

They glide through the air with the greatest of ease

The trees and the trunks are their flying trapeze – Bet Zimmerman

## **Flying Squirrels**

### **Natural History:**

**Northern flying squirrels and southern flying squirrels are the only two native flying squirrel species found in North America.**

**They are the only nocturnal tree squirrel and are the smallest of all squirrels. They are arboreal and live almost completely in trees.**

**They prefer conifers (especially hemlock) and mixed hardwood forests, older growth woods with plenty of rotten logs and standing dead trees with old woodpecker holes. They like to be near a water source.**

**They use a special membrane between their front and back legs that allows them to glide between trees. When a flying squirrel wants to travel to another tree without touching the ground, it launches itself from a high branch using slight movements of the legs to steer, and the tail acts as a brake upon reaching its destination. Flying squirrels can cover more than 150 feet in a single glide.**

**Distinguishing Southern and Northern Squirrels.**

**Size: Size is one way to tell northern and southern flying squirrels apart. The southern species is smaller, about 8 to 10 inches in length.**

**Northern flying squirrels are 10 to 12 inches long.**

**It is hard to distinguish between the two, although Northern adults are larger, juvenile Northern squirrels are sometimes confused with adult Southern. Check the underbelly fur and the shape of the face to help make the determination. Juvenile faces are more pointy, adult faces are blunt and rounded.**

### Coloration:

- Northern – cinnamon/grayish/reddish-brown fur and dark gray belly hair at the base tipped with a lighter color.
- Southern – tend to be more grayish, but color is variable and belly hair is whiter.
- The species are not known to interbreed.

### Range:

- Northern: Alaska and Canada southward in the west to northern California and Colorado, in the middle of the continent to central Michigan and Wisconsin, and in the east to northern N. Carolina and Tennessee. There are small populations in areas of high elevation including the southern Appalachian Mts., Black Hills, and Sierra Nevada.
- Southern: Found in the eastern half of N. America, from southeastern Canada to Florida, and south as far as Mexico and the Honduras.

Diet: They are fond of hickory nuts and acorns, peanuts, pecans and sunflower seed. (Everything we tell you not to over feed them)

They are prone to calcium deficit in captivity. In the wild they will eat;

Northern: Fungi, lichens, mushrooms, hardwood mast (nuts except walnuts because the shell is too hard), tree sap, insects, carrion, bird eggs and nestlings, buds, and flowers, bird seed.

Southern: All of the above plus berries, fruit, slugs and snails, bark, young mice.

Nesting Behavior: Flying squirrels may have many different nests, such as

“refugia” shelters or dens for daytime use, high in cavities with small entrance holes.

“dreys” that are not in cavities (used during warmer months)

“natal” nest used to raise young, usually more voluminous.

“food cache” have been seen filling nest boxes with acorns and seem to just be for food storage.

They live in loose colonies, and the previous years' young may live in the same boxes with adults and young from the current year. They will share nests to stay warm in cold temperatures. One difference with flying squirrels is that the Northern squirrels tend to have cleaner nests. The southern squirrels are less fastidious and may soil their nest and bring food in denning nests.

### Nesting Timetable:

Gestation for both species is approximately 40 days. Born early spring and or mid-summer.

Northern: Typically one litter a year with 1–6 per litter (2–4 typical) they leave the nests at 40 days weaned after 2 months

Southern: May produce 2 litters a year with 2-7 per litter (2-3 is common) they are weaned at about 65 days

Both fully independent at 4-6 months but young flying squirrels stay with their mother for 4 to 5 months and sometimes through the winter.

For the first 5-6 weeks maternal instinct is very strong with flying squirrels. A mother will go to great lengths to retrieve her own baby or any needy baby that is in her territory.

So on that note, when talking to the public about “rescuing” an infant flying squirrel try and encourage them to give the mother time to retrieve her baby if there are no safety or health concerns.

Both species live about six years in the wild, mating usually at 12 months but can mate as early as 9 months.

Health Note: Southern Flyers often carry a hookworm which doesn't seem to do them any harm. When Northerns share their territory, the hookworms are passed on to them. The Northern's have no defenses against the parasites and usually become very sick and die. If you are in an area which has both species, don't house them together. It is wise to worm the squirrels for hookworm to avoid contaminating the squirrel cages.

### **Intake Procedures:**

As rehabbers we all know our procedures for taking wildlife into our care. It's always helpful to go over what questions to ask the public when they bring in wounded or displaced infants. With small mammals like flying squirrels it is important to quickly evaluate their condition and get the animal into a safe, heated container. Then return to get the information needed for intake.

Besides the basic info, name, address, contact number etc. It's crucial to find out if the animal was fed anything. How long it's been in their care. And any other information that the public can share on what has happened to the animal.

### **Visual Observations:**

Because of the size of flying squirrels it can be a little tricky getting the information you need to evaluate their health. Flying squirrels dehydrate easily. If possible provide humidity as well as heat for them. Because their skin is so loose it is not advisable to use the skin test to determine hydration. If possible check their temperature. Normal temp. for flying squirrels is 98.7 which is a little lower than other tree squirrels. One way to check flyers for hydration is to use light colored bedding and check the color of their urine. Healthy urine is light, almost clear. Darker urine is a sign of dehydration.

**Nutrition:** See charts in handouts for timing and amounts.

- 4 weeks – Night feeding can be eliminated
- 5 weeks – Offer small pieces of weaning foods
- 6 weeks – Make sure you have water available, watch for constipation
- 8 – 9 weeks should be weaned and eating only solid foods
- Never add baby cereal, fruit or ground up rodent chow to formula. Their digestive enzymes are not at a high enough level to digest.

At 4 to 5 weeks, flying squirrels are old enough to be eating all the solid foods that its mother would be finding and bringing to the nest. In the wild, they eat acorns, walnuts, hickory nuts, pine nuts lichens, fruits, tree bark and buds and occasionally catch beetles, larvae and grubs.

In captivity, we aren't able to feed them everything that they would get in the wild here is a list of foods we can provide:

**Weaning Diet:**

**80% rodent blocks**

**20% fresh fruits & berries**

Along with broccoli, squash, carrot, pumpkin seeds, sweet potato, apple, green pea pods, mealworms, and a limited amount of nuts and seeds. Make sure you cut food items into smaller pieces so they can manipulate them.

Start putting green branches in their cages. They prefer elm, oak, apple or hickory branches. I use hazel nut branches as well.

As they get older 6 – 7 weeks they will need to chew things to keep their teeth filed down. Deer antlers, hooves, bones, etc. fill this need to chew as well as provide a good source of the necessary calcium they require for building strong bones.

\* Remember squirrels must have other foods to get the right nutrients for growth and energy. I have seen far too many squirrels come into our care that have been fed poor diets for an extended amount of time and have developed MBD.

Caging: Flying squirrels are the little Houdini's of the squirrel family. If they can get their head through it...they can escape from it. For the 1<sup>st</sup> few weeks I use small baskets with holes for ventilation and a framed wire top.

At 4 – 5 weeks after their eyes have opened and play behavior begins is a good time to move them into larger cages. Caging should be large enough for the squirrel to run, climb and get lots of exercise. A bird cage with some tree branches inside for climbing on is a good temporary home.

An ideal cage for longer term housing should be made from hardware cloth. This material makes for good climbing as well. The cage should be large enough to place a nest box filled with soft bedding. Note: (using hay for bedding can result in mites). They will start hiding food inside of their nest box, so you will have to clean it out every couple of weeks. A running wheel may be added for exercise

along with cardboard tubes, and other natural items to stimulate their climbing and chewing needs.

At 8– 9 weeks of age, start moving flyers outside. If the weather is cool, make sure they have a warm nest box to go into and bring inside at night. As weather gets warmer and animals have been acclimated to their surroundings, you can leave them in outside caging. Be sure it will be protected from predators and is big enough for the squirrels to start practicing their gliding skills.

**Release:** Flying squirrels begin to molt to their first adult fur when they are about 12 weeks old. So they should never be released before that.

Young flying squirrels stay with their mother for 4 to 5 months and some through the winter. So flyers in the rehabilitator's care should be released later than other tree squirrels, around 20 to 24 weeks.

Flying squirrels need at least 2 – 3 weeks in an outside cage to practice gliding skills. They should be active and opening nuts.

Release is best done into the colony they came from but if this isn't safe or practical, another established colony would work best. If you can't find a colony, choose an area with a combination of soft and hard woods, with trees that produce nuts and a fresh water source. If possible release them with their nest box to use until they move into a colony or find their own nest. Release 2 or more squirrels together so they can start their own colony.

And always release at dusk.

If releasing on site, leave the cage door open for at least a month with plenty of food and fresh water so they can return for a meal or a place to sleep until they can find a new home.