

# Chiropteras are Bats

Jim Riggs, Owner and Manager, Crossed J Ranch

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One of the attractions to the Desert Southwest is the open space and the opportunity to observe wildlife in a natural setting. This is a value held by many people who have lived a considerable part of their lives here as well as the new resident or visitor. One common group of wildlife species that often goes unnoticed are bats. Because of their nocturnal nature, some of their nasty habits, and the myths that surround them, they are ignored or avoided. Having lived here and around bats all my life, they somehow captured my curiosity, leading to a more aggressive seeking of knowledge of these beasts. It is a rewarding if not easy task.

Bats are very interesting and beneficial animals. Although bats live on nearly every land mass of the planet, they have not been the target of a great deal of scientific study. To complicate this lack of factual material, bats have long been the object of a great deal of mystery precipitating all kinds of myths. Adding to this confusion is the human habit of anthropomorphizing, resulting in rather weird and sordid notions of what, or maybe who, bats are. Again, bats are animals! A bat's ability to fly is unique to them as mammals. The classification name of *Chiroptera* literally means that they have a wing like a hand. The bone and muscle structure of a bat's wing is very similar to that of the human hand. With a thin membrane of skin connecting the "finger" bones they are able to form an airfoil allowing for powered and sustained flight.

Most bats found in the Southwest are insectivores (they eat insects) and rely on echolocation to locate and capture their food. All bats have fairly good eyesight, but it must be remembered that bats are nocturnal

and hunt insects in the dark. Challenging the bats even more is that they have voracious appetites, eating nearly one half their weight in insects each night. Micro-bats use echolocation that is similar to our radar or sonar, although theirs is much more sophisticated. This enables bats to fly in total darkness without crashing into each other or objects and allows them to locate and capture their food, mostly flying insects. Some bats capture and eat their food on the wing, some capture then land to eat, and one species (the pallid bat) can actually sit and wait for the right kind of insect to crawl across open ground where the bat pounces on it and then flies away. The pallid bat's habits are rare for bats in that it can take flight from the ground. It is also interesting to note it eats scorpions and centipedes without being affected by the inflicted toxins. Two species of bats that occur in the area are primarily nectar eaters, relying on sight and smell, but they occasionally use echolocation to capture and eat insects. These two are exceptional at emptying hummingbird feeders during the night and offer a wonderful opportunity for viewing.

Upside down to us they roost in high places such as attics, caves, trees, or abandoned mine tunnels where they hang by their back feet, head down and wings wrapped around them. This keeps them safe from most predators and enables them to take flight by merely turning loose. Roosts may be specialized such as resting roosts where bats rest from feeding or nursery roosts where the females will leave their young while they feed. Some species occur in large groups called colonies, while some will be in small family groups and still others



like to be solitary. Bat boxes, or man-made roosts, are sometimes recommended. Here in the Southwest they are only successful when specific requirements are met, such as proper construction and placement in locations that lack natural roosts.

Southwestern bats differ in how they spend the winter. Some are active year around, some migrate, some hibernate, and some use a combination. All have the ability to become torpid, a method of slowing their metabolic processes down so as not to require food or water for several weeks. This state of hibernation is usually done in isolated and protected areas such as caves, rock crevices, under tree bark, or in some manmade structures. Bats that migrate will move to an area of warmer climate which can be simply going to an area of lower elevation or it can mean flying many miles south. Some bats migrate and then hibernate and some bats will stay in the local area to hibernate coming out to seek water and occasionally to hunt prey on warm winter evenings.

Having bats around the living quarters can be enjoyable, but can cause some problems. Most of the problems can be eliminated or mitigated. First, make sure that all openings to the attic are either completely sealed or screened. Attics are one of the favorite roosting sites. Leaving porch lights on at night attracts insects which serve as a “bat feeder” which in turn can become an “owl feeder”. If you need to leave a light on at night, locate it so the bats that are attracted will not be bothersome. On occasion a bat will get into the house. If this happens it is best to isolate it in a room with an outside door. Simply open the door and leave the bat to its own. It will find the door. Bats in a room can be captured using a soft towel and released outside, however never handle a bat with your bare hands. Bats roosting in an attic can be encouraged to move away using an exclusion net that allows them to leave, but not return (this should be done after any pups are already grown).

It must be remembered that bats are wild animals. They are to be observed from a distance and not handled. In fact it is against the laws of Arizona to capture or keep them in captivity. Remember that by nature wild animals will try to bite when frightened and bats are no exception. They have sharp teeth that can bite through the toughest of beetle bodies. There is one other caution to be taken with bats and that is they can transmit rabies to humans. This is very uncommon considering the large population of bats and statistically, getting rabies from house pets is much more likely. When talking about bats, I always tell people the best thing is to **leave bats alone!** Bats that are found on the ground during the day time are usually sick and remember, most bats can not take flight from the ground. They need a distance of free fall, so by instinct when they find themselves on the ground they will try to climb up any thing close including a person’s leg. Because bats are used to hanging on to the ceiling of a cave, they have the ability to hang on to the most violent shaking of a pant leg.

If you enjoy or want to watch bats, a good place is near an expanse of open water at dusk and into the night on a summer evening. All southwestern bats drink their water by scooping it up as they fly close over a surface. The bats will also be busy feeding on the insects that are attracted to the water. Porch and street lights are also good for viewing and don’t forget to watch your hummingbird feeders in the evening.

For more information go to:

Arizona Game and Fish Department  
<http://www.azgfd.gov>

The Organization for Bat Conservation  
<http://www.batconservation.org>

Bat Conservation International  
<http://www.batcon.org/home>