



MAMMALS

Status: Abundant, Native Resident

DEER MICE

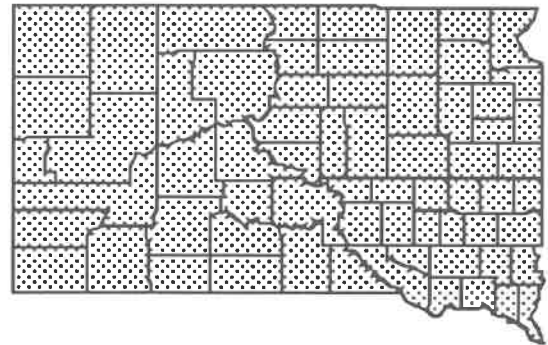
(*Peromyscus maniculatus*)

Description

Deer mice are small, native rodents 5 to 8 inches (12.7-20.3 cm) long. They are called deer mice because the coloring of their fur resembles deer: dark on the back and white on the legs and underside. The tail is also dark on top and white underneath. The scientific genus name for these creatures is bewildering. *Pero* is Greek for defective and *myscus* is derived from the Greek word, *muskos*, meaning mouse. The species name, *maniculatus*, is Latin for little hand.



Deer mice have many adaptations to the various *habitats* of South Dakota. In the shadowy woodlands in the eastern part of the state their backs are almost black. In the central part of the state they are yellowish buff, and in the west they are grayish brown. Mice that live in areas where there are trees to climb often have longer tails, which can be used for balance. Mice that live in treeless areas have shorter tails.



Distribution

Deer mice are the most widespread rodents in South Dakota, and probably the most abundant mammal species in the state. They are found in many types of *habitats*. Open grasslands, brushy country, badlands, cliffs, *coniferous* forests, shelterbelts, pasturelands, and croplands all provide suitable habitat.

Wetlands are the only areas deer mice avoid. Deer mice will occupy the *deciduous* woods of the eastern part of the state if the area is not already occupied by white-footed mice. Deer mice and white-footed mice will not usually share the same habitat.

Natural History

Deer mice live in burrows they have made, abandoned burrows of other animals, beneath rocks, in stumps, in soil cracks, in debris, or in any other protected location. They build a cup-shaped nest of finely shredded plants and fur. Because they are *nocturnal*, deer mice use their nest for sleeping during the day. It is also used for raising their young and protecting themselves against winter weather.

Deer mice are active year round and do not hibernate during the winter. However, they still prepare for winter by putting on body fat and storing seeds. Weed seeds form the bulk of their diet during the winter months. Although we often think of mice as eating only plant matter, deer mice, like humans, are *omnivorous*. In the summer they eat seeds, small fruits and berries, beetles, caterpillars, grasshoppers, leafhoppers, and an underground fungus called endogone. What is eaten will depend upon what is available. When available, insects may provide more than half of their diet.

Because deer mice are abundant and found nearly everywhere, they are a major food for such *carnivores* as coyotes, foxes, bobcats, weasels, skunks, badgers, grasshopper mice, snakes, owls, and other birds of prey.

Home range is the area an animal normally lives in. In order to survive their many predators, deer mice must be thoroughly familiar with all the details of the landscape in which they live. Their *home range* can be as small as a back yard or up to ten acres, depending upon the availability and competition for food. Within their *home range*, they usually travel along the most convenient routes, which can be the trails of other animals or trails they have created over time. Mice have even been known to trim the plants along their runways. In the winter tracks can sometimes be seen on snow. More often their runways are

transformed into tunnels under the layer of snow. When the snow melts in the spring, these runways are often visible in the vegetation and can form fascinating mazes.

Deer mice are able to breed throughout the year, but most often breed in spring and early fall. *Gestation* is about three weeks and the litter size ranges from 1 to 9 babies with an average litter size of 4. Each newborn weighs about 1 to 2 grams or about half the weight of a penny. Newborn mice are blind, deaf and have no hair except whiskers. Their skin is so transparent that you can actually see the milk flowing into them when they nurse during their first 24 hours. By the second day their skin gains color and is no longer transparent. Newborn deer mice nurse almost constantly and grow rapidly. By 4 days they will begin to have fur. In one week they will have doubled their weight. And in 2 weeks their eyes open and they begin to move around. At about 7 weeks the females are able to reproduce and at about 8 weeks the males are sexually mature.

Deer mice populations are probably greatest in the fall when females of spring litters have produced their own young. The deer mice population can widely fluctuate from one time of the year to another, from year to year, and from place to place. Factors affecting populations include food supply, predators, and weather. Local flooding in the spring also frequently drowns spring litters.

Significance

Deer mice are an important link in the food chain because, when abundant, they are a major food item for a variety of predators. For example, at times owl pellets have been found to contain more than 40% deer mice bones.

Deer mice are the primary carriers of the hanta virus. The hanta virus pulmonary syndrome was first recognized in 1993 and, since that time, a total of 131 people

have been reported to have contracted this illness in the United States. Of those affected, half have died. In 1996, two South Dakota men were diagnosed with hanta virus. As of 1996 there was no cure for the disease. For this reason, it is recommended that people do not handle wild mice or frequent areas where large amounts of mouse droppings are found.

Management Considerations

The killing of mice, along with mammals such as prairie dogs, gophers and ground squirrels, is not currently regulated by state or federal laws. It is legal to kill any number of these animals throughout the year. Deer mice populations don't thrive well in simplified habitats such as are found in agricultural fields. They prefer the more complex communities of native prairie and roadside ditches.

Glossary

Coniferous - trees or shrubs with needle-shaped leaves and cones that are chiefly evergreen.

Deciduous - plants whose leaves fall off during the winter.

Gestation - length of pregnancy.

Habitat - the area or environment where an animal normally lives.

Home range - the area an animal uses to provide for its needs of food, water and shelter.

Nocturnal - active during the night.

Omnivorous - eating both animal and vegetable foods.

References

Clark, T.W. 1987. Mammals in Wyoming. Lawrence: Museum of Natural History, University of Kansas.

Horner, Susan and Celia B. Lottridge. 1986. Nature's Children: Mice. Danbury, CT.

Jones, J. Knox, Jr. et al. 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: Knopf.

Selected Resources for Teachers

Avi, Poppy, Orchard Books, New York, 1995. Middle-school literature connection.

Ring, Elizabeth, Lucky Mouse. Milbrook Press. The life cycle of an orphaned deer mouse unfolds as a group of children place it with a white-footed mouse family. Relevant facts on mice are included in a question and answer section.

Deer mice populations could be excellent examples for population studies, predator-prey relationships, exponential growth in math. Deer mice bones may be found in owl pellets.

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