

Vector of the Month

The Roof Rat, *Rattus rattus*

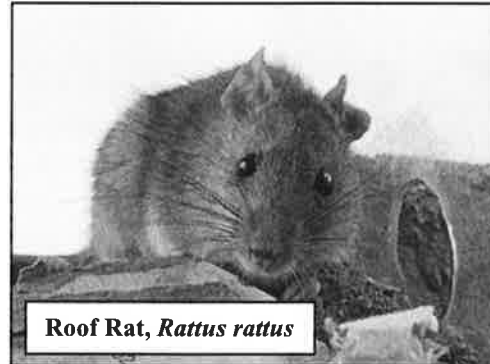
The roof rat (*Rattus rattus*) is the leading cause of rodent problems in Orange County. The Orange County Mosquito and Vector Control District receives several thousand roof rat service requests from county residents each year.

The roof rat is not native to North America, but was introduced into the western hemisphere by colonists from Asia and Europe (Old World). The Norway rat (*Rattus norvegicus*) and the house mouse (*Mus musculus*) were also transported into North America from the Old World. With its introduction into North America at major sea ports on the east and west coasts, the roof rat quickly adapted to local conditions and spread unchecked across the continent. The roof rat is now found in all major cities in the United States where it has become a significant nuisance and public health threat.

Historically, the roof rat was distinguished by its habits and association with human activity. This close association with humans represents the attribute of a “commensal” species that derives benefit by exploiting the actions of other species.

A typical roof rat reaches a total length of 15 to 18 inches, including the tail, at maturity. Most individuals have large eyes, prominent ears, a scaly tail that is one third longer than the body. Coloration of the fur among individual rats is highly variable with some appearing light brown, others dark brown, and a few nearly jet black. The color of the “belly” fur ranges from white to dark gray or charcoal. Roof rats rarely survive beyond 1 to 2 years of age under favorable conditions. The reproductive potential of this species is phenomenal. Females bear an average of six litters per year with each litter containing from 6 - 8 young demonstrating why this species is capable of rapidly infesting and overwhelming urban neighborhoods.

Roof rats move about urban neighborhoods by using overhead utility lines, interconnecting walls and fences, alley ways, and occasionally



underground drains. Their movements are related to foraging and maintaining territories. Roof rats will consume almost all types of food, including backyard fruits and vegetables, seeds and nuts, dog and cat food, and garden snails. Their foraging habits frequently cause structural damage and loss of personal property. It is not uncommon for the wiring of the family car to be gnawed, stripped, or severed.

Roof rats carry a variety of disease agents that affect humans. Outbreaks of bubonic plague during the “Dark Ages” were attributed to poor sanitation, abundant populations of “urban” rats, and heavy flea infestations on both roof and Norway rats. Today, plague does not pose a significant health risk to the residents of large metropolitan areas. The disease is largely restricted to rural settings where domestic cats, infected by wild rodents (e.g., ground squirrels), are becoming increasingly involved with pneumonic transmission to humans. Orange County residents are fortunate because existing ecological conditions apparently do not support a consistent and detectable level of plague activity. This is perplexing as most communities in suburban habitats support sizable populations of rats, cats, ground squirrels, and fleas. Although infrequent, evidence of bubonic plague, *Salmonella* bacteria and Seoul (hantavirus) virus has been found in roof rats by the OCMVCD laboratory.

4 CA Cities Among Orkin's 2021 Rattiest Cities

BY BEA KARNES, Published on: October 28, 2021



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CALIFORNIA — California is known for a lot of great things — our beautiful scenery, vibrant cities and mild weather.

One thing California residents may not want to be known for, however, is the overwhelming number of rats creeping through our streets and backyards.

Nevertheless, that's exactly the case, according to a new ranking released Friday by pest control company Orkin. In fact, Los Angeles was ranked No. 2 on this year's list of the Top 50 "Rattiest" Cities. Also on the dubious list is San Francisco at No. 5, San Diego at No. 17, and Sacramento at No. 29.

If you want to hold off on bragging, we understand, but here's how Orkin comes up with the list: Each year, the company ranks metro areas based on the number of new rodent treatments performed from Sept. 15 of the previous year to Sept. 15 of the current year. The ranking includes both residential and commercial treatments.

The company came to one conclusion: The number of rats in city streets surged in 2020.

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"The pandemic-driven closure of restaurants forced rodents to find new food sources," Orkin said in a news release. "Without food waste to consume, these pests were seen scavenging new areas and exhibiting unusual or aggressive behavior."

As life slowly returned to normal following the end of business closures and pandemic lockdowns, food and water sources were replenished for rodents. In New York City alone, the number of rodent complaints made to the city in March 2021 surged by 80 percent, Bloomberg reported.

At one point, the presence of rodents became so noticeable the Centers for Disease Control and Prevention issued rodent control guidance on ways to keep rats and mice out of homes and businesses, according to Orkin.

Still, the top five rattiest cities did not change from 2020, according to this year's list.

Chicago took the top spot for the seventh consecutive year, followed by Los Angeles, New York City, Washington, D.C., and San Francisco.

Breaking into the top 10 this year is Cleveland, which took the 10th spot. Baltimore also inched closer to the top five, moving up two spots to No. 6.

See Orkin's full list of rattiest cities.

While rats can cause significant structural damage and pose many health risks to humans, there are ways to keep mice and rats out of your home, according to Orkin:

Do not leave out food: Small crumbs and garbage are popular food sources, as are dry goods such as grains and cereals. These should be kept in sealed metal or glass containers to prevent contamination.

Avoid cluttered spaces: Cardboard objects prove attractive to rodents, which tend to chew them up for use in nests. Take advantage of any extra time at home to clean and organize crowded spaces around the house.

Do not let the landscaping run wild: Tall grass with adequate harborages, such as wood piles next to the house, can be ideal habitats for rodents. Tree branches in contact with homes can also offer rodents easy access to the upper levels of your home, where they may find a way into the attic.

Inspect both inside and outside your home for rodent droppings, burrows and rub marks along baseboards and walls. The more quickly rodents are detected, the better.

Look for possible entry points outside your home and seal cracks and holes if any are found. Install weather strips around entryways, especially under doors, to help block rodents from sneaking inside.