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SYCAMORE CANYON PRESERVE TUCSON, ARIZONA



Sycamore Canyon Conservation Foundation
An Affiliate of the Community Foundation
for Southern Arizona



MISSION STATEMENT:

The mission of the Sycamore Canyon Conservation Foundation is to guide the conservation, protection and appreciation of the dedicated Sycamore Canyon Preserve natural open space.

This will be accomplished through:

- ▶ Preserving natural habitats, geographic features and scenic views, including plants, washes and wildlife corridors;
- ▶ Restoring habitats;
- ▶ Utilizing natural open space as buffer zones;
- ▶ Providing educational and research opportunities utilizing natural open space; and,
- ▶ Increasing public awareness and appreciation of the land;

To help reach these goals, the Sycamore Canyon Preserve includes the Sycamore Canyon Trail System. The trail system is designed to guide residents and visitors through this desert area. Please take care to stay on the trails and observe the rules of this conservation area.

INTRODUCTION:

The deserts are not worthless wastes...The deserts should never be reclaimed. They are the breathing-spaces of the west and should be preserved forever.

The Desert, John C. Van Dyke

What do you think of when you think of a DESERT? Do images of barren sand dunes and a hot glaring sun come to mind? Visitors to the **SONORAN DESERT** are often surprised at the wide variety of plants and wildlife which thrive here.

The Sycamore Canyon Preserve is located at the northeast boundary of the Sonoran Desert, one of four deserts found in the United States. The Sonoran Desert covers much of the southwestern portion of Arizona, extends south into the Mexican states of Sinaloa and Sonora, west across the California State line, and south to the Baja Peninsula. Its boundary closely parallels the range of the **SAGUARO CACTUS** (*Carnegiea gigantea*), which is the indicator species of the Sonoran Desert. Many plants and animals have adapted to the arid climate that typifies desert regions.

The Sonoran Desert in the Tucson area is characterized by a bi-seasonal pattern of rainfall (*about 10 inches per year*) which is, in part, responsible for the amazing diversity of plant and animal life.



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The summer monsoonal rains typically consist of intense, localized thunder and lightning storms that occur in the afternoon and evening hours. Much of the water that falls cannot be absorbed into the ground and runs off quickly, gathering in normally dry desert washes, also known as arroyos. This results in **FLASH FLOODS**, as water roars through the arroyos, washing away anything in its path.

Winter rains are typically gentler and more widespread throughout the region, lasting longer than the dramatic summer monsoons. The water is able to soak into the ground to be used by desert plants. Winter rains promise a beautiful spring wildflower season.

The Sycamore Canyon Preserve offers the opportunity to hike through undisturbed areas of the Sonoran Desert. The time of day and the time of year will determine what you may see as you journey along the trails.

Flowers bloom throughout the year, but spring is the best time to observe wildflowers. Wildlife has adapted to the hot, dry conditions by remaining quiet during the daytime hours. Many species of wildlife are nocturnal. Others are active in the early morning or evening hours; these creatures are known as crepuscular animals. Whenever you choose to go, keep your senses alert to experience fully all the desert has to offer.

WHERE YOU ARE:

Sycamore Canyon is located within the Sonoran Desert. Elevation is approximately 3,240 to 3,720 feet. The land is in the foothills of the Santa Rita Mountains, part of the Coronado National Forest. This area is included in the Sonoran Desert Conservation Plan (SDCP) developed by Pima County to provide a *long range vision for protecting the heritage and natural resources of the desert*. It outlines a framework that will allow growth within the community while preserving the features that make Pima County special.

The Sycamore Canyon Preserve has incorporated elements of the SDCP through the protection of habitat for plants and wildlife that are indigenous to the Sonoran Desert. It supports the goals of the SDCP to preserve the mountain ranges, riparian areas, habitat for abundant wildlife, and places of solitude.

TRAIL HOURS:

Summer: Daily from 5 a.m. to 9 p.m.
(April through September)

Winter: Daily from 7 a.m. to 7 p.m.
(October through March)

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TRAIL REGULATIONS:

The Sycamore Canyon Trails provide recreational space and an opportunity to enjoy and learn about our native ecology. For the benefit and safety of all users as well as the preservation of this area, please adhere to the following trail regulations:

- ▶ Use of the trails is at your own risk. Please do not use the area when it is raining or there is a threat of storms.
- ▶ Stay on designated trails.
- ▶ No motorized vehicles permitted.
- ▶ Bicycles are restricted to paved trails.
- ▶ Dispose of trash in designated receptacles.
- ▶ Keep all pets leashed. Pick up after your pets.
- ▶ Do not approach or feed the wildlife.
- ▶ Help prevent fires. DO NOT smoke on trails.
- ▶ Take only pictures. Leave only footprints.

HIKING SAFETY TIPS:



- ▶ Always be alert!
- ▶ Watch where you step, sit, or put your hands.
- ▶ Take water - even on a short hike.
- ▶ Wear a hat and use sunscreen.
- ▶ Carry a comb - great for getting cactus or cholla joints out of your skin.
- ▶ Enjoy wildlife from a distance.
- ▶ Watch the weather - do not cross drainages during thunderstorms.
- ▶ Do not hike during a lightning storm.

SYCAMORE CANYON PRESERVE



WILDFLOWERS CONTINUED

PINK TO RED



- ▶ **PARRY'S PENSTEMON:** Pink funnel-shaped flowers on thick stems up to 4 feet tall. 
- ▶ **ARIZONA PENSTEMON:** Lavender-red funnel shaped flowers on thick stems up to 4 feet tall.
- ▶ **FILAREE:** Grows low to the ground with long pink flowers and fern-like leaves. The seed pod is long and slender, giving it the other common name of Heron's Bill.
- ▶ **SAND VERBENA:** Pink to lavender 5-petaled flowers grow in clusters; plant has square stems. 

BLUE TO PURPLE

- ▶ **LARKSPUR:** Royal-blue flowers with whitish centers with a backward projecting spur; grow on leafless stems up to 30 inches tall. 
- ▶ **LUPINE:** Purple-pink flowers with yellow centers, pea-like in appearance; palmate hairy leaves growing at base of stems. 
- ▶ **OWL CLOVER:** Rose-purple member of the Snapdragon Family. Flowers grow on stems up to 16 inches tall.

WILDFLOWERS CONTINUED

YELLOW TO ORANGE


- ▶ **BRITTLEBUSH:** The yellow flowers grow on long stems that extend above the shrub like plants. Leaves are gray-green in color and wooly. It is in the Sunflower Family.
- ▶ **DESERT MARIGOLD OR BAILEYA:** A member of the Sunflower family, the flowers grow on nearly leafless stems up to 2 feet tall. 
- ▶ **FIDDLENECK:** Yellow-orange funnel-shaped flowers grow in a distinctive coiled spike; stems are up to 20 inches tall.
- ▶ **DOGWEED:** A member of the Sunflower Family, the yellow flowers grow on this low rounded bush. 
- ▶ **DESERT GLOBEMALLOW:** These bright-orange 5-petaled flowers grow on stems up to 40 inches tall.
- ▶ **MEXICAN GOLD POPPY:** Bright gold flowers consist of 4 cup-shaped petals growing on single, slender stems. Fern-like leaves grow at the base of the stems.

ANIMAL SPECIES: MAMMALS


▶ MULE DEER (*Odocoileus hemionus*)

The largest mammal likely to be seen is the mule deer. Mule deer are usually a dark gray-brown with a white rump patch and a short, black-tipped white tail. If startled, a mule deer will bound away in stiff-legged jumps. Mule deer browse on grasses, bark, buds and leaves. Predators include coyotes, bobcats, mountain lions, and humans.

▶ JAVALINA, OR COLLARED PECCARY (*Pecari tajacu*)

If you detect a musky odor while hiking, keep your eyes open for javalinas. Javalinas can weigh up to 60 pounds and are covered with a coarse hair with a collar of light-colored hair. Their eyesight is very poor so javalinas depend on their sense of smell to identify individuals within their herd and to detect danger. When startled, the herd often scatters and people may think they are being attacked. If left alone, javalinas will not bother humans. They eat plants. The large bite marks you see on prickly pear cactus are often caused by javalinas. 

▶ DESERT COTTONTAIL (*Sylvilagus* spp.)

The small desert cottontail has gray-brown fur, a white tail, and ears larger than those of their eastern relatives. Cottontails may have up to five litters of two to four young a year. They are generally seen nibbling on twigs, plants, and even cacti. Cottontails are eaten by coyotes, bobcats, mountain lions, as well as by hawks and owls. 

MAMMALS CONTINUED

▶ RINGTAIL CAT (*Bassariscus astutas*)

Not a true cat, you can recognize this animal by the black and white rings on the long tail. Active at night, the ringtail is generally found in cracks and ledges in desert canyons. It has been known to be found in garages. They eat everything from plants and nectar to insects, small mammals, and birds. Adult males can be more than 8 feet long from nose to end of tail, weighing between 130 and 150 pounds. Adult females can be 7 feet long and weigh between 65 and 90 pounds.



▶ GRAY FOX (*Urocyon cinereoargenteus*)

The 5 to 9 pound gray fox has a grayish coat with reddish-colored hairs on the ears, neck, legs and underside. A black stripe runs along the top of its long, bushy black-tipped tail. Found in rocky canyons and brushy habitats, they eat anything from road-kill to cactus fruit, mesquite beans, seeds, rodents, and birds. They are the only canines that can climb trees.



▶ **COYOTE** (*Canis latrans*) Coyotes are social animals, living in small family groups. They have adapted to most environments, including urban areas. Fur color varies from grayish to light brown, with a buff or white underbelly. Coyotes hunt small animals but will eat anything from road-kill to cactus fruit.



PLANTS: DESERT WILDFLOWERS

Cactus, flowering shrubs and trees, and wildflowers all contribute to the colors of the desert. Cactus and many shrubs will flower throughout the year (*perennials*). Brightly colored wildflowers bloom primarily in the spring (*annuals*). You may hear people comment on having a “good” wildflower season. If the winter rains have been cooperative and temperatures are right, the spring wildflowers will respond. The following is the short list of flowers and flowering shrubs that may be seen in the Sycamore Canyon Preserve.

WHITE TO GREEN

▶ **PRICKLEPOPPY:** Tissue paper thin flowers on tall stems (up to 3 feet).



▶ **DESERT ZINNIA:** A member of the Sunflower Family, the desert zinnia grows in low clumps.

▶ **FLEABANE DAISY:** A member of the Sunflower Family with narrow white rays and yellow centers; grow on stems up to 16 inches.



▶ **SACRED DATURA:** Large white, trumpet-shaped flowers with large grayish-green leaves. This plant is highly toxic and was used by Native Americans for medicinal purposes.



CACTUS CONTINUED

► HEDGEHOG CACTUS (*Echinocereus* spp.)

About 6 types of hedgehog cactus are known in Arizona. Hedgehog cactus consist of several thick stems arranged in clumps although single stems may occur. Engelmann's hedgehog is the most common. Clusters of purple to deep red-orange flowers appear on top of the stems in March and April.

(See photo on inside front cover.)



► FISHHOOK, OR PINCUSHION, CACTUS

(*Mammillaria* sp.) This small cactus grows in low clumps often under bushes. The long slender black spines are curved, thus the name fishhook. In spring a crown of delicate pink to lavender flowers can be seen on the stems. A small dark fruit is eaten by birds and small mammals.

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MAMMALS CONTINUED

► THE STRIPED SKUNK (*Mephitis mephitis*)



and **WESTERN SPOTTED SKUNK** (*Spilogale gracilis*) are two of the four species of skunks found in Arizona that you may encounter within Sycamore Canyon. Skunks have scent glands which secrete a musk that gives them their malodorous reputation. This defensive reaction and their striking white on black color patterns are usually enough to deter all but the most determined predator. The striped skunk is larger, having a distinctive thin, white stripe on its face and a varied striped pattern. The spotted skunk's overall color is black with a white triangular patch on the forehead. Broken white stripes on the neck, back, and sides give it a spotted appearance. Skunks are highly susceptible to the rabies virus and should be avoided.

► JACKRABBITS



Jackrabbits are a defining species for many visitors to the desert. Easily distinguishable by the enormous ears, jackrabbits can weigh 9 to 10 pounds. The **ANTELOPE JACKRABBIT'S** (*Lepus alleni*) large ears are edged with white, while the **BLACK-TAILED JACKRABBIT'S** (*Lepus californicus*) ears are tipped with black. The ears are designed to regulate its body temperature as blood circulates through the thin flesh and is cooled by the air. They are social animals living in groups of 25 or more and can run up to 35 miles per hour.

MAMMALS CONTINUED

► GROUND SQUIRRELS

As the name implies, these animals are ground dwellers, living in burrows.

► **THE ROCK SQUIRREL** (*Spermophilus variegatus*) is the largest of the ground squirrels, weighing 1 ½ pounds. It has speckled grayish-brown fur and a long bushy tail.



► HARRIS' ANTELOPE SQUIRREL

(*Ammospermophilus harrisi*) carries its bushy black tail arched over its back, while the **ROUND TAILED GROUND SQUIRREL** (*Spermophilus tereticaudus*) has a beige tail tipped in black.

► WHITE -THROATED WOOD RAT

(*Neotoma albigula*) You may notice large, messy piles of cactus joints, branches, and twigs under cholla cactus or trees. This is the nest of the wood rat, also known as a pack rat. Pack rats collect items they find, including keys, toy cars, etc., to add to their “collection”. The nest, or midden, consists of a series of tunnels used by the packrats. Some middens have been around for thousands of years and provide important information about the history of an area to researchers.

CACTUS CONTINUED

► **CHOLLA** (*Opuntia* spp.) More than 28 types of prickly pear and cholla cactus are found in Arizona. All store water in the succulent stems and most produce beautiful flowers. Plants may have long, straight spines and/or clusters of small, dark spines known as “glochids”. Cholla generally have round, jointed stems. Flowers are small and range in color from brown and green to deep reds and oranges. Staghorn and buckhorn cholla are tall plants with segmented branches. Many birds nest in the branches of these cactus plants. The joints of the jumping cholla break off and attach easily to any hiker passing too close. Do not be fooled by the “soft” appearance of the teddybear cholla as its spines are barbed and difficult to remove. Christmas cholla and pencil cholla have slender stems and grow close to the ground.



► PRICKLY PEAR CACTUS (*Opuntia* ssp.)

Prickly pears have flat, rounded stems, known as “pads”. The Engelmann prickly pear with rounded pads is the most common. Beavertail cactus has elongated pads. The pad of the plant is edible and is sold in local grocery stores. Flowers vary in color from yellow to pink and red. The fruit and pads are eaten by desert wildlife. People harvest the fruit and make jelly or punch.



PLANTS: CACTUS

► SAGUARO (*Carnegiea gigantea*)

This majestic cactus defines the boundary of the Sonoran Desert in Arizona and Mexico. Gila woodpeckers, elf owls, screech owls, and gilded flickers are among the birds that nest in this “Desert Hotel”. The waxy, white flower is the state flower of Arizona. They bloom at the tops of the arms in May and June prior to producing bright red fruit full of tiny black seeds. The fruit is very sweet and has been traditionally harvested by Tohono O’odham. Guess the age of a saguaro. Look for branch buds. A saguaro is about 50 to 75 years old before it gets an arm. Large saguaros with multiple arms can live several hundred years. If you are faster than the ants, try a delicious saguaro fruit.



► **BARREL CACTUS** (*Ferocactus wislizenii*) Is this a source of water for thirsty visitors? Early drawings showed a water spigot inserted into a barrel with water pouring out. In truth, water stored in the spongy tissue, is difficult to get to, and has a bitter taste. This barrel-shaped cactus is called the “compass” cactus. It grows faster on the shaded (*north*) side causing the plant to lean to the south. They can reach heights of 5 feet, but often fall down due to the tendency to lean. The spines are long and curved like a fishhook. Flowers range in color from pink to orange and yellow and create a crown of color in the fall prior to the fruit forming. The flesh is cooked with sugar to make the popular cactus candy. (See photo on back cover.)

ANIMAL SPECIES: BATS

Bats are the only mammals that have the ability to fly. Of the 780 species of “small” bats known worldwide, 28 are found within Arizona either as year-round residents or seasonal inhabitants. They vary in color and in size. Some bats are equipped with teeth and jaws for eating insects (*insectivores*); while others have sharp, small teeth for eating frogs, lizards, rodents, and birds (*carnivores*). Some bats eat fruit (*frugivores*), some have elongated tongues and small teeth that are adapted to feeding on flowers for nectar (*nectivores*) or pollen. No carnivorous bats are known to be in Arizona.

Bats inhabit caves, bridges, buildings, and trees. They are well-known for their highly developed sonar (“*echolocation*”) for flying and foraging at night. Bats are often feared because they are misunderstood. Contrary to popular belief, bats in Arizona will not suck your blood or get entangled in your hair. They serve a vital role in controlling insect populations, pollinating desert flowers, and transplanting seeds; and, their guano is an important source of fertilizer.

► **LESSER LONG-NOSED BAT** (*Leptonycteris curasoae yerbabuena*) The lesser-long nosed bat is a medium to large nectivore that lacks a tail. Lesser-long nosed bats are an important pollinator of the organ pipe cactus, saguaro and agaves. This bat assembles in groups of hundreds of thousands in day roosts found in caves and mines.

BATS CONTINUED

▶ MEXICAN LONG-TONGUED BAT

(*Choeronycteris mexicana*) This is a medium to large bat with a tail less than 1/5 inch in length. It is a nectivore and forages on saguaros and agaves. Small groups roost in caves and mines.

▶ CALIFORNIA LEAF-NOSED BAT

(*Macrotus californicus*) This bat is notable for its long ears (longer than 1 inch). An insectivore, it primarily forages on moths, butterflies, katydids and grasshoppers. It inhabits desert scrub and uses mine shafts for roosting. This bat does not hibernate or migrate.

▶ TOWNSEND BIG-EARED BAT (*Plecotus townsendii*)

This bat has very large ears with fur color varying from light brown to almost black. During the day it roosts on open ceilings of caves, mines or rock ledges. They hibernate in cold caves or mines and are not known to migrate long distances.

▶ PALLID BAT (*Antrozous pallidus*)

This bat has long ears and broad wings.

It is pale and yellowish, with brown or gray tipped hairs and a nearly white belly. It forages low (*about 2-3 feet*) over the ground, frequently alighting to capture beetles, katydids, and even scorpions. Colonies of 20 or more bats roost by day in cracks in cliff walls or in tight crevices within buildings.



SHRUBS/SUB-SHRUBS CONTINUED

▶ OCOTILLO (*Fouquieria splendens*)

The ocotillo is not a really a tree, shrub, or cactus. It is a member of the Candlewood Family. This interesting plant is well-adapted to the desert. Look closely at the long, slender stems and see the green stripes.

This is the chlorophyll allowing food production all year. Tiny green leaves appear after rainfall, dropping in a few weeks as conditions dry out. The flower clusters create bright red flags extending from the tops of the stems. A hillside with green ocotillos in full bloom is a beautiful site. Hummingbirds as well as a variety of insects and other small birds drink from the flowers.



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PLANTS: SHRUBS/SUB-SHRUBS

▶ TURPENTINE BUSH (*Ericameria cooperi*)

A member of the Sunflower Family, this shrub is found on rocky slopes and mesas. The small golden-yellow flowers bloom from August to December in dense clusters at the tops of leafy branches. Bees and other insects are attracted to the flowers. The leaves are light green to grayish green. Crush a leaf in your fingers to smell turpentine-like odor.

▶ BROOM SNAKEWEED (*Gutierrezia sarothrae*)

Broom snakeweed is a sub-shrub with yellow flowers generally found in disturbed areas. Small golden yellow flowers appear in flat-topped clusters in the fall. The broom-like structure was used for sweeping by Spanish-American settlers. The name snakeweed refers to the use of a poultice created from the crushed and boiled leaves to treat sheep bitten by rattlesnakes.

▶ CREOSOTE BUSH (*Larrea tridentata*)

A common bush throughout much of the southwest, it often exists as the only plant over large open areas known as “creosote flats”. Individual plants can live for thousands of years. Small, yellow flowers attract insects, some of which are dependent on this plant. After flowering, the round, white fuzzy seed capsule is produced. **ACTIVITY:** Cup your hands around a branch, blow gently, and breathe deeply. You will experience the desert smell after a rain. It is caused by a resin on the leaves that helps prevent water loss.



BATS CONTINUED

▶ BIG BROWN BAT (*Eptesicus fuscus*)

The big brown bat varies in color from light to dark brown. The wings, tail, ears and nose lack fur and are dark brown to black. Flying about 20-30 feet above the ground, it forages on flying insects. Daytime roosts include attics, bridges and barns. This bat usually migrates a short distance to higher elevations in the winter for hibernation.

▶ BRAZILIAN FREE-TAILED BAT

(*Tadarida brasiliensis*) This bat is dark brown to dark gray with large, rounded ears. It can fly up to 40 miles per hour at heights that range from 15 to 1000 feet above the ground foraging on moths and beetles. Colonies of up to 20 million individuals roost in caves (*Bracken Cave in Texas*), mines, buildings, or bridges. Most colonies in Arizona migrate to Mexico for hibernation.



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ANIMAL SPECIES: BIRDS

▶ HUMMINGBIRDS

Eighteen species of hummingbirds have been recorded in a variety of habitats throughout Arizona. These tiny birds range in length from 2 ½ inches to 5 inches. Males are generally brightly colored and ornate in comparison to females.

They have long pointed beaks for probing flowers for nectar. They feed almost exclusively on flower nectar but will also eat several varieties of small, soft-bodied arthropods. Species in southern Arizona include the broad-billed hummingbird (*Cynanthus latirostris*), black-chinned hummingbird (*Archilochus alexandri*), Anna's hummingbird (*Calypte anna*), Costa's hummingbird (*Calypte costae*) and the rufous hummingbird (*Selasphorus rufus*).



▶ GREATER ROADRUNNER (*Geococcyx californianus*)

Often identified with desert areas, the roadrunner is recognized by its long tail, streaked appearance and shaggy erectable head crest. It is able to run up to 15 miles per hour and while it is able to fly, it rarely does. The greater roadrunner feeds on small animals including birds, reptiles, insects and mice.



TREES AND SHRUBS CONTINUED

▶ PALOVERDES

Notice the color of the bark. Paloverde means “green stick”. Chlorophyll within the bark causes the green color. This allows the branches and twigs to produce food for the plant (*photosynthesis*) all year. Small leaves appear after rain and drop quickly. This helps the plant conserve water. Yellow flowers blanket the trees April and May. Many people are allergic to the flowers but the bees and insects appreciate the effort. Small rodents and birds feed on the seeds.

▶ FOOTHILL PALOVERDE (*Parkinsonia microphyllum*)

The foothill paloverde is found on rocky slopes and gravelly flats. The bark is yellow-green. **THE BLUE PALOVERDE** (*Parkinsonia floridum*) grows along desert washes. The bark is a blue-green.



▶ CATCLAW ACACIA (*Acacia greggii*)

Not a plant to be tangled with, the small curved spines are similar to the curved cat's claws. This small tree or shrub grows along washes. In spring, the caterpillar-like yellow flowers give off a strong, sweet smell. It produces slender, curved seed pods.

▶ WHITETHORN ACACIA (*Acacia constricta*)

The yellow blossoms appear in spring and summer as tight little balls. They have an intense sweet smell which attracts many pollinators. These plants have small leaves and long, stiff white spines. The seed pods are long and slender.

PLANTS: TREES AND SHRUBS

A wide variety of plants grow here in the Sycamore Canyon Preserve. Plants have creative ways to conserve water and survive in the Sonoran Desert. The open desert areas are known as the Arizona Uplands. What do you notice about plants along washes? The larger trees and shrubs create a xeroriparian (“*xero*” = *dry*; “*riparian*” = *streamside*) habitat for wildlife. Look for animal tracks as you walk along.

► **MESQUITE** (*Prosopis* sp.) Mesquite trees grow in open areas and dense woodlands along washes, known as “bosques”. It has small leaves and a long tap-root well-suited to the desert. Native Americans used all parts of the mesquite tree. The root fibers were used for rope. Tea made from the leaves was used for sore eyes and stomach ailments. The seed pods were dried and pounded into flour for baking. The hard wood was used for fuel and building. Today we use the wood for furniture. Our western bar-b-ques are known for the flavor from cooking with mesquite.



BIRDS CONTINUED

► **GAMBEL'S QUAIL** (*Callipepla gambelii*) Gambel's quail are recognized by the topknot on its head. They are gray in color with chestnut streaked sides. They are ground nesters and can be seen traveling in family groups, or coveys. Their distinctive call is often heard during the morning and evening hours. The Gambel's Quail is the symbol of the Arizona Game and Fish Department.



WOODPECKERS

► **THE GILA WOODPECKER** (*Melanerpes uropygialis*) and **NORTHERN FLICKER** (*Colaptes auratus*) often perch on saguaros or desert trees. The Gila woodpecker has a black and white barred back and rump; the male has a red cap. The flicker is barred brown and black; the male has a red whisker stripe. Both excavate nest cavities in the soft tissue of the saguaro, which are used by other birds when abandoned.



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BIRDS CONTINUED

► CACTUS WREN (*Campylorhynchus brunneicapillus*)

The state bird of Arizona, the cactus wren is a small bird with a streaked back, heavily barred wings and tail, and a densely spotted breast. It has a solid brown crown and a distinctive white eyebrow. The call is unique, sometimes compared to an engine trying to start (a *cha cha cha cha* sound). It builds its nests in the protected branches of a cholla cactus.



► NORTHERN CARDINAL

(*Cardinalis cardinalis*) Male cardinals are the vivid red birds with a crest, a reddish bill, and a black face. The females are light brown or tan and red with a red bill and crest. Cardinals feed on insects, berries and seeds.



► PYRRHULOXIA (*Cardinalis sinuatus*)

Often confused with the cardinal because of the crested head and long tail, the pyrrhuloxia is gray in color with red on the crest, chest, and tail. The bill is golden-yellow.

ARTHROPODS CONTINUED

► ELEODES BEETLES

Also known as a stink beetle, or pinacate beetle, this is a wide-bodied black beetle seen wandering the open. When threatened it stands on its head and shoves its abdomen toward the predator, spraying a noxious substance that smells like kerosene.

► CENTIPEDES

Centipedes have a tan, flat torso with one pair of legs per body segment, centipedes are venomous and have the ability to inject venom by pinching with the powerful legs. The “bite” of the centipede is painful. The centipede appears to have “eyes” at both ends of its body to confuse potential predators.

► MILLIPEDES

Millipedes have reddish-brown cylindrical bodies with many more legs than centipedes. Millipedes dig into the ground or live under decaying plant material. They are harmless to humans.

ARTHROPODS CONTINUED

► SCORPIONS

Several types of scorpions live in the desert. The largest is the giant hairy scorpion; the smallest and most venomous is the bark scorpion. All types have the distinctive pincers in the front and the tail with the stinger at the end curving over its back. The bark scorpion is pale in color and blends in well with its surroundings. Scorpions are typically nocturnal and are fluorescent under UV light. Being cautious where you sit and put your hands is the best way to prevent getting stung by a scorpion. The sting of the scorpion may be painful but is rarely serious, unless you have an allergic reaction.



► MANTIDS

Tan to brown in color, or occasionally green, the mantids are most often recognized as the praying mantis, with the elevated head and large folded front legs. They use these legs to capture and crush flies, bugs, moths, and other insects.



► CONENOSE BUGS

Associated with pack rat nests, these bugs have wide dark wings lined in red, and a cone-shaped nose. Called “kissing” bugs, they often bite humans around the face and mouth at night causing severe allergic reactions in some people.

BIRDS CONTINUED

► PHAINOPEPLA (*Phainopepla nitens*)

Phainopepla have a crested-silhouette similar to the cardinal but are a shiny black color with a long tail and red eyes. They have white patches on the wing that are obvious in flight. Females are gray. This bird is often seen in desert trees feeding on desert mistletoe berries.

► NORTHERN MOCKINGBIRD

(*Mimus polyglottos*) This bird has grayish white plumage with white on the wings and tail that is noticeable when the bird is in flight. It is found in urban areas, densely wooded washes, and shrub grasslands. It has a unique ability to mimic other birds and makes a variety of sounds including squeaky gates and barking dogs. The male can “sing” for hours.



► CURVE-BILLED THRASHER

(*Toxostoma curvirostre*) As the name implies, this bird has a noticeably curved bill with gray to brown plumage and orange eyes. It often nests in chollas, foraging on insects, berries, fruit and seeds. It is a very noisy bird with a distinctive call.



BIRDS: RAPTORS

► RED-TAILED HAWK (*Buteo jamaicensis*)

The most common raptor in North America, adult red-tails are between 19 and 25 inches with a wingspan of 43 to 56 inches. The wings on this species are rounded at the tip and the tail is short. Although color may vary, the upper side of the tail is usually reddish-brown in adults. Red-tailed hawks hunt for prey in open areas and can be seen perched on telephone poles.

► COOPER'S HAWK (*Accipiter cooperii*)

This is a medium sized hawk which ranges from 14 to 21 inches with a wingspan of 24 to 35 inches. They have long, rounded tails and short, round wings. Adults are blue-gray on top with underparts that are barred reddish and white. Cooper's hawks feed on birds and small mammals.



► HARRIS' HAWK (*Parabuteo unicinctus*)

Harris' hawks range from 18 to 23 inches in length, with a wingspan of 40 to 47 inches. Adult plumage is dark brown with brownish-red shoulders and leg feathers. The tail is dark brown with white at the base and tip. Nests are often in saguaros, mesquites, and palo verdes. Harris' hawks can often be seen hunting in groups of two or more.



ANIMAL SPECIES: ARTHROPODS

► TARANTULAS (*Eurypelma californicum*)

The hairy, large-body of the tarantula often creates fear in desert visitors. In truth, the tarantula is a gentle creature that would prefer to be left alone. The fangs are used to inject a mild venom into its victims (usually insects). If threatened, it will often use its hind legs to shoot hairs into the eyes of the attacker, giving it time to retreat into its burrow. The female builds a web around the entrance to her burrow, where she waits for unsuspecting victims to wander too close. Males are seen in the fall seeking a mate. He taps on the edge of the burrow, hoping to lure the female out. The female lays 500 -1,000 eggs the following spring.



► BLACK WIDOW SPIDER (*Latrodectus mactans*)

Coal-black in color with a distinctive red-orange hourglass on the underside of the abdomen, the female black widow spider possesses deadly neurotoxic venom. They are generally reclusive, creating large webs and waiting in cracks and crevices for an unsuspecting victim. This spider gets its name from the tendency of the female to attack and kill the male after mating.

► TARANTULA HAWKS (*Pepsis* sp.)

The tarantula hawk is a large blue-black wasp with orange wings. This wasp will seek out a tarantula, paralyze it with its stinger, and drag it back to its burrow where it lays its eggs in the soft body of the tarantula.



REPTILES AND AMPHIBIANS CONTINUED

▶ BANDED GECKO (*Coleonyx variegates*)

Active at night, these soft-bodied reptiles appear nearly translucent. They are pale in color with dark bands. Banded geckos feed on insects, spiders, and young scorpions.

▶ HORNED LIZARD (*Phrynosoma* spp.)

Several species of horned lizards, often incorrectly referred to as “horned toads” are found in the desert. They have a crown of spines around the head and a round flat body that they inflate when threatened. They feed almost exclusively on ants and you may find dark shiny scat on the trail, that when examined consists of ant bodies.



▶ **TOADS** Amphibians require water at some stage of their lifestyle. Several types of toads have adapted to desert climates, coming out of the ground to breed following storm events.

▶ **THE SONORAN DESERT TOAD** (*Bufo alvarius*) is a true toad with a toxin on the skin that can be fatal to dogs if ingested.

▶ **THE RED SPOTTED TOAD** (*B. punctatus*) is a small toad with reddish spots on its back.

▶ **THE COUCH'S SPADEFOOT TOAD** (*Scaphiopus couchi*) is not a true toad.

It emerges following storms to breed and is characterized by a loud distinguishable sheep-like sound.



RAPTORS CONTINUED

▶ GOLDEN EAGLE (*Aquila chrysaetos*)



The golden eagle is a large raptor with a golden head and neck, with a body length of 27 to 33 inches and a wingspan of 72 to 87 inches. The adult plumage is dark brown on the body and wings with gray bars on the tail wings. Found in deserts and grasslands, golden eagles forage in open areas on a variety of mammals and an occasional fish or reptile.

▶ **GREAT HORNED OWL** (*Bubo virginianus*) This is a large nocturnal owl with distinctive ear tufts, with bold brown streaks on the breast and belly.



The yellow eyes are surrounded by a rust-colored face. It nests in trees, caves, cliff faces, and on the ground. Due to its size it is able to take large prey including household pets.

▶ WESTERN SCREECH OWL (*Otus kennicottii*)



The Western screech owl measures 7-11 inches in length with a wingspan of 17 to 20 inches. It is a small gray owl with white and black streaks and obvious ear tufts. This nocturnal owl nests in tree cavities and saguaro holes. It feeds mostly on insects. (See photo on back cover.)

▶ **ELF OWL** (*Micrathene whitneyi*) This owl is the size of a sparrow at about 5 inches tall and is smaller than the screech owl, and has no ear tufts and bright yellow eyes. It is grayish-brown with a white brow and streaked chest. You may see this little owl perched in the hole of a saguaro, which is likely an abandoned woodpecker nest cavity. They eat insects, centipedes, and spiders.

ANIMAL SPECIES: REPTILES AND AMPHIBIANS

► RATTLESNAKES (*Crotalus* spp.)

Several species of rattlesnake are present in the Sonoran Desert. Rattlesnakes have triangular shaped heads with sharp fangs which are used to inject venom into their prey. The venom consists of hemotoxins and/or neurotoxins depending on the species. Being alert while hiking and checking any shady resting spot before sitting are the best ways to avoid bites.



► **WESTERN DIAMONDBACK** (*C. atrox*) is the most common species found here, recognized by the diamond pattern on the back and black and white striped tail.

► **MOHAVE RATTLESNAKE** (*C. scutulatus*) is similar in appearance, with black rings generally smaller than the white rings on the tail.

► **GOPHER SNAKE** (*Pituophis catenifer*)
Gopher snakes are heavy-bodied snakes that range in color from cream-yellow to green-gray and tan with large black and brown splotches. They resemble rattlesnakes in appearance and action; however, they have bullet-shaped heads and lack fangs and rattles. They kill their prey by constriction and play an important role in rodent control. They are not harmful to humans.

REPTILES AND AMPHIBIANS CONTINUED

► COMMON KINGSNAKE (*Lampropeltis getula*)

You may be fortunate enough to observe this slender snake. It is black or dark brown with white bands and is non-venomous. It preys on small mammals, but is also known to eat other reptiles including rattlesnakes.

► GILA MONSTER (*Heloderma suspectum*)



One of two venomous lizards in North America, the Gila monster is a large, heavy-bodied lizard with a big head, rounded body and tail, short muscular legs with big feet, large toes and strong claws. It can reach a length of 22 inches. The bead-like skin has an overall reticulated color pattern that is generally pink or orange and black. It feeds on small mammals, ground nesting birds; lizards and eggs. Its powerful jaws lock onto victim and it injects the venom through grooves in its teeth. An elusive animal, Gila monsters will avoid humans if at all possible.

► SONORAN DESERT TORTOISE (*Gopherus agassizii*)

A species of special concern in Arizona, desert tortoise live in shallow burrows or crevices along rocky slopes and bajadas. Adults can reach 14 inches in length having a rounded brown to gray shell. Lifespan is estimated at 35-40 years. This tortoise has no teeth and feeds on cactus fruit, which often stains its face red. It can store up to one cup of liquid in its bladder. If you are lucky enough to see one, do not pick it up. This can stress the tortoise, causing it to expel this liquid, which it needs for survival in the arid climate.





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