



The Little Brown Bat - (*Myotis lucifugus*)

Recently renamed Little Brown Myotis

The Little Brown Myotis (*Myotis lucifugus*) is probably the most numerous as well as the most studied bat in America. It has adapted so well to humans it routinely forsakes its natural maternity roosts in tree cavities for hot attics and building walls. The heat actually speeds the development of their babies, both during gestation and after birth. And Attics are usually safer from small carnivores, snakes, and other bat predators. Given the room in an attic, it's not surprising that some of these colonies number over a thousand! There is some thought that Little Brown Myotis populations have increased because of their successful exploitation of human structures.

This is not necessarily a bad thing. This bat is an extremely efficient hunter and therefore very useful to us for insect control. It prefers to hunt low over water. (It is a capable swimmer if it accidentally ends up in the drink!) But it also hunts in trees and over lawns. And it eats a wide variety of insects including flies and mosquitoes, moths, beetles, caddisflies, mayflies, termites, leafhoppers and midges. Since many of our human, home and garden pests are on this menu, these bats in large numbers can be a good thing!

This is the bat often reported "capable of eating 500 (or 700 or 1000) mosquitoes an hour." This sounds really good to the backyard barbequer, but unfortunately this factoid has lost a lot of accuracy in its multiple incarnations. First of all, substitute "mosquito-sized insect" for mosquito.

It hunts insects from 3-10 mm in size, but certainly is not a mosquito specialist, turning its nose up at other prey!

Secondly, research shows that it can fill its stomach in about 15 minutes. Although it processes food quickly (in less than an hour), the bat still needs time to rest and digest. An adult male may feed several times a night. That "500 (or 700, etc.)... an hour" is only if the bat could feed continually.

Now a lactating female must feed more often and may consume over 100% of her own body weight in a night. Of course that's only around 6-8 grams. But hey, along with hundreds of her sisters, that's still a lot of insects. "Lucys", as researchers affectionately call them, are still amazing creatures without exaggerating the facts!

Mating season is in the fall, but fertilization doesn't happen until spring. In the spring little brown bats form huge nursery colonies. A nursery colony may have thousands of bats in it. The female little brown bat gives birth to only one baby. During birth, the female hangs right-side up! The baby bat attaches itself to a teat. It nurses for about two weeks. It will fly when it is three weeks old.

Little Brown Myotis are gregarious with large social groups forming at the maternity roost and the hibernation roost. At the maternity site it is all females. The males stay away, leaving the warm roosts and optimal feeding grounds to them. Sometimes males join the colony in mid-summer. At that time all the adults will leave the most productive foraging areas to the new juveniles who are just perfecting their skills.

By September, first the adult males, then the moms and juveniles start checking out the hibernaculum. They fly in and out of the cave or mine in a behavior called "swarming". But they do not stay more than a few nights. This swarming is thought to be prenuptial behavior as well as serving to introduce the new young to the hibernaculum. The bats then forage for several more weeks before returning to the site to begin hibernation. By October they are all together, settling in "for a long winter's nap".

Bats as a whole are very long-lived mammals for their size, and *Myotis lucifugus* has been recorded living 34 years in the wild.

Excluding bats from your home

Excluding bats from your home is not difficult. Even though bats are a vital part of the ecosystem, there is no reason you need to allow them to live in your home. They can be excluded from your dwelling by following these recommendations:

- Do not perform exclusions until late August after the pups have been weaned and are able to leave the roost on their own. You do not want to seal young animals inside a structure where they would die and lead to further health problems for you.

- Identify the entries the bats are using. Find them by looking for stained places on the sides of your house and watching in the evening for the bats to emerge. If there are many entries to the same roost, seal all but one.
- During the day while the bats are asleep in their roosts, create a one-way flap-valve by positioning netting (1/4" mesh or less) hanging loosely in front of the exit. (Nylon netting can be purchased by the foot in stores such as Home Depot.) Tape or tack the top and sides, but leave the bottom open with the netting hanging loosely down a foot below the entry. The bats will be able to leave, but not reenter.
- When the bats emerge, they will meet the netting and start climbing around trying to find a way out. Soon they will get out the bottom and go off to eat. But they are not clever enough to get back in the same way in the morning. You have created a "one-way door".
- Leave the netting up for 2-3 nights to make sure all the bats are out.
- After a few days, take the netting down and seal the holes. This is very important because the bats will return if they can! Any caulking can be used since, unlike rodents, bats do not gnaw holes, shred materials, build nests or cause structural damage to buildings.
- If you prefer, you can wait until late autumn and seal the entries without the one-way flap because the bats will have left for their hibernation sites.
- Think about providing an alternate home for these bats. Bat houses mounted close to the old entry are usually used quickly.