Amphibians and Reptiles of the Estero Bay Area

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INTRODUCTION

The following information on the amphibians and reptiles of the Estero Bay area details species observed during surveys conducted in 2005, historical records, and a description of species that may potentially occur but have not yet been detected. Species listed as Threatened, Endangered or Special Concern are treated in more detail.

SPECIES LIST SUMMARY

The following list includes all amphibian and reptile species that may occur here based on species distribution data given in Stebbins (2003). Nomenclature follows Jennings (2004). If a species has been confirmed to be present, the most recent year it was observed is given under "**Occurrence**". If suitable habitat exists within park boundaries but it has not been observed, occurrence is listed as "Expected". For species that have not been detected and only marginally-suitable or unsuitable habitat is present in our area, but in which individuals are known to occur within the region (local area) occurrence is listed as "Region". It is possible that individuals of these species may occur here at some point in time (such as, being washed downstream), but breeding populations are probably not present. Species that were once present in the region but probably no longer occur are listed as "Extirpated".

Regulatory "**Status**" follows Jennings (2004) and the California Department of Fish and Game (2004). Native species that are not listed as protected are broken into Common and Uncommon categories based upon a qualitative assessment of local abundance using personal observations, museum records, and Stebbins (2003). Categories are abbreviated as follows:

FE: Federally-listed endangered species
FT: Federally-listed threatened species
SE: State-listed endangered species
ST: State-listed threatened species
SC: State special concern species
C: Common, native species
U: Locally uncommon, native species
I: Introduced

Scientific Name	Common Name	Occurrence	Status
Aneides lugubris	Arboreal salamander	2005	C
Batrachoseps nigriventris	Black-bellied slender salamander	2005	C
Ensatina eschscholtzii eschscholtzii	Monterey ensatina	Expected	U
Bufo boreas halophilus	California toad	Expected	U
Hyla regilla	Pacific treefrog	2005	C
Rana boylii	Foothill yellow-legged frog	Extirpated	SC
Rana catesbeiana	Bullfrog	2005	I
Rana draytonii	California red-legged frog	2005	FT, SC
Actinemys marmorata pallida	Southwestern pond turtle	2005	SC
Phrynosoma coronatum frontale	California horned lizard	2005	SC
Sceloporus occidentalis bocourtii	Coast Range fence lizard	2005	C
Anniella pulchra pulchra	Silvery legless lizard	2005	SC
Elgaria multicarinata multicarinata	California alligator lizard	2005	C
Eumeces skiltonianus skiltonianus	Skilton's skink	2005	C
Coluber constrictor mormon	Western yellow-bellied racer	2005	U
Contia tenuis	Sharp-tailed snake	Expected	U
Diadophis punctatus vandenburghii	Monterey ring-necked snake	2005	C
Hypsiglena torquata nuchalata	California nightsnake	Expected	U
Lampropeltis getula californiae	California kingsnake	2005	C
Masticophis lateralis	California striped racer	2005	C
Pituophis catenifer catenifer	Pacific gophersnake	2005	C
Thamnophis atratus atratus	Santa Cruz gartersnake	Expected	C
Thamnophis elegans terrestris	Coast gartersnake	2005	C
Thamnophis hammondii	Two-striped gartersnake	2005	SC
Thamnophis sirtalis infernalis	California red-sided gartersnake	2005	C
Crotalus oreganus helleri	Southern Pacific rattlesnake	Expected	C
Crotalus oreganus oreganus	Northern Pacific rattlesnake	2005	C

SPECIES ACCOUNTS

The use of scientific and common names follows Jennings (2004), which is generally consistent with Crother et al. (2000, 2003). In some instances nomenclature may differ from California Department of Fish and Game (DFG) species lists (the most current Special Plant and Special Animal list available was August 2004). The source for DFG taxonomy is the Center for North American Herpetology web site that is based on Collins (1997) and Collins and Taggart (2002), which is "largely ignored as the definitive work for North American amphibian and reptile nomenclature" (Jennings 2004; see also Crother et al. 2000). Inconsistencies between Jennings (2004) and DFG are discussed in the taxonomy sections below.

Aneides lugubris

Photos courtesy of Gary Nafis and CaliforniaHerps.com

Taxonomy

The arboreal salamander, *Aneides lugubris* (Hallowell 1849), is a member of the lungless salamander family Plethodontidae.

Distribution

Aneides lugubris occurs along the coast from Humboldt to San Diego Counties. There are also populations in the foothills of the Sierra Nevada Mountains. They are generally absent from areas having less than 25 cm of precipitation a year. They have been collected from Baywood Park and were observed at Morro Rock in 2005.

Habitat

Aneides lugubris occurs mainly in oak woodlands, and can also be found in pine forests, sand dunes and riparian areas. They can be found under rotting logs, bark and leaf litter when the ground is moist. They remain underground during the dry season.

Life History

Aneides lugubris is active during the wet season (November through May) and forages above ground at night. They feed on invertebrates and slender salamanders

(*Batrachoseps nigiventris*). They can climb and have been found 18 m above ground. Egg masses are laid in tree holes or under cover objects (rocks, logs, garden containers) and are attended by the females. They have strong jaws and can produce a painful bite and may squeak when handled.

Identification
Adults and juveniles: The dorsal surface is dark brown to black with cream or yellow flecks (body length 57 to 101 mm; total length including tail to 180 mm). The venter is lighter to white. The toe tips are enlarged and squarish and the tail is prehensile, which are adaptations for climbing. There are costal grooves down the sides of the body and nasiolabial grooves under the nostrils. The head is triangular due to large jaw muscles, especially in males. Juveniles are dark with gray or brassy clouding.
Larvae: There is no free-living larval stage. Eggs hatch as miniature adults.
Eggs: Eggs are laid in clusters and several females may communally nest. The eggs are white and may be suspended by a pedicel. There are 5 to 24 eggs per cluster.

Batrachoseps nigriventris

Taxonomy
The black-bellied slender salamander, *Batrachoseps nigriventris* (Cope 1867), is a member of the lungless salamander family Plethodontidae. Eighteen full species and two undescribed species of *Batrachoseps* are currently recognized in California, and it is likely that future work will result in the identification of additional species.

Distribution
Batrachoseps nigriventris occurs in the coastal mountains from San Simeon south through the Transverse and Santa Ana Mountain Ranges, the western slope of the central and southern Sierra Nevada Mountains, and Santa Cruz Island. It is present from sea level to 7400 feet in elevation. They occur at Morro Rock, Morro Bay State Park, Estero Bluffs State Park, Montana de Oro State Park, and Los Osos Oaks Reserve.

Habitat

Batrachoseps nigriventris mainly inhabits oak woodlands, and it also occurs in grasslands, riparian areas, and oak-pine forests. Salamanders can be found under and within rotting logs, discarded lumber, rocks, leaf litter and bark. Populations are often patchily distributed but locally abundant, and often several individuals can be found under the same log. The salamander requires moisture and during dry conditions individuals probably retreat under ground in small crevasses and burrows. Apparently it can tolerate salt spray from the ocean as it can be found on bluffs above beaches.

Life History

Batrachoseps nigriventris are active under cover objects during the wet season, and they are adapted to utilize earthworm burrows, root channels and crevasses. Females lay eggs in the winter underground, under damp bark and rotting logs. Eggs are laid underground or rotting logs in winter, and several females may make a communal nest. Eggs hatch in early spring. When exposed, the salamanders may coil up, flip around violently, or remain motionless partially embedded in the soil and rotting wood. Their tails may break off when disturbed and can be regenerated. They eat small arthropods and mollusks.

Identification

Adults and juveniles: *Batrachoseps* sp. are delicate, elongated salamanders with tiny limbs and protruding eyes (body length 31-47 mm; total length including tail to 140 mm). They have four toes on front and back feet, whereas other western North American salamanders have four toes on the front and five toes on their back feet. They have vertical (costal and caudal) grooves down their sides that give them a segmented earthworm-like appearance. *Batrachoseps nigriventris* are dark-colored, often with a broad reddish or tan stripe down their backs. Ventral surfaces are sprinkled with white specks. Other *Batrachoseps* sp. in the central coast closely resemble *B. nigriventris* in appearance, and may be distinguished most readily by local geographic ranges (see Jockusch et al. 2001).

Larvae: There is no free-living aquatic larval stage. Terrestrially-laid eggs hatch into juven iles.

Eggs: The eggs are whitish, about the size of BB shot, and strung together by jelly.

Ensatina eschscholtzii eschscholtzii

Photos courtesy of Gary Nafis and CaliforniaHerps.com

Taxonomy

The Monterey ensatina, *Ensatina eschscholtzii eschscholtzii* (Gray 1850), is a member of the lungless salamander family Plethodontidae. There is only one species within the genus. There are 7 morphologically distinct subspecies within *E. eschscholtzii* that are an example of a rassenkreis ("ring species") – the subspecies are distributed up the coast, across the northern Central Valley, and south through the Sierras. The coastal and Sierran subspecies meet in the mountains of southern California and they behave as separate species. *E. e. eschscholtzii* hybridizes with *E. e. xanthoptica* and *E. e. klauberi*.

Distribution

Ensatina eschscholtzii eschscholtzii occurs on the coast, from the beaches inland to the edge of the Central Valley, from south of the San Francisco Bay to the border of Baja California. It has been recorded in Cambria and Montaña de Oro State Park.

Habitat

Ensatinas are relatively uncommon locally, but they can occur in a wide range of habitats including coastal sand dunes, chaparral, oak woodlands and pine forests. They are entirely terrestrial but require moisture, and are found under rotting logs, bark, lumber, firewood piles and rocks. During dry periods they use the interior of rotting logs and woodrat nests, and they may travel down rodent burrows and rotting root tunnels.

Life History

Ensatina eschscholtzii eschscholtzii is active December through April. Mating occurs in February and March. Eggs are laid under bark, in mammal burrows and crevasses under logs. The female attends the clutch throughout the summer, and she may coil around it protecting the eggs and keeping them moist. Young hatch at the beginning of the rainy season. Predator defenses include a constriction at the base of their tails where the tails break off and sticky white toxins secreted from the skin. If tapped on the back, they will elicit a defense posture.

Identification
Adults and juveniles: *Ensatina eschscholtzii eschscholtzii* are relatively stout-bodied (body length 62 – 75 mm). Dorsal surfaces are reddish-brown to salmon colored and the venter is lighter to whitish. Eyes are prominent and black. There is a distinct constriction at the base of the tail, costal grooves vertically down their sides and a nasolabial grooves between the nostrils and upper lip. Juveniles have a short body and large head. Males have broader heads and longer tails than females.
Larvae: There is no aquatic larval stage.
Eggs: The eggs are rarely found, and are whitish and laid in a grape-like cluster of 3-25 eggs.

Bufo boreas halophilus

Taxonomy
The California toad, *Bufo boreas halophilus* (Baird and Girard 1852), is a member of the true toad family Bufonidae.

Distribution
Bufo boreas ranges throughout California except for interior deserts and elevations above 11,800 feet in the Sierra Nevada Mountains. *B. b. halophilus* intergrades with *B. b. boreas* in a region near Mendocino, Tehama, Shasta and Lassen Counties, with *B. b. boreas* occurring to the north and *B. b. halophilus* to the south. Although formerly common, this subspecies appears to be declining in many regions of California. It is rare in coastal areas of northern San Luis Obispo County, and this may be due to historical distribution patterns. It is known from Los Osos, Montana de Oro, Crow Bar Canyon at Diablo Canyon Nuclear Power Plant (recent sighting), and "Squirrel Hole, Morro" (locality unclear). It is probably uncommon or no longer present at State Park properties north of Montana de Oro.

Habitat

Bufo boreas halophilus are terrestrial anurans that breed in aquatic habitats. They occur in a wide range of habitats including grasslands, woodlands, coastal streams, rivers, mountain meadows, desert springs and streams. They breed in slow-moving or still water that is shallow and sparsely vegetated. On the coast, breeding habitats include stream mouths, lagoons, vernal pools, stock ponds, lakes, and dune ponds. They shelter in crevasses, rodent burrows, depressions at the base of vegetation, under garden container, and they may dig in loose soil.

Life History

Bufo boreas halophilus are active January through October. They often sit on roads at night, especially unpaved roads and trails, and suffer high mortality from vehicle traffic. They can be very abundant on roads during rainstorms and but also use roads during dry periods until late-summer. They tend to walk rather than hop, and can be found by listening for them walking away from you in the leaf litter. Toxins secreted from the bumps on their skin can kill a dog or other predators, but will not give you warts. Breeding occurs in the late part of the rainy season. Recently-metamorphosed toadlets can be very abundant in mid- to late-summer during the day or at night along sand bars, sparsely-vegetated shorelines and dirt roads. In our area adults are almost entirely nocturnal but sometimes are found breeding during the day. They eat ants, beetles, worms, spiders, moths and other insects. They absorb water through the thin skin of their groin. When picked up they may release this water as an escape mechanism. Since this water is stored for use when traveling over dry land, individuals that have "peed" should be relocated near shallow water.

Identification

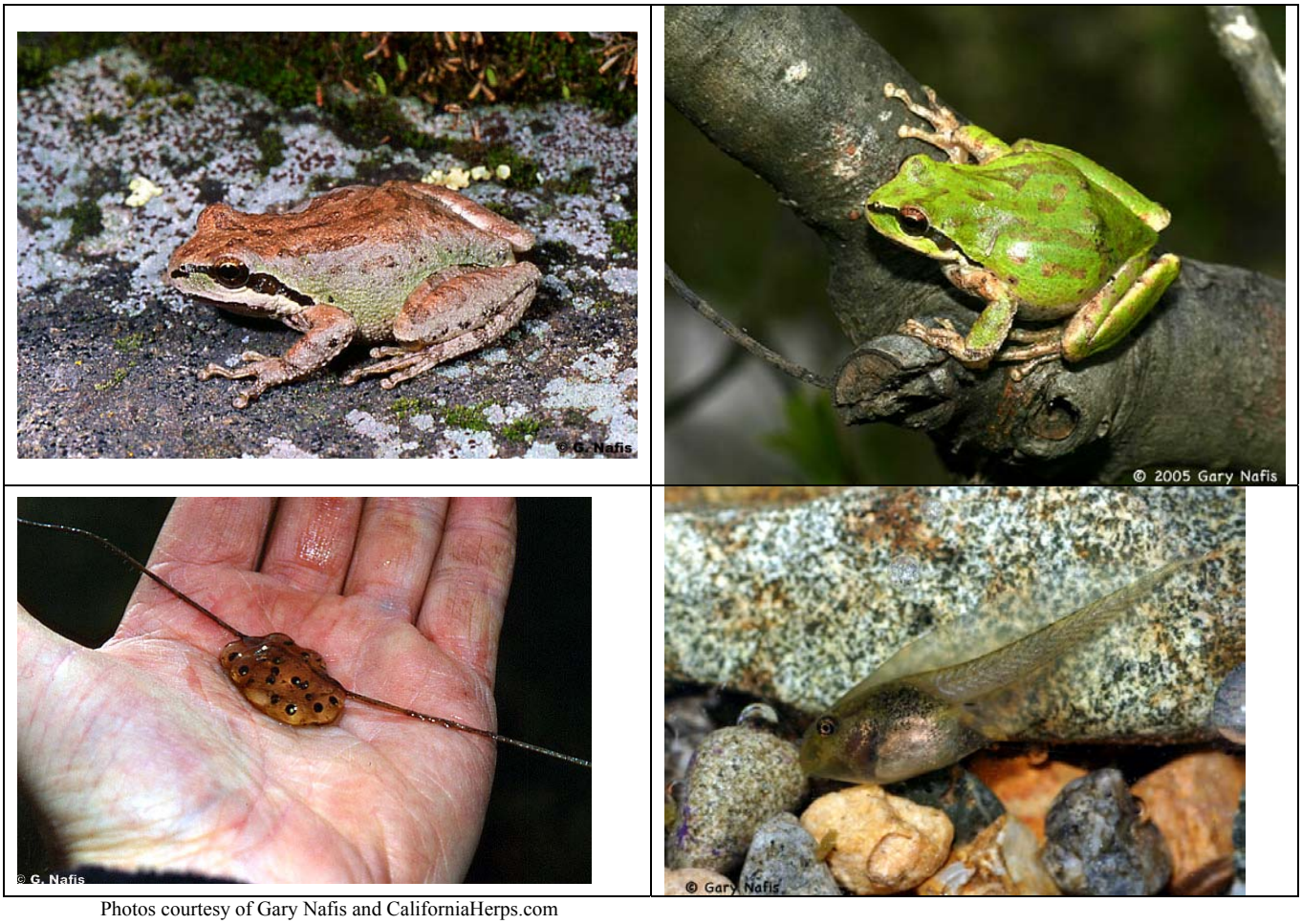
Adults and juveniles: *Bufo* are stocky, short-legged and covered with bumps that resemble large warts (body length 100 – 190 mm). They have parotoid glands that are large bumps behind the bulging eyes. *B. b. halophilus* have a thin, usually continuous white stripe down their backs. Their backs are dusky, gray or greenish with dark or rusty-colored blotches on the warts. The ventral surface is pale with dark blotches. Juveniles have bright yellow on the undersides of their feet, rusty-colored warts and a dorsal stripe that may be indistinct. Males have dark nuptial pads on their thumbs and inner fingers.

Larvae: All anuran larvae in our area hatch out black and remain dark until around 15 mm total length. *B. b. halophilus* remain jet or smoky black above and below until the hind legs begin to emerge, when they begin to lighten to a blotchy gray. When viewed from above their eyes are within the outline of their head and oriented outward, and the snout is pointed. When viewed from the side they are trim without an enlarged belly. They often form large, dense aggregations in shallow water.

Eggs: Each female can lay up to 16,500 small eggs that are contained in a string of jelly that is wound around sparse vegetation in the margins of aquatic habitats. If the string is pulled, the eggs will line up in a straight line. Individual eggs are black above and white below.

Voice: Males will emit a peeping noise when picked up which is a release call to prevent male-male amplexus. Males do not use an advertisement call to attract females, and they wait silently in the water.

Hyla regilla



Photos courtesy of Gary Nafis and CaliforniaHerps.com

Taxonomy

The Pacific treefrog, *Hyla regilla* (Baird and Girard 1852), is a member of the treefrog family Hylidae. Some researchers have recommended placing this species in the genus *Pseudacris*, but others support retaining them within *Hyla* (Stebbins 2003, Jennings 2004).

Distribution

Hyla regilla occurs throughout California except for interior desert regions. It is also widespread in Baja California, Nevada, Oregon, Washington, Vancouver Island, western Idaho and Montana, and southern British Columbia. It is the only frog native to the Channel Islands. It is present from sea level to 11,600 feet in elevation. It is widespread

and abundant in northern coastal San Luis Obispo County and occurs throughout all State Park lands in the Coast Sector.

Habitat

Hyla regilla occurs in most habitats including urban and agricultural areas. They can be found far from water due to skin glands that produce a waxy coating. Breeding can occur in large or very small bodies of water including stock water troughs, but they are usually absent from moving water.

Life History

Hyla regilla are usually found on the ground but they may climb vegetation over or near water. During dry periods they climb down into cracks in the mud, use burrows or other crevasses, or find domestic water sources such as pet bowls and ornamental ponds. They can jump many times their body length and land sticking to smooth vertical surfaces. Breeding occurs November through July and females can lay more than one clutch per season.

Identification

Adults and juveniles: *Hyla regilla* are small frogs (body length 19 – 50 mm) with enlarged sticky toe tips used for climbing. Color is quite variable (green, gray, tan, brown, gold, and copper), and individuals may or may not have dark oblong markings on the back. Color types do not appear to be based upon environmental factors, however, individuals can change quickly between light and dark shades. All individuals have a dark stripe from the snout, through the eye to the shoulder. Males have a dusky throat, and females have a white throat that matches their ventral surface. Recently-metamorphosed individuals can be extremely tiny and brightly colored (10 mm).
Larvae: This is the only species found locally that has larvae with eyes at the outline of the head when viewed from above. Eyes are oriented outward, and the snout is square. All sizes of *Hyla regilla* larvae have this characteristic, and hatchlings may require a hand lens for identification. Larvae > 15 mm total length have a bulbous belly when viewed from the side, and the skin covering coiled intestines has pinkish or gold iridescence. Larvae are almost black as hatchlings and usually lighten with age with darkened blotches across the tail when viewed from above. However, they may remain dark with gold/tan flecks if substrate color is dark. Tadpole length at metamorphosis can be quite variable between sites, resulting in high variation of metamorph size.
Eggs: Eggs are in a soft oblong or round cluster about 4 cm long, and clusters are attached to submerged vegetation or laid on the bottom in shallow water. Clusters are comprised of 9 – 80 eggs (usually around 20-25). Individual eggs are dark above and white below, and enclosed in jelly envelops about 1 cm in diameter. Jelly is clear or bluish within 1 day of oviposition, and then becomes covered with algae and silt.
Voice: The males' advertisement call is loud despite their small size and travels far. The call "kreck – *et*" is repeated about once per second in a sequence. The throat greatly enlarges balloon-like while calling. Large singing choruses are usually at night but occasionally occur during the afternoon, ceasing suddenly when disturbed. While in upland areas (often during the daytime) or when not in full chorus, they have another call

that is an infrequent “krr-r-r-eck”. *H. regilla* calls are often used as background noise in many movies, including those supposedly set in other regions.

Rana boylii

Taxonomy
The foothill yellow-legged frog, *Rana boylii* (Baird 1854), is a member of the true frog family Ranidae. They have been considered a separate species since 1955.

Distribution
Historically *Rana boylii* occurred in the mountains of Los Angeles, Ventura and Santa Barbara Counties but these populations appear to have been extirpated. Currently the southernmost populations are known from coastal northern San Luis Obispo County at Hearst Ranch, and they are extant along the coast to Marion County, Oregon. They also occur on in the foothills and west slope of the Cascade and Sierra Nevada Mountains, but they appear to have been extirpated from the southern end of their range in the Sierra Nevada (Kern and Kings Counties). This species was present from near sea level to 6700 feet. Historic records include the vicinity of Morro Bay, Toro Canyon 8 miles west of Atascadero and 2 miles SE of Cayucos.

Habitat
Rana boylii inhabits streams and rivers, especially those with shallow flowing-water (especially riffles), and cobbles, rocks and boulders. It occurs in woodland and chaparral habitats where there are open sunny stream banks. They area usually found near water basking on rocks or under sedges at the edge of the water, and when disturbed they jump into the water and rest on the bottom under rocks or vegetation.

Life History
Rana boylii are active during the day and at night. Breeding occurs after high stream flows subside, from mid-March to early-June. Eggs are laid in clear, shallow water at

stream margins and often are attached to the downstream side of stones or boulders. Tadpoles are cryptic and not very active. Metamorphs transform between July and September, and they tent to move upstream.

Identification
Adults and juveniles: *Rana boylii* are relatively small ranid frogs (37 – 71 mm snout-urostyle length) with rough (granular) skin dorsally resembling the surface of a rock. They are usually gray, but can be brown, reddish or olive and often with darker mottling. There often is a light triangle on the top of the head between the eyes and nose. The underside of the hind legs and abdomen are yellow, but may be absent or faint on juveniles. The throat and chest are cream colored with dark spots. The hind feet are fully webbed. They lack the appearance of a dark mask, visible eardrums and dorsolateral folds. Males have dark nuptial pads on the thumbs.
Larvae: Tadpoles are dark gray or olive with light flecks on dorsal and ventral surfaces, and are relatively flattened when viewed from the side. The mouth is enlarged and used for clinging to rocks. The top edge of the tail fin is low near the body and highest midway down the tail. Total length to 50 mm.
Eggs: Eggs are laid in a grapelike cluster that is 5 – 10 cm in diameter. Clusters are composed of 300 – 1200 eggs. Each egg is black above and white below and surrounded by jelly envelopes. The jelly becomes covered with silt within a few days of oviposition.
Voice: The mating call of males is seldom heard and is a guttural, grating sound at one pitch or rising in inflection. Four or 5 calls may be uttered in a rapid series ending with a rattling sound.

Rana catesbeiana

Left photo courtesy of Gary Nafis and CaliforniaHerps.com

Taxonomy
The bullfrog, *Rana catesbeiana* (Shaw 1802), is a member of the true frog family Ranidae. Suggestions to change the common name to American bullfrog have not been widely accepted.

Distribution

Rana catesbeiana is native east of the Rocky Mountains and has been widely introduced throughout the western United States as well as many places in the world. They occur at elevations from near sea level to 9000 feet. Individuals have been observed at Alva Paul Creek at Morro Strand State Beach, Harmony Coast, and Cayucos State Beach.

Habitat

Rana catesbeiana occurs mainly in permanent bodies of water, but individuals are occasionally found in temporary water sources following overland migration during late-spring rains. Outside of rainstorms, it always is present in or near water. It inhabits ponds, lakes, reservoirs, streams, drainage ditches, rivers, lagoons and marshes. This species is facilitated by the presence of introduced fish species, which prey on the invertebrate predators of bullfrog larvae. Populations are probably also enhanced by the presence of introduced crayfish (especially *Procambarus clarkii*), which is preferred prey of the bullfrog. Individuals can occur in areas with dense shoreline vegetation or along banks devoid of vegetation. Often they can be found sitting atop submergent vegetation out in the water.

Life History

Rana catesbeiana are active during the day and at night. Breeding may begin as early as February but on the coast most breeding activity has been observed in June. Tadpoles may complete metamorphosis in the fall or overwinter and transform the following spring. Adults feed on frogs, toads, tadpoles, garter snakes, hatchling turtles, birds, fish, rodents, crayfish, and aquatic and terrestrial invertebrates. Bullfrog tadpoles may compete with native tadpoles. Bullfrogs have been implicated as a cause of population declines due to predation and competition. However, where they co-occur with introduced fish species the fish have greater negative effects on native amphibians.

Identification

Adults and juveniles: Adults are the largest of any frog in our area and may exceed 180 mm snout-urostyle length. The dorsal surface is olive, dark gray or dark brown and may or may not have dark mottling. The ventral surface is whitish to light yellow with a gray marbled pattern. The legs usually have dark bands. All size classes lack dorsolateral folds and the skin appears especially slimy. There is a ridge around the eardrum that is inconspicuous in very large individuals. The toes of the hind feet are fully webbed. Juveniles have a green upper lip, and this is the only local ranid with this coloration. Recently-metamorphosed frogs are bright green to light olive-gray with tiny black dots on the dorsal surface. Males have an eardrum larger than the eye, a yellow throat and dark nuptial pads on the thumbs.

Larvae: Eyes are within the outline of the head and mostly upward-oriented, resembling *Rana draytonii*. *R. catesbeiana* < 20 mm have a more rounded broad snout than *R. draytonii*, and those >20 mm have tiny distinctly-round inky black dots (*R. draytonii* larvae have dark spots that are larger and irregularly shaped. *R. catesbeiana* lack the rows of pores seen on *R. draytonii* larvae. Small tadpoles resemble *Bufo boreas* larvae, but the latter has eyes that are outward-oriented. Overwintered tadpoles can reach >150 mm total length.

Eggs: Egg masses are seldom seen because they quickly break up and drift around the surface of the water, and they hatch within a few days. Freshly laid egg masses resemble a layer of mucus (~1 m diameter) floating on the surface of the water with up to 20,000 small black dots (the ova). Egg masses are not a cohesive cluster or contained in strings like those of our other frogs and toads.
Voice: The call of males is a deep, resonating "harr-umm" that is repeated in succession. The call is both territorial and for attracting females. Juveniles often "eep" while jumping into the water.

Rana draytonii

Taxonomy
The California red-legged frog, *Rana draytonii* (Baird and Girard 1852), is a member of the true frog family Ranidae. Formerly considered a subspecies of *Rana aurora*, there is currently evidence to support full species status.

Distribution
Rana draytonii occurs in the Coast Ranges of California from Marin County to Ventura County, with a few isolated localities in the Sierra Nevada, San Joaquin Valley, and southern California (Jennings and Hayes 1994, U. S. Fish and Wildlife Service 2002). Historically, this species also was found throughout the Central Valley, the western slope of the Sierra Nevada from Shasta County to Tulare County, and the coastal regions of southern California, but almost all of these populations are now extinct. *Rana draytonii* is present in most permanent or semi-permanent streams and wetlands in the Coast District.

Habitat
Rana draytonii inhabits streams, springs, ponds, marshes, sloughs, lakes, reservoirs, riparian corridors, blackberry thickets, grasslands, and oak savannas. They occur in aquatic sites that usually retain water through mid-summer. Adult aquatic habitat often has emergent or shoreline vegetation and water depths of at least 70 cm. Breeding habitat is characterized as the shallow (25 – 50 cm deep) vegetated margins of ponds or stream

pools. They can move overland far from water during the winter rainy season. While in upland habitats, the frogs are usually under cover objects including shrubs, leaf litter, herbs, German ivy, nettles, downed trees or logs, root balls, rocks, or in small mammal burrows and small recesses in banks. Radio-tagged California red-legged frogs have been found to move in one season between aquatic sites that were up to 2800 m apart, but in many cases individuals remain within 50 m of water. They can occupy upland areas for as long as 60 consecutive days.

Life History

Adult *R. draytonii* are active mainly at night, but individuals may also be found during the day especially in northern coastal areas. Metamorphs are active during the day and at night, and they disperse to upland areas July through February where they apparently remain over winter. Breeding can occur from November through April. Larvae usually metamorphose after 3.5 to 7 months, but in some cases they may overwinter. Larvae are mainly benthic and prefer vegetated margins. Larvae are more conspicuous at night from June until metamorphosis. The diet of adults includes fish, aquatic and terrestrial insects, tadpoles and small frogs.

Identification

Adults and juveniles: *Rana draytonii* are an attractive frog (70 to 135 mm snout urostyle length) with dorsal coloration of brownish-red, dark tan, dark cherry red, or dark smoky gray with black mottling. The dorsal surface of the hind legs has dark bands, and the ventral surface is red to salmon colored. A pair of dorsolateral folds running from the eyes over the sides of the back distinguishes this species from other frogs in our region. The folds may be the same color as the dorsal surface or reddish, especially on younger frogs. They have a light-colored stripe above the mouth with a dark patch behind the eye. The toes of the hind legs are partially webbed (not extending the entire length of each toe). The ventral surface is cream with gray mottling and red may extend up onto the belly. Metamorphs may lack the red on the undersides of the legs, and they have very large gold eyes and bright pinkish dorsolateral folds. Males have enlarged dark nuptial pads on the thumbs, which are prominent during the breeding season.

Larvae: Eyes are within the outline of the body and mostly upward-oriented. Small tadpoles resemble *Bufo boreas* but the latter has a more pointed snout and trimmer appearance, whereas the tail fin on *R. draytonii* is high and the belly full. In tadpoles >20 mm total length a network of pores can be seen in bright light that run down the length of the body (becoming the dorsolateral folds upon transformation) and form an elaborate pattern across the head. The pores are crystal-colored and are more pronounced on larger individuals (to 110 mm total length). The dorsal surface is dark, with irregularly-shaped dark mottling and light flecks. The ventral surface is iridescent pink or gold on the belly, and intestines may be seen as in *Hyla regilla*.

Eggs: Egg masses are a cluster about the size of a grapefruit, and are usually attached to a vertical vegetative brace but may be partially or totally laying on the bottom in water about 25 – 40 cm deep. Clusters contain 1000 – 4000 eggs, each of which is dark above and white below (when laid, and then elongates until curling around) and are enclosed in a jelly capsule. Egg masses become covered with algae and silt within a few days from

oviposition. After and during hatching the jelly breaks into smaller globs and floats on the surface, usually taking on an algae-like appearance.
Voice: Calls do not carry far and often cannot be heard over those of *Hyla regilla* until you are within 30 m. The sound resembles rubbing your hand across a balloon, as a succession of "uh-uh-uh-uh" descending in pitch. Occasionally a higher pitched "Rrow!" may be heard after a pause at the end of the call.

Actinemys marmorata pallida


Taxonomy
The southwestern pond turtle, *Actinemys marmorata pallida* (Seeliger 1945), is a member of the box and water turtle family Emydidae. Formerly known under the generic name *Clemmys*, the California Department of Fish and Game (2004) is currently following suggestions to classify them under *Emys*.

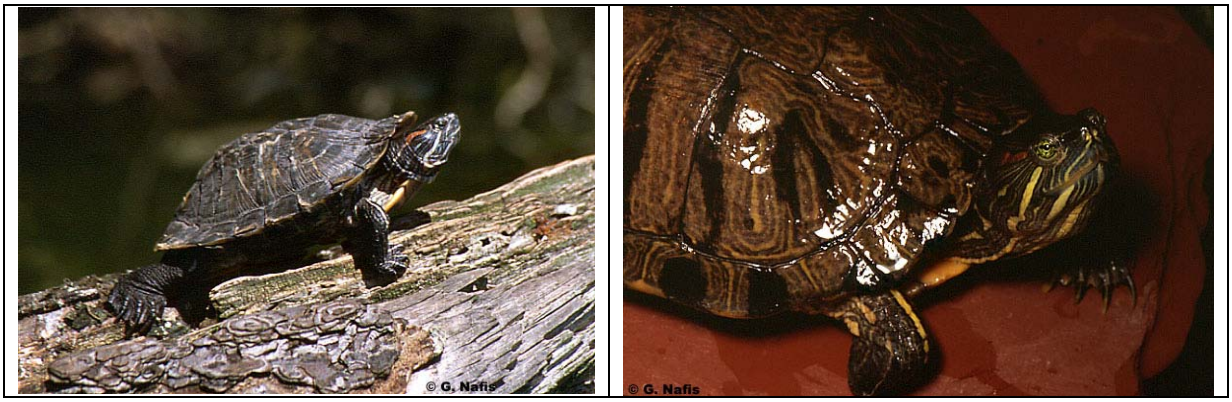
Distribution
Historically *Actinemys marmorata pallida* was distributed in most drainages west of the Sierra Nevada from south of San Francisco Bay to Baja California, Mexico. They are present from sea level to 4690 feet elevation. It is known to occur at each of the park units in the Coast District.

Habitat
Actinemys marmorata pallida inhabit ponds, lagoons, marshes, rivers, streams and ditches that have aquatic vegetation and slow-moving water. Substrate can be mud, cobble, rock or boulders. Surrounding vegetation is often woodland and grassland. They bask in the sun on exposed banks, floating logs, mats of submergent vegetation and knocked-down patches of emergent vegetation. Although called an aquatic turtle, females leave the water to lay eggs and both sexes may use upland areas during winter. Nests are excavated in clay or silt substrate with low moisture, and usually are on unshaded slopes. Most nest sites are within 200 m of water, but can be as far as 400 m.

Life History
In the central coast, *Actinemys marmorata pallida* may be active year-round or individuals may aestivate in winter in upland or riparian areas up to 400 m from water. They forage in the water for plants, detritus, carrion, invertebrates and fish. They are active out of the water only during the day and can be seen swimming or floating with their head above water at night. Hatchlings and juveniles eat zooplankton. Mating probably occurs in April and May in the water and eggs are laid May through August in upland areas. Most hatchlings overwinter in the nest and migrate to aquatic sites the following spring, but some may migrate in the fall following hatching. Individuals can be exceptionally long-lived (>50 years) and they lose the appearance of individual scute rings as they age. They can climb extremely steep slippery slopes.

Identification
Adults: Carapaces are not highly domed and are drab olive or brown (120 – 210 mm carapace length). The plastron can be light or dark. Carapaces and plastrons often have dark marks radiating from the center of each shield. Males have a concave plastron, longer tails and a light unmottled throat, whereas in females the plastron is flat and the throat mottled. They can be distinguished from introduced *Trachemys scripta elegans* by lacking red, orange or yellow coloration on the head.
Hatchlings: Carapaces are around 25 mm long and the tail is almost as long as the shell. Head, limbs and tail may have dusky yellow markings.

Trachemys scripta elegans



Photos courtesy of Gary Nafis and CaliforniaHerps.com

Taxonomy
The red-eared slider, *Trachemys scripta elegans* (Wied 1838), is a member of the box and water turtle family Emydidae. It was formerly known under the genus *Pseudemys*.

Distribution
Trachemys scripta elegans is native from eastern New Mexico through northwestern Alabama, and north to Indiana and Kansas. They occur from sea level to 4600 feet elevation. It has been introduced to many locations in California mainly through released

pets. It has not yet been documented from our region but is frequently found in urban and recreationally used ponds and reservoirs of Santa Barbara County.

Habitat
Trachemys scripta elegans is an aquatic species that prefers still water with aquatic vegetation. Individuals bask in the sun on logs or rocks. In cool climates, they overwinter in the mud at the bottom of aquatic habitats. Eggs are laid in sunny areas on land in loose sand.

Life History
Trachemys scripta elegans are diurnal and remain underwater at night. Adults feed only in the water on aquatic plants, crayfish, snails, tadpoles, fish, carrion and invertebrates. Breeding occurs in late April and eggs are laid April through July. Hatchlings may overwinter in the nest. Breeding behavior involves the pair facing each other in the water and the male vibrating the long claws of his front feet along the cheeks of the females.

Identification
Adults: Carapace (90 – 360 mm long) is olive or smoky gray with yellow streaks and bars, although sometimes almost completely black. They have an orange, red, or yellow stripe or spot behind the eye. Plastron is yellow with dark markings (large concentric ovals) in a symmetrical pattern. The posterior margin of the carapace is irregular with a "saw-toothed" pattern.
Hatchlings: Carapace is green with yellow streaks, and has a yellow or red stripe behind the eye.

Phrynosoma coronatum frontale

Taxonomy
The California horned lizard, *Phrynosoma coronatum frontale* (Van Denburgh 1894), is a member of the spiny lizard family Phrynosomatidae. Some researchers have argued that *P. c. frontale* should not be recognized as a separate subspecies, and that all United States populations are *P. blainvilli*, with *P. coronatum* occurring only in southern Baja California. The California Department of Fish and Game (2004) maintains the name *P.*

coronatum for species in the state, and uses "frontale" and "blainvillei" to describe populations.

Distribution

Phrynosoma coronatum frontale is distributed along the coast from south of the San Francisco Bay area to northern Los Angeles County and eastward to the foothills of the Sierra Nevada and Cascade Mountains. It is present from sea level to 6494 feet in elevation. It historically occurred in scattered localities in Shasta County, the Central Valley, and San Francisco Bay area but most of these populations have been extirpated. Although otherwise widespread in San Luis Obispo County, few localities have been documented from the coast north of Morro Bay. Known occurrences include 1958 collection from the "Morro Bay sand dunes" and a 2001 sighting at Morro Strand South by the Department of Parks and Recreation (DPR). They have been observed in 2005 at Morro Bay State Park "Powell properties" east of Baywood Park and the Montaña de Oro State Park sand spit.

Habitat

Phrynosoma coronatum frontale occurs in scrubland, chamise chaparral, sand dunes, grassland, coniferous forests and riparian woodlands. It requires loose soil (sand, sandy-loam, alkali flats or gravel) for burrowing and open areas where it can bask in the sun.

Life History

Phrynosoma coronatum frontale often remain motionless blending in with their background. They feed almost exclusively on native species of ants, and the presence of Argentine ants, which outcompete native ants have been proposed to be responsible for *P. coronatum* declines. Domestic cats can eliminate *Phrynosoma* from large areas through predation. Eggs are laid April through June and hatchlings can be found in the early fall.

Identification

Adults and juveniles: *Phrynosoma* have flattened oval-shaped bodies, horns around the head and pointed scales along the edge of the body. *P. coronatum* has 2 rows of pointed scales on each edge of the body (65 – 105 mm snout vent length) and 2-3 rows on each side of the throat. There are two long spines at the back of the head. Dorsal color is sandy, reddish-brown, gray or tan and they usually resemble the background soil color. There are darker horizontal bars and a lighter dorsal stripe. Ventral surface is yellow to white with distinct dark spots.

Sceloporus occidentalis bocourtii

Taxonomy
The Coast Range fence lizard, *Sceloporus occidentalis bocourtii* (Boulenger 1885), is a member of the spiny lizard family Phrynosomatidae.

Distribution
Sceloporus occidentalis bocourtii occurs throughout the Coast Range Mountains. It is abundant and widespread throughout the Coast District parks.

Habitat
Sceloporus occidentalis bocourtii occurs in most habitats including urban and agricultural areas, except for interior deserts. It is usually found on the ground, among lumber piles, on rocks or small shrubs, the sides of buildings and wooden fences.

Life History
Sceloporus occidentalis bocourtii are diurnal and use burrows or take cover under logs and lumber when inactive. They prey on spiders, beetles, flies, wasps, termites and ants. Females can produce up to 3 clutches per year that are laid April through July. Hatchlings can be found in early summer through fall. The tail can break off when captured and be regenerated. Males have a territorial display that involves "doing pushups" on a prominent perch.

Identification
Adults: Gray or brown dorsally with darker blotches and scales that are markedly keeled and pointed (56 – 87 mm body length). Ventral surface has blue patches on the sides of belly and yellow or orange on the limbs. Males have a blue patch on the throat and occasionally blue speckles on the dorsal surface, which distinguishes them from the females (which can have blue on the sides of the belly).
Hatchlings: Blue belly and yellow on the limbs is faint or absent (25 mm body length).

Anniella pulchra pulchra


Taxonomy
The silvery legless lizard, *Anniella pulchra pulchra* (Gray 1852), is a member of the alligator and legless lizard family Anguidae. Some evidence exists that the current division into subspecies is not supported by molecular data, but subspecies are recognized by the California Department of Fish and Game (2004).

Distribution
Anniella pulchra pulchra occurs south of San Francisco Bay along the coast to Baja California and east to the Central Valley, with populations occurring in the Tehachapi, Piute and Scodie Mountains and scattered desert slope drainages. It is present from sea level to 5100 feet in elevation. *A. p. nigra* occurs only on the Monterey Peninsula. They are found at Morro Bay State Park, Morro Strand State Beach and Montana de Oro.

Habitat
Anniella pulchra pulchra occurs in a variety of habitats including sand dunes, chaparral, pine and oak woodlands, desert scrub and riparian. It occupies areas with sparse vegetation and uncompacted substrate as it burrows into loose soil and forages in leaf litter. It has been associated with bush lupines (*Lupinus arboreus*), mock heather (*Ericameria ericoides*) and coastal buckwheat (*Eriognum parvifolium*). They can be found under boards, logs and in woodrat (*Neotoma* spp.) nests. It requires moisture but also prefers sandy substrates. They appear to be extirpated from areas that are cultivated or otherwise have high levels of anthropogenic disturbance. Introduced plants species such as European beach grass (*Ammophila arenaria*), veldt grass (*Ehrharta calycina*) and eucalyptus (*Eucaluptus* spp.) are thought to exclude the lizard by altering soil characteristics and prey composition. However, individuals have been found in high densities under living and dead (after being sprayed by herbicides) ice plant (*Carpobrotus edulis*) at Oceano Dunes State Park.

Life History
The morphology of *Anniella pulchra pulchra* is specialized for its fossorial existence, and because they are usually underground they can be very abundant in an area but seldom are seen. They are most active in the morning and evening just under the ground surface in sunny areas. Individuals are infrequently found on the surface during warm nights.

On the coast they may be active almost year-round. They ambush their prey, and food items include microlepidopterans, beetles, termites and spiders. Breeding occurs in spring and summer, and females bear live young (1 to 4) from July to November.

Identification
Adults: A worm-like lizard lacking legs with small, smooth, shiny scales, and a wedge-shaped head with reduced eyes. Snout vent length is 90 – 170 and total length including tail is to 250 mm. Usually silver or beige dorsally, but some individuals in our area are black or dark brown. In lighter individuals, thin lengthwise lines can be seen down the body and the back. Ventral surface is yellow or whitish-yellow.
Juveniles: Generally lighter in color than the adults – cream or silver dorsally and light gray or pale yellow ventrally.

Elgaria multicarinata multicarinata


Taxonomy
The California alligator lizard, *Elgaria multicarinata multicarinata* (Blainville 1835), is a member of the alligator and legless lizard family Anguidae. It was formerly known as *Gerrhonotus multicarinatus multicarinatus*.

Distribution
Elgaria multicarinata multicarinata occur from Mendocino County south to Ventura County (including the Channel Islands) along the coast and west to the crest of the Cascade Mountains and the San Joaquin Valley. This subspecies occurs throughout the Coast District.

Habitat
Elgaria multicarinata multicarinata inhabit grassland, chaparral, oak woodland, riparian woodland and pine forest. It is often associated with canyons and dense vegetation. Individuals are often found on the ground or under wood, but it can climb trees and shrubs in search of prey. They are also fossorial and use burrows.

Life History
Elgaria multicarinata multicarinata prey on slugs, insects, centipedes, scorpions, spiders, lizards, eggs, young birds and small mammals. They are diurnal and nocturnal, especially during warm periods. They will often attempt to bite when caught, and may smear feces and drop their tail while writhing about. Mating occurs in May to June and the females lay eggs in July and August in small mammal burrows. Eggs hatch in September but hatchlings may be found in May after overwintering in the nest.

Identification
Adults: *Elgaria* sp. have relatively short limbs, a large head and a long slender body (71 – 175 mm long) and tail (total length to ~475 mm). They can be distinguished by a fold of skin on each side of the body that allows them to expand their girth. The scales on the back are square. *Elgaria multicarinata multicarinata* have a dorsal background color of brown, olive or tan with dark or red crosswise bands having white and black spots on the sides. Ventral surface is light colored with dark lengthwise stripes down the middle of the scale rows. Males: Head is more triangular and broader than the female.
Hatchlings: Instead of having the barred or speckled appearance of the adult, the back is grayish-tan or beige and the sides barred. They are especially long and thin.

Eumeces skiltonianus skiltonianus

Photos courtesy of Gary Nafis and CaliforniaHerps.com

Taxonomy
The Skilton's skink, *Eumeces skiltonianus skiltonianus* (Baird and Girard 1852), is a member of the skink family Scincidae. The taxa currently recognized as subspecies within *Eumeces skiltonianus* may actually be separate species.

Distribution
Eumeces skiltonianus skiltonianus occurs throughout all of northern California and extends down the coast to San Diego County, and east to the edges of the Central Valley and southern deserts. There are isolated populations in the White Mountains, Kern Plateau, the east slope of the Sierra Nevada, and other eastern California mountain ranges. It also occurs throughout much of Oregon, eastern Washington, northern Idaho, western Montana and southern British Columbia. It is present from sea level to 8300 feet

in elevation. It has been documented from Baywood/Los Osos, Montana de Oro and Estero Bluffs State Park.

Habitat
Eumeces skiltonianus skiltonianus inhabits grassland, chaparral, pinyon, juniper, riparian, oak and pine woodlands. It is found in open and densely-vegetated habitats, near rocky areas, by streams and in dry areas away from water. They construct burrows in moist soil under stones and logs for aestivating and nesting.

Life History
Eumeces skiltonianus skiltonianus is diurnal and feeds on insects, spiders and sowbugs. They are active from the early spring to the early fall are most active in the early morning and late afternoon. Eggs are laid June through July and are attended by the female. Eggs hatch in late summer. Their brightly colored tails, which can be dropped, have been suggested to be for attracting predators away from their bodies and to enable adults to recognize juveniles.

Identification
Adults: *Eumeces* spp. have slim bodies with thick necks and small shiny scales. They have a forked tongue. *Eumeces skiltonianus skiltonianus* have longitudinal stripes down their back ranging in color from black to tan to reddish-brown (body length 53 – 81 mm). Tail is bluish on younger individuals and fades to gray.
Juveniles: Tail is bright blue and stripes have more contrasting colors and extend onto tail.

Coluber constrictor mormon

Photos courtesy of Gary Nafis and CaliforniaHerps.com

Taxonomy
The western yellow-bellied racer, *Coluber constrictor mormon* (Baird and Girard 1852), is a member of the colubrid family Colubridae. Recommendations have been made to elevate this taxon to full species status because they may comprise a separate lineage from *Coluber constrictor*.

Distribution
Coluber constrictor mormon occurs throughout California except for deserts, extreme southern California, the Sierra Nevada, and east of the Sierra Nevada. It also occurs in northern Nevada, Oregon, eastern Washington, Idaho, northern Colorado, southwestern Montana, and southern British Columbia. They have been recorded from Montaña de Oro State Park and were seen at Morro Bay State Park in 2005.

Habitat
Coluber constrictor mormon inhabits grasslands, sagebrush flats, chaparral, and pinyon and juniper woodlands. It prefers open areas in these habitats, and is found both in and away from wet areas. Individuals are often found in grassy areas near rocks and logs. They are usually on the ground but they can climb trees and shrubs.

Life History
Coluber constrictor mormon are active flighty snakes that are difficult to find and catch. They prey on lizards, small snakes, small mammals, bird eggs, frogs and insects such as grasshoppers and Jerusalem crickets. Despite their name, they do not constrict prey but hold it down with a loop of their body while swallowing. They are, however, fast and aggressive if cornered. They will advance head up toward an object that they are interested in. Eggs are laid June through August.

Identification
Adults: A slim snake with smooth scales and an even dorsal coloration of brown, olive or bluish (body length 50 – 90 cm; to 76 cm in our region). Ventral surface is white or pale yellow. They appear similar to the *Charina bottae bottae*, except *Coluber constrictor mormon* has large dark eyes and larger scales on the head.
Juveniles: Juveniles (25 cm to between 38 and 46 cm) have markings strikingly different from the adult – they have brown blotches or saddles on a tan or gray background dorsally, resembling *Pituophis catenifer*. *C. c. mormon* lacks the stripe through the eye and broad dark neck patch characteristic of *P. catenifer*.

Contia tenuis

Photos courtesy of Gary Nafis and CaliforniaHerps.com

Taxonomy
The sharp-tailed snake, *Contia tenuis* (Baird and Girard 1852), is a member of the colubrid family Colubridae. This taxon probably contains two separate species resulting from northern coastal and southern interior lineages.

Distribution
Contia tenuis occurs from inland areas of western Oregon along the California coast to San Luis Obispo County and the Sierra Nevada. They are present from sea level to 6600 feet in elevation. Only a few localities are known from San Luis Obispo County and all are inland (Santa Margarita, Templeton, Paso Robles, Pine Mountain).

Habitat
Contia tenuis inhabits oak, pine and riparian woodlands, grasslands and chaparral. It occurs in moist environments and is usually found near streams.

Life History
Contia tenuis is active during and following rains (January through March) and goes underground when the soil dries out. It is rarely on the surface and takes cover under logs, bark, rocks and boards. This species may live in groups of several individuals. They prey only on slugs. Eggs are laid June through July and they hatch in the fall.

Identification
Adults and juveniles: Reddish brown or gray dorsally, becoming more red toward the tail (body length 20 – 45 cm). Individuals may have orangish, yellowish or red dorsolateral stripes. Ventral surface has distinct alternating cream or pale gray and black crossbars. The scales are smooth and shiny. The tail tip has a sharp spine. Melanistic *Diadophis punctatus vandenburghii* may look similar in both dorsal and ventral coloration but they lack the tail tip spine.

Diadophis punctatus vandenburghii

Taxonomy
The Monterey ring-necked snake, *Diadophis punctatus vandenburghii* (Blanchard 1923), is a member of the colubrid family Colubridae. Seven subspecies are currently recognized.

Distribution
Diadophis punctatus vandenburghii occurs in the Coast Range Mountains from Monterey Bay south to Ventura County. Individuals have been recorded from Montaña de Oro State Park, Morro Bay and "Morro Bay sand dunes".

Habitat
Diadophis punctatus vandenburghii inhabits moist areas in woodlands (especially riparian areas), grasslands, chaparral and gardens. It is usually associated with streams, bark, rotting logs, rocks and boards.

Life History
Diadophis punctatus vandenburghii have rear fangs that carry venom, but they cannot effectively bite humans due to the position of the fangs. They prey on salamanders (including *Batrachoseps* sp.), small *Hyla regilla*, lizards (including *Anniella pulchra*), small snakes, slugs and worms. Usually they are not aggressive. When disturbed they may coil up their tails showing the red underside, and writhe around spreading the odiferous contents of their cloacal glands. They are active mid-January to mid-April. Females lay 1 or 2 clutches in June and July, and they are often in a communal nest with other females. Eggs hatch in the fall.

Identification
Adults and juveniles: Bluish-gray, olive or black dorsally with a red-orange neck band and black or dark gray head (20 – 75 cm long). The ventral surface is red-orange with black dots. The scales are smooth and shiny. Melanistic individuals lack the neck band and have alternating light and dark crossbands ventrally.

Hypsiglena torquata nuchalata

Photos courtesy of Gary Nafis and CaliforniaHerps.com

Taxonomy
The California nightsnake, *Hypsiglena torquata nuchalata* (Tanner 1943), is a member of the colubrid family Colubridae. Populations in the vicinity of San Diego may be a separate subspecies.

Distribution
Hypsiglena torquata nuchalata occurs throughout central and southern California, except the San Joaquin Valley and Sierra Nevada Mountains. Their range extends into northern California in the Sacramento Valley. Localities are not known from northern coastal San Luis Obispo County.

Habitat
Hypsiglena torquata nuchalata inhabits beaches, grasslands, riparian woodlands, chaparral, sagebrush flats, deserts, oak and pine woodlands, mountain meadows and thornscrub. It occurs in areas with rocky and sandy substrates. Individuals can be found under rocks, boards and dead branches, or on roads at night.

Life History
Hypsiglena torquata nuchalata are nocturnal and their seasonal activity period begins in late spring. They have rear fangs that carry venom but are unlikely to bite humans. They eat lizards, small snakes, frogs, small mammals and salamanders. Mating occurs in early spring and eggs are laid April through August.

Identification
Adults and juveniles: Dorsal coloration is pale gray, light brown or beige with dark gray or brown patches (30 – 65 cm long). They resemble juvenile *Pituophis catenifer*, except that they have vertical pupils (which may be difficult to determine at night when the pupils are enlarged) and a dark stripe through the eye that is mostly horizontal, whereas in *P. catenifer* it is almost vertical. Scales are smooth.

Lampropeltis getula californiae

Taxonomy
The California kingsnake, *Lampropeltis getula californiae* (Blainville 1835), is a member of the colubrid family Colubridae. The species was formerly known as *getulus*.

Distribution
Lampropeltis getula californiae occurs throughout California except the extreme northeastern tip. It is also present in Baja California, southwestern Oregon, southern Nevada, southwestern Utah and Arizona. They occur from sea level to 7000 feet in elevation. In 2005 they have been observed at Morro Strand State Beach and Estero Bluffs State Park, and probably occur throughout the Coast District.

Habitat
Lampropeltis getula californiae inhabits coniferous forest, marshes, riparian woodland, grassland, chaparral, desert and farmland. It is associated with rocky outcrops and damp areas.

Life History
Lampropeltis getula californiae are active in the morning and late afternoon, and may be nocturnal during hot weather. Individuals are usually found on the ground and under rocks and logs, but they can also climb. Prey is killed by constriction, and includes snakes (including *Crotalus* sp.), lizards, small turtles, reptile eggs, frogs, birds, bird eggs, and small mammals. When cornered they may vibrate their tail in dry leaves to produce a sound similar to a rattle, hiss, coil into a ball, evert the vent smearing foul-smelling anal

gland contents, and strike. Eggs are laid in moist soil from May through August, and hatch about two months later.

Identification
Adults and juveniles: *Lampropeltis* sp. have smooth, shiny scales and a head that is a little wider than the neck. The dorsal surface of *Lampropeltis getula californiae* has alternating bands of pale brown to black and white or pale yellow. Large adults (to 122 cm total length) and coastal populations may be paler in color.
Hatchlings: Usually black and white alternating bands (25 cm long).

Masticophis lateralis lateralis

Right photo courtesy of Gary Nafis and CaliforniaHerps.com

Taxonomy
The California striped racer, *Masticophis lateralis lateralis* (Hallowell 1853), is a member of the colubrid family Colubridae. The common name chaparral whipsnake may also be used.

Distribution
Masticophis lateralis lateralis occurs from Monterey Bay south along the coast through Baja California, in the foothills on the west slope of the Sierra Nevada and Cascade Mountains, and in interior areas north of the San Francisco Bay. It occurs from sea level to 7400 feet elevation. Locality records include the "Morro Bay sand dunes", the south end of Morro Bay, and Montana de Oro.

Habitat
Masticophis lateralis lateralis prefers chaparral habitats, especially areas with canyons, streams, rocky hillsides and scattered grassy areas. They also occur in open mixed-deciduous woodlands, pine forests and open desert. They can climb shrubs and trees and shelter in a burrow or under rocks.

Life History
Masticophis lateralis lateralis is a fast snake and moves rapidly when disturbed. They are diurnal and most activity is during mid-day. They prey on frogs, lizards (especially *Sceloporus* sp.), snakes, small mammals, birds and insects. They may search for prey with their head elevated. They do not constrict but hold captured prey with their sharp teeth while swallowing. They may attempt to bite when handled. Mating occurs in spring, eggs are laid in early summer and hatching occurs in late summer or early fall.

Identification
Adults and juveniles: Dorsal surface is black to dark brown with yellow or white stripes running down each side of the body (75 – 152 cm long). They resemble *Thamnophis hammondii* except there is a thin dark stripe separating the yellow side stripes from the ventral surface, whereas in *T. hammondii* the side stripes tend to blend in with the ventral surface. If captured, the distinguishing feature is pink coloration on the ventral surface of the tail, with the rest of the venter white, cream, yellow or orange. These two species can also be distinguished by habitat, since *T. hammondii* is usually found near streams and *M. l. lateralis* occurs in drier upland areas. The body of *M. l. lateralis* is squarish in cross-section, whereas *T. hammondii* is round. The eyes are large.
Hatchlings: Hatchlings are 28 cm long and resemble the adults.

Pituophis catenifer catenifer

Taxonomy
The Pacific gophersnake, *Pituophis catenifer catenifer* (Blainville 1835), is a member of the colubrid family Colubridae. This taxon was formerly known as *Pituophis melanoleucus catenifer*.

Distribution
Pituophis catenifer catenifer ranges from near the Santa Barbara/San Luis Obispo County line along the California coast into western Oregon, and is present eastward across the Central Valley and many parts of the Sierra Nevada and Tehachapi Mountains. It occurs from sea level to 9000 feet in elevation. They are common and widespread throughout the Coast District.

Habitat
Pituophis catenifer catenifer occurs in chaparral, grassland, pine and oak woodlands, desert, and agricultural areas.

Life History
Pituophis catenifer catenifer are diurnal except during very hot weather. They are often seen on the ground, but they also climb and use burrows. They prey on mice, gophers, rabbits, birds, bird eggs, lizards and insects that they kill by constriction. Females lay 1 or 2 clutches of eggs June through August. When approached they may display aggressive behavior mimicking a rattlesnake – vibrating the tail in dry leaves producing a rattling sound, flattening the head which makes it appear broader at the base, coiling up and hissing.

Identification
Adults and juveniles: Dorsal coloration has a background color of cream, tan or yellowish with brown, reddish-brown or black blotches. There are large squarish blotches down the back and smaller blotches or streaks on the sides. There is a dark stripe through or slightly in front of the eye that is nearly vertical. There is a pair of brown neck blotches with black borders, and the shape of the neck markings is used to distinguish between western subspecies. Dorsal scales are keeled. The ventral surface is white to yellow and may have black or gray spots. This snake can get quite large (body length 90 to 275 cm) and have a diameter similar to that of *Crotalus*. Coloration and pattern are similar to *Crotalus oreganus*, but they lack rattles and have an elongated (not triangular) head.
Hatchlings: Resemble the adults and are 15 cm long.

Thamnophis atratus atratus

Photos courtesy of Gary Nafis and CaliforniaHerps.com

Taxonomy
The Santa Cruz gartersnake, *Thamnophis atratus atratus* (Kennicott 1860), is a member of the colubrid family Colubridae. This taxon was formerly considered a subspecies of *T. couchii*.

Distribution
Thamnophis atratus atratus occurs from San Francisco Bay along the coast south to Santa Barbara County. It has been recorded from Cayucos Creek near Highway 1, Los Osos and in coastal southern San Luis Obispo County.

Habitat
Thamnophis atratus atratus is an aquatic gartersnake, and is found in the vicinity of rivers, streams, freshwater and brackish marshes, sloughs and dune ponds.

Life History
Thamnophis atratus atratus is diurnal and usually flees to water when pursued. It preys on fish, fish eggs, tadpoles, *Hyla* sp., toads, salamanders, salamander larvae, worms and leeches. It lacks venom glands and enlarged teeth. Young are born live in late-summer and fall. When captured, they usually writhe around spreading feces and musk from their anal glands.

Identification
Adults and juveniles: Dorsal coloration is black to dark olive with three orange or yellow dorsal stripes (body length 46 – 160 cm). The side stripes may be indistinguishable from the ventral coloration, which can be greenish- or bluish-tinged with yellow or orange blotches darkening toward the tail. The throat is usually bright lemon yellow. There are 8 upper labial scales (above the mouth), and the 6^{th} and 7^{th} are about as high as they are long, with the upper surface of the scales falling below a horizontal line through the lower edge of the pupil. This subspecies closely resembles *Thamnophis elegans terrestris*, and since color can be quite variable in both taxa, the height and shape of the 6^{th} and 7^{th} upper (or supra-) labial scales are the best distinguishing characteristic.

Thamnophis elegans terrestris

Taxonomy
The coast gartersnake, *Thamnophis elegans terrestris* (Baird and Girard 1853), is a member of the colubrid family Colubridae. There is some disagreement over whether *terrestris* is a valid subspecies.

Distribution
Thamnophis elegans terrestris occurs along the California coast from the Oregon border south to the Santa Barbara/Ventura County line. It has been recorded from Old Creek at Hwy. 1, Harmony Coast State Park (in 2005), Morro Bay State Park at the "Twin Bridges" and Morro Rock, Los Osos, Baywood Park, and Hazard Canyon in Montaña de Oro State Park.

Habitat
Thamnophis elegans terrestris is considered to be more terrestrial than the other gartersnakes in our area, but it is also found near water. It inhabits grassland, scrub, woodlands and forests.

Life History
Thamnophis elegans terrestris feed mainly on slugs, snails, and worms, and they also eat leeches, fish, salamanders, frogs, tadpoles, lizards, snakes, small mammals, birds and carrion. Some populations have enlarged rear teeth and venom glands that are poisonous to their prey. The females bear live young in July through September. When captured, they usually writhe around spreading feces and musk from their anal glands.

Identification
Adults and juveniles: Dorsal coloration is black to dark olive with three yellow to orangish dorsal stripes (body length 45 – 107 cm). The background color is often flecked with dark and light spots in a checkerboard pattern, and some individuals may have red or orange flecks on the sides. The side stripes may contact the ventral coloration but the stripes are more reddish and the ventral surface is gray, bluish or brownish and flecked

with red or salmon. There are usually 8 upper labials, and the 6th and 7th are higher than wide with the top edge above a horizontal line through the lower edge of the pupil.

Thamnophis hammondii

Taxonomy
The two-striped gartersnake, *Thamnophis hammondii* (Kennnicott 1860), is a member of the colubrid family Colubridae. No subspecies are currently recognized. This taxon was formerly contained within the *T. couchii* complex.

Distribution
Thamnophis hammondii occurs in coastal drainages from the city of Salinas south to Baja California. They occur west of the San Joaquin Valley and their range extends eastward at Mount Pinos and Mount San Jacinto. They occur from sea level to 7000 feet in elevation. Historic records exist from "Little Willow Creek, Cayucos", the vicinity of Alva Paul Creek and were found in 2005 at Montana de Oro.

Habitat
Thamnophis hammondii inhabits aquatic sites including streams, coastal lagoons, sloughs, and ponds, and it appears to prefer areas with dense riparian vegetation. In summer they occupy stream and streamside areas, and in winter they occur in coastal sage scrub and grasslands where they overwinter in small mammal burrows.

Life History
Thamnophis hammondii is diurnal and nocturnal. They become active in the spring, but may also be active during warm winter days. They feed while perched on vegetation or under the water on tadpoles, fish (including *Gasterosteus aculeatus, Eucyclogobius newberryi,* and *Cottus* spp.), fish eggs, newts, earthworms and small frogs. They have enlarged rear teeth and venom glands. They mate in the spring and bear live young in the fall, and neonates have been observed from late-August through November. When captured, they usually writhe around spreading feces and musk from their anal glands. *Rana catesbeiana* and feral pigs prey on all life stages.

Identification
Adults: The dorsal background color is dark olive to brownish gray with yellow, yellow-orange or tan stripes down each side of the body (body length 60-90 cm, total length 60 – 101 cm). Ventral surface is dull yellow, orange-red or salmon and may have dusky marks. The throat is pale. Melanistic individuals lacking side stripes are present in our area.

Thamnophis sirtalis infernalis

Photos courtesy of Gary Nafis and CaliforniaHerps.com

Taxonomy
The California red-sided gartersnake, *Thamnophis sirtalis infernalis* (Blainville 1835), is a member of the colubrid family Colubridae.

Distribution
Thamnophis sirtalis infernalis occurs along almost the entire California coast except the extreme northern and southern ends. This species is relatively common throughout the Coast District.

Habitat
Thamnophis sirtalis infernalis inhabits grasslands, woodland, scrub, chaparral, forest, vacant lots and agricultural land. It is semi-aquatic and prefers damp grasslands, such as the edges of streams, marshes, ponds, roadside ditches and sloughs.

Life History
Thamnophis sirtalis infernalis is nonvenomous. They prey on earthworms, tadpoles, salamanders, newts, slugs, leeches, frogs, toads and small mammals. Females bear live young from May through October. When captured, they may bite and writhe around spreading feces and musk from their anal glands.

Identification
Adults: Dorsal background color is nearly black or dark olive, and they have three greenish yellow stripes (body length 46 – 130 cm). The side stripes may be indistinct from the ventral coloration, which is bluish-gray or greenish and darker toward the tail. This is the only local *Thamnophis* sp. with conspicuous red spots or bars on the sides. There are usually 7 upper labial scales and the 6th is higher than wide as in *T. elegans terrestris.*

Crotalus oreganus oreganus

Taxonomy
The northern Pacific rattlesnake, *Crotalus oreganus oreganus* (Holbrook), is a member of the viper family Viperidae. It was formerly known as *Crotalus viridis oreganus*.

Distribution
Crotalus oreganus oreganus occurs from interior western California, throughout all of northern California, the northern San Joaquin Valley, and the Coast Ranges where it intergrades with *C. o. helleri* in the vicinity of the San Luis Obispo/Santa Barbara County line. It is known to occur throughout the Coast District.

Habitat
Crotalus oreganus oreganus inhabits coastal dunes, chaparral, woodlands, grasslands and mountain forests. It is associated with rock outcrops, tallus slopes, rocky streams and ledges. They may overwinter communally in dens using mammal burrows, crevasses in rocks and caves. They can swim and are sometimes found near water.

Life History
Crotalus oreganus oreganus are venomous and may not rattle (May sound like a loud buzzing noise) before you step on them. The type of venom changes as the snakes age – the venom of juveniles contains nerve-blocking agents and adults contains mostly proteases that destroy tissue. The venom is used to kill prey that might otherwise be too large to subdue. They detect prey through temperature-sensitive pits on the sides of their

nose, and they eat mice, ground squirrels, woodrats, rabbits, nestling birds, lizards, snakes and amphibians. They bear live young August through October. They are inactive in winter and come out of aestivation when temperatures reach 21^{o}C.

Identification

Adults: *Crotalus* sp. are heavy-bodied snakes with a wide triangular head and a tail rattle. They have keeled scales and vertically elliptical pupils. The dorsal background color of *Crotalus oreganus oreganus* usually matches the soil color and can be cream, yellow, gray, pinkish, greenish, brown or black (body length 37 – 162 cm). There are large blotches down the back that are brown and black with rings of darker and lighter borders. There is a dark brown stripe below the eye that angles back to the end of the jaw. *C. o. oreganus* can be distinguished from *C. o. helleri* by having alternating dark and light tail rings of uniform width. Individuals tend to be darker near the coast and lighter in eastern parts of the county.

Hatchlings: The rattle is a blunt button, and segments are added each time the snake sheds. The tail is bright yellow and they are 25 cm long.

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