

THE  
**OUTDOOR  
WORLD**  
OF THE SACRAMENTO REGION

*A local field guide with  
details and colored drawings of  
more than 250 plants, fungi, birds, mammals,  
reptiles, amphibians, fish, and invertebrates,  
plus descriptions of 350 more.*

REVISED, EXPANDED, FULL-COLOR EDITION

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PEGGY KRAUS KENNEDY



**The American River  
Natural History Association**

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## FERNS and FERN ALLIES

Ferns are green plants that do not have seed-bearing flowers. They reproduce by means of spores which develop in spore cases (sporangia), clustered on the underside of the leaflets.

### BRACKEN FAMILY

*Dennstaedtiaceae*

#### BRAKE or BRACKEN

*Pteridium aquilinum* var. *pubescens*



The common brake fern has stiff erect stalks, with the triangular fronds 2 to 5 feet long. The underground rootstocks are long, branched and hairy. This fern often covers hillsides where fire has destroyed other cover. Local Indian tribes used bracken rootstocks for baskets and clothing, and the tender young fronds, called fiddleheads, for food. The older heavy fronds were used for thatching roofs.

### BRAKE FAMILY

*Pteridaceae*

#### BIRD'S-FOOT FERN

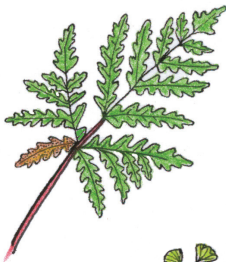
*Pellaea mucronata*



The dainty little leaflets on the tips of the fronds of bird's-foot fern do indeed look like the toes of a bird. This small fern grows as a clump on dry, rocky slopes, with fronds that are about 6 to 12 inches long. Though this fern has a delicate appearance, it has adapted to dry growing conditions with its small leaflets and tough rhizomes and stems.

#### GOLDBACK FERN

*Pentagramma triangularis*



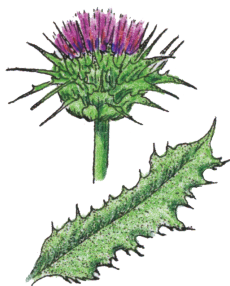
Goldback fern stems are a smooth shiny brown. The fronds are triangular and up to 12 inches long, growing in clusters. The spores on the underside of the leaflets are golden brown. If you press a frond against a dark surface, these spores will leave the fern's image in gold. Goldback fern is found in damp rock crevices in the foothill area of the Sacramento region.

#### CALIFORNIA MAIDEN-HAIR

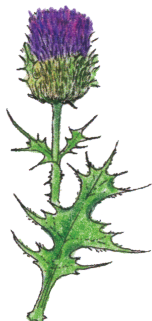
*Adiantum jordanii*



This delicate fern is found in damp locations in foothill areas or along sheltered stream banks. The fan-shaped leaflets have slightly curled, scalloped edges. The slender stalks, or stems, are shiny black. These fine stems are used by some California Indian tribes to weave designs into their beautifully crafted baskets.

**MILK THISTLE***Silybum marianum*

The stout milk thistle grows 3 to 6 feet high. The lower leaves are 1 to 2 feet long and may be up to 12 inches wide. The coarse white-veined leaves are deeply lobed and have sharp spines. Flower heads are purple, resembling the flowers of the closely related artichoke. This thistle is a native of the Mediterranean area, but it is now widely distributed in all parts of the world. It may be found in waste places throughout the Sacramento region, blooming in May and June.

**BULL THISTLE***Cirsium vulgare*

The stout branching stems of bull thistle grow 2 to 4 feet tall. Deeply lobed green leaves have yellow spines at the tips. The leaves are hairy underneath and young growth is very woolly. The flowers, sometimes in clusters, are purple. Thistle seeds were probably originally carried to this country in cattle and horse feed. Now that the plants are naturalized, the seeds, with little parachutes attached, are borne by the wind to sprout in fields and vacant lots all over the area.

**CANADA THISTLE***Cirsium arvense*

Thistle seeds may be a favorite food of many birds but unfortunately many imported thistles such as the Canada thistle have become noxious weeds, invading range lands and thriving in waste places. The creeping root stalks make it difficult to remove. Spiny leaves cover the stems which are topped by clusters of relatively small purple, or sometimes white or pink, flower heads. It grows 1 to 3 feet tall.

**YELLOW STAR THISTLE***Centaurea solstitialis*

Rigid spreading stems rise 1 to 2 feet from the base. Leaves and stems are whitened with a loose cottony wool. A thin wing-like projection extends along both sides of the stem. The leaves are linear and alternate. The flowers are bright yellow with a persistent, stiff, spiny base. Star thistle is widespread over California in the summer and is among the most invasive and troublesome weeds in range lands and sunny open space. However, bees make excellent honey from the nectar, and goldfinches flock to devour the seeds.

**ANNUAL BLUEGRASS***Poa annua*

This common winter and early spring weed of lawns and gardens usually grows to about 6 inches high with a panicle, or cluster of flowers, somewhat pyramidal in shape. When you pull this weed from your garden, you generally pull up a good clump of earth, attesting to its strong root system.

A relative of annual bluegrass is **Kentucky bluegrass**, *Poa pratensis*, a sod-forming perennial, often used for lawns.

**ORCHARD GRASS***Dactylis glomerata*

Orchard grass is a tall perennial that thrives in the shade of woodlands as well as orchards. The bushy heads appear flat on one side. They rise 2 to 3 feet above the clumps of leaves. This introduced grass is cultivated in pastures and has spread into disturbed areas where seeds can find a spot to sprout. When annual grasses are dry, green orchard grass stands out.

**QUAKING GRASS or  
RATTLESNAKE GRASS***Briza minor*

The delicate heads of rattlesnake grass rise from 8 to 10 inches high. It is a common springtime annual in the Sacramento region, attracting attention when the little “rattles” vibrate with the breeze from their threadlike stems. *Briza major*, the large rattlesnake grass, is at home on the coast and in the foothills. Both are introduced species.

**HEDGEHOG DOGTAIL***Cynosurus echinatus*

Dogtail is an annual with dense, slightly bent heads which are flattened on one side. Its prickly appearance resembles a miniature hedgehog. The leaf blades are short and fat and the stems are 8 to 16 inches tall. It appears later than some of the other annual grasses and only in scattered locations. This European import may be seen in the Effie Yeaw Nature Area, but keep an eye out for it in fields and woodlands.

**SOFT CHESS or  
SOFT BROME***Bromus hordeaceus*

The flower heads of soft chess are close together, soft in appearance and soft to touch. It grows 12 to 30 inches tall. This annual grows in waste places and as a weed in grain fields, but it is a good range grass for livestock. It is one of the common introduced grasses.



## Trees

### PINE FAMILY

Pinaceae

#### GRAY PINE or FOOTHILL PINE

*Pinus sabiniana*



This evergreen tree, called the “gray ghost of the Sierra” by John Muir, grows 40 to 65 feet high and is often multitrunked. It has a straggling, dried-out appearance. The gray-green leaves or needles are three in a bundle and droop from the branches. The cones are 6 to 10 inches long and nearly as thick. They have large recurved spines. The tree occurs in thin stands in the arid foothills.

Many local tribes prized the oblong nuts which are rich in oil and proteins and are an excellent food. Cones were heated and knocked with rocks to release the seeds. These nuts were a valued trade item. They were eaten or made into a soup for babies. The pitch served as glue and chewing gum and was used to heal burns and sores. Squirrels clean up the nuts nowadays. This species was long known as digger pine because 19th century settlers noticed local Indians collecting the pine nuts by digging in the ground. By the late 20th century, it came to be recognized as racially derogatory and was replaced by gray or foothill pine.

### LAUREL FAMILY

Lauraceae

#### CALIFORNIA LAUREL or CALIFORNIA BAY

*Umbellularia californica*



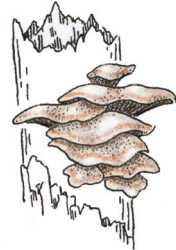
This is an evergreen, aromatic shrub or tree growing from 15 to nearly 100 feet. Its bark is greenish or reddish-brown. The shiny yellowish-green leaves are oblong or oblong-lanceolate in shape, 1 to 3 inches long and 1/2 to 1 1/4 inches wide. Small greenish-yellow flowers in clusters are followed by a round to oval fruit which becomes dark purple when ripe. The fruit and seeds are potentially dangerous and must be used with caution. However, a leaf or two gives a nice flavor to a stew. These make a safe insect repellent in stored flour or grain.

Local Indians used the pungent leaves in the steam bath for rheumatism and a smudge of the leaves to fumigate their homes. Leaves were also scattered on the floor to repel fleas.

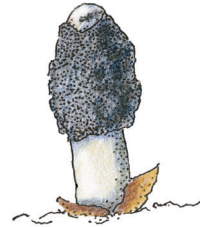
**Inky Caps** are an interesting member of the agaricales. The spores are black, and the gills, and sometimes the caps, digest themselves and turn into an inky black fluid that drips to the ground.



The **polypores** make up a very large and diverse group, coming in many shapes and sizes. As the name bracket fungus implies, the fruiting body usually appears clinging to the sides of logs and trees. The underside of the cap has many pores which produce the spores—hence, the name polypore.



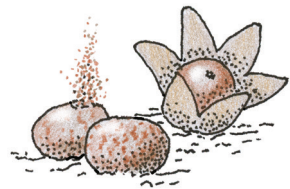
**Stinkhorns** are mushrooms that would never win a beauty prize, for they resemble nothing so much as slimy cigars. The top is covered in a foul-smelling, jelly-like substance that attracts insects. These will carry the spores to a new site, much as bees carry pollen from plant to plant.



**Bird's Nest Fungi** are minute mushrooms found on soil or wood. The charming bird's nest fungus is in this group. A very small cap without a stalk and shaped like a cup holds several small spheres containing the spores. A raindrop is enough to pop the "egg" and spread the spores to a new site.



**Puffballs** and **Earth Stars** produce spores within an enclosed chamber that eventually forms a pore for spore release. These fungi start as white or tan spheres growing close to the ground with no stalk. As the exterior shell opens, the spores are released to be carried by the wind to new sites. The earth star shells split into an attractive star-like shape.



Rodents and reptiles constitute the main diet, but occasionally rabbits, birds, and even large insects are taken. Our resident population is significantly augmented by wintering redtails from the north. Courtship begins in January when bonded pairs can be observed in courtship flight with legs extended, calling and soaring in circles.

### AMERICAN KESTREL (N)

*Falco sparverius*

The kestrel, our smallest falcon, formerly had the name “sparrow hawk,” a misnomer. The kestrel is about the size of a robin. The male is smaller and has colorful, powder blue wings; the larger female is uniformly rich brown and shows much more barring on the tail. Both sexes have the distinctive black “whiskers” on each side of the face. The long pointed wings identify it as a member of the falcon family. These falcons hover over fields and plunge to the ground to capture mice and insects. When a kestrel returns to its perch on a telephone wire or bare branch, it moves its tail up and down in a pumping motion. Kestrels usually nest in holes in dead trees. They are found throughout the region all year.



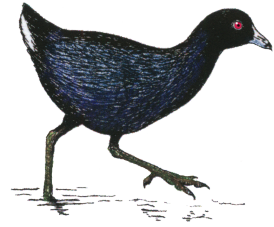
### CRANES AND ALLIES

Order: Gruiformes

### AMERICAN COOT (N)

*Fulica americana*

Coots are comical duck-like birds found on almost any body of water and in nearby fields. They are slate-gray and are easily identified by the white bill. They can walk and run on land and also do a flying dance on the water surface as they retreat from intruders. As they paddle about on the water, their heads move backwards and forwards. They feed on water weeds by dabbling like ducks. Coots breed throughout the west in marshes or tule-bordered ponds. Nests are shallow baskets in the reeds or on a floating mass of vegetation.



### SANDHILL CRANE

*Grus canadensis*

On a foggy winter day a deep rolling “gar-ooo-a-a-a” may be heard overhead that signals the arrival of the sandhill cranes. When the fog clears, one can catch sight of a line of large birds with outstretched necks traveling to the Delta wintering grounds. Sandhill cranes, large wading birds, are about 4 feet tall, ashy gray, with a bare red-topped head. Their long sharp bills serve them well as they hunt for roots, bulbs, frogs, mice, and large insects in moist grassy areas.



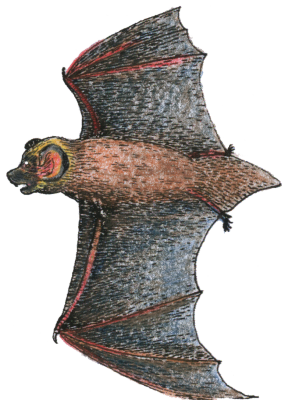


## BATS

Order: Chiroptera

### HOARY BAT

*Lasiurus cinereus*



The hoary bat is one of those mammals that are capable of true flight. Thin delicate skin between the bones of the arm and fingers form a flying surface that enables a bat to move swiftly and skillfully through the air. Bats also are able to produce short bursts of high frequency sound which serve as a sonar system to help them locate the flying insects upon which they feed.

The hoary bat is about 5 inches long and has a wingspread of about 16 inches. The head is short and broad and the ears are flat. The under coat is yellowish brown while the hair of the back is silver-tipped, creating an aged appearance that gives the bat its name.

These bats usually roost in trees, sleeping during the daytime hanging upside down. They are found in the Sacramento region during the warm months of the year when insect food is available. When fall comes, they migrate to the coastal area south of San Francisco.

### BRAZILIAN FREE-TAILED BAT

*Tadarida brasiliensis*



The Brazilian free-tailed bat, at one time called the guano bat, is the most common of the free-tailed bats. It is about 4 inches long, has large ears and a wingspread of about 8 inches. The fur of the body is a soft velvety brown. Half of the tail extends below the membrane of the wings and distinguishes it as a free-tailed species. The guano (excrement) deposited in caves and other bat roosting sites is the source of a valuable fertilizer.

In this region the Brazilian free-tailed bat prefers to roost in attics and on walls of buildings. Large numbers can produce an unpleasant musky odor which makes them unpopular with people. Their insect-catching habits, however, make them welcome visitors on summer evenings. They are most commonly seen flying in a seemingly erratic pattern at dusk or during the night in search of moths and mosquitoes. Though some bats hibernate, this species migrates south when its food supply disappears in cold weather.

*The California Department of Fish and Game says that to avoid the small rabies risk, don't pick up grounded bats.*

**RIVER OTTER***Lontra canadensis*

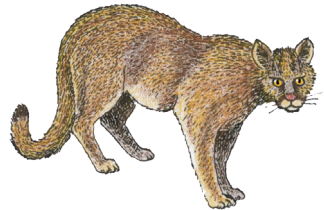
This skillful swimmer is known for its playful, exuberant behavior. It is well equipped for life in our waterways with webbed feet, a streamlined body and dense fur. The adult river otter is about 4 feet long including the tail and may weigh up to 25 pounds. Young otters, called pups, are born in a burrow or hollow tree normally in litters of two to four. The young pups have to be taught to swim and will ride on the mother's back when very young.



Crayfish are the main source of food for otters in the Sacramento region, with fish second. (A study of otter scats in the Suisun marsh revealed a great variety of otter food items including rose hips, wild radish, waterfowl, muskrats, mice, lizards and rabbits.) River otters are very secretive and seldom seen. Early mornings and late evenings are the best time to observe these playful animals. First, look for their scat—identified by the broken up parts of crayfish—on logs or snags in or near the water. If you find some, otters are likely to be nearby.

**MOUNTAIN LION or COUGAR***Puma concolor*

The American lion is a cat of many names—cougar, panther, puma, painter—but it is best known in the west as mountain lion. Mountain lions are very large animals, with a typical adult male weighing 110 to 180 pounds and the female 80 to 130 pounds. Males will measure 6 to 8 feet from nose to tail tip and females 5 to 7 feet. They are tawny to reddish brown in color. The long heavy tail is the most distinctive feature. Measuring almost two-thirds the length of the head and body, it is tipped with brown or black. Mountain lions are found throughout California. While one may think of the mountains and foothills as their habitat, some have been sighted along valley riparian corridors, including the lower American River and Cosumnes River.



Deer are the mountain lion's preferred prey, but they also feed on coyote, rabbits and other mammals. Because they are stalking predators, mountain lions are stealthy and secretive. You are more likely to see their distinctive tracks on a dusty road than to see the animal itself. All cats have similar tracks. In addition to the four toes, there are two lobes on the front and three lobes at the rear of the central pad.

*The California Department of Fish and Game has issued these recommendations for avoiding and, if necessary, reacting to a mountain lion encounter. Do not hike alone, but go in groups, with adults supervising children. Do not run from a lion. Pick up any small children so they don't panic and run. Don't crouch or bend over, but try to appear larger by raising your arms or opening a jacket if you are wearing one.*



## Reptiles

Once the dominant form of life on earth, reptiles were the first vertebrates to adapt to life on land and dry places. Today, their numbers are few. This group, which includes turtles, snakes, lizards, crocodiles, and alligators, is distinguished by having dry scales that cover the body and, except for the snakes, by having legs. All breathe air and are cold-blooded, which means they depend on sources outside their bodies for temperature regulation.

Reptiles have been the victims of human disturbance of the environment. Locally, habitat destruction and deliberate killing due to misunderstanding and superstitious fears have taken a toll of these interesting animals.

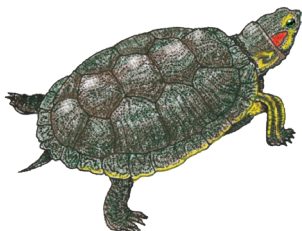
### TURTLES

Order: Testudines

Although 265 species of turtles are found in the world, only three members of the turtle order are native to California and only one to the Sacramento region, the western pond turtle.

#### POND SLIDER

*Trachemys scripta*

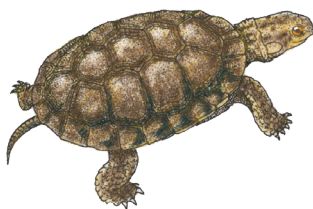


Young pond sliders often are sold as pets, and many escape or are released. They are frequently seen in the Sacramento area and may have established themselves in the Delta.

They grow as long as 14 inches from tail to nose. The shell is dark with streaks and bars of yellow. The head and legs also have yellow stripes, and there is usually a red stripe or yellow spot behind the eye. Sliders are thoroughly aquatic. While they may climb on logs or rocks to sun themselves, they seldom venture far on land. They prefer quiet waters with mud bottoms. Aquatic plants, snails, tadpoles, and fish provide their food.

#### WESTERN POND TURTLE

*Actinemys marmorata*



Our only native aquatic turtle, the western pond turtle lives in quiet ponds, rivers, and streams of the Sacramento region. Its shell, or carapace, is from 3 1/2 to 7 inches long, dark brown, olive or blackish and marked with a network of spots or lines. An adult may measure from 10 to 12 inches from the tip of the tail to the tip of the extended head. A pond turtle leaves the water to bask in the sun or lay eggs, but it never ventures far on land. It hibernates in the mud of shallow, quiet water. Food consists of aquatic plants, insects, and carrion.

## LIZARDS AND SNAKES

Order: Squamata

Both lizards and snakes belong to this order of reptiles. Lizards, except for one species, have legs; they all have moveable eyelids. Snakes are long and skinny but, unlike the lizards, have no eyelids, only a clear protective scale over the eye. Snakes have remarkable jaws; they are connected so loosely that they can be separated to accept an object two or three times as thick as the head.

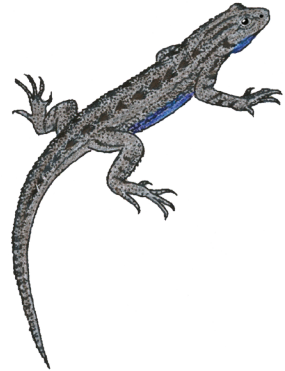
Most lizards and snakes reproduce by laying eggs where natural warmth will incubate them. Some species, such as the rattlesnake, bear live young.

### LIZARDS

#### **WESTERN FENCE LIZARD** *Sceloporus occidentalis*

Known as the “blue-bellied lizard” and sometimes “swift,” the western fence lizard is the best-known lizard in this area. Adults are 5 to 7 inches long from snout to tail. The body color is usually dark brown or gray with black markings. Males have large blue patches on each side of the belly and sometimes have a blue throat. Females sometimes have the blue belly, but the blue area is smaller and lighter in color.

Western fence lizards are commonly seen in the Sacramento region from April to October in rocky wooded areas or around old buildings, fences, and stone walls. Their food consists of insects such as beetles, ants, wasps, aphids, insect larvae, and spiders. They hibernate in winter.



#### **COAST HORNED LIZARD** *Phrynosoma coronatum*

Coast horned lizards, sometimes called “horned toads,” are 4 1/2 to 6 inches long from snout to tail-tip. Their colors range from brown to gray with darker markings.

Like miniatures of some creature from the age of reptiles, they are protected by armor-like scales which give a thorny, fierce appearance. The ability to shoot blood out of the eyes and to puff up like a toad when disturbed adds to the illusion of fierceness. Nevertheless, horned lizards are gentle and harmless. They feed entirely on insects.

Once common in parts of the valley, they have been displaced by urban development. Now their range is generally restricted to the foothills.

