

DAKOTA NATURAL HERITAGE

by Eileen Dowd Stukel

TREE BATS

Phillip Henry



Hoary bat

IF YOU SEE a bat in South Dakota, it is likely to be a little brown bat or a big brown bat, two species commonly associated with buildings. Big brown and little brown bats are just two of the dozen or more bat species found in the state during some part of the year. Three of South Dakota's bat species are "tree bats," meaning that they prefer trees and forested areas for foraging, maternity, and resting sites.

South Dakota's tree bats are the hoary bat, the eastern red bat, and the silver-haired bat. In general, these tree bats may be seen almost anywhere in the state during migration, but their primary South Dakota breeding areas are in the Black Hills. In contrast to several species of the genus *Myotis*, which are difficult for anyone but an expert to distinguish, each of our tree bats is distinctive in appearance and quite beautiful.

The hoary bat (*Lasiurus cinereus*) is the largest bat species known in South Dakota, measuring 5 to 8 inches long and weighing $\frac{3}{4}$ to $1\frac{1}{2}$ ounces. The fur is yellowish brown to mahogany colored with a silver frosted appearance, hence the name hoary bat. Longer hairs on the neck form a slight ruff. This bat ranges from southern Canada south through most of South America. The hoary bat is Hawaii's only native land mammal.

Hoary bats are mostly solitary, spending summer days hanging from tree branches in sites well covered by foliage above and open below. Hoary bats typically do not inhabit caves or buildings. Males and females come together only to mate in late summer or early fall. As is true for all bat species found in South Dakota, the

male's sperm are dormant in the female until fertilization the following spring. The female typically gives birth to two pups during early summer. She carries her young until they are about a week old, then leaves them clinging to a twig or leaf during her nightly foraging trips. Young hoary bats can fly when 3 to 4 weeks old.

Hoary bats are often the last bats to begin foraging in the evening, starting several hours after sunset. Hoary bats do not hibernate in South Dakota, but rather travel south to warmer climates for the winter.

The red bat (*Lasiurus borealis*) is considered to be among the continent's most beautiful bats. Unlike most bat species, male and female red bats differ in color. The male's fur ranges from bright orange to pale yellowish-orange, with white-tipped hairs. Females have duller, buff-chestnut fur, with longer gray-tipped hairs that create a somewhat frosted appearance. Red bats have a yellowish-white patch of hair on each shoulder. Weight ranges from $\frac{1}{5}$ to $\frac{1}{2}$ ounce, and total length is $3\frac{3}{4}$ to $4\frac{1}{2}$ inches. The eastern red bat ranges throughout most of the eastern United States and southeastern Canada as far south as northeastern Mexico. South Dakota forms part of the western boundary of the species' range. Red bats apparently do not winter in South Dakota, and this species is the least common bat of the Black Hills.

Like the hoary bat, the red bat spends the day sheltered by the foliage of tree limbs or low shrubs, usually hanging by one foot from a leaf petiole, twig, or branch and often resembling a dead leaf. Red bats are rel-

actively early foragers, starting their slow, erratic foraging flights in late afternoon. As darkness falls, they drop to tree level and lower in search of moths, crickets, flies, mosquitoes, and beetles. Red bats may also forage beneath artificial light sources, such as streetlights.

Eastern red bats mate in late summer, with sperm stored in the female until fertilization the following spring. A female red bat may have 1 to 5 pups in late spring or early summer. The mother leaves her pups hanging on tree limbs while she forages. She may relocate her young if disturbed. Red bats typically do not frequent caves or buildings.

THE SCIENTIFIC NAME of the silver-haired bat (*Lasiomycteris noctivagans*) describes its appearance (*Lasiomycteris* is from Greek words meaning "hairy bat") and its lifestyle (*noctivagans* is from Latin words meaning "night wanderer"). The dark fur on the back is silver-tipped. This bat weighs $\frac{1}{5}$ to $\frac{1}{3}$ ounce and measures approximately 4 inches in length. This wide-ranging bat occurs from southeastern Alaska and central Canada across most of the U.S. southward to northeastern Mexico. Silver-haired bats generally do not hibernate in South Dakota. A research study in the Black Hills confirmed that large dead or dying ponderosa pines (snags) are important roosting sites.

The silver-haired bat inhabits both

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Silver-haired bat



Eastern red bat

coniferous and deciduous forests and forest edges along waterways. Roost sites for this solitary bat include hollow trees, spaces under loose tree bark, woodpecker holes, and, less commonly, buildings. In areas with few trees, the silver-haired bat may roost in piles of fenceposts, boards, or bricks. Hibernation sites include hollow trees, rock crevices, mines, caves, and buildings.

Silver-haired bats mate in late summer. The male's sperm are stored in the female's body until fertilization the following spring. The female gives birth to two pups in early summer, and females with young may roost together. Nightly foraging begins several hours after sunset, with another foraging period 6 to 8 hours after sunset. Foraging flights are slow, leisurely, and sometimes not far aboveground near and over woodland wetlands. Silver-haired bats may repeat the same feeding circuit in search of moths, in-

sects, mosquitoes, termites, and caddisflies.

All three of South Dakota's tree bat species bear more than one pup each year. Nearly all other bat species found in the state give birth to a single pup each year. These species, which include the familiar little brown and big brown bats, typically find safety from predators and inclement weather in buildings, caves, or abandoned mines, in contrast to tree bats, which are more vulnerable to predators and to the elements. The larger number of pups borne by female tree bats may help offset the added risks associated with their maternity and roosting habitats.

Henry David Thoreau said, "The universe is wider than our views of it." Our views of bats are still evolving from fear and loathing to a deeper understanding and fascination for these members of South Dakota's natural heritage. ■

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