

MAMMALS

Status: Common Native Resident

PORCUPINE

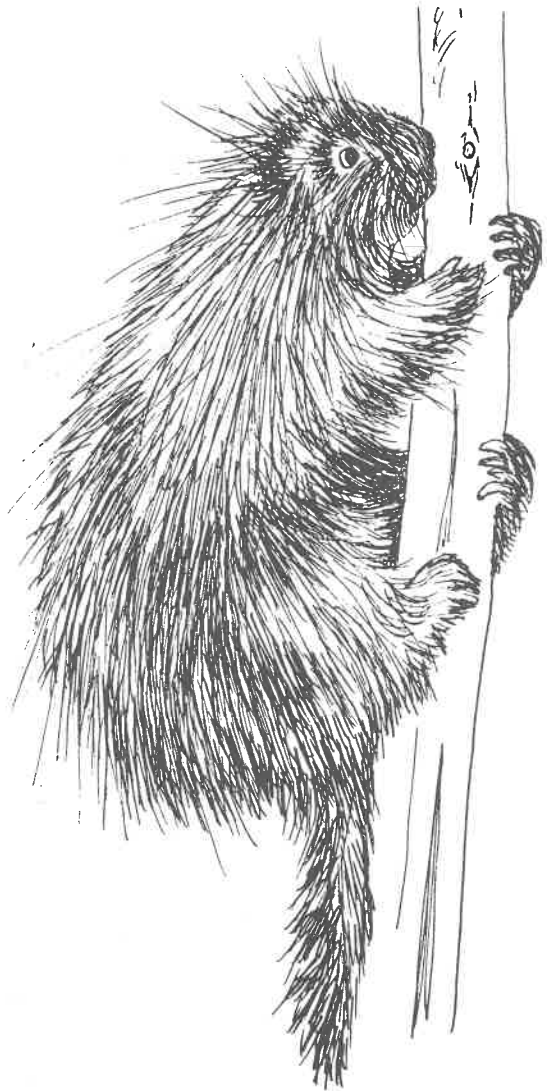
(*Erethizon dorsatum*)

Description

Porcupines are the second largest rodent in South Dakota. Their common name is from the French words, *porc espin*, meaning thorny hog, which refers to the animal's famous quills. The scientific name, *Erethizon* means "arouse" in Greek, and is a reference to the species' reputation for being irritable. *Dorsatum* is Latin for back. The Lakota word for porcupine, "pahin," also means quill.

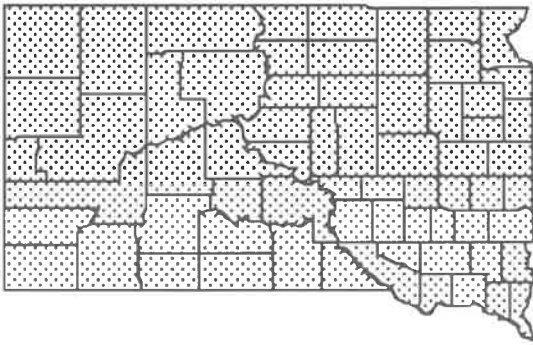
These heavyset animals weigh about 15 pounds (7 kg), the size of a very large house cat. Large males can weigh up to 30 pounds (13.6 kg). Their total length ranges from 25.5 to 36.5 inches (64.8-93.0 cm) with a 6 to 11 inch (15-28 cm) tail. They have four toes on their front feet, five toes on their hind feet, and strong, curved claws.

Although porcupines are most known for their quills, quills are only one of the three kinds of hair that porcupines have - underfur, guard hairs and quills. The underfur consists of thick, fine, dark-colored hair that provides warmth. Over the underfur are long, coarse hairs called guard hairs that form a protective coating. These guard hairs may be up to 4 inches (10 cm) long. They protect the underfur on the back and tail. Quills are stiff, hollow hairs up to 3 inches (7.6 cm) or more in length with a barbed tip. They



are located on the animal's back, sides, legs and tail. Quills are longest on the rump and shortest on the cheeks. An individual porcupine may have 30,000 or more quills. Porcupines along the Missouri River and in western South Dakota have yellowish quills and yellow-tipped guard hairs. Those east of the Missouri have white quills and white-tipped guard hairs.

Distribution



Porcupines are found throughout South Dakota wherever there is adequate *habitat*. Although primarily animals of *coniferous* forests, porcupines can also be found in wooded areas along streams throughout the state.

Natural History

These shy, solitary animals have a slow-moving, waddling walk. At dusk they wake up and browse for food. At dawn they will find a tree to sleep in or a den in a hollow log or among rocks; they do not build a nest. During severe winter weather they might den up with other porcupines, otherwise they are solitary except for mother and baby. Porcupines have a *home range* of about 25 to 35 acres.

Porcupines have many adaptations to their way of life. They have strong, curved claws for climbing the trees they feed on and sometimes sleep in. They also have rough, pebbly soles on their feet to grip tree trunks and branches. The muscular tail is used for balancing in trees. Like all rodents, a porcupine's incisor teeth continuously grow and are

kept sharp by continuous wear against each other. A porcupine's eyesight is poor but it has a keen sense of smell and hearing.

Porcupines are *nocturnal herbivores*, which means that they eat plants during the night. Their diet varies with location and the season of the year. In the spring and summer porcupines eat buds, flowers, leaves and small twigs. Porcupines do not hibernate in the winter. In winter the inner bark, or cambium, of trees forms the main part of their diet. They chew through the outer bark of trees to get to the edible *cambium*. *Coniferous* trees are preferred, but *deciduous* trees will be eaten. Porcupines have an interesting adaptation for eating wood. The cell walls of wood are composed of *cellulose*, which most animals cannot digest. Bacteria, which can digest *cellulose*, live in a pouch in the porcupine's large intestine and breakdown the *cellulose*. The porcupine then digests and absorbs both the *cellulose* by-products and some of the bacteria. Porcupines eat as much as one pound of plant material per day. As a result of their diet, porcupines smell strongly of old sawdust.

Breeding occurs in November or December. After about 7 months a single baby is born. At birth the baby porcupine has soft quills, but they harden quickly once exposed to air. [In order to protect the mother, the baby is born head-first within the placental bag.] The newborn is well-developed with eyes open. Within two weeks the baby will begin eating vegetation. In the wild, porcupines live as long as 10 years while captive porcupines have lived as long as 20 years.

Due to their protective quills, porcupines have few predators. Porcupines do not throw their quills, although the quills of a frightened porcupine are more easily detached. When challenged, they simply put their heads down and turn their rumps toward their attackers. They may slap attackers with their tails. Through experience most animals have learned to

avoid porcupines. Coyotes, bobcats and mountain lions are their only South Dakota predators. Other causes of porcupine death are getting hit by cars and falling out of trees.

Significance

The Lakota people use porcupine quills as hair accessories and for decorating leather, traditional clothing, and jewelry. The quills are dyed, flattened with the teeth, and braided, plaited or sewn. There are several books and videos about this ancient and beautiful craft. Tribal colleges occasionally offer courses in quill work.

Many people consider porcupines to be a nuisance because of the damage they cause to trees and wooden structures. During the winter, porcupines can damage trees by chewing through the bark. Most of the time this does not kill the tree, although it might affect its appearance. If the porcupine population is high enough, there can be damage to a forest. In addition to plant material, porcupines crave salt and are attracted to objects that have salty human sweat on them, such as ax handles, boat oars, etc.

They have been known to chew on tools that have been left outside and on parts of cars that were parked outdoors. In 1997, Rod and Gun Campground and Timon Campground in the Black Hills had to be closed during the summer because porcupines were chewing through cars' brake lines and radiator hoses.

Dogs that bite porcupines can be injured from the barbed quills that lodge tightly in the tender skin of the mouth and nose and, if not removed, may work deep into the flesh and cause permanent damage. If the quill ends are cut, they are sometimes easier to remove. Quills are best removed with pliers, twisting the quill slightly as it is drawn out.

Management Considerations

Currently there are no state or federal regulations concerning the taking of porcupines. With a basic hunting license it is legal to kill any number of these animals throughout the year. There is no commercial value to porcupine fur or meat, although as mentioned above, uses have been found for porcupine quills.

Glossary

- Cambium** - the thin green layer just beneath the bark that produces new growth of wood and bark.
Cellulose - the main constituent in the cell wall of plants.
Coniferous - trees or shrubs with needle-shaped leaves and cones that are chiefly evergreen.
Deciduous - plants that lose their leaves in the fall.
Habitat - the area or type of environment in which an animal normally lives.
Herbivores - animals that eat plants.
Home range - an area in which the animal lives, but does not defend. Therefore, this space is shared with other individuals of the same species.
Nocturnal - animals that are awake during the night and sleep during the day.

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Selected Resources for Teachers

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- Dingwall, Laima, Nature's Children: Porcupines. Danbury: Grolier, 1986.

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