**Selected Plants Native to Palos Verdes Peninsula (C.M. Rodrigue, 07/26/11)**

**http://www.csulb.edu/geography/PV/**

**Succulents (plants with fleshy, often liquid-saturated leaves and/or stems. These features can be found in a variety of life forms, including annual herbaceous plants, vines, shrubs, and trees, as well as cacti)**

*Herbaceous plants (non-woody, though there may be a woody caudex or basal stem and root -- annual growth dies back each year,* resprouting in perennial or biennial plants, or the plant dies and is replaced by a new generation each year in the case of annual plants)

Extremely tiny plant. Stems only about 2-6 cm tall, occasionally as much as 10 cm, leaves only 1-3 mm long (can get up to 6 mm long), fleshy, found at the plant's base or on the stems, shape generally ovate (egg-shaped), may have a blunt rounded end or a fine acute tip. The leaves are arranged oppositely, not alternately. The plant is green when new but ages to red or pink. Tiny flower (0.5- 2 mm) borne in leaf axils, usually just one per leaf pair on a pedicel (floral stem) less than 6 mm long. Two or 3 petals and 3 or 4 sepals. Flowers February to May. Annual herb. Found in open areas, in rocky nooks and crannies, and sometimes in vernal ponds (temporary pools that form after a rain and then slowly evaporate). *Crassula connata* (Crassulaceae): **pygmy stonecrop or pygmy-weed or sand pygmyweed**

Leaves converted into scales along stems, which are arranged alternately and overlap. Plant is a root parasite and has lost the ability to photosynthesize. With the loss of photosynthetic function, what had been the leaves converted into overlapping triangular scales adhering to the stem. The stems are really peduncles (the stalk supporting an inflorescence or flower cluster, and only part of the peduncle is visible above ground. It looks like a fleshy stem lined with scales (~2 cm thick), about 10-18 cm tall. Sometimes there is only 1 visible; other individuals have several. They may be branched. Underground, the plant has a root-attachment, which it uses to invade the root system of a host plant (it especially favors *Artemisia tridentata* but can exploit other *Artemisia* (sagebrush) and is believed to attack *Eriogonum* (California buckwheat) and *Eriodyction* (yerba santa). Flowers clustered at top of visible stems, the clusters varying a little in shape, from capitate (head or ball-shaped), corymbose (flat-topped), or racemose (stalk-like) and getting as long as 12 cm. Individual flowers are on pedicels (small stems connecting them to the main peduncle stem), ~0-4 cm long (shortening the higher the flowers are on the inflorescence). The flowers are tubular, ~2-5 cm long, with throats ~1 cm wide, somewhat glandular (sticky) and puberulent (fine fuzz or down). The corollas are split into 2 lips about 1-1.4 cm long, and these are then further subdivided. The upper lip is 2-lobed and erect; the lower lip is 3-lobed and spreading widely downward and outward. The lobes are narrow and tapering, especially the lower ones. The corolla can be a variety of colors, usually with a contrast from a duller yellowish or brownish exterior and a more vividly colored interior. The inner side of the corolla lobes range from yellow marked with reddish or brownish veins on the inside of the lobes or white, pink, or lavender with dark violet or purple veins. There are 2 pairs of stamens inside the corolla throat, and the stigma is split into 2 recurved lobes. Under the corolla, the calyx has 5 acutely tipped lobes ~1.5-2 cm long. Blooms May through July. Fruit is an internally valved capsule containing many very small seeds. Plant, with peduncles and inflorescences, is 4-35 cm tall, a perennial herb, sometimes considered a pseudosucculent, that is, a plant of succulent appearance but parasitic habits. Orobanche californica (Orobanchaceae): **California orobanche, California broomrape**

Leaves nearly completely absent, reduced to minute scales arranged oppositely on stem joints, often clasping to form a ring at the joints. Main stems are wide spreading and sprawling or erect and compact, jointed into segments 2-20 mm long, crowded with many short branchlets themselves segmented every 5-15 mm. Branching is opposite in arrangement. The joints are 2-3 mm in diameter, terrete (round in cross section). Inflorescence consists of terminal spikes ~1-4 cm long, forming dense jointed cylinders ~2-3 mm wide, with 3-7 individual flowers arranged on opposite sides of the lowermost joints of the spikes. The flowers are minute, have fleshy calyxes, 1-2 stamens, and 2 styles united at their base (if you can see any of these features!). Flowers from April through September. Fruit a bladder included in the calyx with a single tiny (~1 mm) smooth brown seed. Plant is a perennial herb, reaching from 15-30 cm in height, growing in salt marshes and low alkaline places along the coast from the Bay Area south, the Channel Islands, the San Joaquin Valley, and deserts down to Mexico at elevations under 800 m.

*Salicornia subterminalis* aka *Arthrocnemum subterminale* (Amaranthaceae or Chenopodiaceae): **pickleweed, Parish's pickleweed, Parish's glasswort**

Leaves in a basal rosette made up of fleshy leaves that are lanceolate (much longer than wide) to strap shaped tapering to the tip, margins somewhat curved inward/upward, flowers borne on one or more peduncles or stalks 15-75 cm tall.

Leaves silver-green or pale green, either glaucous (with a whitish covering) or not, basal leaves ~5-30 cm long and ~1-3 cm wide, attached directly to a short caudex (or woody base) without petioles (small leaf-stems). Peduncles 20-60 cm long and stout, reddish, with lanceolate or triangular small cauline (on the stems) leaves Flowers orange or red, flowering from December to June. Perennial herb.

*Dudleya lanceolata* (Crassulaceae): **live-forever, lanceleaf live-forever**

Leaves mostly bright green 8-20 cm long

Flowers white with 5 petals about 0.7-1 cm long, fragrant, flowering from April through June. Perennial herb.

*Dudleya virens* (Crassulaceae): **bright green dudleya, bright green live-forever, alabaster plant, island live-forever**

Leaves cauline (on stems, as opposed to at the base of the plant), somewhat fleshy

Leaves linear (thin) or oblanceolate (lanceolate, but the widest part is toward the tip). Leaves entire (leaf margins are smooth without serrations, teeth, or spines)

Leaves arranged alternately, usually with axillary fascicles (clusters) of smaller leaves. Leaves are sessile (directly attached to stems without a small leaf-stem), ~0.8-4.5 cm long and <0.2 cm wide, greyish green and glabrous. The inflorescence is on a bracteate spike (the spike contains small triangular leaf-like structures under the flowers) ~2-10 cm long. The spikes are densely flowered with tiny flowers (~1.5 mm or <0.1 cm long). The flowers have 4 sepals, 2 white petals, which can have entire (smooth) or lobed margins, and 3 stamens. They flower from February to July. The fruit is a capsule <0.1 cm long and <0.3 cm wide, shaped like a depressed or collapsed sphere containing 4 lobes or teeth. Seeds are shiny, black, and tiny (~0.5 mm wide). The plant itself is an annual herb made up of several erect stems, 10-30 cm tall. It favors rocky slopes, dunes, ocean bluffs, and somewhat saline locations, being found along the coast, as at Palos Verdes, and also inland in the Mojave Desert.

*Oligomeris linifolia* (Resedaceae): **oligómeris or lineleaf whitepuff**

Leaves arranged oppositely (but leaf pairs are often crowded along a stem giving a whorled appearance). Leaves are ~2-4 cm long, sessile (attaching directly to the stem without a petiole or leaf stem), glandular (sticky) and/or pubescent (fine hair or wool on surface), green to somewhat silvery green. Flowers are tiny: Sepals are fused at the base, with 5 distinct lobes ~2.5-5 mm long. There are 5 round or ovate petals ~2-4 mm long, white to pink or even rosy in color. There are 2-5 stamens with bright yellow anthers surrounding 3 yellow styles. Blooms from March through September. Fruit is a capsule ~3.5-6 mm long, with tiny (~0.5 mm) smooth or glandular-bumpy surfaces. Plant is an annual herb with a diffuse branching habit that gets to ~5-30 cm high and across. Common along the seashore and in alkaline interior locations, including the California deserts, generally under 700 m in elevation. Plant is pretty much cosmopolitan: native to much of the world.

*Spergularia marina* aka *Spergularia salina* (Caryophyllaceae): **sand spurrey, salt marsh sand spurrey, salt sand spurrey, lesser sea spurrey**

Leaves ovate (oval, widest in the middle), cuneate (wedge-shaped, wide at base), cordate (heart-shaped), or obovate (oval, widest at the tip), ~0.8 - 5 cm long, glabrous (shiny without hairs), entire (smooth margins), sessile (attached directly to stem at base without a petiole), arranged alternately along the stems. Leaves and stems somewhat fleshy. The stems are ~10-50 cm long, both erect (vertical) and decumbent (sprawling along the ground), with new plants coming up among the dead stems of the previous year's plants, giving a somewhat tangled look. The older stems and leaves are reddish, while the younger ones are light green. The inflorescence is axillary and sessile, with 1-5 tiny greenish flowers, each with 1 stamen and 3 stigmas. Flowers from April through May. Fruit is a tiny (~1 mm), finely ribbed, somewhat deflated-looking sphere, which produces a tiny, wrinkled, lens-shaped black seed. Plant is an annual herb, inconspicuous, usually found on bluffs and the coastal strand and in California sage scrub. This one species genus is in marked decline due to disturbance of its habitat, from north of the Bay Area south into Baja, extirpated in much of its habitat.

*Aphanisma blitoides* (Amaranthaceae or Chenopodiaceae): **aphanisma, San Diego coastalcreeper**

Leaves cuneate (wedge-shaped) narrow at base, fanning out to an obtuse or rounded tip, ~1-4 cm long, 1-2 cm wide, short petioled (very short stem attaching leaves to main stems). Leaves are mostly cauline (on the stems), arranged alternately, often with new stems or whorls of new leaves in the leaf axils. Leaf is slightly concave upward. Inflorescence is a solitary or paired spike without bracts (leaves), ~2-10 cm long, scorpioid (coiled like a scorpion's tail), with flowers densely attached in pairs. Flowers are small (~0.3-0.6 cm across), white, with corollas divided into 5 symmetrical ovate lobes, which are often folded lengthwise along a midrib, making the petals concave upward. The center of the flower is usually yellow or lavender, often on the same cyme (flower spike), with 5 stamens visible deep inside the corolla. Bloom from March to October. The fruit is a glabrous round nutlet ~0.1-0.2 cm in diameter. The plant itself is a perennial herb usually 10-50 cm tall, diffusely branched and sprawling. Favors either dry or moist sites and is common in saline or alkaline soils.

*Heliotropium curassavicum* (Boroginaceae): **heliotrope or salt heliotrope or seaside heliotrope or Chinese parsley**

Leaves spatulate or ovate in shape, fleshy. Leaves 0.5-4 cm long, with the outer tip either obtuse (blunt) or emarginate (slightly notched), entire (not toothed) and glabrous (smooth), sessile (without a petiole), arranged oppositely. Leaves often arch backward a small degree. Flowers are small (~ 0.8-1 cm across), solitary, sessile or nearly so

(no pedicel or stem), carried in the leaf axils, 5 pointed petals iceplant-pink or lavendar, many stamens, sepals have dry thin margins. Flowers April to November. Fruit a conic capsule ~0.5 cm high, seeds are shiny black ~1 mm long. Plant is a freely branching, low-growing perennial herb, ~10-50 cm tall. Not common. Found in dry areas or the margins of saline wetlands.

*Sesuvium verrucosum* (Aizoaceae): **sea-purslane or Western sea-purslane**

*Shrubs (woody plants with multiple persistent stems coming out from the ground or close to it) or subshrubs (perennials with very little persistent wood but which produce a shrubby appearance from the annual stems)*

Leaves linear (thin) or oblanceolate (not quite as thin, and wider on outer half) and fleshy-subterete (almost round, like a cylinder) in cross section. Leaves are glabrous (smooth) and bright green to yellowish-green or greyish-green. Leaves entire, ~0.3-1 cm long, almost sessile (attaching directly to stem with little or no petiole or leaf stem). They occur in clusters or whorls, arranged alternately along the stems. Stems are beige-grey, rigid, densely and intricately branched, and have very thorny tips partly concealed by the leaves. There are 1-2 flowers on short pedicels (0.1-0.5 cm long) emerging from leaf axils. Flowers are small (~0.2-0.3 cm across and long), white or creamy with purple or lavendar stripes in the throat of the flower. Corollas divided into 4 symmetrical ovate or triangular lobes, which are often slightly curled upwards at the tips. There are 4 stamens that are exserted beyond the corolla. Blooms from March to July. The fruit is glabrous and round or ovate like a cherry, containing 2 small seeds (~0.2-0.3 cm long). The plant itself is a shrub usually 1-2 m tall. Favors dry slopes and bluffs near the coast. This plant is endangered due to its rarity, confinement to coastal sage scrub, and the pressures of development.

*Lycium californicum* (Solanaceae): **California box thorn or desert box thorn or box thorn**

Leaves are linear, lanceolate, or even short-elliptic, ~1-3.5 cm long, and terete (rounded) in cross-section. They range in covering from glabrous (smooth) to pubescent (finely fuzzy or woolly) or even to densely hairy and they are generally glaucous (covered with a fine dust or resin that comes off on contact, like the covering on grapes or blueberries). They are, then, light green to white in appearance. The leaves are alternate, but they are so crowded sometimes that it's hard to see that. They have entire (smooth) margins. The leaves are densely crowded on the stems, and they vary in orientation to the stem from ascending to widely spreading. They are nearly sessile (very short petiole). The stems are numerous and much branched, and some are erect while others are decumbent or spreading out toward the ground. The inflorescence consists of clusters scattered throughout the plant, with 1-3 tiny flowers (~1-3 mm across) per cluster. The calyx is fused, with 5 rounded fleshy light green sepal lobes (if you can see that well), no petals, 0-5 yellow stamens, and 2-5 pistils. Blooms July through October. Fruit a small bladder enclosed within the calyx, with one tiny (1-2 mm) shiny black or brown flattened seed. The plant is a shrub or subshrub (woody below and herbaceous above, looking like a small shrub). Found on coastal bluffs and on the margins of salt marshes on the Southern California coast and the Channel Islands below 15 m in elevation.

*Suaeda taxifolia* aka *S. californica* (Amaranthaceae or Chenopodiaceae): **woolly seablite or seablite**

Leaves oblanceolate (longer than wide but with the widest part toward the tip) or spatulate markedly wider toward the tip) and fleshy/plate-like in-cross section, rather than subterete. Leaves entire, ~0.5-1.5 cm long, ~0.3-1 cm wide, almost sessile (attaching directly to stem with little or no petiole or leaf stem), sometimes a prominent midrib. Leaves are lightly pubescent (faintly fuzzy) and dusty olive green to greyish blue-green. They occur in clusters or whorls, arranged alternately along the stems. Stems are beige-grey, rigid, densely and intricately branched almost at right angles, and have thorny tips partly concealed by the leaves. There are 1-2 flowers on short pedicels (0.1-1 cm long) emerging from leaf

axils. Flowers are tubular, small (~0.6-1 cm long and ~0.3-0.5 wide), pink or lavender. Corollas divided into 4 symmetrical ovate lobes, which are often slightly rolled backwards along the margins. There are 4 stamens that are exserted beyond the corolla. Blooms from March to April. The fruit is glabrous and round or ovate like a cherry (~0.4-0.9 cm long), containing many small seeds . The plant itself is a shrub usually 1-3 m tall. Favors dry slopes and bluffs near the coast. The Santa Catalina subspecies may be extinct, except perhaps on the Channel Islands, so its presence on the Palos Verdes species list is not without controversy.

*Lycium brevipes* aka *L. hassei* aka *L. richii* aka *L. brevipes* var. *hassei* (Solanaceae): **Santa Catalina Island desert thorn, desert thorn**

*Cactus (plants with photosynthetic stems [cladophylls] and leaves reduced to the spines for which cacti are famous)*

Platyclades or flat, rounded, pad-like cladophylls and flowers with thigmotactic anthers (when touched, they curl and deposit their pollen)

Platyclades nearly round, elliptic, narrowly ovate (egg-shaped, wider toward base) or obovate (egg-shaped, wider toward tip), 12-22 cm long, densely spiny, whorls of 4-11 long spines (~2-4.5 cm long) arranged in an almost perfectly rectangular pattern on the platyclades. Spines a yellowish/whitish color sometimes tinged reddish or brownish. Found in Los Angeles County along the coast up to about 400 m, mostly in coastal sage scrub, though it may be found in chaparral. Cactus up to 2 m tall, upright in growth form but spreading into extensive masses; flowers pale yellow to pale yellow/pink, with many stamens, flowering from May to June; pear-shaped, red to magenta edible fruit about 3.5-6 cm long (cactus figs, tuna, nopales)

*Opuntia littoralis* (Cactaceae): **coastal prickly pear, Western prickly pear, prickly pear, nopales, tuna**

Platyclades lliptic to round, usually 16-25 cm long, but some very large: ~30 cm long by 15 cm wide, generally larger than the similar *O. littoralis*, less densely spiny than *O. oricola*, whorls of 5-16 spines usually ~2- 2.5 cm long, whorls spaced in a nearly perfect rectangular grid on the platyclades, but the spacing among them is wider than seen in *O. littoralis*. Spines are translucent yellow when new, darkening in age. They may be recurved or twisted. Found more widely than *O. littoralis,* from the western Transverse Ranges, through Palos Verdes and the Channel Islands, to the South Coast and western Peninsular Ranges into Baja, predominantly in chaparral, but also in coastal sage scrub and cactus shrub, and at higher elevations than *O. littoralis* (40 m up to 2,050 m). Cactus up to 2 m tall, upright in growth form but spreading into extensive masses; flowers yellow to red, with many stamens, flowering from May to June; pear-shaped, orange to red edible fruit about 5-6 cm long (cactus figs, tuna, nopales)

*Opuntia oricola* (Cactaceae): **chaparral prickly pear, prickly pear, nopales, tuna**

Cylindrical stem segments up to 15 cm long and 2-3 cm thick; detach easily; densely spiny, with 4-12 rusty-yellow spines ~1-2 cm long coming out of a tubercle or bump (~1-2 cm long, half as broad), tubercles in a grid-like pattern dovering the stem segments. Cactus 1 - 3 m high, upright tree-like growth, though typically sprawling out wider than its height, with yellow flowers during the summer, looks somewhat intermediate between the two *Opuntia* spp. and desert cholla spp. found on ocean bluffs and in sage scrub (coastal and inland) up to about 300 m

*Cylindropuntia prolifera* aka *Opuntia prolifera* (Cactaceae): **coast cholla**

**Trees (taller woody plants, usually with a single main trunk, with branching off from this to form an elevated crown. In Palos Verdes, adults are generally at least 3 m tall. Very few trees are native to the Peninsula, including many that are native in the Santa Monica Mountains and the Peninsular Ranges nearby.)**

Leaves simple (may be lobed, as well as toothed or entire, but not actually compound, with complete separate leaflets)

Leaves alternate

Leaves linear (much longer than wide), margins very finely serrated, petioles (stalks connecting leaves to stems) glandular/sticky and ~0.6-1 cm long. Pinnately veined (veins branch off from the main axis of the leaf). Leaves ~6-13 cm long, ~0.2-1 cm wide, pointed both at the base and at the tip. Young leaves are covered with silky hairs but they lose this covering with age, leaving them glabrous or smooth-surfaced. They are silvery-olive green in youth and darker with age. Deciduous. This species is dioecious, with male and female flowers segregated on different plants. They flower as the leaves start coming out, from March to April in the form of male catkins (dangling spike-like single-sexed flower clusters) with yellow anthers (pollen-bearing structure on the stamens) and female catkins usually ~4- 8 cm long. The fruit is a cluster of capsules containing many tiny seeds in a matrix of fine silky hairs. The plant itself is a tree from 6-10 m tall, with rough dark brown bark and thin yellowish twigs. It favors locations by streams, springs, or seeps. It is more common inland and in the desert but does show up as a rarer element along the Southern California coast.

*Salix gooddingii* (Salicaceae): **Goodding's willow, Goodding's black willow, Western black willow, or San Joaquin willow**

Leaves lanceolate (several times longer than wide, but not to the point of linear, with the widest part toward the base) to oblong-lanceolate (like lanceolate, but the sides of the leaf are parallel). Leaves glabrous (smooth-surfaced) yellow-green above, paler underneath, pinnately veined (veins branching off from the main axis of the leaf), ~5-12 cm long, ~1.5-3 cm wide, usually widest in lower half of leaf, very acute tip, though base is less acute and may be rounded. Leaves not glandular or sticky but petioles might be. Margins are very finely serrated. Deciduous. This species is dioecious, with male and female flowers segregated on different plants. They flower from March to May in the form of male catkins (dangling spike-like single-sexed flower clusters) with yellow anthers (pollen-bearing structures on stamens) and female catkins usually ~3-10 cm long. The flowers usually appear with the leaves or shortly after they come out. The fruit is a glabrous cluster of capsules ~3-5 cm long containing many tiny seeds. The plant itself is a tree from 5-15 m tall, with rough dark brown bark, thin red to yellow-brown twigs, and it favors locations by streams, springs, or seeps.

*Salix laevigata* (Salicaceae): **red willow**

Leaves ovate (egg-shaped, a bit wider toward the base), ~2-5 cm long, on a short petiole (~1-2.5 cm long), very sclerophyllous, almost crispy, and glabrous to the point of shiny. Dark green on top and lighter green underneath. Leaf veining is pinnate, branching off from the midrib axis. Leaf margin is irregularly toothed and sometimes entire, not spinose. If you crush the leaves, they have an almond-like smell. Flowers are small with 5 white petals ~2-3 mm long, many stamens surrounding a single yellow pistil. The flowers can be dense or sparse, borne along racemes (spikes with flowers branching off it) ~3-6 cm long coming out of leaf axils (where leaf petioles join the stems). Blooms from March to May. The fruit is a blue-black drupe, a cherry, ~1.5-2.5 cm across. The cherry is safe to eat and sweet, but the flesh is very thin. The pits, however, are toxic. The plant forms a dense tree up to

15 m tall, with grey or reddish-brown stems and twigs. It is in the same species as hollyleaf cherry described in the shrubs section, but it is a distinct variety evolved in the isolation of the Channel Islands. There is debate about whether those seen on Palos Verdes are native to the Peninsula (since it was once a Channel Island) or naturalized escapees from cultivation, where they readily hybridize with the mainland hollyleaf cherry.
*Prunus ilicifolia* ssp. *lyonii* (Rosaceae) aka *Prunus lyonii:* **Catalina cherry or island cherry or hollyleaf cherry**

**Shrubs (woody plants with many stems that branch out from the ground or very close to it, giving them a rounded or sprawling appearance. They can range in size from half a meter to as much as 10 m.)**

Large adult, almost tree-like, shrubs (though they can be quite small as young individuals), often producing individuals taller than 2 m
Leaves simple, consisting of single individuals (which may be lobed, as well as toothed or entire, but they are not actually compound, with complete separate leaflets)
Leaves alternate (not paired, alternating from one side of a stem to the other)
Leaves linear (slender, much longer than wide). Leaves usually entire (smooth-margined), though there may be a few widely spaced teeth on the margin. Pinnately veined (veins branch off from the central leaf axis). Leaves ~4-13 cm long, ~0.2-1 cm wide, pointed both at the base and at the tip, covered with silky hairs (especially younger leaves) on both surfaces, silvery grey-green on top and glaucous (coverd with a whitish dust or resin that comes off easily, as with the bloom on grapes and blueberries) underneath. Deciduous. This species is dioecious, with male and female flowers segregated on different plants. The flowers emerge with or after the leaves. They flower from March to May in the form of male catkins up to 10 cm long (a slender flower cluster with no petals or really tiny and inconspicuous ones, dominated visually by stamens and their yellow anthers or pollen-bearing structures) and female catkins up to 8 cm long (a string-like structure that looks like a collection of small conical structures and a haze of fine white hairs). The fruit is a cluster of capsules containing many tiny seeds in a matrix of fine silky hairs. The plant itself is a shrub usually 2-4 m tall, with thin reddish-brown branches, stems, and twigs, and it favors locations by streams, springs, or seeps throughout California below 1700 m and much of the American, Canadian, and Mexican west up to Alaska.
*Salix exigua* aka *S. hindsiana* aka *S. agrophylla* aka *S. longiflora* var. *exigua* aka *S. longiflora* var. *opaca* aka *S. luteosericea* aka *S. macrostachea* var. *leucodendroides* aka *S. malacophylla* aka *S. nevadensis* aka *S. parishiana* aka *S. sessilifolia* subsp. *hindsiana* aka *S. sessilifolia* var. *hindsiana* or *leucodendroides* aka *S. longifolia* var. *agrophylla* aka *S. stenophylla* aka *S. fluviatilis* var. *agrophylla* aka *S. interior* var *augustissima* or *luteosericea* aka *S. linearifolia* aka *S. thurben* (Salicaceae): **narrow-leaved willow, narrowleaf willow, sandbar willow, or coyote willow**
Leaves lanceolate (several times longer than wide, but not to the point of linear). Leaves glabrous (smooth-surfaced) though may be minutely pubescent (hairy/downy), often resinous or sticky, green, ~2-10 cm long and willow-like, sometimes with stipules like wings along the leaf petiole (stalk). Leaves are entire or toothed, with 1-3 main veins that diverge palmately (from a common base) and run parallel to one another, with a short petiole attaching them to the stem. Tight flower clusters or panicles, generally white or yellow-white with some pink or red in the calyx, which is imbricated (the sepals interweave). Flowers February

through December. The achenes (seeds) have a pappus (tassel or fringe) of yellowish or whitish hairs about 0.5-1 cm long. Forms a willowlike shrub 2-4 m tall. Found on streambanks and in wetlands below 1250 m, in landscapes characterized by California sage scrub, foothill woodlands, and grasslands and other plant communities. Found in California in the Coast Ranges, Bay Area, Great Central Valley, Sierra Nevada foothills, Transverse Ranges, Peninsular Ranges, and the Mojave and Colorado deserts. Outside California, it is found in the Pacific Northwest, the American West to Texas, Mexico, and South America.
*Baccharis salicifolia* aka *B. glutinosa* aka *B. viminea* aka *Molina salicifolia* (Asteraceae aka Compositae)*:*
**mulefat or seepwillow or water-wally**

Leaves oblanceolate (lanceolate, or much longer than wide, but the widest part is toward the tip). Leaves slightly rolled under along margins, ~3-13 cm long and 1-2 cm wide, with a short petiole (leaf stalk). Mature leaves are dark green and glabrous (smooth-surfaced) on top and, underneath, glaucous (covered with a whitish dust or resin that comes off readily, as in blueberries and grapes). Young leaves are velvety and pubescent (hairy/downy), gradually becoming glabrous and glaucous. Deciduous. This species is dioecious, with male and female flowers segregated on different plants. They flower from February to April, just before the leaves come in, in the form of male catkins with yellow anthers (pollen-bearing structures on the stamens) and female catkins usually ~3-7 cm long. The fruit is a cluster of glabrous capsules ~0.5 cm long containing many tiny seeds. The plant itself is an erect shrub or sometimes a small tree from 2-10 m tall, with smooth bark and thin yellowish to dark brown twigs, and it favors locations by streams, springs, or seeps, under 2800 m in elevation. It is found in California and the American West and northern Mexico.
*Salix lasiolepis* (Salicaceae): **arroyo willow**

Leaves oblong-lanceolate (lanceolate, or much longer than wide, but with parallel margins in the middle of the leaf), with a petiole ~1-4 cm long and a short tip. Leaves are ~3-10 cm long, ~ 2-4 cm wide. Distinctively folded lengthwise along its central axis, making the upper surface concave lengthwise (like a taco). The leaf is glabrous (smooth-surfaced), somewhat sclerophyllous (leathery), medium olive green in color with reddish veins that are pinnately arranged (branching off the central vein). The twigs and petioles also tend to be reddish. Flowers are tiny (~ 1 mm long), white, and borne on dense terminal inflorescences with compound branching, or panicles, also with short reddish stems (pedicels). The plant is aromatic (kind of like bay leaves), the flowers even more so, giving a spicy smell to the area around it. Blooms in June and July. The fruit is a tiny (~2-3 mm across) white glabrous drupe (a fleshy fruit surrounding a stone, like a peach). The plant is a tall shrub, usually about 2-5 m tall, rounded in shape, sometimes looking like a small tree. It has recently been reclassified out of the *Rhus* or sumac genus and is now, like humans and toyons, the single representative of its (new) genus. Found under 1000 m in the Transverse and Peninsular ranges of Southern California and into Baja, in chaparral and California sage scrub.
*Malosma laurina* aka *Rhus laurina* (Anacardiaceae)*:* **laurel sumac**

Leaves elliptical (oval, symmetric with the widest part in the middle of the leaf) or oblong (oval, longer than wide, but with flattening of the margins in the middle of the leaf), ~5-10 cm long and 2-4 cm wide, with a petiole ~1-2 cm long, glabrous (smooth-surfaced) to the point of shiny and dark green/olive green on top and a lighter green, duller glabrous or lightly tomentose (woolly) underneath. Quite sclerophyllous (tough, leathery) and with many short sharp teeth on the margins. Pinnate veining (veins branching off from the

main axis of the leaf). Sometimes leaf margins and teeth curl toward the underside. Small white flowers (rarely yellowish) in terminal clusters. The flowers are kind of like the wild rose's, only smaller, with 5 petals ~ 0.2-0.5 cm long, 5 small triangular sepals (~0.1 cm long), and 10 stamens (male anther and filament structures). Blooms from June to July. Clusters of small red berries ~ 0.5-1 cm across, in the late fall. The plant forms a tall shrub, usually ~2-5 m high, but it can reach up to 10 m high on shadier slopes. The shrub has a rounded or loosely irregular shape, with greyish bark and lightly woolly (tomentose) young branchlets. It is highly toxic if any parts are ingested. Found in canyons and on slopes below ~1,300 m throughout much of California, including the Channel Islands, and Baja, except in the deserts to the east. Like humans, this species is the only living representative of its genus!

*Heteromeles arbutifolia* aka *H. salicifolia* aka *Photinia arbutifolia* (Rosaceae): **toyon or Xmas berry or christmasberry**

Leaves a bit variable but mostly oblong (longer than wide, but with parallel or flattened margins in the middle of the leaf), sometimes obovate (egg-shaped but with the widest part toward the tip) or even round (orbicular). Leaves are mucronate (with a small tip). Leaves narrow at the base to a very short petiole. Leaves ~2-9 cm long and are well separated from one another, giving a scattered appearance. They are pale green on both surfaces. Stems are stout, glabrous (smooth-surfaced), and grey-brown, while the branchlets are rather thorny. The inflorescence consists of solitary flowers, which may have leaf-like bracts on their peduncles (flower stalks). There are usually 5 sepals (though there may be anywhere from 3-6 of them) ~ 1 cm long and round to ovate in shape. There are usually 5 petals (again, variable, 3-6), which are white, rounded in shape, ~1.2-1.5 cm long, with wavy or fluted margins and often curving back over the sepals and peduncle. There are 15-50 stamens with bright yellow anthers (pollen-bearing structures), arranged in several series surrounding 1-9 pistils. The flower is, thus, rather conspicuous. Blooms from January through June. Produces 1-9 fruits, cylindrical in shape, ~0.8-2 cm long, which crack open to release 2 black and shiny round or flat seeds with a conspicuous fringed yellowish aril (or seed attachment). Plant itself is a shrub, sometimes tree-like, ranging from 1-5 m in height. It is drought-deciduous, so it may look pretty bare in summer. Favors dry rocky slopes and canyons under 500 m. Plant was believed confined strictly to Catalina Island, San Clemente Island, and (in Mexico) Isla Guadalupe until it was identified on Palos Verdes Peninsula in the Forrestal Preserve area. This is a rare and endangered species.

*Crossosoma californicum* (Crossosomataceae) : **Catalina crossosoma or California rockflower**

Leaves ovate (egg-shaped, a bit wider toward the base)

Ovate leaves entire (smooth margins) or few-toothed

Leaf tip is acute (tapering to a distinct pointed tip). Leaves ~4-8 cm long, ~ 3-5 cm wide. Petiole (leaf stalk) is reddish ~1-3 cm long; leaves are pinnately veined (veins branch off the central axis of the leaf). Leaves are glabrous (smooth-surfaced), margins entire (smooth, not toothed), sclerophyllous (tough, leathery), medium to dark olive green on top and somewhat lighter underneath. Leaves are somewhat folded along the midrib, making the upper surface a little concave. Like *Malosma laurina,* the leaf midrib itself arches backward, creating a concave bend on the underside. Leaf margins are often somewhat wavy, unlike *M. laurina*. Flowers are pinkish-white, tiny, with petals ~0.5 cm long and reddish sepals about 0.25 cm

long. There are 5 each petals, sepals, and stamens. They are borne on very dense terminal panicles (branched inflorescences) with very short, thick, reddish pedicels (stalks connecting flowers to central rachis or stem of the inflorescence). Flowers from March to May. Fruit is a small drupe (fleshy pulp around a stone) ~0.75 cm in diameter, reddish, glandular/sticky, sugar-coated. The fruit can be turned into a tart-sweet lemonade-like drink, and birds love it. The plant itself is a shrub typically about 1.5-5 m tall, sometimes looking tree-like, and has short reddish and glabrous twigs and stems. Found under 1300 m in elevation in the Transverse and Peninsular ranges of Southern California and Baja in chaparral.

*Rhus ovata* (Anacardiaceae): **sugar bush or sugar sumac**

Leaf has an obtuse apex (no pointed tip, unlike *R. ovata*, though there may occasionally be a tiny tooth at the tip). Leaves ovate (egg-shaped, wider toward the base) ~2.5-6 cm long, 2-4 cm wide, glabrous (smooth-surfaced) or nearly so, medium to dark green on top and slightly lighter underneath, sclerophyllous and thick. Petiole (stalk connecting leaf to stem) is short (~2-4 mm), reddish. Margins are sometimes entire (smooth-edged) or sometimes with faint teeth especially toward the tip. Veining is pinnate, branching off the midrib, and the leaf sometimes looks "quilted" by the veins. Unlike *R. ovata* or *Malosma laurina,* the leaves are relatively flat. Flowers are small and fragrant, with 5 each petals, sepals, and stamens. The petals are white to rosy-pink, ~ 0.3 cm long, on dense, compact terminal panicles (compound flower clusters) with short reddish pedicels (stalks connecting flowers to central axis of the panicle). Flowers from February through May. Fruit is an oval, somewhat lemon-shaped drupe, sticky, pubescent, about 1 cm in diameter, tart/acid, and sweet. The fruit can be made into a lemonade-like beverage, hence the name, "lemonadeberry." It will sometimes hybridize with *R. ovata,* so it can sometimes be hard to sort out the continuum between them in certain areas where they overlap. Lemonadeberry forms a roundish shrub from 1-3 m in height, with many thick and twisting stems sprawling out along the ground to form some pretty large and impenetrable thickets. Young plants have reddish stems; as they age, the stems become scaly and greyish/brownish with the red showing through the scales. This shrub is the most common member of the *Rhus* genus on Palos Verdes Peninsula and stands out from the California sage scrub with its darker chaparral olive green color contrasting with the silvery and tan tones so common in CSS. Found in Southern and Baja California canyons in the Transverse and Peninsular ranges, mainly near the coast or in north-facing slopes farther from the coast.

*Rhus integrifolia* (Anacardiaceae): **lemonadeberry or lemonade sumac**

Ovate (egg-shaped, wider toward the base) leaves that are toothed, spinose. Leaves ~2-5 cm long, on a short petiole, very sclerophyllous, almost crispy, and glabrous to the point of shiny, dark green on top and lighter green underneath. Leaf veining is pinnate, branching off from the midrib axis. Leaf margin is wavy, sharply spinose, very much like a holly. If you crush the leaves, they have an almond-like smell. Flowers are small with 5 white petals ~2-3 mm long, many stamens surrounding a single yellow pistil. The flowers can be dense or sparse, borne along racemes (spikes with

flowers branching off it) about 3-6 cm long coming out of leaf axils. Blooms from April to May. The fruit is a red to blue-black drupe, a cherry, ~1.2-1.8 cm across. The cherry is safe to eat and sweet, but the flesh is so thin around the stone that it's not quite worth the bother! The pits, however, are toxic. The plant forms a dense shrub from 1-8 m tall, sometimes resembling a small tree, with grey or reddish-brown stems and twigs. Found in chaparral and foothill woodlands in the coastal mountain ranges of California from Northern California into Baja California.

*Prunus ilicifolia* aka *P. ilicifolia* subsp. *ilicifolia* (Rosaceae): **hollyleaf cherry or evergreen cherry or islay**

Leaves cuneate (like a triangular leaf, except the wide part is toward the tip and the acute part is the base) but may be oblong (longer than wide, with parallel margins) or oblanceolate (parallel margins but much longer than wide). Leaves ~3-7 cm long, 0.5-2 cm wide, tip may be either obtuse (blunt) or acute (with a pointed tip), margins with a few teeth or lobes (≤8) toward the tip. Leaves are cauline (on the stems and branches), either sessile (directly connected to the main stem without a small petiole stem) or have a winged petiole. Silvery olive green, not pubescent (hairy/downy), generally sticky and stiff. Inflorescences feature flower heads in a leafy panicle (compound flower cluster), hemispheric to bell-shaped, whitish, sexually dioecious, with male plants having rounder, shorter flowerheads and females having longer, thinner flowerheads that eventually develop a pappus (fringe of bristles atop the fruit) that looks like white paintbrushes. The pappus is noticeably longer than for the similar if smaller *B. pilularis,* making the plant look whiter at this stage. Blooms from August to December. Plant forms a shrub 2-4 m tall with erect growth habits and loose branching. It favors moist locations, such as sandy banks of streams, and is tolerant of some salt, so it can be found along the perimeter of salt marshes. The species is found throughout the coastal mountain ranges of California into Oregon and Baja and in the western foothills of the Sierra Nevada.

*Baccharis emoryi* (Asteraceae aka Compositae): **Emory's baccharis**

Leaves compound

Leaves pinnately divided (leaflets branching out from a common central axis)

Leaves odd foliate (containing a terminal leaflet), with 3-9 leaflets, the whole leaf structure 3-20 cm long. Leaflets elliptic (oval) to ovate (egg-shaped, wider toward the base) with finely toothed margins, and their axes are often curving, creating an asymmetrical base. The leaflets taper to a sharp tip. The leaflets can be glabrous (smooth-surfaced) or hairy, and they tend to be a bright to medium green. Flowers are in a distinctive flat-topped inflorescence or flower cluster, about 4-33 cm in diameter, containing many small white, cream, or pale yellow-white individual flowers. These have 5 sepals and 5 white stamens with pale yellow anthers (pollen-bearing structures) and a 5 lobed white corolla. Blooms from March to September. Fruit is an edible black berry with a whitish bloom to it (glaucous), giving it a blue cast. Plant is a very tall shrub, typically 2-8 m tall, treelike except for the lack of a single dominant trunk. The 2 or more main stems have a thick brown-grey stringy bark. It favors stream banks or other places where soil water may be concentrated. It is found throughout western North America from British Columbia to Mexico below 3000 m elevation.

*Sambucus mexicana* aka *S. nigra* subsp. *caerulea* aka *S. caerulea* (Caprifoliaceae): **Mexican elderberry or blue elderberry**

Smaller shrubs, adults most commonly between 0.5 to 2 m in height, rarely up to 3 m

Leaves simple (may be lobed, as well as toothed or entire, but not actually compound, with complete separate leaflets)

Leaves opposite, coming out of nodes in pairs along the stems, may be fascicled (clustered in a bunch) and look kind of whorled (true whorling shows more than two leaves coming out of a single node)

Plants with a strong sage or mint odor, having a square stem (mint family)

Leaves elliptic (symmetrical oval) to oblong-elliptical (oval but with nearly parallel margins), green (can be yellowish-green, especially on top, or greyish-green, especially on underside), upper surface rugose (crinkled), lower surface can be faintly woolly (tomentulose), a bit glandular/sticky, petioles (leaf stalks) <1.2 cm long or subsessile (seeming not to have petioles), prominent mid-vein, margins crenulate (small rounded teeth or lobes), base tapered and tip obtuse (rounded), ~2-6 cm long; flowers irregularly 2-lipped, the lower lip almost as long as the corolla tube (~1.2 cm) and the upper lip 2-lobed, with stamens and style slightly exserted (sticking out) past the corolla. Flowers are pale blue to white, sometimes lavender or rarely pale pink, in compact round whorls ~1.5-4 cm wide, which are strung out along an axillary stem about every 2-6 cm. Each round flower cluster has a whorl of bracts immediately below, which look like rigid-tipped ovate (egg-shaped) leaves ~0.5-1 cm long. Blooms April to June. Fruit is a nutlet ~2-3 mm long, usually brown. Plant is a shrub 1-2 m high, loosely branched with somewhat stiffly hairy stems. It can be variable in appearance because it hybridizes with other sage species. It is common on dry slopes and terraces below 1200 m in California sage scrub and chaparral in the Central Coast, Transverse, and Peninsular ranges from the Bay Area to Baja California.

*Salvia mellifera* (Lamiaceae aka Labiatae): **black sage**

Leaves oblong-lanceolate (much longer than wide, wider at the base, with nearly parallel margins), obtuse or rounded tip, leaves and upper stem tomentose (woolly) and greyish white, surface rugose (crinkled), undersides paler than top sides, margins crenulate (small rounded teeth), base truncate (straight as though cut off), prominent veins, ~2-6 cm long, ~0.75-1.25 cm wide, on a petiole (leaf-stalk) ~3-8 mm long. Flowers pale lavender and densely packed into compact round whorls ~2-4 cm across. Each corolla tube is ~0.6-1.3 cm long, split into 2 irregular lips, the upper one with 1-2 lobes, the lower one with 3 uneven lobes, and the stamens and style are exserted (stick out) past the corolla. The round whorls are spaced about 3-6 cm apart on a 10-30 cm long axillary stem (stem comes out of a leaf node). Each whorl has a whorl of elliptical (oval) or ovate (egg-shaped) leaf-like bracts ~1 cm long immediately under it. Flowers May to July. Fruit is a mottled nutlet ~3-3.5 mm long. Plant is a shrub 1-1.5 m high, densely branched with both erect and sprawling, prostrate stems. It favors dry, open hillsides in California sage scrub from ~50-800 m in elevation. It is found along the Central California coast, the southern Coast Ranges, the Transverse Ranges, and the South Coast from Santa Barbara into northern Baja.

*Salvia leucophylla* (Lamiaceae aka Labiatae): **purple sage**

Plants not with a strong minty or sagey odor

Leaves mostly linear, sometimes almost threadlike, but can be ovate (egg-shaped, with the wider part toward the base), generally < 2 mm wide. Margins usually entire (smooth) but can be strongly toothed. Tomentose (woolly), usually 0.5-5 cm long. Sessile (connected directly to the stem without a petiole stalk) or nearly so. Arranged oppositely, often with axillary fascicles below, but sometimes leaves may be alternately arranged higher up on the stems. Usually silver-grey but may be green. Flowers borne on axillary peduncles (flower stalks come out of the junction between a leaf and its stem), forming a flower spike. Corolla base is tubular in shape, ~2-4 cm long, the base very slightly bulging, with 4 petals, each petal often notched into 2 lobes each, ~8-17 mm long. The upper 2 petals are perpendicular to the tube, while the lower 2 are in line with it. The flower is bright red or scarlet. There are 8 stamens exserted past the petals and a pistil projecting well past them. Blooms July through November. Fruit is an unevenly 4 celled capsule, ~2-3.5 cm long, which opens to release many seeds. The seeds are oblong, 1.5-2.3 mm long, with a tuft of hair at the tip. The plant is a much-branched and leafy perennial subshrub (woody below but stems are herbaceous higher up). Erect or decumbent (sprawling, sometimes resting on the ground) in growth habit, stems from 30-90 cm long. Favors dry slopes and ridges below 3000 m in coastal, montane, and valley areas of California and in a few mountainous locations in the Mojave. Other than the Mojave occurrences, though, it isn't found in the deserts of eastern California.

*Epilobium canum* aka *Zauschneria californica* aka *Z. cana* (Onagraceae): **California fuschia, zauschneria, hummingbird trumpet**

Leaves ovate (egg shaped, wider toward base) to elliptical (symmetrical oval) or round, margins entire (smooth), sometimes with a slightly lobed margin. Leaves ~0.5-3 cm long, on a very short petiole, thin, bluish-green on top and lighter and pubescent (hairy/downy) below, pinnately veined (veins branching out from a central axial vein). Plant forms a small shrub usually from 0.1 to 1 m in height, stems either erect or trailing, slender, reddish, and somewhat tomentose (woolly). Decumbent stems (resting on ground) will often form roots. The root crowns (and these rooting nodes) are often swollen in appearance. Flowers from April to June, flowers occurring in pairs or small clusters. Flower is small, about 0.4-0.6 cm long, bell-shaped, pink (dark pink or red on the outside), with 5 lobes. Ovary (the swollen base of the pistil) is inferior (under the petals) and the fruit is a round, white berry ~0.8 cm in diameter. Plant is somewhat toxic (can induce vomiting and diarrhea. Favors shady canyons and north-facing slopes in chaparral and oak woodlands and a variety of other vegetation types. It is often found as an understory under trees or in openings in woodlands and forests. Found from 10 to 3000 meters in elevation in the Peninsular, Transverse, and Coastal ranges, as well as the Sierra Nevada and its foothills, the Klamath and Cascades ranges, and the Modoc Plateau of northeastern California and into the Pacific Northwest to British Columbia, Baja California, and New Mexico. Not found in the Great Central Valley or the high and low deserts of Southern California, however.

*Symphoricarpos mollis* (Caprifoliaceae): **creeping snowberry, trailing snowberry, snowberry, or trip vine**

Leaves ovate (egg-shaped, wider toward base) or obovate (egg-shaped but wider at the tip) in the lower part of the plant but narrower higher up. Axillary fascicles (bunches of small leaves on small stems coming out of the axil, or angle between the main stem and the main leaf. Leaf margins are entire (smooth) but rolled under. Leaves are ~0.4-4 cm long. Leaf texture is somewhat sclerophyllous (leathery) and waxy and sometimes somewhat fleshy, and may be either glabrous (smooth) or densely hairy (as are the stems). The leaves, thus, range in color from bright green to silvery green depending on the degree of pubescence. Inflorescences are cymes, or flat-topped flower clusters, which come out of axils on the upper parts of the plant. The flower has a cylindrical calyx tube ~4-9 mm long, the sepals linear and fused parallel to one another. There are usually 5 petals ~4-14 mm long, pink, dark pink, or blue lavender. There are 5-6 slender white stamens exserted (sticking out) past the petals, ending in violet or purple anthers (pollen-bearing structures). Blooms from June to October. Fruit is a ~3-5 mm capsule that splits open to release 1-20 small (1-1.5 mm) oval cream to yellow-brown seeds. Plant is a subshrub, or a perennial plant with a woody base and herbaceous stem growth each year over the perennial woody base. The plant is capable of drought deciduousness, so it may look bare and dead in the summer. Dead stems are retained all year, giving the plant a very twiggy appearance. Stems are both erect and prostrate (leaning back, touching the ground). The plant is quite short, growing to ~0.1-0.6 m in height but it sprawls laterally up to 3 m across. Plant favors alkaline soils, and it deals with salts by excreting them through specialized salt glands in its epidermis. At night and in the early morning, there will be a salty solution on the surface, which dries into fine salt crystals in the heat of day. The plant, then, has a salty taste (be certain of the identity of any plant before tasting!). With this adaptation, it is commonly found on the coast itself in salt marshes. It is also seen in riparian wetlands, but it can also sometimes be found in inland alkali flats, under 750 m in elevation. Its range runs along the central and southern coast of California, including the Channel Islands, the interior valleys of Southern California, the Great Central Valley, and the Mojave and Great Basin deserts into Nevada, Mexico, and South America.

*Frankenia salina* aka *F. grandiflora* aka *Ocimum salinum* (Frankeniaceae): **alkali heath or alkali seaheath or yerba ruema**

Leaves oblong (long oval with nearly parallel sides), ovate (egg-shaped, wider toward the base), or widely elliptical (symmetrical oval), ~1-4 cm long, medium green and glabrous (smooth-surfaced) on top, somewhat lighter and pubescent (hairy/downy) below. Leaf margins are entire (smooth) but may have revolute edges (edges that roll under). Plant is a shrub ~0.1-2.4 m tall, often with a sprawling or trailing habit, sometimes climbing on top of other shrubs in a vinelike manner. Stems are somewhat pubescent (hairy/downy). Inflorescence forms a spike ~2-12 cm long at the end of leafy stem, with interruptions of bare rachis (inflorescence axis-stem) among whorls of flowers along the spike (that is, >2 flowers attached to a common node on the rachis). The flowers are sessile, attaching to the rachis without a pedicel-stalk. The calyx tube is very short, oval, and split into 5 very small lobes. The flower corolla is tubular, ~1 cm long, cream to yellow in color, divided strongly into 2 lips with 2-3 petal lobes on each, curving backwards, sometimes rather tightly, exposing 5 long

stamens with yellow anthers (pollen-bearing structures), and the style of the pistil protrudes past them. The flower is a little glandular/sticky. Intensely and pleasantly fragrant. Blooms from April through June. The fruit is a red or yellow berry, round, just under 1 cm in diameter. Unlike some species of honeysuckle, the berries of this species are edible (but be absolutely certain of your species identification before tasting a berry!). Grows on dry slopes from sea level to 1800 m in elevation. Found on dry slopes, usually in chaparral, on the central and southern coast of California (including the Channel Islands), the Central Coast, Transverse, Tehachapi, and Peninsular ranges, and in the northernmost Sierra Nevada and its foothills.

*Lonicera subspicata* (Caprifoliaceae): **honeysuckle or chaparral honeysuckle or southern honeysuckle**

Leaves lanceolate-ovate (longer to much longer than wide, with the widest part toward the base) to wide cordate (heart-shaped), ~2-5 cm long, .~1-3 cm wide, acute tip, palmately veined (veins branch out from a common point by the base), veins indented, creating a quilted effect. Leaf is glabrous (smooth-surfaced) to puberulent (faintly fuzzy), shiny, bright green to dark green. Margins toothed, sometimes slightly and other times markedly and sharply, usually with 3-11 short teeth. The leaf surface may be wavy or arched back. Leaves are sessile (directly attached to stems without petioles or small leaf stalks). Leaves may be shed during summer drought, so the plant may look dead in summer. Inflorescence is a panicle (compound-branching cluster) that is compact and leafy and may contain several to a dozen or more individual flowers. Scarlet or orange-red flowers with a short calyx (~0.7-1.3 cm long) and a long tubular corolla (3-4.5 cm long). The corolla opens out into 2 lips, the upper one with 2 partly fused lobes continuing out in a helmet-like structure, the lower one divided into 3 wide-spreading lanceolate lobes (~1-2 cm long) that bend outward/downward. There are 5 stamens exserted past the lower lip but covered by the upper lip. Flowers April to July. Fruit is ovoid in shape with long hairs extending from the tip. Splits lengthwise to release many, angular seeds. Plant is a loosely branched shrub about 1-2 m high with a bit of a climbing habit. Favors dry slopes in chaparral or forest, under 1200 m in elevation, in the southern Central Coast Ranges, the Transverse and Peninsular ranges, the South Coast (including the Channel Islands), and northern Baja. Taxonomy is undergoing revision, the genus being pulled out of *Penstemon* and the family, Scrophulariaceae being divided into several families.

*Keckiella cordifolia* (Scrophulareaceae) aka *Penstemon cordifolius:* **climbing penstemon or heart leaved Penstemon or heart leaved Keckiella**

Leaves linear (thin, very much longer than wide) or narrow lanceolate (much longer than wide), ~2-8 cm long, sessile or nearly so (no petiole or leaf-stalk), mainly cauline (on the stems), and their margins are often finely toothed and rolled under. The leaves are glandular/sticky to the point of glutinous (like glue) on the undersides, though they tend not to be on their upper surfaces, which are glabrous (or smooth-surfaced), as are the stems. Veining is indented, creating a quilted effect, and pinnate (veins branch off from the main axis-vein). There are often pairs of small leaves fascicled in the axils, where the main leaves join the stem, creating an almost whorled look. The stems are numerous, erect, and profusely branched. Flowers are solitary or in pairs on pedicels (or flower

stalks) emerging from leaf axils. The calyxes (sepal structures) form narrow tubes ~2-2.5 cm long, which is longer than the pedicels (~0.5-1.6 cm long). The corollas range in color: reddish-orange, orange-yellow, apricot, buff, or even white, though apricot and orange-yellow are most common. The corollas are 2-lipped, with 2 lobes on the upper and 3 on the lower, with a pair of ridges running down the throat of the flower onto the lower lip. There are 2 stigmas (ends of the pistils or female parts of the flower) and 4 stamens (male parts), neither of which protrude past the petals. Flowers from March to July. The plant is a shrub ~0.5-1.25 m tall. It favors rocky and disturbed locations, particularly where scrubland or woodland opens up a bit, and is found throughout California except for the high deserts (Mojave, Great Basin, Modoc Plateau) and extends into the Sonoran Desert of northwestern Mexico. This species' taxonomy is in quite a state of flux right now, partly because of molecular tests establishing evolutionary relationships within its family, partly because the species hybridizes pretty freely with a number of other species, partly because that variability has led to a plethora of older names that have to be reconciled in an orderly fashion, and partly because the family, Scrophulariaceae, is being broken into smaller families.

*Mimulus aurantiacus* aka *Mimulus aurantiacus* subsp. *australis* aka *Mimulus longiflorus* aka *Diplacus aurantiacus* aka *Diplacus aurantiacus* subsp. *australis* and dozens of other names (Scrophulariaceae aka Phrymaceae): **sticky monkey flower or bush monkey flower or island monkey flower**

Leaves alternate (not paired, instead emerging from first one side of a stem to the other)

Retention of dried out, often ball-like inflorescence (white, pink, yellow, then dried to rust color)

Leaves linear (very thin, much longer than wide) to oblanceolate (much longer than wide, wider toward the tip), fascicled (several clustered into a bunch), small (~1-1.5 cm long), sclerophyllous (leathery), margins entire and rolled under, tapering to an acute tip, green or yellow-olive and glabrous (smooth-surfaced) or nearly so on top and white tomentose (woolly) underneath, sometimes tipped in rusty-reddish. Freely branching small shrub ~0.1-2 m tall and spreading to ~0.5-3 m. Stems are reddish, usually lightly pubescent (hairy/downy), leafy with fascicles alternating ~0.5-2 cm, and terminating in a ~2-10 cm long peduncle. The peduncle supports a simple or compound inflorescence. Inflorescences at the end of main stems are open cymose (roughly flat-topped) collections of several capitate (round, head-like) clusters on subsidiary peduncles of varying lengths from 0.1-10 cm long whorling out of the top of the main peduncle. This whorl of secondary peduncles is subtended by a whorl of leaf-like bracts of linear or narrowly elliptical shape ~1 cm long. Often there are smaller axillary stems coming out of leaf fascicles just below the main peduncle, which terminate in a single peduncle and capitate cluster of flowers. Flowerheads emerge white in April, transitioning to pinkish by August and transitioning to rust-colored by November, being retained in this dried, rusty condition until fresh flowers come out the following year. Fruit is a glabrous brown achene (dry, 1-seeded fruit) ~1.8-2.5 mm long. Found on dry slopes, washes, and canyons under 2300 m in chaparral, California sage scrub, desert scrub, desert woodland, and the edges of grasslands along the coast from the Bay Area into Baja (including the Channel Islands), inland in the Central Coast Ranges, southern Sierra and the Tehachapis, and the Transverse and Peninsular ranges of Southern California, and the

Colorado/Sonora, Mojave, and Great Basin deserts east into Nevada, Utah, Arizona, New Mexico, and northern Mexico.

*Eriogonum fasciculatum* (Polygonaceae): **wild buckwheat or California buckwheat or Eastern Mojave buckwheat**

Leaves ovate (egg-shaped, a bit wider toward the base) to ovate/roundish, tapering to an acute tip. Leaves small (~0.5-3 cm long) and densely fascicled (several leaves fanning out of a node on the stem), leaves thick and medium to dark green (sometimes with a reddish tinge) and glabrous (smooth-surfaced) or mostly so above and white and tomentose (woolly, felted) underneath. Margins entire (smooth) and often rolled under, which can give the leaf a triangular or cordate (heart-shaped) look. Prominent indented midrib vein with pinnate veining from along this. A small, loosely branched shrub, generally ~0.3 to 1 m tall and ~0.5-2 m wide. Stems are mostly decumbent or prostrate (sprawling outward, touching the ground), thinly floccose (with small tufts of soft, woolly hair),and they are densely leafy almost to the very tips. Inflorescences are terminal on the stems, which end in a peduncle or flower stalk ~2-5 cm long. The peduncle may terminate in a single capitate (head-like) flower cluster or it may fork into 1 or more subsidiary peduncles, each of which may terminate in another ball-like cluster or a whorl of them, forming a roughly flat-topped cluster (cyme). Each such ball is 1-2 cm in diameter and subtended by a whorl of leaf-like bracts, elliptical (oval) in shape and often floccose. Flowers are white or pale pink or pale greenish-yellow, becoming pinker over the course of the blooming season, and then become dry and rust-colored, the dry inflorescences persistent until the next flowering season. Flowers roughly June through November, but retains dried inflorescences all year. Fruit is a glabrous brown achene (dry, single seeded fruit) ~2.5-3 mm across. This species is found only on beach dunes and bluffs under 700 m on the Central and South coasts of California from the Bay Area to San Diego.

*Eriogonum parvifolium* (Polygonaceae): **dune or coast or cliff or seacliff buckwheat**

Leaves ovate (egg-shaped, wider toward the base), elliptical (symmetrical oval widest in the middle), or obovate (egg-shaped, wider toward the tip), tip obtuse (rounded) and base cuneate (tapering), ~1.25-3 cm long, margins entire (smooth) but distinctly wavy or crisped (irregularly curled). The leaf is densely tomentose or woolly, especially on the underside, giving it a silvery or ashy green color above and a whitish or silver underneath. Stems are also tomentose and grey. Leaves not fascicled. Attached to stems with short petioles ~1-15 mm long becoming winged to merge with the tapering base of the leaf. Pinnately veined (veins branch off the midrib axial vein, and the veins are somewhat indented, creating a vaguely quilted surface. Inflorescences are terminal (at the end of their stems), forming capitate (round, headlike) clusters mounted on long peduncles, which themselves may fork and branch into long subsidiary peduncles to support still more clusters of flowerheads, each fork sporting a ball-like cluster of its own, which is subtended by a whorl of 3-10 leaf-like bracts~3-5 mm long. The whole effect is of a network or tangle of flower clusters and supporting peduncles and stems covering the plant. Flowers are pinkish or whitish, turning rust colored with age, villous or softly hairy, in congested heads ~1-2.5 cm in diameter. Blooms from June to December, but retains the dried, rust colored inflorescences until the next flowering season. Fruit an achene (dry, single seeded), dull brown, glabrous (smooth-surfaced), ~2-2.5 mm long, irregularly angled. Plant is a shrub about 0.5-1.5 m in height and 1-2 m in width, with both erect and spreading stems

branching profusely in a zigzagging fashion. Found mostly on coast-facing slopes under 500 m in elevation on the coastal strand and in coastal sage scrub from the Bay Area to the Los Angeles area and on the northern Channel Island group.

*Eriogonum cinereum* (Polygonaceae): **ashy-leaf buckwheat or coast buckwheat or coastal buckwheat or grey coast eriogonum**

Inflorescences not as above, no retention of ball-like inflorescences

Leaves linear (thin leaves, much longer than wide)

Leaves entire, <0.4 cm long, linear, even threadlike, tapering to acute tip, somewhat reflexed (axis bending backward), glabrous (smooth-surfaced) to puberulent (faintly fuzzy), green, sessile (connecting directly to stem without a petiole (leaf stalk). Young growth is gland-dotted and resinous or sticky. Inflorescences are made up of many composite flower heads, each with light to bright yellow ray and disk flowers. There are anywhere from 1 to 8 curving ligules or rays ~0.4-0.6 cm long and between 5 and 20 disk flowers about 0.5-0.8 cm long. Beneath the rays and disks are the involucres, made up of 16-24 phyllaries (bracts) fused and imbricated (woven over one another in a brick-like pattern of 4-5 series' depth) into a structure about 0.3-0.5 cm in diameter, forming a cylindrical or obconic (inverted cone shape) structure. The inflorescences are found at the terminus of axillary stems, which often have whorled leaf clusters. Blooms August through December. Fruit is a brown achene (dry, 1-seed fruit) ~3-4 mm long, somewhat cylindric in shape with 4-7 angles and a pappus (fringe made up of reduced sepals, which help the achenes catch the wind). Plant is a small shrub or subshrub, usually < 40 cm tall but can get as tall as 1.75 m. The plant is highly branched and, so, often has a rounded profile, but it can also form sprawling groundcover-like masses. Favors plains and foothills in California sage scrub under 800 m in elevation along the South Coast from Santa Barbara to Baja and in the Colorado/Sonoran desert.

*Ericameria palmeri* aka *Happlopappus palmeri* (Asteraceae aka Compositae): **Palmer's rabbitbrush or Palmer's goldenweed or Palmer's goldenbush**

Leaves entire, ~0.4-1.2 cm long, almost cylindric in shape and cross-section, main leaves nearly at right angles to the stems and sometimes slightly recurved, with a dense fascicle of very slightly shorter leaves forming a vertical comb-like or fan-like structure in the axils of the main leaves. The leaves are medium green, sometimes a yellowish olive green and other times a bluish-grey green, very slightly hairy and a bit resinous or sticky. Inflorescence is a cyme or cluster of flowerheads, each composite flowerhead containing 8-14 yellow curled disk flowers and 2-6 bright yellow ray flowers ~0.4-0.5 cm long loosely distributed around the edges of the flowerhead. Flowerheads sit atop a cone-shaped involucre of overlapping bracts (~0.5-0.7 cm long and 0.5-0.6 cm wide). There are usually several flowerheads at the end of stems. Blooms from August to November. Fruit is a cylindrical achene (naked seed), with a pappus or fringe of whitish hairs (modified sepals) attached to its top to promote wind dispersal. The plant itself is a much branched shrub, with the many branches both erect and nearly parallel to one another, usually 0.25 -1.5 m tall. Favors sand dunes on and near the coast from the California North Coast through the Central Coast and the South

Coast, and sandy areas inland from there in the Central Coast Ranges and interior valleys of Southern California.

*Ericameria ericoides* (Asteraceae aka Compositae) aka *Happlopappus ericoides* aka *Diplopappus erocoides:* **California goldenbush or mock heather or California heathgoldenrod**

Leaves lanceolate (much longer than wide, wider toward the base) to narrowly elliptic (symmetrical oval, wider in the middle) if margins are entire (smooth-edged) or oblanceolate (much longer than wide, wider toward the tip) to obovate (egg-shaped, wider toward the tip) if margins are divided into a 3-5 coarse lobes or teeth toward the tip. Leaves glabrous (smooth-surfaced) green or slightly tomentose (woolly) grey-green above, silvery and densely tomentose beneath, ~6-15 cm long, sagebrush smell. Midrib fairly conspicuous, indenting the topside of the leaf, with pinnate veining branching off from this. Inflorescence is a loose panicle (a compound, branching raceme or spike) 10-30 cm long by 3-9 cm wide, leafy, with wide branches holding drooping or nodding bell-shaped yellowish flower heads. Flower heads are composite, involucres (structure of ~8-14 phyllaries or bracts under the head) ~3-4 mm long, bell-shaped, and tomentose. It may be hard to see at this scale, but there are ~6-10 yellowish ray flowers and ~9-25 yellowish disk flowers. Blooms June through October. Fruit is a tiny (< 1 mm) glabrous brown achene (dry, 1-seeded fruit). Plant is a subshrub (woody only at the base with many erect herbaceous stems above) about 0.5 - 2.5 m high. Unlike most other *Artemisia* species, it can reproduce vegetatively through rhizomes running under the ground surface. Common plant found in open or shady locations, especially in damp drainages or basins under 2200 m, in many plant communities, including California sage scrub, chaparral, woodlands and forests, and the edges of deserts. It is found through most of California west of the Sierra-Cascades, the Transverse and Peninsular ranges, and the Great Basin, north of California to Washington and Idaho and south into Baja.

*Artemisia douglasiana* aka *A. vulgaris* var. *douglasiana* aka *A. vulgaris* var. *douglasiana* or subsp. *heterophylla* (Asteraceae aka Compositae): **California mugwort, Douglas' sagewort, mugwort**

Leaves spatulate (longer than wide, wider at the tip) to obovate (egg-shaped, wider toward the tip), obtuse tip (blunt or rounded, not tapering to a single point), toothed

Leaves sharply toothed, spinose, ~1-5 cm long, densely crowded, sessile (base attached directly to stem without a petiole or leaf stalk). Leaves are sclerophyllous, (tough, leathery), mostly glabrous (smooth-surfaced) but can be sparsely hairy or resinous. Composite flower heads borne in crowded, bunched racemes (spikes) at the ends of main stems or axillary stems (those coming out of the angle between a main stem and a leaf). Discoid flowers (all disk flowers, no ray flowers) and the head itself is discoid in shape. The involucre under the head is ~7-11 mm tall, cylindrical in shape (longer than wide), and imbricated (phyllaries or whorl of bracts are imbricated or shingled together with spiky tips, like an artichoke). Disk flowers yellow and tinged red. The whole composite flowerhead clasps the stem of the inflorescence, so that one flowerhead crowds the next. Blooms from July to October. The fruit is an achene (dry, 1-seeded fruit), whitish to reddish-brown, 5-angled, ~5-8 mm long, which develops a thick pappus or fringe of bristly hairs (modified sepals) that are red-brown or yellow-brown. Forms a densely branched and rigid shrub ~0.25 -2.5 m tall. Found in California sage scrub, chaparral, and other scrub formations under 1300 m along the South

Coast, the Transverse and Peninsular ranges, the southern Central Coast Ranges, and the San Joaquin Valley.

*Hazardia squarrosa* aka *Happlopappus squarrosus* (Asteraceae aka Compositae): **common hazardia or saw-toothed goldenbush**

Leaves not sharply toothed or spinose

Leaves usually with some pubescence (downy hair) and dotted with sticky glands, some of which may actually be on tiny stalks. Some leaves have entire (smooth) margins; some have 1-2 small dull teeth on each side toward the tip. The tip may be either obtuse (blunt) or acute (with a distinct point). The leaves are ~ 0.6-5 cm long, ~0.5-1.5 cm wide, mostly glabrous (smooth-surfaced), sometimes scurfy (covered with dusty or scaly debris because of the stickiness), sometimes tomentose (woolly) and grey-green. Midrib is prominent, raised on the underside, and veining is pinnately branching away from this. The base of the leaf may include axillary fascicles (a bunch of smaller leaves coming out of the angle between the main leaf and the stem), giving it a kind of whorled appearance. Inflorescence consists of a few composite flowerheads bunched in tight, roundish to flattish terminal clusters of 3-10 flowerheads each. Phyllaries or involucral bracts are imbricated (woven or layered together) with blunt greyish-green tips. The involucres are ~4.5-10 mm long and 2.5-8 mm across, generally bell or cylinder shaped. Disk flowers only, yellowish. The fruit is an achene (dry 1-seeded fruit) <3.5 mm long, silky or shaggy, silverish, with a pappus or fringe of many bristly brown or beige hairs (modified sepals). Blooms from April to December. Plant forms a very leafy shrub ~1-2 m tall, with erect or sprawling stems. Favors sandy soils, both on the coast and inland, under 1200 m in elevation. Found along the South Coast, the Peninsular Range down into Baja, the Central Coast Ranges, the Bay Area, and the southwestern Sacramento Valley. Associated with the coastal strand, coastal and interior wetlands, California sage scrub, and riparian (streamside) vegetation.

*Isocoma menziesii* aka *Happlopappus venetus* (Asteraceae aka Compositae): **coastal isocoma or coast goldenbush or Menzies' goldenbush**

Leaves without pubescence and not fascicled, ~1.25-2.5 cm long, glabrous yellowish olive-green or grey-green, resinous and stiff. Sessile (clasping the stem without a petiole or leaf stem) or nearly so (if a petiole is present, it's generally <1 mm long and the base of the leaf tapers into it imperceptibly). Young leaves usually have entire (smooth) margins; older leaves often develop as many as 6 small teeth on each side. The tip is obtuse (rounded), and the margins are sometimes wavy or crisped. There are 3 principal veins, palmately branching from near the base of the leaf, with only the midrib particularly noticeable. The species is sexually dioecious, with each gender's flowers segregated on different plants. Inflorescences feature composite flowerheads in a leafy panicle (branched spike) hemispheric to bell-shaped, with few to many flowerheads, often quite crowded, white to yellowish, with male plants having rounder, shorter flowerheads and females having longer, thinner flowerheads that eventually develop a pappus (fringe of bristles atop the fruit, ~0.6-1 cm long) that looks like white

paintbrushes. Fruit is a glabrous (smooth-surfaced), ribbed achene (dry, 1-seeded fruit) ~1-2 mm long. Blooms from August to December. Plant forms a much-branched, densely leafy shrub 1-4 m tall with both erect and sprawling growth habits. Shade-intolerant, it is often a secondary succession pioneer species in both California sage scrub and chaparral. It can invade California grasslands and enable type-conversion to CSS. It favors the coastal strand, in California sage scrub, and oak woodland, and it is tolerant of serpentine soils. It is found mostly below 750 m but may get up to 1500 m in elevation in favorable situations, in the Peninsular Ranges, the western Transverse Ranges, the Channel Islands, the Coast Ranges, and the Sierra Nevada foothills and, outside, California, may be found in Oregon and Baja.

*Baccharis pilularis* (Asteraceae aka Compositae): **coyote brush or chaparral broom or bush baccharis or false willow or groundsel-tree**

Leaves rhomboidal (diamond shaped, with widest part in the middle or somewhat closer to the base) or narrowly ovate (egg-shaped, with the widest part toward the base and tapering toward an acute tip. Leaves 3-6 cm long and 1.5-3 cm wide, with a petiole from 0.5-2.5 cm long. Leaves are glabrous, medium green, scattered widely along the stems, usually entire (though there may be slight undulations on the margin and even very slight teeth). There are many stems rising from the base, new ones are glabrous, while older ones may develop a bark covering. The inflorescence consists of a single composite flowerhead per stem mounted atop a tomentose (woolly) or pubescent (hairy) peduncle (flower stalk). Flowerheads have bright yellow ray flowers square tipped with 3 teeth; brown, dark brown, or reddish-purplish brown disk flowers; and a yellowish, imbricated or shingled involucre ~1-1.2 cm tall, with lanceolate (much longer than wide) phyllaries (or bracts). The rays are ~1.5-2.5 cm long, and the central disk is ~0.5-0.6 cm across, so the flowerhead is ~5 cm across or more. Blooms from February through June. Achenes (dry 1-seed fruits) are ~5-6 mm long, and there is no pappus (or bristly hairs). The plant is a very bushy shrub, woody at the base, ~0.5-1.5 m tall and often wider than tall. It is capable of summer deciduousness, so it may appear dead and dried up at that time of year. Favors coastal bluffs, California sage scrub, and sometimes appears in chaparral under 600 m and is found on the Central and South coasts from the Bay Area down into northern Baja, as well as in the western Transverse and Peninsular ranges

*Encelia californica* (Asteraceae aka Compositae): **encelia or California encelia or California brittlebush or California sunflower**

Leaves deltoid (like an equilateral triangle, with the base of the triangle at the base of the leaf and the apex at the leaf's tip) to wide ovate (egg-shaped, with the widest part near the base, in this case, very near the base). The base is nearly truncate (seemingly cut off in a straight line) or cordate (indented at the petiole like a heart). Margins are palmately lobed and crenate (round toothed), serrated (saw-toothed, teeth pointing forward toward the tip), or dentate (toothed without the forward inclination). Leaves are ~1-4 cm long. Leaves are white tomentose (woolly), glandular (resinous/sticky), and have a short petiole. Veins diverge in a palmate pattern of 3 main veins, but the midrib one is a little more prominent, and there is pinnate veining of smaller branch veins off from these 3 main veins. Flowerheads are discoid composite flowers, ~1-1.5 cm long and ~0.3 cm wide, with nothing but disk flowers, which are creamy yellow-white to pinkish in color. The

flowerheads are wrapped in tight green or purplish involucres (fused whorl of bracts that looks like a calyx on a simple flower), the phyllaries (bracts) divided into 3-5 stringy lobes, forming a fringe, giving the whole flowerhead a sheathed cylindrical or tubular appearance, ~1.2-1.4 cm long. The disks radiate out from the end (looks kind of like a little anemone). Inflorescences are at the end of stems, forming small, tightly packed, leafy, panicles (branched spike-like clusters), with flowerheads clustered along short lateral axillary branchlets (looking like dense whorls or fascicles of flowerheads at leaf junctions). Strong pleasant fragrance at night. Flowers from August to October. Fruit an achene (small hard single seed in a dry fruit) ~3 mm long with a pappus (modified sepals) or bristly fringe coming out its top, rather like a dandelion's achene. Plant forms a densely branched shrub with a woody base, ranging from ~0.5-1.5 m in height. Found in a variety of dry habitats and vegetation types under 2700 m in the Coast, Transverse, and Peninsular ranges, the Channel Islands, the Sierra Nevada and its foothills, the western foothills of the Cascades, the San Joaquin Valley, and the Mojave and Colorado deserts. Its range extends out to Idaho, Colorado, Texas, and northern Mexico.

*Brickellia californica* (Asteraceae aka Compositae): **brickellbush or California brickellbush or California brickellia**

Leaves cordate (heart-shaped, with the petiole attaching in the cleft) to orbicular (round), ~ 1-3 cm in diameter and length, palmately veined and lobed into ~5 sections, each with crenate teeth. The leaves are green and glabrous on petioles approximately as long as the leaf diameters. The leaves are typically clustered along short lateral branchlets. The inflorescences are racemes (flower clusters with flowers on pedicels themselves pinnately arranged along a central axis). The racemes attach to stems in the axils or angles between the stems and leafy branchlets. There are usually only about 1-3 flowers per inflorescence, and these hang below the branches. The flowers are quite distinctive, forming a layer-cake like structure with the hypanthium (inferior ovary forming a floral tube below the petals and the sepals) topping the hanging flower, followed by the green-white to bright red sepals, which are recurved back on themselves and, thus, point upward. The petals hang below the sepals, forming a skirt-like cylinder of white partially fused petals. Exserted a little below the “hem” of petals is a column of parallel white stamens, with their yellowish anthers (pollen-bearing structures) forming another short ring. Exserted through the center of this ring of anthers is the stigma of the pistil. Blooms January to April. Fruit is an edible spiny red berry ~1 cm in diameter, which, despite the spines, is much sought after by birds. Plant is a shrub ~1-2 m in height, somewhat less wide. Stems grow erect, and leaf and branch nodes often sport 3 spines up to 1.5 cm long, though the stems between the nodes are generally glabrous (smooth-surfaced) and spine-free. The plant favors chaparral, woodlands, and openings in forests and is found in the Coastal Ranges, western and central Transverse Ranges, and the western Peninsular Ranges of California below 1000 m.

*Ribes californicum* aka Grossularia californica (Grossulariaceae): **California gooseberry or hillside gooseberry**

Leaves variable in shape, a mix of rhomboidal (diamond shaped), ovate (egg shaped, wider toward base), deltoid (triangular, with base wide and flat and apex at tip), or hastate (arrowhead-shaped). Leaves scurfy (fine-scaly), greenish-grey or silver, margins entire (smooth) or slightly sinuous (wavy), 0.7-5 cm long, thin like paper. Sessile (clasping the stem directly) or on a very short petiole (leaf stalk). Stems erect and

spreading, can be scurfy and grey when young, may become glabrous (smooth-surfaced) with age. Mostly dioecious (sexes on separate plants), though some are monoecious (containing separate flowers of both genders). Pistillate (female) flowers in profuse terminal panicles (compound-branched flower clusters). Pistillate flowers consist of nothing more than a round or oval ovary with 1 chamber with 1-3 styles above and 2 leaf-like round or ovatebracts ~3-4 mm long below (no sepals, no petals, no pedicels). Staminate (male) flowers form a spike or a spherical cluster with a calyx (fused sepals at base of flower) having 3-5 lobes and 3-5 stamens. Flowers July through October. Fruit is a utricle (thin, bladder-like bag containing a single seed). Seed is flattish, brown, ~1.5 mm long. Forms a dense shrub 0.75-3 m tall, usually wider than it is tall, sometimes much wider, in salty or alkaline environments, such as beaches and coastal salt marshes and inland playas. It is able to extract salt from water and excrete it through the leaves, giving them a salty taste (be absolutely certain of a species' identity before tasting it!). Can be found up to 1,500 m in elevation along the South Coast from Santa Barbara to San Clemente, the inland valleys and plains of Southern California, the western Transverse Ranges, the Salinas Valley, the Great Central Valley, the southern Sierra and their foothills, the Mojave, and Colorado/Sonoran, and Great Basin deserts and the mountains within them. Besides California, this species is found east through Nevada to southwest Utah and in northern Mexico.

*Atriplex lentiformis* aka *Obione lentiformis* (Amaranthaceae or Chenopodiaceae): **big saltbush or quail bush**

Leaves markedly lobed, though technically still simple (not lobed to the point of becoming compound leaves).

Leaves are pinnately lobed (branching off a common central axis), very deeply.

Lobes thin and threadlike. Leaves are sometimes simple and fascicled (bunched) toward the top of the stems but more commonly pinnately dissected beginning at the midpoint into 3-5 lobes, especially lower down. This species blurs the distinction between pinnately and palmately divided (the Jepson Manual describes it as pinnate, the Munz flora as palmate). The lobes look as though they're palmately divided, but the common point of branching is actually halfway up the midrib and there may be another such common point for further lobing higher up on the central or even the lateral lobes. Margins curl under, enhancing the threadlike thinness of the leaves and lobes. The leaves are 1-10 cm long (usually <5 cm), the leaves and lobes <1 mm wide. They are abundant, pubescent (hairy/downy), silvery to light green depending on how hairy, intensely and pleasantly sage-aromatic. Stems are numerous, both erect and spreading in habit, with short ascending lateral branchlets, and each year's new growth comes up directly from the base or near it. When present, the inflorescences are narrow and leafy panicles (compound branched flower clusters), with tiny composite flowerheads (< 5 mm diameter) globular in shape and having only disk flowers (no ray flowers like a daisy). These are dull yellowish or sometimes even reddish in color when blooming from August to December (it has been known to start a secondary flowering season in March during a really rainy year). The fruit is a beige achene (dry, 1-seeded fruit) cylindric or conic in shape, with a pappus of brownish bristles (modified sepals) that promote

wind dispersal. The plant itself is a shrub typically about 0.5–1.5 m tall. Favors California sage scrub, the coastal strand, and openings in chaparral in the Coast, Transverse, and Peninsular ranges from the Bay Area to northern Baja, including the Channel Islands. *Artemisia californica* aka *Crossostephium insulare* (Asteraceae aka Compositae): **California sagebrush or coastal sagebrush**

Lobes linear and pointed, pinnately dissected, usually 3-5 lobes, which themselves may be pinnately subdivided (bipinnate), 1-5 cm long, forming an obovate overall shape, with lobe axes crossing the main leaf axis at roughly right angles. The margins are revolute, or rolled under, making the margins look even narrower. The leaves are green glabrous above and densely tomentose or woolly below, giving the plant a grey-green appearance overall. Inflorescences form dense terminal cymes (flat-topped clusters) at the tops of stems. These contain 3-30 individual heads on peduncles ranging from 0 to 25 cm in length. The involucres (a whorl of phyllaries or bracts, which in composite flowers look like the calyxes of sepals under a simple flower) below the heads are 3-7 mm long, bell-shaped, tomentose (woolly). There are 4-6 ray flowers, bright yellow, ~2-5 mm long. There are 10-75 disk flowers, also yellow, about 2-4 mm long, which are puberulent (minutely fuzzy) or glandular (sticky). Blooms from April to August. Fruit is an achene (dry 1-seeded fruit), flattened or club shaped, 2-4 mm long, with a very short (< 1 mm) pappus (fringe of hairs). Plant is a small subshrub (small shrub woody mainly at the base but more herbaceous higher up), 0.2 to 0.7 m in height. The plant favors dry slopes and washes under 3000 m in elevation in the Coast, Transverse, and Peninsular ranges, the Sierra Nevada and its foothills, and the western edges of the Mojave and Colorado/Sonoran deserts, extending into Baja. *Eriophyllum confertiflorum* (Asteraceae aka Compositae): **golden yarrow or yellow yarrow**

Leaves compound

Leaves pinnately divided (leaflets branching out from a common central axis)

Leaves 3 foliate (3 leaflets make up the leaf)

Leaflets lanceolate (much longer than wide, wider toward base) to oblanceolate (lanceolate, but widest part is toward the tip), margins entire (smooth), ~0.4-1 cm long, medium green to bluish-silvery green, glabrous (smooth-surfaced). Very short petioles attach compound leaves to stems in an alternate arrangement, with each leaflet clearly separated from the next along the stem. Stems are glabrous or very softly hairy. Inflorescences are umbels (clusters of flowers radiating out from a central point) with 1-7 flowers forming along the outer stems. The umbels are almost always axial (coming out of leaf axils) and sessile (no peduncle or stalk). Individual flowers are sessile or nearly so. Flower calyxes (sepal structure under the corolla) have 5 fused sepals forming a cylindric or bell-shaped tube ~ 0.3 cm long. The bright yellow corolla is tubular, ~0.7-1.1 cm long, with 5 petals partially fused (2 on top forming an erect and steepled banner and 3 fused into a keel below, which is roughly in the same line as the corolla/calyx tube). New flowers are bright yellow, which then darkens to orange and red as the flowers age and new flowers develop farther out on the stem. Blooms March to August. Fruit is a slender glabrous (smooth) pod ~1.5 cm long, often curving, and

tipped with an awl-shaped beak, containing 2-3 dark brown seeds. The plant is a branching perennial subshrub ~0.2 to 2 m tall, woody at the base, with slender and somewhat wand-like herbaceous green and well-branched stems. These may be erect or mostly ascending (though sometimes ithey can sprawl across the ground giving a matted appearance), slightly silky or pubescent. Species favors dry slopes, washes, and fans below 1500 m in California sage scrub, chaparral, the coastal strand from Del Norte County to Baja, and desert slopes in the northern and central Coast Ranges, the Transverse and Peninsular ranges, the Sierra foothills in the Sacramento Valley, and the Colorado/Sonoran Desert into Arizona and northern Mexico. It is tolerant of disturbed habitat, such as roadsides and recently burned areas. Locally, this species is critical habitat for the larvæ of the Palos Verdes Blue Butterfly (*Glaucopsyche lygdamus palosverdesensis).*

*Lotus scoparius* (Fabaceae): **deerweed or California broom**

Leaves odd foliate (most often 3 but up to 5 leaflets make up the leaf)

Leaflets ovate (egg-shaped, wider toward the base) to cordate (heart-shaped, wider at the base), margins irregularly serrate (jagged with teeth pointing toward the tip), ~2-10 cm long (the outermost, single leaflet usually a little larger than the others), ~1.5-2.5 cm wide, petioles (leaf stalk) and rachis (central stem inside the leaf, to which the leaflets attach) are prickly, ~2-6 cm long, with a pair of linear stipules winging the base of the petiole. Leaflets are hairy, green top and bottom, and are retained all year. Stems are very prickly (which helps differentiate it from poison oak). Plant is generally dioecious (flowers are unisexual and the sexes are segregated on different plants) Flowers have 5 ovate to narrowly obovate (egg-shaped, wider toward the tip) petals ~0.5-2.5 cm long, white. Staminate (male) flowers have dozens of stamens, and pistillate (female) flowers have many pistils. There are 5 pointed and tomentose (woolly) sepals. The flowers are usually carried in clusters (cymes) with a few flowers per cluster, each on prickly pedicels (small stems). Blooms March to July. Fruit is a fused collection of small black or dark purple drupelets, each ~0.1-0.2 cm diameter and containing one small soft pit, usually glabrous (smooth), and in an oblong or conical spike ~2 cm long: a blackberry. Plant itself is a densely branched and thicket-forming shrub or vine that climbs on top of other plants or mounds up into a bramble patch on the ground, ~1-2 m tall and often much wider. Favors fairly moist places, such as in canyons and along streams and washes and in the shade of taller shrubs and trees. Found throughout California (and up into the Pacific Northwest into British Columbia and Idaho) below 1500 m, except in the deserts of eastern California.

*Rubus ursinus* aka *R. vitifolius* aka *R. macropetalus* aka *R. vitifolius* var*. vitifolius* aka *R. vitifolius* var. *titanus* aka *R. vitifolius* var. *eastwoodianus* aka *R. lemurum* aka *R. eastwoodianus* (Rosaceae): **California blackberry**

Leaves odd foliate (most often 5-7 leaflets make up the leaf)

Leaflets ovate (egg-shaped), simply or doubly serrate (toothed or having small teeth on the margins of the main teeth, pointing toward the leaflet tips), ~1-3.5 cm long (the outermost, single leaflet usually a little larger than the others), ~1-1.5 cm wide. Petioles (leaf stalks) and rachis (central stem inside the leaf, to which the leaflets attach) are pubescent (hairy/fuzzy) and often prickly. Petioles ~1.5-2.5

cm long, with a pair of irregular stipules winging the base of the petiole. Leaflets are thin but somewhat sclerophyllous (leathery), puberulent (faintly fuzzy), and dark green on top and lighter, pubescent, and sometimes glandular/faintly sticky below. The plant is winter deciduous, though some leaves can persist throughout the year. Stems are famously thorny, this species' thorns being short, flattened at the base, and recurved. Flowers have 5 ovate(egg-shaped, wider toward base) to obovate (egg-shaped, wider toward tip) petals ~1-2.5 cm long, concave upward, pleasantly aromatic, pink or rosy-pink or lavender-pink., sometimes shading to white in the center There are 5 lanceolate (much longer than wide, wider toward the base) sepals with attenuated, tapering, sharp tips to their lobes, and these are dark green and sometimes glandular/sticky. There are many stamens with small yellow anthers (pollen-bearing structures) ringing the center of the corolla and surrounding the numerous and tightly clustered pistils. The flowers are usually carried in clusters (cymes) with anywhere from 1-20 blooms per cluster, each on pedicels (small stems) ~0.5-2 cm long. Blooms May through August. Fruit is a round to ovate "hip" about 0.8-2 cm in diameter. Plant itself is a densely branched and thicket-forming shrub ~0.75-3 m tall and wide. Favors fairly moist places, such as can be found in canyons and along streams and washes. Found below 1600 m throughout most of California and southern Oregon from the foothills of the Sierra Nevada and Cascades west to the coast, in the Transverse and Peninsular ranges into northern Baja.
*Rosa californica* aka *R. aldersonii* (Rosaceae)*:* **California wild rose or California rose**

Leaves palmately divided (leaflets branching out from a common point, like an outstretched hand)

Leaves mostly 3 foliate (3 leaflets make up the leaf). Leaves alternate, on petioles ~1-3 cm long. Leaflets are oblong (elongated with somewhat parallel sides) to elliptic (symmetric oval, widest in middle) in shape, ~1.5-2.5 cm long. Margins are entire (smooth), folded or curled lengthwise upward, glabrous (smooth-surfaced) dark green or somewhat grey-green. Densely branched shrub ~0.5-3 m tall. Inflorescence is a raceme or pinnately arranged cluster of individual flowers on their own pedicels (stems) running along the rachis or central axis of the cluster. The raceme ranges from 1-30 cm long at the end of branches, the pedicels from 8-15 mm long. The 4 flower petals are a striking bright yellow ~8-15 mm long and ~4-5 mm wide, with exserted (protruding) yellow stamens ~15-25 mm long and yellow anthers (pollen-bearing structures) ~2-2.5 mm long on very short stiles. Blooms pretty much all year long. Fruit is quite distinctive, a smooth swollen bladder-shaped capsule ~3.5-6 cm long that stays on the plant and dries out, looking a bit like small beige lanterns hanging down on curving stalks ~1-2 cm long. The bladder contains roughly 10 oval or spherical seeds, yellow or brown in color, which rattle around loose in the bladderpod. The plant has an unpleasant odor, perhaps suggesting its common name refers to something other than the distinctive pod shape of the fruit. The plant is common in Palos Verdes and in other coastal areas from the Bay Area into Baja, but it can also be found in the deserts of Southern California and the San Joaquin Valley and surrounding foothills of the Tehachapis and southern Sierra Nevada, ranging from sea level to 1300 m in elevation.
*Isomeris arborea* aka *Cleome isomeris* (Capparaceae): **bladderpod or bladder pod or coastal bladderpod**

Leaves odd- foliate, 5-9 leaflets making up the leaf, which are ~1-2.5 cm long, ~0.4-0.6 cm wide. Leaves cauline (on stems), alternate, on petioles ~1-3.5 cm long. Petioles have stipules (small, leaf-like appendages fused

along base of petiole). Leaflets are oblanceolate (much longer than wide, widening slightly toward the tip). Margins are entire (smooth). Leaves and stems covered with silky hairs, especially on the undersides of leaves, creating a silvery-olive appearance. Erect -branching, sometimes sprawling shrub ~0.5-2 m tall. Inflorescence is a terminal raceme or pinnately arranged cluster of individual flowers on their own pedicels (stalks) spiraling along the rachis or central axis of the cluster. The raceme features bracts (leaf-like structures), which fall off early in flowering. The raceme is ~5-20 cm long at the end of branches, the peduncles bearing them ~2-6 cm long, pedicels bearing the individual flowers ~4-8 mm long. The flower corollas are blue or lavender, 2 lipped, divided into 5 lobes, the lower 2 sometimes fused. The upper lip or banner is ~7-8 mm long, has a yellowish spot in the center, a fringe along the upper edges, and a densely hairy back. The lower lip is ~6-7 mm long. There are 10 stamens. Blooms March through July. Fruit is a stringy or hairy pod ~2.5-3.5 cm long, containing 4-8 seeds, easily visible by the bumps they produce in the pod. The seeds are ~4-5 mm in diameter and a mottled brown. The plant is found on sandy beaches and dunes under 10 m elevation in the coastal strand and dunes of California..

*Lupinus chamissonis* (Fabaceae): **dune bush lupine or beach blue lupine or dune lupine or chamisso bush lupine**

Leaves odd- foliate, 5-11 leaflets making up the leaf, which is ~2.5-6 cm long overall. Leaves cauline (on stems),alternate, on petioles ~4-7 cm long. Petioles have stipules (small, leaf-like appendages fused along base of petiole) ~0.5-1.4 cm long. Leaflets are oblanceolate (much longer than wide, widening slightly toward the tip) to elliptical (symmetrically oval, wider in the midde). Margins are entire (smooth). Leaves and stems covered with silky hairs, creating a silvery-green appearance. Erect -branching, sometimes sprawling shrub ~1-1.5 m tall. Inflorescence is a terminal raceme or pinnately arranged cluster of individual flowers on their own pedicels (stems) spiraling along the rachis or central axis of the cluster. The raceme features bracts (leaf-like structures), which fall off early in flowering. The raceme is ~20-40 cm long at the end of branches, the peduncles bearing them ~6-12 cm long, while the pedicels supporting individual flowers are ~0.5-1 cm long. The flower corollas are blue or violet, 2 lipped, divided into 5 lobes, the lower 2 sometimes fused. The upper lip or banner is almost circular in shape, has a central yellow spot, and a glabrous (smooth-surfaced) back. The corolla is ~1.4-1.8 cm long overall. There are 10 stamens. Blooms April through June in much of its range but flowering may continue all year in coastal locations. Fruit is a dark, hairy pod ~4-6 cm long, containing 6-8 seeds, easily visible by the bumps they produce in the pod. The seeds are ~5-6 mm across and brownish to grey in color. The plant is found in California sage scrub and chaparral and favors canyons at elevations under 500 m from Santa Barbara County into Baja California.

*Lupinus longifolius* aka *L. albifrons* var. *longifolius* aka *L. chamissonis* var. *longifolius* aka *L. mollisifolius* (Fabaceae): **longleaf bush lupine or long leaf bush lupine**

**Vines (plants with a climbing habit or trailing habit, which has evolved independently in many lineages of plants and, so, involves a great variety of specific techniques. Some vines simply twine their stems around a support, such as another plant or a rock. Others have specialized tendrils, curling structures, which they use to grab onto a support. Still others use specialized thorns or other hooking structures or even adhesive structures. Many are parasites, using specialized roots, haustoria, which penetrate into the vascular tissue of their host plants, enabling parasitism. Some vines are obligate climbers, while others may appear as shrubs or groundcovers if there is nothing nearby for them to climb. Vines can be subdivided into lianas, or woody vines, and herbaceous vines.**

Lianas (vines or woody plants like trees and shrubs but with a climbing habit)

Leaves compound

Leaves pinnately divided (leaflets branching out from a common central axis)

Leaves ternate or 3 foliate (3 leaflets make up the leaf), leaflets ovate (egg-shaped), round, or oblong (longer than wide with margins parallel between base and tip); crenulate (margins cut with small, rounded teeth or lobes) toward the tip; 1-13 cm long, 1-8 cm wide (terminal leaflet), 1-7 cm long and 1-6 cm wide (lateral leaflets); short petioles (≤1 cm long). Leaflets are thin but somewhat sclerophyllous, shiny bronze chartreuse green in the spring, dark green in the summer, and bright red/splotchy red/green in the fall. The plant is winter deciduous. The leaflets are glabrous (smooth-surfaced, in this case sometimes shiny) or very faintly pubescent (hairy/downy), darker on top and paler underneath. Flowers are small (petals ~0.2-0.4 cm long), whitish to yellow-greenish, with 5 each petals, sepals, and stamens, and carried on panicles that come out of the leaf axils (where the leaf meets the stem). Blooms April to May. Fruit is a white, creamy, tan, or black-striped round berry about 0.4-0.7 cm wide, yielding a flattened rough small seed about 0.3-0.6 cm across. Growth form is variable: It can appear as an erect shrub or even small tree in full sun anywhere from 0.5 to 4 m tall or, in shadier substory situations, as a climbing liana or vine that can extend along the ground or up another tree some 25 m. Twigs and stems are greyish or reddish-brown. All parts of the plant secrete or contain urushiol, to which 90% of the human population is severely allergic. Some people are not allergic, but some of these are merely enjoying “beginner's luck” -- urushiol allergy can develop over the course of several exposures to it. Even a billionth of a gram can induce hives and violent itching. Direct contact is the most common way to get it, but it can also be spread during a fire when the plant burns. “Leaflets three, leave it be!”

*Toxicodendron diversilobum* (Anacardiaceae) aka *Rhus diversiloba:* **poison oak**

Herbaceous vines (non-woody plants that have a climbing, trailing, or even parasitical character. They can be annuals, dying each year and coming back through the next generation of seeds, or biennial or perennials plants that die back each year but then resprout).

No leaves or very tiny, scale-like leaves no bigger than 2 mm. The plants are incapable of photosynthesis, so leaves are vestigial structures. The stems are the visually dominant part of these vines and they are glabrous (smooth), waxy, and bright orange or light yellow in color. They produce haustoria or parasitical roots that invade the vascular tissue of their victims. The haustoria form at nodes along the stems. A host plant is quickly engulfed by net-like coverings of these fast-growing annual vines, and an infestation quickly spreads from one host to another.

Stems very slender and pale yellow, flowers mainly in small, loose clusters. Flowers are glandular (a little sticky), ~1-2 mm long, mounted on pedicels (flower-stalks) about the same length as the flowers. It is hard to make out details on such small flowers, but they sit on round or ovate calyxes dotted with sticky glands and feature a somewhat bell-shaped tubular corolla, translucent white, divided into 4-5 pointed lobes, with a handful of stamens with yellow anthers (pollen-bearing structures) no longer than the lobes. Fruit is ~1-3.5 mm across, round in shape. Blooms July through Septmber and is quite common, especially on stressed plants near roadsides, under 500 m in elevation. The plant is an annual herbaceous vine found, not only in Palos Verdes, but across California and much of North America.

*Cuscuta pentagona* (Cuscutaceae or Convolvulaceae): **five angled dodder, western field dodder, golden dodder, witch's hair**

Stems medium in thickness and bright greenish-yellow to orange and glabrous (smooth), flowers mainly in loose pinnately compound clusters. Flowers are glandular (a little sticky), ~3-5 mm long, mounted on pedicels shorter in length than the flowers. The flowers sit on round or ovate calyxes dotted with sticky glands and feature a somewhat bell-shaped tubular corolla, translucent white, divided into 4-5 pointed lobes, which are longer than the tube, with a handful of stamens with yellow anthers (pollen-bearing structures) no longer than the lobes. Fruit is ~1.5-2 mm across, round in shape, but slightly flattened on two sides. Blooms May through August and is quite common, especially on stressed plants near roadsides, under 2500 m in elevation. The plant is an annual herbaceous vine found through much of California and the American West.

*Cuscuta californica* (Convolvulaceae or Cuscutaceae): **California dodder, chaparral dodder, witch's hair**

Leaves simple (may be lobed, as well as toothed or entire, but not actually compound, with complete separate leaflets)

Leaves opposite low on the stem, alternate higher up

Leaves ovate (egg-shaped, wider toward base), obtuse-tipped (blunt), margins entire, ~0.5-2 cm long, and pretty crowded below, each leaf on a distinct petiole opposite its neighbor. Higher up, the leaves switch to alternate arrangement, becoming sessile (attached directly to stem without a clear petiole), slimmer and longer. Bright to medium green. The plant is glabrous (smooth) throughout, though the base may be a little woolly. This annual herbaceous vine is about 0.3-1 m high, the upper parts climbing or propping up the weak stems by flower pedicels, which are long and curling like tendrils. The flowers are individual, not in clusters, each flower dangling from a long curving slender pedicel ~3-9 cm long. The flower is an intense blue, purple, or lavender with darker veins. The flower corolla is tubular, ~1-1.5 cm long, divided into 2 lips, which are themselves divided into lobes (2 on the upper lip, 3 on the lower). The lower lip has a bulbous sac-like spur, and the upper creates a kind of palate across the throat, obstructing the view down its throat. The calyx below the corolla is split into 5 lance-linear lobes with acute tips. Blooms March through May. The fruit is a symmetrical round capsule ~1 cm in diameter, which is divided into 2 equal chambers that detach from 2 slits at the top. Seeds are small and bumpy. Plant is found on coastal hillsides and mountains in California from Northern California into Baja. It favors dry, recently burned slopes in chaparral below 1300 m: It's a bit of a fire-follower.

*Antirrhinum kelloggii* aka *A. hookerianum* aka *Neogaerrhinum strictum* (Plantaginaceae, recently taken out of Scrophulariaceae): **climbing snapdragon, Kellogg's snapdragon, Lax snapdragon**

Leaves alternate

Leaves deltoid-hastate (triangular but with distinct lobes, and the 2 basal lobes run nearly perpendicular to the central axial lobe, like an upside-down T, or sometimes slightly swept back over the petiole like an arrowhead; the 3 lobes are roughly the same length), ~4-13 cm long, dark green or greyish green, glabrous (smooth) to densely tomentose (matted hair covering), rather thick, even fleshy. The basal lobes usually have 2, sometimes 3 teeth at the tips, and are fairly broad. The central lobe is also broad, tapering down to a sharp tip (acuminate or acute) or to a small tip (mucronate). The petiole is about as long as the leaf itself. The inflorescence is a cyme or loose flattish cluster on a peduncle or stalk, ~10-20 cm long, that is axillary (forming at the junction of the main stem and a leaf). There are anywhere from 1 to 5 flowers on the cyme's peduncle, which often hangs below the leaf. There are often 2 small (~6-37 mm long by 4-30 mm wide) leaf-like bracts along the peduncle just under the flowers (so that they often completely hide the sepals). Unlike the main leaves, the bracts are usually lanceolate (much longer than wide, widening toward the base), oblong (longer than wide but with parallel margins running between the tip and the base), or even round in shape. The flowers are bell-like in shape, with 5 sepals (which may be uneven in length) and the corolla is shallowly 5-lobed, unfurling in a twisted pleated pattern. The corolla is white or cream-colored, sometimes tinged with pink. There are 5 stamens and 1 pistil on top of the corolla. Flowers mainly April through July, but it can flower all year. The fruit is a balloon-like sphere, containing 4 seeds. The plant's stems are slender and loosely climbing or sprawling; some individuals have woody bases and stems and these can climb more aggressively, from 1-9 m high. Most individuals, however, are herbaceous perennial vines but weak climbers. Can be drought-deciduous. Usually found in dry, rocky, and coastal locations under 1000 m in elevation, in coastal locations from the Bay Area into Baja and inland in the Central Coast, Transverse, and Peninsular ranges.

*Calystegia macrostegia* aka *Convolvulus macrostegius* (Convolvulaceae): **California morning glory, island morning glory, woody morning glory, island false bindweed**

Leaves lance-hastate (triangular but with lanceolate lobes, and the 2 basal lobes are nearly perpendicular to the axial lobe or somewhat swept back over the petiole). The central, axial lobe is usually ~1.5-2 cm long and ~0.5-1 cm wide, while the two basal lobes are nearly as long and wide. The central lobe is often mucronate (showing a small pointed tip), while the basal lobes often have 2 teeth at their tips. Petioles are shorter than the leaves, ~0.5-2 cm. The leaves, petioles, and stems are all glabrous (smooth) and glaucous (covered with a fine greyish wax or resin like substance, as on grapes or blueberries), which gives the plant a bluish-green appearance. Inflorescences are single flowers on axillary peduncles ~1-8 cm long, often curving, the peduncle hanging a little below the leaf. The peduncles carry greenish or purplish leaf-like bracts just under the flower or attached a short distance down from it. The bracts are oval, ~0.5-0.8 cm long, which is even smaller than the sepals, ~0.7-2.5 cm long. The flower's corolla is white or a faded pink, ~2-7 cm long, and shallowly 5-lobed (no separate petals). There are 5 stamens and 1 pistil on top of the corolla. Flowers May and June. The fruit is a balloon-like sphere, containing 4 seeds. The plant's stems are slender and decumbent, loosely sprawling along the ground and over rocks and other plants, rarely taller than 0.4 cm. The plant spreads along rhizomes (underground stems that set out roots and shoots at their nodes). An herbaceous perennial vine but weak climber. Not a very common species anywhere in its range, which is

usually on rocky slopes from 1000-1500 m in the San Gabriel Mountains and Antelope Valley. Its presence in Palos Verdes is, thus, unusual.

*Calystegia peirsonii* aka *Convolvulus peirsonii* (Convolvulaceae): **Peirson's morning glory or Peirson's false bindweed**

Leaves triangular-ovate (like a rounded isoceles triangle), somewhat cordate (heart-shaped) at base. Strong and nauseous smell, leaves ~10-30 cm long, held erect, with a petiole ~ half as long as the leaf. Blue-grey green, coarsely scabrous (rough to the touch), conspicuously veined, often folded upward lengthwise along the midrib. Margins sometimes lightly serrated and sometimes faintly lobed at base. One tubular flower per leaf axil, bright yellow or orange-yellow, 9-12 cm long, 6 broad lobes. Blooms June to August. Fruit is a round gourd, ~6-9 cm in diameter, sometimes smooth, rough, or grooved, and striped, green and whitish at first, then ripening to yellow and cream. Perennial plant grows as a sprawling vine, commonly spreading out 2-4 m. Puts out corkscrew tendrils at the leaf axils, with which the vine clings to objects and climbs onto them. Mature gourd is poisonous. Found in sandy or gravelly sites in coastal sage scrub, along the coastal strand, in grasslands, and in the high and low deserts of California and into the American Southwest as far as Texas and down into Mexico.

*Cucurbita foetidissima* (Cucurbitaceae): **calabazilla or stinking gourd or fetid gourd or coyote gourd or buffalo gourd or chilicote or wild pumpkin or wild gourd**

Leaves orbicular (round) or cordate (heart-shaped). Leaves palmately lobed, diverging from a common base. Leaves ~5-10 cm long and wide, flat, with 5-7 lobes and indentations, with a petiole ~3-8 cm long. Light to medium green, usually a bit pubescent (hairy/downy) or a dull glabrous (smooth-surfaced). Two distinctive flower genders carried on one plant (monoecious). Male flowers (~0.8-1.3 cm across) are usually white, with small oval petals, carried on a raceme coming out of the leaf axils, with anywhere between 8 and 20 flowers, each on a short (~0.3-0.5 cm) pedicel, on a raceme. Female flowers, usually white and ~1.5-2 cm, are singular but are found emerging from the same leaf axils as the male flower racemes. Blooms January to April. Fruit is a cylindrical gourd ~8-12 cm long, densely covered with spines about 0.5-3 cm long. Annual plant grows as a sprawling vine, commonly spreading out 3-7 m. Puts out corkscrew tendrils at the leaf axils, with which the vine clings to objects and climbs onto them. Though the plant is a kind of cucumber, it is very bitter in taste throughout, and its generic name comes from a Hebrew word meaning "bitter."

*Marah macrocarpus* (Cucurbitaceae): **manroot or Cucamonga manroot or bigroot or wild cucumber**

Leaves compound

Leaves pinnately compound (leaflets diverge from a common axis, or rachis). Leaves generally even-divided, with 8, 10, or 12 leaflets, medium green. Leaflets oblong-lanceolate (much longer than wide, with the margins parallel to one another between the tip and base) to elliptical (symmmetrical oval), ~2-3.5 cm long, very short pedicelled (pedicels are the small stems connecting the base of a leaflet to the rachis or main leaf axis). From a distance, the leaflets look as though they are opposite in arrangement, but closer examination shows that each pair is slightly offset, or alternate, though the pairs are widely spaced from one another. The leaflets usually show a small acute peak (mucro) at the tips, otherwise having entire margins. The end of the rachis is commonly a trailing and twisted tendril, allowing the plant to grab things for support, helping give it a climbing/vining ability. The base of the

compound leaf  petiole (stalk attaching leaf to stem) has stipules (a pair of small leaf-like structures sometimes found where petioles meet stems).  Inflorescence a raceme of 5-20 flowers arranged alternately along the raceme's rachis or central axis.  The raceme is axillary, coming out from the junction of a compound leaf and the stem.  The flower corollas may be white, pink, lavender, violet, purple, or blue, ~14-20 mm long atop a bell-shaped calyx ~12-15 mm long.  Corollas have 5 petals, the upper 2 often marked with a darker network of veins.  Flowers April through June.  Fruit is a leguminous pod, ~4-6 cm long, glabrous or  pubescent, containing 1 to several round or kidney-shaped peas, the pod breaking off from the plant and splitting to free the seeds.  A perennial herbaceous vine usually over 40 cm tall that is common through much of California, especially in coastal counties in montane settings, in chaparral, oak woodland, coniferous or mixed forest under 1500 m.  A few subspecies, and the species hybridizes with relatives, giving it some variability in the specifics of appearance.

*Lathyrus vestitus* (Fabaceae):  **Pacific pea, common Pacific pea, Bolander's pea, canyon sweet pea, Pacific peavine, wild pea**

**A few exotics:**

- *Nicotiana glauca* (Solanaceae): Tree tobacco (native to Brazil and Colombia, naturalized here, can be invasive)
- *Foeniculum vulgare* (Apiaceae): Fennel (native to Mediterranean margins, fast growing, very invasive, changes fire régime
- *Carpobrotus edulis* (Aizoaceae): Ice plant or Hottentot fig (native to South Africa), forms monospecific stands suppressing natives
- *Ricinis communis* (Euphorbiaceae): Castor bean (native to eastern Mediterranean, east Africa, India)
- *Cortaderia selloana* (Poaceae): Pampas grass (native to southernmost South America), invasive
- *Acacia cyclops* (Fabaceae): Red-eyed wattle (native to western and southern Australia)
- *Schinus molle* (Anacardiaceae): Peruvian pepper tree aka "California" pepper tree in Florida, where it's a pest
- *Brassica* spp. (Brassicaceae): Mustards (*B. nigra*, black mustard; *Hirschfeldia incana* or *B. adpresa*, shortpod mustard, looks like *B.n.,* only shorter; *B. rapa,* turnip or field mustard; *B. napus,* Swedish rapeseed; *B. tournefortii,* Sahara mustard)
- *Centaurea melitensis* (Compositae): Yellow star thistle, native to Middle East and Europe, invasive
- *Pinus halepensis* (Pinaceae): Aleppo pine, native to Mediterranean

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