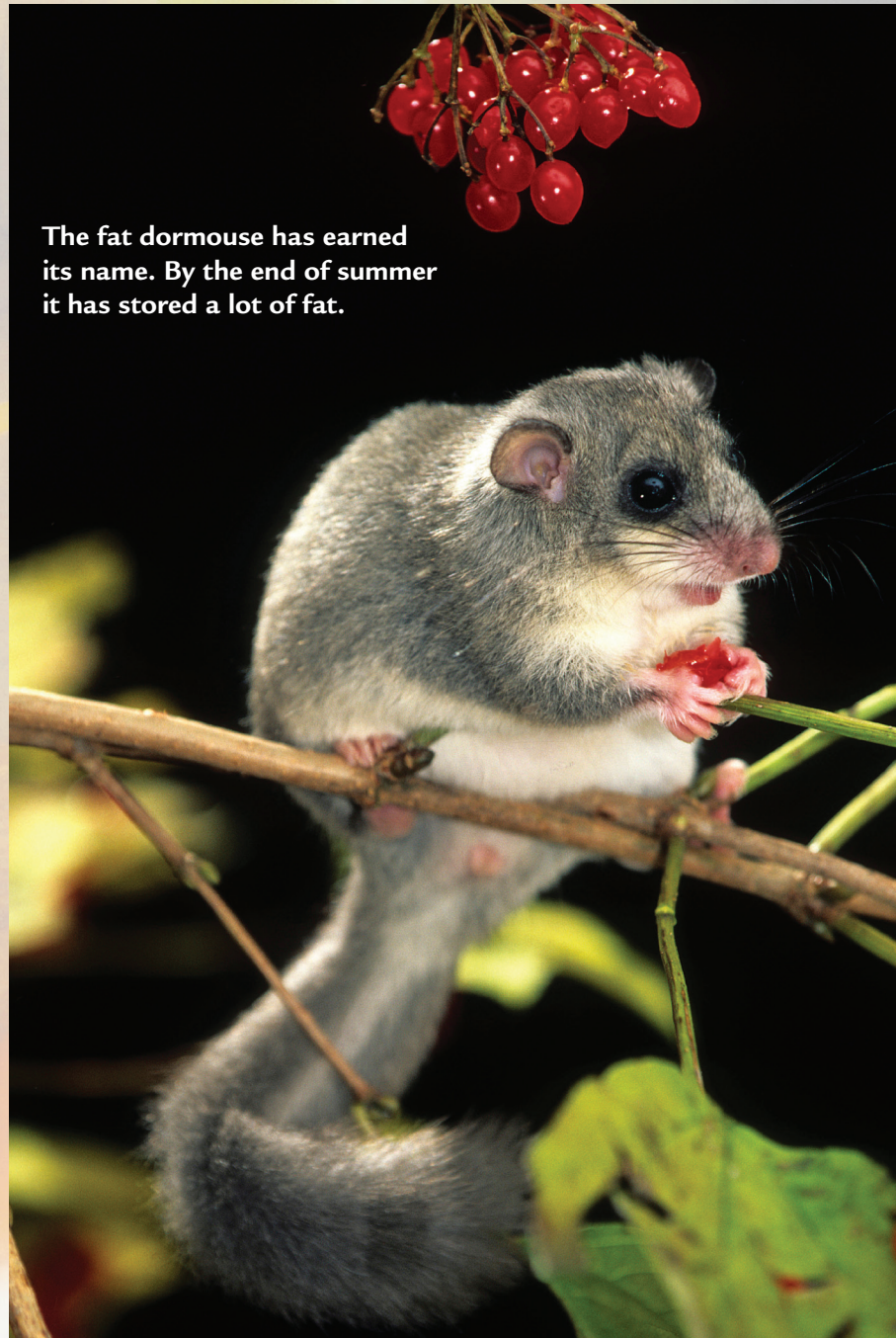


Champions of HIBERNATION

Fat dormice are energy supersavers.

By Alison Pearce Stevens, Ph.D.



The fat dormouse has earned its name. By the end of summer it has stored a lot of fat.

On a September night almost anywhere in southern Europe, you might see beech trees rustle with activity. If you shine a light into the branches, you may see rodents with large eyes, smallish ears, and bushy tails. Are they mice? Are they squirrels? What are those furry, gray critters? And why are they frantically eating beech seeds?

They add at least half their body weight in just a few weeks.

They are called fat dormice—or *Siebenschläfer* (“seven sleepers”) in German. Despite their name, all types of dormice are more closely related to squirrels than mice. That explains their bushy tails and why they hang out in trees and bushes. But most squirrels are active during the day. Like other dormice, fat dormice are nocturnal—they come out at night.

Once the sun sets, fat dormice go to work stuffing themselves full of beech seeds until they grow fat. These critters add at least half their body weight in just a few weeks. They’re preparing for a long winter nap.

“Seven Sleepers”

Lots of animals hibernate, but fat dormice do so for seven or eight months. “Seven sleepers,” indeed!

After putting on plenty of weight, a fat dormouse makes a nest in a tree cavity, a burrow under a tree, a gap between rocks, or some other snug space. There it will spend the winter. The rodent crawls inside, curls into a ball, and goes to sleep. Its body uses the stored fat for energy while it hibernates.

In its nest, often lined with grass or other plants, the fat dormouse slows its body down and hibernates for seven or eight months.



In autumn, fat dormice are often spotted near beech trees.

But seven months is a long time, so the dormouse needs to use its energy slowly. The only way to do that is to slow down what’s happening inside its body.

Slow Motion

Everything in a fat dormouse’s body slows down when it hibernates. That’s true of all hibernating animals. They breathe more slowly and their hearts beat less often. Those changes help the animals survive several months without eating. But in fat dormice, the body slows

down even more than the bodies of other hibernating animals that live in similar environments.

During a midwinter freeze, they breathe only once an hour.

At temperatures well above freezing (15°C or 60°F), hibernating fat dormice may breathe only once every 10 minutes. During a midwinter freeze, they breathe only once an hour. Hibernators such as little brown bats and golden-mantled

ground squirrels breathe more often. Their hearts beat more often, too. But those animals hibernate for only five or six months. Fat dormice have to stretch their energy supply for two or three months longer.

Over seven or eight months, the fat dormouse slowly uses up the fat it stored in the fall. In May, when winter is long gone and leaves cover the branches, it finally wakes up. It is much thinner, very hungry, and ready to make the most of its short summer before it is time to hibernate again. 🌱

LONG WINTER NAPS

Compare these statistics on three small animals that hibernate in temperate climates.

Species	Months in Hibernation	Weight Gain Before Hibernation	Breathing Rate During Hibernation	Heart Rate During Hibernation
Little Brown Bat	5 to 6	31 percent	1 breath every 48 minutes	20 beats per minute
Golden-Mantled Ground Squirrel	6	20 percent	1 breath every 12 minutes	6 to 13 beats per minute
Fat Dormouse	7 to 8	50 percent	1 breath every hour	10 beats per minute