



Mammals

Bill Williams River

National Wildlife Refuge



Desert Bighorn Sheep.

Mammals of the Desert

In the vast desert environments numerous mammalian species are found. A drive over the long rough roads on the refuges gives one the impression that the desert is devoid of animal life, but a closer examination reveals numerous burrows between scattered bushes, among rocks, and even on the open plains. The burrows are the home of ground squirrels, pocket mice, and kangaroo rats. The home of the familiar woodrat consist of piles of sticks and cactus joints that are scattered beneath bushes and in rock clefts and caves throughout these refuges.

Desert mammals have adapted their lives to the extreme temperature and low humidity of their environments. Water conservation is an absolute necessity in their activities. The majority of mammals living in the desert are nocturnal, foraging only at night when the relative humidity is higher and moisture loss from their bodies is kept at a minimum. Most of the desert mammals, especially the smaller ones, have adapted to survive with minimal water and receive needed moisture from plant material. During hot summer days, bighorn sheep lay in the shade of mountain caves. Large eared mule deer forage along desert washes at night and rest during midday in the shade of desert trees and overhanging banks.

Bats, the only true flying mammals, find caves, crevices, and mine tunnels ideal places to congregate during the day. Most bats in this area are nocturnal and are rarely seen in the daylight. In the dim, flickering light of the campfire, bats may be seen through the night air catching their meals of insects.

Order Rodentia (Rodents)

Family *Castoridae*
Beaver (*Castor canadensis*)

Family *Erethizontidae*
Porcupine (*Erethizon dorsatum*)

Family *Geomysidae*
Valley Pocket Gopher (*Thomomys bottae*)

Family *Heteromyidae*
Merriam's Kangaroo Rat
(*Dipodomys merriami merriami*)

Desert Kangaroo Rat
(*Dipodomys deserti arizonae*)

Arizona Pocket Mouse
(*Perognathus amplus*)

Little Pocket Mouse
(*Perognathus longimembris*)

Bailey's Pocket Mouse
(*Perognathus baileyi*)

Rock Pocket Mouse
(*Perognathus intermedius*)

Desert Pocket Mouse
(*Perognathus pencillatus pricei*)

Spiny Pocket Mouse
(*Perognathus spinatus*)

Family *Sciuridae*
Yuma Antelope Squirrel
(*Ammospermophilus harrisi*)

Rock Squirrel
(*Spermophilus variegatus grammurus*)

Round-tailed Ground Squirrel
(*Spermophilus tereticaudus neglectus*)

Family *Muroidea*
Muskrat (*Ondatra zibethicus*)

White-throated Woodrat
(*Neotoma albigula mearnsi*)

Desert Woodrat
(*Neotoma lepida auripilla*)

Cactus Mouse
(*Peromyscus eremicus eremicus*)



Black-tailed Jackrabbitt.

Canyon Mouse
(*Peromyscus crinitus disparillis*)

Deer Mouse
(*Peromyscus maniculatus*)

Western Harvest Mouse
(*Reithrodontomys megalotis*)

Southern Grasshopper Mouse
(*Onychomys torridus torridus*)

House Mouse (*Mus musculus*)

Order Lagomorpha (Rabbits and hares)

Family *Leporidae*
Desert Cottontail
(*Sylvilagus audobonii arizonae*)

Black-tailed Jackrabbit
(*Lepus californicus eremicus*)
Occasionally seen in the upland desert, the jackrabbit is not as common as the cottontail. Jackrabbits may be seen anytime during the day. On hot summer days, they are less active and tend to rest in the shade. Their young are called 'leverets', and are born fully furred, and with their eyes open. They can outrun within an hour of birth!

Order Insectivora (Shrews and moles)

Family *Soricidae*
Desert Shrew (*Notiosorex crawfordi*)

Order Chiroptera (Bats)

Family *Vespertilionidae*
Western Pipistrelle
(*Pipistrellus hesperus*)

Big Brown Bat (*Eptesicus fuscus*)



California Leaf-nosed Bat.

Western Red Bat (*Lasiurus borealis*)

Hoary Bat (*Lasiurus cinereus*)

Western Yellow Bat (*Lasiurus xanthinus*)

Townsend's Big-eared Bat

(*Plecotus townsendii*)

This bat possesses extremely large ears which are over 25 mm (1 inch) high and are joined across the forehead. It roosts in small colonies inside caves and mines, and is easily startled into taking flight. These bats are very sensitive to human disturbance. One of the 3 remaining maternity colonies on the LCR is on the Bill Williams River.

California Myotis (*Myotis californicus*)

Cave Myotis (*Myotis velifer*)

Yuma Myotis (*Myotis yumanensis*)

Silver-haired Bat

(*Lasionycteris noctivagans*)

Arizona Myotis (*Myotis occultus*)

Family Molossidae

Western Mastiff Bat

(*Eumops perotis californicus*)

Pocketed Free-tailed Bat

(*Tadarida femorosacca*)

Big Free-tailed Bat

(*Nyctinomops macrotis*)

Mexican Free-tailed Bat

(*Tadarida brasiliensis*)

Family Antrozoidae

Pallid Bat (*Antrozous pallidus*)

Family Phyllostomidae

California Leaf-nosed Bat

(*Macrotus californicus*)

This desert bat possesses a leaf-like, triangular flap of thick skin projecting upward from the tip of its nose, thus the name "leaf nosed." It roosts in colonies inside caves and old mine tunnels. They glean large insects from vegetation such as sphinx moths and katydids. California leaf-nosed bats do not hibernate like many bats, nor do they migrate.

Order Carnivora (Carnivores)

Family Felidae

Bobcat (*Lynx rufus baileyi*)

Mountain Lion (*Felis concolor*)

Family Canidae

Coyote (*Canis latrans mearnsi*)

Kit Fox (*Vulpes macrotis macrotis*)

Gray Fox (*Urocyon cinereoargenteus*)

Family Procyonidae

Raccoon (*Procyon lotor*)

Ringtail

(*Bassariscus astutus yumanensis*)

Family Mustelidae

River Otter (*Lutra canadensis*)

Badger (*Taxidea taxus berlandieri*)

Family Mephitidae

Striped Skunk (*Mephitis mephitisestor*)

Western Spotted Skunk

(*Spilogale gracilis*)

Order Artiodactyla (Even-toed ungulates)

Family Tayassuidae

Collared Peccary (*Tayassu tajacu*)

A small-sized animal, which are not pigs, weighing about 30 pounds, with a light stripe of hairs extending from the mane over the shoulders to the throat, appearing as a collar. Its historical range included the south central and eastern portion of Arizona, but is now extending westward. Its common name in the Southwest is "javelina" (pronounced hav-e-lena) which is of Spanish-Mexican origin.

Family Bovidae

Bighorn Sheep (*Ovis canadensis nelsoni*) (*Ovis canadensis mexicana*)

This magnificent animal is most often seen in dry periods on riverside rocky escarpments. They are occasionally seen along the cliffs of the Bill Williams River where the 2 sub-species are in contact. Bighorns inhabit the rugged mountain terrain and slopes which are sparsely populated with trees, shrubs, and brush. This brown to grayish brown sheep is superbly camouflaged in its mountain habitat and when standing still, the creamy white rump and white muzzle are all that is noticeable to the observer.

Family Cervidae

Rocky Mountain Elk (*Cervis elaphus*)

Mule Deer

(*Odocoileus hemionus crooiki*)

Family Equidae

Feral Burro (*Equus asinus*)

Suggested Reading List

William H. Burt & Richard P. Grossenheider, **A Field Guide to the Mammals** (Peterson Field Guide Series), Houghton Mifflin Co. 1964.

Donald F. Hoffmeister, **Mammals of Arizona**, University of Arizona Press, 1986.

James A. MacMahon, **Deserts** (Audubon Society Nature Guide), Alfred A. Knopf, Inc., 1988.

Gale Monson & Lowell Summer, eds, **The Desert Bighorn**, University of Arizona Press.

Olaus A. Murie, **A Field Guide to Animal Tracks** (Peterson Field Guide Series) Houghton Mifflin Co.

USFWS, **Endangered and Threatened Species of Arizona**, Ecological Services Field Office, Phoenix, AZ., Summer 1991.



Javelina. Photograph by Bruce Craig