

I Smell a Rat: Solving Rodent Problems

by Philip Dickey



To say that rats and mice make unwelcome house guests is probably the understatement of the month. Aside from the “eek” factor, there is the legitimate concern about disease. (It turns out that fear of vectors need not be confined to those who failed physics.) Rats can carry a dozen diseases including plague, and they contaminate about ten times as much food as they eat. Although mice seem to be considerably more acceptable to humans than rats, an effect that has been dubbed the “Disney influence,” mice carry many of the same pathogens that rats do. From a public health standpoint alone, it is important to have zero tolerance for rodents inside the home. In addition, both rats and mice sometimes start house fires by gnawing through electrical wires.

Rat and mouse poison can be purchased at almost any grocery store, yet, surprisingly, the pros do not recommend using poison. Why not? Well, of course, there is the toxicity of the poison, which poses a hazard to children and pets and means that the leftovers will have to be disposed of as a hazardous waste. In addition, mice and rats have already developed resistance to Warfarin and several other types of poisons. But the main reason is that the poisoned animals have an annoying habit of going away to die inside the walls of your house. At best this may mean buying a truckload of Glade; at worst, it means tearing part of the wall out to find and remove the dead animal.

Public Health/Seattle & King County agrees with pest control experts that trapping is the way to go. At the same time, it is essential to block entrances, eliminate food sources, and reduce habitat. Very logical, but it is harder than you might think. This article will reveal the tricks of the trade: how and where to set traps, where to look for signs of entry, and how to block entry, and of course, what to do with the dead bodies. Sound like fun? Stay tuned.

Mice Are Not Just Small Rats

Although quite similar to each other in appearance, rats and mice actually belong to different biological classifications. Rats belong to the genus *Rattus*, while mice are members of—no, not *Mouseus*, it's actually *Mus*. The reason you should care is because of their differences in behavior. A mouse problem is usually confined to a single house and can be treated individually. A rat problem may be a neighborhood or community problem involving a variety of habitat and food sources. If so, a permanent solution requires cooperation and simultaneous treatment at many sites. Besides, setting out mouse traps won't help if you have rats—a rat can probably run a long way with a mouse trap attached to its foot.

Proper identification is important, but fortunately it's easy. Basically, mice are small, and rats are large. A typical adult house mouse is six to seven inches long (tail included), is gray in color, and has prominent ears. The common rat species, the Norway (or sewer) rat and the roof rat, are both about 12-18" long, though they may differ slightly in coloration and body shape. The only possible confusion could be between a baby rat and an adult mouse. The main difference between the two is that the young rat would have proportionally much larger feet and head for the size of its body. This sounds

simple, but unless you see the two side by side, you may not be able to tell the difference. Fortunately (or not), if you have rats, you'll probably get to see the adults, too. Rats also give off a characteristic musty odor not associated with mice.

Even if you never see the animals themselves, you can identify them by their calling cards, a euphemism for droppings or feces. Feces of the Norway rat are 3/4" long and have blunt ends; those of the roof rat are 1/2" long and have pointed ends. Mouse pellets are only about 1/4" long and have pointed tips. (You could make a fortune on Jeopardy if this category ever came up!) If you have rodents, you will find lots of fecal pellets everywhere they run. This can be helpful in deciding where to place traps.

Other signs include tracks in the dust in the basement or attic, rub marks along beams or boards, and even their urine, which glows when exposed to ultraviolet light. It also smells, even when not illuminated. Finally, you can often hear them inside the walls, squeaking and thumping around.

As you search, take notes indicating all of the signs you find, as well as the presence of any nests and the sightings of any rodents. Indicating this information on a simple map of the house and property may help you to understand the dynamics of the situation and arrive at the best trap placement, as well as plan needed repairs.

"Here I Come to Save the Day, ..."

It should come as no surprise that Walt Disney chose a rodent to represent a character capable of amazing feats of strength and dexterity. In a sense, every mouse is mighty (and rats proportionately more so). Just look at this list of physical capabilities of rats (and mice). They can: pass through any opening larger than 1/2 inch square (1/4 inch for mice); walk along horizontal wires and climb vertical wires; climb the inside of vertical pipes 1-1/2" to 4" diameter; climb the outside of vertical pipes of any size if within 3 inches of a wall; crawl horizontally on any type of pipe or conduit; jump vertically at least 3 feet above a flat surface (12 inches mice); dive and swim underwater for up to 30 seconds; swim up through the water seal or trap of toilets; and swim up to 1/2 mile in open water.¹ Mice can walk or run along ledges too narrow for rats and can jump from a height of eight feet to the floor without injury. They are also capable swimmers, but they do not tend to dive below the surface.²

Mice particularly reproduce with frightening speed. At the age of 51 days, a female mouse can give birth. With an average litter size of 6.7, one pair of mice can produce up to 87 children in a year, which could mean almost 8000 mice all told (counting children of the children).³ Since house mice can live happily in your house on a permanent basis, this means you need to get moving once you find them.

Trapping

Choosing a Trap

There are many kinds of traps available. The old-fashioned snap trap has been around for years, and it still works well. It should do the job just fine for most "mouse in the house" problems. The brand name Victor is common. A much larger version of the same trap is available for rats.

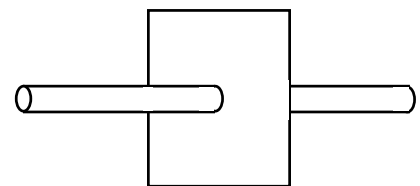
If you have shopped for mouse traps lately, you know that the search for the "better mouse trap" continues. In fact, there is one trap called The Better Mouse Trap.TM It features several advantages over the conventional trap. One is that it is easier to set without getting your fingers caught. Secondly, you can release the mouse without touching it. Thirdly, the trap is made of plastic, so it is easy to clean. Finally, and perhaps most important, it comes in two decorator colors: high-tech black to match your stereo and a very trendy gray.

Dan Stein, an IPM expert in Eugene, Oregon, recommends the Snap-E traps for both rats and mice. He says they are easy to set and, like the Better Mouse Trap, don't involve touching dead mice or rats.

For those who prefer to catch but not kill, there are live traps. However, be aware that releasing live-trapped rodents may be illegal, especially if you live in a populated area.

Hints for Better Trapping

- ❖ Check traps to be sure they are working properly.
- ❖ Don't use traps that have warped bases. The rocking motion will frighten the rodents away before they are caught.
- ❖ Remove potential food and water sources (see page 66).
- ❖ It may help to set out the traps baited but unset for several days so that the mice or rats become accustomed to them and get bolder and more careless.
- ❖ Be sure that your bait is firmly secured to the trigger.
- ❖ If you are trapping mice, try moving the traps around to different locations. Mice are curious and these changes will attract them. Rats, however, will be cautious of moving traps and may be frightened off.
- ❖ Try changing to another type of bait. Be sure bait is fresh.
- ❖ Never handle traps after petting a cat or dog. These odors will be transferred to the traps and may frighten away the rodents.



A piece of sheet metal can be placed over a pipe or conduit to act as a barrier to rats or mice using it as a highway.

For bigger problems, there are multiple-catch traps like the aptly-named Victor Tin Cat.TM This live trap device can scoop up as many as ten mice before it needs to be emptied. It is well-suited for a garage or barn situation. Unlike a real cat, the Tin Cat does not bring half-dead mice into the living room to show you.

Placing Traps So That They Catch Something

Remember how in the cartoons the mice always manage to elude the traps? The same thing can happen in real life if you don't know what you are doing.

First, where should you place the traps?

Traps can be placed anywhere that you know rats or mice are frequently passing. Ideal spots are along walls, especially just outside a known entry hole. Traps can also be nailed or taped to pipes, boards, rafters, or other common pathways. Be sure that the trigger is placed where you think they will hit it. Note: if you have small children or pets, be sure to protect them from the traps by shielding the trap with a board or box taped to the wall or floor.

When setting traps along a wall, position them with the triggers toward the wall (as shown in the illustration) because the animals tend to run along close to the wall. Placing two traps side by side increases your odds of catching something, as does placing traps on both sides of an entry opening.

Never handle traps with your bare hands. Your scent may scare the wily critters away. Use gloves from the moment you open the package. Another trick that may help is to set out the traps baited but unset for several days so that the mice or rats become accustomed to them and get bolder and more careless.

What to use for bait? They always used cheese in the cartoons, but experts say that

peanut butter is more effective for catching both mice and rats because it is sticky, so the animal is more likely to disturb and set off the trap. Smear the mixture on a piece of gauze and wrap it around or attach it to the bait tray.

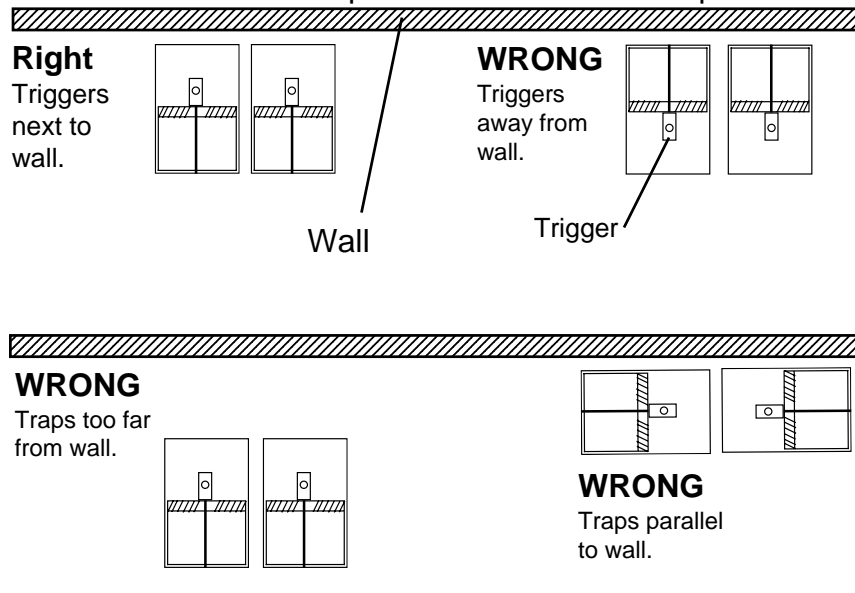
OK, now what do you do if you actually succeed in catching something? Public Health/Seattle & King County says that dead mice and rats should be wrapped in newspaper and placed in the trash. Laws may vary in other places, so it never hurts to call your local health department for instructions. You should definitely wash up carefully with soap and hot water afterwards. See the box at the left for special precautions cleaning up after deer mice.

Making the Home Rodent-Proof

Trapping by itself will not solve the problem permanently. You need to find out how the animals got in and block the entrance if possible. The droppings can help lead you to possible openings. Some places to check include around the baseboards in every room, at all water and electrical entrances to the home, anywhere there may have been water or other damage, especially under sinks and behind bathtubs and toilets. In the basement, check along the foundation line and around doors and windows. Remember, even fairly small holes can be sufficient. Crawl spaces are prime locations for rodent entry and evidence. Look in the attic, too. Roof rats can live in trees and can make their way into the attic or areas under the roof.

Placement of mouse or rat traps along a wall

Once set, the traps should be placed perpendicular to the wall, as near as possible, with the baited trigger side next to the wall. Using two traps side by side increases your chances. The first example below shows correct placement.



Hantavirus and Deer Mice

Hantavirus causes a rare, serious respiratory disease. The virus is spread by deer mice and some other wild rodents. Deer mice are about 6 inches long, yellowish brown to grayish white on top, with a white belly and feet, large ears, and a furry tail.

Prevention strategies are similar to those for other mice, but infested areas must be carefully disinfected, and you should not dust, sweep, or vacuum them because this will spread the virus. See www.metrokc.gov/health/prevcont/hanta.htm for more information.

Repair any damaged material and plug or block all holes. Mortar or adhesive is OK for very small gaps around pipes and conduits, but for larger holes you may need to insert a piece of sheet metal. Heavy-duty screening can be placed over vent pipes that need to have an air flow. A large piece of sheet metal can be attached perpendicularly on a pipe or conduit to serve as a guard.

At the same time, remove any sources of food and water. This is critical for trapping rats because they are creatures of habit and will not visit your traps at all if other food is available. Mice are browsers and may try food in a trap while other food is present. However, a long-term solution requires addressing food sources in either case. Repair all leaking faucets and drains—this also helps prevent roach and ant problems. Food should be kept in glass jars or tins rather than in plastic or cellophane bags.

For a rat problem, you also have to look at potential problems outdoors. Make sure that all garbage cans have tight fitting lids that are well secured. If you have a problem with dogs or other raccoons tipping the cans over, build a rack to support them. If you are composting yard waste, be sure not to put kitchen waste into the compost pile. There are other ways to compost food waste that will not attract rodents—a Green Cone is one way, or you can bury vegetable waste, but it needs to be at least a foot deep. Other food sources for rats include unburied cat and dog feces, pet food, and bird-feeder spill. Bird food is a very common problem that may make it impossible to get rid of a rat infestation. Finally, blackberry bushes and fallen debris provide prime rat habitat. If you have solved these problems but the neighbors have not, you will need to talk to them. Do it individually or call a neighborhood meeting to share your knowledge and form a plan. If you don't feel confident enough to do this yourself, try contacting your health department for assistance or advice. In the Seattle area, phone 206-205-4394 or visit www.metrokc.gov/health on the Internet.

Getting Professional Help

If you try the suggestions made above and fail to solve the problem, or just prefer to have someone else do it for you, there are competent professionals who can set traps and advise on needed repairs. Don't hire someone who proposes poison as a first step. You want them to really put effort into physical and mechanical methods. If limited use of baits is called for, it's best not to do it yourself, but instead have your pest control operator use them so that they are integrated with the other methods and not over-used. ■

Tips for Rat and Mouse Control⁴

- ❖ Store garbage in tightly closed cans.
- ❖ Keep pet food inside.
- ❖ Compost grass, brush, and yard cuttings but not garbage or food scraps.
- ❖ Remove fruits, vegetables, and bird seeds from the ground.
- ❖ Start your wood or lumber pile at least 1-1/2 feet off the ground.
- ❖ Do not pile wood next to your home.
- ❖ Remove animal droppings, trash, and/or garbage from your property.
- ❖ Have junked cars towed away.
- ❖ Prune tree limbs so that they do not touch the home.
- ❖ Close every possible entry to your home, including windows, doors, vents, pet doors, and small gaps under the eaves.
- ❖ Keep your home free of litter.
- ❖ Any food stored in basements should be in rat-proof containers.

References

- 1 *Common Sense Pest Control*. William and Helga Olkowski and Sheila Daar. The Taunton Press. Newtown, CT. 1991.
- 2 *The House Mouse: Its Biology and Control*. WSU Cooperative Extension Bulletin EB1401.
- 3 *Dan's Practical Guide to Least-Toxic Home Pest Control*. Dan Stein. Hulogosi, Eugene, OR. 1992.
- 4 *Seattle-King County's Most Wanted*. Seattle-King County Department of Public Health.
- 5 "Managing the House Mouse." Helga and William Olkowski. *Common Sense Pest Control Quarterly*, Volume VI, Number 4, Fall 1980.

Rodent Poison is *Poison*

Rat or mouse poison baits aren't just toxic to rodents. They are hazardous to small children and to pets. They may also pose a serious threat to eagles or other birds that eat a poisoned rodent. Do not leave baits where children or pets have access, and dispose of used bait as a household hazardous waste. In the Seattle/King County area, call the Hazards Line at 206-296-4692 for more information.

The Washington Toxics Coalition is a non-profit organization dedicated to protecting public health and the environment by preventing pollution. Please write or phone for information: WTC, 4649 Sunnyside Ave N, Suite 540, Seattle, WA 98103. Phone: 206-632-1545. Visit our Internet Web site at www.watoxics.org.