

Update

NPMA LIBRARY UPDATE

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The Packrat (Woodrat)

If you are not as organized as your family or officemates might like, and you tend to collect or hoard things in your work or personal spaces, you may have heard the expression, "Don't be a packrat!" But did you know it was based on fact and a real rodent?

There are 22 species of packrats — also called woodrats or trade rats — in North and Central America. These rodents belong to the family Cricetidae (order Rodentia, genus *Neotoma* spp.). They are found from deserts and forests to high, rocky mountainsides. There are eight species of packrats native to North America. They will inhabit gravel desert lowlands, dry plains, brush lands and forests. Packrats are commonly called woodrats or trade rats because they collect various objects and bits of material to deposit in, or use in the construction of, their nests. They are especially fond of small, bright, shiny objects which they will readily confiscate.

Packrats are pale buff, gray or reddish-brown in color and usually have white undersides and feet. They have relatively large ears and hairy tails. Their fur is soft and dense. They weigh about 8 ounces and can be 8 to 20 inches long, including their 3 to 9 inch tail. (They are about the size of a common Norway rat, but distinguishable from Norway rats by their hairy and non-scaly tails.)

Packrats are primarily nocturnal, adept climbers, good diggers and vegetarian; they feed upon a diet of spiny cactus, pods, bark, berries, nuts, seeds and any available green vegetation. (Of course, they will also feed on human food stored in buildings, but will continue to trail outside to feed as well.) They obtain moisture from what they eat and therefore do not need free-standing water. (In desert areas, they rely on succulent plants for their water.) The packrat is most vulnerable when out foraging for food, at which times a coyote, fox, snake or owl may prey upon it.

Life Cycle

Most packrats are born naked and helpless, and are cared for in nests. Some female packrats have been known to deliver up to five litters per year with as many as five young per litter. One female with her litter of young will inhabit a single nest, or even at times, multiple nest sites. The young may open their eyes at 10-12 days and are usually weaned



*Photo credit:
Montana Natural
Heritage Program
(<http://fwp.mt.gov>)*

between 14 and 42 days. Most become sexually mature after 60 days. The life expectancy of a packrat is roughly two years.

Packrats must have shelter! They cannot survive when exposed to extremes of heat, cold or direct sunlight. They will reuse existing empty nests before starting new nests. Potential nesting areas are any sheltered area including: cacti, bushes, trees, rock crevices, pool heaters, spas, car engines, ceiling voids, gas grills, under sheds, and wood piles. They will fortify the nest with additional materials, including cactus, rocks, sticks, and just about anything else they can find. The presence of additional fortification material is the telltale sign that distinguishes a packrat nest from that of a squirrel or other rodent.

Packrat Nests: a Modern Day Problem

A packrat nest is called a midden, or a den. The nest is built of plant materials including branches, twigs, sticks and other debris. The huge structures may be up to 4 feet across. They are usually constructed in a tree or on the ground at the base of a tree or rocky ledge. Packrats can become quite a nuisance, getting into everything from attics to car engines, stealing their treasures, damaging electrical wiring and

wreaking general, noisy havoc. The nest provides both shelter from extremes of desert temperatures and protection from predators by using cactus pads and cactus spines in the construction. These construction methods help keep the nest much cooler than the surrounding desert floor in summer, while helping to retain the animals' body heat in the winter.

Interestingly, fossil packrat midden often contains abundant fossils of leaves, seeds, fruits, twigs, bones, shells, and other materials. These items comprise a physical record of species that lived within a packrat's range. The debris within the midden also contains records of past atmospheric conditions that can be measured through ratios of isotopes of oxygen and carbon. Radiocarbon dating has identified some midden as being over 50,000 years old! Analysis of packrat midden thus provides a powerful tool for reconstructing biotic communities and environmental conditions at specific locations, far into the past.

Present day packrat nests can cause major problems. In addition to destroying landscaping and being full of urine and feces, their nests will harbor a variety of other arthropod pests, including blood sucking kissing bugs (conenose bugs), fleas,



Packrats are pale buff, gray or reddish-brown in color and usually have white undersides and feet. They have relatively large ears and hairy tails. They can be 8 to 20 inches long. Photo credit: Ken Cole, USGS (public domain)



A packrat nest is called a midden, or a den. The nest is built of plant materials including branches, twigs, sticks and other debris. They are usually constructed in a tree or on the ground at the base of a tree or rocky ledge. Photo credit: Montana Natural Heritage Program (<http://fwp.mt.gov>)

lice, spiders, scorpions, and mice. The nests can therefore support diseases including: allergic reactions from kissing bugs, hantavirus from mice, plague from fleas, and bites from spiders. Because of the danger of plague and hantavirus, dead or dying packrats should not be handled without proper personal protective equipment (PPE). The nests will also attract snakes, skunks, foxes, coyotes and bobcats, since packrats are prey items for these animals.

Packrat Damage

A major concern with packrats is that they are avid chewers, and will chew on and through wires in cars, attics, infrequently used cabins and outbuildings. The young will seek nesting opportunities in cars, pool equipment and get into the ceiling and wall voids of homes and structures. They will shred upholstered furniture and mattresses to line their nests. They will then pack these nests with all manner of objects: jewelry, wire, and other shiny items are common. They also feed and chew upon twigs and branches of saplings and seedlings of trees, especially fruit trees and redwood trees. Loss of trees and other agricultural crops can occur.

Pest Management Tips for Packrats

The key to pest management is to deny them shelter and nesting sites.

- Avoid storage boxes and other items that may give shelter to packrats on patios or along the sides of buildings and walls.
- Store fire wood off the ground and away from any wall or other obstruction.
- Keep carports clear of stored items to eliminate hiding places.
- If packrats have been in a car engine compartment, have it steam cleaned to destroy the scent and leave the hood open at night.
 - o Leaving the carport light on at night will help.
- Rodent-proof/exclude all possible entry points; be sure the packrat is not trapped inside the building!
 - o A packrat can squeeze through a half-inch hole.
 - o Be sure doors fit correctly and have door sweeps.
 - o Be sure windows are screened properly.
 - o Exhaust fans and ventilation vents on the roof/attic level should be screened.



Potential packrat nesting areas include: cacti, bushes, trees, rock crevices, pool heaters, car engines, ceiling voids, gas grills and wood piles.



Packrats are a relatively minor structure infesting pest; however, they can carry disease and ectoparasites and they can also do damage to wiring and landscaping. Photo credit: Montana Natural Heritage Program (<http://fwp.mt.gov>)



[Packrat] nests will also attract snakes, skunks, foxes, coyotes and bobcats, since packrats are prey items for these animals. Photo credit: Montana Natural Heritage Program (<http://fwp.mt.gov>)

- Cover edges with sheet metal, if areas have been gnawed.
- Keep ground covering plants cut/mown low to the ground.
- Do not allow Agaves, Aloe, Yuccas and other cacti to grow in tight groups.
- Do not allow a skirt of dead branches to form on Agaves and Yuccas.
 - Keep the bases trimmed.
- Thin out dense cactus and landscape plantings.
 - Trim off any paddles that turn sideways providing overhead shelter.

Prevent packrat problems by creating and maintaining a packrat-free zone around a structure or home. Eliminate any existing nests and nesting opportunities within this area. The real key to eliminating and preventing packrats is addressing their use and need for shelter. Eliminating only the rats and not the nest sites creates vacant nests soon to be reoccupied. Therefore, potential nesting sites should be addressed. Packrats are opportunists and will take advantage of any sheltered area.

In most states, packrats are considered non-game animals and can be trapped when they threaten or damage property. Unlike Norway rats, packrats are not neophobic (afraid of new objects in their environment). They are easily trapped with regular rat snap traps. Good baits include: nut meats, peanut butter, bacon, and dried fruits. Glue board traps are also quite effective on packrats. Live traps are another effective option. Check with your local wildlife department for laws and regulations specific to your area for trapping of packrats. Always remember that traps should be placed such that children, pets and other non-target animals cannot access them.

Repellents from objectionable noxious odors or tastes may be used to displace packrats, as with other mammals. But there are no specific repellents registered by EPA for packrats. And, displacing the packrat may create further nesting site issues in nearby cars, voids or structures.

Toxicants can be used on packrats, including anticoagulants and zinc phosphide, but registered products vary among states. Pelletized baits should not be used with packrats, since the packrat has a tendency to pack away or cache materials. If using baits, always read and follow label instructions carefully. Always secure baits such that children, pets and other non-target animals cannot access them.

Packrats are a relatively minor structure infesting pest; however, they can carry disease and ectoparasites and they can also do damage to wiring and landscaping. Therefore, close associations with humans is undesirable and pest professionals may be called in to treat or trap for them. 🟠

Reference: Salmon, Terrell P. and W. Paul Gorenzel. Woodrats, in Prevention and Control of Wildlife Damage. Scott E. Hygnstrom, Robert M. Timm and Gary E. Larson. eds. Cooperative Extension, University of Nebraska. 1994. Volume 1: pp. B133-B136.



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