



# Carolina Northern Flying Squirrel

North Carolina Wildlife Profiles



Jonathan Mays

## Carolina Northern Flying Squirrel (*Glaucomys sabrinus coloratus*)

The Carolina northern flying squirrel is one of two species of flying squirrel in North Carolina (the other is the southern flying squirrel). Contrary to their name, flying squirrels do not truly fly. Rather, they leap from trees using their powerful hindquarters, stretch out their limbs, and glide to the ground or nearby trees. A cape of skin that stretches from their wrists to their ankles, called a patagium, acts as a wing-like surface as they glide downwards. Flying squirrels drop about a foot for every three feet of forward glide.

### Description

The flying squirrel's most distinctive feature is its patagium. Carolina northern flying squirrels have bright cinnamon-brown fur dorsally, gray fur around the face and the end of the tail, and bicolored fur on the belly (gray at the base and creamy white at the tip of each hair). The squirrel has a long, flat, furred tail.

The Carolina northern flying squirrel resembles the smaller, more common southern flying squirrel (*Glaucomys volans*) but is nearly twice as large. While there is some elevational overlap in their range between 4,000 to 5,000 feet, Carolina northern flying squirrels are restricted to the highest elevations while southern flying squirrels are found most commonly at lower elevations.

### History and Status

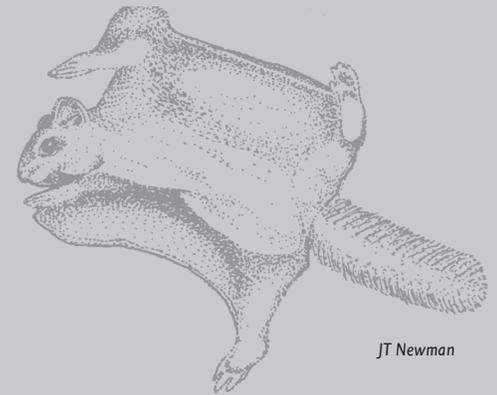
Biologists first discovered the Carolina northern flying squirrel in North Carolina in the early 1950s. When the federal government listed it as Endangered in 1985, funds became available to study its distribution. This species inhabits eight mountain ranges in North Carolina: Long Hope, Roan, Grandfather, and the Black-Craggy Mountains north and east of the French Broad River Basin, and Great Balsam, Plott Balsam, Smoky, and Unicoi Mountains south and west of the French Broad River Basin. Recently, it has been documented in a ninth mountain range, Unaka Mountain.

For more information on this species, including status and any applicable regulations, visit [www.ncwildlife.org/NorthernFlyingSquirrel](http://www.ncwildlife.org/NorthernFlyingSquirrel).

### Habitats & Habits

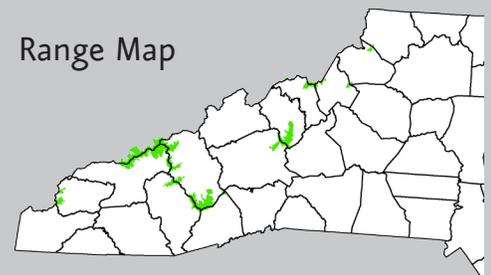
The Carolina northern flying squirrel inhabits the boreal and deciduous forests of North Carolina's highest mountains. It prefers a mix of conifers (red spruce, Fraser fir, Eastern hemlock) and northern hardwood trees (yellow birch, buckeye, sugar maple). It forages in the conifers and dens in hardwood trees. Dens are found in live and dead

Contrary to their name, flying squirrels do not truly fly; they jump off trees and glide down on folds of outstretched skin



### Range and Distribution

The northern flying squirrel is found across Canada and the northern United States, its range extending southward in the mountain chains of North America. North Carolina is the southern extent of this species in eastern North America, with the Carolina subspecies distributed in the highest mountains of western North Carolina, east Tennessee, and southwest Virginia. It had a wider range during glacial times, when boreal forest was much more extensive.



Carolina Northern Flying Squirrel Range Map

# Carolina Northern Flying Squirrel

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trees, old woodpecker cavities, rotted knotholes where branches have broken off, hollow and split tree trunks, and subterranean rock dens. They build a distinctive nest of finely-shredded yellow birch bark that may be used for denning or rearing young. They also construct stick nests called dreys, lined with shredded birch bark, in the dense foliage of conifer limbs and occasionally in hardwoods. Individual squirrels usually have 3 to 8 favorite den sites and move freely between them, often sharing a nest with other squirrels.

### Human Interactions

Most people will never see the Carolina northern flying squirrel because it lives in the high mountains and is nocturnal. Humans have affected the squirrels' habitat in several ways. Logging and wildfires during the early 1900s changed large areas of high-elevation forests. These forests are still recovering from that disturbance. Insect pests, namely the balsam woolly adelgid and the hemlock woolly adelgid, have decimated most of the mature Fraser fir and hemlock stands in North Carolina. Fortunately, the Carolina northern flying squirrel can also live in northern hardwood and red spruce forest.

### NCWRC Spotlight

Northern flying squirrels vocalize, though some calls are at a higher register than human ears can detect. NCWRC biologists are now using ultrasound detectors to document the presence of Carolina northern flying squirrels. In addition, NCWRC and the Southern Appalachian Spruce Restoration Initiative are working to restore the squirrel's forest habitat.

### For More Information

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- Weigl, P. D., T. W. Knowles, and A. C. Boynton. 1999. The distribution and ecology of the Northern Flying Squirrel, *Glaucomys sabrinus coloratus* in the southern Appalachians. North Carolina Wildlife Resources Commission, Raleigh, North Carolina, USA.

### Wild Facts

#### Classification

Class: Mammalia

Order: Rodentia

#### Average Size

Length: 10.25-12.25 in. (260-311 g)

Weight 3.5-5 oz. (99-140g)

#### Food

Carolina northern flying squirrels rely heavily on lichens and fungi, but also consume seeds, nuts, buds, fruit, sap, insects, and occasionally vertebrates and eggs. They spend a considerable amount of time on the ground, digging for truffles (fruiting body of a subterranean ectomycorrhizal fungi) and other foods.

#### Breeding/Young

Northern flying squirrels have two to five young per litter following a gestation period of 37 to 42 days. In some parts of their range, they can have one to two litters per year, with the first litter in May or June and the second in summer, sometimes as late as September. Late litters might be a result of a failed first litter or delayed reproduction. Pregnant females have been found as early as January in recent years.

Young squirrels are helpless at birth, and depend completely on their mother's care. Their eyes open at around one month, and they stop nursing at two months, at which point young squirrels first begin gliding short distances.

#### Life Expectancy

Carolina northern flying squirrels can live for 7 or 8 years, but most probably do not live that long.

#### Credits

Written by Allen Boynton, Chris Kelly, and Brandon Sherrill, NCWRC; updated 2017.