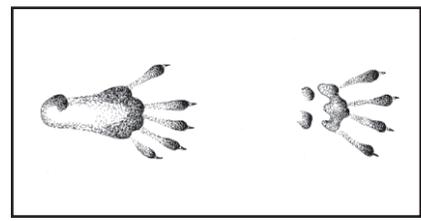
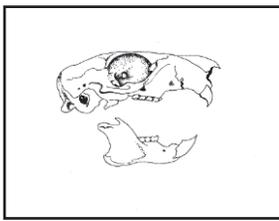
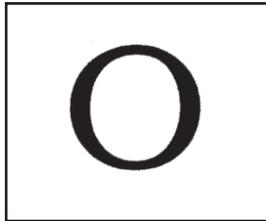
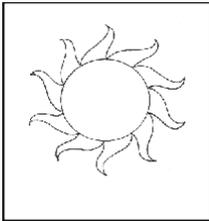




## The Squirrels Family Sciuridae



According to the PA Game Commission, in the year 1749, colonial farmers were so fed up with the abundance of gray squirrels that over 600,000 bounties were paid on their heads. That's a lot of squirrels, and those numbers don't consider the many thousands that were undoubtedly hunted for the dinner table. Despite the loss of much of the state's forests, **two and a half centuries later, squirrels still dominate much of the commonwealth's wildlife habitats.**

Although squirrel populations have decreased, they are still Pennsylvania's most popular small game mammal. The gray squirrel is our most common squirrel, but **we have four species native to our state: gray, fox, red and flying squirrels.**

Whichever species may live on your property, squirrel behavior is familiar to almost everyone. They can leap from tree branch to tree branch with great agility or quickly scurry up and down tree trunks. A large, bushy tail helps keep them balanced during their acrobatics.

**Enabling this agile lifestyle are keen senses of sight, smell and hearing.** All except the flying squirrel are diurnal, active most in the early mornings and late afternoons. The flying squirrel is entirely nocturnal, escaping much notice from residents because of its secretive nighttime behavior.

**Woodlands are essential to all squirrel populations.** The type and amount of vegetation determine which squirrels are found there. Gray squirrels prefer the oak-hickory-maple forest's more diverse food supply of mixed maples, oaks, hickories. Fox squirrels prefer a wooded edge near a corn crop. But it's not just the mast they are looking for; it is the diversity of hollow dens and tree cavities a woodland provides.

**Mast is a crucial part of a squirrel's diet.** The amount of acorns, hickory nuts, walnuts and beechnuts produced by mature trees each fall is a key factor in that year's squirrel population. At other times of the year they will feed on berries, mushrooms, pine seeds and dogwood, wild cherry and black gum fruits. Corn is a favorite treat, but they only eat the germ at the base of the kernel. The buds and flowers of red and sugar maples become an important source of energy in early spring.



**Gray squirrels (*Sciurus carolinensis*) are Pennsylvania's most plentiful squirrels.** With their silver-gray coat, creamy belly and broad, bushy tail, grays are fairly large at one and a half pounds; only the fox squirrel is larger. Adults are about 20 inches long, including a ten inch tail. Some grays can be rusty or brown and melanistic gray squirrels (black) are not uncommon.



Gray squirrels **build leafy nests in the crotch of tree branches** close to their food supplies. They also use tree cavities, but leaf nests are cooler in summer while cavities are used during the remainder of the year.

**Breeding season** is usually in late winter or early spring. First litters can be born as early as late February with second litters born in July or August. Four to five young are born blind and helpless in each litter. The tree cavity is usually where the young are raised and nurtured for up to several months.



The **Red Squirrel (*Tamiasciurus hudsonicus*)** is only half the size of a gray. They are less than half a pound and only 12 inches long, including its tail. The red squirrel has a reddish coat with off-white undersides in summer, but in winter the coat grows a bit grayer with reddish highlights. **Red Squirrels also grow ear tufts in winter.**

**Sometimes called pine squirrels because of their preference for nesting in conifer or evergreen trees,** reds usually nest in cavities at the base of a tree near the ground, as opposed to the 40–60 foot height of a gray squirrel's nest. Otherwise their behavior is similar to gray and fox squirrels.



Their diet is similar to other squirrels except **reds like to eat the immature, green cones of the white pine.** They also tend to bury nuts in large groups or caches instead of one at a time. Rather than underground, they will store their food in a hollow log if one is available.

The breeding season is similar to grays, but **red squirrels seem more tenacious** and despite their size will aggressively drive gray squirrels away from their territory.

**Fox Squirrels (*Sciurus niger*) are the largest squirrels** in Pennsylvania and are considered **uncommon.** They are especially fond of open, groomed settings, like parks with some wooded areas found mostly in our southern and western counties.

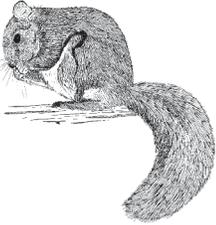
**They look like big gray squirrels** but weigh almost two pounds. Their coats are gray to reddish-gray with pale, buff-colored undersides.

Fox squirrels mate in January, with **only one litter each year** and just two-four young born in late February or early March.





**Flying Squirrels** (*Glaucomys volans* & *Glaucomys sabrinus*) are the most physically distinct of our four squirrels. Our **smallest and only nocturnal squirrel**, flying squirrels are about eight inches long with a three-inch tail and huge black eyes adapted for night vision. The large surface area of the eye allows more light to be absorbed. They have an abundance of rod cells, which enables them to take advantage of whatever low-light conditions they encounter.



Their fur is a plush and soft grayish-tan with a loose flap of fur-covered skin between their legs. This **“membrane” is what enables them to glide from treetop to treetop**. Flying squirrels cannot really fly. But when they extend their legs and stretch their skin membrane tight, they can soar, gliding downwards up to 40 yards. They use their broad, flat tail as a rudder when airborne.



Flying squirrels are hard to observe. In addition to being nocturnal, **they are almost completely arboreal**, rarely coming down out of the trees. They nest in hollow tree limbs or abandoned woodpecker cavities, bearing two-six young in a spring litter. Occasionally a second litter arrives mid-summer. Their food preferences and eating habits are similar to our other squirrels.



## A Simple Review of Squirrels



**All of our squirrels live in or near leafy forests and eat a lot of mast.** Mast means nuts: hickory nuts, acorns, walnuts, maple seeds, beechnuts and such. Those foods they don't eat right away are stored for winter food by being buried. Of course the squirrels can't really remember where they left every nut they buried. The mast left behind, in time, grows into trees, the squirrel's preferred food trees. **Without knowing it, squirrels replant their own food supply.**

**Like other rodents, squirrels have four front teeth that never stop growing.** This way their teeth won't be worn down from their constant gnawing. Those incisors are perfectly suited for eating plant materials, but squirrels are really **omnivores**. They will sometimes eat small animals like insects, bird eggs, even baby birds.

**Three of our squirrels are diurnal**, most active during the day. But one, **the flying squirrel, is nocturnal**. The gray squirrel is most commonly seen during the day. It has grown comfortable around our homes and the often plentiful source of bird seed so many homeowners place outside.

**All have long, bushy tails and scamper when they move** on the ground or among the tree tops. Their plush coats vary from the familiar gray squirrel to the reddish gray of the fox and red squirrel, and the velvety gray and white of the flying squirrel.

**Most squirrels are noisy and energetic.** The largest of Pennsylvania's squirrels is the fox squirrel. It looks like a bigger gray squirrel with a bit more rusty coloring to it. The red squirrel (right) is a smaller, reddish version of the gray squirrel. In the winter, red squirrels grow ear tufts. **Everyone knows the gray squirrel** (bottom left).



**Flying squirrels** (at top left) **are harder to find.** They usually only come out at night and they live like birds, up in the tree tops in nests or in tree cavities. They are really good at hiding if they happen to be out during the day. They can glide from tree to tree, but they cannot fly.



**Flying squirrels glide** by extending their arms and legs with flaps of skin between, which provides a winglike surface. The furry skin membranes are called patagia. These squirrels can glide as far as 150 feet. Their tails are furry but kind of flat, acting like a rudder to steer their flight. They have black bulging eyes, bigger than the larger squirrels but perfect for a nocturnal life. They also have something called "feelers" which are big, sensitive whiskers to help them move about at night. Flying squirrels also mark their travels by using scent glands in their cheeks.

**Those big leafy clusters you see high up in tree forks** in winter when the leaves are off the trees **are squirrel nests.** But winter is not the time the squirrels use them. During cold weather, squirrels prefer a protected tree cavity for warmth or for their earliest litters in late winter. The leafy nests may be used to raise their young in summer.



**Two to eight young may be born in several litters** each year. The babies are dependent on their mother for several months before they head out on their own.

Gray, red and flying squirrels are common throughout the state. **Fox squirrels are uncommon** and found only in the western and southwestern part of our state. They are called fox squirrels because their fur looks like a red fox.

Grays like mature deciduous forests with large trees that provide lots of nuts. **Red squirrels love coniferous forests** with evergreens like white pine and hemlock trees and eat the seeds found in the cones.



**Red squirrels even eat the sugar from maple trees.** They'll bite into the bark to let the tree sap ooze out, then return later when the sap has thickened. Despite their smaller size, reds can easily defend themselves against the larger grays and have even been known to kill baby gray squirrels. They normally live together peacefully.

