

# BATS

## OF NEW YORK



**B**ats are misunderstood creatures. Repulsive to many and feared by others, these amazing, beneficial animals have an undeserved bad reputation. They are the only mammal that can truly fly (flying squirrels glide, not fly), and most bat species are insect-eating machines, performing incredible aerial acrobatics as they chase and devour 20-50% of their weight in insects each night.

Bats are mammals; they are warm-blooded, have fur or hair, give birth to babies, and nurse the babies with milk. Bats do not build nests, but often form nursery roosts with many females giving birth in the same area. Unlike southern sites, New York caves and mines are too cold for raising young. Baby bats (pups) are hairless when born and weigh up to 30% of their mother's weight. Newborns have well-developed feet and are soon able to hang securely from their perch when the mother is gone. Only the mother cares for the young.

The young are born in June to early July and grow quickly, with many flying and hunting within a month. Bats breed primarily in the fall; the females store sperm in their bodies and fertilize the egg the following spring.

Although often described as "flying mice," bats are not rodents and are more closely related to primates and people. In fact, bats' wings are similar to the human hand, having a thumb and four fingers. Bats' fingers can be as long as their body and provide support for the thin leathery wing membrane that extends to the ankle

and tail. This thin membrane enables them to quickly and precisely maneuver during flight.

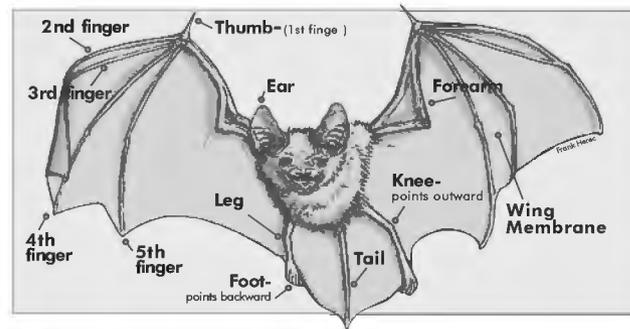
The place where a bat sleeps is called its roost. Some bats roost in ones and twos, but many sleep in large groups. They typically hang upside down and can tilt their heads so far back, they can look behind them.

Bats are nocturnal, feeding at night and sleeping during the day. Contrary to the saying "blind as a bat," many bats see very well. However, because they hunt mostly at night, it's their keen hearing they rely on to accurately navigate in the dark. Using echolocation, these bats send out a series of rapid (up to 200 per second) pulses of sound too high for people to hear. When the sound bounces off an object, an echo returns which bats instantly analyze, enabling them to identify the location, size and shape of the object.

Depending on the species, bats eat a variety of things. However, 70% of bats worldwide, and all of New York's bats, consume flying insects. Other bat species eat fruit, nectar, small mammals, birds, lizards, frogs, fish, and blood. Predators include owls, raccoons, snakes and domestic cats.

Each fall, as temperatures drop and insect numbers decline, bats respond by either hibernating or migrating. Come spring, generally around mid April, they begin to return from their wintering sites.

Bats are extremely long-lived compared to mammals of similar size. The oldest ever documented was found in a New York mine where it had been banded 34 years earlier. New York is home to nine bat species, three are tree bats, the other six are cave bats.



Frank Henec



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# Cave Bats

All six species of New York's cave bats spend the winter hibernating in caves and mines where they live off stored fat reserves. However, during the summer they live in a variety of places, including

bridges, buildings, rock crevices, beneath loose bark, or in cracks or crevices in trees. Cave bats are identified by the lack of fur on their tail membranes and their rather plain brownish

coloring. Indianas are more greyish and Pipistrelles can be nearly reddish yellow.

## Northern Bat



Al Hicks

*Myotis septentrionalis*

This bat is commonly seen across the northeast during the summer. It forms small maternity colonies in the crevices of trees. Its large ears and high frequency call enable it to pick its way through dense forest clutter that other bats avoid. During winter, these bats sometimes hang from the cave's ceiling or along a wall with other bat species, but most are squeezed tightly into cracks and crevices in the rocks.

Wingspan- 9"; Body length- 2"

## Little Brown Bat



Al Hicks

*Myotis lucifugus*

The most common bat in the state, little browns are the species most often encountered by people. They frequently occupy buildings during the summer, but also live in crevices and under loose bark in trees. Nearly 200,000 have been found wintering in one New York mine. A northern species, this is probably the bat you see flying low over the water on a summer evening.

Wingspan- 8-9"; Body length- 2"

## Indiana Bat



Al Hicks

*Myotis sodalis*

Indianas are an endangered species. They are vulnerable because they occur in large concentrations in few places. Roosting in clusters of 300-400 per square foot, half of the Indianas in the northeast winter in just one N.Y. mine. Summer maternity colonies, ranging in size from a dozen to several hundred animals, generally occur in crevices of damaged trees or under the loose bark of living or dead trees. Indianas forage primarily along forest edges, and close to the tree tops.

Wingspan- 10"; Body length- 2"

**Note:** The pink noses of the Indianas in this photo distinguish them from the dark face of the little brown.

## Eastern Pipistrelle



Al Hicks

### *Perimyotis subflavus*

The eastern pipistrelle is widely distributed within New York hibernacula (wintering sites), but almost always in low numbers. Pipistrelles prefer warmer, moister portions of caves, and rarely cluster; typically hanging singly from the ceiling or along a wall. It is one of the state's smallest bats and can be identified from other cave bats by its reddish forearms and slightly yellowish-orange fur. In summer, pipistrelles inhabit open woods near water, rock crevices, and buildings, often forming small colonies in clumps of dead leaves hanging from tree branches. They can be seen chasing insects at tree top level early in the evening.

Wingspan– 9"; Body length– less than 2"

Written by Eileen Stegemann and Al Hicks

## Big Brown Bat



Al Hicks

### *Eptesicus fuscus*

The largest of New York's cave bats, the big brown weighs two to three times more than other cave bats and has a wingspan of nearly 13". Most tolerant of cold temperatures and low humidity, it often winters near the entrance of caves and mines, and is the state's only bat species to regularly winter in buildings. One of two bat species that often raises its young in buildings as well as trees, it is one of our most common summer bats. When using buildings, it generally limits nursery colonies to dozens, not hundreds, of individuals. Identified by its large size, dark ears and face, and glossy, light to dark brown fur, the big brown emerges early in the evening to forage high among the tree tops.

Wingspan– 13"; Body length– 3"

## Small-footed Bat



Al Hicks

### *Myotis leibii*

N.Y.'s smallest bat, the small-footed weighs less than a nickel. Its small size, jet black "raccoon" face mask and wings, long glossy fur, and tiny feet (hence, the name), distinguish it from other bat species. It could easily be called the rock bat as during the summer it often roosts and raises its young in accumulations of rocks, cliff faces, road cuts and concrete bridges with good sun exposure. It is the least frequently encountered bat in the eastern U.S during winter surveys, and more than half the individuals counted reside in just two mines in the Adirondack region.

Wingspan– 9"; Body length– less than 2"

**Note:** While bats are fascinating to watch, a few individuals can be vectors for some diseases, including rabies. And while only 0.5% of bats carry rabies, to be safe, people should avoid handling them. For more information, contact your local health department.

# Tree Bats

As the name suggests, tree bats live year round in trees. They are more colorful than the generally brown cave bats, and reds and hoarys have distinct dark and tan wing membranes. Tree bats have fully furred tail membranes which they can curl up around their bodies like a blanket.

## Red Bat



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*Lasiurus borealis*

Although common in warmer southern states, the red bat is less abundant in New York. In the late 1800s, red bats were reported migrating in substantial flocks during the daytime. Today, daytime encounters rarely exceed more than a few individuals. Female red bats are noticeably grayer than the reddish-orange males. Reds typically roost low in the trees among dense foliage. They feed early in the evening.

Wingspan– 12”; Body length– 2-2 ¼”

Note: photo shows female red with pups

Because tree bats do not typically enter caves or mines or form large colonies, these species are harder to study. It is known that reds and hoarys roost alone from branches, hiding among leaves, and silver-haireds form small colonies and use crevices and hollows in trees. While most cave bats have

## Hoary Bat



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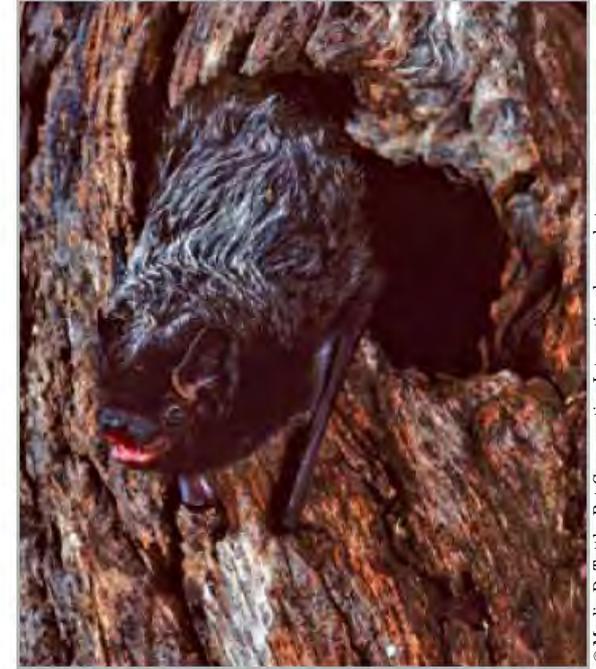
*Lasiurus cinereus*

The largest of New York’s bats, hoarys weigh two to seven times more than other New York bats and have a wingspan that measures up to 16 inches. More of a northern species, and nowhere common in the state, they are most abundant in the Adirondacks. Hoary bats roost high in trees and typically forage far above the treetops.

Wingspan– 16”; Body length– 3½”

one young per year, hoarys and silver-haired bats typically have two; reds as many as three or four. All three species fly south in winter to where warmer temperatures make finding a meal more reliable.

## Silver-haired Bat



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*Lasiyonicterius noctivagans*

Once described as the most common bat in the Adirondacks, the silver-haired bat is perhaps the least frequently encountered bat species in the Northeast during the summer season. It prefers more northern habitats, roosting under loose bark or in tree cavities. This bat is one of the first to feed in the evening, sometimes starting before sunset. As the name implies, it has silvery-tipped hairs on its nearly black body.

Wingspan– 11”; Body length– 2-2 ⅓”