

Pikas Race Against Winter Year Round

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Pikas are small mammals that haunt the talus slopes, steep piles of jumbled rock beneath cliffs in the high mountains. Pika behavior transforms these ostensibly inhospitable habitats into home, cupboard and shelter from weather and predators.

Pika, *Ochotona princeps*, have small, round ears, no tail, and two sets of incisors, one behind the other. Their evolutionary history is not apparent in their morphology but is revealed by their gait. Pikas run like rabbits, their closest living relatives.

Unlike the marmots that live nearby, pikas do not hibernate in winter, but remain active beneath the snow in the talus slope. A deep layer of snow protects pikas from high winds and temperatures below -20F. But if the snow is shallow, pikas may die of exposure.

To survive seven months of winter, pikas cache summer vegetation in a haypile sheltered beneath a large rock within their territory. They defend their territories ferociously, for pikas are not above stealing from their neighbor's haypile. A pika makes approximately 14,000 collecting trips during the short summer to accumulate the haypile.

Pikas are in a constant race with winter. Babies are born in spring, weaned in three weeks, and then immediately kicked out of mom's territory. They must scramble to establish their own territories and accumulate a haypile for the impending winter.

During the summer, pikas favor lush, sweet, nutritious plant species, such as grasses. But much of the material collected for the haypile includes species defended by phenols, such as alpine avens, *Acomastylis rossii*. Phenols make plants bitter and difficult to digest, so pikas eat few alpine avens during the summer. But the phenols inhibit microbial decomposition and preserve the alpine avens in the haypile. Apparently, pikas can detect phenols, and they have come to rely on the fact that phenols degrade over the winter. As phenol levels drop into the tolerable range, these four-legged chemists consume the well-preserved alpine avens.

Pikas, like rabbits, defecate two types of solid waste: large, soft, green pellets and small, dry, brown pellets. The green pellets still contain valuable nutrients, so pikas either consume them immediately, or store them in the haypile for later consumption. The second time around they come out dry and brown. Pikas also collect feces from marmots, store them in their haypiles, and consume them. This caloric thriftiness is called coprophagy.

When times are really tough and the haypile is gone, a pika will gnaw lichens from the rocks.

Hikers hear pika long before they see them. Like prairie dogs and ground squirrels, pikas are constantly on the lookout, and they sound an alarm call at the approach of a predator or an innocent hiker. Hawks and coyotes hunt coyotes but their most common predator is the long tailed weasel. Weasels pursue pikas into their passageways in the talus slope and kill many young pikas.

Pika face a harsh winter in a rockpile, with only coprophagy and a cache of poisonous plant to sustain them. Then there are the weasels. Life isn't easy for a pika.



Photo by Jeff Mitton