

RATS

Rats are some of the most troublesome and damaging rodents in the United States. They consume and contaminate food, damage structures and property, and transmit parasites and diseases to other animals and humans. Rats live and thrive under a wide variety of climates and conditions; they are often found in and around homes and other buildings, farms, gardens, and open fields.

IDENTIFYING THE RAT

People do not often see rats, but signs of their presence are easy to detect (see sidebar). In Washington metro, the most troublesome rats are two introduced species: the [roof rat](#) and the [Norway rat](#). It is important to know which species of rat is present in order to place traps or baits in the most effective locations.

Norway Rats. Norway rats (*Rattus norvegicus*), sometimes called brown or sewer rats, are stocky burrowing rodents that are larger than roof rats. Their [burrows](#) are found along building foundations, beneath rubbish or woodpiles, and in [moist areas in and around gardens and fields](#). Nests may be lined with shredded paper, cloth, or other fibrous material. When Norway rats invade buildings, they usually remain in the basement or ground floor. The Norway rat occurs throughout the 48 contiguous United States. Generally it is found at lower elevations but may occur wherever people live.

Roof Rats. Roof rats (*Rattus rattus*), sometimes called black rats, are slightly smaller than Norway rats. Unlike Norway rats, their tails are longer than their heads and bodies combined. Roof rats are very agile climbers and usually live and nest above ground in shrubs, trees, and dense vegetation such as ivy. In buildings, they are most often found in enclosed or elevated spaces in attics, walls, false ceilings, and cabinets. The roof rat has a more [limited geographical range](#) than the Norway rat, preferring ocean-influenced, warmer climates. In areas where the roof rat occurs, the Norway rat may also be present. If you are unsure of the species, look for rats at night with a strong flashlight or trap a few. There are several [key physical differences](#) between the two species of rats; Table 1 summarizes identifying characteristics.

Characteristic	Roof rat	Norway rat
general appearance	sleek, agile	large, robust
color of belly	gray to white	mostly grayish
body weight	5 to 10 ounces	7 to 18 ounces
tail	extends at least to snout; black, fine scales	shorter than body; dark above; pale below; scales

head	muzzle pointed	muzzle blunt
ears	long enough to reach eyes if folded over	do not reach eyes

While rats are much larger than the common house mouse or meadow vole, [a young rat is occasionally confused with a mouse](#). In general, very young rats have large feet and large heads in proportion to their bodies, whereas those of [adult mice](#) are much smaller in proportion to their body size. While both rats and mice [gnaw on wood](#), rats leave much larger tooth marks than those of a mouse. For additional information on mice, see *Pest Notes: [House Mouse](#)* and *Pest Notes: [Voles \(Meadow Mice\)](#)* listed in References.

How to Spot a Rat Infestation

Because rats are active throughout the year, periodically check for signs of their presence. Once rats have invaded your garden or landscaping, unless your house is truly rodent proof, it is only a matter of time before you find evidence of them indoors. Experience has shown it is less time consuming to control rodents before their numbers get too high, and fewer traps and less bait will be required if control is started early.

Inspect your yard and home thoroughly. If the answer to any of the following questions is yes, you may have a rat problem.

- Do you find [rat droppings](#) around dog or cat dishes or pet food storage containers?
- Do you hear noises coming from the attic just after dusk?
- Have you found remnants of rat nests when dismantling your firewood stack?
- Does your dog or cat bring home dead rat carcasses?
- Is there evidence rodents are feeding on fruit/nuts that are in or falling from the trees in your yard?
- Do you see burrows among plants or damaged vegetables when working in the garden?
- Do you see rats traveling along utility lines or on the tops of fences at dusk or soon after?
- Have you found rat nests behind boxes or in drawers in the garage?
- Are there smudge marks caused by the rats rubbing their fur against beams, rafters, pipes, and walls?
- Do you see burrows beneath your compost pile or beneath the garbage can?
- Are there rat or mouse droppings in your recycle bins?
- Have you ever had to remove a drowned rat from your swimming pool or hot tub?

- Do you see evidence of something digging under your garden tool shed or doghouse?

BIOLOGY AND LIFE CYCLE OF THE RAT

Rats, like house mice, are mostly active at night. They have poor eyesight, but they make up for this with their keen senses of hearing, smell, taste, and touch. Rats constantly explore and learn about their environment, memorizing the locations of pathways, obstacles, food and water, shelter, and other elements in their domain. They quickly detect and tend to avoid new objects placed into a familiar environment. Thus, objects such as traps and baits often are avoided for several days or more following their initial placement. While both species exhibit this avoidance of new objects, it is usually more pronounced in roof rats than in Norway rats.

Both Norway and roof rats may gain entry to structures by gnawing, climbing, jumping, or swimming through sewers and entering through the toilet or broken drains. While Norway rats are more powerful swimmers, roof rats are more agile and are better climbers.

Norway and roof rats do not get along. The Norway rat is larger and the more dominant species; it will kill a roof rat in a fight. When the two species occupy the same building, Norway rats will dominate the basement and ground floors, with roof rats occupying the attic or second and third floors. Contrary to some conceptions, the two species cannot interbreed. Both species may share some of the same food resources but do not feed side-by-side. Rats may grab food and carry it off to feed elsewhere.

Rats of either species, especially young rats, can squeeze beneath a door with only a 1/2-inch gap. If the door is made of wood, the rat may gnaw to enlarge the gap, but this may not be necessary.

Norway Rats. Norway rats eat a wide variety of foods but mostly prefer cereal grains, meats, fish, nuts, and some fruits. When searching for food and water, Norway rats usually travel an area of about 100 to 150 feet in diameter; seldom do they travel any further than 300 feet from their burrows or nests. The average female Norway rat has four to six litters per year and may successfully wean 20 or more offspring annually.

Roof Rats. Like Norway rats, roof rats eat a wide variety of foods, but their food preferences are primarily fruits, nuts, berries, slugs, and snails. Roof rats are especially fond of avocados and citrus and often eat fruit that is still on the tree. When feeding on a mature orange, they make a small hole through which they completely remove the contents of the fruit, leaving only the hollowed out rind hanging on the tree. The rind of a lemon is often eaten, leaving the flesh of the sour fruit still hanging. Their favorite habitats are

attics, trees, and overgrown shrubbery or vines. Residential or industrial areas with mature landscaping provide good habitat, as does riparian vegetation of riverbanks and streams. Roof rats prefer to nest in locations off the ground and rarely dig burrows for living quarters if off-the-ground sites exist.

Roof rats routinely travel up to 300 feet for food. They may live in the landscaping of one residence and feed at another. They can often be seen at night running along overhead utility lines or fence tops. They have an excellent sense of balance and use their long tails for balance while traveling along overhead utility lines. They move faster than Norway rats and are very agile climbers, which enables them to quickly escape predators. They may live in trees or in attics and climb down to a food source. The average number of litters a female roof rat has per year depends on many factors, but generally is three to five with from five to eight young in each litter.