

## Voles



Voles are mice that have fuzzy coats and short tails. They mainly live in and eat grass. They are scientifically distinguished from other Alaska mice by having the grinding surfaces of the molars flat-crowned with an enamel pattern composed of alternating triangles. Seven species of voles occur in Alaska.

**General description:** There are two genera of voles in Alaska within the family Muridae. The red-backed voles (*Clethrionomys*) have red-colored backs and live in more forested habitats that provide a more catholic diet. These rodents are small (6-42 grams). The other voles, belonging to the genus *Microtus*, are colored brown or gray and are mainly found in habitats with grass. They range in size from 8-112 grams.

**Distribution and life history:** Voles live in all habitats in Alaska except on bare rocks and glaciers. The distribution of voles is not well-known in Alaska, but based on collections from various parts of the state, we can generalize where they live. The **northern red-backed vole** (*C. rutilus*) is found throughout mainland Alaska out the Alaska Peninsula to Unimak and St. Lawrence islands but is absent from Southeast Alaska and Kodiak and Nunivak islands. **Gapper's red-backed vole** (*C. gapperi*), a close relative, is found on the mainland of Southeast Alaska and on some adjacent islands but not on Admiralty, Baranof or Chichagof islands. The **meadow vole** (*M. pennsylvanicus*) is found in Interior and Southcentral Alaska west to Bristol Bay. It does not occur on Kodiak Island or on the Alaska Peninsula. In Southeast Alaska it occurs only on the mainland and on Admiralty Island. The **tundra vole** (*M. oeconomus*) occurs throughout Alaska including Kodiak Island, out the Aleutians to Unalaska Island, on Nunivak and St. Lawrence islands and in Southeast Alaska only from Baranof and Chichagof islands north. The **long-tailed vole** (*M. longicaudus*) is found throughout Southeast Alaska, the Yakutat forelands and in the extreme eastern Interior. The **yellow-cheeked vole** (*M. xanthognathus*) is only found in Interior Alaska on the Yukon and Kuskokwim river drainages. The **singing vole's** (*M. miurus*) distribution is the poorest known. It has been found on the North Slope, Seward Peninsula, and Brooks Range. It appears to be absent from the Interior and Southeast but is found again in the Alaska Range and south to the Kenai Peninsula and Cook Inlet and west to Cape Newenham.

The *Microtus* voles live in small colonies of a few to 300 individuals in grass meadows where they build distinctive runways which crisscross the area. Often, grass cuttings can be found in these runways. They also dig underground burrows where they construct food and nesting chambers. Voles do not hibernate and are active throughout the winter. During the winter in snow covered areas, the voles make runways beneath the snow and feed on the snow-flattened grasses. They also burrow up through the snow to reach grass seed heads using various levels within the snow pack. Immediately after the snow melts, their runways often become visible on the ground.

Breeding starts during late winter and continues until August. The gestation period is about 21 days, and the 4-8 young are born blind and naked. The young are weaned at 2 weeks and reach maturity at 3-6 weeks when they themselves may start breeding. Females can have six litters per year; thus in a short period, voles can become very numerous. Voles live about one year.

The red-backed voles are mostly solitary or live in small family groups. They live in a variety of habitats from upland forests to grass meadows. They do not build runways but will use those built by *Microtus* voles, if they live in the same area. Meadow voles may inhibit red-backed voles from colonizing grassland habitats during the breeding season. Red-backed voles start breeding in late winter and continue until August. Gestation is 17-19 days, and litter size ranges from 2-11 young. Young are weaned in 12-17 days and are mature in 2-4 months; females have multiple litters. Most red-backed voles live from 10-12 months.

**Food and predators:** *Microtus* voles eat mainly grasses and seeds, while the red-backed voles are omnivorous and will eat grass, seeds, fruit, lichens, fungi, insects and meat. If a vole is caught in a trap, others will feed upon the trapped vole.

Both the *Microtus* and red-backed voles form the base of the food chain for many animals in Alaska. They are the staple foods of weasels, marten, foxes, coyotes, all owls, most hawks, inland breeding gulls, jaegers, and occasionally great blue herons, domestic cats, northern pike, and other voles.

Voles have a wide variety of parasites ranging from fleas, mites, and ticks to nematodes and cestodes. They carry the protozoan *Giardia*, which may infect humans.

**Conservation and management:** Voles are unclassified game in Alaska with no closed season or bag limit. In some limited areas of the state, they may become an agricultural pest when their numbers are high. Their greatest benefit to Alaskans is as the prey base for a vast number of predators which Alaskans enjoy viewing, trapping and using. Voles venture into houses very rarely. However, red-backed voles are quite common in cabins and camps.

There are no conservation threats to the seven species of voles at present. Some of the voles have subspecies which are limited to small islands and may be threatened in the future by changes to their habitats.

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