

Forget the Myths and Welcome Bats!



Tracks

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By David Markham, Communications Specialist for JCPRD

Between old wives' tales and Hollywood depictions, bats have suffered from some really bad public relations which have given them a horrific and distorted image.

They are actually interesting and intelligent creatures which are beneficial both to humans and to the environment. Unfortunately, their nocturnal nature makes them mysterious and misunderstood.

Everyone's heard at least some of the stories, so let's debunk some of these myths.

First, bats are not blind. All bats can see and they often have very good eyesight, even in very dim light. It is true that bats often don't use their eyes as their primary means of navigation because they have a more efficient system called echolocation (more on that later).

Bats are not flying mice. They may look a little like rodents but they are not closely related to them. In fact, bats are the only true flying mammals (flying squirrels glide),

Bats do not nest in people's hair or attack people. Of the nearly 1,000 species of bats in the world, none make or use nests. Most bats roost, for both rest and sleep, by hanging upside down by their hind feet, which automatically lock and hold them firmly in place. While bats will bite defensively if handled, they are small gentle creatures. There are three species of vampire bats, none of them occur anywhere near Kansas. They live in Mexico and Central and South America, where they feed primarily on birds and domestic animals. It should be noted that even vampire bats don't suck blood. Instead, they make a small incision with their razor-sharp teeth and then lap up their meal.

Some people think all bats are carriers of rabies. Bats are no more likely to be infected with this deadly viral disease

of the central nervous system than any other mammal. One web site consulted for this article (wildwnc.org) claims that the first case of bat rabies reported in the United States occurred in 1953 and there have been only 15 other incidents since that time. For perspective, the same site reports that an average of 10 people die annually from diseases transmitted by dogs and cats. Several sources noted that when bats do get rabies, they usually get the dumb form rather than the aggressive form. This means that they become lethargic, paralyzed, and can't fly, often falling from their perch and quietly dying. They seldom exhibit the aggressive form, which is exemplified by the mad dog which unexpectedly turns on its master and friends. Bat experts say that people are less likely to suffer a rabid bat bite than to win the lottery, die from the plague, be struck by lightning, or from falling down the stairs.

The best advice is to avoid and do not handle or play with any injured or sick animal, including bats. If a person finds a bat, the best thing they can do is to leave it alone.

About Bats

Bats are the only true flying mammals. You've probably heard of flying squirrels, but these animals glide rather than fly. Because of this unique ability, bats have been placed in their own order – Chiroptera, which is a Greek word meaning hand-wing. Scientists tell us that the wing of a bat is very similar to a human's hand, only the bat's fingers are elongated and they have skin that attaches to the fingers that allows them to fly.

Bats fit into one of two categories: Megachiroptera (Mega-Bats) or Microchiroptera (Micro-Bats). As the name suggests, Mega-Bats are large bats and are typically found in the tropical rainforests of Australia and Africa. This type of bats eats either fruit or nectar and are sometimes called "flying foxes" because their faces look like foxes. Micro-Bats are small bats found all over the world, including here in the

Forget the Myths cont.

U.S. Micro-Bats usually eat insects, although a few eat fruit.

It should be no surprise that the largest bat in the world is a Mega-Bat called the gigantic flying fox. Found in Asia, its weights of two pounds, has a wingspan of about six feet, and eats lots of fruit. The smallest bat is the hog-nosed bat (also called the bumblebee bat), which is found in Thailand, weighs the same as a dime (about 2 grams) and has a six-inch wingspan.

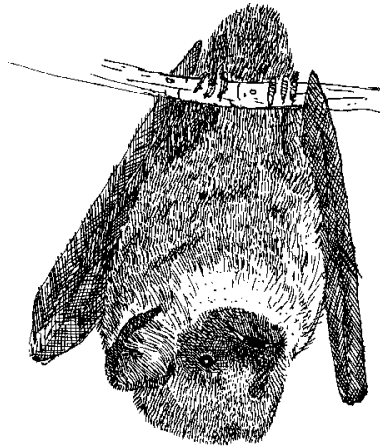
Bat Benefits

Bats are the major predator of night-flying insects, including mosquitoes and many crop pests. Even a small bat can eat 600 to 1,200 insects an hour. Bats commonly eat half their body weight each night. (That would be like a human eating 30 pizzas!) In other parts of the world, there are bats with very interesting diets, including fish, scorpions, small mammals, other bats, birds, and spiders.

It is estimated that the 20 million bats which live in one cave in Texas consume over a quarter-million pounds of insects each night! With all those bats eating insects, fewer chemicals and poisons are needed for crops, which is healthier for all of us.

Some bats play a major role in the pollination of plants, including the wild varieties of some of the world's most economically valuable crop plants - including bananas, avocados, dates, figs, peaches, mangoes, and breadfruit. In the tropics alone, more than 300 plant species rely on bats for pollination and seed dispersal. Some bats, such as the lesser-long-nosed bat, have long extendible tongues that allow them to lap up plant nectar from flowers. As they feed, pollen covers their nose. When the bat flies to the next flower, it pollinates the plant with the pollen on its nose. Many plants bloom at night and have unique odors and special flower shapes which attract bats. In the U.S., the endangered giant saguaro cacti of the Southwest is dependant upon bat pollination.

Bats also spread plant seeds and are major agents of reforestation. Scientists estimate that seeds dropped by bats account for 95 percent of forest regrowth in tropical regions. Fruit-eating bats are called frugivores and typically pick a fruit and then fly to a roost to consume it. In the process, they distribute seeds throughout the forest. Scientists tell us that a single short-tailed fruit bat in South or Central America can spread 60,000 seeds per night!



Even bat poop can be beneficial. Bat waste is called guano and is often mined from caves and other roosts as a source of fertilizer. It is especially suited for this purpose because bats eat large amounts of extremely rich food very fast and therefore contains lots of nutrients plants can use.

People have learned a lot from bats. Studies of bats have contributed to the development of navigational aids for the blind, birth control and artificial insemination techniques, vaccine production and drug testing, as well as to a better understanding of low-temperature surgical procedures. Even the scariest of bats, the vampire bat, has helped the medical profession. The bats' saliva acts as an anticoagulant and has been reproduced synthetically and is used to make the drug Draculin, which is prescribed for heart attack and stroke patients.

On certain Pacific islands, as well as in some Asian and African countries,

bats are a basic part of people's diets.

Scientists tell us there are more than 900 species of bats in the world. Most of these are found in the tropics. About 45 species of bats live in the United States and of these, 15 have been found in Kansas. The most common bat in the Sunflower State is called the Big Brown Bat, but don't let the name fool you - with a body length of only four and one-half the five and quarter inches, they're only "big" in comparison to the little brown bat, which has a body length of only about two inches.

Some bats migrate, which can be just a few miles to a suitable cave, or up to 1,600 miles. Although bats mate in the fall or winter as they gather near their hibernation caves, female bats don't give birth until mid-May through mid-July. Bats born in the spring usually leave their mothers during late summer and early fall. Most bats only give birth to only one or two young per year. Young bats grow very quickly and are able to fly three to four weeks after they are born. Bats often live 10 years or more and some species live up to 30 years. (Continued on page 4)

WE WANT YOU



TO BE A VOLUNTEER!

- **Meet interesting people!**
- **Help us maintain fascinating creatures!**
- **Lead people through the wilds of Ernie Miller Park!**
- **Learn cool stuff about nature and history!**

**BE PART OF THE FEW,
THE PROUD,
THE ERNIE MILLER PARK
VOLUNTEERS!**

Training and support will be provided.
Must be at least 18 years old.
Call (913) 764-8580 x 23 or 26 for
more information.

Nature Center Programs

Some of the following nature center programs require preregistration. Please call (913) 831-3359 Voice or (913) 831-3342 TDD for registration information. 10% discount for Johnson County residents (on preregistered programs only) 1st price listed: county residents / 2nd price: non-residents.

For a complete listing of programs, see the JCPRD Activities Catalog or visit www.jcprd.com

SPECIAL EVENTS

Amphitheater Programs

(All Ages) Fridays, June 16 & 23 and July 7 & 14, 7 pm

Bring the family to the Amphitheater on Friday evenings this summer for entertainment and educational experiences. The Amphitheater is an outdoor facility with seating for approximately 150 people. **During inclement weather or excessive heat, programs will be held in the Nature Center.** For more information, call (913) 764-7759. **Each program is approximately one hour in length and begins at 7:00 pm. Cost: \$1.75 per person paid at site. Children age two and under are free.**

Birds of Prey – June 16

By day or by night, out of the sky flies a rodent's nightmare, the birds of prey. Join our interpretive staff as they show why rodents fear these great birds. Using live birds, participants will see these magnificent raptors and their special adaptations.

Snakes Alive – June 23

Why is it that these creatures seem so terrifying? Could all the stories you have heard about snakes be true? See Kansas snakes as we explore the facts and fallacies of these legless wonders of the natural world.

An Evening with the American

Naturalist: John J. Audubon – July 7

John James Audubon, namesake of The National Audubon Society, remains as one of the greatest naturalists of all time. His artwork still inspires people to appreciate the incredible beauty and diversity of America's birds. Come hear a first person interpretation of Mr. Audubon as he relates stories about the Passenger Pigeon, Carolina Parakeet, and other North American birds. Learn about the private side of Mr. Audubon as he writes a letter to his beloved wife, Lucy. Recommended for ages 12 and up.

Wildlife Who's Who – July 14

This presentation will feature 5 live animals, representing 4 of the major groups of vertebrates and one group of invertebrates,

the arachnids. Children of all ages will enjoy discovering the importance and habits of each animal and its place in nature.

Water Garden Society of Greater Kansas City Public Pond Tour, Sat. & Sun., July 8 & 9, 9 am – 5 pm, Ernie Miller Nature Center

The pond and stream in the Ernie Miller Nature Center's Wildlife Viewing Area will be front and center when the EMNC serves as one of more than 50 sites throughout the metropolitan area for the Water Garden Society of Greater Kansas City's 2006 Pond tour. Built in late 2004, the nature center's pond measures approximately 11 by 17 feet. There is also a small waterfall and about 17 feet of stream. Visitors can view the pond from the comfort of the Wildlife Viewing Room, or access it more closely through the nature center. Staff will be available to answer questions. For more information about the tour, visit www.kcwatergardens.com.

1-2day event—Free (Note: while there is no admission to the Ernie Miller Nature Center or its pond, purchase of a \$10 punch card through the WSGKGC is required to visit other ponds on the tour.)

Father/Daughter Fishing Day (Ages 8 & Up)

Saturday, August 19, 9 am, TimberRidge Adventure Ctr.

Come experience the thrill of fishing at the TimberRidge Adventure Center. Fathers are encouraged to get their gear together, load up the car and bring their daughters out for a morning of fishing at TimberRidge. Ages 15 and under can fish without a license. Anyone 16 and over will need a Kansas State fishing license. TimberRidge is not open to the public for fishing due to our camp programs, so this is a unique opportunity to fish our beautiful ponds. We will provide fishing line & hooks for those youth without a pole, and they can also find a stick to make their own fishing pole.

Bait provided will be hotdogs and corn. You may bring other bait.

Catch and release fishing only.

1-4 hr. session - \$5 per person including adults (\$6 nonresidents)

63-2207-015-01 TimberRidge
8/19 Sat. 9 am

PRESCHOOL

Night Hike

(Ages 2-6 with Adult)

Friday, July 21, 7pm

Explore the trails at Ernie Miller Park as the sun sets. Listen for the nocturnal sounds of a cricket's chorus and a barred owl's call. Gather around for stories, songs, and a tasty treat. Participants should bring a flashlight.

1-90 min. session - \$5 per person including adults (\$6 nonresidents)

63-2142-016-01 7/21 Fri. 7 pm

YOUTH

Beginning Archery

(Ages 8-12)

Experience the challenging sport of archery in this coed class designed for beginners. Safety, basic fundamentals, techniques, and equipment will be covered. Participants will have practice time to develop their skills. Equipment is provided. Instructor: Interpretive Staff.

2-90 min. lessons - \$24 (\$26 nonresidents)

63-2124-016-01 EMNC
7/18 T,Th 6:30 pm

(For a listing of all our summer youth camps, see our web page address below.)



Forget the Myths cont.

Other Kansas bats include: the northern long-eared bat, the silver-haired bat, the eastern pipistrelle bat, the red bat, the Brazilian free-tailed bat, cave myotis, gray myotis, western small-footed myotis, evening bat, western big-eared bat, pallid bat, big free-tailed bat, and the hoary bat. All of these bats eat insects and are considered small with body lengths of less than five inches.

For some species, Kansas is the northern portion of their range, while others live here throughout the year. Still other bats are migratory and pass through mostly in the spring and fall. Bats roost in the leaves of trees, in caves, under loose bark, and in and around buildings.

In the United States, many native bat species are protected under the Federal Endangered Species Act, or are candidates for inclusion on future lists. In most states, it is illegal to have a bat as a pet, and a federal offense to possess a threatened or endangered bat species.

To navigate, bats use a system of echolocation, which similar to both radar or sonar and to echolocation employed by some species of dolphin and whales. A high-frequency sound is emitted by the bat out of its mouth or nose and then bounces off objects (or insects) and returns to the bat's ears. The rate at which the signals are returned helps the bats determine their location. Just in normal flight, bats send out about 20 signals per second. The process is as natural to them as the visual process is to us and because this system is very precise, bats are quick and agile fliers. Most of these sounds are of a high frequency and are not audible to humans, although many bats make sounds which humans can hear. Scientists sometimes use a device called a bat detector to slow down bats' ultrasonic signals and bring them into the range which humans can hear.

Recent research has discovered that some insects, including some species of moths, lacewings, beetles, and praying mantises, have developed primitive ears which allow them to detect bat echolocation. They can then avoid becoming prey by folding their wings and dropping away from bats at the last instant. In addition, the tiger moth has the ability to create its own signals that can startle or confuse bats.

Bat wings are thin and translucent.

Different species have different feeding habits, but most feed around sundown and then again before daylight. Many of them fly to a source of water when leaving their roost before feeding.

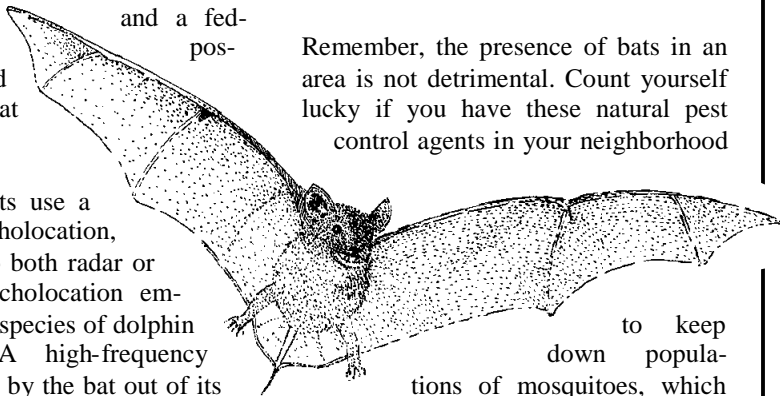
While bats can use their legs to walk, but cannot jump up and take off in flight from the ground.. They must drop from a height to get started.

Remember, the presence of bats in an area is not detrimental. Count yourself lucky if you have these natural pest control agents in your neighborhood

to keep down populations of mosquitoes, which are truly detrimental and can carry West Nile virus. Bats cannot contract the disease by eating infected mosquitoes.

So this summer, if you're out at dusk an open air event such as a performance at The Theatre in the Park or are just out walking, look up. You may well see a bat flying overhead catching his supper of insects.

Hopefully you will be happy next time you see these amazing insect-eating acro-bats.



Ways You Can Help Bats

Throughout the world, bat populations are declining at a rapid pace. Scientists say 40 percent of the world's bat species are endangered or threatened. Man is the cause of much of this through ignorance and through the destruction of feeding and roosting habitats and toxic pesticides. Bats already have plenty of predators to worry about, including owls, hawks, falcons, snakes, skunks, opossums, foxes, and domestic dogs and cats.

There are several ways you can help:

- Help tell others about the unique and beneficial nature of bats. Let them know not to fear or hurt bats. Organizations like the Nature Conservancy, the Audubon Society, and the Organization for Bat Conservation are dedicated to teaching people about bats and have websites which can help.
- Provide bat habitat by placing a bat house in your yard. This helps the bats while reducing the chances they'll use your attic to roost in. Bats will not interfere with feeding of backyard birds, and will not be disrupted by pets or children. The most successful bat house designs are long and wide, while short stout houses don't work as well. Bat house plans are available in books at the Nature's Corner Book Store or can be found on-line.
- Other ways of helping bats include providing a water source that attracts insects and therefore bats, planting trees, leaving dead and dying trees standing, not disturbing bats in their resting places, and avoiding man-made insecticides whenever possible.

Remember, one bat eats over 600 insects an hour, so by encouraging bats in your area, you'll have natural pest control in your backyard.



Mud Pies



Hands-on nature activities for pre-schoolers

By Sheila Fowks and Molly Postlewait

Nature Activity: Go on a lightning bug hunt

Summer is lightning bug time! Find a grassy field at dusk and sit and wait for the light show to begin. You'll find more lightning bugs in places that have not been mowed just recently. The taller grass offers more hiding places for them. Try to count the flashes of light. After watching for awhile, take a jar and help your child gently catch the lightning bugs, and place them in the jar. Watch them light up from close-up. Be sure to turn them loose when you're done!

Fun Fact: The male and female lightning bugs flash their lights to find each other so they can mate. Later on, look for their larvae called glow worms on the ground.



Little Cedar Reader: Children's Literature Corner

One little firefly, lonely as can be,
(hold up one finger and shake head sadly)

Two little fireflies, blinking in a tree.
(hold up two fingers on other hand, then open and close fists next to eyes)

The first firefly saw the blinking lights,
(form circles around eyes with fingers)

And raced right over with all its might.
(flap arms quickly)

"May I play with you?," said firefly one.
(hold palms out & tilt head to one side)

"Yes," said the others, "until we see the sun."
(nod head)

Now the little fireflies, one, two and three,
(hold up three fingers, one at a time)

All play together as happy as can be!
(smile and nod head)

From Little Hands Finger Plays & Action Songs
By Emily Stetson & Vicky Congdon



Recommended Reading:

Ten Little Ladybugs by Melanie Gerth

Fire Race retold by Jonathan London


Nature Craft: Let's Make a "Lightning Bug" Picture

Items needed: construction paper (black, green, brown, and yellow) glue, scissors, and paper punch

- Cut-out tree shapes from the green and brown paper. Then glue the shapes on a sheet of the black paper.
- Have your child use the paper punch to make holes all over the black paper.
- Glue yellow pieces of paper behind the holes to create the "lightning bugs".
- To see the "lightning bugs" best, hold the picture up to the light.

From Little Hands Finger Plays & Action Songs
by Emily Stetson & Vicky Congdon

**Animal Tales
Story Time
at Ernie Miller
Nature Center
(Ages 2-6 with adult)**



Visit the Nature Center for stories, songs, and surprises geared to preschool children. Come listen and learn. Meet a special animal friend every time. All children must be accompanied by an adult. Pack your lunch and stay for a picnic.

1-30 min. session-\$1.75 per person (including adults) Paid at site

Rainbow	6/7	Wed.	10:30 am
Insects	6/21	Wed.	10:30 am
Water	7/12	Wed.	10:30 am
Snakes	7/26	Wed.	10:30 am



ERNIE MILLER NATURE CENTER

909 North Highway 7
Olathe, Kansas 66061

Phone: (913)764-7759

<http://www.erniemiller.com>

Hours

Monday—Saturday 9 a.m. to 5 p.m.
Closed Sundays from Jun. 4-Aug. 27
(Open July 9 for special event)

Winter hrs. run from Nov. 1 to Mar. 31
(close at 4:30)

Park trails open every day
dawn to dusk



Nature Center Staff

Andrée Ables.....Secretary
Leon Gordon.....Park Supervisor
Bill McGowan.....Outdoor Education
Manager
Andrea Johnson... Park Naturalist
Chris Pistole..... Park Naturalist and
Tracks Editor
Molly Postlewait...Park Naturalist

Johnson County Park and Recreation District does not discriminate on the basis of race, color, national origin, sex, religion, age and handicapped status in employment or the provision of programs and services.



Ernie Miller Nature Center
909 North Highway 7
Olathe, Kansas 66061
(1 mile north of 135th Street)

Nature's Corner Gift Shop at the Ernie Miller Nature Center

Looking for something
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Edible bug treats ❖ Books ❖ Jewelry
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New items in stock

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