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Norway Rat aka Brown Rat *Rattus norvegicus* (Berkenhout)



GENERAL INFORMATION

Rats have keen taste, hearing, and sense of smell. They will climb to find food or shelter, and they can gain entrance to a building through any opening larger than 1/2 inch across. Rats can swim. Rats are creatures of habit that prefer using the same passageways over and over. They are also wearily of anything new in their environment. Rats are usually nocturnal and have poor eyesight. These social animals live in hierarchical groups and like to nest in burrows.

SIGNS OF INFESTATION

Rats can be detected by evidence of fresh gnawing or the presence of droppings. Droppings are blunt and about 3/4" in size. Tracks can be seen in mud and on dusty surfaces. Runways and burrows may be found next to buildings, along fences, and under low vegetation and debris. Rat urine glows blue/white under UV light. Greasy dirt marks from the rat's fur rubbing against common passageways along walls and pipes may also be a sign of an infestation. One may also be able to detect rats by hearing them running on ceiling tiles or moving inside walls. Rats seen in the daytime indicate a severe infestation demanding immediate action.

FOOD SOURCES

Rats are omnivores and will eat anything people eat. Their relationship with humans can be described as commensal as they forage on peoples food sources and/or food garbage. Rats require 1/2 to 1 fluid ounce of water daily when feeding on dry food.



DIAGNOSTIC MORPHOLOGY

Adults:

- Norway rats are fairly husky, brownish rodents that weigh about 11 ounces. They are about 13 to 18 inches long including the 6 to 8 1/2 inch tail. Their fur is coarse and mostly brown with scattered black on the upper surfaces. The underside is typically grey to yellowish-white.



Immature Stage:

- The pink young are blind with no fur at birth
- Young rats have larger heads and feet than mice

LIFE CYCLE

Rats have litters of 6 to 12 young, which are born 21 to 23 days after mating. Young rats reach reproductive maturity in about three months. They can breed throughout the year, breeding is most active in spring and fall. The average female has 4 to 6 litters per year. Rats can live for up to three years, although most live for only one year.

CONTROL & TREATMENT

There are three main methods to controlling and treating a rat infestation; rat proofing, trapping and good housekeeping.

Rat-Proofing: Use lidded metal trash cans or other rodent proof containers to store food and trash. Seal any openings larger than 1/4 inch to exclude both rats and mice. Openings where utilities enter buildings should be sealed tightly with metal or concrete. Shards of broken glass should be mixed into the concrete to deter the rats from trying to gnaw through it. Opening for utilities in walls between rooms within one building should also be sealed this way to prevent rats from moving from space to space within the building. Equip floor drains and sewer pipes with tight-fitting grates having openings less than 1/4 inch in diameter. Doors, windows and screens should fit tightly. It may be necessary to cover edges with sheet metal to prevent gnawing. Dirt floor basement or cellars should be paved over with concrete to eliminate burrowing and the rats use of the dirt floor for nests.

Traps: A simple, inexpensive wood-based snap trap is available in most hardware and farm supply

stores. Bait traps with peanut butter or a small piece of hot dog, bacon, or nutmeat tied securely to the trigger. The trigger should be set lightly so that it will spring easily. Set traps close to walls, behind objects, in dark corners, and in places where rat activity is seen. Place the traps so that rats, following their natural course of travel (usually close to a wall), will pass directly over the trigger. Use enough traps to make the campaign short and decisive. Leaving traps unset until the bait has been taken at least once reduces the chances of rats becoming trap-shy.

Housekeeping: Store all food in rodent proof containers. Given enough time, rats can chew through plastic and even metal, so refrigerators and thick coolers are best for storage of food. Keep all trash inside lidded metal garbage cans. Keep building perimeter clear of weeds/ vegetation. Keep storage and utility areas in cellars and basements clean and regularly maintained according to a set schedule. This will establish a benchmark in the event of an infestation, keep the areas free of possible nesting materials, and alert staff to the presence of an infestation.

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Photo Credits:

Lower Left image of 2 Norway Rats on drain

Schou, JC. Available from Encyclopedia of Life at http://www.eol.org/data_objects/9685970

Upper Right image of single rat

McKenna, Reg, 2001, Available from Encyclopedia of Life at http://www.eol.org/data_objects/5868635