

# Domestic Rats

## Status

- Eat outdoor fruit, vegetables, & pet food
- Often damage structures
- Enter homes to eat & nest
- Can transmit pathogens on its body

## General Information

Orange County is home to three native species of rats: big-eared wood rat (*Neotoma macrotis*), desert wood rat (*Neotoma lepida*), and agile kangaroo rat (*Dipodomys agilis*). These animals play important roles in natural ecosystems. Their diet includes leaves, fruit, earthworms, and insects. In turn, they are eaten by predatory animals such as snakes, mammals, and birds. These rats live in wild lands, generally *not* near human homes.

Two non-native species of rats were accidentally introduced here from Europe hundreds of years ago: the **roof rat** (*Rattus rattus*) and the **Norway rat** (*Rattus norvegicus*). These rats are found in and near human homes. Because of their association with domestic households, they are often referred to as *domestic rats*. The Norway rat is the larger of the two; it lives in underground burrows and invades homes in larger cities. It was known from Orange County but has not been found here in years. The roof rat is smaller but has larger eyes and ears; it lives aboveground and invades homes in urban and suburban areas. Unfortunately, it is abundant in Orange County. Both species of domestic rats eat plants, fruit, small animals, and pet food.



## Domestic Rats, Vectors, & Disease

Rats that follow human civilization are a big problem in southern California and elsewhere. They eat our food, damage our property, and are involved in the spread of disease. Rats are often infested with fleas that suck their blood. A flea that is infected with disease-causing agents (*pathogens*) can transfer (*vector*) pathogens to the rat (*host*) while the fleas feed. If an infected flea feeds on you, it can vector those pathogens to you and you may develop a *disease*, as evidenced by your *symptoms*. Also, when rats walk through filthy situations and trash, *pathogens* growing there may adhere to the rats' bodies. When rats walk through your yard and home, they may *vector* the pathogens to your belongings and food. Infection by those pathogens may cause *disease* in you and your pets. In addition to spreading disease-causing pathogens, rats cause *physical damage* to structures, vehicles, plants, and food with their constant chewing and never-ending hunger.

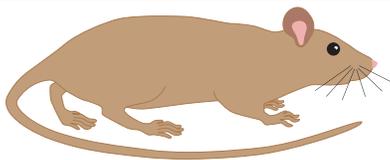
## What Do They Look Like?

Rats are members of the mouse, rat, and vole family (called Muridae or just "murids"), which is part of the rodent order (Rodentia). All rodents have a single pair of sharp upper and lower front teeth (incisors) that continually grow. In some species, the mouth closes behind the incisors, leaving the incisors exposed. Rodents have no canine teeth and have a large space between their incisors and molars. The murid family has 1,326 species and includes mice, rats, hamsters, voles, lemmings, and gerbils. Rats have a long tail, short legs, and a medium-length snout (rostrum).

## Recognizing Roof Rat Activity

Be alert for these signs of roof rat activity:

- Damaged or partially eaten oranges, avocados, or other fruits
- Empty snail shells under bushes, on fences, or near nesting sites
- Signs of gnawing on plastic, wood, or rubber materials
- Grey-brown grease marks caused by rats' oily fur rubbing against painted surfaces or wooden beams
- Visual sightings on utility cables, tops of fences, or in trees
- Rat droppings (feces) are...
  - Randomly scattered and will normally be found close to a runway, a feeding location, or a shelter
  - Dark in color, spindle shaped, and about 1/2 inch long
  - Piled up in places such as forced air heaters, swimming pool heater covers, and water heater closets



## Use Traps to Dispatch Rodents

Trapping rodents is an acceptable and humane method of control. Trapping is especially desirable when poisons cannot be used, such as near food, or where small children, domestic animals, or livestock are present. Traps should also be used indoors where there is the risk of a poisoned rodent dying in an inaccessible area, possibly creating a serious odor problem.

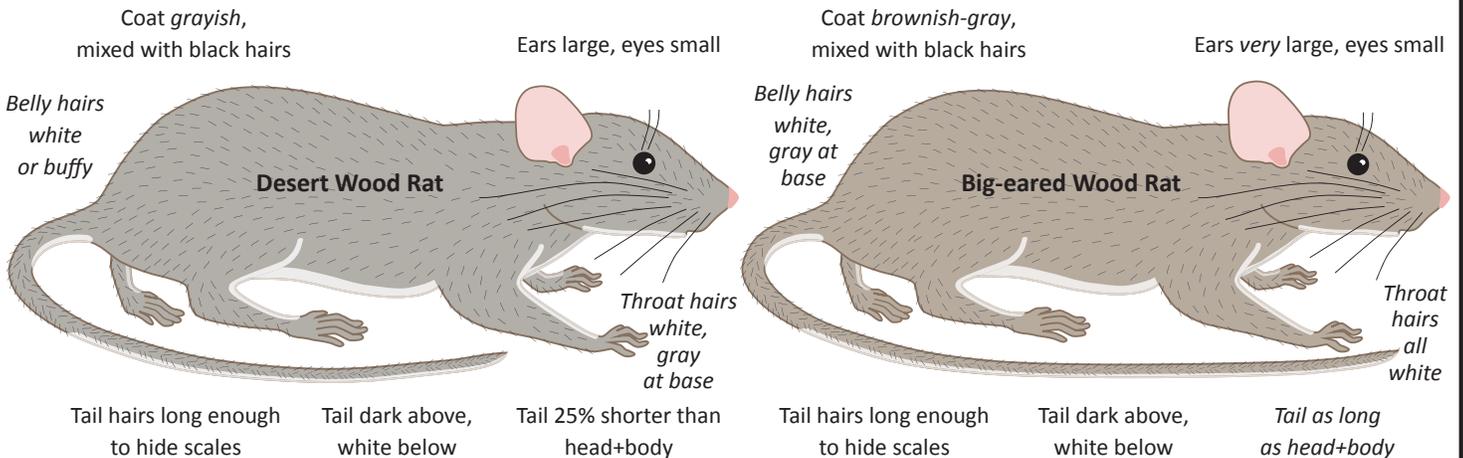


# Common Rats of Orange County

Orange County is home to four species of commonly-seen rats; two are native and belong here, the other two are non-native and don't belong here.

## Native Rats

Our two native rat species are the **desert wood rat** (*Neotoma lepida*) and the **big-eared wood rat** (*Neotoma macrotis*). Both build nests of sticks and leaves they gather and place in ever-growing piles, usually at the base of shrubs. You might see their nests as you hike the hills and canyons in wilderness areas. They neither tunnel into soil, nor live in urban/suburban areas. They rarely enter homes, but only those in rural areas in the foothills and mountains. Active at night, they forage for food (worms, insects, fruits, seeds) in areas surrounding their nests. While foraging, they collect various objects and store them in their homes; thus the common name pack rat is used for both species.



## Non-native Rats

The **roof rat** (*Rattus rattus*) is the most problematic rodent species in Orange County. Native to Eurasia, it has been inadvertently transported by humans to all continents and islands. This agile rat is relatively slender, has a pointed nose, large eyes and ears, and a tail that is longer than the head and body combined. It nests aboveground, never underground. It moves through neighborhoods by using utility lines, fences, and overhanging plants as runways. Roof rats frequently enter buildings through open doors, broken or missing door seals, cracks, pipe spaces, and openings left by improper construction. If an opening is too small, they gnaw away at its edges and widen it until they can fit through. Once inside, they often make their way into wall spaces and attics. They feed on just about anything commonly found in residential yards, including bird seed, pet food and feces, fruits, vegetables, garbage, snails, and insects. Other names for the roof rat include black rat, fruit rat, and ship rat.

The **Norway rat** (*Rattus norvegicus*), is also native to Eurasia. It has been found near the coast in Huntington Beach and among riprap (rock) that makes up the jetty in Seal Beach, but not recently. It is larger, heavy-bodied, has a blunt nose, smaller eyes and ears, and a tail that is shorter than the head and body combined. Unlike the roof rat, the Norway rat nests in an underground burrow system (like ground squirrels), never aboveground. It is common in larger cities such as New York and downtown Los Angeles. Its favorite foods are discarded fish, garbage, meat scraps, and cereal grains. Other names for the Norway rat include city rat, brown rat, sewer rat, wharf rat, river rat, alley rat, and house rat.

**Did You Know?** The Norway rat is the wild ancestor of the domestic rat, a household pet.

