



MAMMALS

Status: Common, Native Resident

FOX SQUIRREL

(*Sciurus niger*)

Introduction

Squirrels can be confusing because there are so many kinds. In South Dakota there are three groups of mammals that are commonly called squirrels: ground, flying, and tree squirrels. Ground squirrels live in burrows and *hibernate*. Flying squirrels live in trees, don't *hibernate*, and are *nocturnal*. Tree squirrels live in trees, don't *hibernate*, and are only active during the day. All of these squirrels belong to the scientific family, *Sciuridae*, which also includes marmots, chipmunks, and prairie dogs.

There are three species of tree squirrels in South Dakota. Red squirrels are native to the pine forests of the higher elevations in the Black Hills and the deciduous woods of the northeast corner of the state. These are the smallest and noisiest of the tree squirrels and can be distinguished by their small size and reddish fur. Gray squirrels, native to the eastern United States, have been widely introduced to city parks throughout the midwest. They weigh about 1 pound (0.5 kg) and are grayish brown. Fox squirrels are native to eastern South Dakota and are the most widespread tree squirrel species in our state.



Description

Fox squirrels are characterized by a large bushy tail and rounded ears without ear tufts. The genus name for fox squirrel, *Sciurus*, is from the Greek meaning "shade tail." The species name, *niger*, is Latin for black because the original species description was based on an all black individual, a color variation not found in South Dakota. The color of the fur of fox squirrels found in our state is a grizzled mixture of gray and reddish-orange. Their underside, which is paler, is a solid color that ranges from bright or-

ange-brown to pale yellowish. The young are paler than the adults. Fox squirrels *molt* their fur in the spring. Fox squirrels are the largest of the tree squirrels. They reach 2 feet (61 cm) in length and weigh from 1 to 3 pounds (0.5 - 1.4 kg).

Distribution



Although native to eastern South Dakota, in recent years fox squirrels have extended their range to the west. Historically fox squirrels have followed agriculture as agricultural activities have created favorable habitats for them. In western South Dakota the fox squirrel is likely to be found in the cottonwood, ash, elm and box elder trees located along streams in the grasslands, and in residential areas where trees have been planted. In the Black Hills, the fox squirrel is common in the deciduous forests of low elevations. Fox squirrels prefer a habitat of open woodlands and shelterbelts. They have also been introduced into city parks and college campuses where they may share the same habitat with gray squirrels.

Natural History

Fox squirrels are active between sunrise and sunset, but not during dawn, twilight, or at night. Their peak activity periods are right after sunrise, around noon, and right before sunset. They are *opportunistic*, feeding on a wide variety of items and will readily eat new foods. In all seasons these squirrels spend more

time on the ground than the gray squirrel, foraging for food with their keen nose. Fox squirrels move with an awkward walk or hop. They commonly carry foods to a favorite feeding perch to eat, such as a low branch, log, or stump, where the ground may be strewn with shells and food debris. They will cut and carry an entire ear of corn or sunflower head to their feeding perch.

In spring, fox squirrels eat buds and flowers as well as tubers, bulbs, roots, insects, and bird eggs. Their summer diet shows a shift to fruits, berries, seeds, and grain. Farmers know that fox squirrels also like tender, ripening corn. Fox squirrels are noticeably most active in September and October when they are busy storing food in shallow holes in the ground for winter use. One fox squirrel may bury thousands of nuts and other food items during the autumn months. Most of these hidden foods are located by the squirrel's sharp sense of smell.

A *home range* is the area necessary for an animal to obtain the food, shelter, and water it needs to survive. Fox squirrels typically have a *home range* of about 5 acres, but it may be as large as 40 acres. The *home range* of a fox squirrel will contain a den in a hollow tree or one or more leaf nests. If there are no hollow trees available, fox squirrels build nests of leaves in the fork of a large tree. These are well-camouflaged in the summer but obvious in the winter. Different kinds of leaf nests are built for different uses. A summer nest might be a flimsy shelter called a shade, which will only last a few weeks. A winter leaf nest is carefully constructed. Sometimes a crow's abandoned nest may become the base for the fox squirrel's leaf house. Twigs, complete with leaves, are woven together to form a bulky outer shell. Then, inside, numerous layers of leaves are plastered around the walls, floor, and ceiling. This forms a shelter that will keep out rain and wind. Fox squirrels need a good solid winter home because they spend a lot of time there. They sleep when there is nothing

else to do and in winter during stormy weather they may sleep for several days.

Fox squirrels breed twice a year, between December and January and then in April through June. Mating chases through trees are begun by the males. After 45 days, in mid-March and July, the females give birth to a litter of 2 to 5 young, with 3 the most common litter size. Males do not assist in raising the young.

Newborns weigh 0.45 ounces (15 gm). They are born pink, hairless, blind, and deaf. They develop slowly compared with other rodents, which makes them more vulnerable to hawks, owls, and other predators. Their ears open at three weeks, but their eyes don't open until they are almost seven weeks old. The young don't venture out of the nest until they are 10 to 12 weeks old, when they can climb. Weaning begins at this time. They gradually develop foraging skills until they are 12 to 16 weeks old, when they will leave home. Sexual maturity is at 10 to 11 months. Adults live 4 to 7 years, but may live 15 or more years in captivity.

Coyotes, foxes, bobcats, raccoons, long-tailed weasels, hawks, and owls are known predators, but none exacts a heavy toll. If threatened while on the ground, squirrels scamper up the nearest tree at full speed and hide behind the

trunk until the intruder passes. Parasites and diseases also may be important on occasion. Fox squirrels harbor several species of fleas, lice, mites, and ticks, including the spotted fever tick. *Mange* may become epidemic at times. Squirrel population size is also affected year to year by food production. In excellent habitat, population densities may be 2 or more fox squirrels per acre but, in marginal habitat, such as is found in much of South Dakota, density may be 1 squirrel to 10 or more acres.

Management Considerations

Even though the fox squirrel has been extending its range in South Dakota, most of the available habitat is marginal. Individual fox squirrels are exposed to extreme danger from predators as they move across fields of a half mile or more from one tree stand to another to reach foraging areas. Loss of habitat or fragmented habitats probably has the greatest effect on population numbers. Fox squirrels are popular game animals. Because they are larger than gray squirrels and live in more open habitats where hunting is easier, they are more intensively hunted. In residential areas, fox squirrels are frequent visitors to feeders where they feed on corn and sunflower seeds.

Glossary

- Hibernate** - spend the winter in a state of dormancy in which metabolism is lowered.
Home range - the area an animal lives in and that supplies its needs for food, water and shelter.
Mange - a disease of the skin, sometimes caused by parasitic mites, that results in loss of fur.
Molt - to periodically shed hair or fur and then replace it.
Nocturnal - active at night.
Opportunistic - adapting one's actions to the immediate circumstances, as in taking advantage of whatever food is available.

References

- Clark, Tim W. and Mark Stromberg. 1987. Mammals in Wyoming. Lawrence: University of Kansas, Museum of Natural History.
- Jones, Jr., J. Knox, and others, 1983. Mammals of the Northern Great Plains. Lincoln, University of Nebraska Press.
- Whitaker, Jr., John O., 1980. The Audubon Society Field Guide to North American Mammals. New York: Alfred A. Knopf.

Selected Resources for Teachers

There are surprisingly few children's books about fox squirrels.

- Bare, Colleen Stanley. Tree Squirrels. New York: Dodd, Mead & Company. 1983.
- Laycock, George. Squirrels. New York: Four Winds Press. 1975.

Written by:

Donna Graham, Rapid City, SD 57701. ©1997.

Reviewed by:

Doug Backlund, Resource Biologist, S.D. Dept. of Game, Fish, and Parks, Pierre, SD.

Publication of the *Fox Squirrel* fact sheet was funded by the South Dakota Department of Game, Fish and Parks, Division of Wildlife, Pierre, SD.