

*Just the Facts...* In the United States there are three rodents of concern: **Norway rats** (*Rattus norvegicus*), **roof rats** (*Rattus rattus*) and **house mice** (*Mus musculus*). These three rodents are considered commensal, meaning they are closely associated to humans and their activities. The Norway rat also called the brown, wharf or sewer rat and can be found virtually everywhere humans live. They are attracted to areas that provide plenty of hiding places and easy access to food. The roof or black rat is an agile climber and is more at home in cities. House mice can establish long-term residence in homes and offices. They are well adapted to life without a steady water supply and are able to survive long periods on just cereals and food scraps. All three rodents can be found on military installations in the United States and overseas.

### Why are commensal rodents a problem?

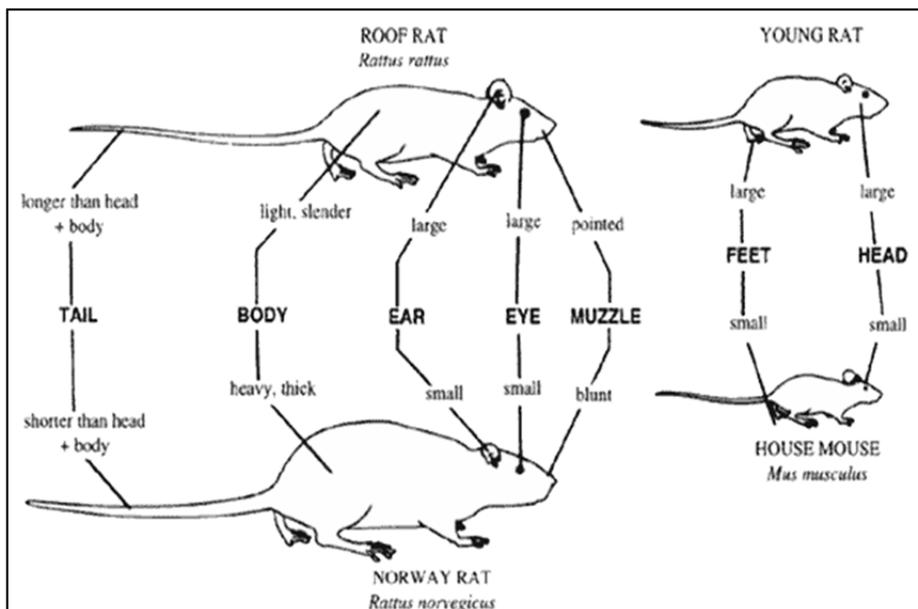
Rodents pose both health and safety hazards. They can spread several diseases to humans such as; murine typhus, leptospirosis, lymphocytic Choriomeningitis, salmonellosis, trichinosis and rat bite fever. These diseases can be spread to humans directly, through handling of rodents, contact with rodent feces, urine, or saliva, or through rodent bites. Diseases carried by rodents can also be spread to humans indirectly, through the bites of ticks, mites or fleas that have fed on an infected rodent. Besides consuming and contaminating stored food and feed they will gnaw on wiring (posing a fire hazard), chew wood and tear up insulation for nesting material (structural damage). Rats will feed on a wide variety of fruits and vegetables grown in many gardens as well as damaging young trees by feeding on the bark. Hantavirus is not transmitted by these three specific rodents, but carried by other wild rodent species (for Hantavirus specific information see APHC Fact Sheet 18-031-0914).



Roof rat (*Rattus rattus*) a common rodent pest seen in the U.S. Photo: CDC

### How can these rodents be identified?

Rodents can be identified directly using body characteristics, or indirectly by the droppings they leave behind. Use the charts presented below for specific characteristics to help with identification.

	<p><b>Norway Rat</b> Average Length 3/4 inch</p>  <p><i>rounded ends</i></p> <p><b>Roof Rat</b> Average Length 1/2 inch</p>  <p><i>pointed ends</i></p> <p><b>House Mouse</b> Average Length 1/4 inch</p>  <p><i>pointed ends</i></p>
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Domestic Rodent Field Identification: Robert Z. Brown, CDC Pictorial Keys

## What are the signs of a rodent infestation?

Some of the most common evidence of rodent infestations are the signs they leave behind, such as burrows, fecal droppings, urine stains, tracks, chewed out holes in walls and chewed wires. Below is a list of common signs of rodent infestations:

- Visual sightings of live or dead rodents
- Damaged or partially eaten foods
- Burrows in the ground
- Signs of gnawing on plastic, wood or rubber materials
- Sounds (gnawing, etc.) from attic, subfloor areas and wall spaces
- Greasy rub marks caused by the rat's oily fur coming in repeated contact with painted surfaces or wooden beams
- Rodent droppings are usually signs of significant rodent activity. The droppings are randomly scattered and will normally be found close to a rodent pathway, feeding location or near shelter.

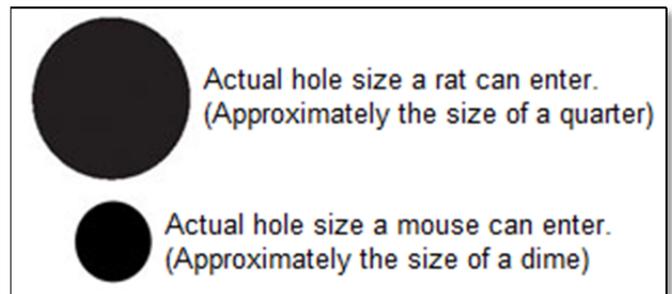
## How to get rid of rodents in and around homes or offices?

Effective rodent control in and around homes can be achieved by eliminating any food sources, sealing even the smallest entries into homes and trapping. You may also want to contact your local Preventive Medicine Services, local Cooperative Extension or a pest control professional to help with any of the below steps:

**1. Habitat modification:** Rodents need three things to live and reproduce: food, water and shelter. Removing what rodents need will help keep them away from buildings.

- Proper storage and handling of food materials such as feed, pet food, bird seed and garbage. Trash, feed or seed should be kept in rodent proof (metal, well-sealed) containers. Clean up any spilled food or seeds immediately. Pet food should not be left out. Compost piles may also attract rodents.
- Eliminate debris around buildings, store outside items at least 12 inches above ground and 18 inches away from walls or fences. Keep landscaping trimmed and grasses cut. Rodents can use overgrown landscaping for safe harborage.
- Fix water leaks in or around buildings to eliminate water sources for rodents.

**2. Exclusion:** Rodent-proofing is a permanent and effective means of control that can help prevent an infestation or keep rodents from reentering buildings. Mice can enter through a hole as small as ¼ inch, so sealing even the most insignificant hole or crack is important. To seal structures use heavy materials that can resist gnawing such as 19 gauge or heavier hardware cloth that is galvanized (non-rusting), with mesh smaller than ¼-inch. Lath screen can be used to fill larger holes by stuffing into spaces or around pipes. Make sure there are no gaps around doors and windows and screens are in good working condition. Also keep exterior and garage doors closed.



**3. Population reduction:** Trapping or the use of rodenticides, are two ways to reduce rodent populations. It is important to correctly identify the type of rodent infestation you have before trapping. Different baits, traps and methods are used for each of the rodent species. If using rodenticides for control, read labels completely and follow all manufacturer's directions. Remember a poisoned rodent can die anywhere and may cause an unforeseen odor problem. Rodent bait may also pose a risk to children, pets and other non-target animals.

**To eliminate or minimize contact with rodents and their droppings follow the rule:**

**CLEAN UP, SEAL UP and TRAP UP!**

## Where is there more information on rodent control?

- Centers for Disease Control and Prevention: <http://www.cdc.gov/rodents/index.html>
- U.S. Environmental Protection Agency: <http://www2.epa.gov/rodenticides>