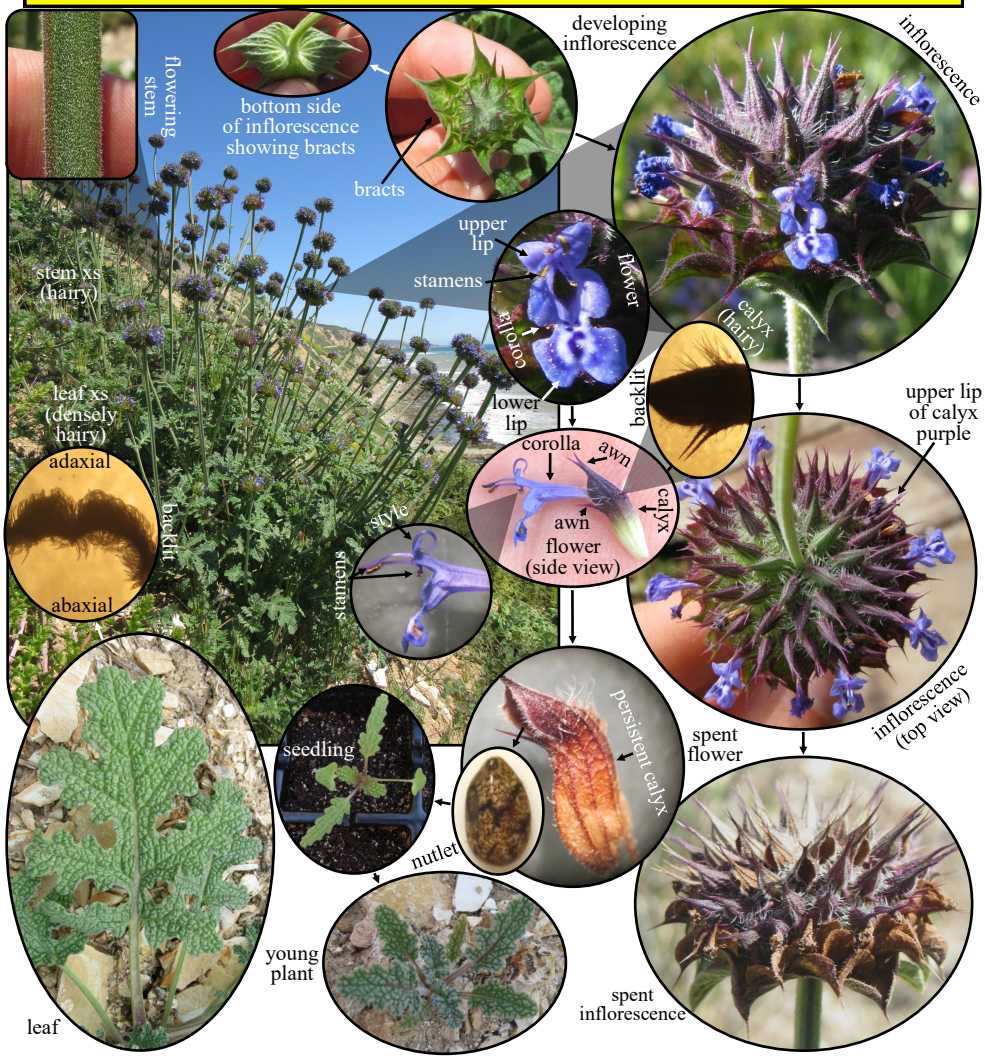
Chia Sage (*Salvia columbariae*)

Order: Lamiales

Family: Lamiaceae (Mint Family)

Flowers: March - June

Salvia columbariae is a herbaceous annual plant. It is found along the coastal bluffs of the peninsula. The overall plant is hairy. The leaf is pinnately dissected and densely hairy. The inflorescence is made up of flowers that are clustered together in head-like structures that are spheric and spaced out along a flowering stem (1 to 2 head-like clusters per flowering stem). The upper lip of the calyx is unlobed with 2 to 3 awns and is hairy. The corolla is light blue to dark blue. The upper lip of the corolla is entire to lobed (2 shallow lobes). The lower lip is generally larger than the upper and usually has white splotches on it. The stamens and style are exserted out pass the corolla. The fruit is a schizocarp with 4 single seeded nutlets found within a dry persistent calyx. Nutlets can be brown, gray, to mottled and are smooth.



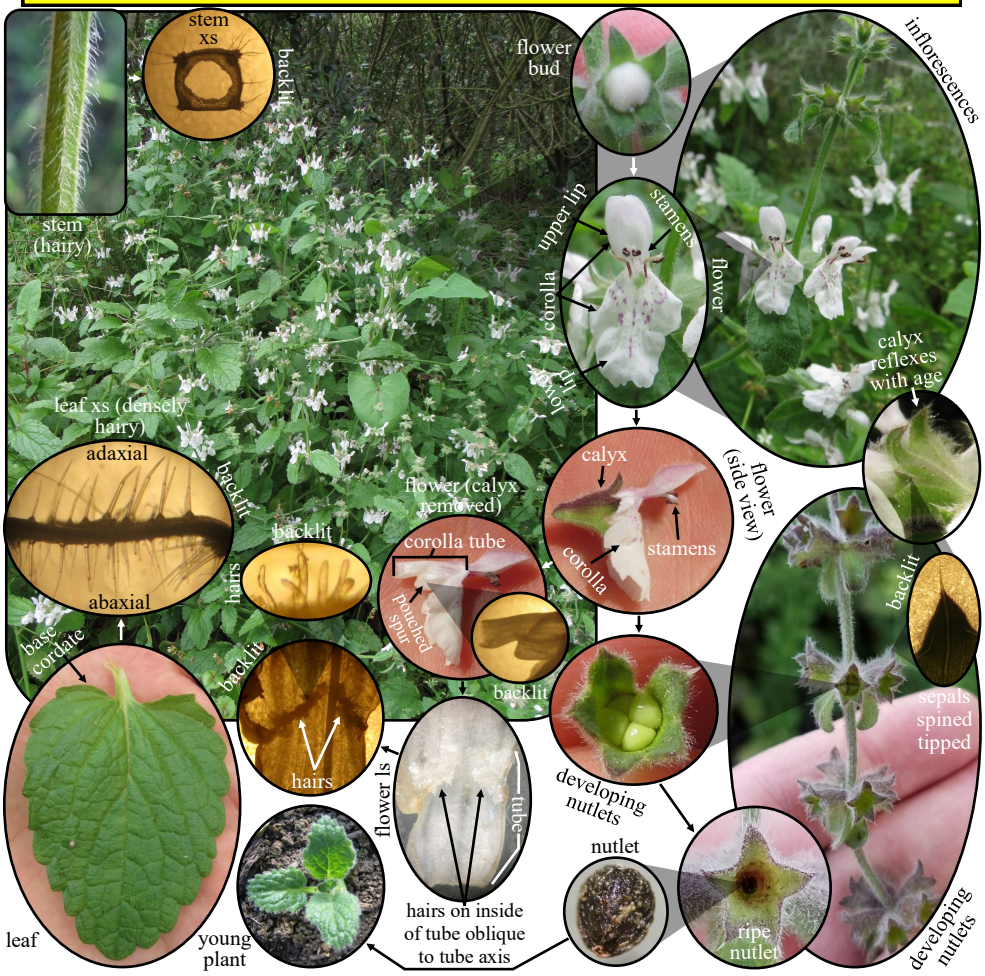
Rough Hedge Nettle (*Stachys rigida* var. *quercetorum*)

Order: Lamiales

Family: Lamiaceae (Mint Family)

Flowers: March - October

Salvia rigida var. *quercetorum* is a perennial rhizomatous herbaceous plant. It is found throughout the peninsula. The blade of the leaf is ovate and can be glabrous to soft-hairy. The base of the blade is generally cordate. The tip of the blade can be acute to obtuse. The inflorescence is made up of flowers that are clustered together (usually 6 to 10 per cluster) and whorled around the flowering stem. The calyx of the flower is bell-shaped, hairy, greenish and the lobes (spined tipped) generally reflex with age. The corolla of the flower is spreading. The corolla can be pink to white with purple blotches on the lower lip. The corolla is generally hairy. The upper lip of the corolla is entire (somewhat notched at tip). The lower lip can be 2 to 3 lobed and re-flexed. The corolla tube is narrow and usually has a short pouched spur on the lower side. Internally, the tube has a ring of hairs that are above the base and are oblique to the tube axis. The fruit is a schizocarp with 4 single seeded nutlets found within a dry persistent calyx. Nutlets can be black to mottled and minutely roughened.



Rough Hedge Nettle (*Stachys rigida* var. *quercetorum*)

Order: Lamiales

Family: Lamiaceae (Mint Family)

Flowers: March - October

spreads via rhizomes



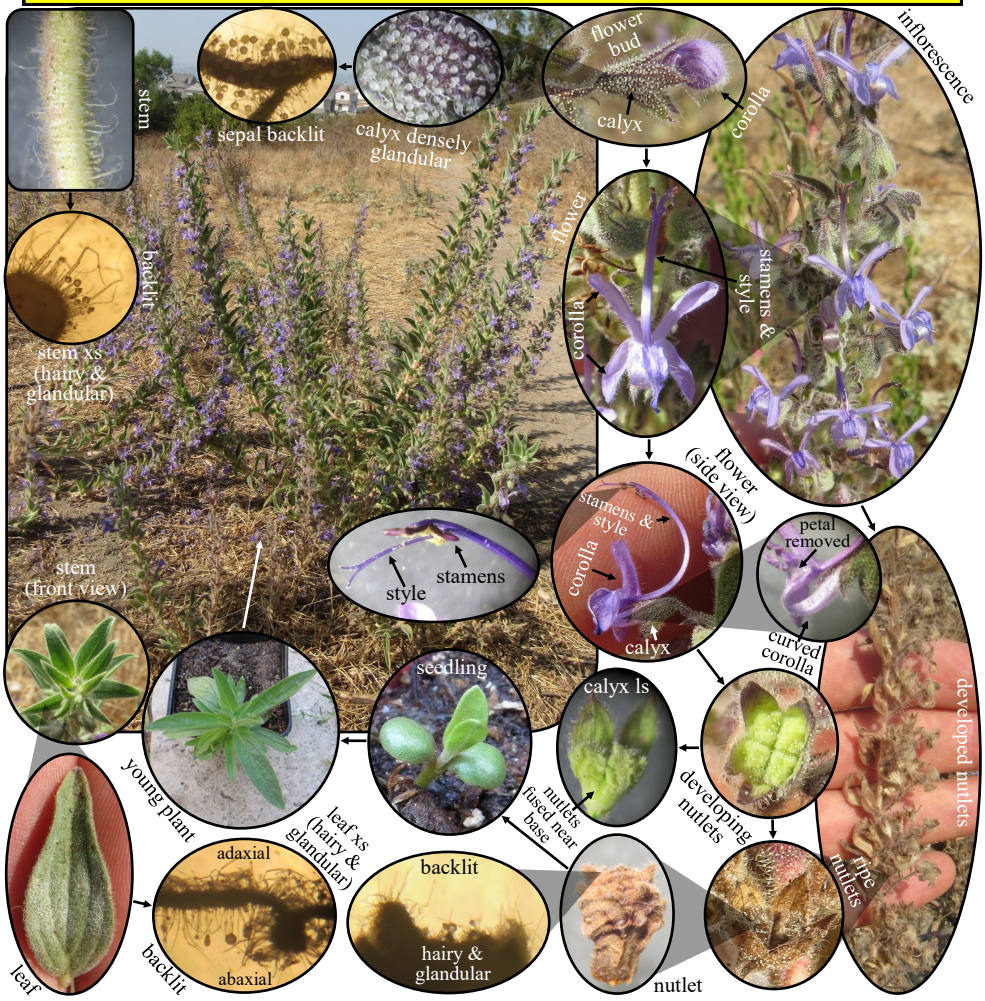
Vinegar Plant (*Trichostema lanceolatum*)

Order: Lamiales

Family: Lamiaceae (Mint Family)

Flowers: June - November

Trichostema lanceolatum is an annual herbaceous plant. It is found in only one spot on the peninsula. This plant is very aromatic and smells strongly of vinegar. The stems of this plant are densely hairy with occasional glandular hairs. The leaf is lanceolate to narrowly ovate, hairy, and glandular. The flowers are axillary along the flowering stem. The calyx of the flower is cupped shaped and densely glandular. The corolla of the flower is lavender and has 5 petals (2 upper and 3 lower). The lower petals are often reflexed. The corolla tube is curved upward and sharply recurved near the throat. The corolla is also generally exserted from the calyx. The 4 stamens are long and exserted out from between the top 2 petals and are arched. The style follows a similar shape as the stamens and is slightly longer than the stamens. The fruit is a schizocarp with 4 single seeded nutlets found within a dry persistent calyx. Nutlets are somewhat brownish, hairy, glandular, and ridged.



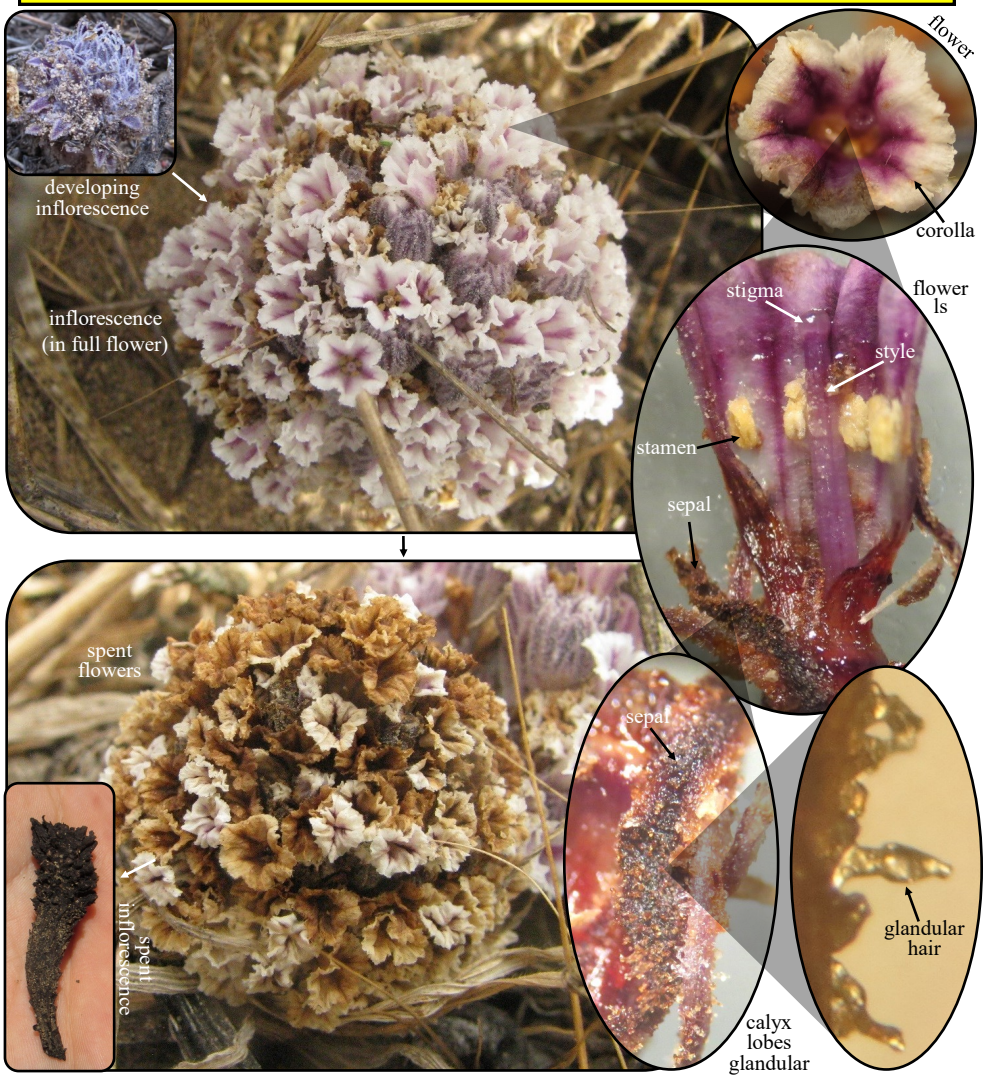
Sand Plant (*Pholisma arenarium*)

Order: Boraginales

Family: Lennoaceae (Lennoa Family)

Flowers: April - July

Pholisma arenarium is a perennial herbaceous plant that is non-green and parasitic. It has only been found in one spot on the peninsula. It appears to be parasitizing *Ericameria ericoides* at Malaga Dunes. The leaves of this plant are triangular, glandular, and mostly underground. The inflorescence is generally conical and densely covered in flowers. The calyx of the flower is glandular. The corolla of the flower has a lavender color to it with the margins white and usually frilly. Fruit is a capsule. Unfortunately, this plant does not appear to be doing well at Malaga Dunes because of constant off trail use, encroachment by non-native plants, and the general loss of habitat throughout Malaga Dunes.



Catalina Mariposa Lily (*Calochortus catalinae*)

Order: Liliales

Family: Liliaceae (Lily Family)

Flowers: March - May

Calochortus catalinae is a perennial herbaceous plant that returns each year from an underground bulb. Mature bulbs will produce bulblets. This plant is found in a few places on the peninsula. The stems are generally erect and branched above. The leaves are glabrous, sessile, long, and flat. Distal leaves are usually reduced. The overall flower is cup-shaped and the calyx of the flower is made up of 3 sepals that are greenish or greenish with purplish stripes. The corolla is made up of 3 petals that are white and sometimes tinged a purplish pink. On the adaxial side of the petal there is a reddish brown spot near the base that is spotted to usually patterned. The nectary, which is located in the middle of the reddish brown spot, is oblong, hairy, and not sunken. There are 3 stigmas and styles are absent. The fruit is a capsule that is oblong and broad and splits 3 ways on the inside. The seed is stramineous and usually flat. The seed coat is net-like. This plant is a rare plant (CNPS ranking 4.2).



Catalina Mariposa Lily (*Calochortus catalinae*)

Order: Liliales

Family: Liliaceae (Lily Family)

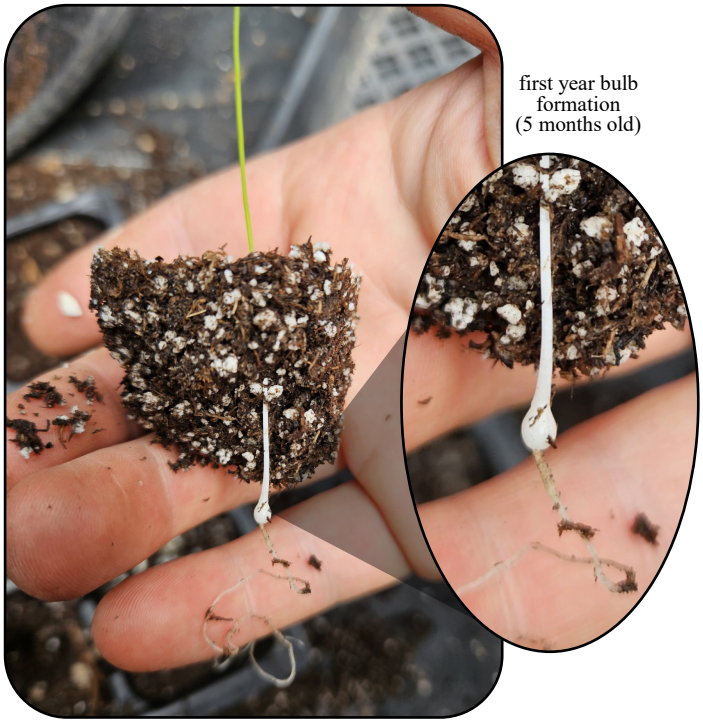
Flowers: March - May



germination



cotyledon
(2 weeks old)



first year bulb
formation
(5 months old)

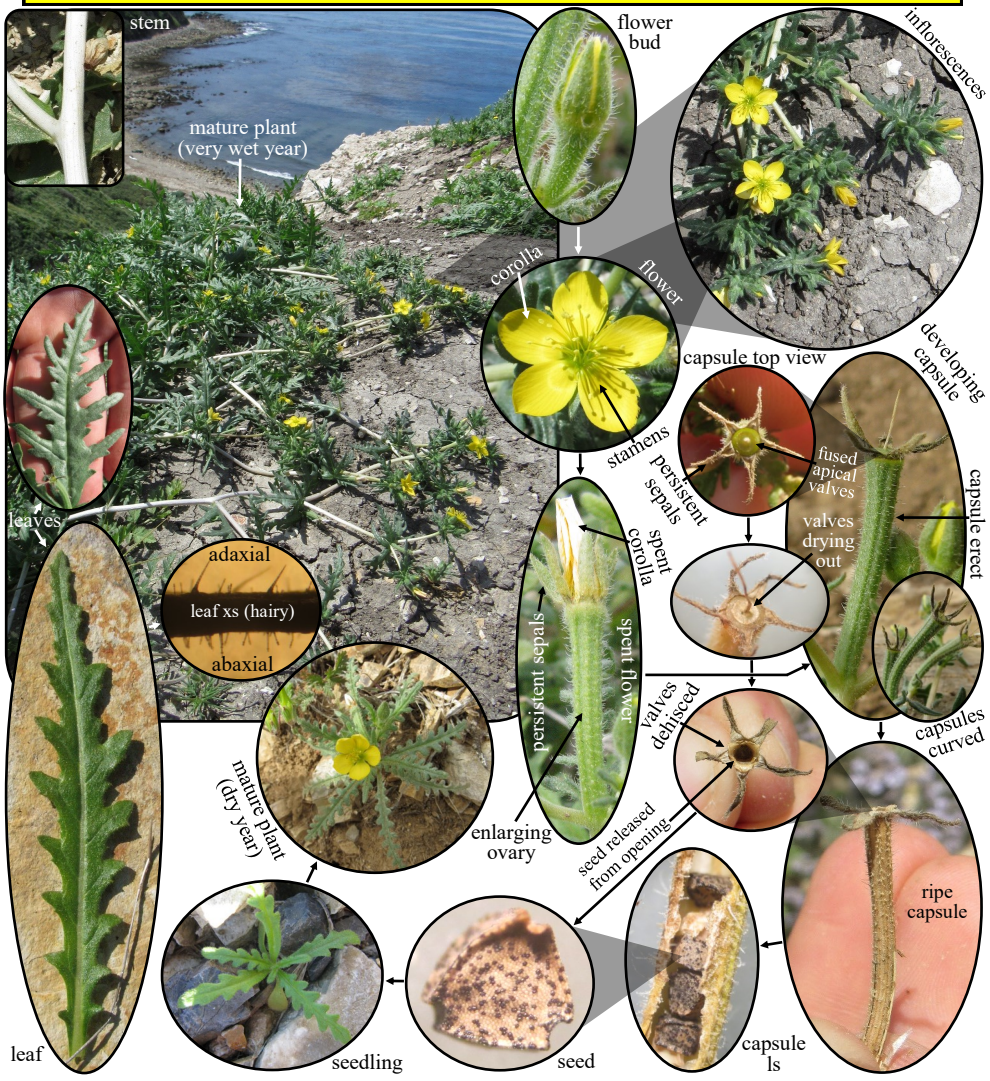
Yellow Blazing Star (*Mentzelia affinis*)

Order: Cornales

Family: Loasaceae (Loasa Family)

Flowers: March - May

Mentzelia affinis is a herbaceous annual plant. This plant is found in a few locations on the peninsula. The overall plant is hairy. The stems are whitish. Basal leaves (linear-lanceolate to linear) generally have a petiole and the margins are lobed with occasional teeth. Cauline leaves (ovate-lanceolate to lanceolate) usually do not have petioles and the margins are lobed to entire. The calyx of the flower is made up of 5 greenish sepals that are persistent. The corolla of the flower is yellow or yellow with orange near the base and has 5 petals. There are numerous stamens. The stigma is 3-lobed. The fruit is a capsule that is cylindric and erect to slightly curved. The seeds are mottled, somewhat triangular, and have grooves along the edges.



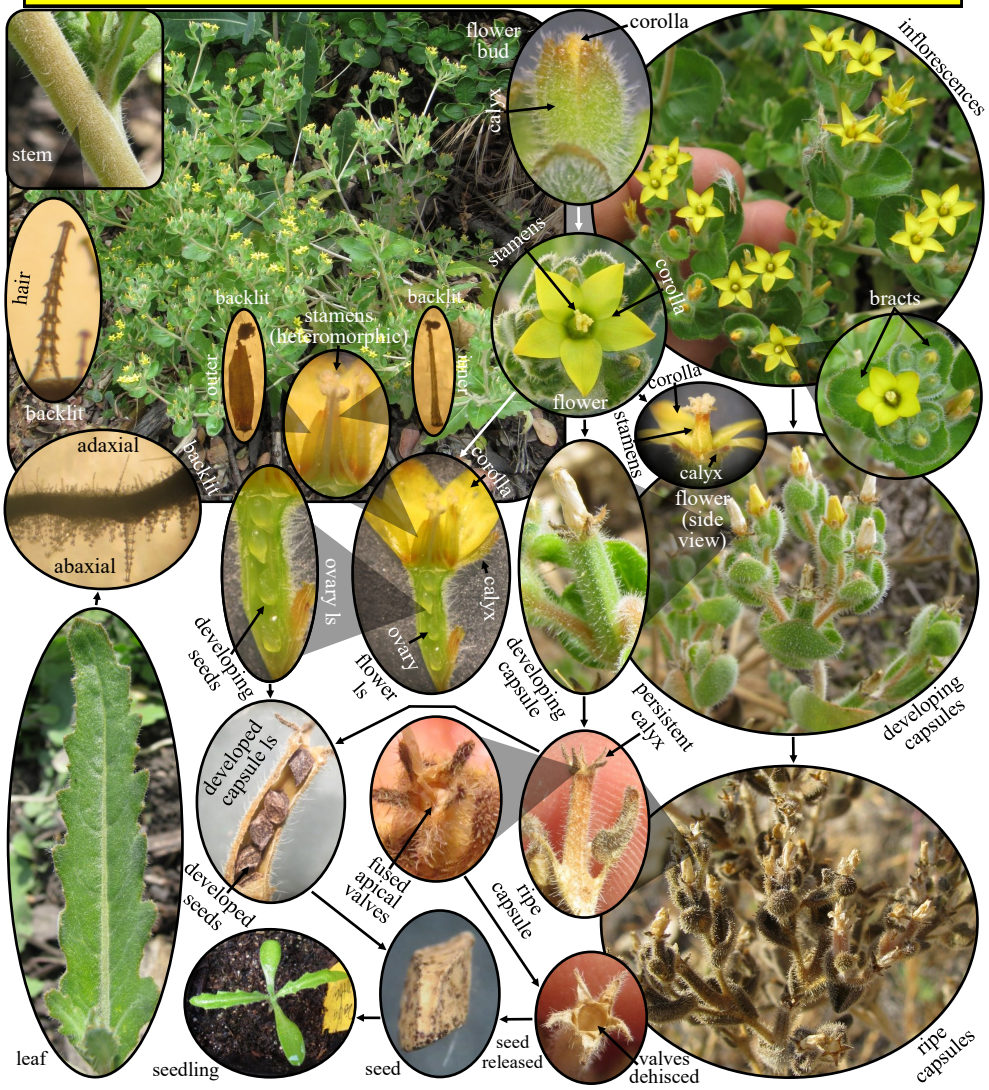
Small Flowered Stickleaf (*Mentzelia micrantha*)

Order: Cornales

Family: Loasaceae (Loasa Family)

Flowers: April - June

Mentzelia micrantha is an erect herbaceous annual plant. It is found throughout the peninsula. The plant is hairy. Basal leaves have a blade that is lanceolate to linear and the cauline leaves have a blade that is orbiculate to lanceolate. The margins of the leaves are irregularly dentated to wavy or lobed. The flowers in the inflorescences are often hidden by large ovate bracts. The flowers have 5 sepals that are greenish, hidden by the corolla, and persistent. The corolla is yellow and star shaped. There are numerous stamens that have filaments that are heteromorphic (outer elliptic and distally 2-lobed, inner threadlike). The stigma is 3-lobed. The fruit is a capsule that is cylindric to slightly curved. The seeds area mottled and somewhat triangular.



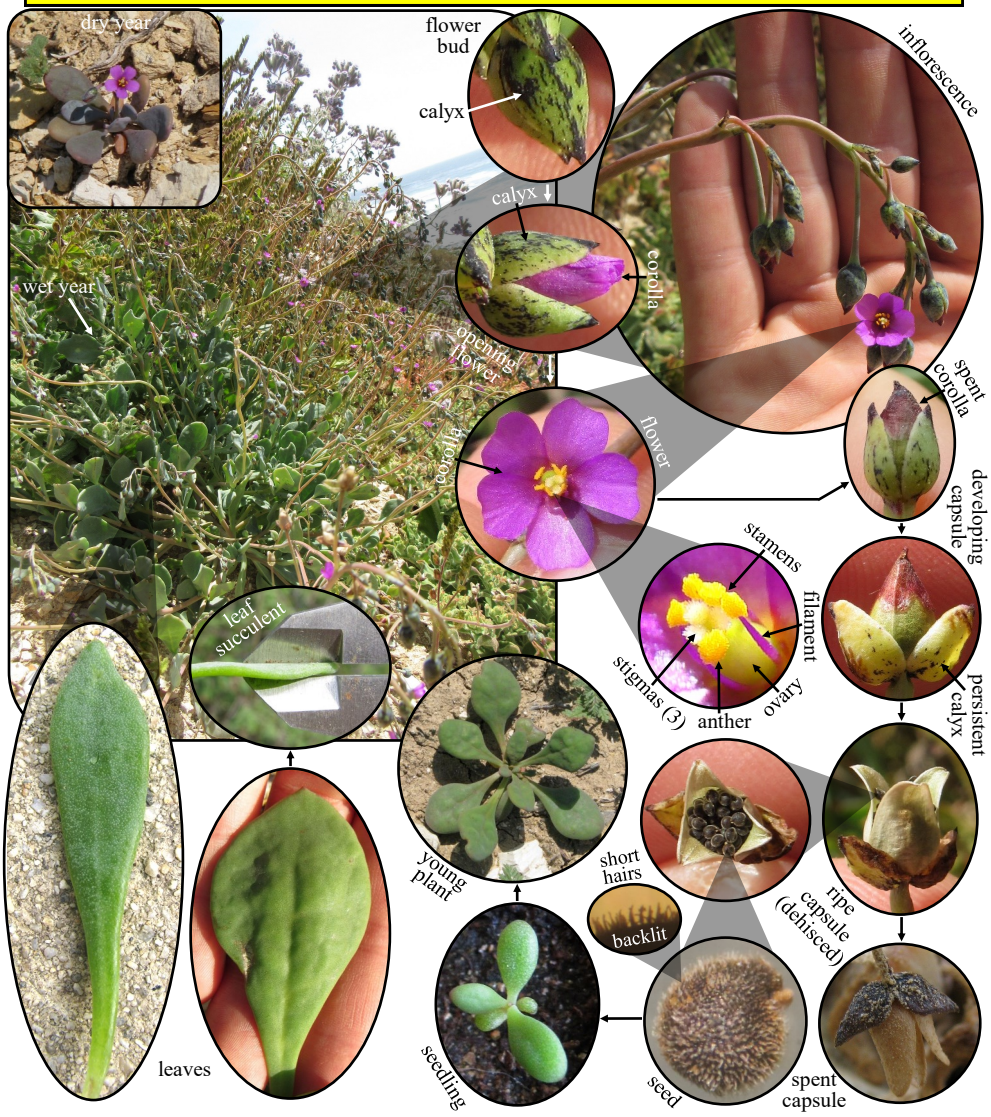
Seaside Calandrinia (*Cistanthe maritima*)

Order: Caryophyllales

Family: Montiaceae (Miner's Lettuce Family)

Flowers: March - April

Cistanthe maritima is an annual herbaceous plant. It is found along the coastal bluffs of the peninsula. The leaves of this plant are glabrous, obovate to widely spoon shaped, and are generally succulent. The flowers have 2 sepals that are greenish and can be covered in dark splotches. The sepals are also persistent in fruit. The corolla of the flower is made up of 5 petals that are pinkish-purple. There is generally 5 stamens with yellow anthers and purple filaments. The pistil has 1 style and 3 stigmas. The fruit is a capsule that is 3-valved and egg-shaped. The seed is blackish, covered in short white hairs, and elliptic. This plant is a rare plant (CNPS ranking 4.2).



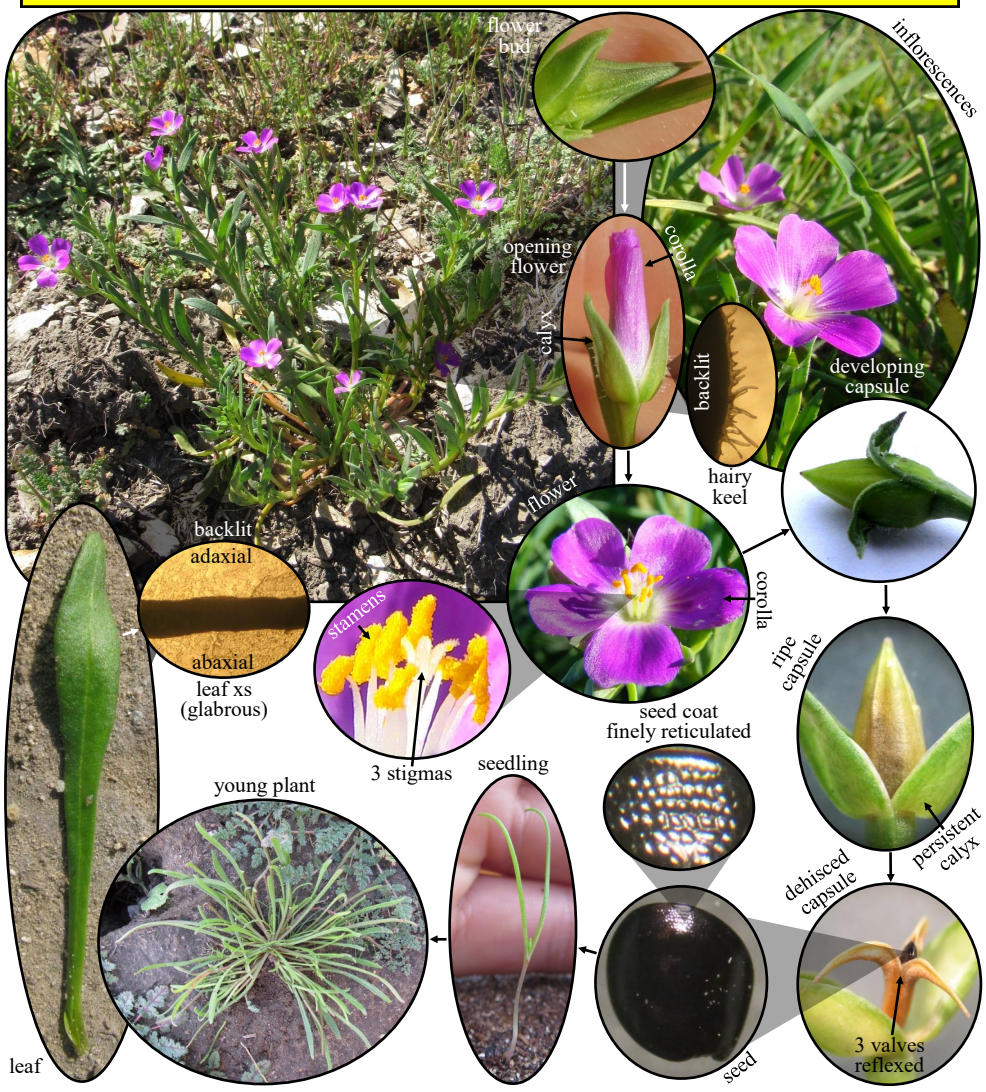
Red Maids (*Calandrinia menziesii*)

Order: Caryophyllales

Family: Montiaceae (Miner's Lettuce Family)

Flowers: February - May

Calandrinia menziesii is an annual herbaceous plant. It is found in only a few spots on the peninsula. The stems are spreading and often prostrate to ascending. The leaves are linear to oblanceolate and generally glabrous but can sometimes be minutely hairy. The flowers have sepals that are green, ovate, keeled (keel with a line of hairs running along it), and persistent in fruit. The corolla of the flower is made up of 5 petals that are pinkish to reddish-purple in color. There are many stamens and 3 stigmas. The fruit is a capsule that is 3 valved. The developed capsule is somewhat egg shaped. As the capsule dehisces, the 3 valves become reflexed and forcefully eject the seed out. The seed is shinny, black, ellipsoid, and finely reticulated.



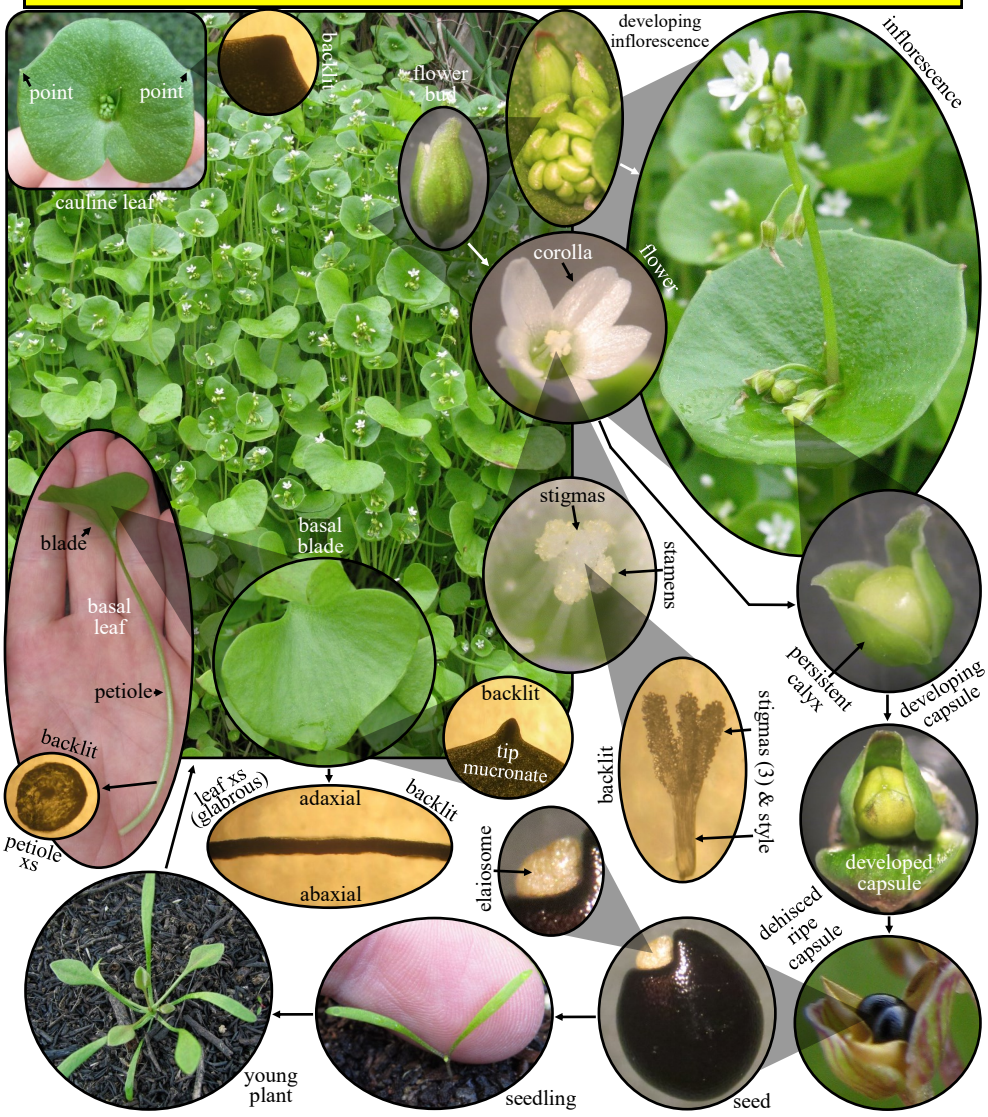
Miner's Lettuce (*Claytonia perfoliata* var. *mexicana*)

Order: Caryophyllales

Family: Montiaceae (Miner's Lettuce Family)

Flowers: February - April

Claytonia perfoliata var. *mexicana* is an annual herbaceous plant. It is found throughout the peninsula. The basal leaves of this plant form a rosette and are suberect to somewhat flattened. The basal leaves have long petioles and the blade can be deltate to reniform. The tips of the basal leaves are mucronate. The cauline leaves are perfoliate and have 2 angles that are short-pointed. The calyx of the flower is green and persistent in fruit. The corolla of the flower is white with 5 petals. There are 5 stamens. There is a 1 style and 3 stigmas. The fruit is a capsule that is 3-valved and ejects the seed forcefully. The seed is lenticular, black, shinny, and has a elaiosome.



Miner's Lettuce (*Claytonia perfoliata* var. *mexicana*)

Order: Caryophyllales

Family: Montiaceae (Miner's Lettuce Family)

Flowers: February - April

A variegated form of *Claytonia perfoliata* var. *mexicana* can also be found in a few canyons on the peninsula.



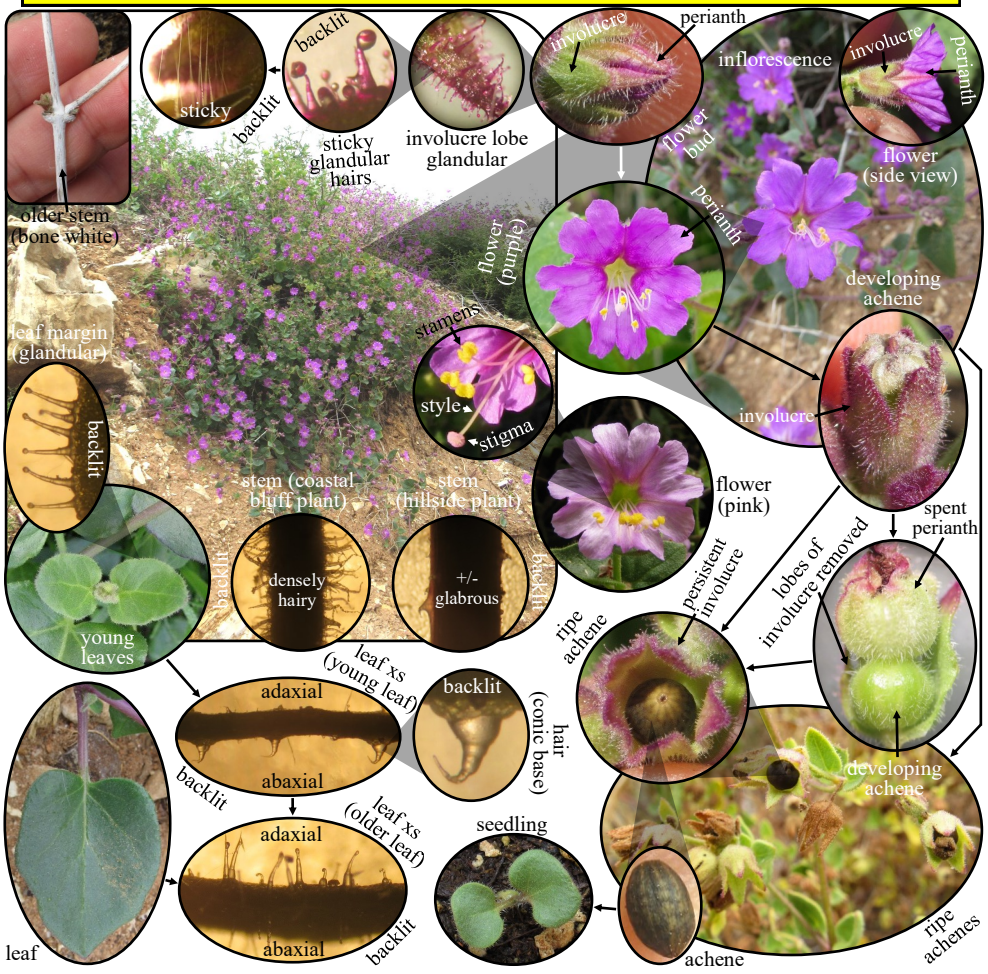
California Four O'Clock (*Mirabilis laevis* var. *crassifolia*)

Order: Caryophyllales

Family: Nyctaginaceae (Four O'Clock Family)

Flowers: December - June

Mirabilis laevis var. *crassifolia* is a perennial herbaceous plant. It is found throughout the peninsula. This plant often forms dense clumps that somewhat sprawl out. The stems can be scabrous to glandular hairy; however, plants along the coastal bluffs have young stems that are covered in stout curved hairs. Older stems are usually glabrous and become bony white (easily seen in dormant plants). The leaves are usually fleshy, ovate, hairy, and often glandular. Young leaves are generally covered in hairs with conic bases. Bracts of the inflorescence form a calyx-like involucre (fused partially) that is bell-shaped and persistent in fruit. The lobes of the calyx-like involucre are ovate, densely glandular (glandular hairs very sticky) and hairy. The perianth of the flower is funnel-shaped, 5 lobed (lobes abaxially glandular), purple to pink and rarely white. There are 3 to 5 stamens that are exserted out past the perianth. The stigma is capitate and exserted out past the stamens. The fruit is an achene. The achene is generally ovoid, dark gray-brown and can sometimes have faint light brown stripes.



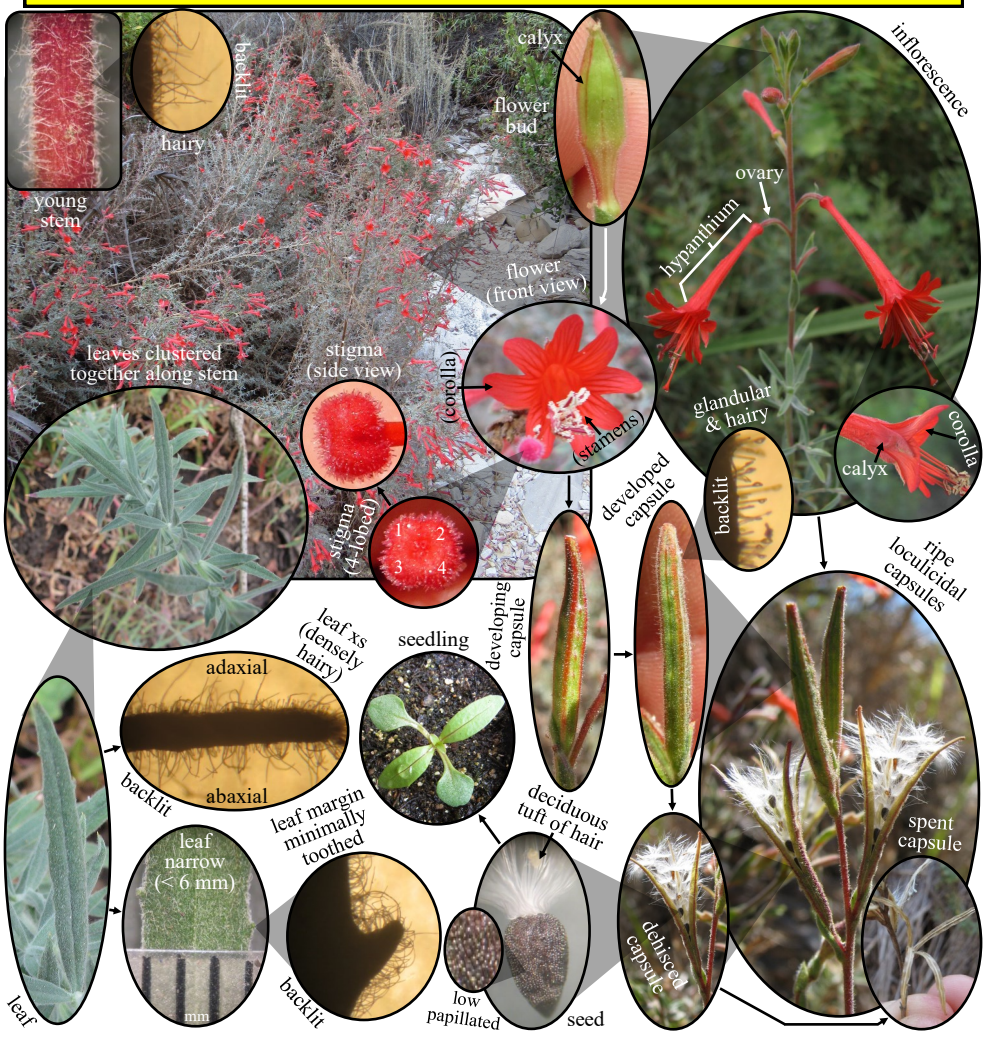
California Fuchsia (*Epilobium canum* subsp. *canum*)

Order: Myrtales

Family: Onagraceae (Evening Primrose Family)

Flowers: June - December

Epilobium canum subsp. *canum* is a perennial herbaceous to subshrub plant. It can spread out via short underground shoots. It is found throughout the peninsula especially within canyons. It is hairy and the overall plant appears bluish-gray. The leaves are linear to lanceolate and are densely hairy to moderately hairy. The margin of the leaf can be entire to slightly toothed. The flower of this plant is tubular and the hypanthium of the flower is very long. The calyx has 4 sepals and in early stages of flower development the calyx is greenish and then turns red. The corolla is red to orangish red (rare pink) and the petals (4) are notched. The stigma is red, minutely 4 lobed, and exserted out past the stamens. The fruit is a loculicidal capsule that is straight, hairy, and glandular. The seed is dark gray, low-papillated, and has a white tuft of hair that is deciduous. It is an endemic to California.



California Fuchsia (*Epilobium canum* subsp. *canum*)

Order: Myrtales

Family: Onagraceae (Evening Primrose Family)

Flowers: June - December



rare pink colored California Fuchsia



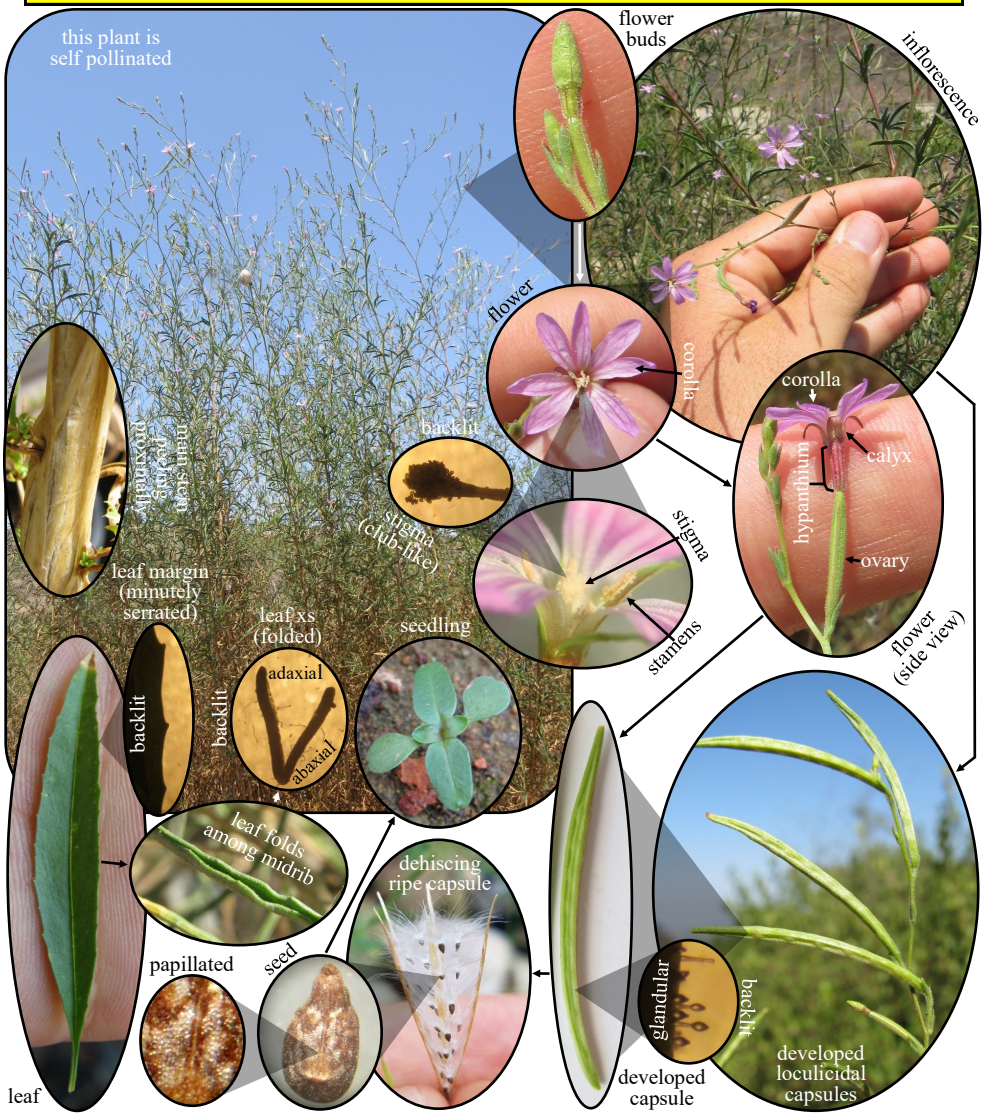
Tall Annual Willowherb (*Epilobium brachycarpum*)

Order: Myrtales

Family: Onagraceae (Evening Primrose Family)

Flowers: June - September

Epilobium brachycarpum is a tall annual herbaceous plant. It has only been found in one spot on the peninsula. The leaves are linear to narrowly elliptic, glabrous, and can be folded along the midrib. Leaf margins are entire to minutely serrated. The leaves are deciduous and fall off by flowering time. The hypanthium of the flower is short. The calyx has 4 sepals. The corolla is pink to pinkish-purple with petals notched. The stigma is usually club-like, but can be minutely 4-lobed. The fruit is a loculicidal capsule that is straight to slightly curved, glabrous or glandular. The seed is brownish mottled, papillated, and has a white tuft of hair that is deciduous.



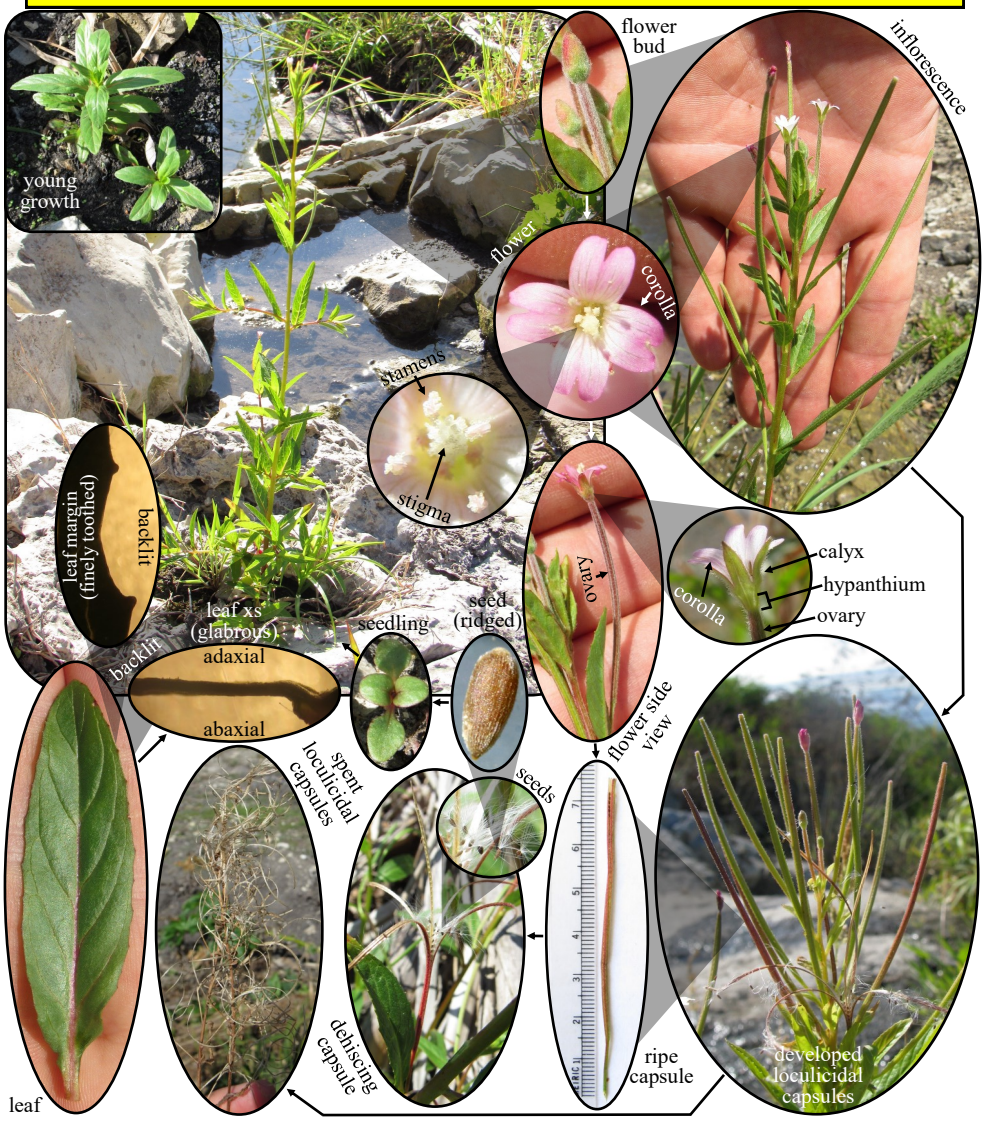
Northern Willowherb (*Epilobium ciliatum* subsp. *ciliatum*)

Order: Myrtales

Family: Onagraceae (Evening Primrose Family)

Flowers: June - October

Epilobium ciliatum subsp. *ciliatum* is a perennial herbaceous plant. It is found throughout the peninsula often near water sources. The leaves are lanceolate and are reduced near the inflorescence. The leaf margin is finely toothed. The hypanthium is very short. The calyx has 4 sepals and is generally green. The corolla has 4 petals and is white to pink with petals notched. The stigma is head-like and is generally surrounded by the stamens. The fruit is a very long loculicidal capsule that is straight to somewhat curved and finely hairy. The seed is brownish, ridged, and has a white tuft of hair that is deciduous.



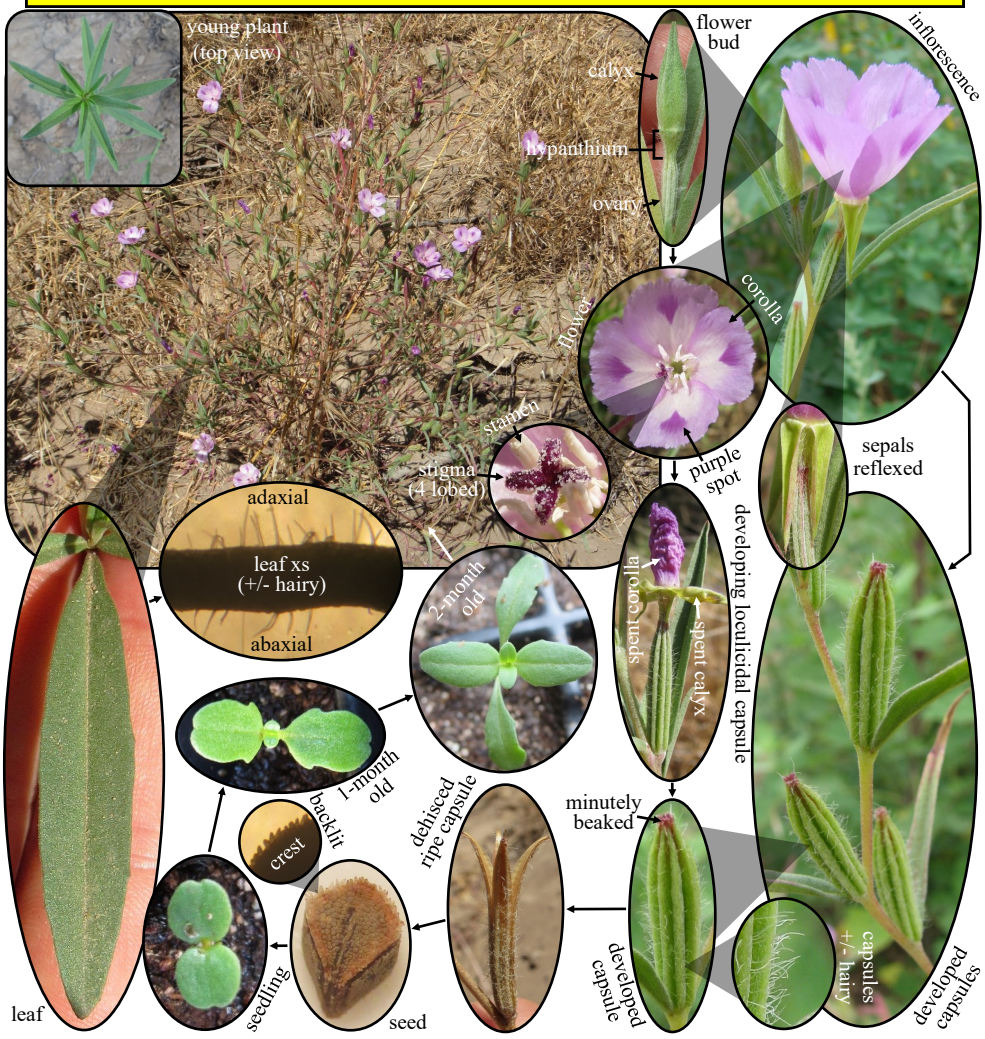
Four-spot (*Clarkia purpurea* subsp. *quadrivulnera*)

Order: Myrtales

Family: Onagraceae (Evening Primrose Family)

Flowers: April - August

Clarkia purpurea subsp. *quadrivulnera* is an annual herbaceous plant. It is found in only one location on the peninsula. It is generally erect and it can be densely hairy to glabrous. The leaves are linear to lanceolate with a leaf tip that is generally pointed The leaf can be somewhat hairy. The flower has a hypanthium that is generally not veined and short. The 4 sepals of the flower remain fused at the tip as a bud, but as the flower opens the sepals become reflexed. As the sepals reflex, they can all be free or be fused in 2s. The corolla can be lavender to purple or occasionally wine-red. The petals of the corolla often have a purple spot near the middle. The stigma has 4 lobes and is not exserted beyond the anthers. The fruit is a loculicidal capsule that is ribbed, minutely beaked, and somewhat hairy. The seed is angled, often with a crest (ridge of hair-like projections), and can be brown or gray or mottled.



Four-spot (*Clarkia purpurea* subsp. *quadrivulnera*)

Order: Myrtales

Family: Onagraceae (Evening Primrose Family)

Flowers: April - August

can come up abundantly on good rain years



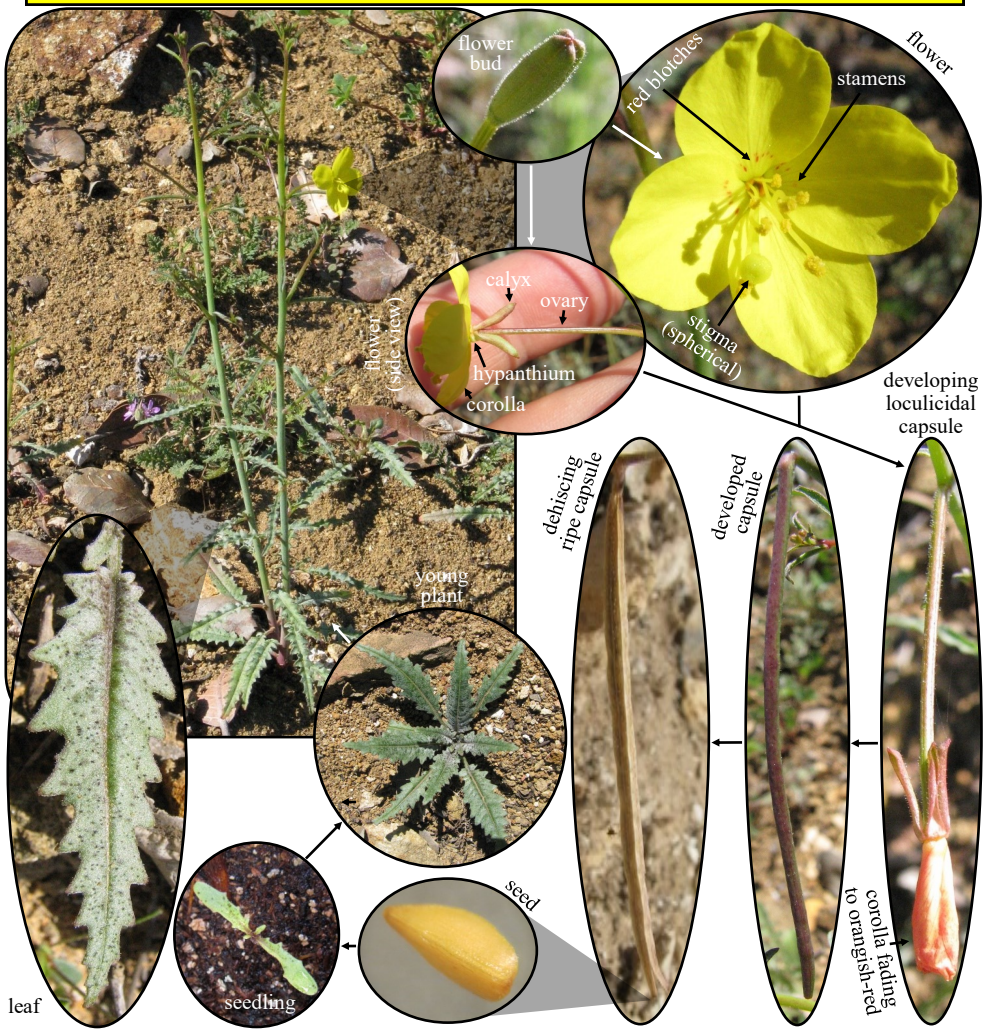
California Primrose (*Eulobus californicus*)

Order: Myrtales

Family: Onagraceae (Evening Primrose Family)

Flowers: April - June

Eulobus californicus is an annual herbaceous plant. It is found in only one spot on the peninsula. This plant is self pollinated. The leaves are narrowly elliptic, irregularly pinnately lobed and minutely hairy. When the plant is young, the leaves form a rosette, but as the plant matures the distal leaves are much reduced. The hypanthium of the flower is very short. The calyx is made up of 4 sepals that become reflexed (reflexed singly or in fused pairs). The corolla is yellow and has 4 petals that can have small red blotches near the base. As the corolla fades, it becomes an orangish-red color. The stigma is somewhat spherical and the ovary is long. The fruit is a long loculicidal capsule that is somewhat straight and reflexed. It is usually cylindric when young, but becomes 4-angled when fully ripe and dried. The seed is obovoid, finely papillated, and is generally tannish.



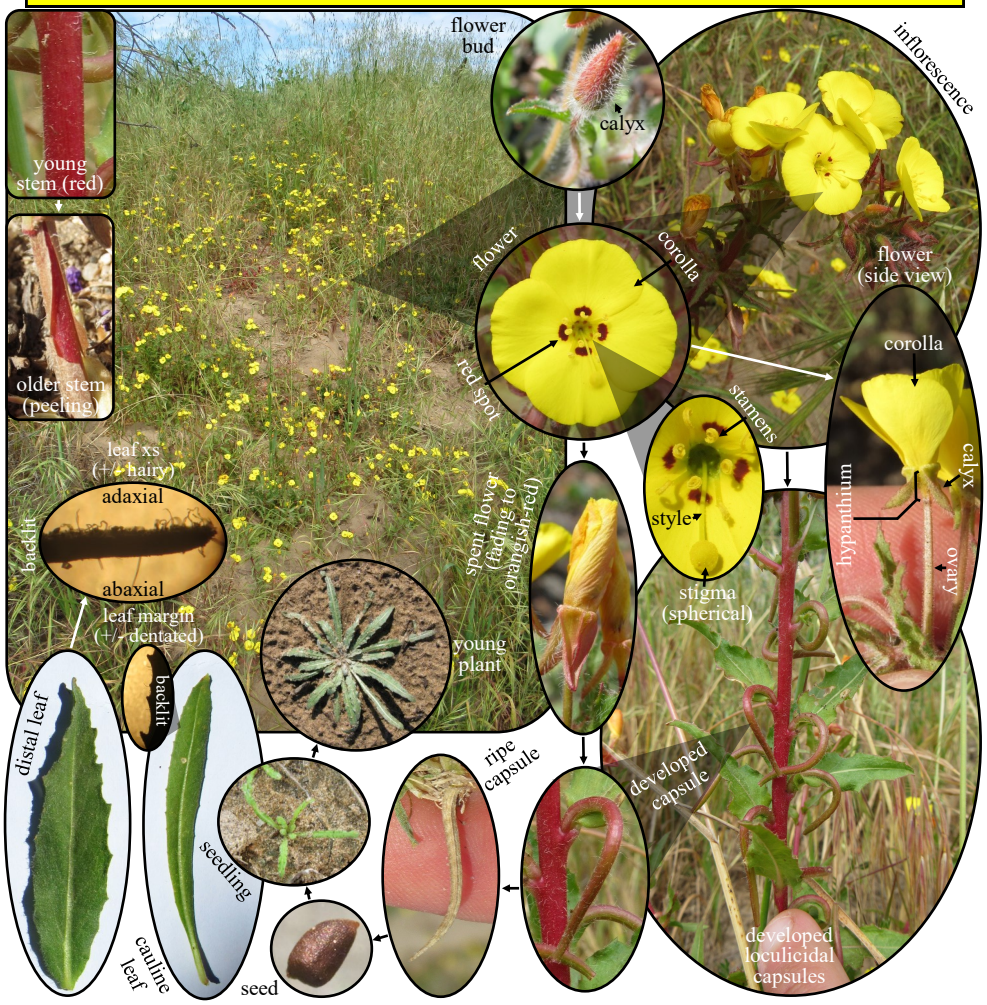
California Sun Cup (*Camissoniopsis bistorta*)

Order: Myrtales

Family: Onagraceae (Evening Primrose Family)

Flowers: March - June

Camissoniopsis bistorta is an annual or occasionally short-lived perennial herbaceous plant. When young it forms basal rosettes. It is found in one location on the peninsula. The plant is hairy throughout with hairs spreading. The cauline leaves usually have petioles, are lanceolate to linear, and have leaf margins that are dentated or entire. The distal leaves are generally sessile, boardy lanceolate, and dentated. The stems are often reddish, decumbent to ascending, and tend to peel with age. The hypanthium of the flower is short. The calyx is made up of 4 sepals that become reflexed (reflexed singly or in fused pairs). The corolla is yellow and has 4 petals that usually have red spots near the base. As the corolla fades, it becomes an orangish-red color. The stigma is spherical and exserted out past the stamens. The fruit is a loculicidal capsule that is cylindric (when young) generally straight or 1-coiled, and is somewhat 4-angled when dry. The seed is narrowly obovoid, flattened, and blackish.



California Sun Cup (*Camissoniopsis bistorta*)

Order: Myrtales

Family: Onagraceae (Evening Primrose Family)

Flowers: March - June

Camissoniopsis bistorta can remain more compact and low to the ground (usually on drier years) or become more open, upright and taller (usually on wetter years).



good rain year



drier year

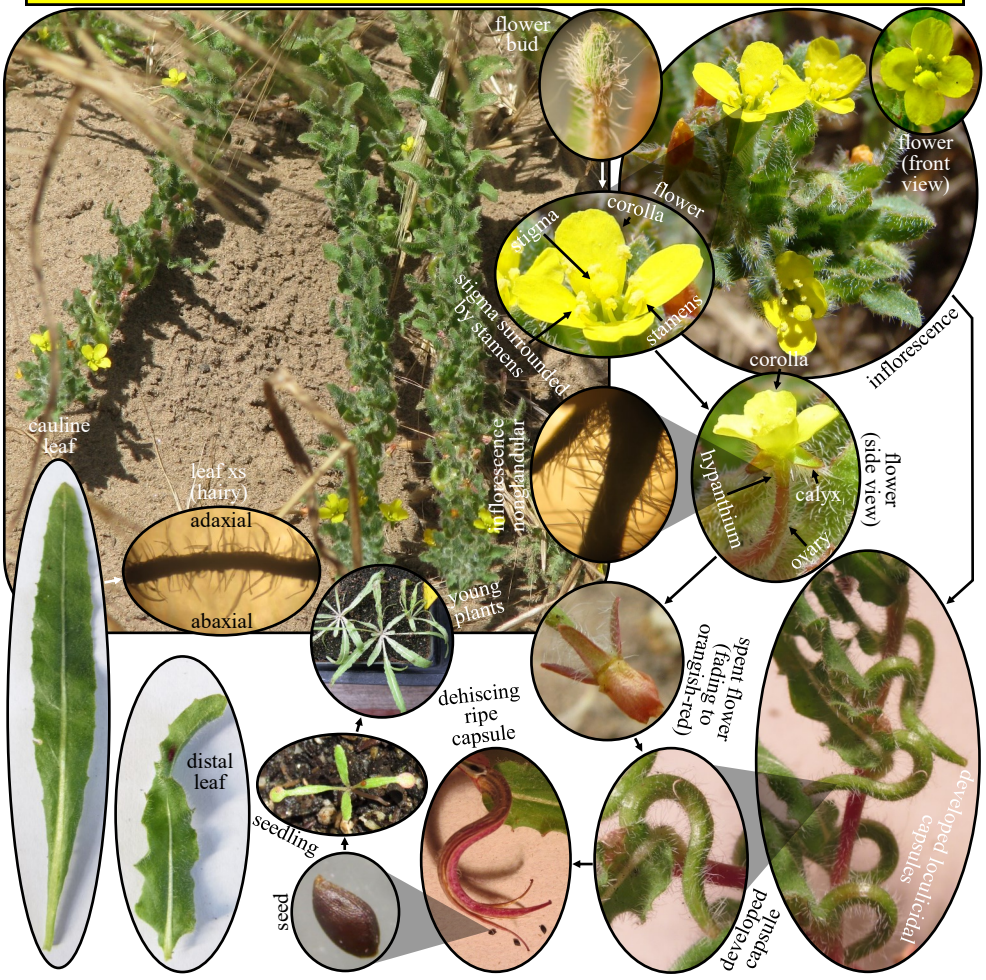
Little Sun Cup (*Camissoniopsis micrantha*)

Order: Myrtales

Family: Onagraceae (Evening Primrose Family)

Flowers: March - May

Camissoniopsis micrantha is an annual herbaceous plant. It can forms basal rosettes when young. It is self pollinated. It is found in a few locations on the peninsula. The entire plant is densely hairy (hairs usually spreading). The cauline leaves usually have a petiole, are narrowly lanceolate, have wavy edges, and are somewhat dentated. The distal leaves are generally sessile, reduced in size, lanceolate, have wavy edges, and are somewhat dentated. The inflorescence of this plant is generally nonglandular. The hypanthium of the flower is very short. The calyx is made up of 4 sepals that become reflexed (reflexed singly or in fused pairs). The corolla is yellow and has 4 petals that can sometimes have 1 to 2 red spots at the base. As the corolla fades, it becomes an orangish-red color. The stigma is spherical and is surrounded by the stamens. The fruit is a loculicidal capsule that is cylindric (when young), generally straight to 1-coiled, and is +/- 4-angled when ripe and dry. The seed is narrowly obovoid, somewhat flattened, and brownish.



Intermediate Sun Cup (*Camissoniopsis intermedia*)

Order: Myrtales

Family: Onagraceae (Evening Primrose Family)

Flowers: March - May

Camissoniopsis intermedia is an annual herbaceous plant. It forms basal rosettes when young. It is self pollinated. It is found in a few locations on the peninsula. The entire plant is densely hairy (hairs spreading). The cauline leaves usually have a petiole, are lanceolate or narrowly ovate, have wavy edges, and minutely dentated. The distal leaves are generally sessile, reduced in size, lanceolate, have wavy edges, and are minutely dentated. Tips of the leaves can also be blackish. The inflorescence and flowers of this plant are densely glandular. The hypanthium of the flower is short. The calyx is made up of 4 sepals that become reflexed (singly or in fused pairs). The corolla is yellow and has 4 petals that can sometimes have 1 to 2 red spots at the base. The corolla fades to an orangish-red color. The stigma is spherical and is usually surrounded by the stamens. The fruit is a loculicidal capsule that is cylindric when young, densely glandular, straight to 1-coiled, and is 4-angled when ripe and dry. The seed is narrowly obovoid, somewhat flattened and brownish-black.



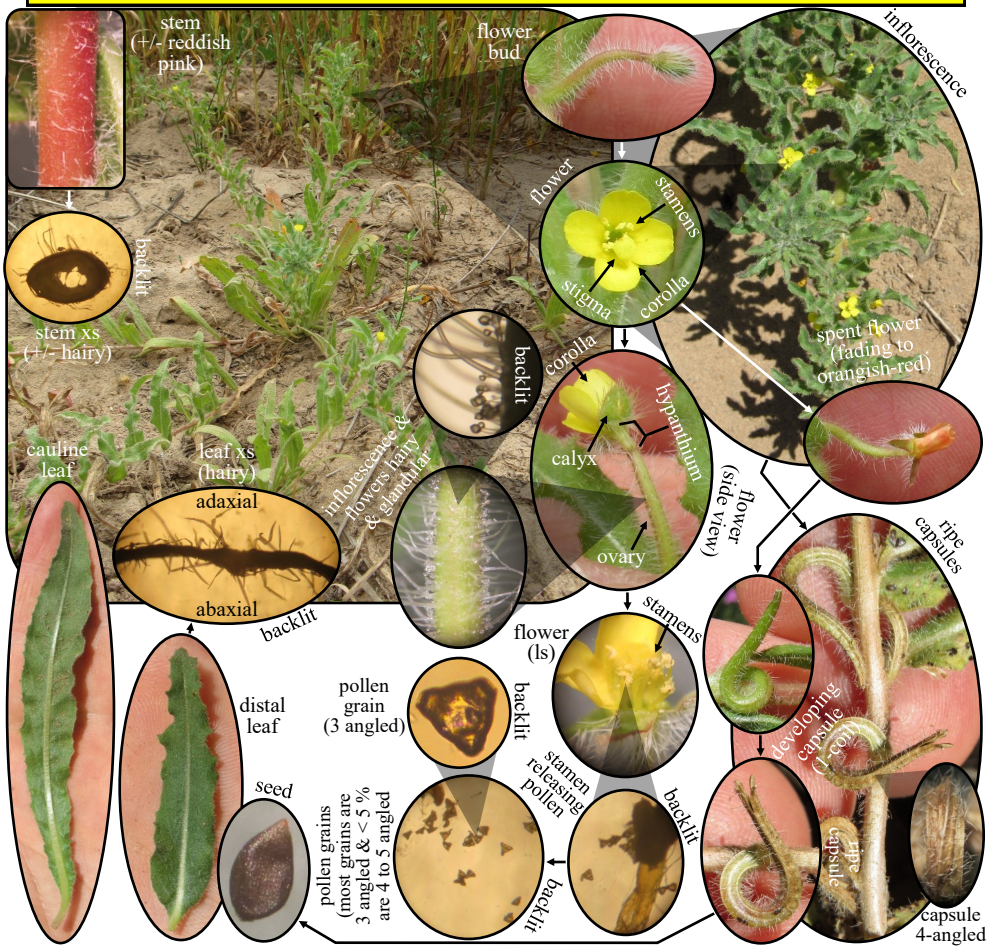
Lewis' Evening Primrose (*Camissoniopsis lewisii*)

Order: Myrtales

Family: Onagraceae (Evening Primrose Family)

Flowers: March - June

Camissoniopsis lewisii is an annual herbaceous plant. It is self pollinated. It is found in one location on the peninsula. The overall plant is hairy with the hairs spreading. The stems are decumbent to somewhat erect and reddish-pink. Leaves are hairy. The cauline leaves usually have a petiole, are narrowly lanceolate-elliptic, and are minutely dentated. The distal leaves are generally sessile, smaller, lanceolate, and minutely dentated. The inflorescence of this plant and the flowers are hairy and glandular. The hypanthium of the flower is short. The calyx is made up of 4 sepals that become reflexed (singly or in fused pairs). The corolla is yellow and has 4 petals that can sometimes have 1 to 2 red spots at the base. As the corolla fades, it becomes an orangish-red color. The stigma is spherical and is generally surrounded by the stamens. Less than 5% of the pollen grains are 4 to 5 angled. The fruit is a loculicidal capsule that is cylindric when young, hairy, glandular, straight to 1-coiled, and is conspicuously 4-angled when ripe dry. The seed is narrowly obovoid, somewhat flattened, and brownish-black. This plant is a rare plant (CNPS ranking 3).



Michael's Rein Orchid (*Piperia michaelii*)

Order: Asparagales

Family: Orchidaceae (Orchid Family)

Flowers: April - August

Piperia michaelii is a perennial herbaceous plant. It is found in only one location on the peninsula. The large leaves of this plant are basal, sessile, usually erect and spreading, and lanceolate to oblanceolate. Leaves are also ephemeral. The stems are often stout and somewhat cylindrical. Numerous bracts are present on the stems. The inflorescence is densely flowered and each flower is subtended by a bract. The flowers are green to yellow-green, strongly aromatic, and the scent is produced at night. The calyx is comprised of a dorsal sepal and two lateral sepals that are spreading to recurved. The lateral petals of the corolla are erect to spreading. The lip, which is part of the corolla, is straight to slightly bent and deltate to ovate. The spur of the flower is long and generally deflexed or can sometimes be horizontal. Pollen is contained within pollinia. The fruit is a capsule that is erect. The seeds are brownish and very small. This plant is an endemic to California and is also a rare plant (CNPS ranking 4B.2).



California Orobanche (*Aphyllon californicum*)

Order: Lamiales

Family: Orobanchaceae (Broomrape Family)

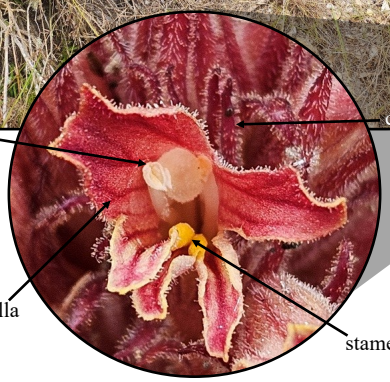
Flowers: June - July

Aphyllon californicum is a perennial holoparasitic plant. This plant is extremely uncommon on the peninsula and has only been found in one location. The entire plant lacks any chlorophyll and grows off the roots of other plants (usually members of Asteraceae). There can be one stem or a cluster of stems that emerge from the soil and are reddish to creamy in color. The leaves have been reduced to small fleshy scales that alternate up the stem. The inflorescence is generally spike-like. The flowers in the inflorescence are crowed together. The flower has a calyx that is generally pink with 5 lobes (the lobes are longer than the tube of the calyx). The corolla can range in color from purple, pink to whitish. There is usually dark veins present in the corolla and the corolla can be glandular to somewhat glandular. The corolla has an upper lip with 2 lobes and a lower lip with 3 lobes . The upper lip can be erect to reflexed and is wide. The lower lip, with its lobes, is usually spreading. The stigma has 2 lobes. The fruit is a capsule.









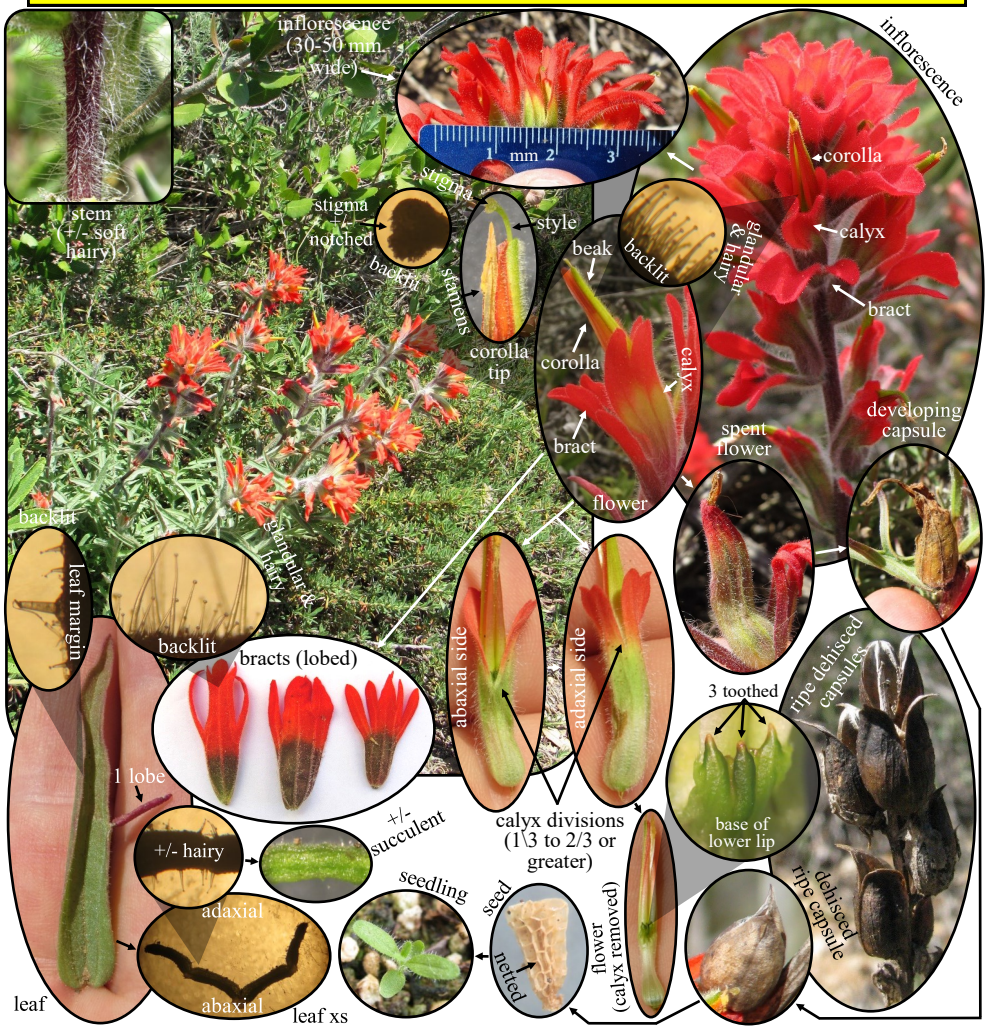
Indian Paintbrush (*Castilleja affinis* subsp. *affinis*)

Order: Lamiales

Family: Orobanchaceae (Broomrape Family)

Flowers: March - June

Castilleja affinis subsp. *affinis* is a perennial herbaceous plant that is a root parasite. It is found in two locations on the peninsula. The plant is usually hairy and mostly nonglandular except for on the flowers. The leaves are somewhat succulent, linear with 0 to 5 lobes (tips of lobes usually rounded). The flowers are clustered together in a spike-like inflorescence that is wide (30-50 mm) and covered in bracts that have vibrant tips that are scarlet red to orangish-red. The calyx of the flower is unequally 4 -lobed and colored like the bract tips. The corolla has the upper 2 lips fused which gives it a beak-like appearance and it has a yellowish-green color. The lower lip of the corolla is reduced (reddish in color) and towards its base it is 3 toothed to generally pouched. There are 4 stamens and the stigma is slightly notched. The fruit is a loculicidal capsule that is ovoid. The seed is tannish and the seed coat is deeply netted.



Indian Paintbrush (*Castilleja affinis* subsp. *affinis*)

Order: Lamiales

Family: Orobanchaceae (Broomrape Family)

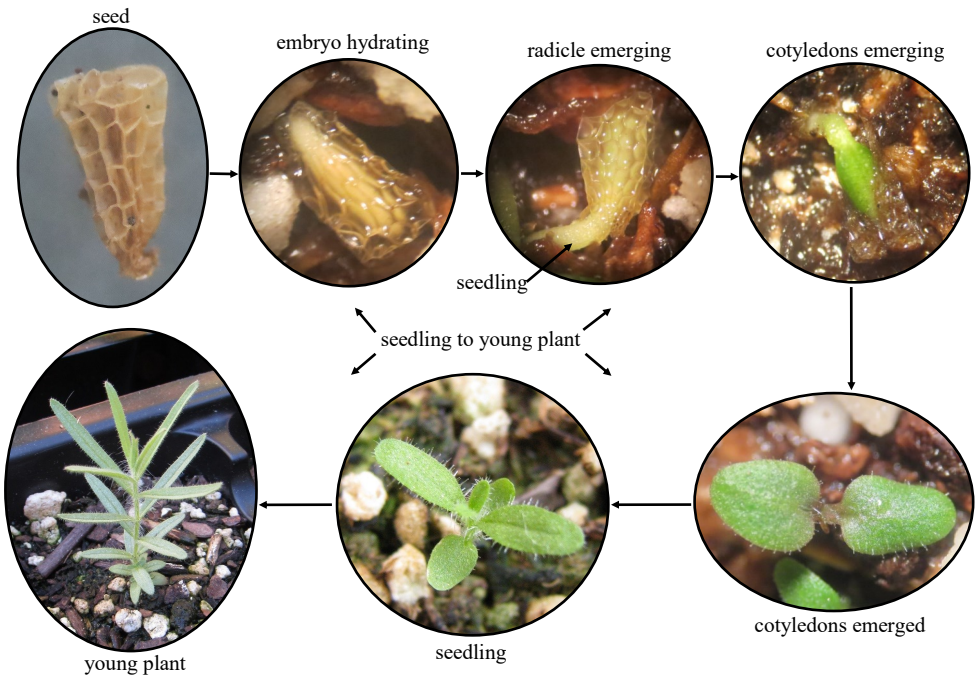
Flowers: March - June

orangish-red flowers
(rarer to find)



plants can usually be found
parasitizing *Salvia mellifera* & *Stipa lepida*





Purple Owl's Clover (*Castilleja exserta* subsp. *exserta*)

Order: Lamiales

Family: Orobanchaceae (Broomrape Family)

Flowers: March - May

Castilleja exserta subsp. *exserta* is an annual herbaceous plant. It is found in a few locations on the peninsula. The overall plant is hairy. The leaves are generally hairy adaxially and hairy abaxially, and somewhat thread-like with 5 to 9 lobes. The flowers are clustered together in a spike-like inflorescence, with distal bracts usually not that wide (< 5 mm). The tips of the bracts are can be white, light yellow, pink or light purple. The calyx of the flower is divided on all sides and is a greenish color. The corolla of the flower is made up of a upper beak and a lower lip. The upper beak is light purple, densely hairy, and the tip is hooked. The lower lip is inflated with pouches that can have white, yellow, and light purple colors to it as well as dark purple blotches. The stigma is usually included in the beak and is spherical. The fruit is a loculicidal capsule that is ovoid. The seed is tan and the seed coat is deeply netted.



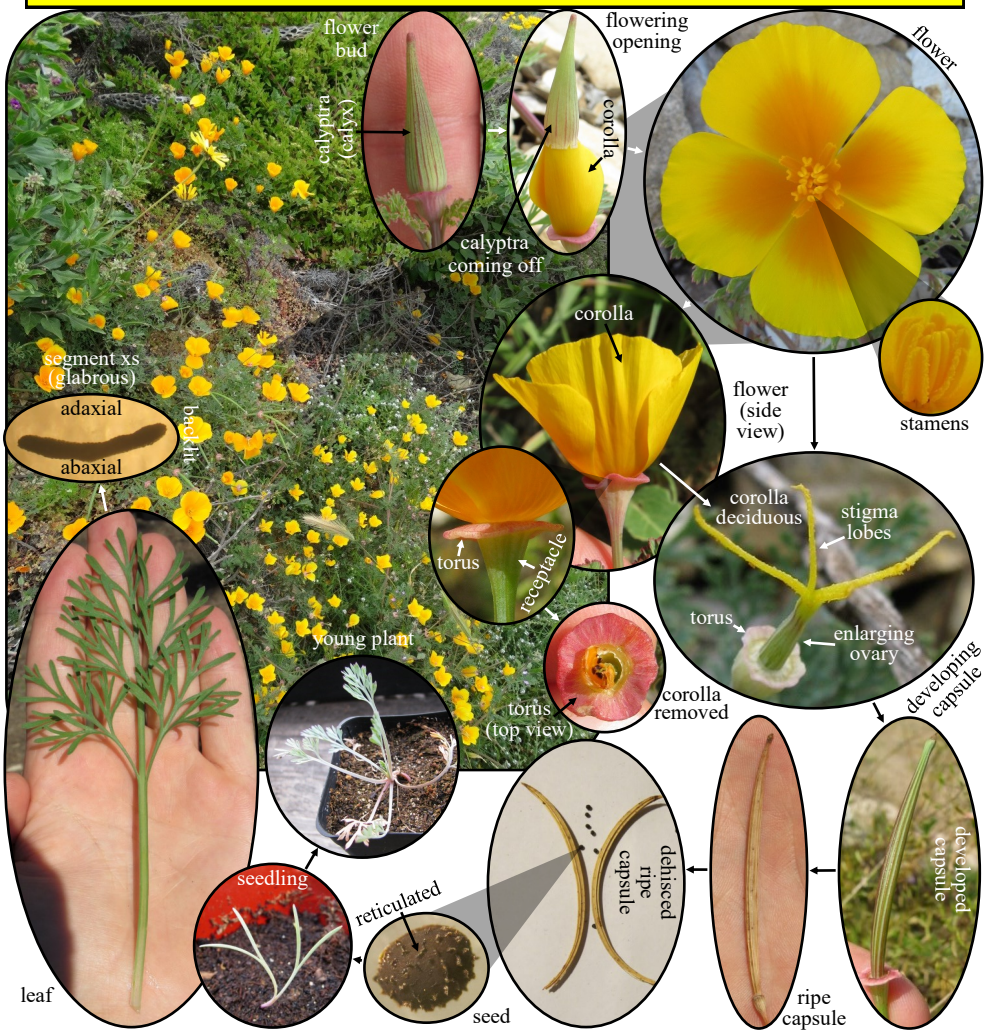
California Poppy (*Eschscholzia californica*)

Order: Ranunculales

Family: Papaveraceae (Poppy Family)

Flowers: February - September

Eschscholzia californica is a perennial herbaceous plant. It forms a slender deep tap-root (orangish in color). It is found throughout the peninsula. The overall plant is usually glabrous. The leaves are pinnately-dissected with segments obtuse to acute. The leaves are also a bluish-green color. The receptacle is obconic with a torus (flat ring or rim) that is wider than the receptacle edge. The calyx of the flower is made up of 2 sepals that are fused and shed as one conical structure (calyptra) when the flower fully opens. The corolla is made up of 4 petals that can be all orange, all yellow, or orange and yellow. The orange (base of petal) and yellow (rest of petal to tip) color combo appears to be the most common color for the peninsulas wild populations. The fruit is a capsule that is long, thin, oblong, and forcefully dehisces to disperse the seeds. The seed is generally spheric, black to brownish, and reticulated.

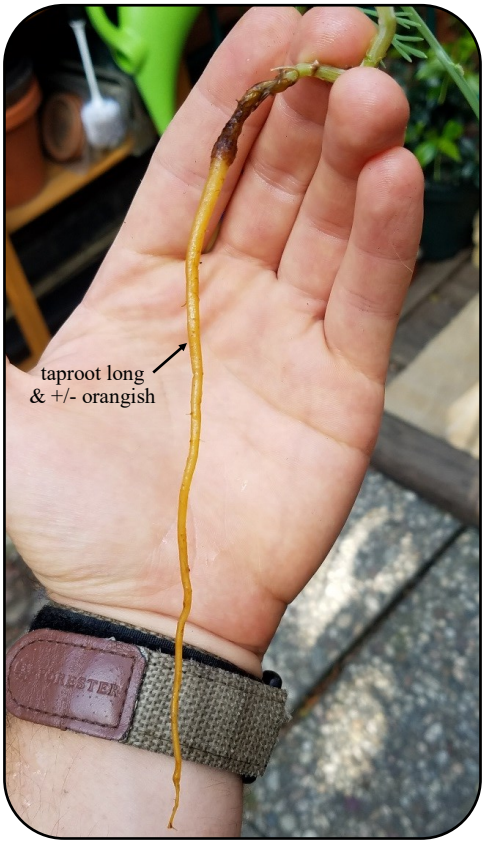


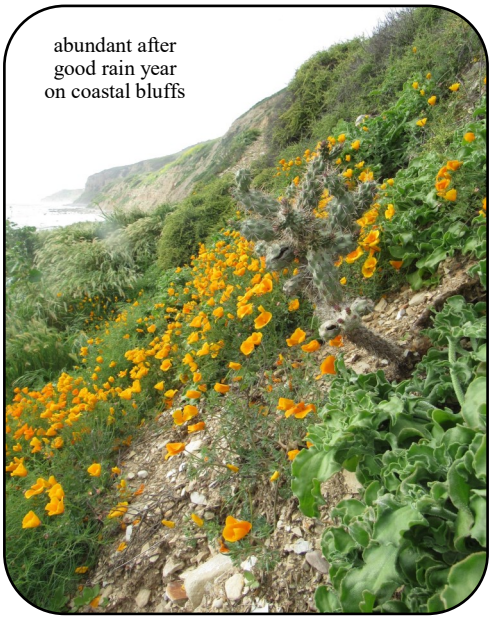
California Poppy (Coastal) (*Eschscholzia californica*)

Order: Ranunculales

Family: Papaveraceae (Poppy Family)

Flowers: February - September





all yellow



all orange



all yellow and
all orange flower
color has been seen
in wild populations
but is uncommon

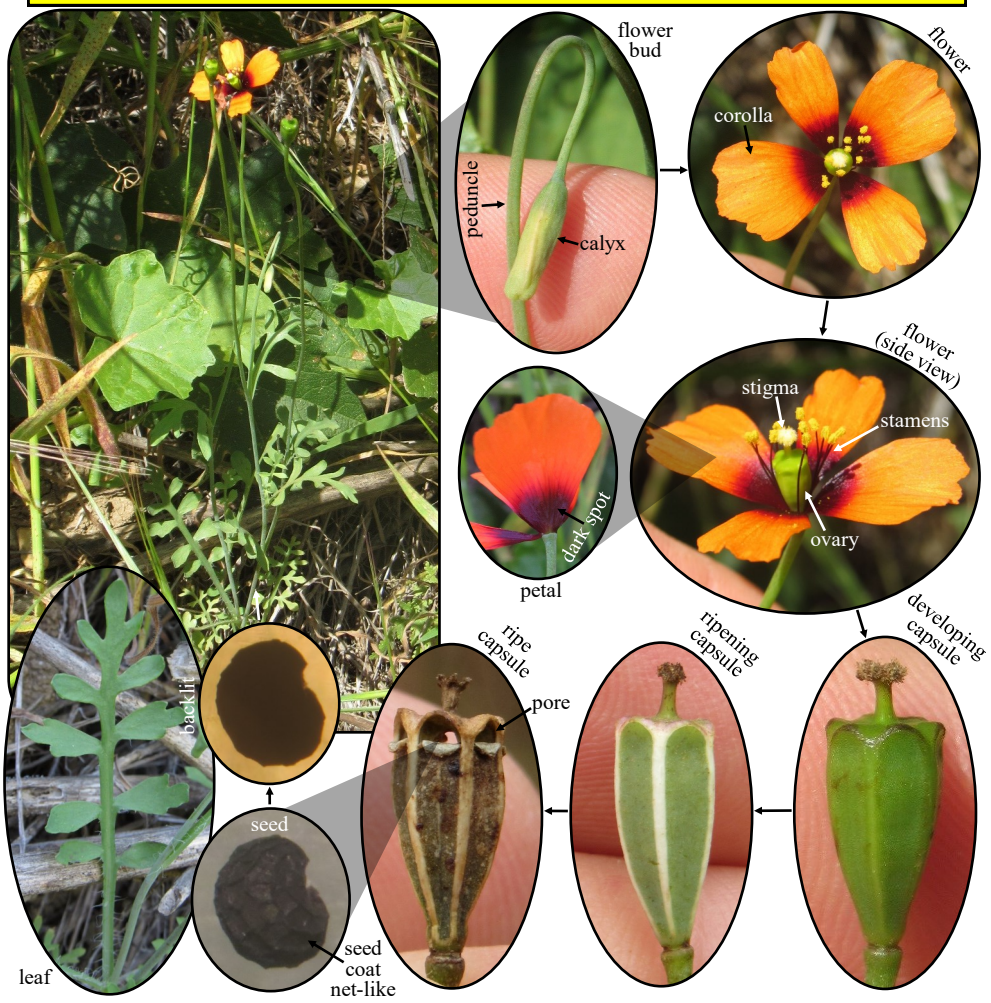
Wind Poppy (*Papaver heterophyllum*)

Order: Ranunculales

Family: Papaveraceae (Poppy Family)

Flowers: April - May

Papaver heterophyllum is an annual herbaceous plant. It is found in two locations on the peninsula. The leaves are pinnately lobed (often deeply lobed) and can be somewhat hairy. The inflorescence is 1-flowered. The flower is held up on a long peduncle and the flower bud is often nodding. There are 2 sepals per flower that are generally green and are shed at flowering time. There are 4 petals and the petals of the flower are a vibrant orangish red color with a prominent purplish (dark) spot near the base. The petals are also shed at the start of fruit development. There are many stamens and the filaments of the stamens are purplish. The anthers of the stamens are yellow. The ovary is large, urn-shaped, green, and has many carpels (4-11). The stigma is head-like and situated on top of a slender short style. The fruit is a capsule that is urn-shaped and that is dehiscent by pores below the stigma. The seed is small, brown or black, reniform, and the outside is net-like with tall ridges that make it rough feeling.



Bush Monkeyflower (*Diplacus* x *lompocensis*)

Order: Lamiales

Family: Phrymaceae (Lopseed Family)

Flowers: March - June

Diplacus x *lompocensis* (McMinn) is a perennial subshrub to shrub. It is a putative hybrid between *D. longiflorus* and *D. aurantiacus*. *D.* x *lompocensis* occurs between the geographic ranges of *D. aurantiacus* and *D. longiflorus* in southern Santa Barbara County and extreme southern San Luis Obispo County. This is the most commonly encountered bush monkeyflower on the peninsula. The peninsula's population is perhaps best interpreted as another stable zone of introgression just south of Santa Barbara County. On the peninsula, it is found mostly within canyons on the LA basin facing side of the peninsula. The stems of this plant are not hairy. The leaves are narrowly elliptic and have margins that are serrated. The adaxial side of the leaf is glabrous and the abaxial side is glabrous or minimally glandular. The pedicels of the flowers are very short (4-6 mm). The calyces are glandular-puberulent to glabrate or glabrous. The corollas can be pale yellow, yellowish-orange, dark orange, orangish-



Bush Monkeyflower (*Diplacus x lompocensis*)

Order: Lamiales

Family: Phrymaceae (Lopseed Family)

Flowers: March - June

red, and red. The stigma has 2 lobes that close together when touched. The stigma and stamens are included within the flower. The fruit is a capsule that is dehiscent and usually hidden within the persistent calyx. The seed is very tiny, ovoid, and orangish-yellow to dark brown. Below is the corolla colors seen on the peninsula.











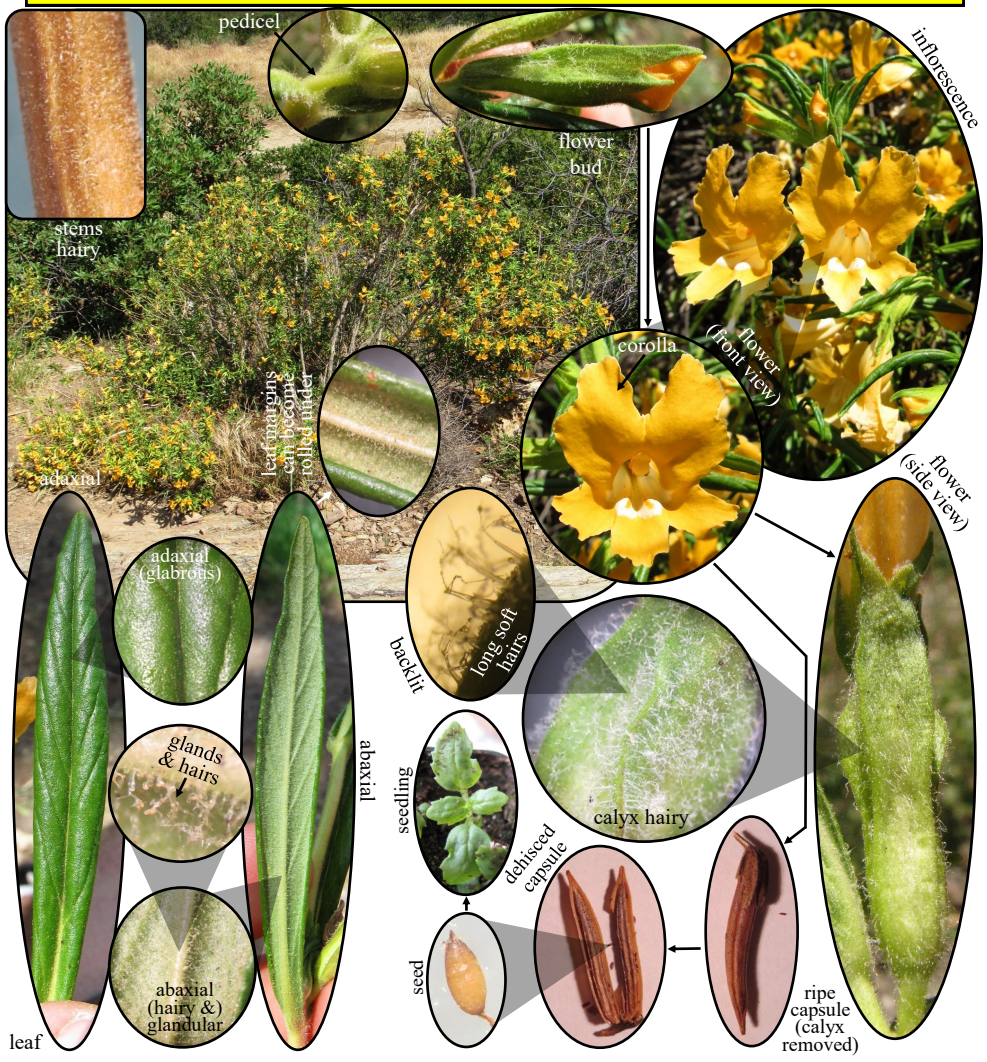
Southern Bush Monkeyflower (*Diplacus longiflorus*)

Order: Lamiales

Family: Phrymaceae (Lopseed Family)

Flowers: March - June

Diplacus longiflorus is a perennial subshrub to shrub. It is found in a few canyons on the LA Basin facing side of the peninsula and appears to be very uncommon. The stems are hairy. The leaves are narrowly elliptic and have margins that are serrated. Usually, the leaf edges are flat but in drought the leaf margins can become inrolled. The adaxial side of the leaf is glabrous while the abaxial side is hairy and glandular. The pedicel is short (5-16 mm). The calyces are densely hairy (long soft hairs). The corolla of the flower is pale yellow to yellowish-orange to orange. The stigma has 2 lobes that close together when touched. The stigma and stamens are included within the flower. The fruit is a capsule that is dehiscent and usually hidden within the persistent calyx. The seed is very tiny, ovoid, and orangish-yellow to dark brown.



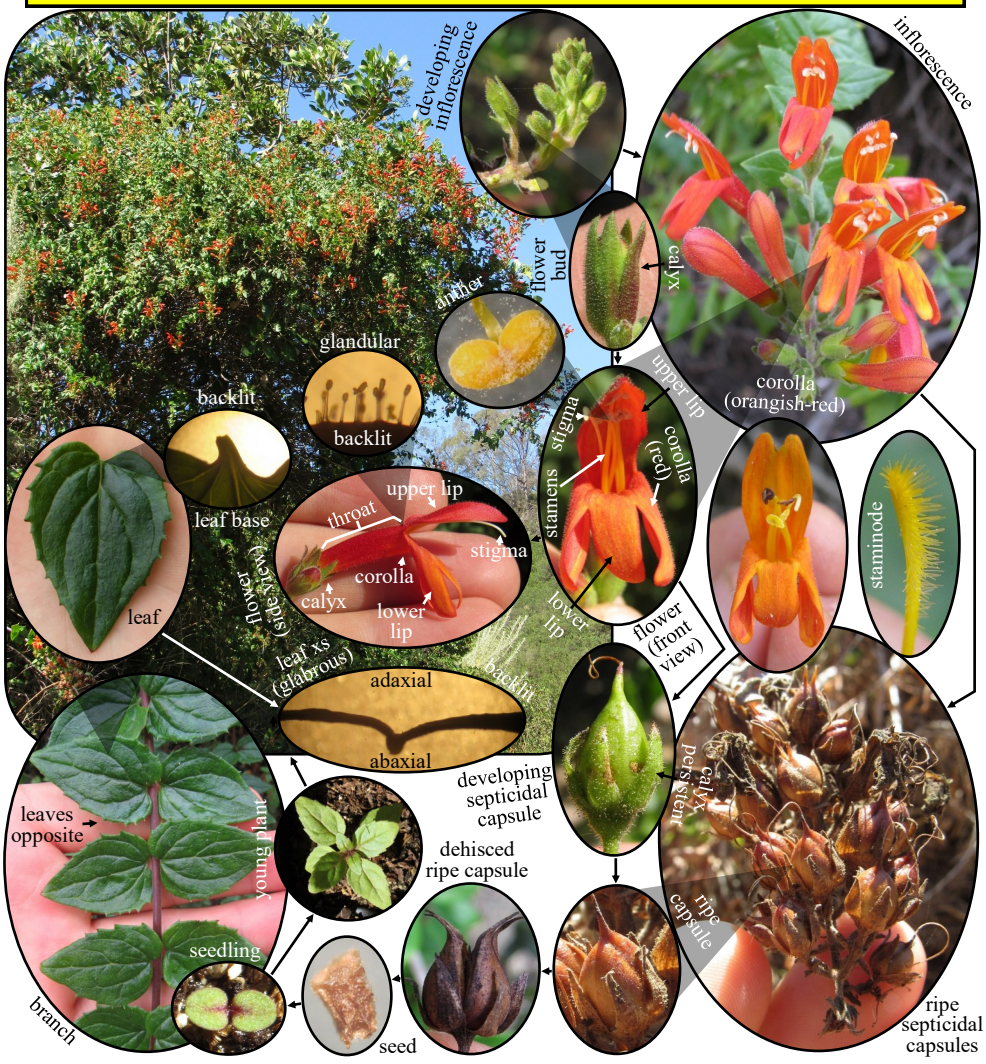
Heart-leaved Penstemon (*Keckiella cordifolia*)

Order: Lamiales

Family: Plantaginaceae (Plantain Family)

Flowers: May - July

Keckiella cordifolia is a perennial shrub. It is found throughout the peninsula mostly within canyons. The leaves are ovate and generally opposite. The leaf base is rounded to cordate and the leaf margins are usually toothed. The inflorescence is glandular and hairy. The calyx of the flower is glandular, has 5 lobes, and is persistent in fruit. The corolla of the flower is red to orangish-red, glandular on the outside, and has a distinctive upper and lower lip to it. The upper lip has 2 lobes and is generally hooded. The lower lip has 3 lobes and the lobes are generally reflexed. There are 4 fertile stamens and 1 staminode. The staminode is densely hairy at the tip and is tucked down in the flower. The fruit is a septicidal capsule that is ovoid. The seed is irregularly angled and light brown. This plant is drought-deciduous.



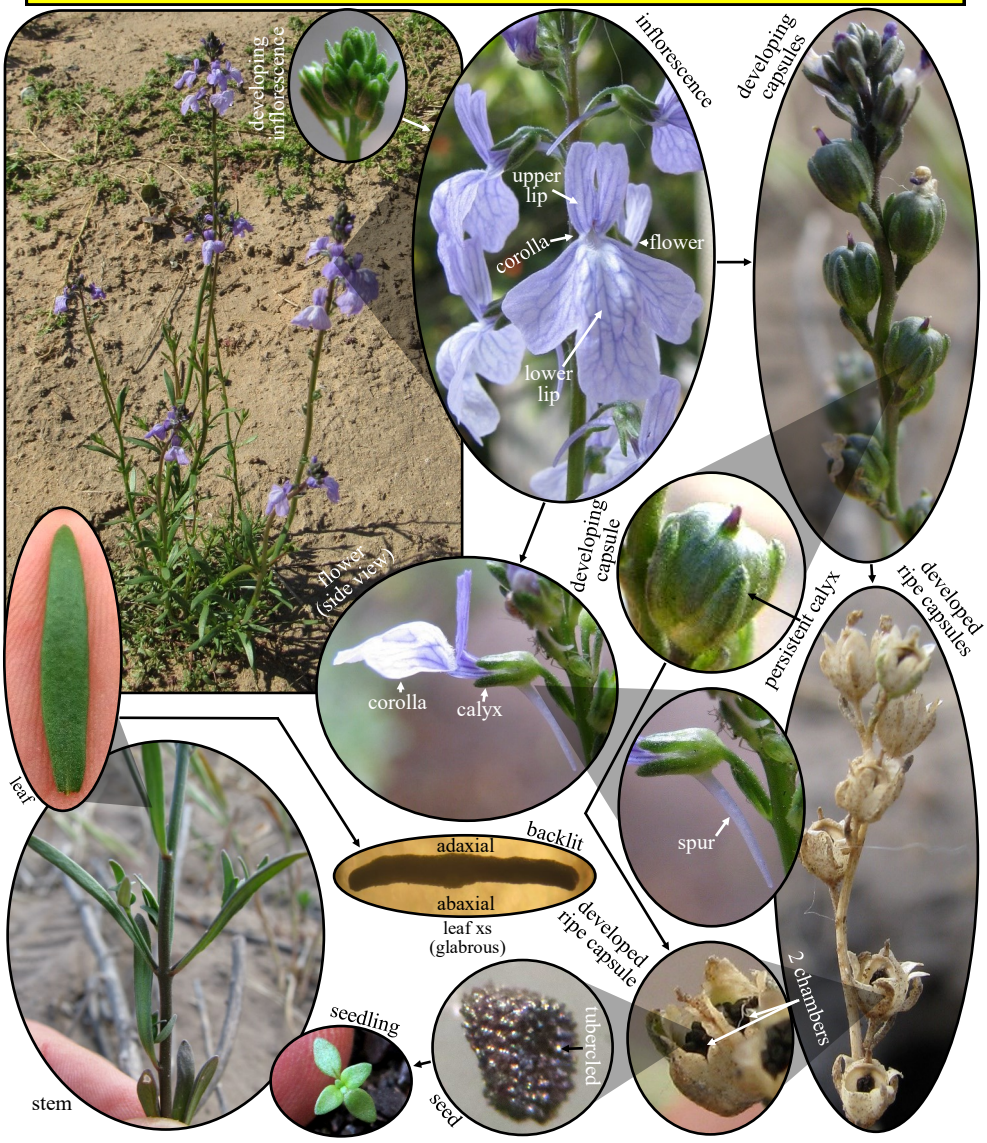
Blue Toadflax (*Nuttallanthus texanus*)

Order: Lamiales

Family: Plantaginaceae (Plantain Family)

Flowers: March - May

Nuttallanthus texanus is an annual herbaceous plant. It is found in one location on the peninsula. The leaves are narrowly linear and glabrous. The calyx of the flower is 5 lobed and persistent in fruit. The corolla of the flower is violet to blue and has a upper lip (2-lobed) and a lower lip (3 lobed). The corolla has a spur that can be straight to curved and is very thin. The corolla can also have faint dark blue veins throughout. The flowers can be cleistogamous. The fruit is a capsule that is somewhat spheric and dehisces near the tip (forming two chambers). The seed is black and is tubercled.



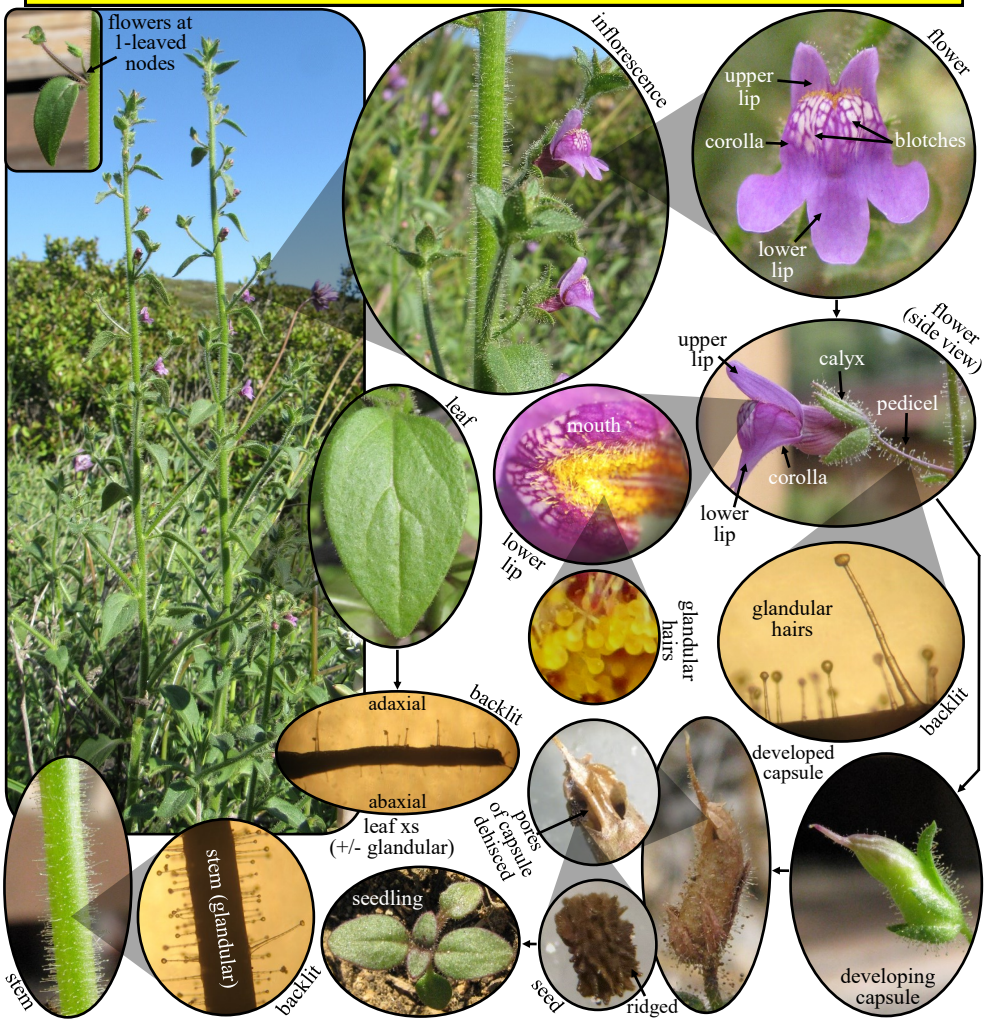
Nuttall's Snapdragon (*Antirrhinum nuttallianum* subsp. *subsessile*)

Order: Lamiales

Family: Plantaginaceae (Plantain Family)

Flowers: March - August

Antirrhinum nuttallianum subsp. *subsessile* is an annual to short perennial herbaceous plant. It is found throughout the peninsula. The overall plant is glandular. The leaves are opposite and ovate. The flowers are located at the distal end of the plant. There is usually 1 flower per node (held out on a long pedicel) and 1 leaf per node. The calyx of the flower is 5-lobed. The corolla of the flower is lavender to bluish-purple with an upper lip (2-lobed) and an lower lip (3-lobed). On the lower lip, there are 1 to 2 white blotches that are blue-veined. At the mouth of the lower lip, it is covered in yellowish glandular hairs. Cleistogamous as well as opening flowers are present in the inflorescence. The fruit is a capsule that is oblique-ovoid. The chambers are unequal in the capsule and the capsule is dehiscent by 3 pores at the tip (1 situated in the upper chamber and 2 situated in the lower). The seed is brown, ovoid, and ridges.



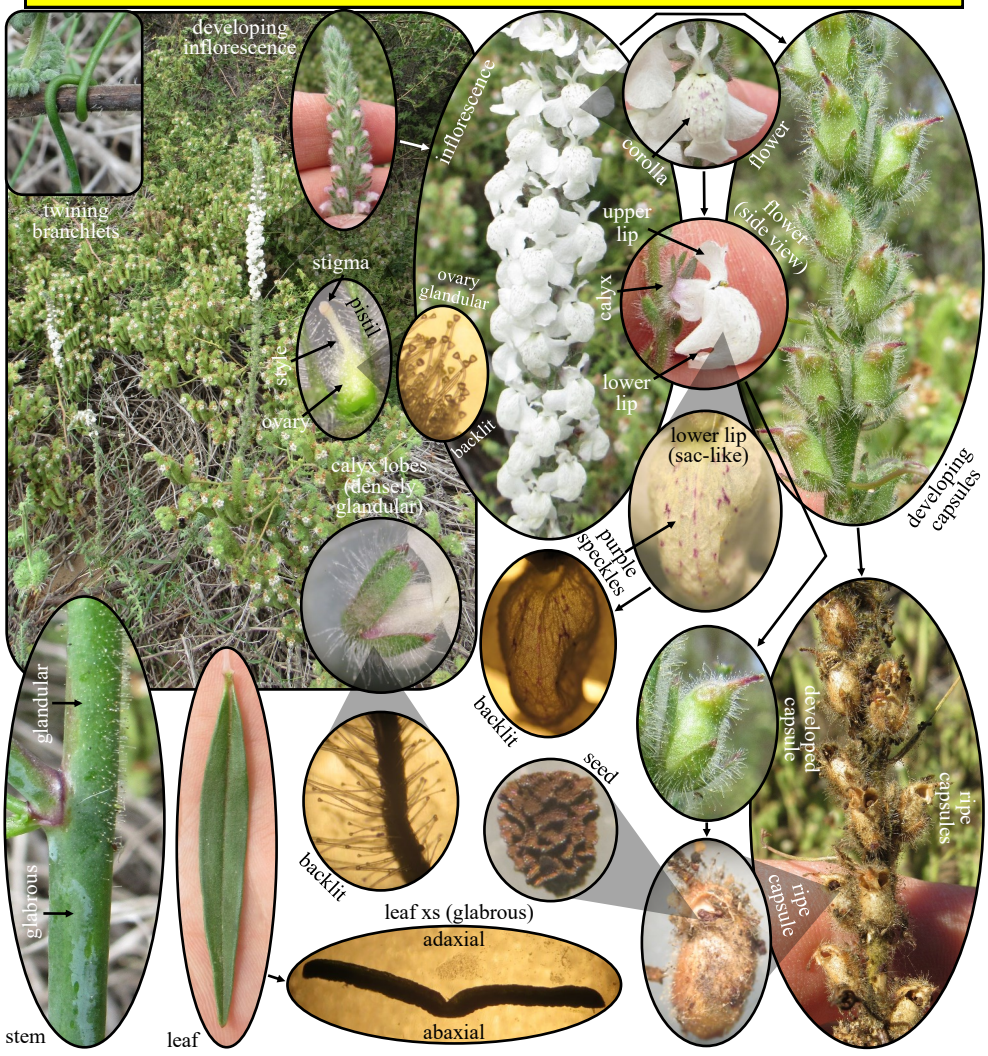
Coulter's Snapdragon (*Antirrhinum coulterianum*)

Order: Lamiales

Family: Plantaginaceae (Plantain Family)

Flowers: April - July

Antirrhinum coulterianum is an annual herbaceous plant. It is found in only one location on the peninsula. The bottom half of the plant is usually glabrous while the upper half is glandular. The leaves are linear to lanceolate and glabrous. In the inflorescence, the proximal pedicels are long (distal shorter). Twining branchlets are found below the pedicels. The calyx of the flower is densely glandular. The corolla of the flower is usually white and comprised of a upper lip (2-lobed) and lower lip (3-lobed). The lower lip appears rounded and sac-like and generally has purple speckles. Cleistogamous flowers and opening flowers are present in the inflorescence. The fruit is a capsule that is oblique-ovoid. The upper chamber of the capsule is indehiscent while the lower is dehiscent. The seed is dark brown, ovoid, and ridged.



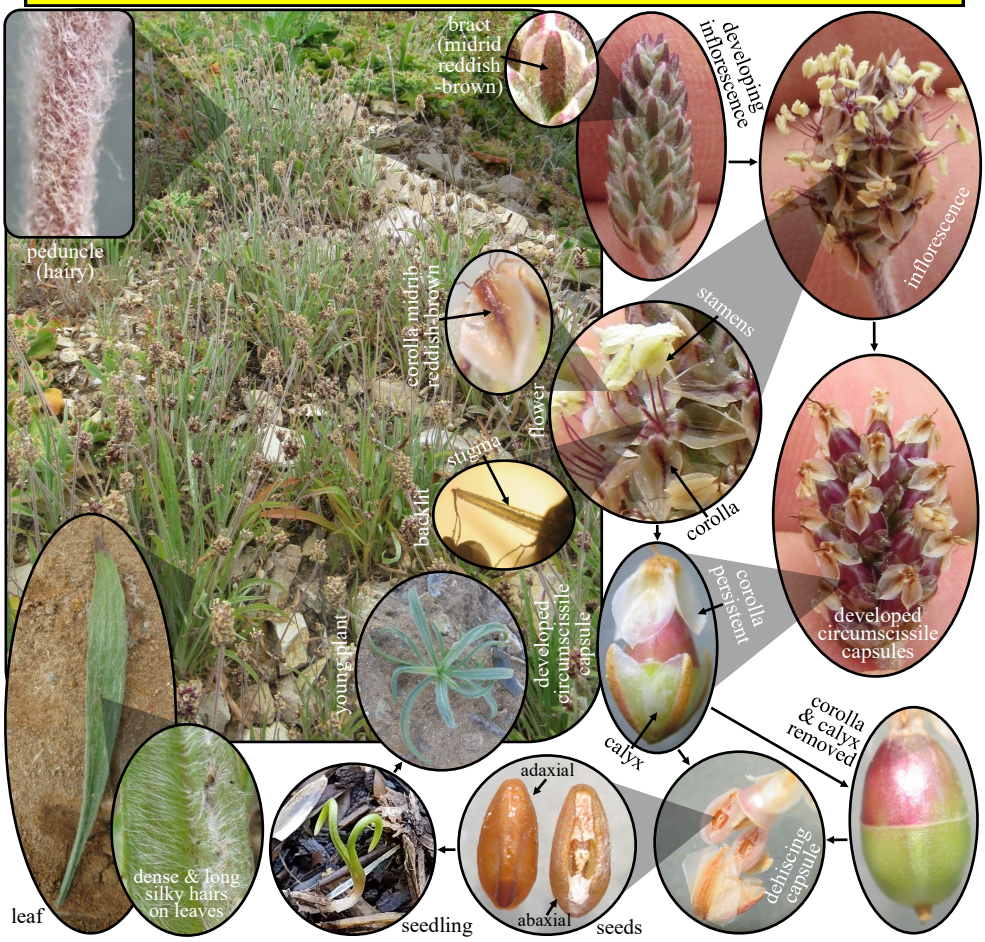
Woolly Plantain (*Plantago ovata* var. *insularis*)

Order: Lamiales

Family: Plantaginaceae (Plantain Family)

Flowers: March - May

Plantago ovata var. *insularis* is an annual herbaceous plant. It is primarily found along the coastal bluffs on the peninsula (very abundant on bluffs during good wet years). The overall plant is densely hairy with hairs long and silky. The leaf is linear to oblong and covered in long silky hairs. The leaf margin can be entire to minutely toothed. The inflorescence is made up of flowers that are clustered together in a usually short-cylindric spike that is woolly. The spike is held up on a long peduncle that is not grooved and has hairs that are ascending. The hairs of the peduncle are generally not as long and as thick as the hairs found on the leaves. The flowers are also subtended by a bract that has a purplish-brown midrib and papery margins. The calyx of the flower is deeply 4-lobed and united at the base. The margins of the sepals are papery and free. The corolla has 4 petals that are papery with midribs reddish-brown. The lobes of the corolla are spreading to erect and are persistent in fruit. There are 4 stamens and the stigma is long and hairy. The fruit is a circumscissile capsule. There are 2 seeds per capsule and the seeds are orangish-brown.



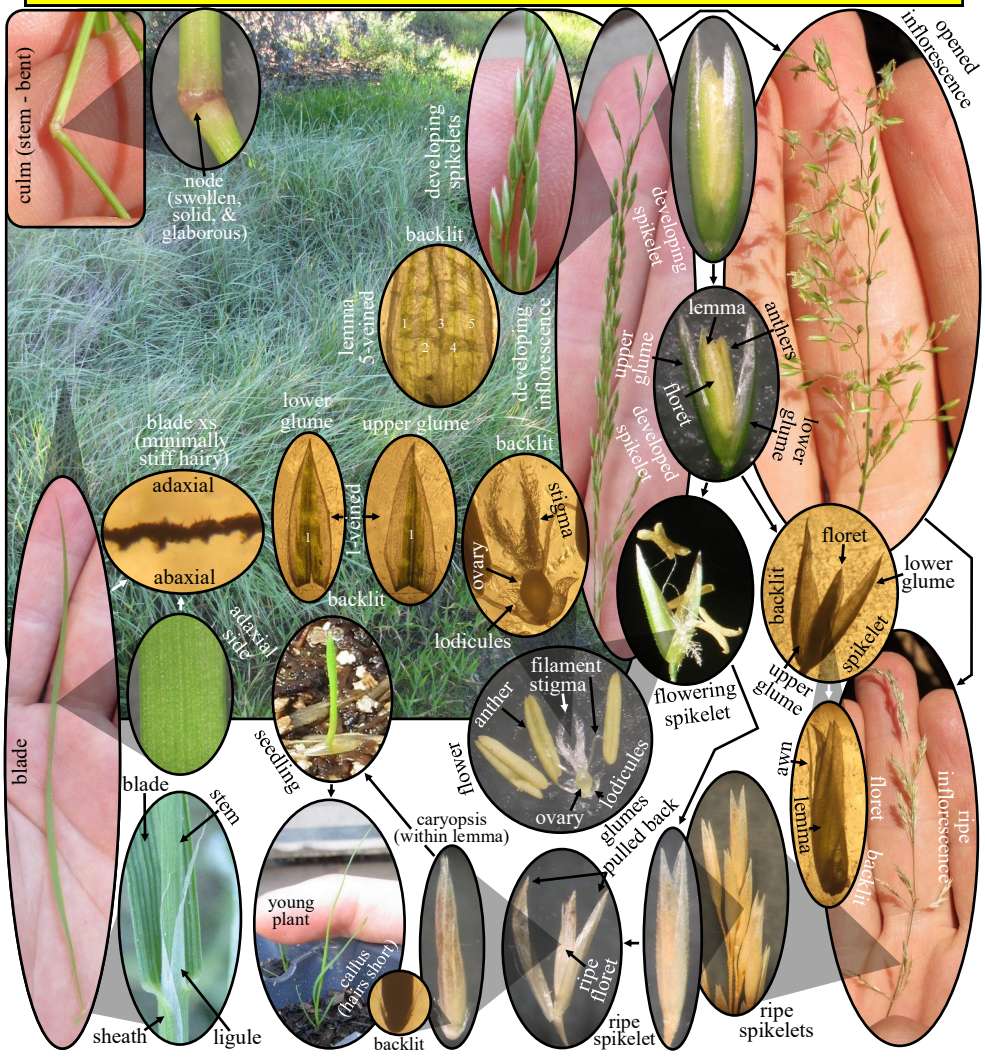
Leafy Bent Grass (*Agrostis pallens*)

Order: Poales

Family: Poaceae (Grass Family)

Flowers: June - August

Agrostis pallens is a perennial herbaceous plant that can spread via rhizomes. It is found in only one location on the peninsula. The blade of the leaf is flat to sometimes inrolled. The sheath of the of leaf is open and usually smooth. The ligule is membranous. The culms (stems) are usually erect and can be generally bent at the nodes. The nodes are swollen, solid, and glabrous. The inflorescence is a panicle that is open to contracted with numerous spikelets. Spikelets are 1-flowered. The glumes are equal to subequal and 1-veined (sometimes 3-veined). The lemma of the spikelet is 5-veined and can be awned (awned from the near middle) or not. The awn is short (0.5-2.5 mm) and is generally straight. The palea of the spikelet is obsolete or very much reduced. The fruit is a caryopsis contained within the lemma.



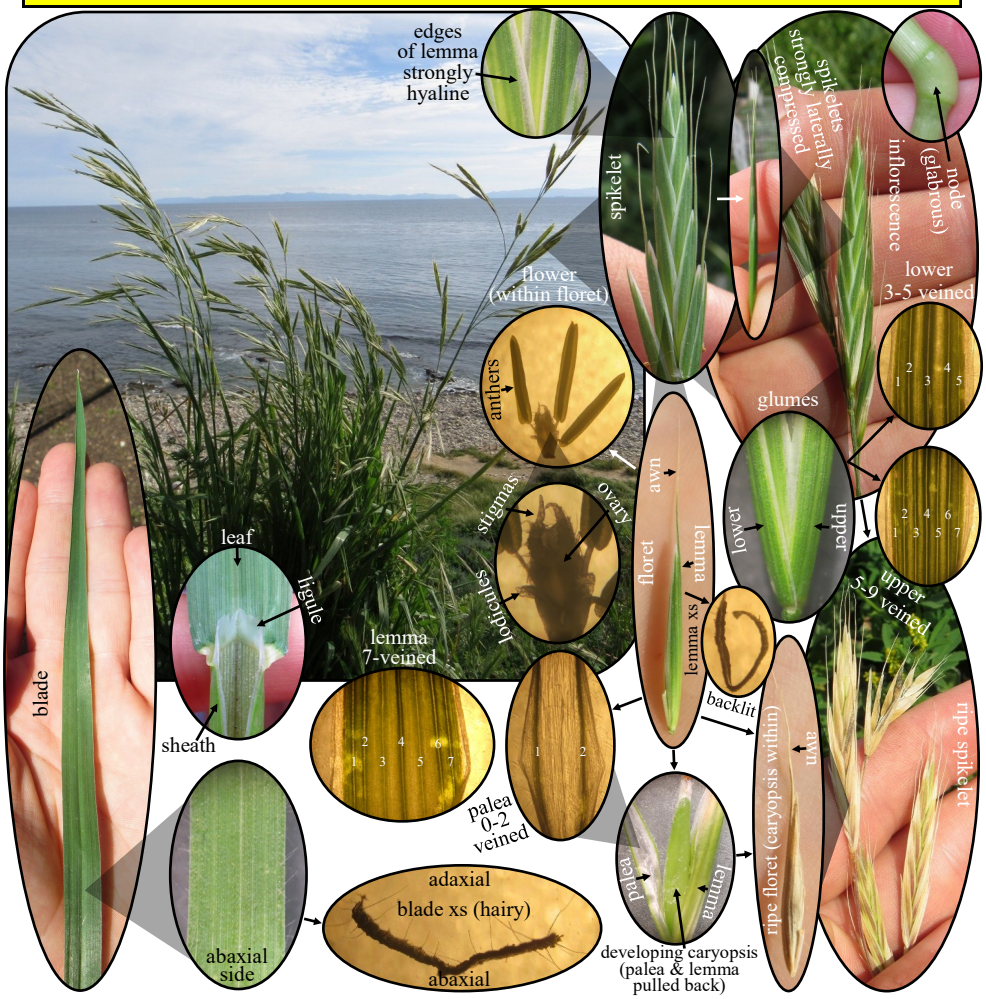
Arizona Brome (*Bromus arizonicus*)

Order: Poales

Family: Poaceae (Grass Family)

Flowers: March - June

Bromus arizonicus is an annual herbaceous plant. It is found along the coastal bluffs of the peninsula. The blade is generally hairy and flat. The ligule is membranous. The sheath of the leaf is closed to near the top, generally hairy, and auricles are absent. The culms (stems) are usually erect and have nodes that are swollen, solid, and glabrous. The inflorescence is a panicle that is open to somewhat contracted with numerous spikelets. The lower branches of the inflorescence spread at maturity. The spikelets are strongly laterally compressed and 4-8 flowered. The glumes are somewhat equal. The lower glume is 3-5 veined. The upper glume is 5-9 veined. The lemma is 7 -veined, laterally compressed, strongly keeled distally, and generally hairy (distally or throughout). The edges of the lemma are also strongly hyaline. The awn of the lemma is 6-13 mm and is straight to sometimes slightly bent. The palea is less than the lemma, transparent, and 0-2 veined. The fruit is a caryopsis contained with floret.



Southern Chinook Brome (*Bromus psuedolaevipes*)

Order: Poales

Family: Poaceae (Grass Family)

Flowers: April - June

Bromus psuedolaevipes is a perennial herbaceous plant. It is found in two spots on the peninsula. The blade of the leaf can be hairy throughout or hairs confined to just the margins of the blade. The sheath of the leaf is closed to near the top, generally hairy, and with auricles present. The ligule of the leaf is membranous and fringed at the tip. The culms (stems) are usually erect to spreading and have nodes that are swollen, solid, and hairy. The inflorescence is a panicle with the branches ascending to spreading or reflexed. The inflorescence is also usually nodding. The spikelets of the inflorescence are not strongly flattened, usually hairy, and are 4-10 flowered. The glumes are hairy and the margins are often tinged with a reddish-brown color. The lower glumes are 3-veined with the uppers glumes 5-veined (sometimes being 3-veined). The lemma is rounded on the back, hairy throughout, has a reddish-brown color to the margins, short lobes at the tip, and with a straight awn that is 3-5 mm. The palea is less than the lemma and is transparent. The fruit is a caryopsis contained within the lemma and palea. This plant is an endemic to California.



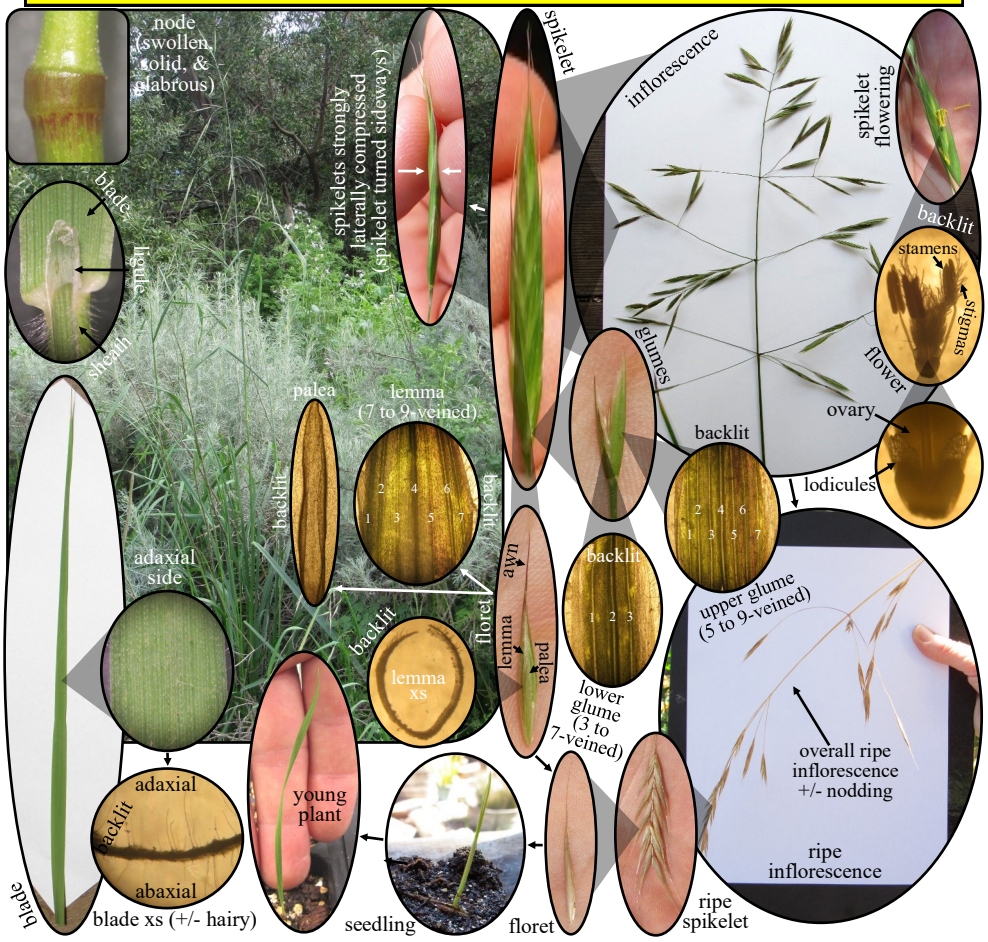
California Brome (*Bromus sitchensis* var. *carinatus*)

Order: Poales

Family: Poaceae (Grass Family)

Flowers: April - August

Bromus sitchensis var. *carinatus* is a perennial herbaceous plant. It is found throughout the peninsula. The culms (stems) are tall and erect. The blade of the leaf is long, flat to sometimes inrolled, and usually hairy adaxially and abaxially. The sheath of the leaf is closed to near the top, usually hairy, and with auricles usually not present. The throat of the sheath is hairy. The ligule of the leaf is membranous. The inflorescence is a panicle that is open to erect. There are 1-4 branches per node on the inflorescence and the branches can be spreading, ascending, or reflexed. There can be 1-4 spikelets per branch of the inflorescence. The spikelets are strongly laterally compressed and there are 4-11 florets per spikelet. The spikelets are not crowded or overlapping. The glumes are usually hairy with the lower glume 3-7 veined and the upper glume 5-9 veined. The lemmas are laterally compressed, strongly keeled distally, hairy, and 7-9 veined (veins are usually not raised or riblike). The awn of the lemma can be 4-17 mm long and sometimes slightly bent. The palea is less than the lemma and is transparent. The fruit is a caryopsis contained within the lemma and palea.



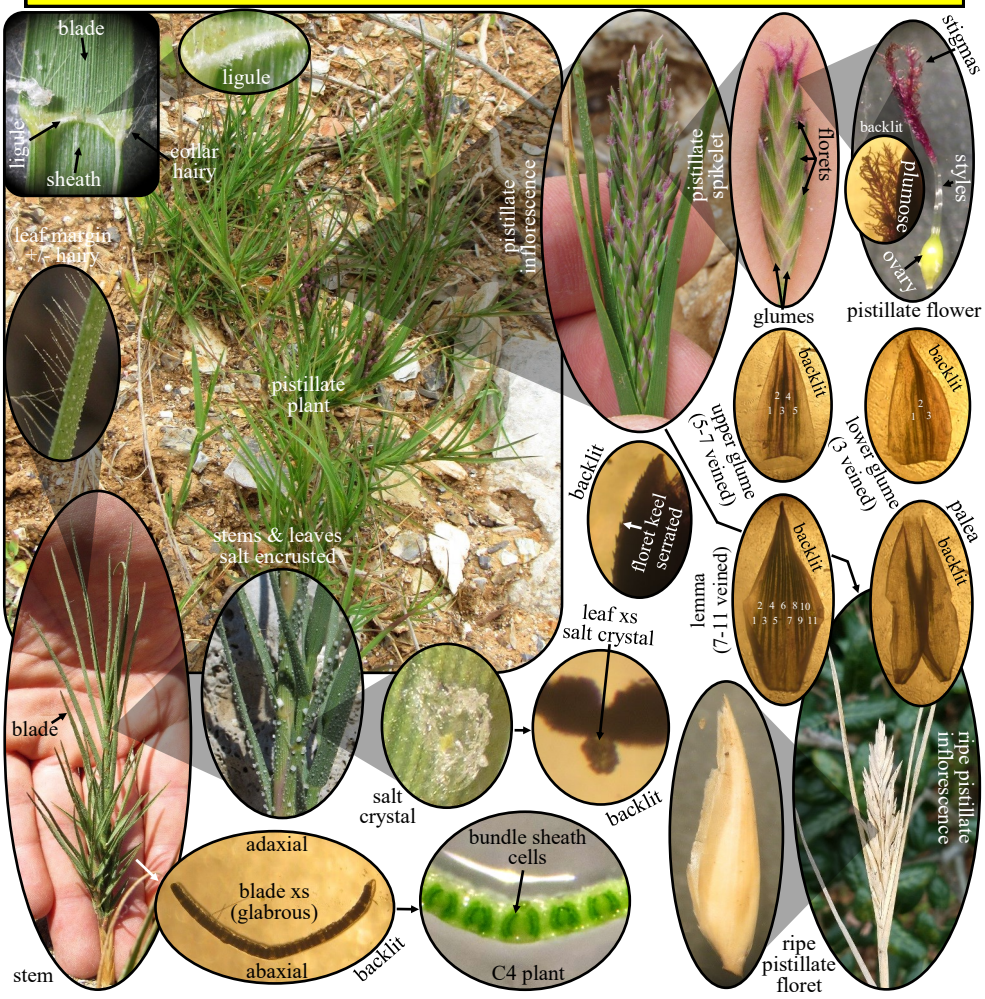
Saltgrass (*Distichlis spicata*)

Order: Poales

Family: Poaceae (Grass Family)

Flowers: April - September

Distichlis spicata is a perennial herbaceous plant that spreads via rhizomes. The rhizomes are stout scaly and stramineous in color. It is found in a few spots along the coastal bluffs of the peninsula. The plant is dioecious. The culms (stems) are usually erect but can sometimes be decumbent or prostrate and are glabrous. The leaves are distichous, +/- flat, and stiff. The margins of the leaves can be hairy. The sheath of the leaf overlaps the culm very strongly. The ligule of the leaf is very short, membranous and serrated at the tip. The pistillate inflorescence is a panicle, usually congested, and made up of 2-20 spikelets. Each spikelet of the pistillate inflorescence can have 5-20 florets. The keel of the pistillate floret is serrated and is bowed out. The staminate inflorescence looks very similar to the pistillate inflorescence. The lemma of the staminate inflorescence is thinner in texture and the palea is not bowed out. Stamens are also present in the staminate flowers. The fruit is a caryopsis.



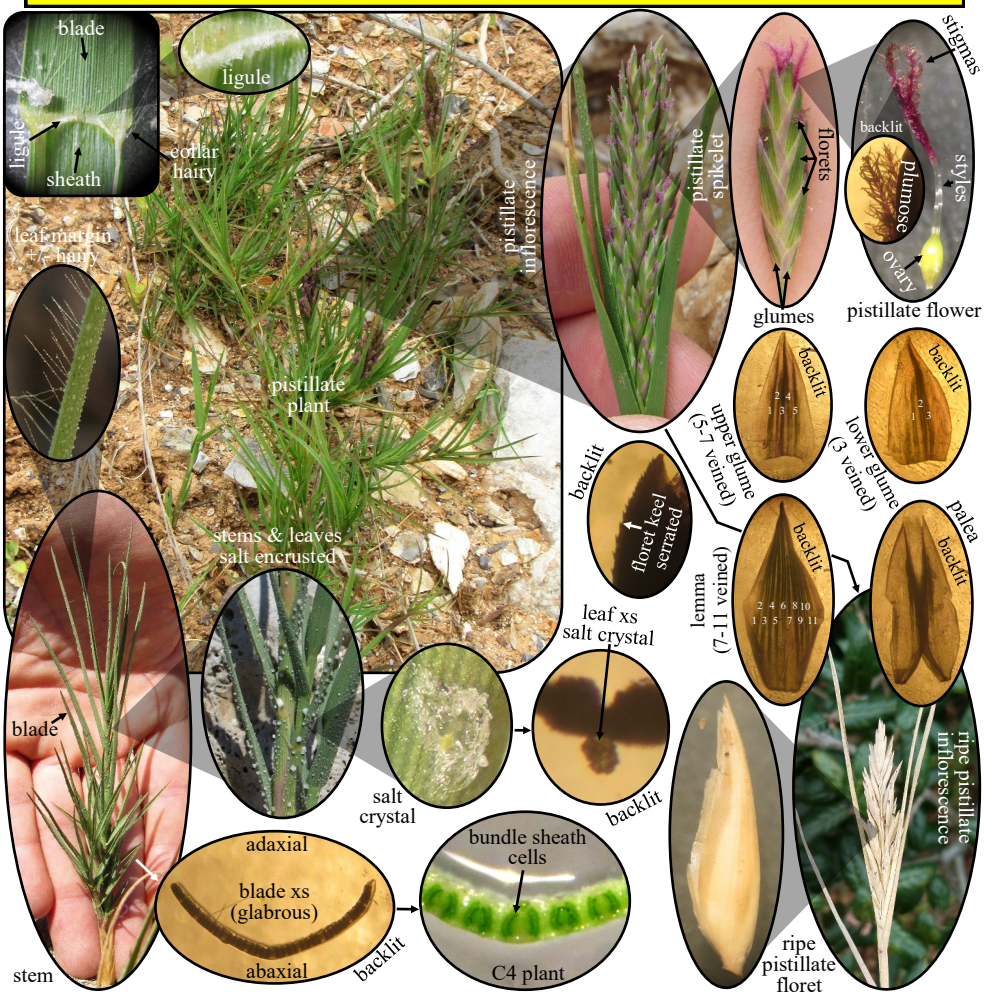
Saltgrass (*Distichlis spicata*)

Order: Poales

Family: Poaceae (Grass Family)

Flowers: April - September

Distichlis spicata is a perennial grasslike herbaceous plant that spreads via rhizomes. The rhizomes are stout scaly and stramineous in color. It is found in a few spots along the coastal bluffs of the peninsula. The plant is dioecious. The culms (stems) are usually erect but can sometimes be decumbent or prostrate and are glabrous. The leaves are distichous, usually flat, and stiff. The margins of the leaves can be hairy. The sheath of the leaf overlaps the culm very strongly. The ligule of the leaf is very short, membranous and serrated at the tip. The pistillate inflorescence is a panicle, usually congested, and made up of 2-20 spikelets. Each spikelet of the pistillate inflorescence can have 5-20 florets. The keel of the pistillate floret is serrated and is bowed out. The staminate inflorescence looks very similar to the pistillate inflorescence. The lemma of the staminate inflorescence is thinner in texture and the palea is not bowed out. Stamens are also present in the staminate flowers. The fruit is a caryopsis.



Saltgrass (*Distichlis spicata*)

Order: Poales

Family: Poaceae (Grass Family)

Flowers: April - September











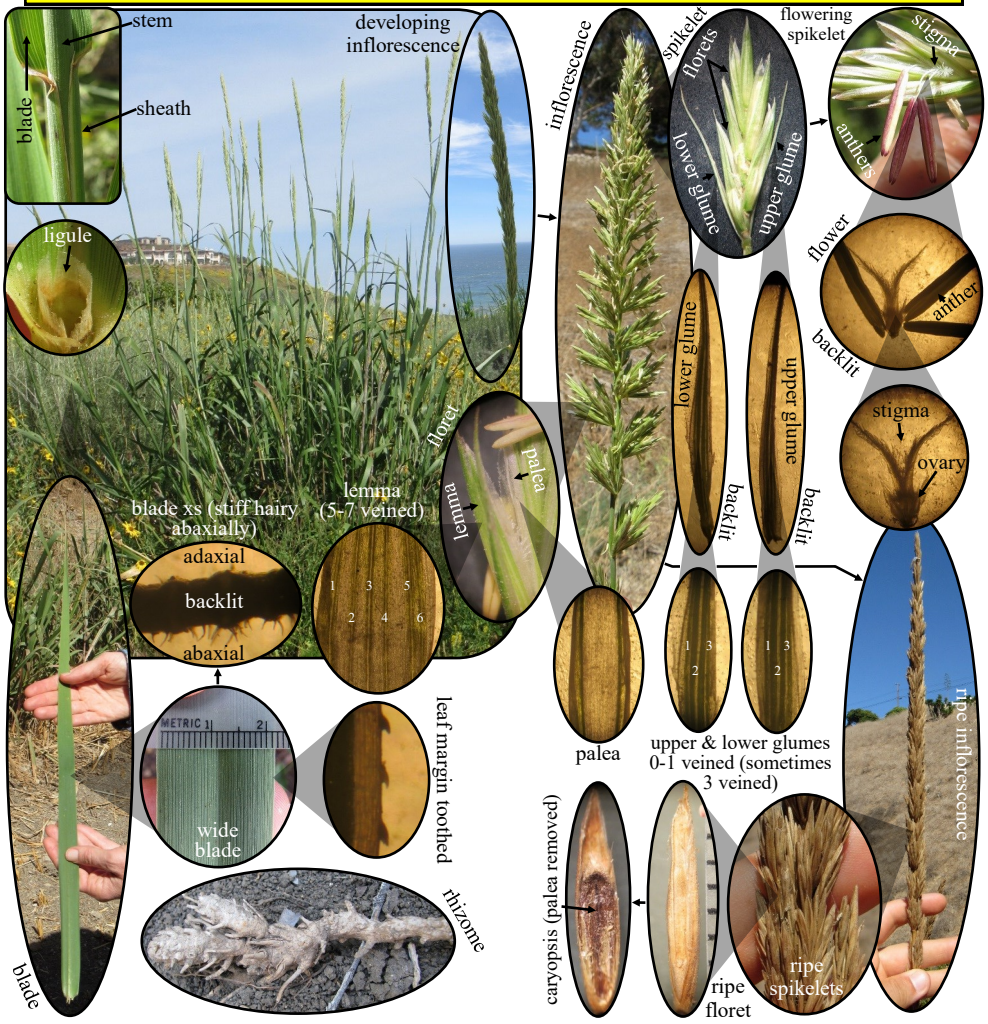
Giant Wild Rye (*Elymus condensatus*)

Order: Poales

Family: Poaceae (Grass Family)

Flowers: June - August

Elymus condensatus is a large perennial plant. It is rhizomatous (sometimes not) with rhizomes short and thick. It is found throughout the peninsula. The culms (stems) are erect, tall, and can be dense. The blade is wide and smooth on the abaxial side and rough on the adaxial side. Blade margins are minutely toothed. Auricles are usually absent and the ligule is membranous. The sheath of the leaf is open and glabrous. The inflorescence is a panicle, congested, and made up of 5-35 spikelets. The spikelets are usually pedicellate but can also be sessile and have 3-7 florets. The glumes of the spikelet are narrow, glabrous, keeled, and 0 to 1-veined (sometimes 3-veined). The tips of the glumes taper to a point forming an awn. The lemmas are usually glabrous, have acute tips, can be awned, and 5-7 veined. The palea is transparent. The fruit is a caryopsis contained within the lemma and palea.



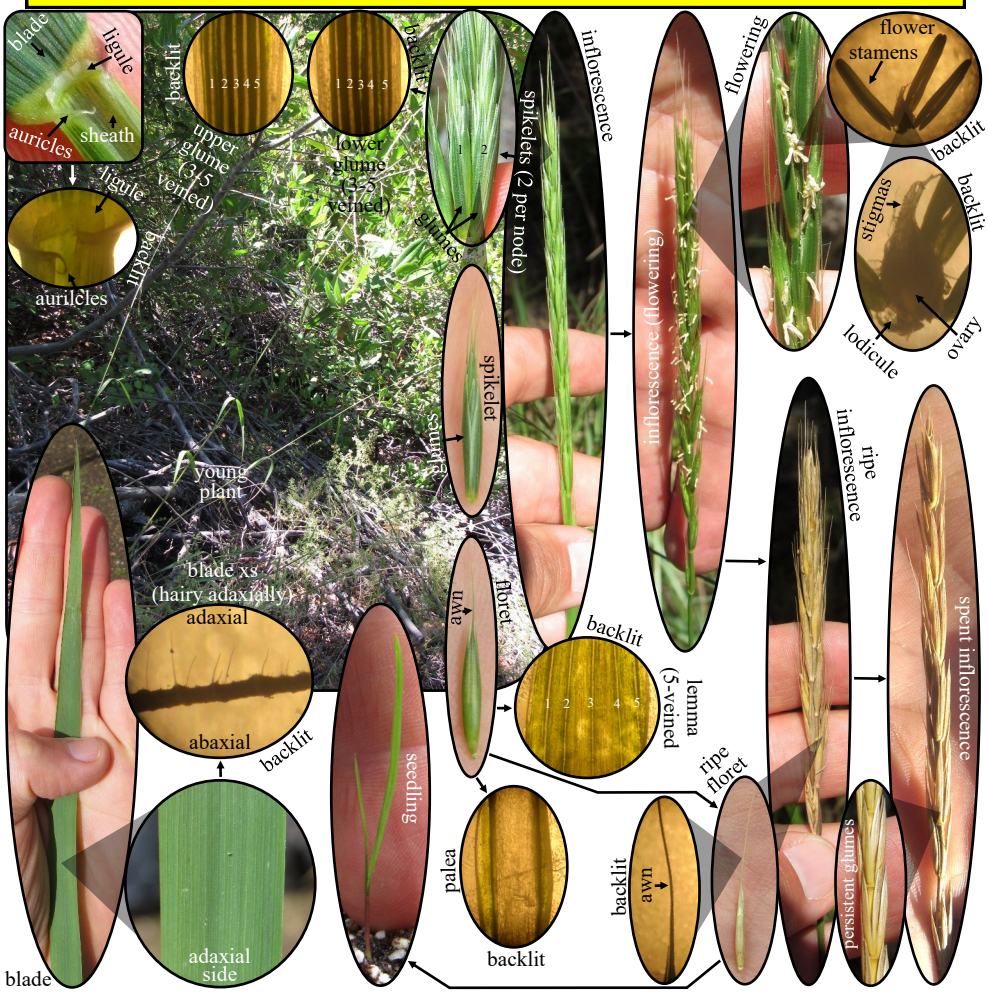
Blue Wildrye (*Elymus glaucus* subsp. *glaucus*)

Order: Poales

Family: Poaceae (Grass Family)

Flowers: May - July

Elymus glaucus subsp. *glaucus* is a perennial herbaceous plant. It can be weakly rhizomatous. The overall plant is often glaucous. It has only been found in a few locations on the peninsula. The culms (stems) are erect to somewhat decumbent. The blade is wide and can be glabrous or hairy on the adaxial side and glabrous on the abaxial side. Auricles are present. The sheath of the leaf is open. The ligule is membranous, truncate, and can be entire to somewhat erose. The inflorescence is a spike that is erect with usually 2 spikelets per node (sometimes 1 or 3 per node). Spikelets are usually appressed to the inflorescence and have 2-4 florets (sometimes only 1 or 6 florets). The glumes of the spikelet are subequal, 3-5 veined (sometimes only 1 or 7-veined), and short-awned. The lemma is 5-veined and has an awn that can be short to long and is usually straight. The palea is transparent. The fruit is a caryopsis contained within the persistent lemma and palea.



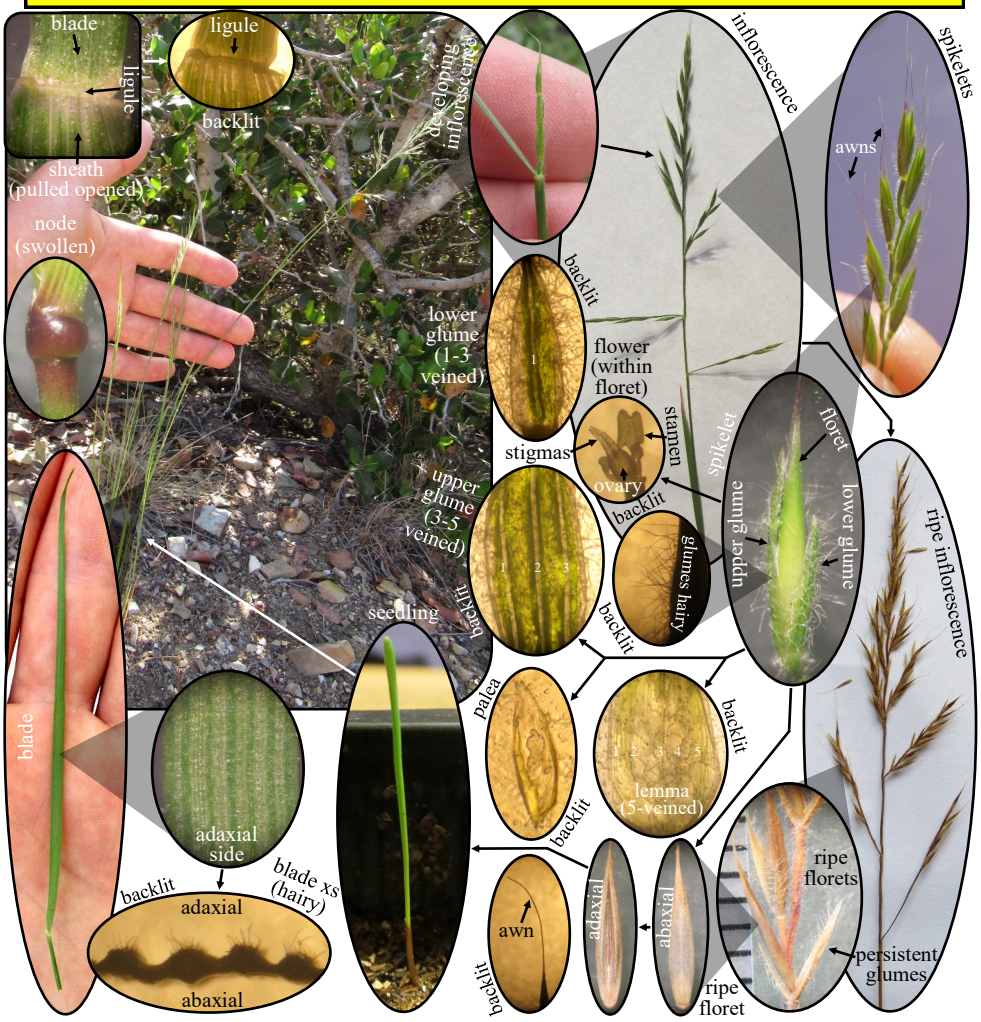
Small Fescue (*Festuca microstachys*)

Order: Poales

Family: Poaceae (Grass Family)

Flowers: April - June

Festuca microstachys is an annual herbaceous plant. It has been found in only one location on the peninsula. The culms (stems) are erect and usually glabrous. The sheath of the leaf is open and generally hairy. The ligule of the leaf is short, membranous and usually truncate. The blade of the leaf is usually rolled but can also be flat and is hairy. The inflorescence is a panicle that is erect when young and spreading to reflexed at maturity. The inflorescence is made up of numerous spikelets. The spikelets can have 1-6 florets and most florets are cleistogamous. The glumes of the spikelet are generally hairy and the lower glume (1-3 veined) is smaller than the upper glume (3-5 veined). The lemma of the floret is hairy, 5-veined, and has an awn present. The palea of the floret is generally longer than the lemma and has an apex that is minimally bifid. The fruit is a caryopsis contained within the lemma and palea.



Mexican Sprangletop (*Leptochloa fusca* subsp. *uninervia*)

Order: Poales

Family: Poaceae (Grass Family)

Flowers: March - December

Leptochloa fusca subsp. *uninervia* is an annual herbaceous plant. It has been found in only one location on the peninsula. The culms (stems) are erect. The sheath of the leaf is open and generally glabrous. The ligule of the leaf is membranous, gradually narrowing to a tip, and at maturity becoming irregularly lobed. The blade of the leaf is hairy (short stiff hairs) and often has a somewhat raised whitish midrib. The inflorescence is a panicle with branches ascending to spreading and usually completely exserted out from the leaf sheath. The inflorescence is made up of numerous spikelets and each spikelet can have 6-20 florets. The glumes are unequal and 1-veined. The lemma is 3-veined (sometimes 5-veined) and can be light brown, dark green, or a gray color. The lemma tip is usually truncate to obtuse or mucronate. The palea of the floret is subequal to the lemma and is usually hyaline. The fruit is a caryopsis contained within the lemma and palea.



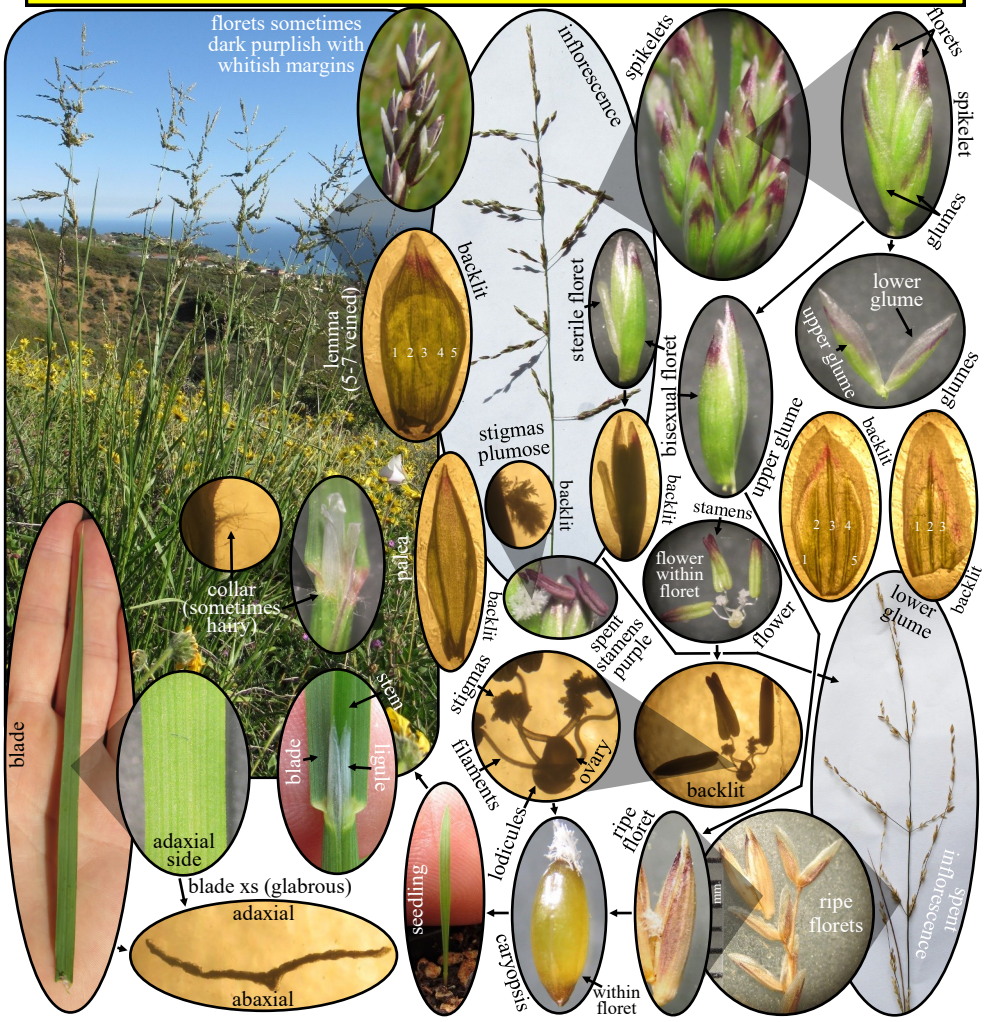
California Melic (*Melica imperfecta*)

Order: Poales

Family: Poaceae (Grass Family)

Flowers: April - May

Melica imperfecta is a perennial herbaceous plant. It is found throughout the peninsula. The culms (stems) are generally erect and the overall plant is cespitose. The sheath of the leaf is closed to near the top. The ligule of the leaf is membranous with the tip obtuse or truncate and erose to lacerate. The blade of the leaf is glabrous to somewhat hairy. The inflorescence is a panicle that has branches that can be appressed to spreading. Each branch of the inflorescence can have 3-30 spikelets on it. The spikelets disarticulate above the glumes and each spikelet contains 1 or 2 bisexual florets. Reduced sterile florets are also present in the spikelet and do not resemble the bisexual florets. The lower glume is 3-5 veined. The upper glume is 1-5 veined. The lemma is 5-7 veined, usually glabrous, and unawned. The palea is transparent and close to the length of the lemma. The fruit is a caryopsis.



Little Seed Muhly (*Muhlenbergia microsperma*)

Order: Poales

Family: Poaceae (Grass Family)

Flowers: March - May

Muhlenbergia microsperma is an annual (sometimes appearing as a short-lived perennial) herbaceous plant. It is found in a few spots on the peninsula, mostly along the coastal bluffs. The culms (stems) are erect towards the top and bent towards the base. The sheath of the leaf is open. The ligule of the leaf is membranous, truncate to obtuse, tip erose to lacerate, and bottom decurrent to sheath. The blade is flat to sometimes involute, it is minutely hairy abaxially, and hairy adaxially. The inflorescence is a panicle with branches ascending to spreading, and the overall inflorescence is often purplish. The spikelets have only one floret. Cleistogamous florets are also present usually within the lower branch axils of the inflorescence. The floret disarticulates above the glumes. The glumes are smaller than the floret and are 1-veined. The lemma is narrowly lanceolate, 3-veined, and the tip has a long usually straight awn. The palea is narrowly lanceolate, less than the lemma, and 2-veined. Anthers are purplish. The fruit is a caryopsis that is reddish-brown.



Little Seed Muhly (*Muhlenbergia microsperma*)

Order: Poales

Family: Poaceae (Grass Family)

Flowers: March - May



following good rain, plants can be quite abundant



overall plants can have a reddish-purple color



overall plant



greenish-red plant



reddish-purple plant

One Sided Blue Grass (*Poa secunda* subsp. *secunda*)

Order: Poales

Family: Poaceae (Grass Family)

Flowers: March - August

Poa secunda subsp. *secunda* is a perennial herbaceous plant. It is found in only a few locations on the peninsula. The culms (stems) are slender and erect. The sheath of the leaf is mostly open and is closed for about the last quarter of its length. The ligule of the leaf is membranous and truncate to acuminate. The blade of the leaf is somewhat bluish green, usually flat, thin, soft, generally glabrous (can sometimes be minutely hairy along the veins), and have apices that are narrowly prow-shaped. The blade withers by flowering time. The inflorescence is a panicle with branches erect to spreading. The inflorescence can be contracted at maturity, or it can be widely spreading (spreading is less common). The spikelets are narrowly lanceolate, cylindric, and are made up of 3-10 florets. The glumes are broadly lanceolate, somewhat equal, and the glumes are 3-veined. The lemma is awnless, generally with 5 veins, weakly keeled, and hairy. The palea is keeled and hairy. The fruit is a caryopsis.



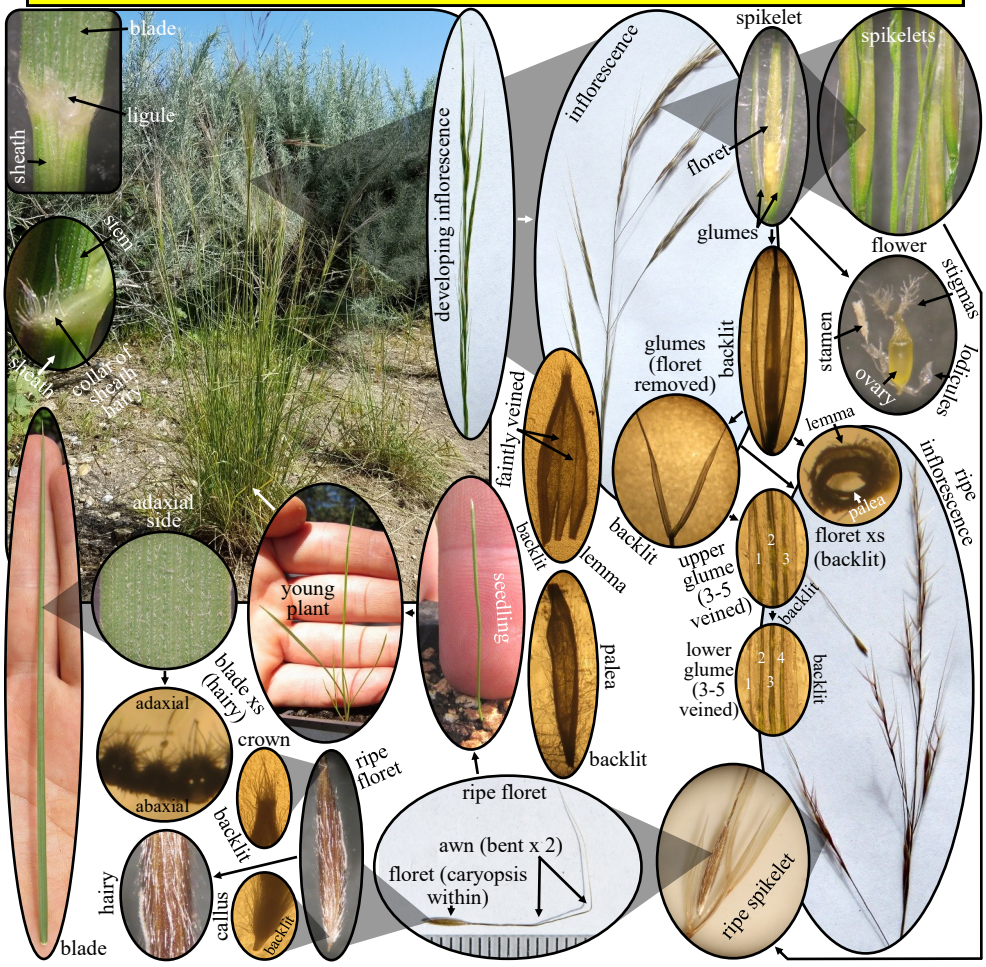
Foothill Needle Grass (*Stipa lepida*)

Order: Poales

Family: Poaceae (Grass Family)

Flowers: March - June

Stipa lepida is a perennial herbaceous plant. It is found throughout the peninsula. The culms (stems) are slender and erect. The sheaths of the leaves are open and are somewhat hairy. The collar of the leaf is hairy. The blade of the leaf is flat or can have margins that are somewhat inrolled. The blade is also only hairy on the adaxial surface. The ligule is membranous, short, and truncate to rounded. The inflorescence is a panicle with branches ascending to spreading. Each branch can have 1-6 spikelets. There is 1 floret per spikelet and the florets are terete. The florets are 4-7 mm long. The glumes (5.5-15 mm long) are longer than the floret, 3-5 veined, almost equal in length, and are narrowly lanceolate with tips acuminate. The lemma tightly hugs around the palea and caryopsis. The lemma is faintly 3-7 veined. The awn of the lemma is 12-55 mm long and bent at maturity (usually 2 times). The lemma body is generally uniformly hairy in age. The lemma crown is distinct from the lemma and is hairy. The palea is shorter than the lemma and has no veins. The fruit is a caryopsis.



Foothill Needle Grass (*Stipa lepida*)

Order: *Poales*

Family: Poaceae (Grass Family)

Flowers: March - June

dormant patch of *S. lepida*





dormant
S. lepida



not dormant
S. lepida

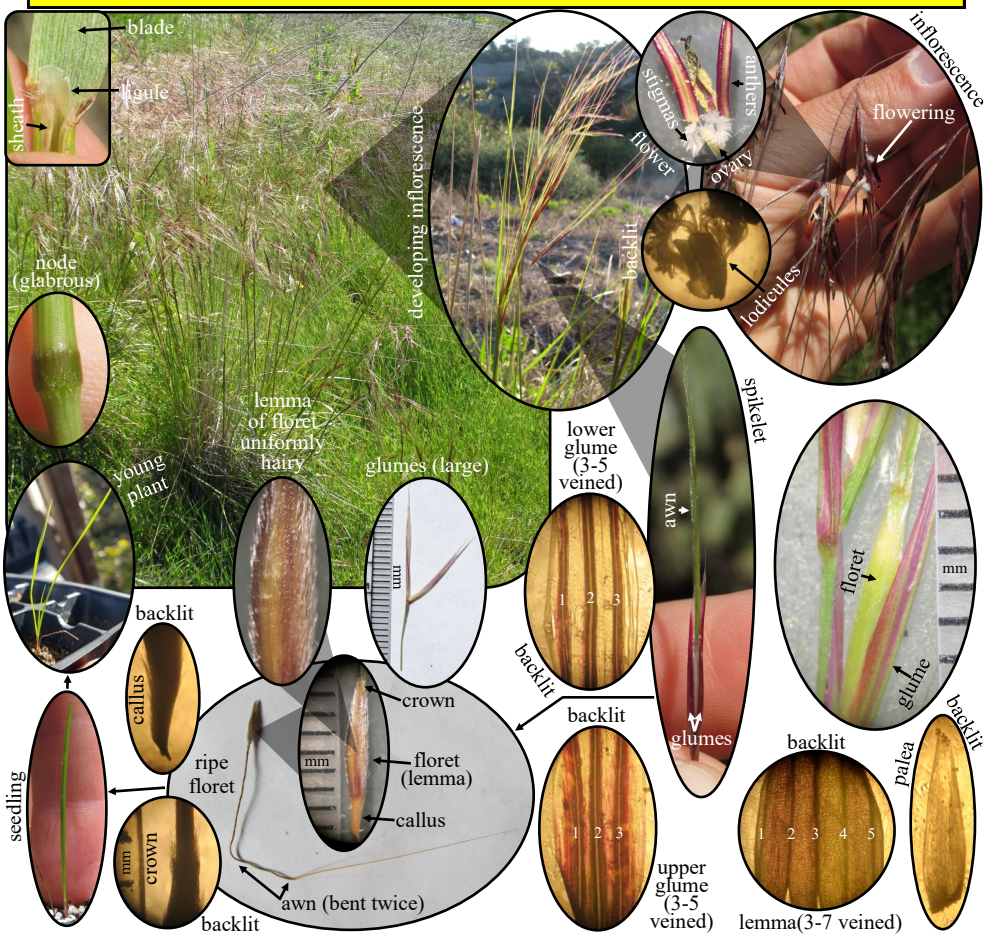
Purple Needle Grass (*Stipa pulchra*)

Order: Poales

Family: Poaceae (Grass Family)

Flowers: March - June

Stipa pulchra is a perennial herbaceous plant. It is found in only a few locations on the peninsula. The culms (stems) are thick and generally erect. The sheaths of the leaves are open and somewhat hairy. The collar of the leaf is hairy. The blade of the leaf is flat or can have margins that are somewhat inrolled. The blade is also only hairy on the adaxial surface. The ligule is membranous, short, and truncate to round-ed. The inflorescence is a panicle with branches ascending to spreading. Each branch can have 2-6 spikelets. There is 1 floret per spikelet and the florets are terete. The florets are long (7.5-11.5 mm). The glumes are long (12-20 mm), usually longer than the floret, 3-5 veined, almost equal in length, and are narrowly lanceolate with tips acuminate. The lemma tightly hugs around the palea and caryopsis. The lemma is faintly 3-7 veined. The awn of the lemma is strongly bent 2 times at maturity and is 38-100 mm long. The lemma is uniformly hairy in age. The lemma crown is distinct from the lemma and is hairy. The palea is shorter than the lemma and has no veins. The fruit is a caryopsis. This plant is the largest of the local needle grasses.



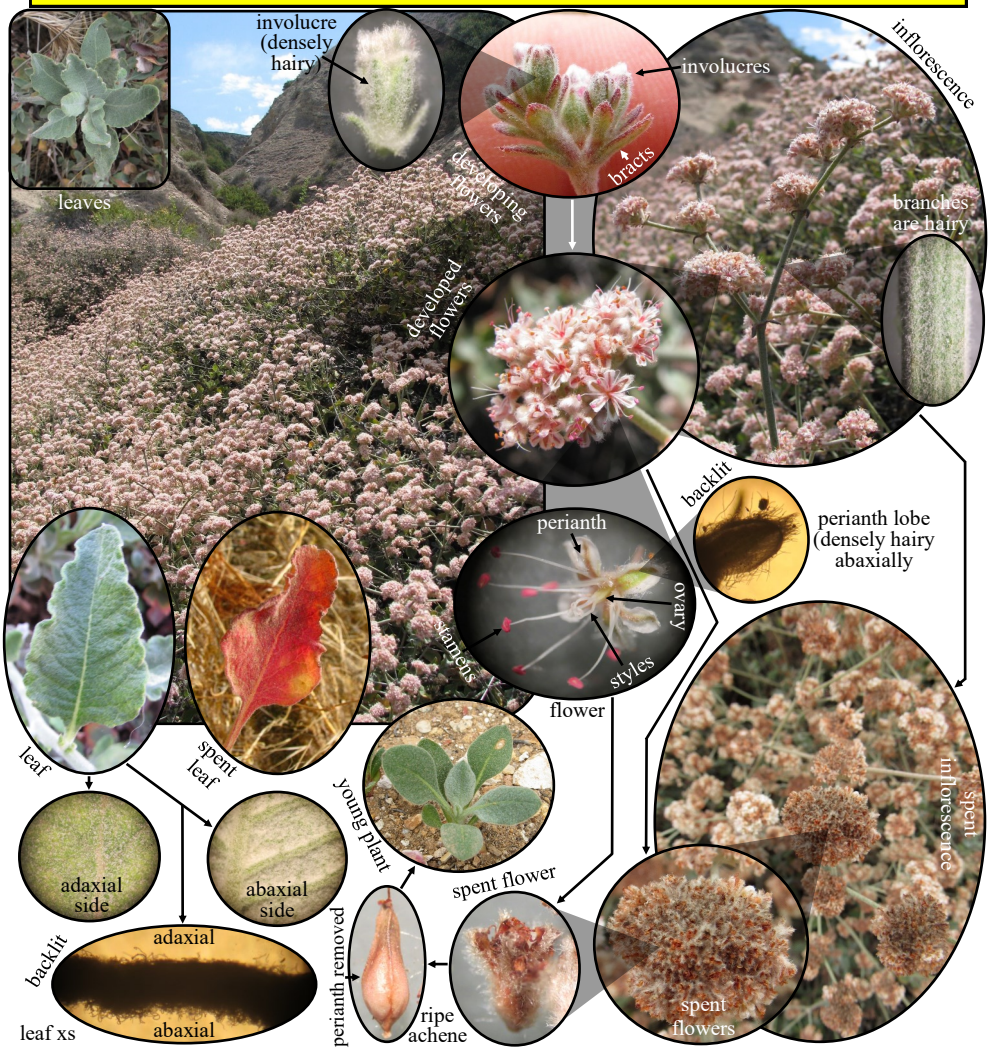
Ashyleaf Buckwheat (*Eriogonum cinereum*)

Order: Caryophyllales

Family: Polygonaceae (Buckwheat Family)

Flowers: May - November (can sometimes flower year-round)

Eriogonum cinereum is a perennial shrub. It is found throughout the peninsula. The overall plant has a bluish-gray color to it. The cauline leaves are ovate and hairy (the abaxial side being more densely hairy than the adaxial side). The flowers are clustered together in compact head-like inflorescences. The branches of the inflorescences are hairy and bracts are present (usually 3) and can be scalelike or leaflike. Peduncles are absent. There are 3-10 involucres per cluster and the involucres are hairy. The perianth is densely hairy, white to usually pink, and has lobes that are spatulate. The stamens are exserted and the anthers are pinkish. The fruit is an achene that is obconic, brown, and glabrous. The achene is found within the persistent perianth. This plant is an endemic to California and is a species of conservation concern.



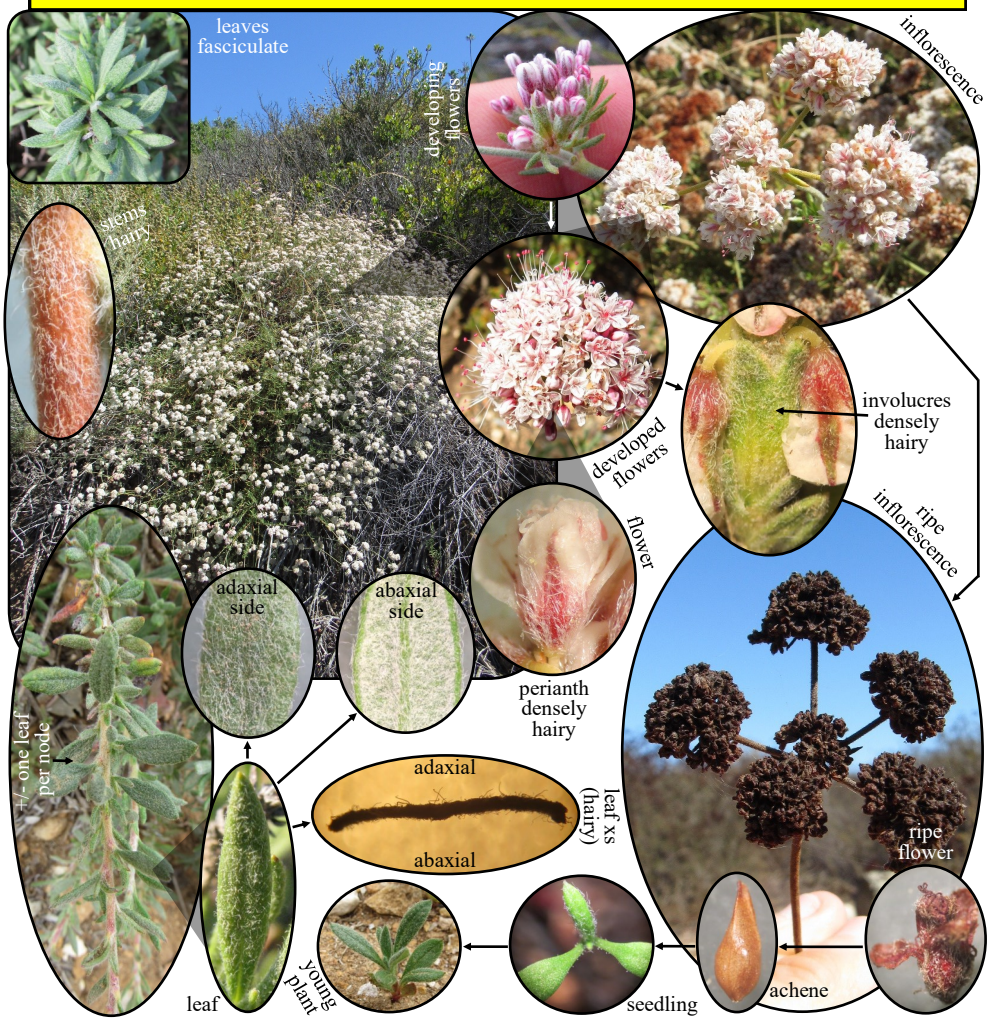
Palos Verdes Buckwheat (*Eriogonum fasciculatum* var. *palosverdensis* -unpublished name)

Order: Caryophyllales

Family: Polygonaceae (Buckwheat Family)

Flowers: May - November (can sometimes flower all year)

Eriogonum fasciculatum var. *palosverdensis* is a perennial prostrate to very low growing shrub. This variety of California buckwheat appears to be restricted to the San Pedro Channel facing side of the peninsula. It is found in remnant patches of intact coastal sage scrub in 4 locations. This variety of California buckwheat has a prostrate to very low subshrub growth habit and the entire plant is densely hairy (stems, leaves, inflorescence, flowers). The leaf margins on the leaves are not rolled under. A propagation study also showed that these traits are seen and maintained within the F1 generation as well. The author puts forth the hypothesis that this variety of California buckwheat on the Palos Verdes Peninsula is an undescribed variety that is an endemic to the peninsula. Description for *E. fasciculatum* var. *palosverdensis*: Prostrate to subshrub plant. Overall plant is densely hairy. The stems of this buck-



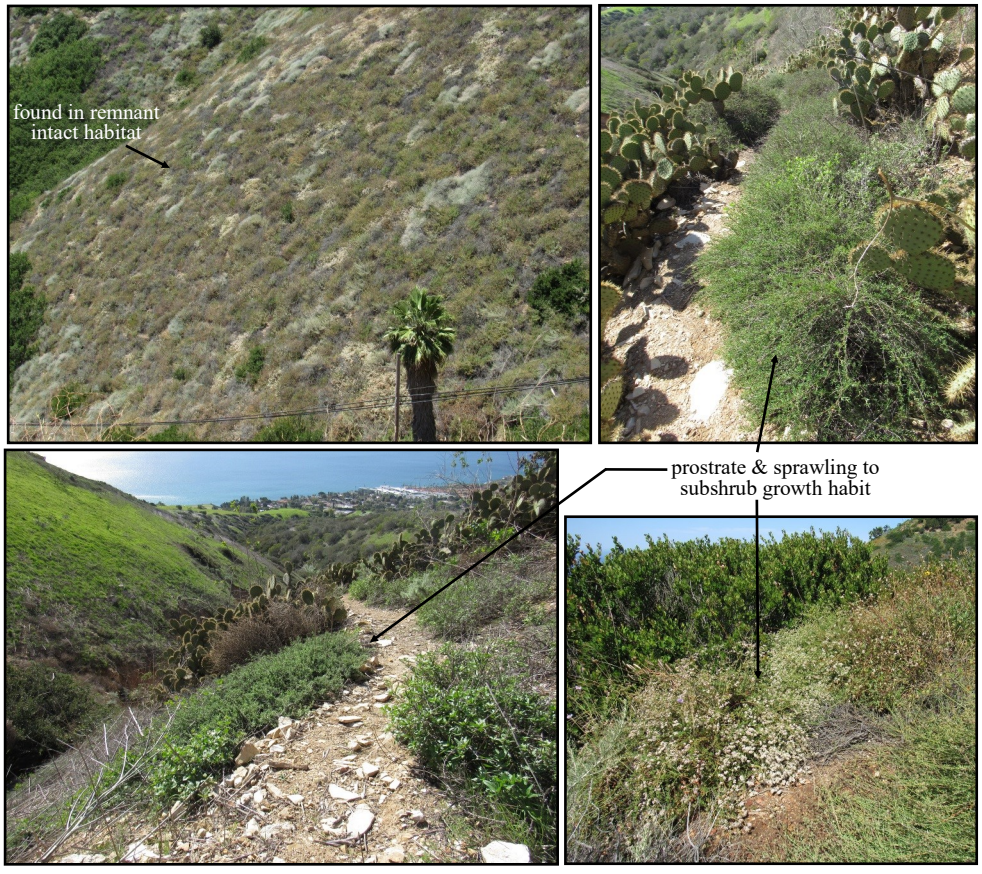
Palos Verdes Buckwheat (*Eriogonum fasciculatum* var. *palosverdensis* -unpublished name)

Order: Caryophyllales

Family: Polygonaceae (Buckwheat Family)

Flowers: May - November (can sometimes flower all year)

wheat are densely hairy. The stems will also arch downwards and ramble along the ground. The leaves are linear to oblanceolate and range in color from green to typically bluish-green. The leaves can be fasciculate or 1 per node. The abaxial side of the leaf is densely hairy (hairs appressed) and the adaxial side is densely hairy (hairs generally appressed to spreading). The leaf margins can be slightly rolled under or not at all (the later being the most frequently encountered). The flowers are clustered together in compact heads. The overall inflorescence is hairy and head-like to cymose -umbellate. The involucre is densely hairy. The perianth is densely hairy and white to pinkish. The fruit is an achene that is obconic, brown, and glabrous. The achene is found within the persistent perianth. There was a historic collection from the peninsula (Palos Verdes hills) made by Edith A. purer in 1931 (SD 31177) that was labeled as *E. fasciculatum* (1931) and then annotated again as *E. fasciculatum var. fasciculatum* (1978); however, close examination of this specimen showed that this specimen is not *E. fasciculatum* var. *fasciculatum,* but rather this undescribed variety of California buckwheat.



Palos Verdes Buckwheat (*Eriogonum fasciculatum* var. *palosverdensis* -unpublished name)

Order: Caryophyllales

Family: Polygonaceae (Buckwheat Family)

Flowers: May - November (can sometimes flower all year)



prostrate & sprawling to subshrub growth habit



Palos Verdes Buckwheat (*Eriogonum fasciculatum* var. *palosverdensis* -unpublished name)

Order: Caryophyllales

Family: Polygonaceae (Buckwheat Family)

Flowers: May - November (can sometimes flower all year)

propagation study



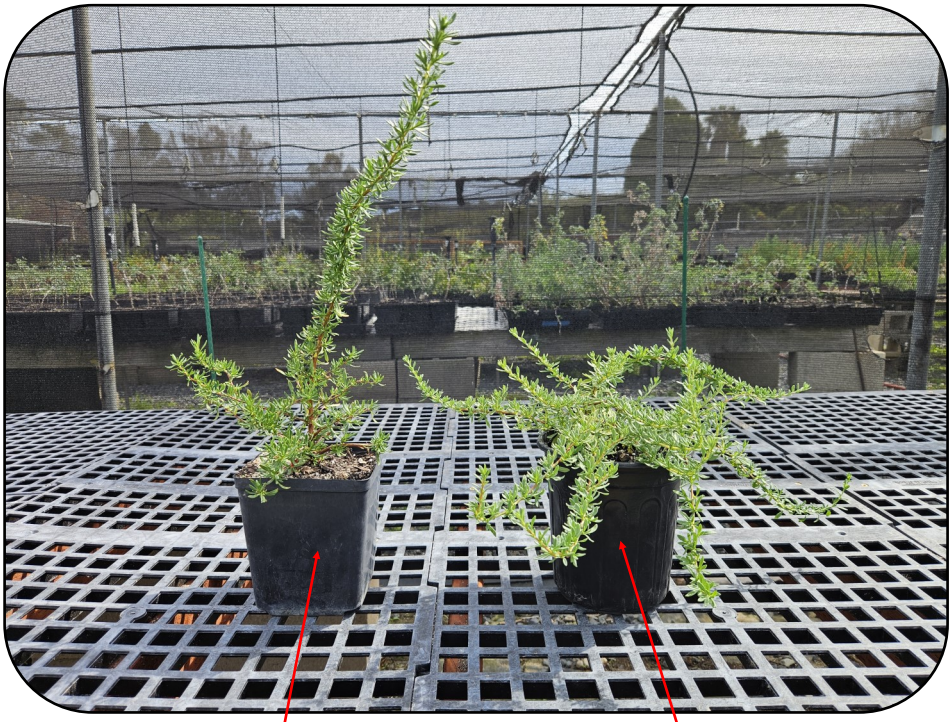
Palos Verdes Buckwheat (*Eriogonum fasciculatum* var. *palosverdensis* -unpublished name)

Order: Caryophyllales

Family: Polygonaceae (Buckwheat Family)

Flowers: May - November (can sometimes flower all year)

propagation study



Eriogonum fasciculatum var. *fasciculatum* in a 1-gallon pot with upright growth

Eriogonum fasciculatum var. *palosverdensis* in a 1-gallon pot with prostrate to downward growth

Palos Verdes Buckwheat (*Eriogonum fasciculatum* var. *palosverdensis* -unpublished name)

Order: Caryophyllales

Family: Polygonaceae (Buckwheat Family)

Flowers: May - November (can sometimes flower all year)

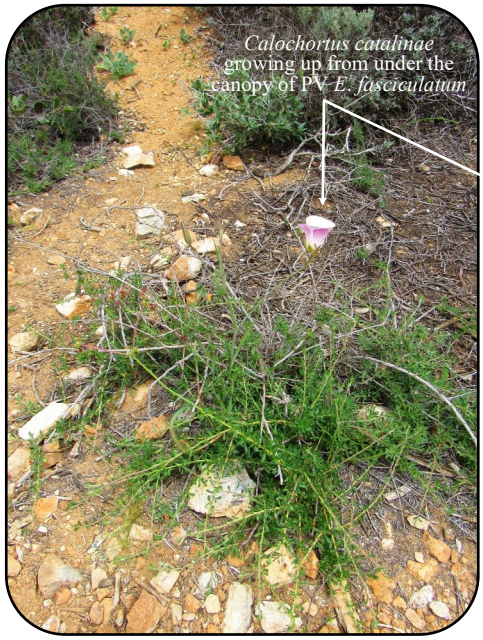


Palos Verdes Buckwheat (*Eriogonum fasciculatum* var. *palosverdensis* -unpublished name)

Order: Caryophyllales

Family: Polygonaceae (Buckwheat Family)

Flowers: May - November (can sometimes flower all year)





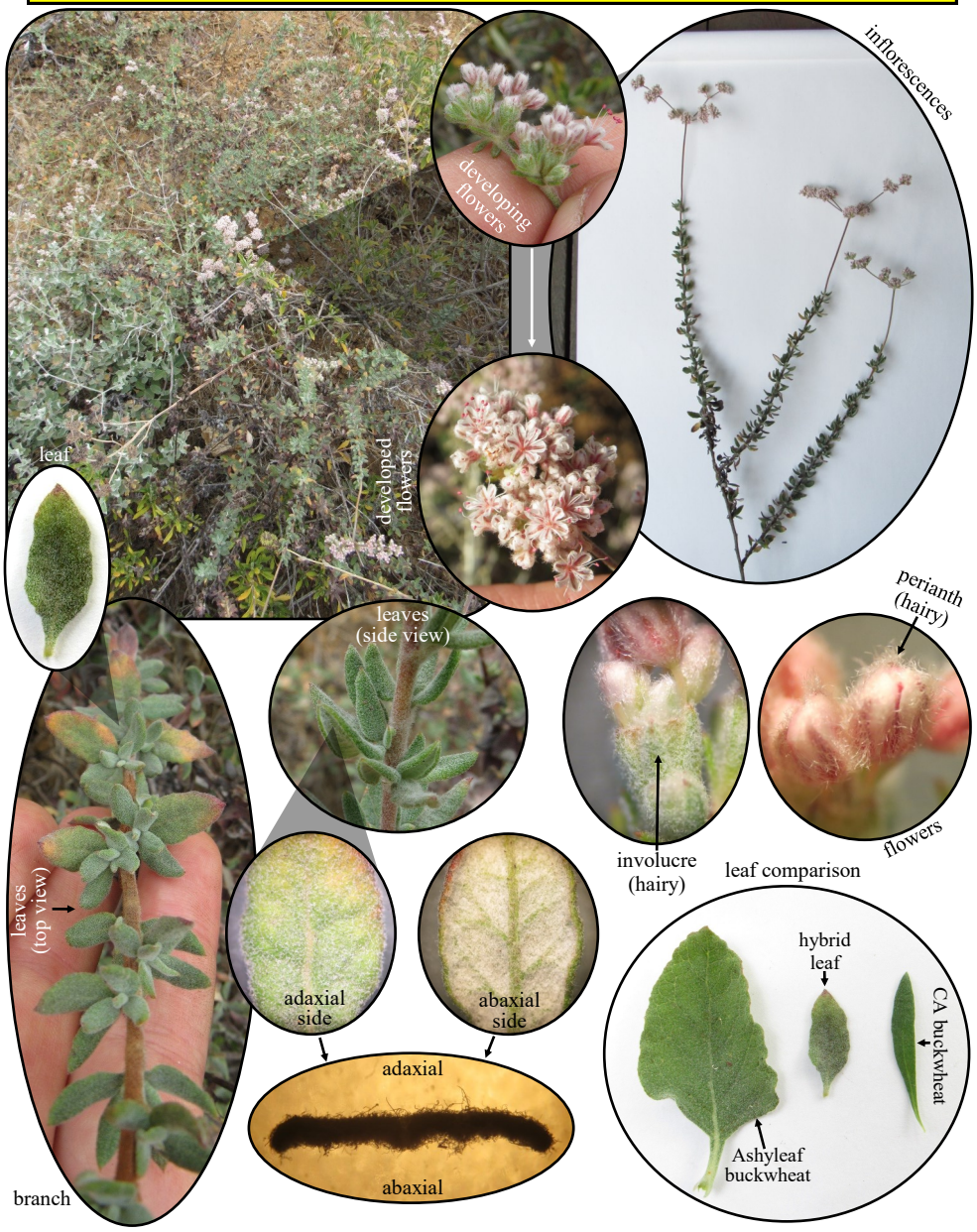
other species of PV natives (*Calochortus catalinae*, *Dipterostemon capitatus* subsp. *capitatus*, and *Dichondra occidentalis*) have been observed growing up through or under the canopy of the PV local variety of *Eriogonum fasciculatum* - perhaps providing protection from herbivores (that might want to dig up the corms/bulbs or eat the leaves) and sheltering from full UV exposure





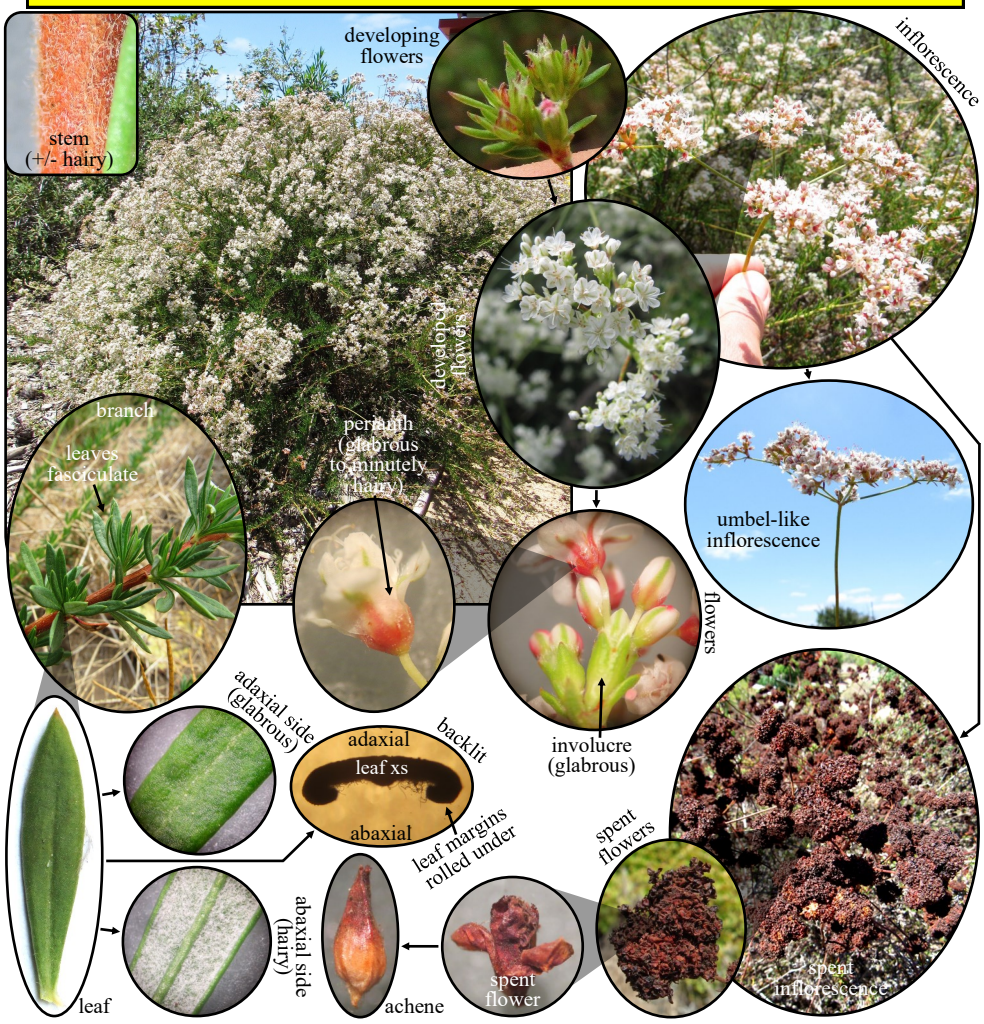
Hybrid (*Eriogonum cinereum* x *Eriogonum fasciculatum* var. *palosverdensis*)
Order: Caryophyllales
Family: Polygonaceae (Buckwheat Family)
Flowers: May - November

This naturally occurring buckwheat hybrid is located in a few spots on the peninsula where both Ashy-leaf buckwheat and PV California Buckwheat grow in close proximity.



California Buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*)
Order: Caryophyllales
Family: Polygonaceae (Buckwheat Family)
Flowers: May - November (can sometimes flower all year)

Eriogonum fasciculatum var. *fasciculatum* is a perennial upright rounded shrub. This variety of California buckwheat does not appear to occur naturally on the peninsula. It is encountered in restoration areas, native plant gardens, city projects, and in historical hydroseeded areas around the peninsula. Stems are glabrous to minimally hairy. The leaves are generally linear and green to dark green. The leaves can be fasciculate or 1 per node. The adaxial side of the leaf is glabrous while the abaxial side is densely short hairy. The leaf margins are rolled under. The flowers are clustered together in compact heads. The overall inflorescence is branched and often umbel-like. The involucre is generally glabrous. The perianth is generally glabrous (occasionally very minimally hairy) and white to pinkish. The fruit is an achene that is obconic, brown, and is glabrous. The achene is found within the persistent perianth.



California Buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*)
Order: Caryophyllales
Family: Polygonaceae (Buckwheat Family)
Flowers: May - November (can sometimes flower all year)

generally forms a large tall upright shrub



California Buckwheat (*Eriogonum fasciculatum* var. *foliolosum*)

Order: Caryophyllales

Family: Polygonaceae (Buckwheat Family)

Flowers: May - November (can sometimes flower all year)

Eriogonum fasciculatum var. *foliolosum* is a perennial rounded shrub. This variety of California buckwheat is found mostly on the Los Angeles Basin facing side of the peninsula and the Santa Monica Bay facing side. The stems are glabrous to minimally hairy. The leaves are linear and green to dark-green. The leaves can be fasciculate or 1 per node. The abaxial side of the leaf is densely hairy (hairs appressed) and the adaxial side is minimally hairy (hairs usually appressed). The leaf margins are rolled under. The flowers are clustered together in compact heads. The overall inflorescence is open and mostly cymose. The involucre is hairy. The perianth is hairy and white to pinkish. The fruit is an achene that is obconic, brown, and is glabrous. The achene is found within the persistent perianth.



Long-stemmed Buckwheat (*Eriogonum elongatum* var. *elongatum*)
Order: Caryophyllales
Family: Polygonaceae (Buckwheat Family)
Flowers: July - November

Eriogonum elongatum var. *elongatum* is a perennial herbaceous plant. It is found in a few locations on the peninsula. The overall plant is densely hairy which gives it a bluish gray to whitish color. The stems are erect to spreading. The cauline leaves have petioles and the blades are narrowly oblong to narrowly ovate. The overall leaf is hairy. The leaves can be fasciculate or 1 per node. The leaf margin can be plane or sometimes crisped. The inflorescences are virgate and dichotomously branched. There are 3 bracts that are scalelike and triangular that subtend the involucres of the inflorescence. The involucres are 1 per node along the inflorescence and are densely hairy. The perianth of the flower is glabrous and white to pinkish. The anthers are light to dark pink. The fruit is an achene that is obconic, glabrous, and dark brown or light brown with purple. The achene is found within the persistent perianth.



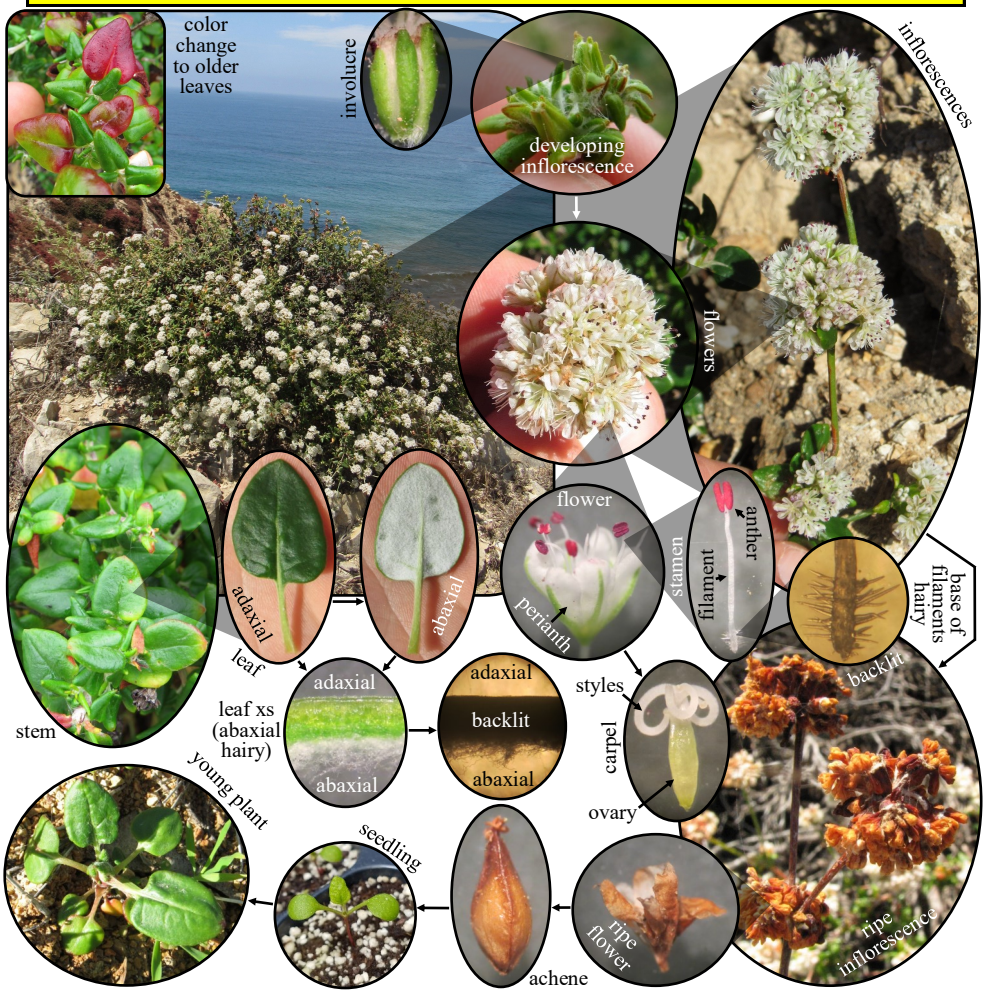
Seacliff Buckwheat (*Eriogonum parvifolium*)

Order: Caryophyllales

Family: Polygonaceae (Buckwheat Family)

Flowers: April - August (can sometimes flower all year)

Eriogonum parvifolium is a perennial shrub. It is found along the coastal bluffs of the peninsula. The overall growth habit is highly compact, rounded and shrubby mat. The leaves are thickened and the blade is widely lanceolate to round. The adaxial side of the leaf is generally glabrous with the abaxial side being densely hairy (hairs appressed). The leaves are generally fasciculate and rarely 1 per node. Older leaves can turn a vibrant red. The inflorescence is generally capitate with dense compact cluster of involucres (2-7 per cluster). The involucres are hairy. There are 3 bracts that subtend the involucre and they are triangular or elliptic, and are scalelike or leaflike. The perianth of the flower is glabrous and white to pinkish. The anthers are light to dark pink. The fruit is an achene that is obconic, glabrous, and brown. The achene is found within the persistent perianth. This plant is endemic to California. This plant is the food plant for the El Segundo dotted-blue (*Euphilptes battoides allyni*).



Seacliff Buckwheat (*Eriogonum parvifolium*)

Order: Caryophyllales

Family: Polygonaceae (Buckwheat Family)

Flowers: April - August (can sometimes flower all year)



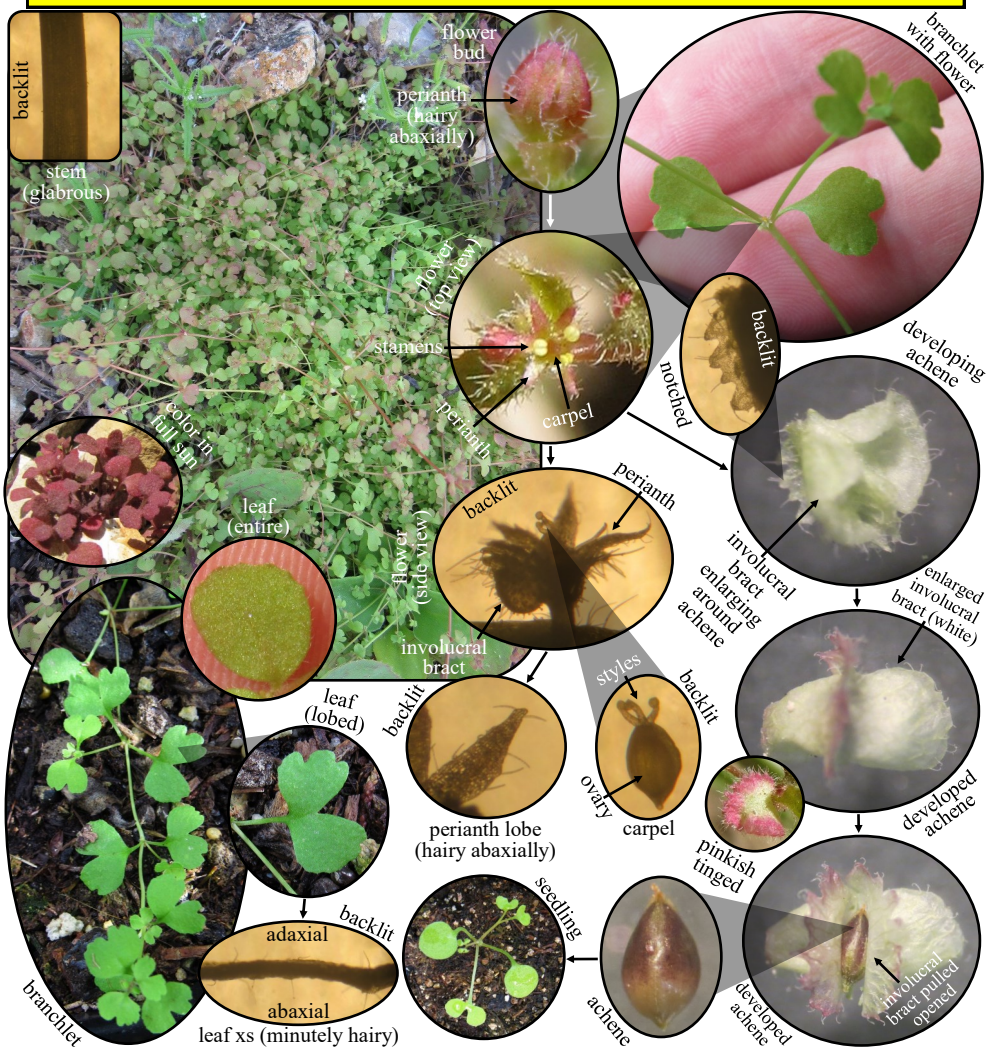
Fairy Mist (*Pterostegia drymarioides*)

Order: Caryophyllales

Family: Polygonaceae (Buckwheat Family)

Flowers: March - July

Pterostegia drymarioides is a small annual herbaceous plant. It is found throughout the peninsula usually in the shade of other larger shrubs. It likes to sprawl out across the surface of the soil or rocks. On the coastal bluffs, it can be found growing in full sun and the whole plant is often a pinkish-red color. The leaf blade can be entire to lobed. The inflorescence is terminal and cyme-like. Involucral bracts are present and are erect, hairy, 2-winged, swollen on one side, notched or lobed, and veined. The flower has a perianth that can be greenish yellow to pinkish with 5 to 6 lobes that are hairy abaxially. There are usually 6 stamens in the flower. The fruit is an achene that is brownish, obconic, and glabrous. The mature achene is contained within the modified swollen involucral bract which can be all white or tinged with pink.



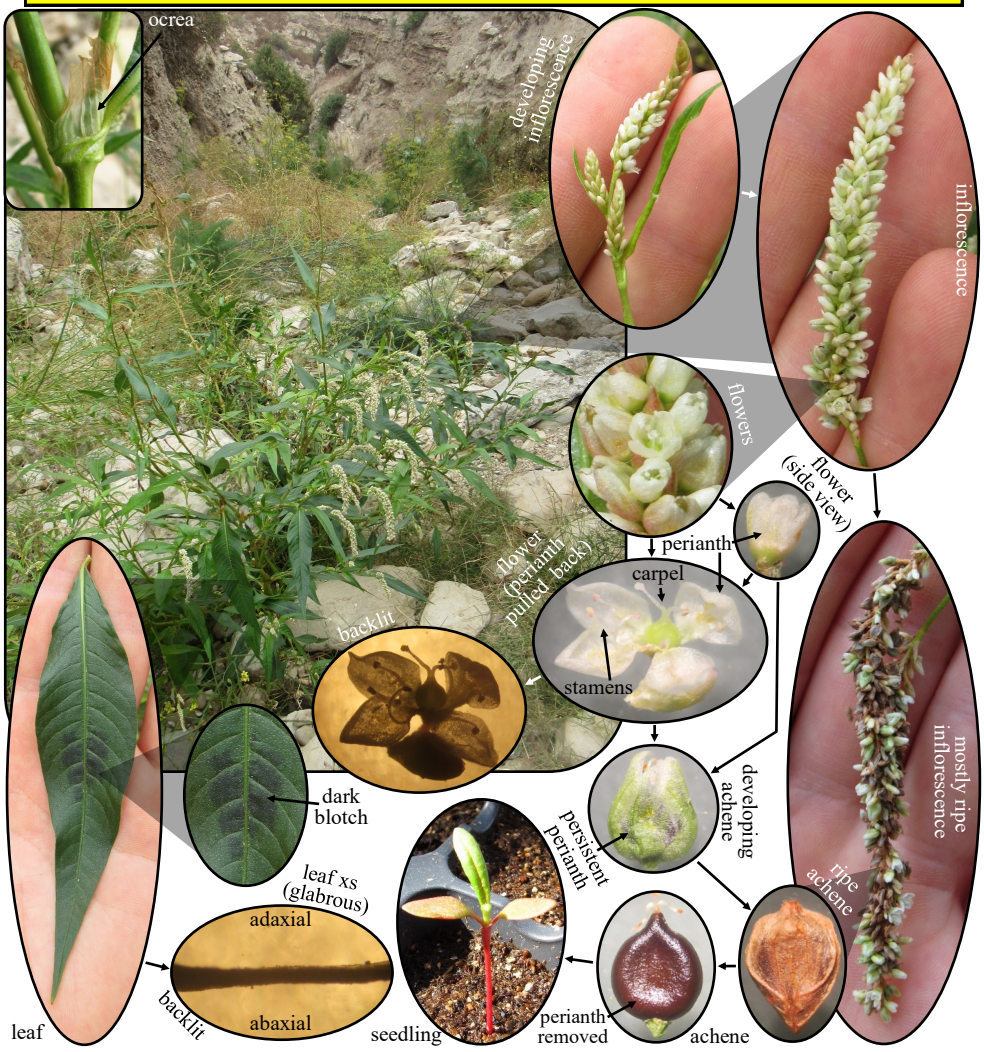
Common Knotweed (*Persicaria lapathifolia*)

Order: Caryophyllales

Family: Polygonaceae (Buckwheat Family)

Flowers: June - October

Persicaria lapathifolia is an annual herbaceous plant. It is found in a few canyons on the peninsula where there is perennial water flow. The stems are ascending to erect. The blade of the leaf is narrowly to broadly lanceolate. The blade sometimes has a dark blotch near the center of the blade on the adaxial side. The ocrea is brownish, papery, veined, and the base is inflated. The inflorescences are generally terminal (sometimes axillary) and usually erect when young and generally nodding with age. The flowers have a perianth that is greenish white to pinkish and glabrous. There are 5-6 stamens with anthers that are pink to red. There are 2 (sometimes 3) styles that are fused at the base. The fruit is an achene that is brown to black, smooth, and generally shinny. The achene is usually surrounded by the persistent perianth.



Wild Rhubarb (*Rumex hymenosepalus*)

Order: Caryophyllales

Family: Polygonaceae (Buckwheat Family)

Flowers: January - May

Rumex hymenosepalus is a perennial herbaceous plant from tuberous roots with short rhizomes. It is found in only one location on the peninsula. The stems of this plant are usually erect, thick, and fleshy. The blade of the leaf is large, generally fleshy, and lanceolate to oblong. The leaf margin is entire and the overall leaf can be flat to undulated. The flowers are densely clustered together and whorled (whorls 5-20 flowered) along the inflorescences that are terminal. The inflorescence can also be branched. The unisexual flowers have a perianth that is made up of 3 outer tepals that are somewhat inconspicuous and 3 inner tepals that are enlarged and lack tubercles. The overall perianth is pinkish-green when young. Staminate flowers have 6 stamens. Pistillate flowers have 3 stigmas that are plumose. The fruit is an achene that is brown to a reddish brown. The ripe achenes are hidden within the persistent and enlarged inner tepals. The inner tepals when young are a pinkish color and generally fleshy. Older (ripe) inner tepals are large, brown, dry, and papery.



Wild Rhubarb (*Rumex hymenosepalus*)

Order: Caryophyllales

Family: Polygonaceae (Buckwheat Family)

Flowers: January - May



2 year old tuberous root



4 year old tuberous root

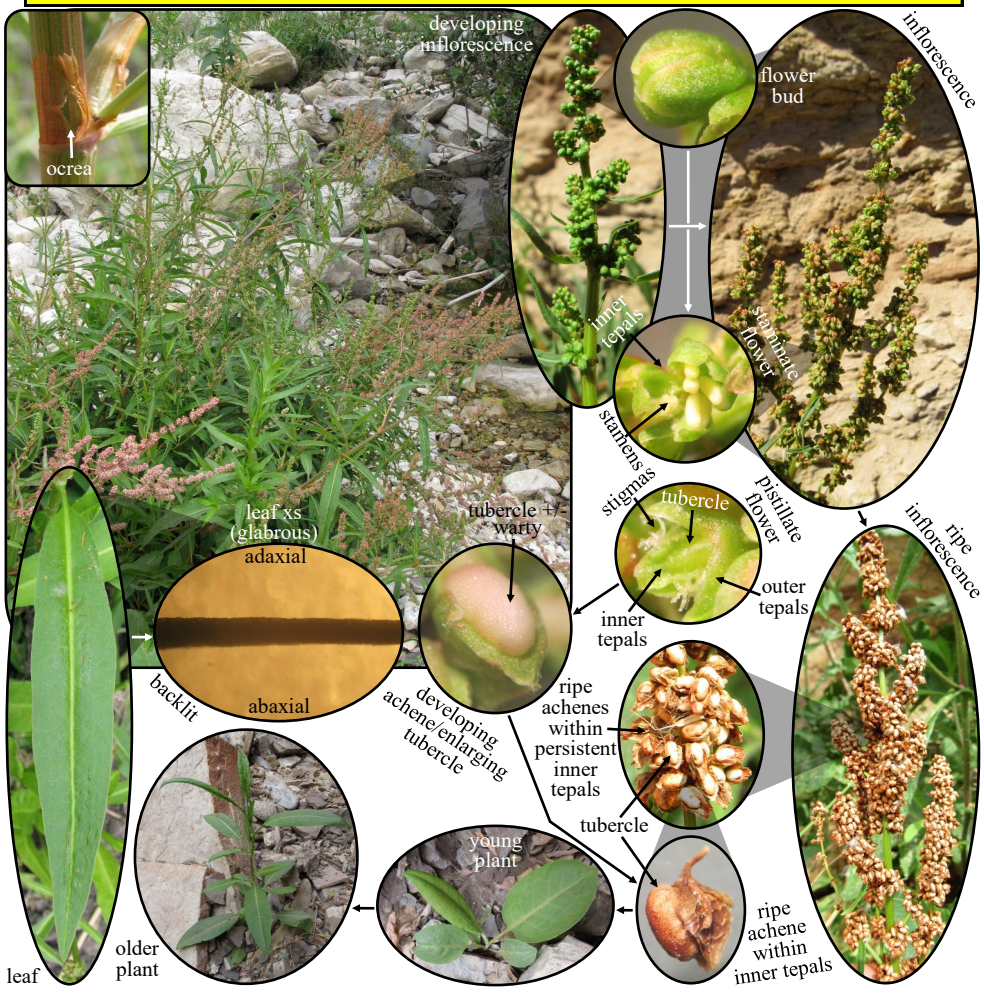
Willow-leaved Dock (*Rumex salicifolius*)

Order: Caryophyllales

Family: Polygonaceae (Buckwheat Family)

Flowers: May - July

Rumex salicifolius is a perennial herbaceous plant. It is found in a few spots on the peninsula (mostly canyons) where there is perennial water flow. The stems are usually erect to ascending. The blade of the leaf is linear-lanceolate to linear. The margins of the blade are entire and the overall leaf is flat or slightly crenulate. The inflorescence is terminal and axillary. The flowers are densely clustered together and whorled (whorls 7-20 flowered) along the inflorescence. The unisexual flowers have a perianth that is made up of 3 outer tepals that are somewhat inconspicuous and 3 inner tepals that are widely triangular. The margins of the inner tepals are entire or notched. There is 1 large tubercle present on the inner tepals of the pistillate flowers that is smooth to generally warty. Staminate flowers have 6 stamens. Pistillate flowers have 3 stigmas (stigmas plumose). The fruit is an achene that is reddish brown. The achenes are hidden within the persistent inner tepals that has one large tubercle.



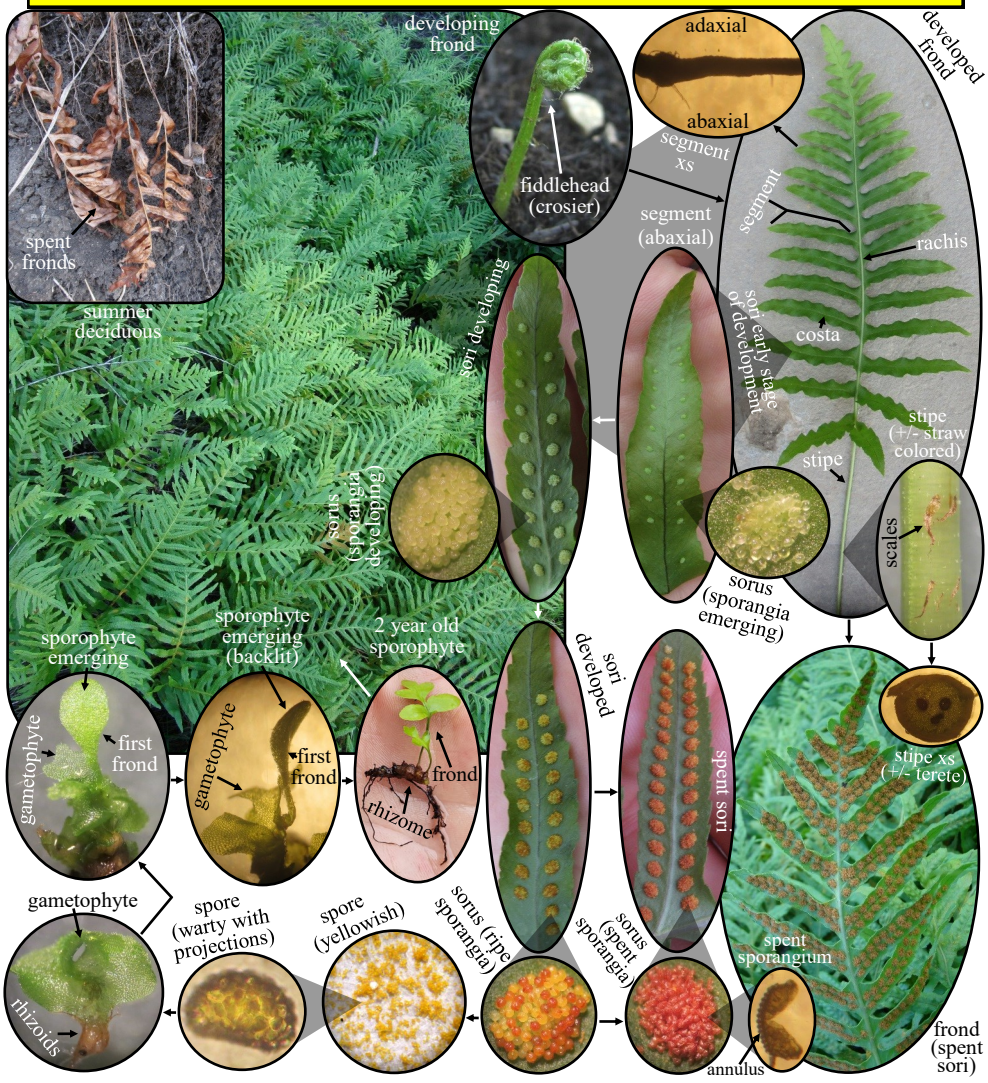
California Polypody (*Polypodium californicum*)

Order: Polypodiales

Family: Polypodiaceae (Polypody Family)

Sporulating: spring - early summer

Polypodium californicum is a perennial pteridophyte. It is found throughout the peninsula in canyons and on hillsides. The rhizomes are hairy to minimally hairy and have scales that are brown. The fronds are monomorphic and summer deciduous. The stipe is usually straw-colored, glabrous to scaly, and somewhat terete. The blade is deltate to lanceolate-ovate and pinnatifid. The blade is also generally widest at the base. The rachis on the abaxial side is sparsely scaly to glabrescent and puberulent on the adaxial side. The pinnae are linear-lanceolate to oblong and have margins that are serrated. The sori are located on the abaxial side of the pinnae. The sori are round to ovate, flat and, glandular. The spore is yellow and warty with surface projections.



California Polypody (*Polypodium californicum*)

Order: Polypodiales

Family: Polypodiaceae (Polypody Family)

Sporulating: spring - early summer



California Polypody (*Polypodium californicum*)

Order: Polypodiales

Family: Polypodiaceae (Polypody Family)

Sporulating: spring - early summer



mature rhizome

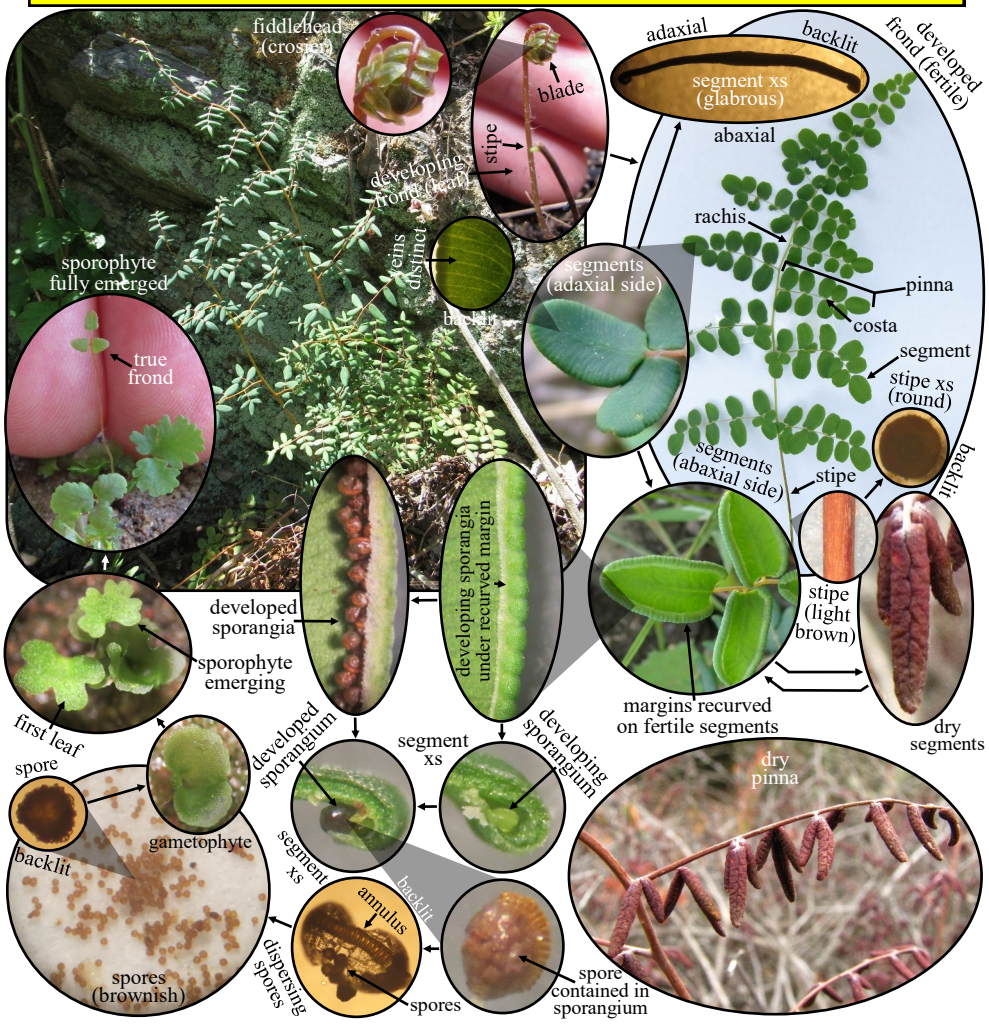
Coffee Fern (*Pellaea andromedaefolia*)

Order: Polypodiales

Family: Pteridaceae (Brake Family)

Sporulating: spring - summer

Pellaea andromedaefolia is a perennial pteridophyte. It is found in only a few canyons on the peninsula. Its rhizomes are slender and creeping. The scales of the rhizomes are mostly bicolored and narrowly lanceolate. The fronds are monomorphic. The stipe of the frond is generally light brown and rounded to slightly flattened. The blade is usually 1-4 pinnate and elongate-deltate. The pinnae are usually ascending (sometimes perpendicular) to the rachis. There can be 8 to 50 segments per frond that are elliptic to ovate, lobed or not and have a tip that can be notched or not. The segments can be glabrous to minimally hairy on the abaxial side and the veins of the segments are distinct. The segments can also fold lengthwise when dried. The margins on fertile segments are recurved which forms a lip that covers the sporangia. The sporangia is often short-stalked and can be 32 or 64 spored. The spore is brownish.



Coffee Fern (*Pellaea andromedaefolia*)

Order: Polypodiales

Family: Pteridaceae (Brake Family)

Sporulating: spring - summer



this fern species is desiccation tolerant and the fronds have the ability to fully dry out and then rehydrate and resume normal function after a few days of hydration



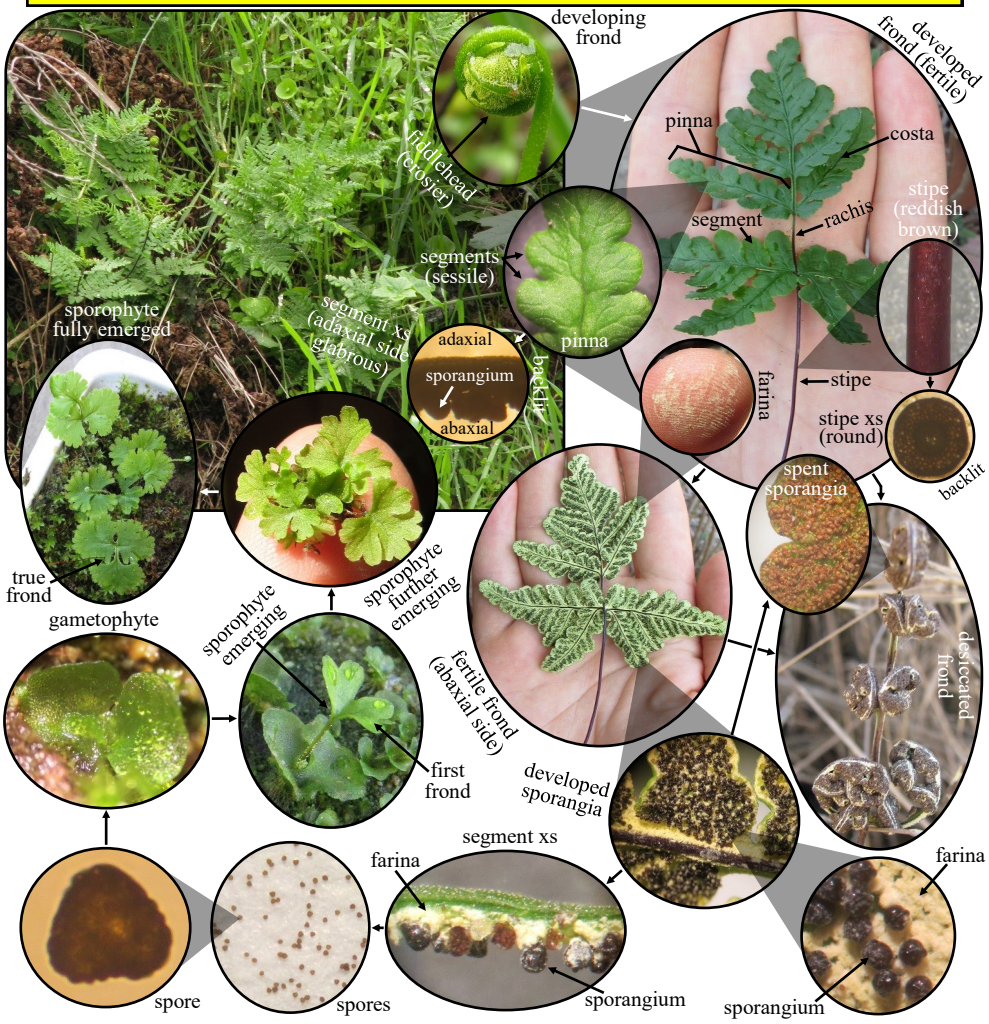
Goldback Fern (*Pentagramma triangularis* subsp. *triangularis*)

Order: Polypodiales

Family: Pteridaceae (Brake Family)

Sporulating: spring - summer

Pentagramma triangularis subsp. *triangularis* is a perennial pteridophyte. It is found throughout the peninsula on hillsides and in canyons. The rhizomes are short creeping and have scales that are bicolored with a black central stripe and tan margins. The fronds are monomorphic. The stipe of the frond is brown to reddish brown to black. The stipe is also somewhat shiny, glabrous, and generally round. The blade is triangular, 1-2 pinnate-pinnatifid proximally, and pinnatifid distally. The blade is also herbaceous to leathery with the abaxial side covered in farina that is creamy yellow to bright yellow. The adaxial side is glabrous. The fronds are able to revive after desiccation. The segments of the pinnae are sessile, adnate to the costa, and have margins that are not recurved to form a false indusia. The sporangia generate along the abaxial veins of the frond. The spore is tan to brown, trigonal, and tuberculate.



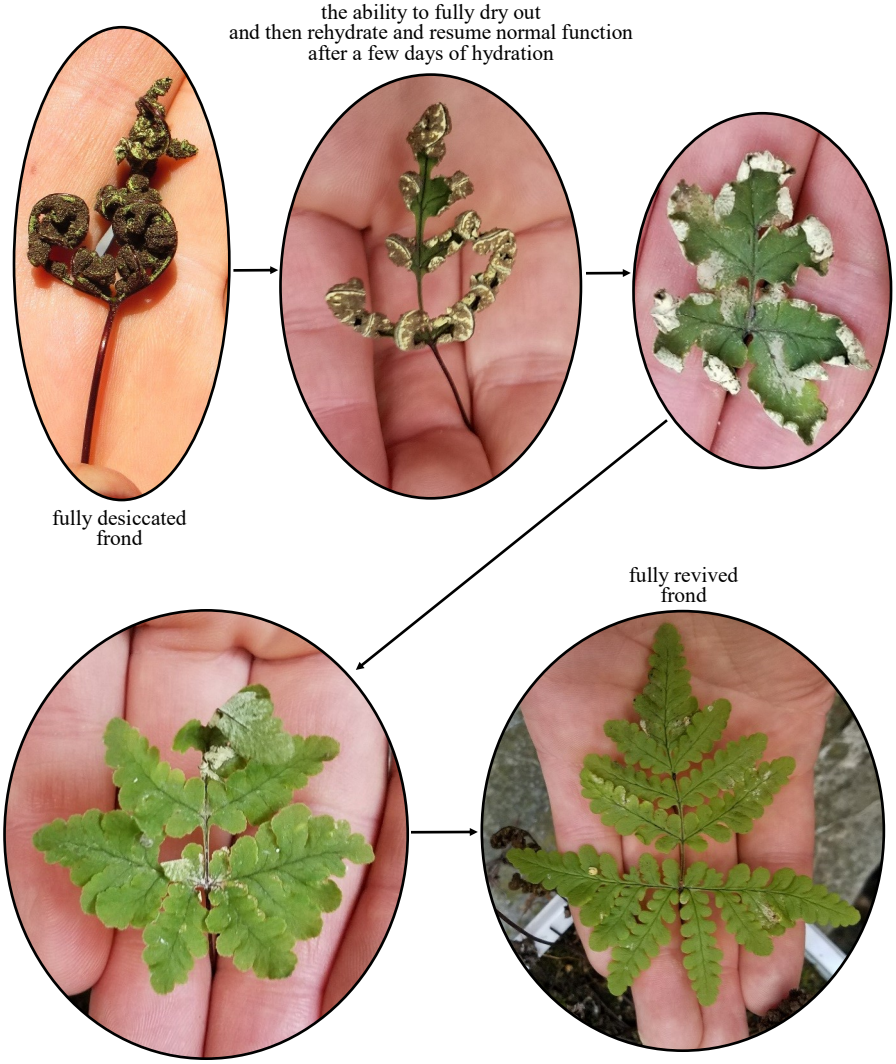
Goldback Fern (*Pentagramma triangularis* subsp. *triangularis*)

Order: Polypodiales

Family: Pteridaceae (Brake Family)

Sporulating: spring - summer

this fern species is desiccation tolerant and the fronds have the ability to fully dry out and then rehydrate and resume normal function after a few days of hydration



fully desiccated frond

fully revived frond

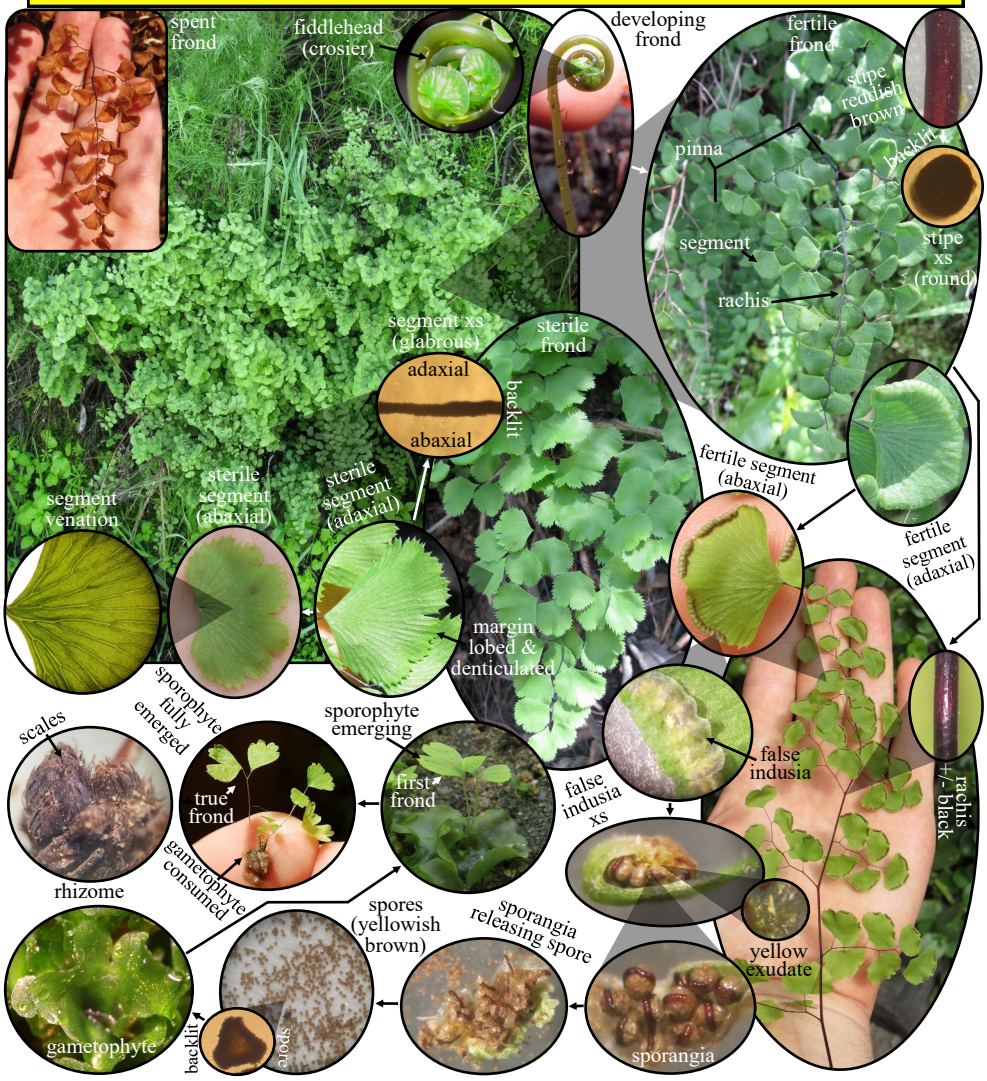
California Maidenhair (*Adiantum jordanii*)

Order: Polypodiales

Family: Pteridaceae (Brake Family)

Sporulating: spring - summer

Adiantum jordanii is a perennial pteridophyte. It is found throughout the peninsula in canyons. The rhizomes are short-creeping with scales that are reddish brown and concolored. The fronds are dimorphic. The stipe is reddish brown to black. The blade is pinnate, glabrous, gradually reduced distally, and the proximal pinnae are 3-4 pinnate. The rachis of the blade is black and glabrous. The generally segments are fan-shaped and glabrous. Fertile segments have margins that are unlobed and usually incised. The sterile segments have margins that are lobed and denticulated. False indusia are present on fertile segments and fold over the sporangia. A yellowish exudate is often present among the sporangia. The spore is yellowish brown.



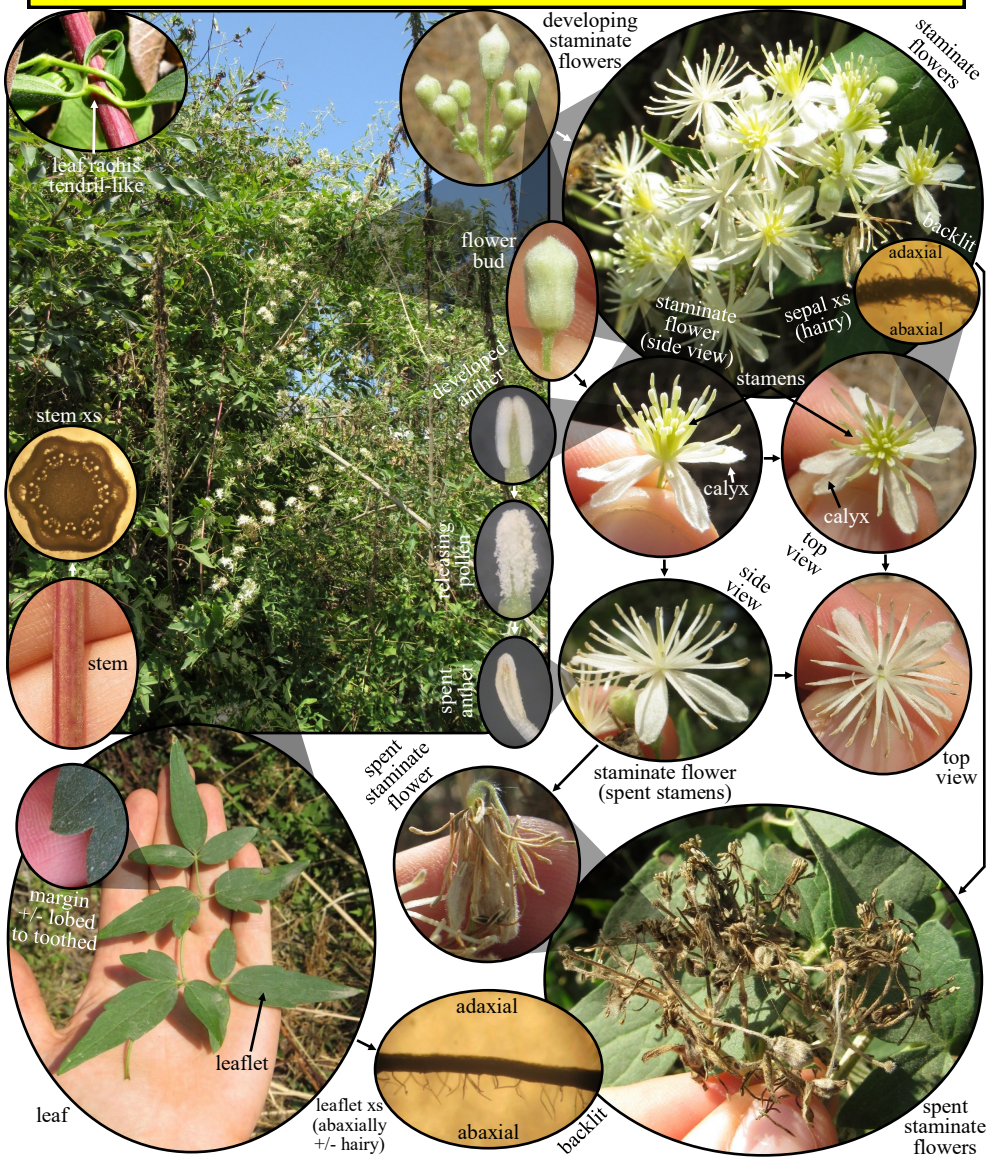
Western Virgin's Bower (*Clematis ligusticifolia*)

Order: Ranunculales

Family: Ranunculaceae (Buttercup Family)

Flowers: June - September

Clematis ligusticifolia is a perennial vining plant that is somewhat woody. It can be dioecious or monoecious but it is generally dioecious. It is found in a few canyons on the peninsula. The leaves are opposite and the blade is pinnately compound with 5 to 15 leaflets. The petiole as well as the leaf rachises can be tendril-like and used to climb up other plants. The flowers are unisexual (sometimes bisexual) and apetalous. The sepals (4) are white to cream colored and wide-spreading. The sepals are also



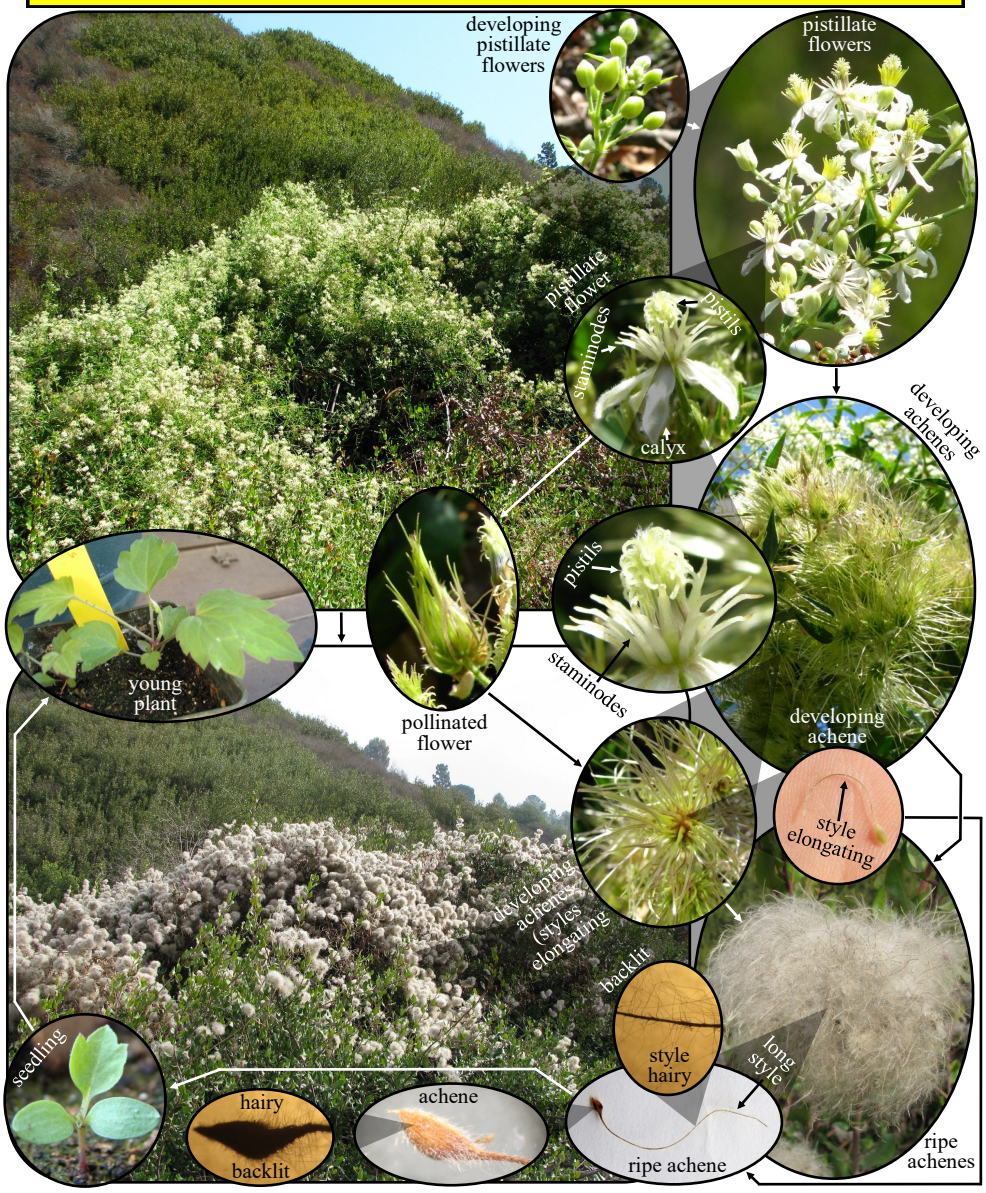
Western Virgin's Bower (*Clematis ligusticifolia*)

Order: Ranunculales

Family: Ranunculaceae (Buttercup Family)

Flowers: June - September

hairy adaxially and abaxially. Staminate flowers have numerous stamens that are about equal to the length of the sepals. In the staminate flowers, staminodes are absent and the pistils are rudimentary or absent. Pistillate flowers have numerous pistils usually 5 to 65 and staminodes are usually present. The fruit is an achene with a body that is hairy and with an elongated feathery style that is hairy.



Maritime Larkspur (*Delphinium parryi* subsp. *maritimum*)

Order: Ranunculales

Family: Ranunculaceae (Buttercup Family)

Flowers: March - May

Delphinium parryi subsp. *maritimum* is a perennial herbaceous plant. It is found in one location on the peninsula. The leaves of this plant are petioled, hairy, and the blade is palmately lobed (lobes 5-27). Both the basal and cauline leaves are present at flowering time. The inflorescence is a raceme that is terminal. The flowers are bilateral. The calyx is made up of 5 sepals that are petal-like, generally spreading, dark blue to light blue to white, and with the uppermost sepals spurred. The corolla is made up of 4 petals that are smaller than the sepals. The petals of the corolla are generally the same color as the sepals. There are 2 upper petals (which form nectar spurs) and 2 lower petals (which are 2 clawed and hairy). Numerous stamens are hidden behind the lower 2 petals. There are 3 pistils. The fruit is a follicle with 3 follicles per flower. The seed is brownish black, wrinkled to bumpy, and somewhat winged.

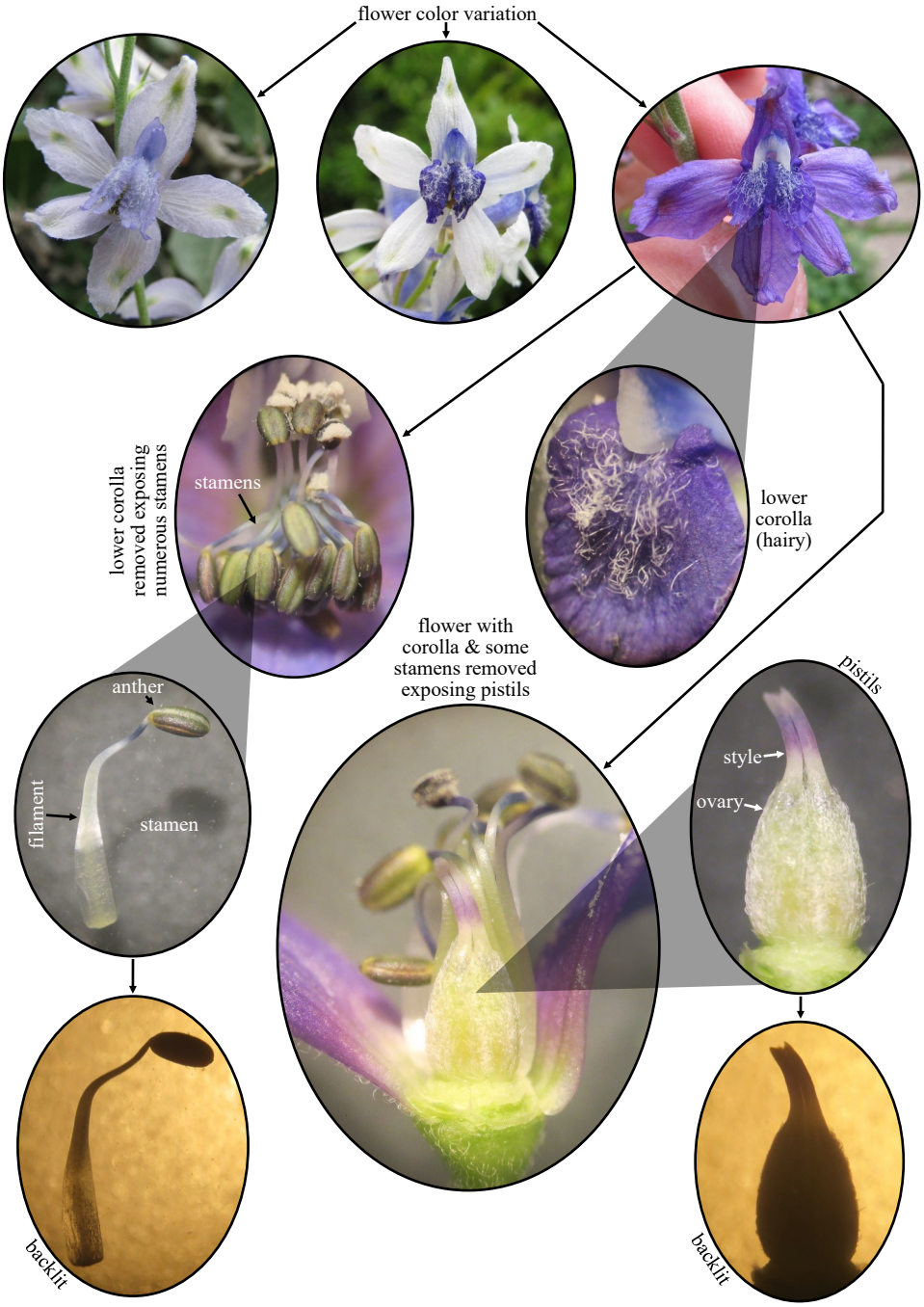


Maritime Larkspur (*Delphinium parryi* subsp. *maritimum*)

Order: Ranunculales

Family: Ranunculaceae (Buttercup Family)

Flowers: March - May



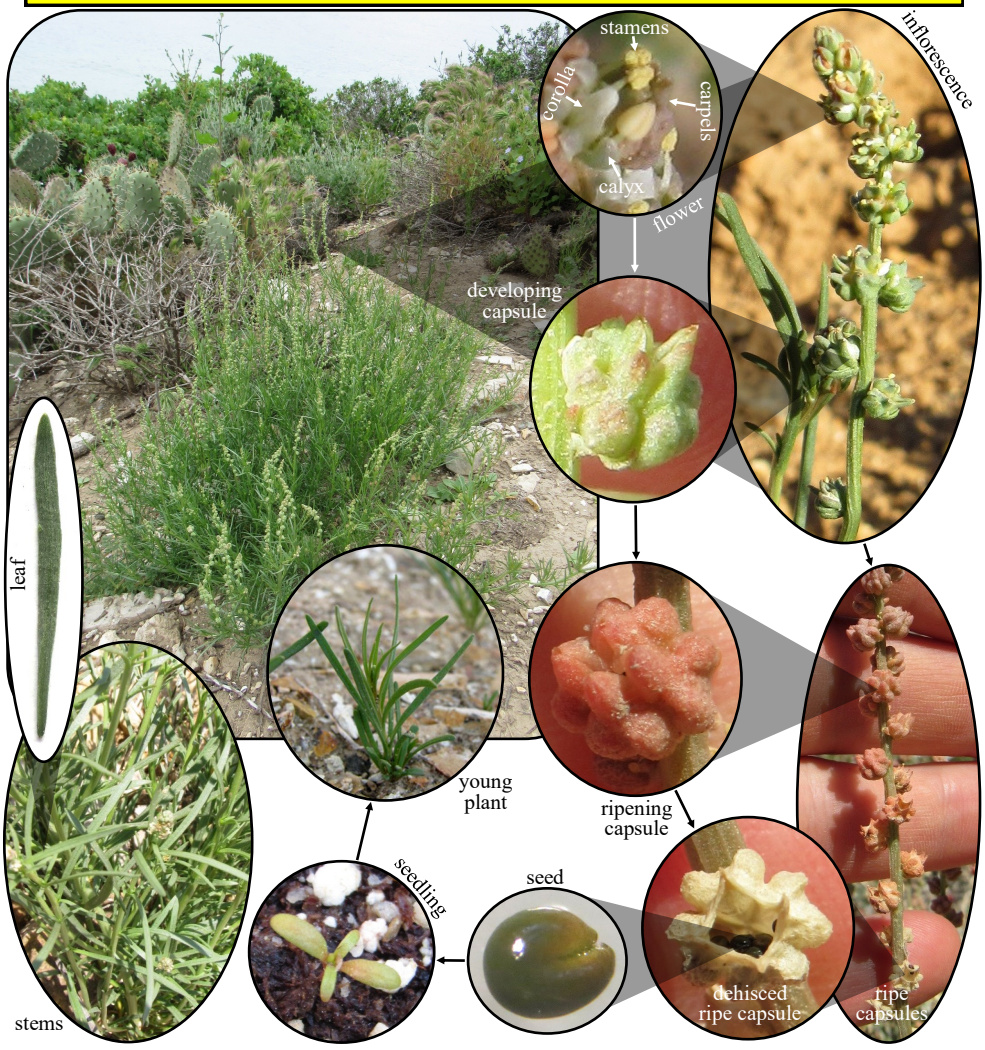
Lineleaf Whitepuff (*Oligomeris linifolia*)

Order: Brassicales

Family: Resedaceae (Mignonette Family)

Flowers: February - July

Oligomeris linifolia is an annual herbaceous plant. It is found in a few locations on the peninsula, but mostly along the coastal bluffs. The overall plant can look quite different between its non-flowering stage and its flowering/fruiting stage. The stems are erect. The leaf is linear to oblanceolate and is generally glabrous but can sometimes be roughened. The inflorescence is a spike that is terminal. The inflorescence also has persistent bracts that are linear to lanceolate. The flowers are bisexual. The flowers have 4 sepals that are greenish and generally 2 petals (can sometimes have more than 2 petals) that are whitish. There are 3 stamens (sometimes 4) and usually 4 carpels. The fruit is a capsule that is generally sessile, compressed-spheric, and apically 4-toothed. The seed is black or brown and shinny.



Lineleaf Whitepuff (*Oligomeris linifolia*)

Order: Brassicales

Family: Resedaceae (Mignonette Family)

Flowers: February - July



young plants look quite different from plants hat are flowering & fruiting

young plant



flowering/fruiting plant

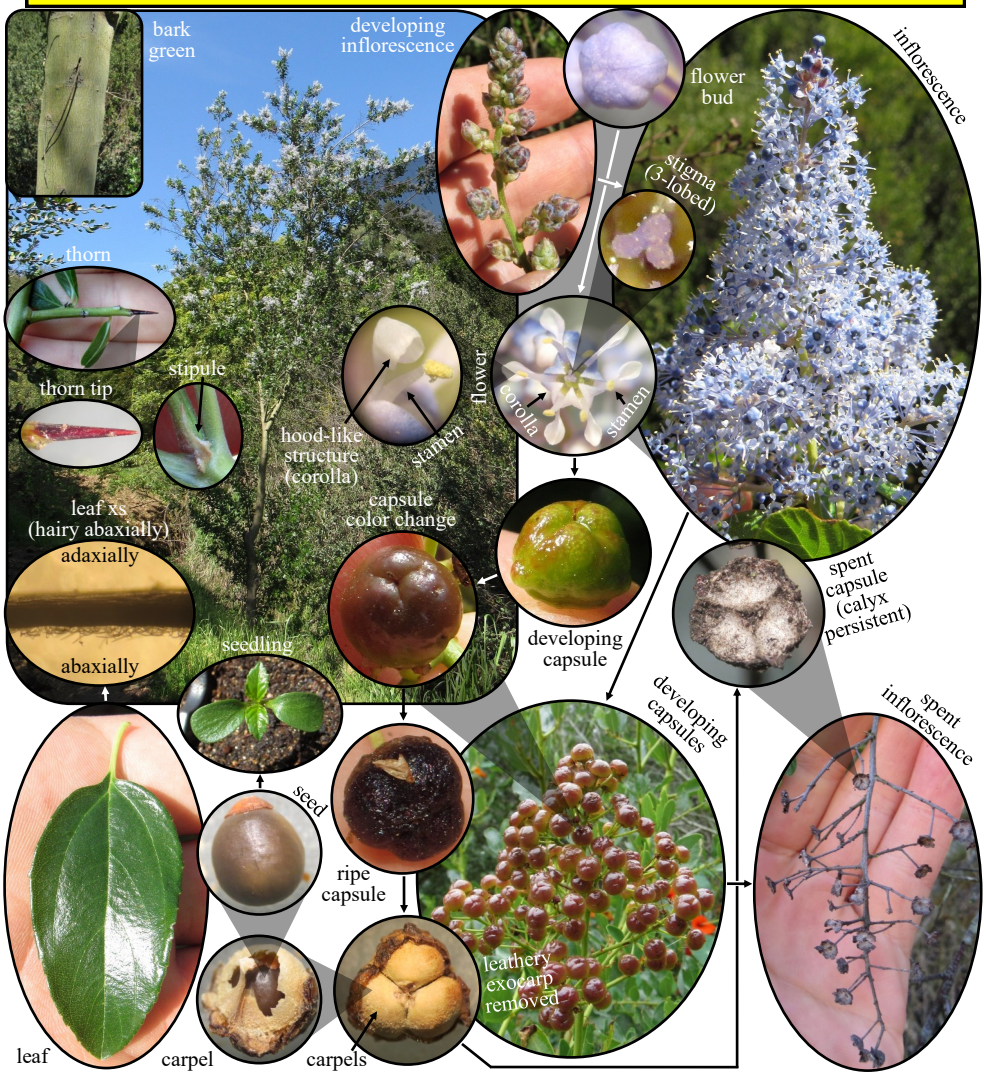
Greenbark Ceanothus (*Ceanothus spinosus*)

Order: Rosales

Family: Rhamnaceae (Buckthorn Family)

Flowers: January - May

Ceanothus spinosus is an erect perennial shrub to tree. It is found in only a few canyons on the peninsula. The stems and trunk are generally green. The stems can also be thorn-like or not. The leaf is elliptic to oblong, evergreen, and leathery (especially older leaves). The leaf margin can be entire to dentated. The adaxial side of the leaf is usually a dark green and shiny. The abaxial side of the leaf is lighter in color and can be glabrous or hairy. The corolla of the flower can be blue, pale blue or whitish. The petals form a hood-like structure. There are 3 styles and the ovary is 3-lobed. The fruit is a capsule that is circular, has 3-ridges on the distal end, no horns present, and is sticky. The seed is somewhat circular, stony, and a brownish to grayish color.



Toyon (*Heteromeles arbutifolia*)

Order: Rosales

Family: Rosaceae (Rose Family)

Flowers: May - August

Heteromeles arbutifolia is an evergreen perennial shrub or tree. It is found throughout the peninsula. The bark is generally smooth and a grayish color. The leaf is simple, leathery, somewhat elliptic, and evergreen. The leaf margins are toothed and sometimes revolute. The leaves are also hairy when young and become glabrous with age (sometimes older leaves can be hairy abaxially). The inflorescence is a panicle and is densely hairy (tomentose). The hypanthium of the flower is urn-shaped, somewhat hairy (tomentose), and persistent in fruit. The 5 sepals of the calyx are short, green to greenish yellow, triangular, and persistent in fruit (becoming enlarged and forming a cover on top of the hypanthium). The 5 petals of the corolla are white and somewhat round. There are 10 stamens and 2 or 3 carpels with 2 or 3 styles. The fruit is a pome that is a vibrant red when fully ripe, is somewhat round, and is glabrous. There are 2 to 3 pyrenes per fruit (tannish color) and within each pyrene is a seed.



Toyon (*Heteromeles arbutifolia*)

Order: Rosales

Family: Rosaceae (Rose Family)

Flowers: May - August



plants in full fruit



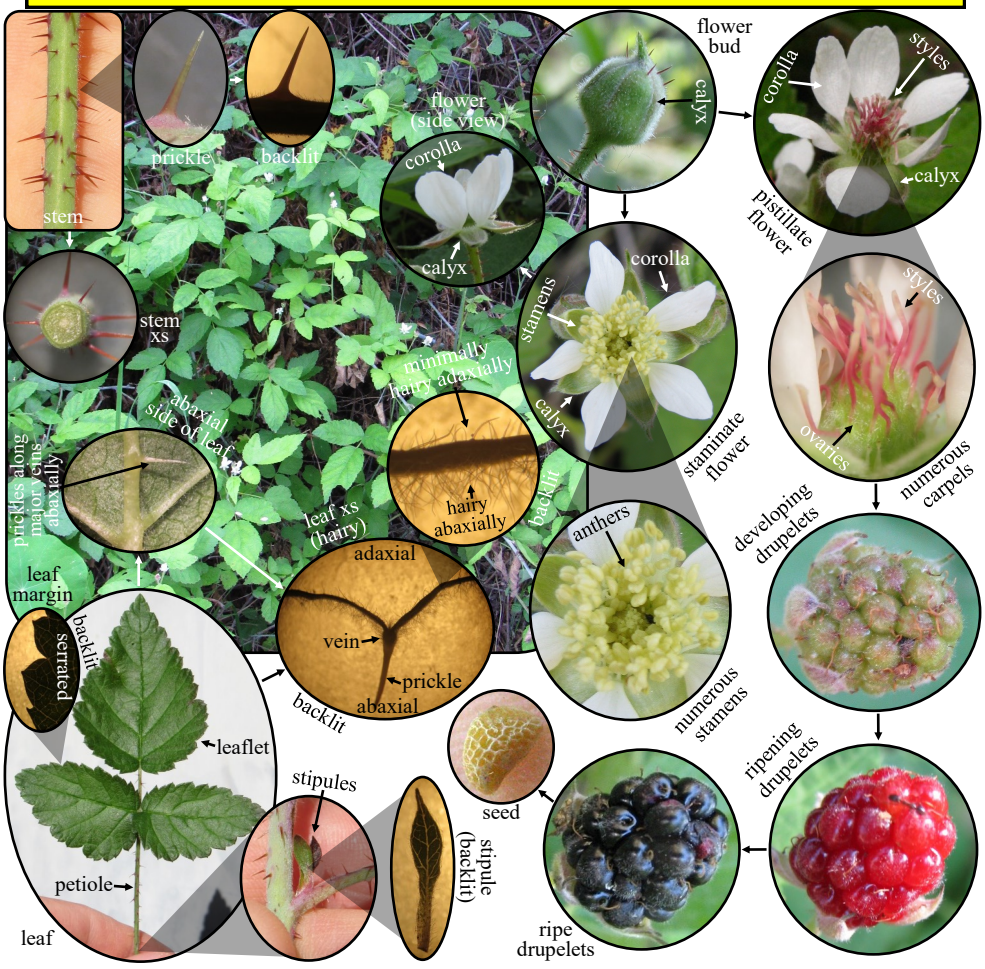
California Blackberry (*Rubus ursinus*)

Order: Rosales

Family: Rosaceae (Rose Family)

Flowers: March - August

Rubus ursinus is a perennial vine or shrub. It is found throughout the peninsula mostly in canyons. This plant is generally dioecious. The stems are covered in prickles (that can be dense, generally erect, and stout) and the stems are creeping. The leaves are usually made up of 3 leaflets that are ovate to lanceolate. The leaf margins are serrated to sometimes doubly serrated. The adaxial side of the leaf is glabrous while the abaxial side of the leaf is generally hairy and can have prickles (usually erect) along the large veins. The inflorescences are terminal and can be 1-5 flowered. The staminate flowers have white petals (5-6), greenish sepals (5 - that are hairy, prickly, and persistent), and numerous stamens. The pistillate flowers have white petals (5-6), green sepals (5 - that are hairy, prickly, and persistent), and numerous carpels. The numerous carpels have long styles (whitish to pink), ovaries that are generally hairy, and strongly fused together. The fruit is an aggregation of blackish drupelets. Each drupelet contains 1 seed that is somewhat stramineous with the outside reticulate.



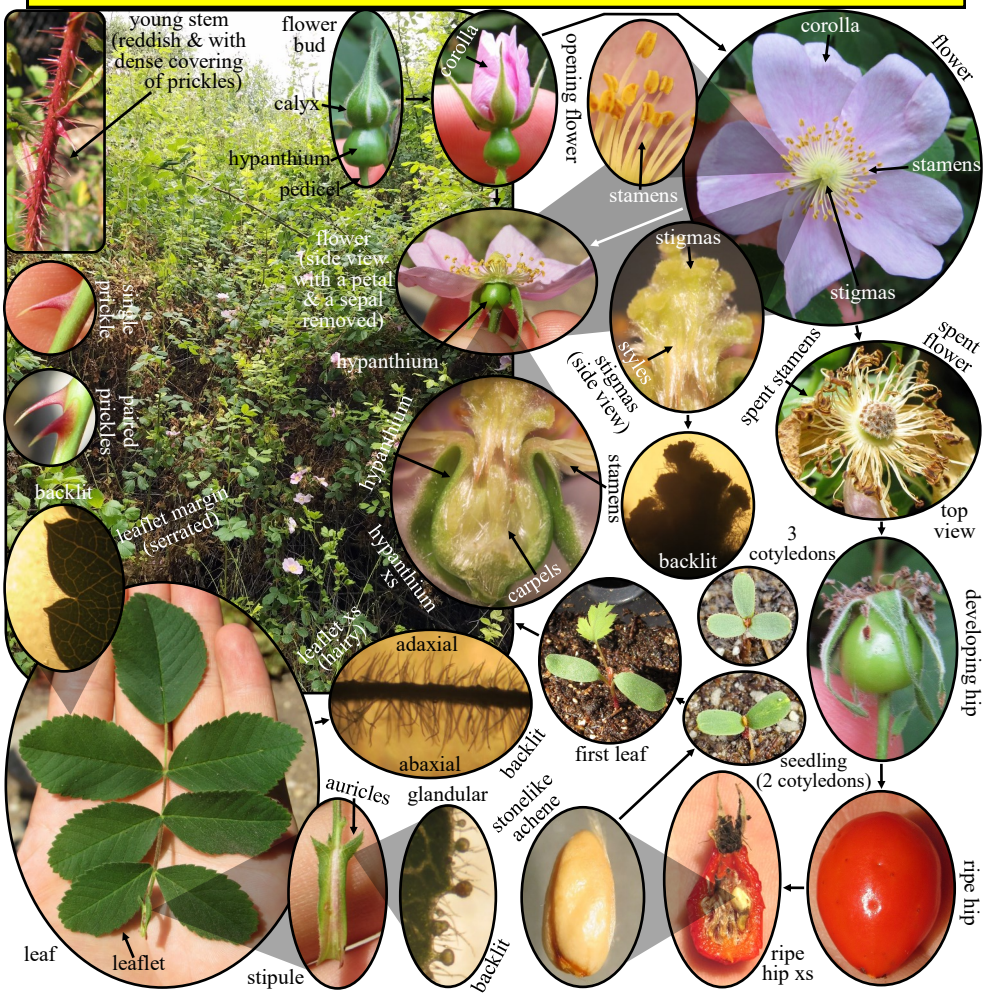
California Rose (*Rosa californica*)

Order: Rosales

Family: Rosaceae (Rose Family)

Flowers: February - November

Rosa californica is a perennial shrub or a dense thicket. It is found in a few locations on the peninsula usually along streambanks. Young stems are reddish and densely covered in prickles. Older stems are ascending to erect and have prickles few to many. The prickles are generally curved, have a stout base, and can be single or paired. The leaf is made up of 5-7 leaflets (sometimes 9 leaflets) that are generally hairy. The leaflets have margins that are 1-2 serrated. The petiole and rachis of the leaf can sometimes have prickles. Stipules are present and the auricles of the stipules are erect to spreading, have margins entire to serrated, and are glandular. The pedicle of the flower is sometimes hairy and glandless. The corolla of the flower is pink and the calyx is green. The hypanthium is green when young. There are numerous stamens (> 20) and carpels (20-40) in the flower. The fruits are white stonelike achenes that are contained within a fleshy and swollen hypanthium (hip) that is red.



California Rose (*Rosa californica*)

Order: Rosales

Family: Rosaceae (Rose Family)

Flowers: February - November

rare white flowered *Rosa californica*
can be found in the wild sometimes



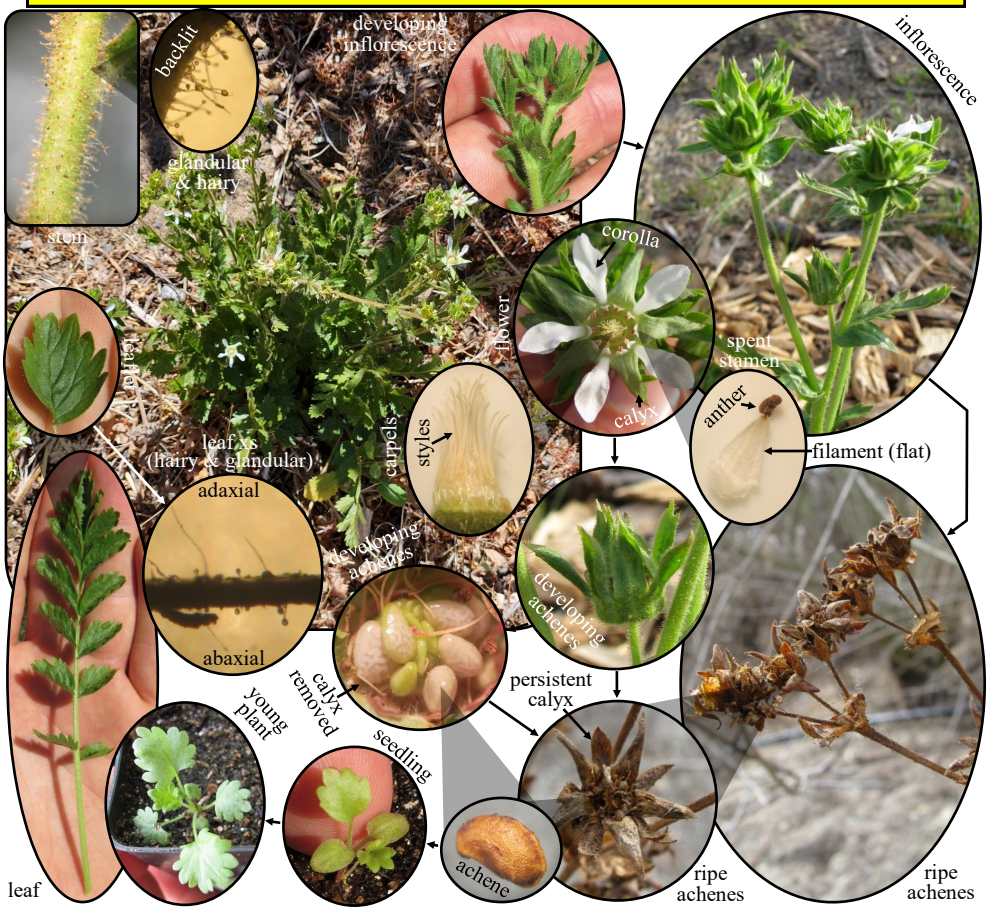
Mesa Horkelia (*Horkelia cuneata* var. *puberula*)

Order: Rosales

Family: Rosaceae (Rose Family)

Flowers: March - July

Horkelia cuneata var. *puberula* is a perennial herbaceous plant. It was historically found in two places on the peninsula but is now only found in one of those locations. The overall plant is green (sometimes grayish) and covered in glandular hairs (non-glandular hairs are present but very sparse). The stems are usually erect and the leaf is made up of leaflets (5-12 leaflets per side). The leaflets are elliptic to obovate and with margins that are toothed. The flowers of the inflorescence are generally solitary. The flower has a hypanthium that is cup-like and covered in glandular hairs. The inside rim of the hypanthium is usually glabrous. The calyx of the flower is green, covered in glandular hairs, and persistent in fruit. The sepals (5) of the calyx can also sometimes be reflexed. The corolla of the flower is white with 5 free petals that are somewhat obovate and not persistent in fruit. The stamens are fused to the rim of the hypanthium and the filaments of the stamens are flat and wide (1.5-4 mm wide). There are numerous carpels. The fruit is an achene and each flower can produce an aggregation of achenes. The achene is also brown and smooth or slightly wrinkled. This plant has a CNPS rare plant rank of 1B.1



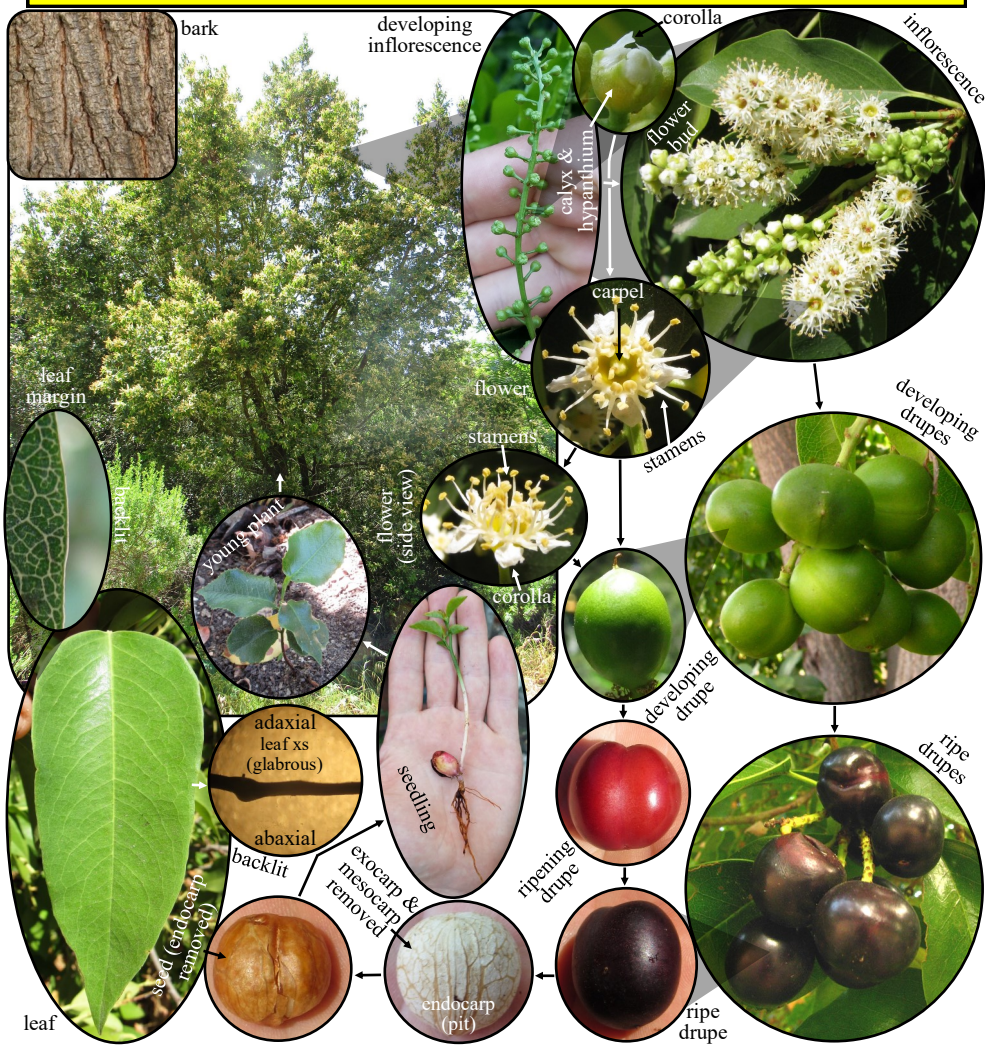
Catalina Cherry (*Prunus ilicifolia* subsp. *lyonii*)

Order: Rosales

Family: Rosaceae (Rose Family)

Flowers: March - May

Prunus ilicifolia subsp. *lyonii* is a perennial tree. It is found throughout the peninsula. It is unclear if this plant naturally occurred on the peninsula or was introduced (early 1930's via the Olmsted Brothers). The author is treating Catalina Cherry as being native and originally occurring on the peninsula. The plant is an evergreen plant. The leaves are ovate with margins entire. The inflorescence is a many flowered raceme. The flower has a hypanthium that is cup-shaped. The sepals (erect) of the flower are green. The petals of the corolla are white and spreading or reflexed. Stamens are numerous and in 2 whorls. There is 1 carpel per flower. The fruit is a drupe that is roundish and when fully ripe is a dark purple to blackish color. The mesocarp (pulp) of the drupe is thin and fleshy. The seed is contained within the tough endocarp (pit).



Catalina Cherry (*Prunus ilicifolia* subsp. *lyonii*)

Order: Rosales

Family: Rosaceae (Rose Family)

Flowers: March - May

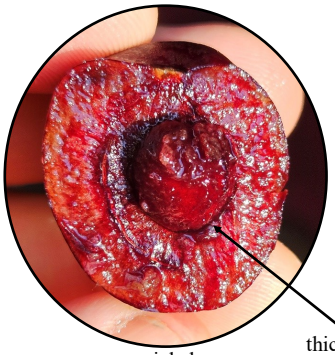


Catalina Cherry - cluster of ripe fruits



thin flesh & large seed

Catalina Cherry fruit (ls)



commercial cherry fruit (ls)

thick flesh & small seed

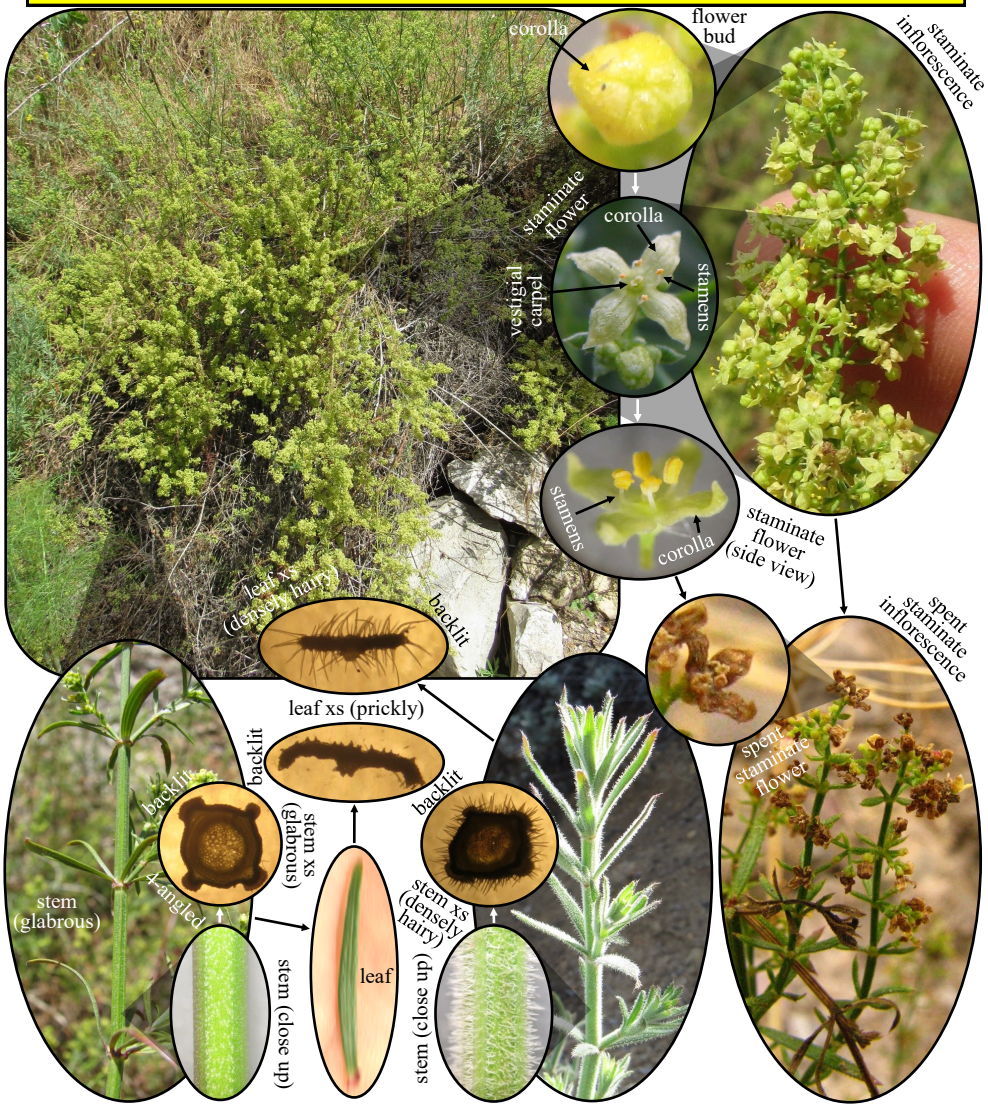
Narrowleaf Bedstraw (*Galium angustifolium* subsp. *angustifolium*)

Order: Gentianales

Family: Rubiaceae (Madder Family)

Flowers: April - June

Galium angustifolium subsp. *angustifolium* is a perennial herbaceous plant. It is found throughout the peninsula. This plant is dioecious. The overall plant tends to be herbaceous but can sometimes be somewhat woody above the base (the more woody plants being seen in stable intact habitats). The overall plant can also be glabrous to densely hairy (densely hairy plants appearing a bluish green color). On the peninsula, the densely hairy plants appear to be restricted to the San Pedro Channel facing side. The stems of this plant are thin and +/- erect. The stems are also 4-angled and often have ridges that run lengthwise along them. The leaves are thin, +/- linear, and whor-



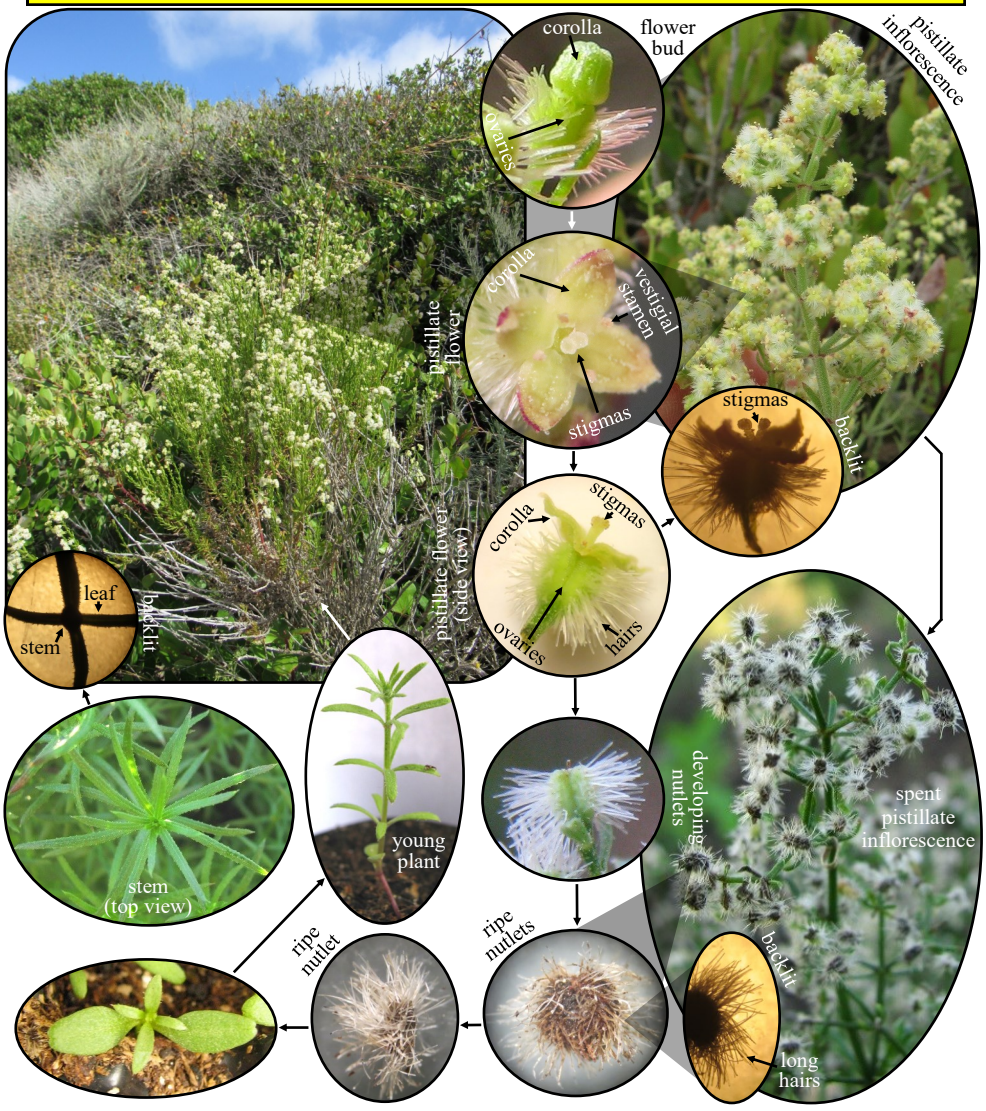
Narrowleaf Bedstraw (*Galium angustifolium* subsp. *angustifolium*)

Order: Gentianales

Family: Rubiaceae (Madder Family)

Flowers: April - June

led around the stem. The flowers lack a calyx and the corolla (generally 4-lobed and rotate) is usually yellowish but can be whitish or reddish. The staminate flowers have vestigial carpels and usually 4 functional stamens. The corolla of the staminate flower is a yellowish to a whitish color. The pistillate flowers have vestigial stamens with functional carpels (ovaries 2-lobed with 2 styles) and the corolla is a yellowish to whitish color (sometimes with red especially on the abaxial side of the corolla). The fruit is a nutlet with each pistillate flower producing 2 nutlets. The nutlets are densely covered in long hairs that are generally straight and spreading.



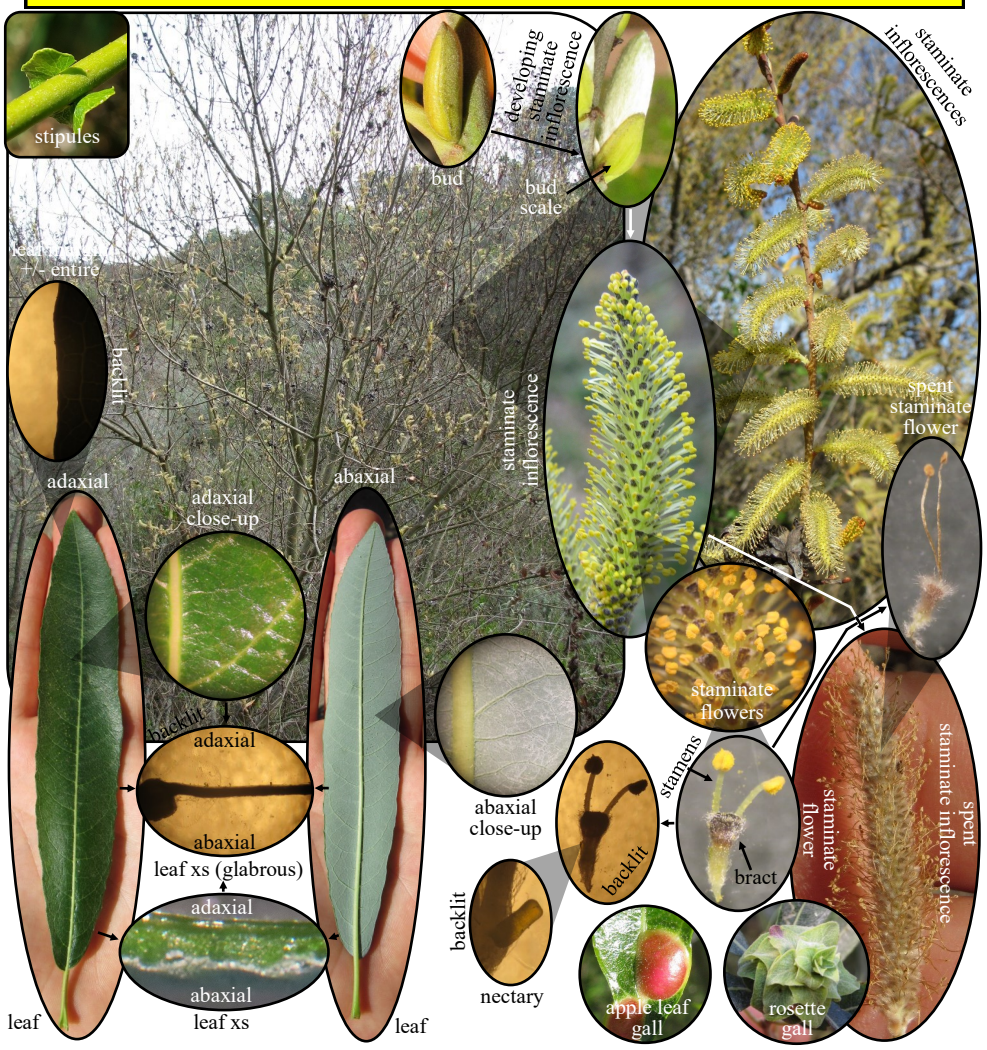
Arroyo Willow (*Salix lasiolepis*)

Order: Malpighiales

Family: Salicaceae (Willow Family)

Flowers: February - May

Salix lasiolepis is a perennial tree or large shrub. It is found throughout the peninsula within canyons and along streams. The plant is dioecious and winter deciduous. The bark of the trunk is deeply furrowed. The stems are often flexible and can range in color from yellow, yellow-green, or yellowish-red brown. The stems can also be glabrous to hairy. The stipules of the leaves are generally leaf-like and the blades of the mature leaves are elliptic or obovate. The tip of the mature leaf blade is acute to convex and the margins of the blade can be entire, sinuate or minutely serrated. The leaves are bicolor with the adaxial side being a dark to light green color. The adaxial side is also glabrous. The abaxial side of the leaf is glaucous in color and it is also glabrous to hairy. The inflorescence is a catkin. The staminate inflorescence is many



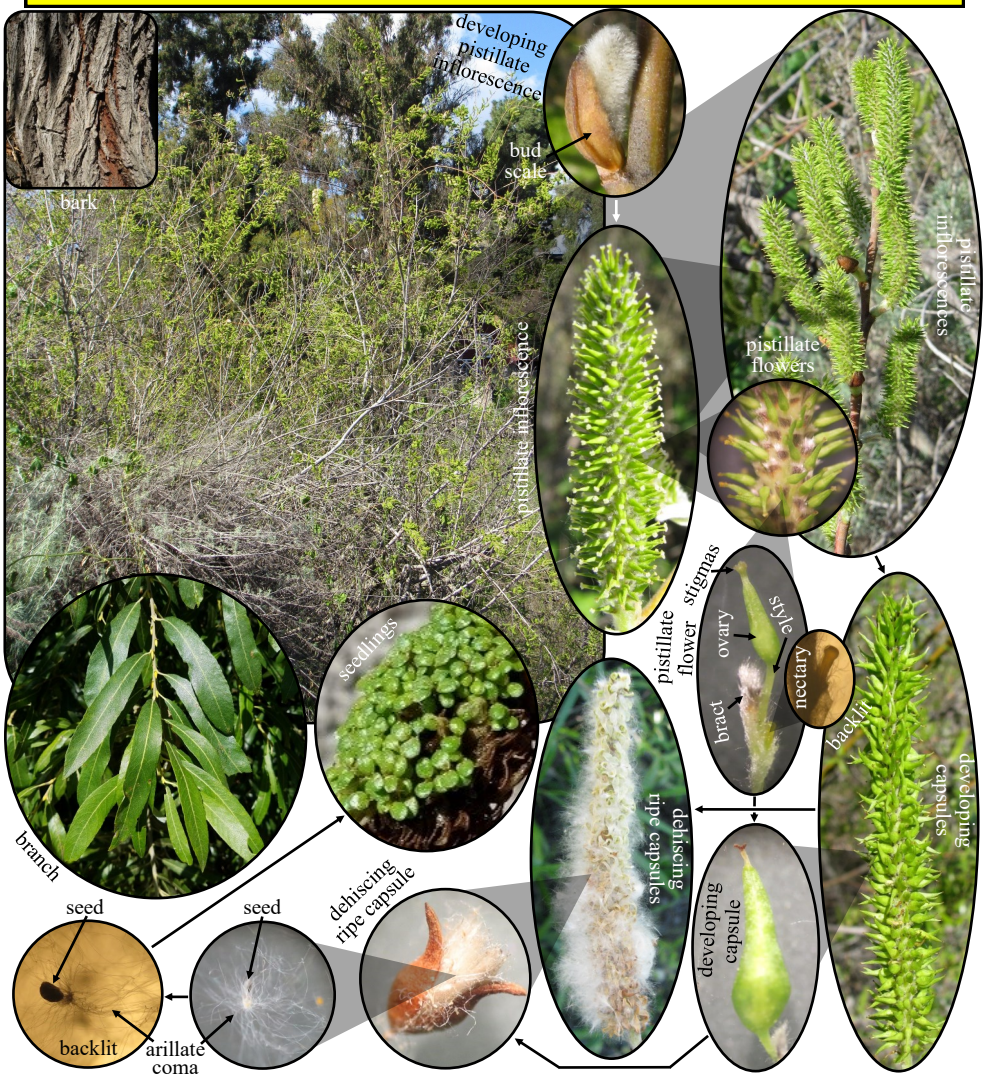
Arroyo Willow (*Salix lasiolepis*)

Order: Malpighiales

Family: Salicaceae (Willow Family)

Flowers: February - May

flowered with the staminate flowers having 2 stamens and the perianth reduced to an adaxial nectary. The pistillate inflorescence is many flowered with the pistillate flowers having a glabrous ovary (ovary pyriform) that is stalked, has 1 style, 2 stigmas that are 2-lobed, and a perianth that is reduced to an adaxial nectary (nectary oblong to flask-shaped). The fruit is a capsule that is 2-valved. The seed is very small, blackish brown, and is surrounded by an arillate coma of long silky hairs (which aids the seed in wind dispersal). Two galls are unique to this willow species and can help aid in identification, they are the apple leaf gall and the rose gall. The apple leaf gall is made by a sawfly (*Pontania californica*) and the rose gall is made by a midge (fly)



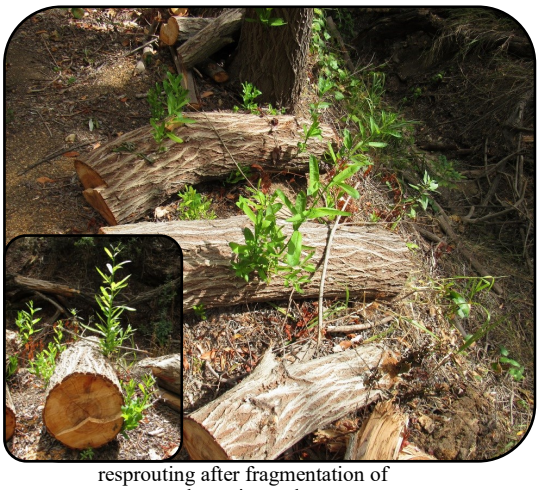
Arroyo Willow (*Salix lasiolepis*)

Order: Malpighiales

Family: Salicaceae (Willow Family)

Flowers: February - May

Cecidomyiidae. Willows have the incredible ability to resprout after many forms of disturbance even when trees have been cut up into many pieces. Cuttings of branches will also resprout roots when left in water.



resprouting after fragmentation of the main trunk





roots in the water



can form large trees with stout trunks

Arroyo Willow (*Salix lasiolepis*)

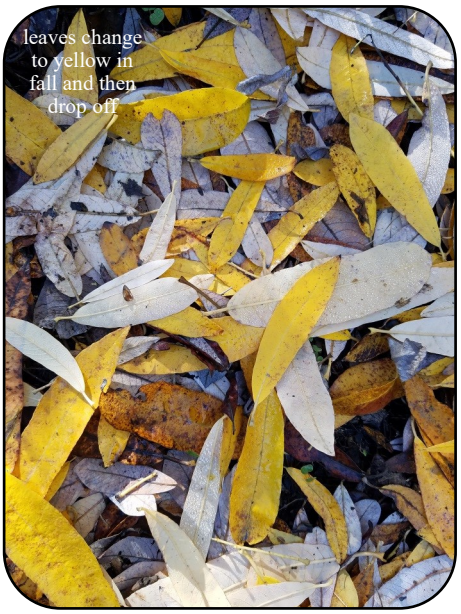
Order: Malpighiales

Family: Salicaceae (Willow Family)

Flowers: February - May

overall (summer)







Arroyo Willow (*Salix lasiolepis*)

Order: Malpighiales

Family: Salicaceae (Willow Family)

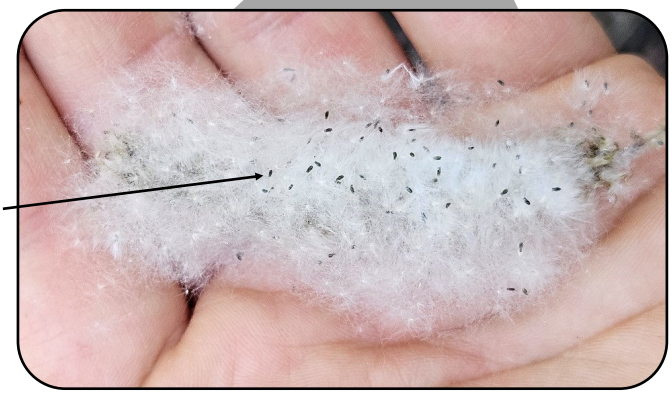
Flowers: February - May







during early summer the mass
release of seeds with there long silky hairs
makes it look like there is
snow on the ground



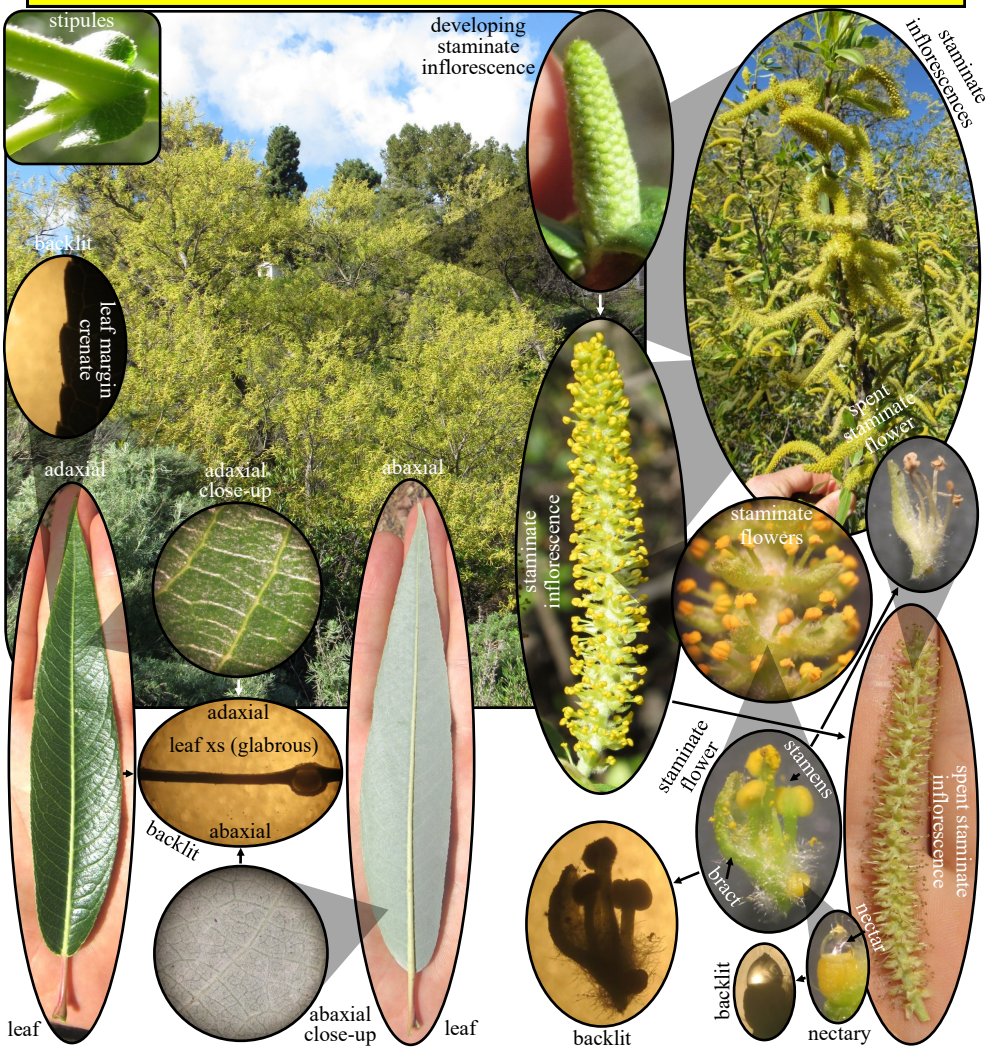
Red Willow (*Salix laevigata*)

Order: Malpighiales

Family: Salicaceae (Willow Family)

Flowers: December - June

Salix laevigata is a perennial tree. It is found throughout the peninsula in riparian areas. The plant is dioecious and winter deciduous. The bark of the trunk is deeply furrowed. The stems are often flexible and can range in color from yellow to a reddish brown color. The stems are also hairy when young and with age become glabrous except for at the nodes. The stipules of the leaves are generally leaf-like and usually glandular. The blades of the mature leaves are narrowly oblong, narrowly elliptic, lanceolate, or obovate. The tip of the blade can be acuminate, acute or caudate. The margins of the leaves are usually crenate but can be entire or finely serrulate. The leaves are bicolor with the adaxial side being glabrous and a glossy green color. The abaxial side of the leaf is glaucous and glabrous to somewhat hairy. The



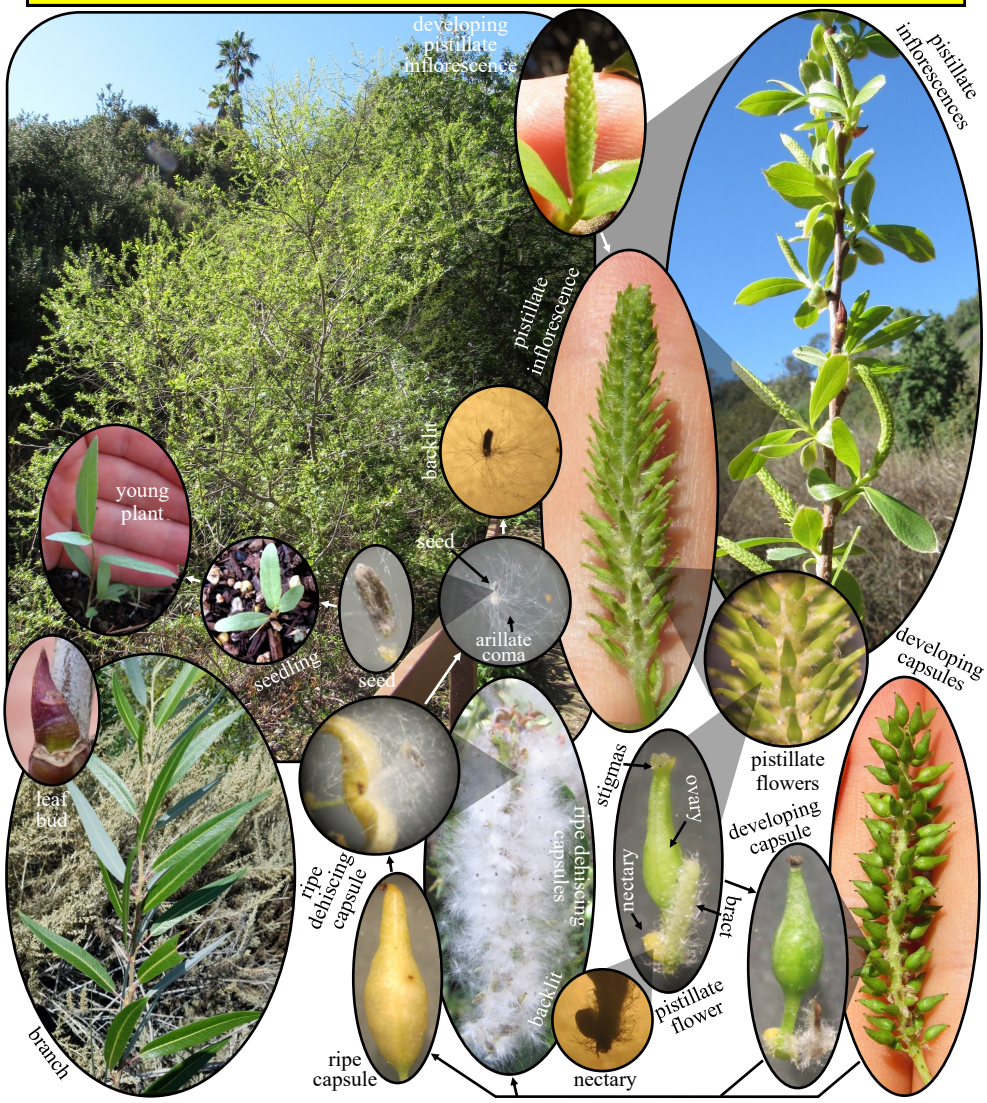
Red Willow (*Salix laevigata*)

Order: Malpighiales

Family: Salicaceae (Willow Family)

Flowers: December - June

inflorescence is a catkin. The staminate inflorescence is many flowered with the staminate flowers having 3-7 stamens and nectaries on the abaxial and adaxial side. The pistillate inflorescence is many flowered with the pistillate flowers having a glabrous ovary (ovary can be pyriform, obturbinate, or ellipsoidal) that is somewhat stalked, has 1 style, 2 stigmas that are 2-lobed, and a perianth that is reduced to an adaxial nectary (square nectary). The fruit is a capsule that is 2-valved. The seed is very small, blackish brown and is surrounded by an arillate coma of long silky hairs, which aids the seed in wind dispersal.



Red Willow (*Salix laevigata*)

Order: Malpighiales

Family: Salicaceae (Willow Family)

Flowers: December - June



willows are prolific seeders making the area around the trees look like it has been snowing (white fluff is all of the arillate coma that is attached to the seeds)

handful of seeds



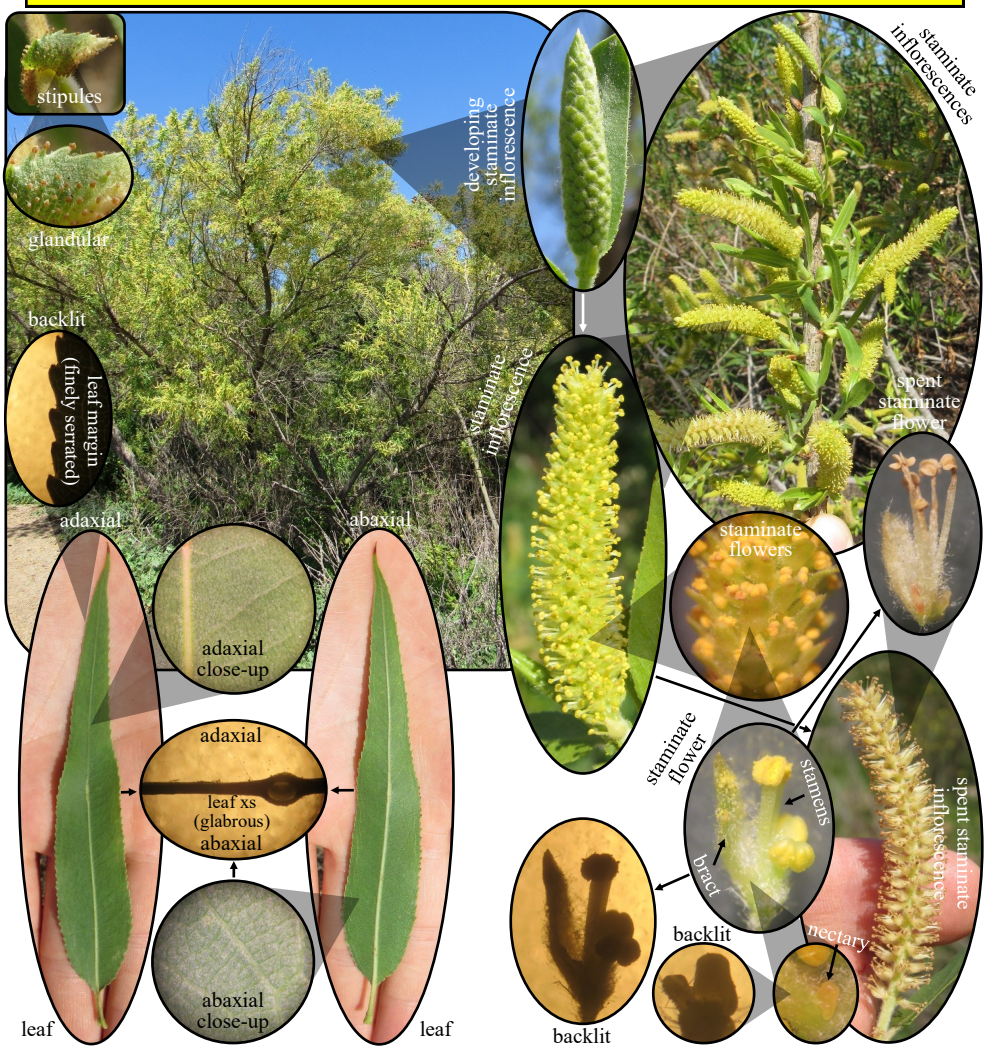
Black Willow (*Salix goodingii*)

Order: Malpighiales

Family: Salicaceae (Willow Family)

Flowers: February - May

Salix goodingii is a perennial tree. It is found in only a few spots on the peninsula in canyons. The plant is dioecious and winter deciduous. The bark is furrowed. The stems range in color from yellow or yellow green to a reddish brown color. The stems are also somewhat hairy when young and with age become glabrous. The stipules of the leaves are generally leaf-like and glandular. The blades of the mature leaves are linear to narrowly elliptic with the tip acuminate. The margins of the leaves are finely serrated. The leaves are not bicolor with the adaxial side being glabrous and a green color. The abaxial side of the leaf is glabrous to minutely hairy. The inflorescence is a catkin. The staminate inflorescence is many flowered with the staminate flowers having 4-6 stamens and nectaries on the adaxial and abaxial side. The pistillate infloresc-



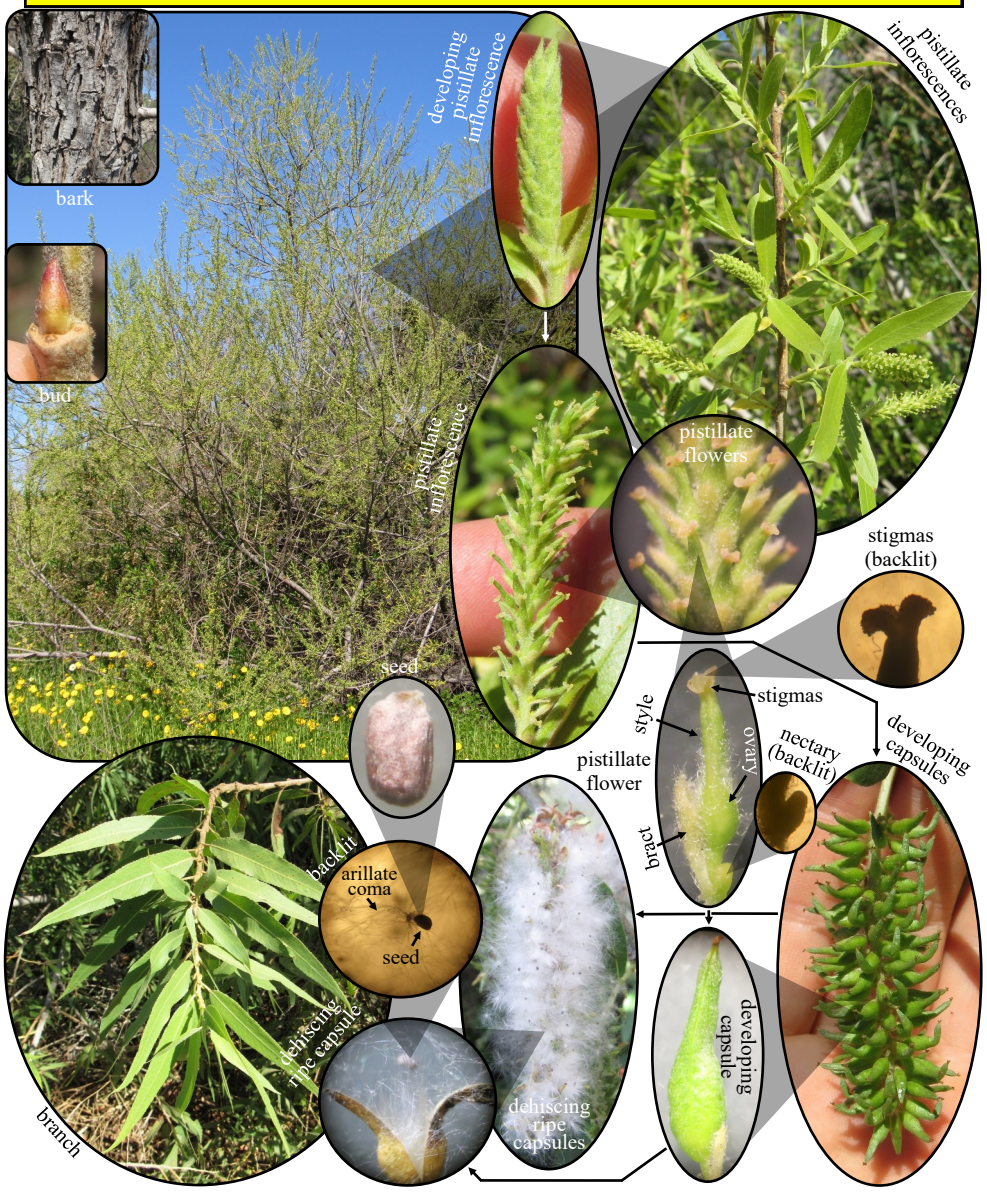
Black Willow (*Salix goodingii*)

Order: Malpighiales

Family: Salicaceae (Willow Family)

Flowers: February - May

ence is many flowered with the pistillate flowers having a glabrous or hairy ovary (ovary can be pyriform) that is usually stalked, has 1 style, 2 stigmas that are 2-lobed, and a perianth that is reduced to an adaxial nectary (square nectary). The fruit is a capsule that is 2-valved. The seed is very small, grayish brown, and is surrounded by an arillate coma of long silky hairs, which aids the seed in wind dispersal.



Black Willow (*Salix goodingii*)

Order: Malpighiales

Family: Salicaceae (Willow Family)

Flowers: February - May

overall
(summer)



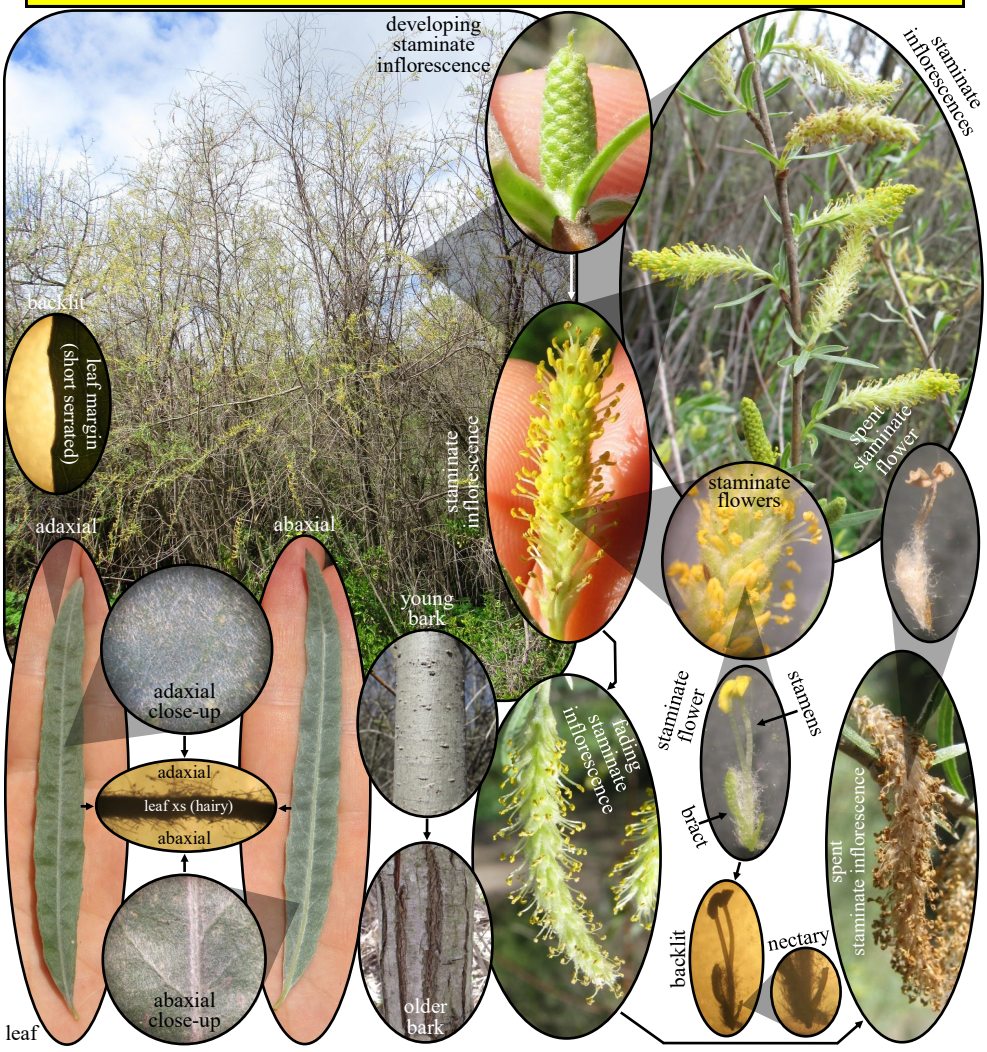
Sandbar Willow (*Salix exigua*)

Order: Malpighiales

Family: Salicaceae (Willow Family)

Flowers: February - May

Salix exigua is a perennial shrub to tree. It is clonal by root-shoots. It has only been found in one location on the peninsula. The plant is dioecious and winter deciduous. The stems range in color from yellow to a reddish brown. The stipules of the leaves are leaf-like and not glandular (young leaves usually lack stipules). The blades of the mature leaves are linear to strap shaped and hairy with dense silky straight to wavy hairs. The leaves are not bicolor and both the adaxial and abaxial sides are a bluish-gray color. The margins of the leaves are usually short serrated. The inflorescence is a catkin and the inflorescences are produced with or after leaf formation. The staminate inflorescence is many flowered with the staminate flowers having 2 stamens. The pistillate inflorescence is many flowered with the pistillate flowers having usually a



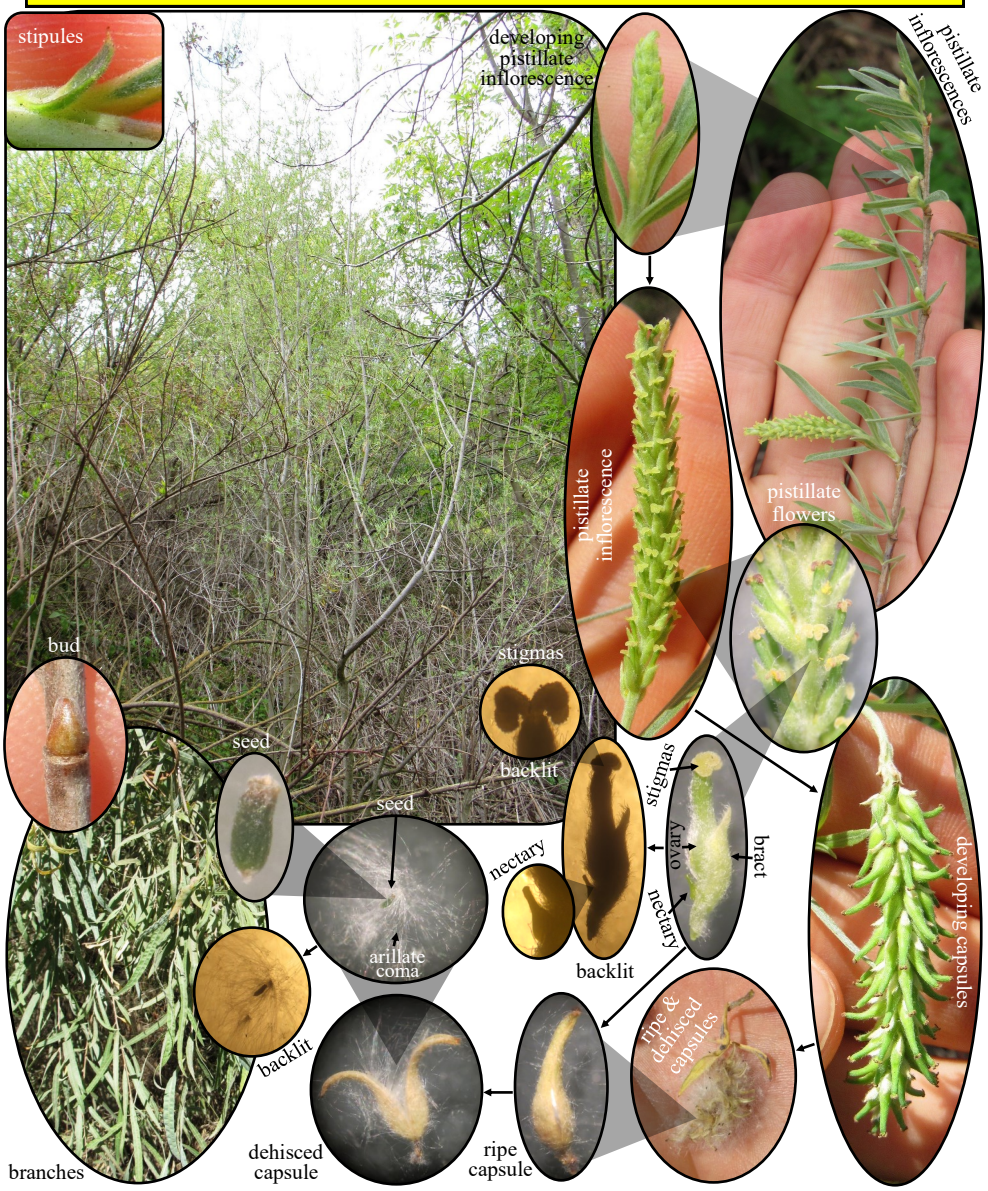
Sandbar Willow (*Salix exigua*)

Order: Malpighiales

Family: Salicaceae (Willow Family)

Flowers: February - May

hairy ovary. The ovary is generally pyriform, is stalked, has 1 style, and flat stigmas that are spreading. The stigmas and bracts of the pistillate flowers are also deciduous. The fruit is a capsule that is 2-valved. The seed is small, brownish, and is surrounded by an arillate coma of long silky hairs, which aids the seed in wind dispersal. This plant will form large thickets. Female plants seem to be rare.



Sandbar Willow (*Salix exigua*)

Order: Malpighiales

Family: Salicaceae (Willow Family)

Flowers: February - May

overall (summer) - forming large thicket



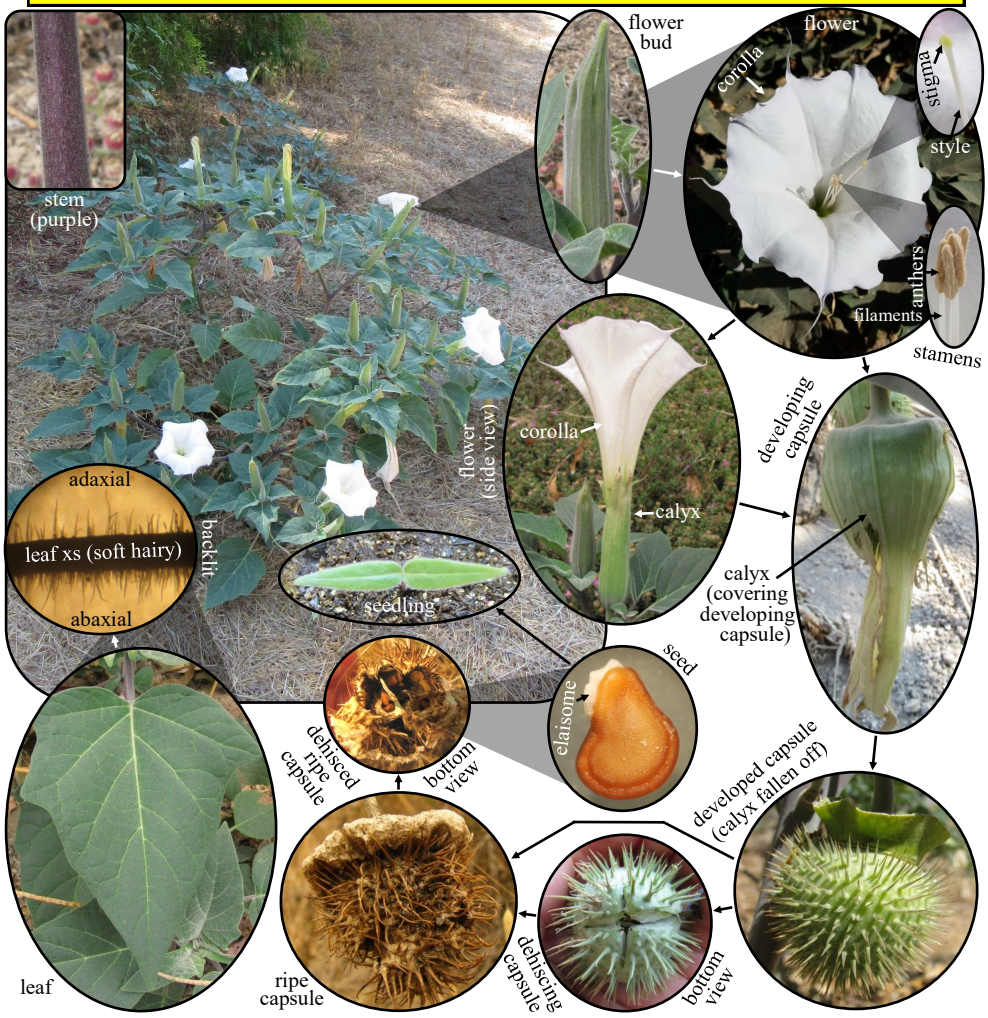
Sacred Thorn Apple (*Datura wrightii*)

Order: Solanales

Family: Solanaceae (Nightshade Family)

Flowers: April - October

Datura wrightii is generally a perennial herbaceous plant. It is found throughout the peninsula. The overall plant has a smell that is reminiscent of peanut butter. The stems are erect and covered with fine hairs. The stem color can range from a light green color to a dark purple. The leaf is ovate and can be entire or it can be shallowly lobed. The flowers are large and usually held upright. The calyx of the flower is a light green. In the early development of the fruit, the calyx encloses it until the fruit fully matures, then it drops off. The corolla is white (sometimes tinged with a light purple) and funnel-shaped. The fruit is a prickly leathery capsule that splits open along irregular valves. The seed is generally flat, tan, and the margin has a groove. The fresh seed also has a tiny white elaiosome that can help aid it in dispersal (harvester ants where observed doing this at Malaga Dunes).



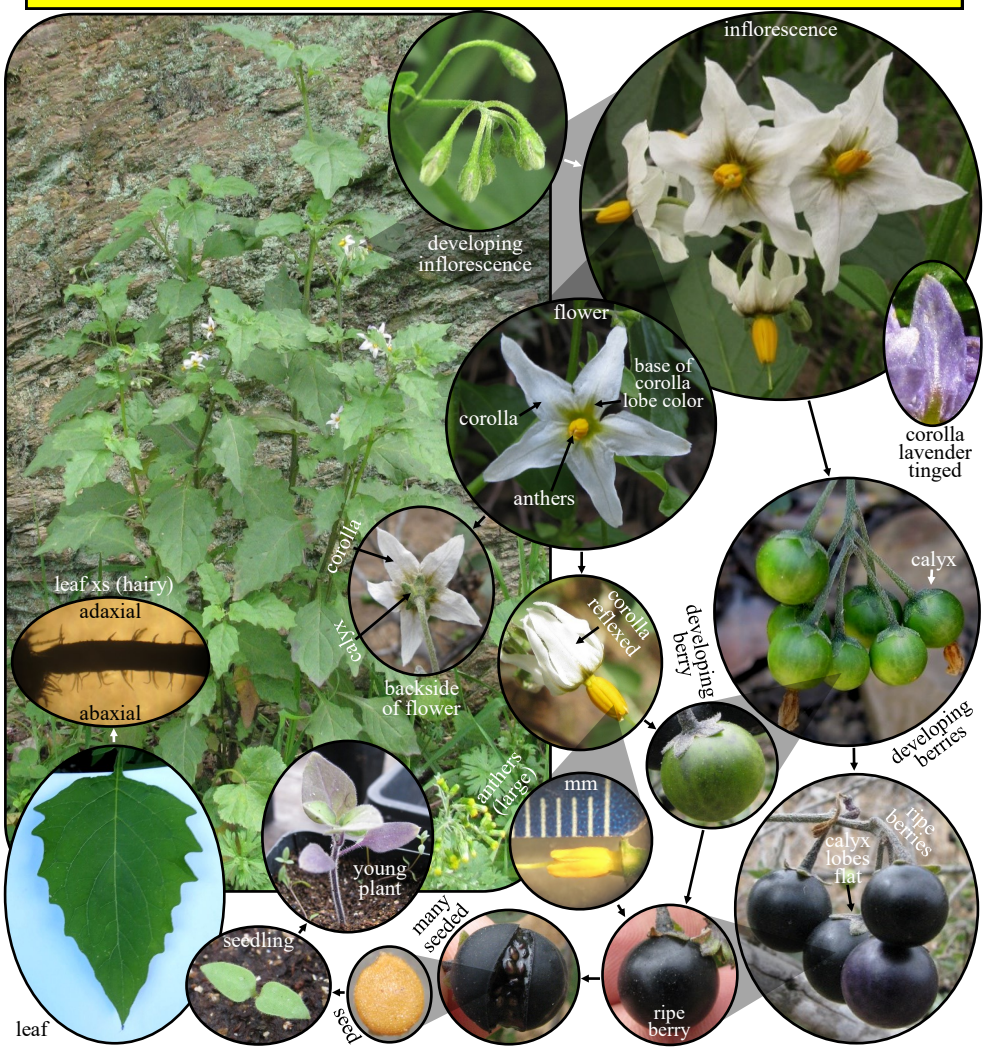
Douglas' Nightshade (*Solanum douglasii*)

Order: Solanales

Family: Solanaceae (Nightshade Family)

Flowers: May - October (sometimes flowering all year)

Solanum douglasii is a perennial herbaceous to subshrub plant. It is found throughout the peninsula. The stems are usually erect and can be covered in rough hairs. The leaf is ovate and can have margins that are entire, toothed, to somewhat wavy. The inflorescence is generally umbel-like. The flower has a small calyx that is green and cup shaped. The calyx is persistent in fruit and does not fully enclose the fruit or the base. The corolla of the flower is rotate and can range in color from white to lavender. The lobes of the corolla can be deep to shallowly lobed and the base of the lobe, near the midrib, can be a greenish yellow color. The corolla can be spreading to reflexed. The anthers are large (2.5-4 mm). The fruit is a many-seeded berry that is a purplish black color. The seed is small, somewhat flattened and tannish.



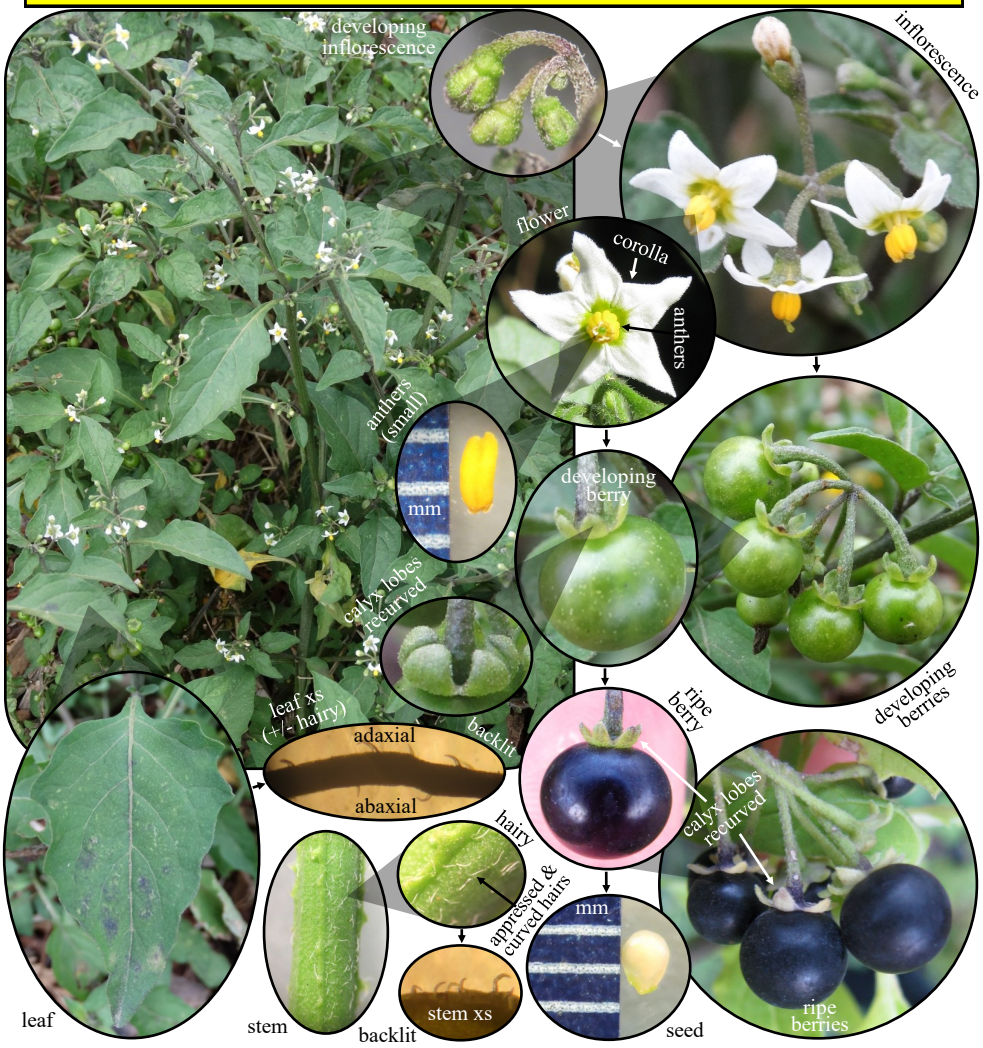
Small Flowered Nightshade (*Solanum americanum*)

Order: Solanales

Family: Solanaceae (Nightshade Family)

Flowers: April - November

Solanum americanum is an annual or perennial herbaceous plant (sometimes a sub-shrub). It is found throughout the peninsula often in disturbed places. The overall plant is somewhat hairy with the hairs short and appressed or curved. The overall plant is also non-glandular. The leaf is ovate and somewhat hairy (hairs appressed or curved). The leaf margin can be entire or wavy-toothed. The inflorescence can be umbel-like or raceme-like. The calyx is green, persistent in fruit, and the lobes of the calyx become recurved when in fruit. The corolla of the flower is rotate, deeply lobed, spreading to slightly reflexed, and is white (sometimes the corolla can be lavender-tinged). The anthers are small (1.4-2.2 mm). The fruit is a many seeded berry that is blackish purple. The seed is small, flat, and tannish.



California Box Thorn (*Lycium californicum*)

Order: Solanales

Family: Solanaceae (Nightshade Family)

Flowers: March - August

Lycium californicum is a perennial shrub. It is primarily found along the coastal bluffs on the peninsula. Branches are erect, spreading to drooping. Thorns are present. Lateral branches are held out at 90^0. The leaf is linear to oblanceolate and generally round. The leaves can be singular or clustered. The flowers can be single or clustered along the branches. The calyx of the flower is bell-shaped, with 2 to 5 lobes (4 lobes being the most common), and is green. The calyx length is less than the corolla length. The corolla is bell-shaped and the lobes of the corolla can be reflexed or not. The corolla can be white to purple-tinged or white with purple veins. The stamens as well as the style and stigma are exserted out past the corolla. The stamens are attached near the base of the corolla tube. The fruit is a drupe that has 2 seeds. The seeds are orangish white and oblong. This plant has a CNPS rare plant rank of 4.2.



California Box Thorn (*Lycium californicum*)

Order: Solanales

Family: Solanaceae (Nightshade Family)

Flowers: March - August



dormant plant
on coastal bluffs



dormant branches



dormant branch with thorns

Santa Catalina Box Thorn (*Lycium brevipes* var. *hassei*)

Order: Solanales

Family: Solanaceae (Nightshade Family)

Flowers: February - June

Lycium brevipes var. *hassei* is a perennial shrub. It is found along the coastal bluffs of the peninsula. Branches are usually erect or slightly arching and rigid. Thorns are present. The leaf is somewhat obovate, usually fleshy, and usually glabrous. The flowers can be single or clustered along the branches. The calyx of the flower is somewhat bell-shaped, with 2 to 5 lobes (4 lobes being the most common), is green, and somewhat glandular. The calyx length is less than the corolla. The corolla is short, funnel-shaped, and can be dark lavender, light lavender, or whitish. The stamens, style, and stigma of the flower are exserted out past the corolla. The stamens are attached near the middle of the corolla and are hairy at the base. The fruit is a soft berry that is many seeded. The seed is small, orangish red to tannish, and flat. This plant is an endemic to California and has a CNPS rare plant rank of 3.1.



Santa Catalina Box Thorn (*Lycium brevipes* var. *hassei*)

Order: Solanales

Family: Solanaceae (Nightshade Family)

Flowers: February - June



dormant plant



thorn



dormant branch with thorns

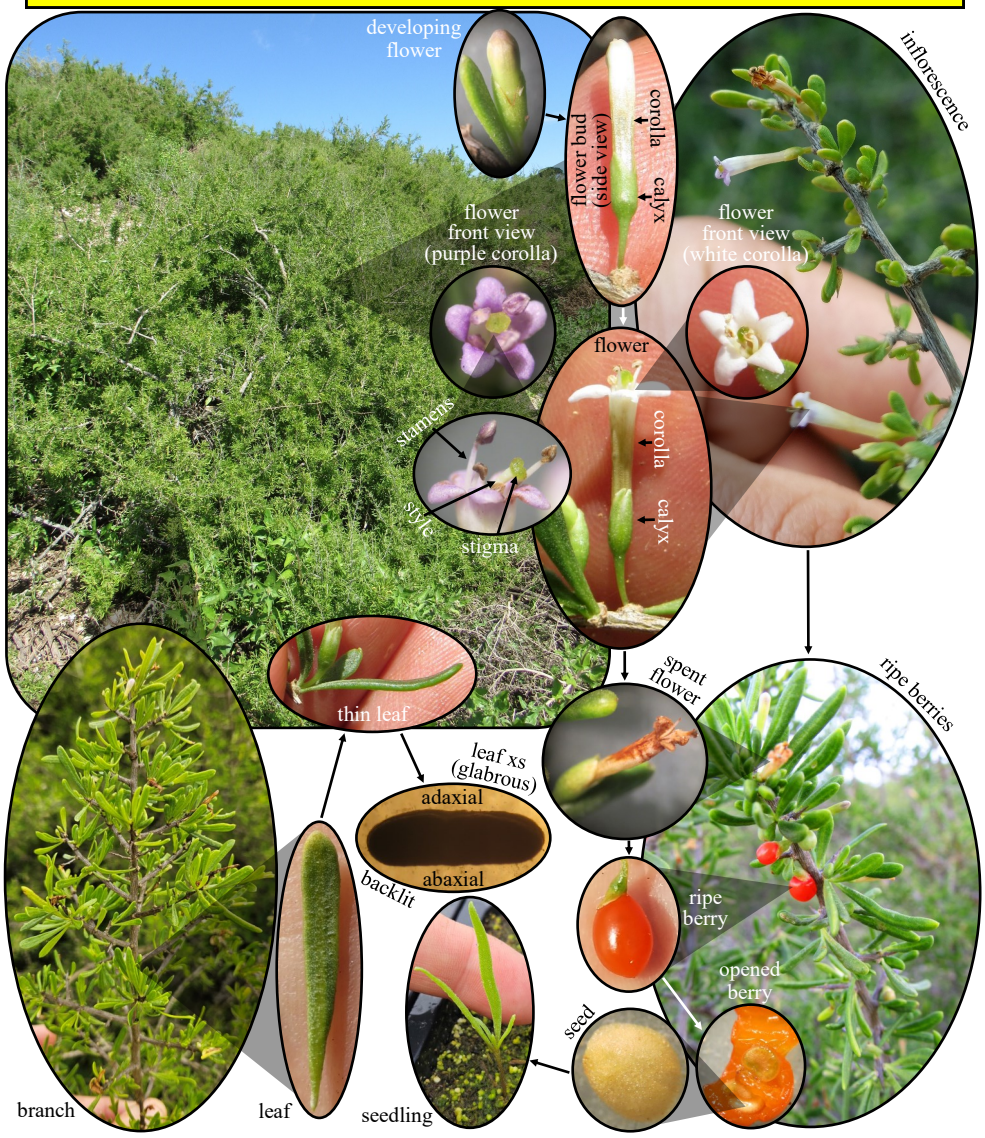
Anderson's Thornbush (*Lycium andersonii*)

Order: Solanales

Family: Solanaceae (Nightshade Family)

Flowers: March - May

Lycium andersonii is a perennial shrub. It is found in only two locations on the peninsula. The branches are usually spreading to erect and rigid. Thorns are present. The leaves are long, thin, and are somewhat linear-oblanceolate. The overall plant is glabrous. The flower has a small green calyx that is cup-shaped with short lobes, and is less than the corolla. The corolla can be white to purple tinged, long, and funnel-shaped. The fruit is a firm berry that is many seeded and is red to a reddish orange color. The seed is small, whitish, and flat.



Anderson's Thornbush (*Lycium andersonii*)

Order: Solanales

Family: Solanaceae (Nightshade Family)

Flowers: March - May



branches



thorn



dormant branches

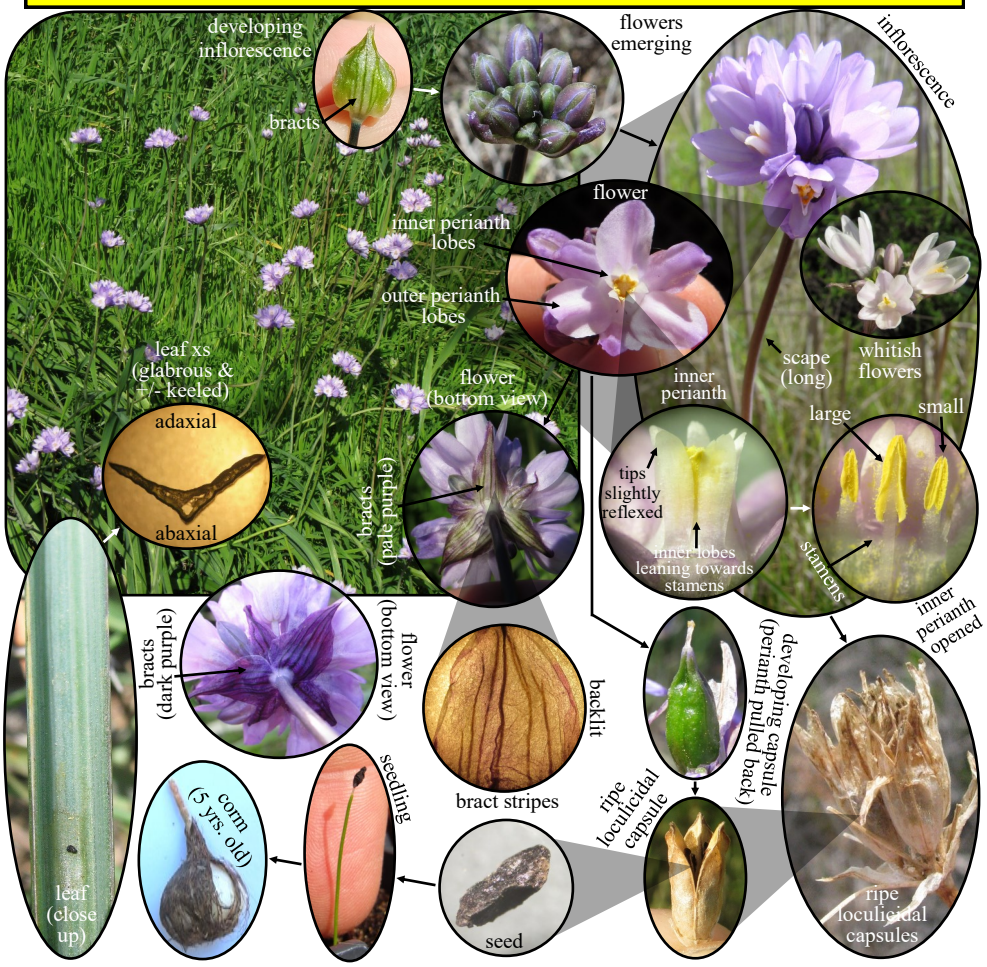
Wild Hyacinth (*Dipterostemon capitatus* subsp. *capitatus*)

Order: Asparagales

Family: Themidaceae (Brodiaea Family)

Flowers: February - June

Dipterostemon capitatus subsp. *capitatus* is a perennial herbaceous plant. It forms underground corms with cormlets. It is found throughout the peninsula. The leaves are long, glabrous, and generally keeled. Margins of the leaves are entire. The scape of the inflorescence is long. The inflorescence is umbellate and made up of 2-15 (sometimes up to 25) flowers that are erect. The bracts of the inflorescence can be dark purple or a pale purple with dark purple stripes. The pedicels of the flowers are usually shorter than the bracts. The perianth of the flowers have lobes that are generally ascending. The perianth is made up of outer perianth lobes and inner perianth lobes. The outer perianth lobes can be light purple, purple or whitish. The inner perianth lobes have tips that are slightly reflexed distally, lean towards the anthers to form a corona, and are white. There are 6 stamens (unequal) with 3 small (on outer lobes) alternating with 3 large (on inner lobes). The fruit is a dehiscent loculicidal capsule. The seed is sharply angled and blackish.



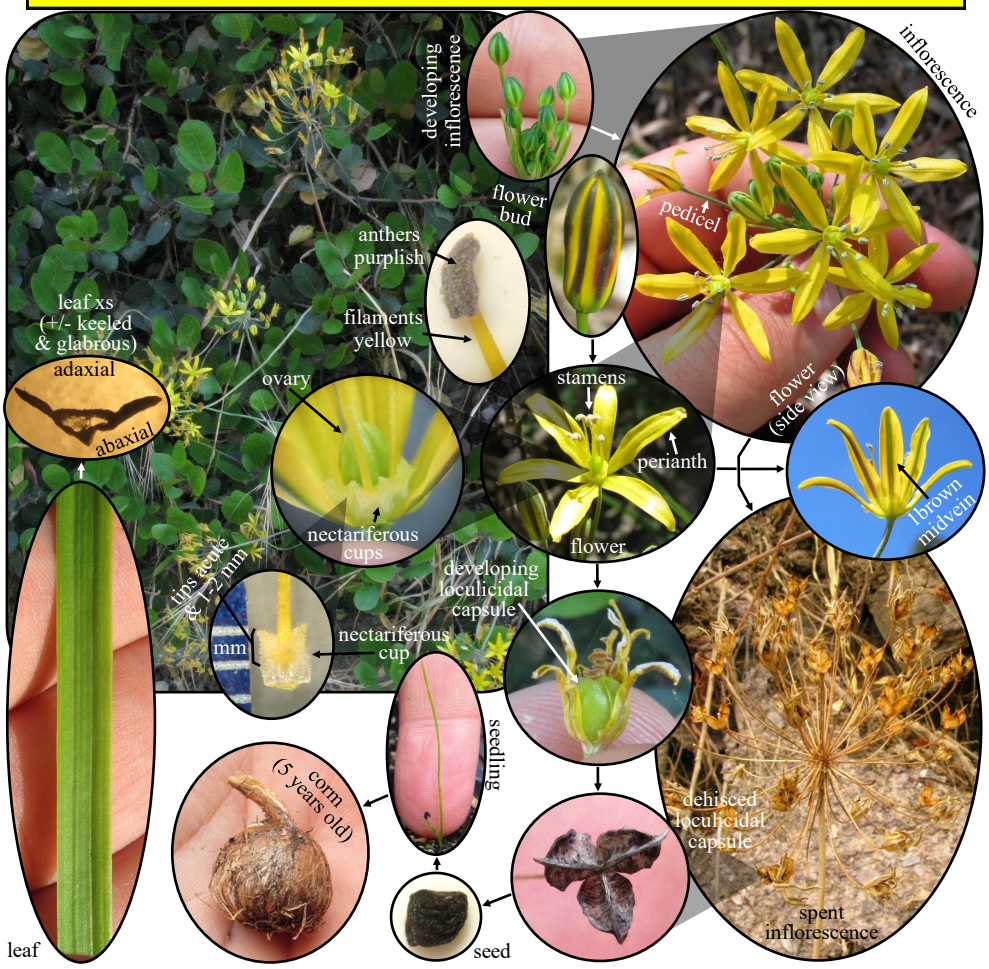
Common Goldenstar (*Bloomeria crocea* var. *aurea*)

Order: Asparagales

Family: Themidaceae (Brodiaea Family)

Flowers: April - June

Bloomeria crocea var. *aurea* is a perennial herbaceous plant. It forms underground corms (corms somewhat spheric) with 1-3 daughter cormlets on minute stalks. It is found in a few locations throughout the peninsula. The leaves are long, glabrous, generally keeled, and wither by flowering time. The margins of the leaves are entire. The scape of the inflorescence is long, stiff, and straight. The bracts (2-4) of the inflorescence do not enclose the flower buds. There are many flowers (10-35) per inflorescence. Pedicels of the flowers are long and radiate out from the center. The perianth of the flower is yellow with the lobes abruptly spreading at the base and with 1 brown midvein along the abaxial side of the lobes. Anthers are purplish. The filaments are yellow and are parallel with the style. The filaments also have nectariferous cups at the base with the cusps of the cups 1-2 mm. The cusps of the cups are also less than 1/2 the length of the filaments and have tips that are acute. The fruit is a dehiscent loculicidal capsule. The seed is black, angled, and somewhat wrinkled.



Common Goldenstar (*Bloomeria crocea* var. *aurea*)

Order: Asparagales

Family: Themidaceae (Brodiaea Family)

Flowers: February - May

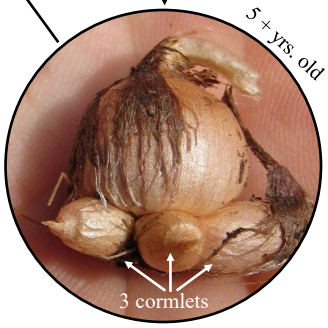


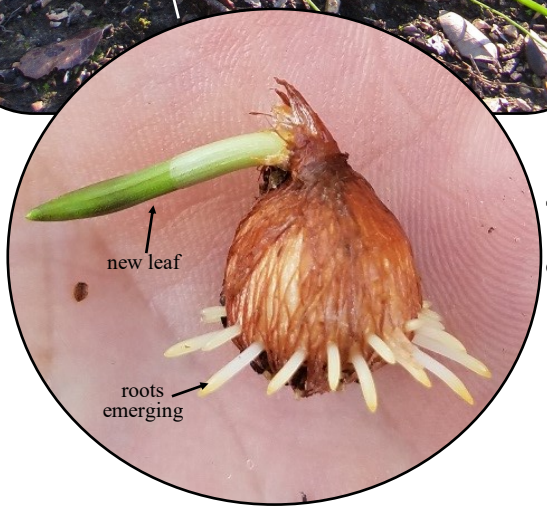
corm formation











Kern Brodiaea (*Brodiaea terrestris* subsp. *kernensis*)

Order: Asparagales

Family: Themidaceae (Brodiaea Family)

Flowers: April - June

Brodiaea terrestris subsp. *kernensis* is a perennial herbaceous plant. It is found in one location on the peninsula. It forms underground corms with cormlets present. The leaves are long, glabrous, somewhat lunate, and wither at flowering time. The margins of the leaves are entire. The scape of the inflorescence is generally long, straight, and cylindric. The bracts are scarious and do not enclose the flower buds. There are many flowers per inflorescence and the pedicels are longer than the flowers. The perianth of the flower is usually violet or occasionally white. The lobes of the perianth are ascending (with some tips recurved) and they can have a brownish-green stripe on the abaxial and adaxial side. Staminodes are present and are violet (sometimes white) and lean towards the stamens. The margins of the staminodes are 1/4 incurved often to the tip. Tips of the staminodes are erect and notched or with a small tooth. The anthers of the stamens have tips that are erect and usually don't have a dentate lobe in the notch. The ovary is green and the stigmas are papillated. The fruit is a dehiscent loculicidal capsule. The seed is black and angled.



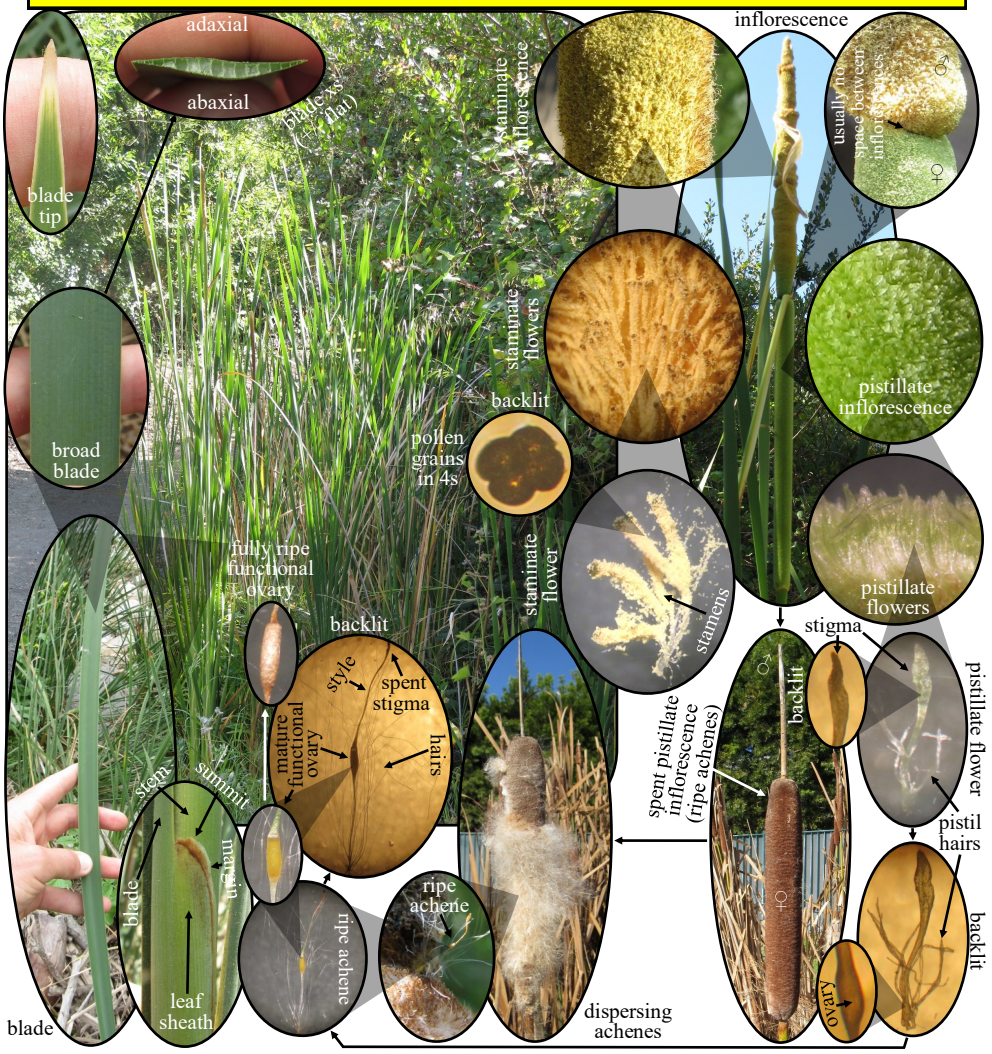
Broad-Leaved Cattail (*Typha latifolia*)

Order: Poales

Family: Typhaceae (Cattail Family)

Flowers: May - August

Typha latifolia is a perennial herbaceous plant that is rhizomatous. It is found in a few locations on the peninsula where there is perennial water. The shoots of this plant are erect and tall. The stems are stout. The blade of the leaf is long, broad, generally flat and the tip comes to a point. The sheath of the leaf has sides that are papery with margins clear (fading to a brownish color in older leaves) and thin. The overall summit (top) of the sheath is usually shouldered or it can sometimes be tapered into the blade. The overall inflorescence (spike) is made up of both a staminate inflorescence and a pistillate inflorescence. The staminate inflorescence is situated at the top and above the pistillate inflorescence. There is usually no space between the staminate inflorescence and pistillate inflorescence. The staminate inflorescence (yellowish when in



Broadleaf Cattail (*Typha latifolia*)

Order: Poales

Family: Typhaceae (Cattail Family)

Flowers: February - May

flower) flowers produce copious amounts of pollen and the pollen grains are in 4s (tetrads). The overall staminate inflorescence disintegrates after the staminate flowers are spent. The pistillate inflorescence (greenish yellow when in flower) flowers have stigmas that are greenish and ovate to lance-ovate. There are numerous hairs that surround the ovary of the pistillate flower. As the pistillate flower matures and is pollinated the style elongates and the stigma fades to a brownish color. The overall pistillate inflorescence fades from a greenish yellow to a brownish red color ("hot dog on a stick") when in fruit. The pistillate inflorescence can contain numerous sterile and fertile fruits within it. The fruits are achenes that are dispersed by the wind.



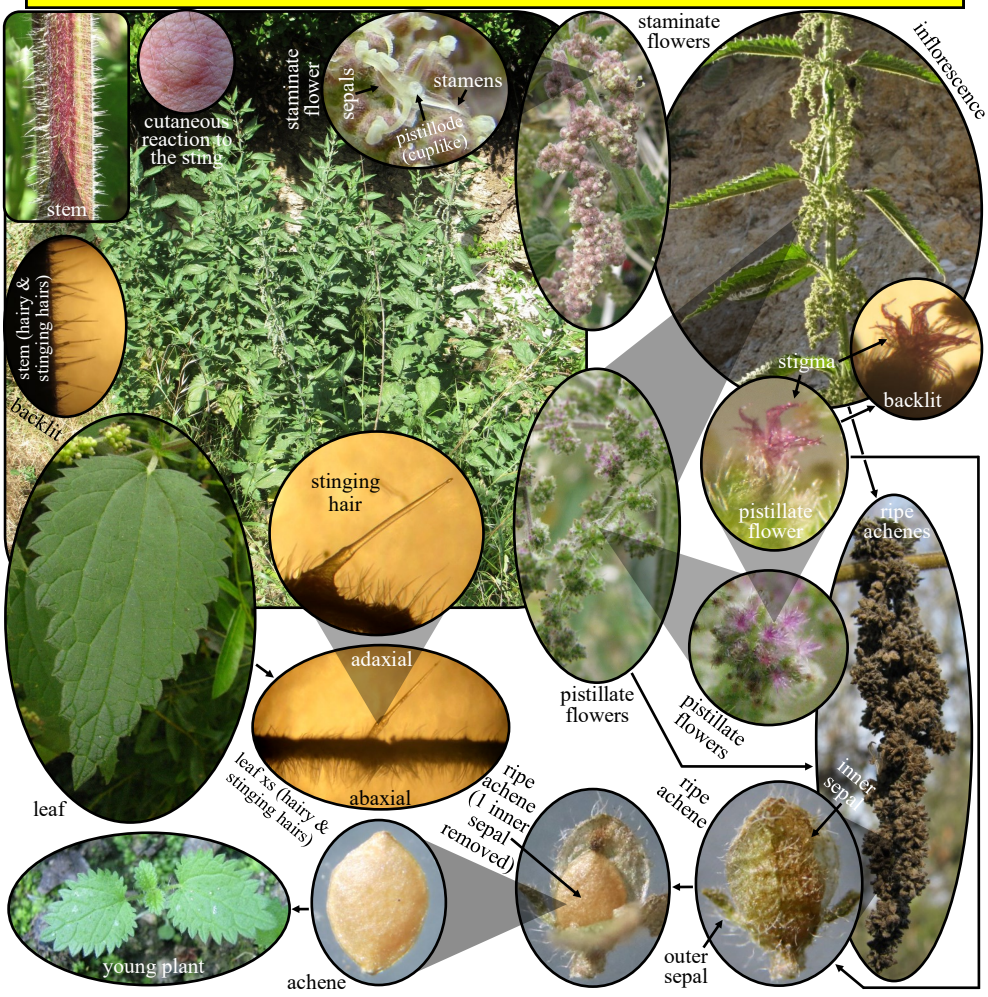
Giant Creek Nettle (*Urtica dioica* subsp. *holosericea*)

Order: Rosales

Family: Urticaceae (Nettle Family)

Flowers: June - September

Urtica dioica subsp. *holosericea* is a perennial herbaceous plant that is rhizomatous. It is found throughout the peninsula mostly in canyons. This plant is generally monoecious but can sometimes be dioecious. The stems are erect, soft pubescent, with stinging hairs. The leaf blade is narrow-lanceolate to wide ovate. The abaxial side of the leaf is hairy (soft hairs) and has stinging hairs throughout. The adaxial side of the leaf has only a few stinging hairs present or no stinging hairs. The inflorescence is panicle-like, has a peduncle, and is elongated. The staminate flowers have 4 stamens and 4 sepals. The staminate sepals are distinct, greenish to purplish, and bristly. The pistillate flowers have 4 sepals (glabrous) that are distinct (inner 2 sepals the same size as the achene and the outer 2 sepals much reduced). The pistillate flowers lack a style and the stigma is tufted. The fruit is an achene that is flattened and ovoid or deltoid. The achene is often hidden within the inner 2 persistent sepals.

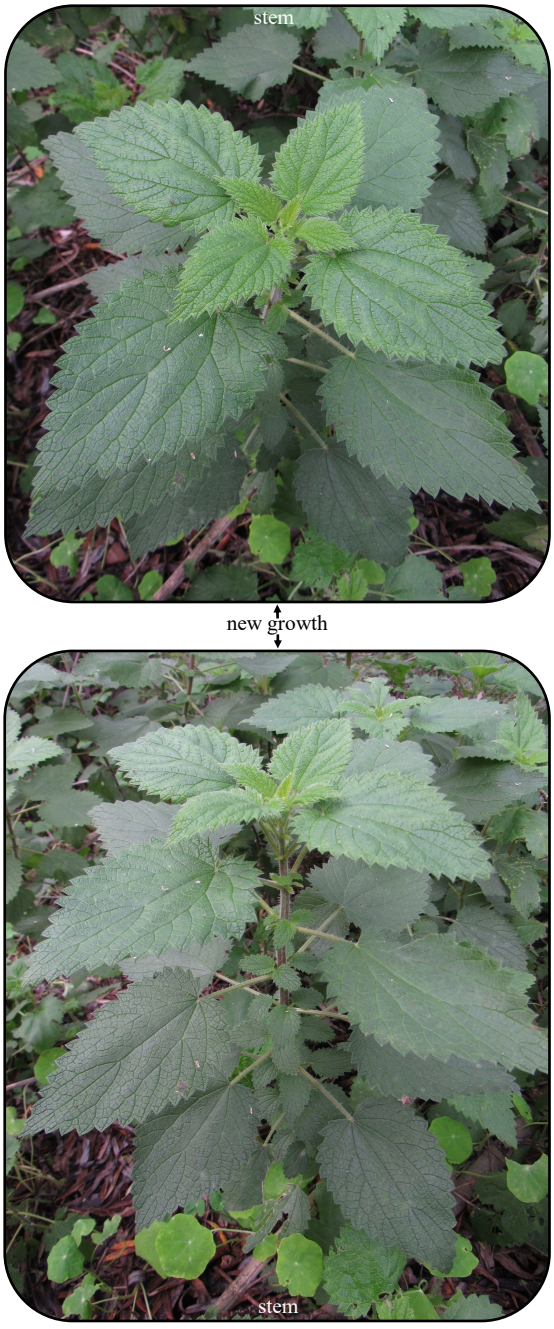


Giant Creek Nettle (*Urtica dioica* subsp. *holosericea*)

Order: Rosales

Family: Urticaceae (Nettle Family)

Flowers: June - September



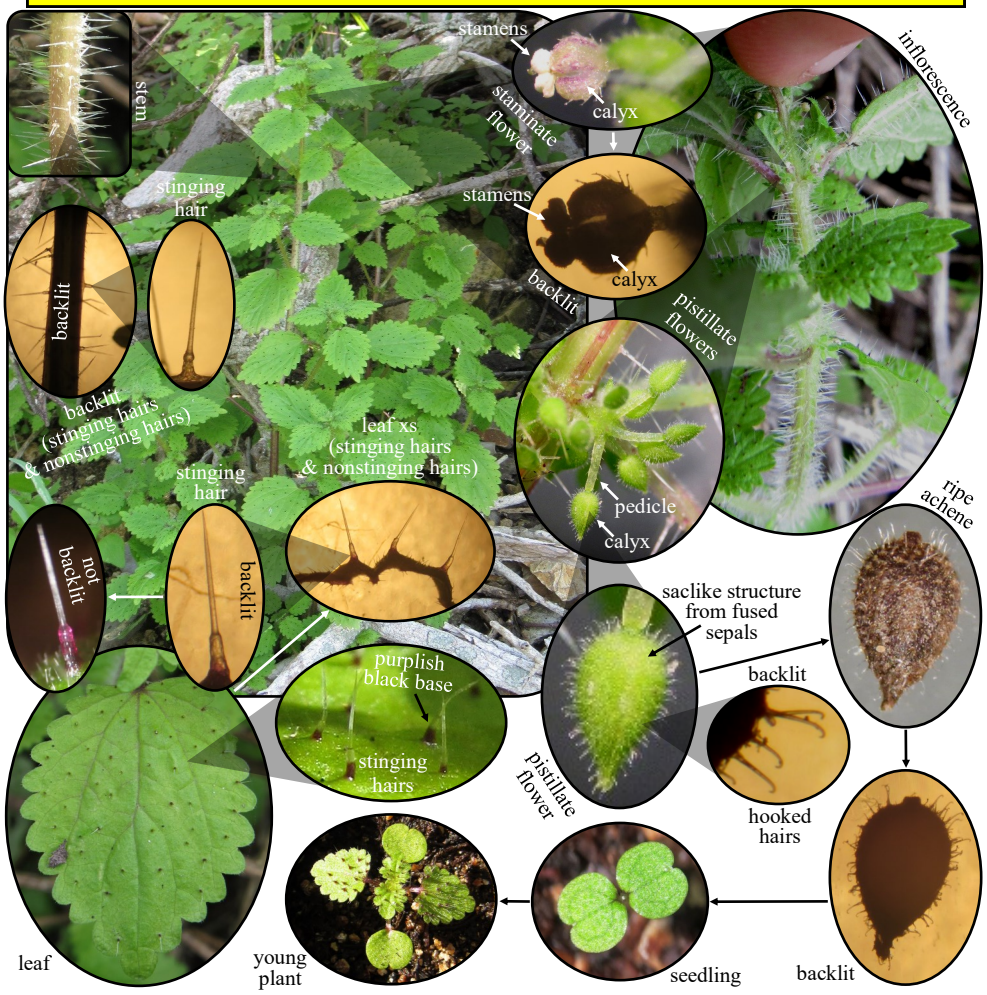
Western Nettle (*Hesperocnide tenella*)

Order: Rosales

Family: Urticaceae (Nettle Family)

Flowers: February - June

Hesperocnide tenella is an annual herbaceous plant. It is found in a few locations along the coastal bluffs on the peninsula. This plant is monoecious. The stems are erect and both the stems and leaves have stinging hairs (stinging hairs on leaves usually with purplish-black bases) as well as nonstinging hairs. The blade of the leaf is ovate with leaf margins bluntly serrated. The inflorescence is axillary and the flowers are unisexual. The staminate flowers and the pistillate flowers occur in clusters in the same inflorescence. The staminate flowers have 4 sepals that are generally free with 4 stamens. The pistillate flowers generally have 4 sepals (somewhat equal in length) that are fused to almost the tip. The fusion of the pistillate sepals form a persistent saclike structure that is covered in minute hooked hairs and completely encloses the fully ripe achene. Styles are not present and the stigmas are tufted. The fruit is an achene that is flattened and enclosed in persistent sepals.



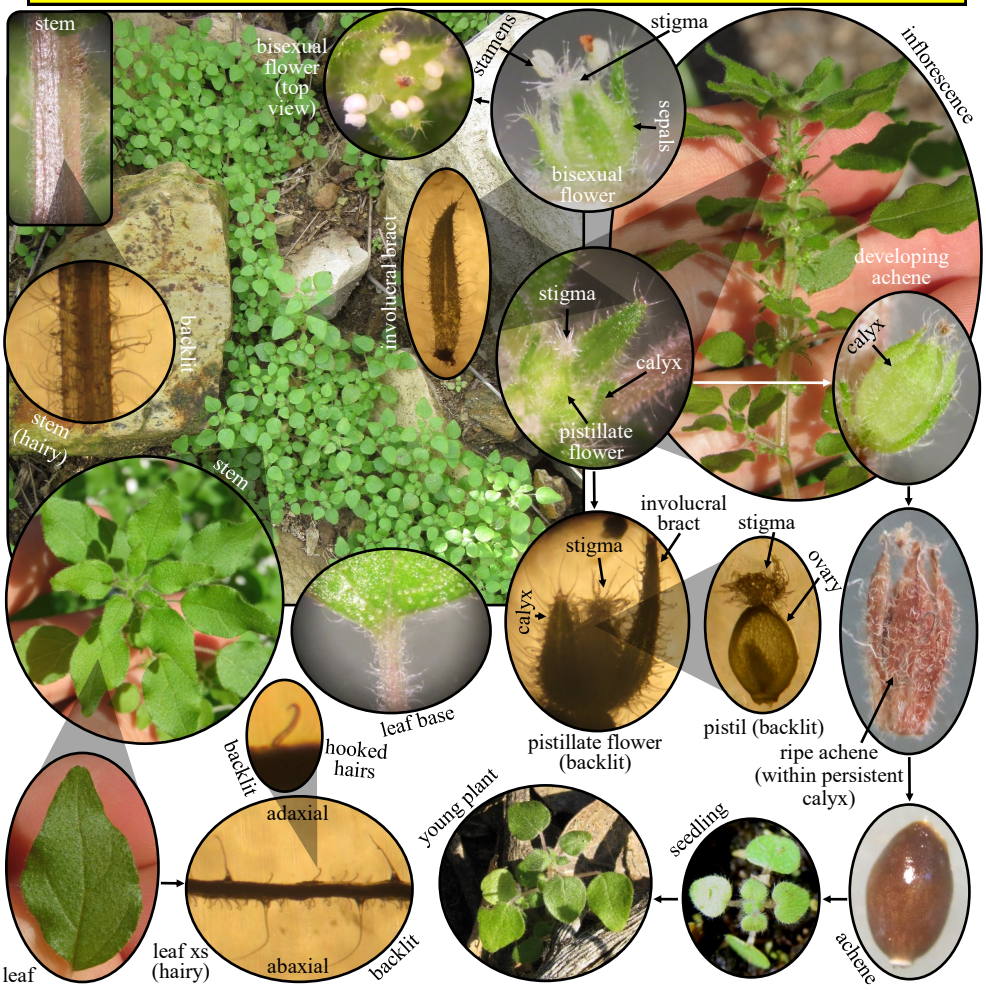
Western Pellitory (*Parietaria hespera* var. *hespera*)

Order: Rosales

Family: Urticaceae (Nettle Family)

Flowers: February - June

Parietaria hespera var. *hespera* is an annual herbaceous plant. It is found throughout the peninsula. The stems are decumbent to erect and the plant can often form thick mats. The blade of the leaf is narrowly to broadly ovate to lanceolate and is longer than wide. The tip of the blade can be rounded to acuminate to acute or obtuse. Petioles are generally long. The inflorescences are axillary and the involucral bracts are linear to lanceolate, hairy, lack hooked hairs, and are usually longer than the achenes. The flowers can be bisexual, staminate, or pistillate (proximal flowers are usually bisexual and staminate with the distal flowers being mostly pistillate). Flowers have 4 sepals that are distinct, somewhat erect, hairy, lack hooked hairs, and are persistent in fruit. Bisexual flowers and staminate flowers have 4 stamens. In pistillate and bisexual flowers, styles are absent and the stigmas are tufted and deciduous. The fruit is an achene that is brownish, smooth, ovate, and with a tip that is obtuse.



Western Vervain (*Verbena lasiostachys* var. *lasiostachys*)

Order: Lamiales

Family: Verbenaceae (Verbena Family)

Flowers: May - September

Verbena lasiostachys var. *lasiostachys* is a perennial herbaceous plant. It is found in a two sandy soil locations on the peninsula. The stems are decumbent to decumbent-ascending (forming a low growing plant). The stems are densely hairy (soft hairy) and minutely stipitate-glandular. The leaves are densely hairy (soft hairy) and minutely stipitate-glandular. The blade of the leaf is ovate or elliptic-ovate or obovate with 1 to 2 lobes (sometimes 3 lobes) near the base. The inflorescence is a spike (1 or 2 to 5 from distal branches). Floral bracts are shorter than the calyces. The calyx of the flower is green, densely hairy, and minutely stipitate-glandular. The corolla is purplish-blue to purple and the tube of the corolla is longer than the calyx. The stamens (filaments adnate to the corolla) and the pistil are hidden within the corolla. The fruit is a nutlet with 4 nutlets per flower. Nutlets are dark brown and the adaxial side (commissural face) is bare to slightly minimally glandular papillate. Nutlets are contained within the persistent calyx that is vase shaped. This plant prefers dry locations.



Western Vervain (*Verbena lasiostachys* var. *lasiostachys*)

Order: Lamiales

Family: Verbenaceae (Verbena Family)

Flowers: May - September



← decumbent to decumbent-ascending growth habit

↓



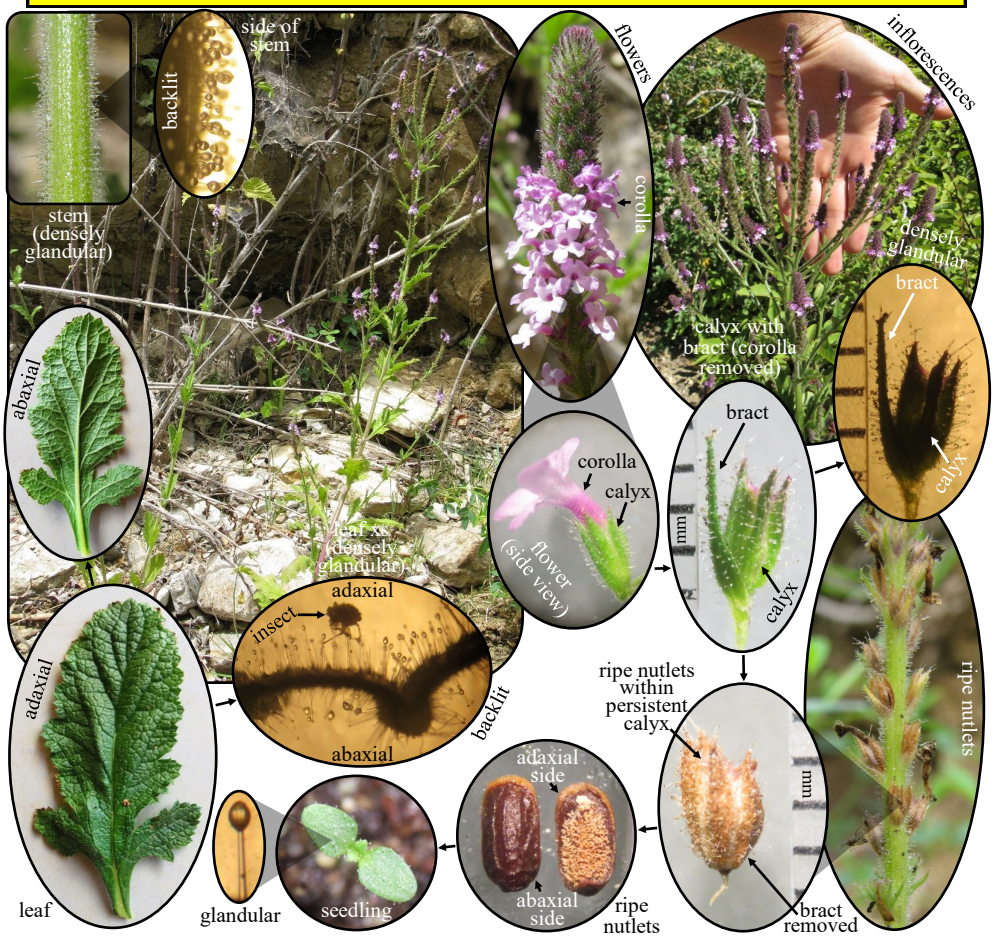
Glittering Vervain (*Verbena gemmea*)

Order: Lamiales

Family: Verbenaceae (Verbena Family)

Flowers: May - September

Verbena gemmea is an annual to perennial plant. It has been found in one canyon on the peninsula. The overall plant is densely stipitate-glandular. The stems are erect and the plant can reach a height of 185 cm. The stems are densely stipitate-glandular and minimally hairy. The leaves are densely stipitate-glandular and minimally hairy. The blade of the leaf is ovate or elliptic-ovate or obovate with 1 to 2 lobes near the base. The inflorescence is a spike (1-25 per stem from distal branches) and is densely stipitate glandular. Floral bracts are equal to or longer than the calyces and densely stipitate-glandular. The calyx of the flower is green and densely stipitate-glandular. The corolla is light pink to pink (rarely white) and the tube of the corolla is longer than the calyx. The stamens (filaments adnate to the corolla) and the pistil are hidden within the corolla. The fruit is a nutlet with 4 nutlets per flower. Nutlets are mahogany and the adaxial side (commissural face) is densely glandular papillate with creamy orange papillae. This plant tends to prefer areas where water collects or where there is a seasonal flow of water.

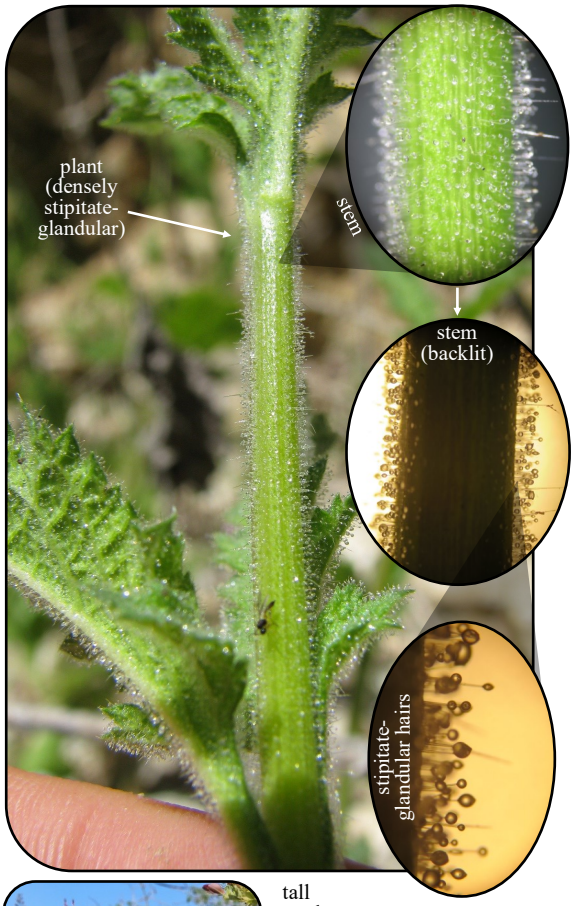


Glittering Vervain (*Verbena gemmea*)

Order: Lamiales

Family: Verbenaceae (Verbena Family)

Flowers: May - September







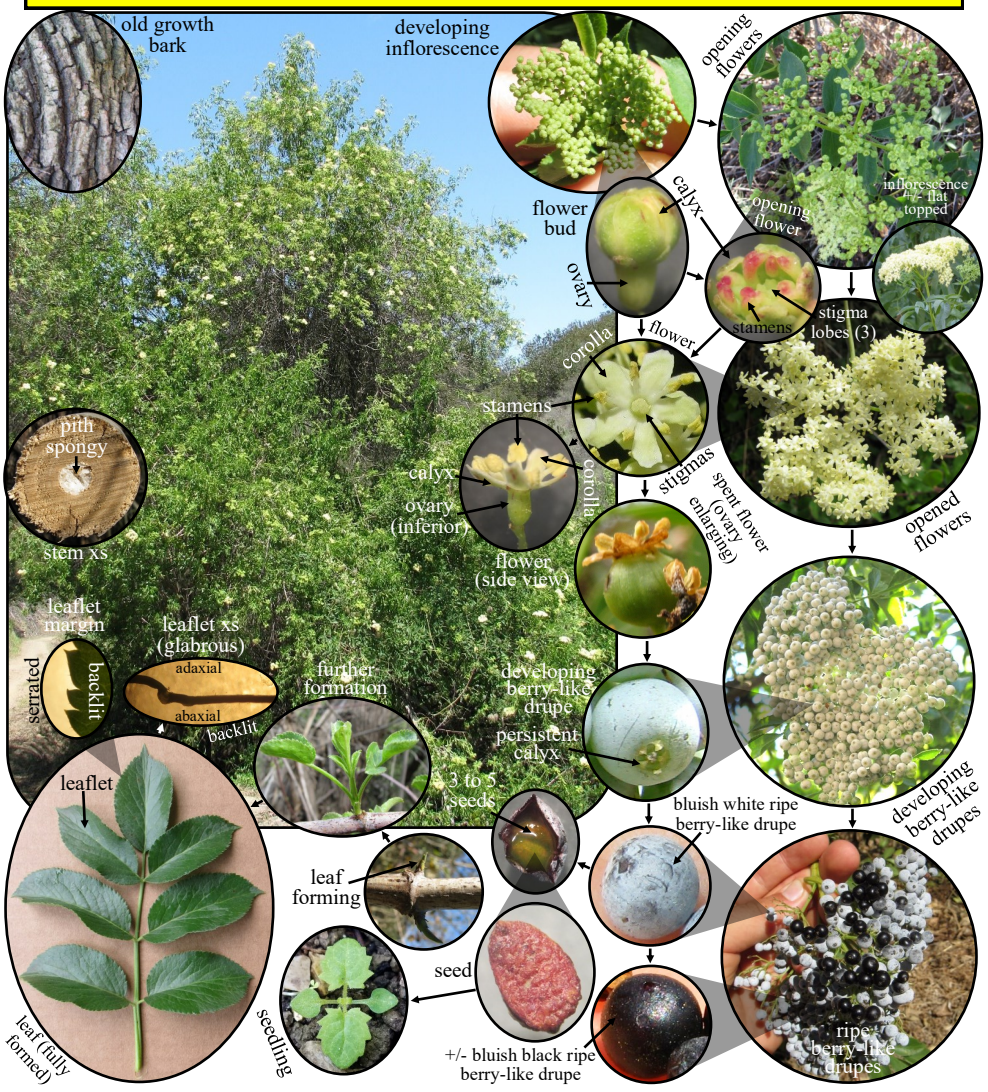
Mexican Elderberry (*Sambucus mexicana*)

Order: Dipsacales

Family: Viburnaceae (Elder Family)

Flowers: March - September

Sambucus mexicana is a large shrub to tree. It is found throughout the peninsula mostly along canyons, where it can form large trees. The leaves are odd-pinnately compound with 3 to 9 leaflets that are elliptic to ovate and have margins toothed. Leaflets can be glabrous to hairy. The pith of the stems is large and spongy. Flowers are clustered together in a flat-topped inflorescence. The calyx is small and green. The corolla is generally spreading and creamy yellow. Stamens alternate with the petals and there are 3 to 5 stigma lobes. The fruit is a berry-like drupe that can range in color from black to bluish white (bluish white color from a dense white powder). The seed is small and textured. It is winter deciduous.



Mexican Elderberry (*Sambucus mexicana*)

Order: Dipsacales

Family: Viburnaceae (Elder Family)

Flowers: March - September

Sambucus mexicana plants found in canyons on the peninsula can reach massive tree size. In addition, old growth bark that is deeply furrowed of *S. mexicana* on the peninsula can host many species of epiphytic organisms such as fungi, mosses, liverworts, and lichens.







old growth bark that is deeply furrowed can host bryophytes, lichens & fungi





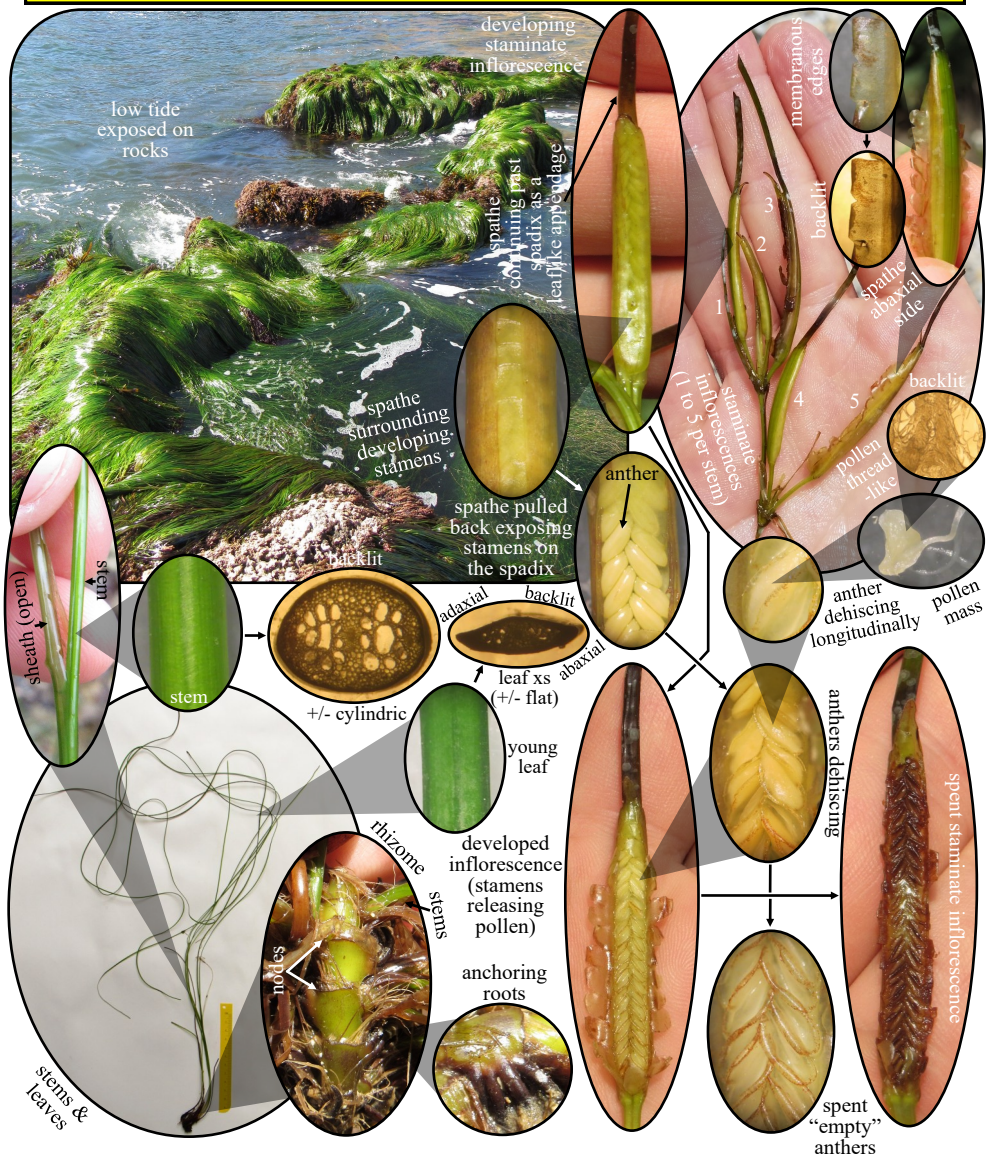
Torrey's Surfgrass (*Phyllospadix torreyi*)

Order: Alismatales

Family: Zosteraceae (Seagrass Family)

Flowers: May - November

Phyllospadix torreyi is a herbaceous perennial plant. It is found throughout the rocky intertidal zone of the peninsula's coast. It is dioecious. It spreads via rhizomes that attach to the rocks. Stems are simple or branched, flat and long. The leaves are grass-like, generally long, 3-veined, thin and have margins that are entire. Leaf sheath is open. The leaves when young are flat and with age they become folded or cylindric. The inflorescences are located near the end of the flowering stems and are made up of



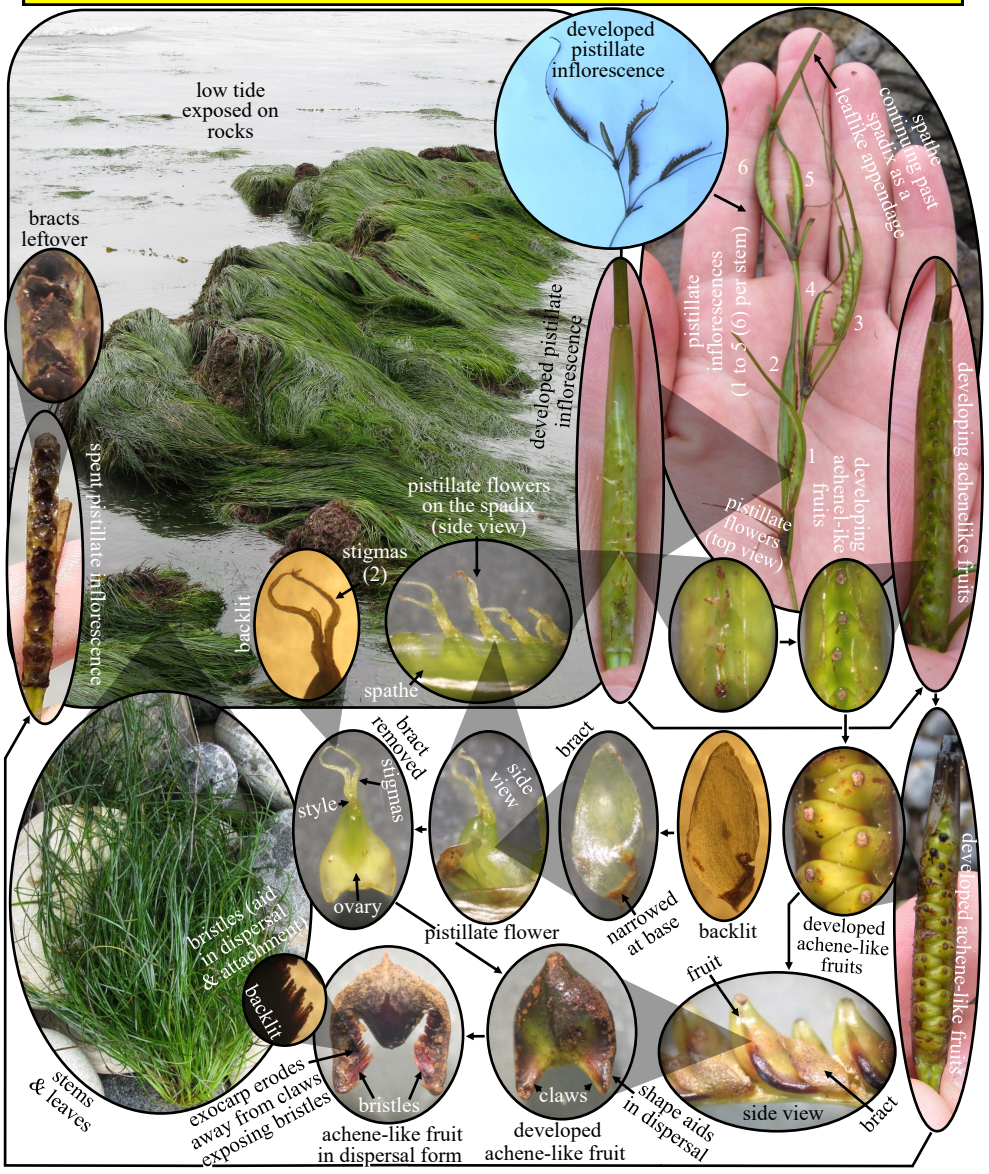
Torrey's Surfgrass (*Phyllospadix torreyi*)

Order: Alismatales

Family: Zosteraceae (Seagrass Family)

Flowers: May - November

linear spadices (1 to 5 spadices per flowering stem) that project out from the spathe sheaths when the inflorescences are mature. Spathe sheaths have membranous edges and extend out past the spadices as a leaflike appendage. The staminate and pistillate flowers are apetalous and are subtended by bracts with the pistillate bract being narrowed at the base. The pollen of the staminate flower is filamentous. Pistillate flowers have a single pistil with 2 stigmas. The fruit is achene-like and crescent-shaped.



Torrey's Surfgrass (*Phyllospadix torreyi*)

Order: Alismatales

Family: Zosteraceae (Seagrass Family)

Flowers: May - November

