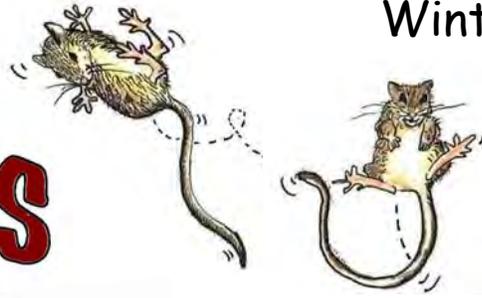


# NATURE DETECTIVES

Winter 2014



## How a Meadow Jumping Mouse Named Preble's Got So Famous

This important species of meadow jumping mouse is named for Edward Preble, the scientist who discovered them in Colorado way back in 1899.

Preble's meadow jumping mouse got famous when it became clear the mice were becoming scarce about twenty years ago. The U.S. government listed them as *threatened*. Now people are required to think about the habitat needs of jumping mice before they make changes to the places where the mice live.

Pull Out and Save

### Mouse Check-up

Tim is a Boulder County wildlife biologist who traps mice. He entices them into his trap with a sweet pea mix. He puts in a little quilt fluff so they don't get cold overnight. In the morning, he examines the mice and lets them go. Scientists like Tim know their work isn't really about one species of mouse. It is about saving healthy habitat for all animals, including people.

### Preble's Meadow Jumping Mouse vs. Deer Mouse

When an animal lives only in a very specific kind of habitat, that animal is a **habitat specialist**. When an animal can thrive in lots of different kinds of places, that animal is a **habitat generalist**. Both specialists and generalists are important for the balance of nature.

**Preble's meadow jumping mice** are specialists. They live where thick grasses and shrubs grow alongside unpolluted streams. They need protected spaces to dig winter hibernation burrows.

**Deer mice**, in contrast, are generalists. They live in many different habitats. They readily move into places where changes make it impossible for the specialist mice to survive. Places that have experienced fire, flood, building construction or over-grazing are prime deer mouse habitat. It is not surprising that there are more deer mice in Colorado than any other mammal. Deer mice are active at night. They don't hibernate and they only live about a year.



## Jumping for Safety

Preble's meadow jumping mice are like the mouse version of kangaroos. The mice's one-inch-long back feet and long back legs are designed for jumping, hopping and leaping. Their 4-6 inch tails are longer than their bodies. A swing of their long tail helps the mice change directions in mid-leap, maybe saving them from becoming food for a predator.

Their front feet are small. When they aren't jumping, they crawl along through the grasses. They don't make paths or runways like many other mice such as deer mice do.

Jumping is one way to escape the animals that eat them. They often just creep through the grass and flatten against the ground in hopes they won't be seen. They are also good swimmers. Their list of predators includes: garter snakes, rattlesnakes, bullfrogs, foxes, house cats, weasels, hawks and owls.



## Cold Weather Is for Sleeping

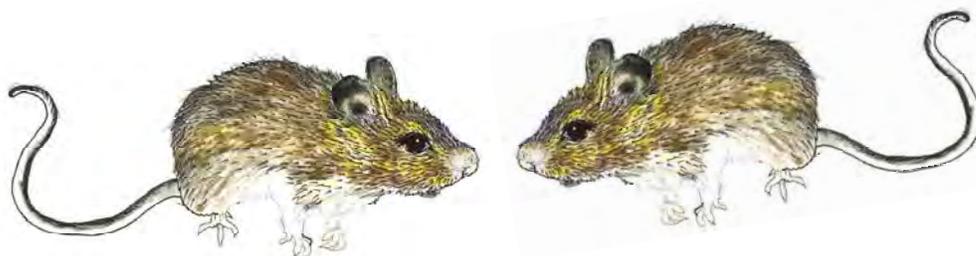
September into mid-October marks the beginning of winter hibernation for Preble's meadow jumping mice. The adults usually wriggle into their shelters before the juveniles, who are still busy trying to put on enough body fat to survive winter. Since animals lose fat when they hibernate, meadow jumping mice are among the smallest mammals that can hibernate. They snooze in grass and leaf nests in burrows underground. They come out of hibernation in late April to May.

## Summer is for Babies

Most of the babies are born between June and August. There are usually about five or six babies in a litter, and each female can have two or three litters during the summer.



Newborn babies are naked, blind, deaf and pink, but they can squeak. Their moms take care of them for a month. During the first week they get some hair and soon start to crawl. By their third week, they can hop and hear. Vision comes next. In a month, they are fully covered with the stiff, coarse fur of adult jumping mice. They can chirp, cluck and thump their tails to communicate with each other.



## Eat and Hide to Survive

Preble's meadow jumping mice spend most of their time alone. They don't fight with other jumping mice. They are active at night and sometimes at dawn and dusk too. They rest in grassy, leafy nests they build on the ground under shrubs or sometimes in burrows.



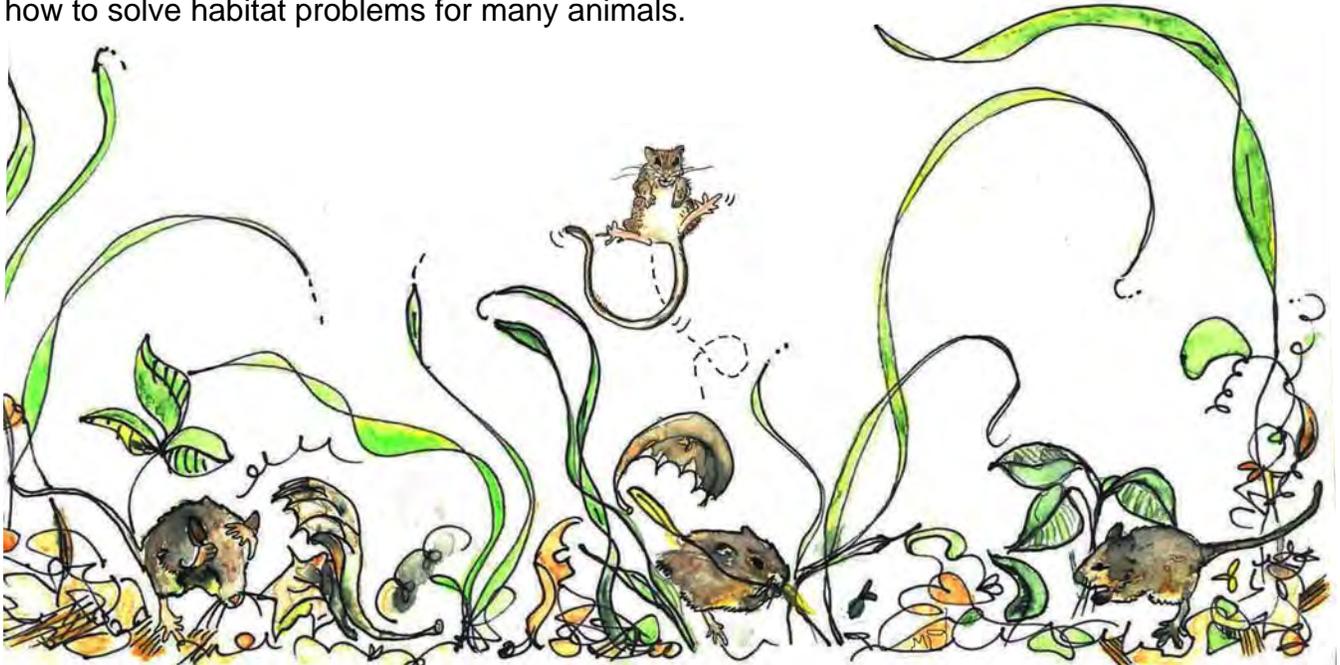
They hop, crawl around, climb and even dig for food that they can find by smell and sight. Insects such as caterpillars and beetles make up half their diet in spring. They also eat berries, leaves, fungi, moss and pollen. In the summer, seeds are the main items on the menu. They don't store food to eat later.

## Flood Survivors

Preble's meadow jumping mice often live near streams that naturally flood. If robust native plants flourish along such streams, the habitat can withstand floods fairly well, and so can these little mice. A healthy Preble's meadow jumping mouse can live at least three years.

## People and Mice

Space for Preble's meadow jumping mice continues to dwindle as people use the land. Protecting this specialist mouse's habitat is important. Relatively undisturbed land where Preble's mice thrive, with clean water and a variety of plants, is healthful habitat for many kinds of critters, including mammals, birds, reptiles and insects. Loss of Preble's meadow jumping mouse habitat is really a loss for lots of species. These rare mice may help us learn how to solve habitat problems for many animals.



Page 4 Answers: **Raccoon—Generalist** (lives many places, eats anything it can); **Preble's Mouse—Specialist** (needs thick grasses by unpolluted streams to survive, eats mostly grass seeds and some insects); **Lynx—Specialist** (lives high in the mountains, eats mostly snowshoe hares); **Bear—Generalist** (lives in the mountains, foothills and sometimes on the plains, eat berries, seeds, meat and anything it can find,); **Coyote—Generalist** (adaptable to living anywhere, mostly eats meat, but also eats plants and seeds); **Albert's Squirrel—Specialist** (lives in ponderosa pine forests and eats buds, pine needles, seeds, cones and twigs)

# Generalists vs. Specialists

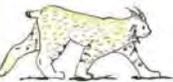
Habitat specialists have very specific habitat requirements in order to survive. Habitat generalists can live in many different places and usually eat many different types of food. Draw an arrow from each mammal below to the category where it belongs. (Answers page 3).



Raccoon



Preble's Meadow Jumping Mouse



Lynx



Bear



Coyote



Abert's Squirrel

Habitat Generalist

Habitat Specialist

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## Mouse Long Jump Challenge

Preble's meadow jumping mice are called that because they can jump at least three feet away when they need to escape from a predator. They have even been documented to jump 6-8 feet in one leap! Their little bodies are only about three inches in length. If you translate this size to human terms, a four-foot tall child would be able to jump at least 40 feet and up to 120 feet in one jump!

**Here's your challenge:**

### Materials needed

Measuring tape

Piece of chalk or a straight stick

Go outside on your driveway or sidewalk. Draw a line with your chalk as the starting point, or use a stick to mark the spot. Stand at the starting point and make the longest jump you can. Measure with your measuring tape to see how far you jumped. Try it several times to see if you improve.

Remember that if you were a Preble's meadow jumping mouse, you would be able to jump at least 10 times farther than how tall you are!

What other animals can you think of that jump long distances? Don't forget insects and spiders.

