

## Effective Control of an Invasive Species: The Roof Rat

The roof rat originally migrated to North America on ships with early explorers and settlers. They prefer warm climates such as states along the Pacific Coast or along the southern Atlantic and Gulf Coasts. However, roof rats are also starting to move north along the Atlantic coast and inland from the Gulf States. Occasionally, they occur in port areas further north, including those in the Northeast, around the Great Lakes and along major rivers such as the Mississippi. They are not likely to become established in places with harsh winters. Also, roof rats have recently become a problem in heavily irrigated areas of the southwest. What does this mean? You may now be seeing roof rats where in the past there have only been Norway rats.

There are three subspecies of roof rats: black rat (black upper with gray belly), Alexandrine rat (brown streaked with gray upper and gray belly) and fruit rat (brown streaked with gray upper and white belly). Behaviors are essentially the same for all of them and so are the control tactics.



# UNDERSTANDING The Roof Rat

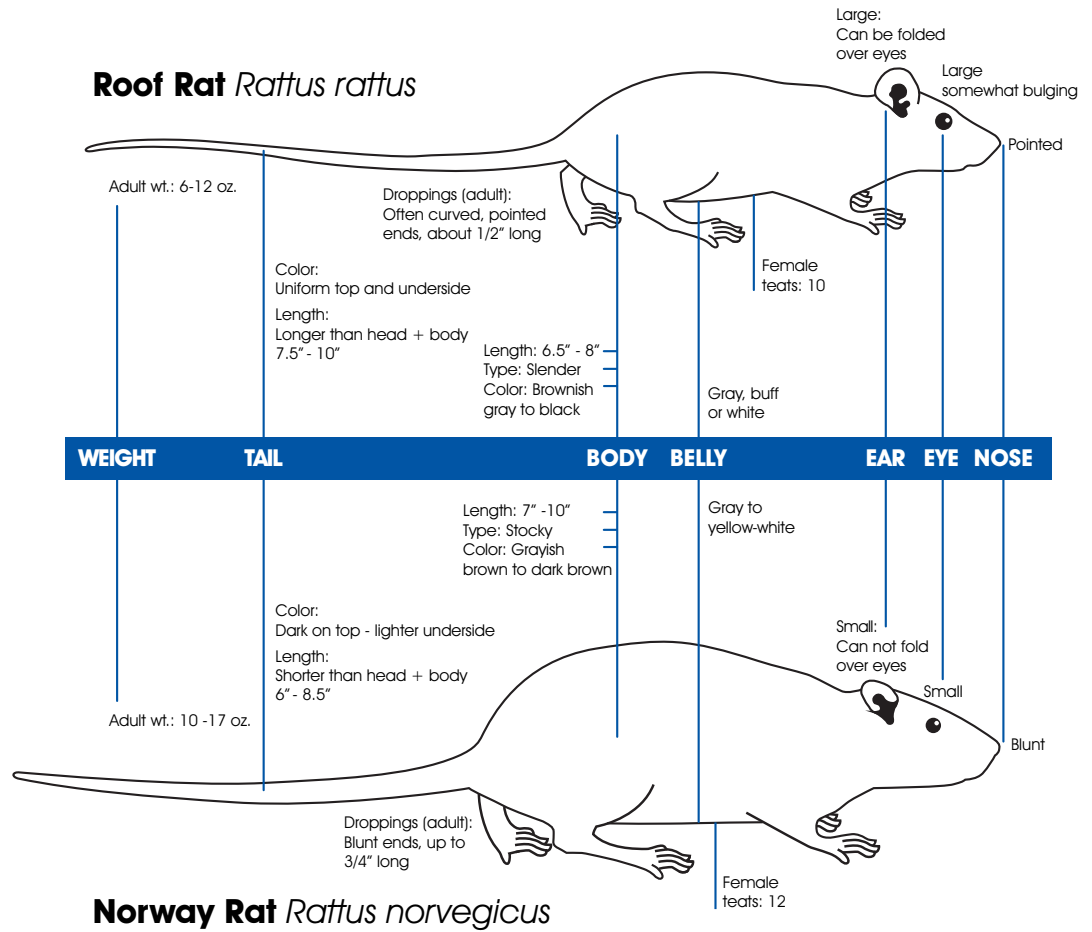
Roof rat populations have a social hierarchy in which the dominant (strongest) males and females are likely to get the best harborage sites and access to food. Subordinate (weaker) rats will occupy less desirable places and feed where and when they are not harassed by dominant animals. They are also prolific breeders; females can become pregnant again in as little as one or two days after delivering a litter of pups. Please refer to the chart below.

Monthly treatments are unlikely to eliminate a roof rat infestation. If all of your rodenticide is consumed between service visits, you may not be killing them faster than they reproduce. Increase the amount of bait per station, the number of stations or the service frequency – or if you are really serious, all of the above.

If you are killing roof rats but do not seem to be making progress toward eliminating the population, you may be “harvesting” subordinate rats on the periphery. You could be missing the dominant part of the population which is producing replacements as fast as you kill them. Seek out the part of the population which is outside your control effort.



## Identification Tips



### Spotting the difference: Roof vs. Norway

Roof rats and Norway rats have been known to occupy territories adjacent to one another. For example: in a multi-story pet food plant, Norway rats occupied the basement and crawlspaces while roof rats occupied the upper floors. It is essential to know which species you are dealing with because control tactics are very different.

### Rat Reproduction

	Roof Rat	Norway Rat
Gestation	21-23 days	22-24 days
Pups per Litter	4-8	6-12
Litters per Year	3-6 per year	4-7 per year
Eyes Open - Movement Around Nest	9-14 days	14-17 days
Starts Eating Solid Food	About 3 weeks	2½-3 weeks
Weaning	4-5 weeks	3-4 weeks
Reproductive Maturity	About 3 months	About 3 months

# Control of a Roof Rat

Roof rats are not very “intelligent” but they can be a formidable foe for the rodent control professional due to several “survival behaviors”.

In nature, roof rats are tree dwellers. They may live most or all of their life without going to ground level. They have adapted this behavior to include high places in our structures such as in soffits and attics, hence the name roof rat.

Bait stations and traps must be placed in their environment, such as roofs, pipes, ledges or rafters. Do not expect them to behave contrary to their nature to visit a ground level placement.

A ladder appropriate for the job is a vital roof rat control tool. A headlamp may be easier to manage than a flashlight while balancing on rafters in the tight confines of an attic. A well-stocked roof rat control service kit will include a selection of: zip-ties, nails, screws, 17 gauge aluminum wire, Velcro and construction adhesive. It will also include: hammer, battery powered drill, screw drivers, pliers, wire cutters and cutting tools.

Neophobia (fear of new objects or food in their territory) is one of the most important survival behaviors to take into consideration. Roof rats may be even more fearful of new things than Norway rats. Beyond avoiding the new item, changes to their environment may even make them alter their feeding and travel patterns greatly.

The only exception to this is when a rat enters a new place (such as an attic) for the first time. They explore this new place where everything is new until they are thoroughly familiar with it.



## Tech Tips:

- In monthly service accounts, maintain bait stations or traps in places most likely to be encountered by new roof rats.
- When working to eliminate an existing infestation, pre-bait entry holes to stations or the triggers of traps with a generous portion of food such as peanut butter or naturally flavored fruit candy.
- Postpone food and harborage removal until after the infestation is eliminated to avoid scattering the population to other un-infested areas.



## Choose the Right Bait

### Food Preferences of a Roof Rat

Roof rats are omnivorous (can eat almost anything with food value) but prefer a wide variety of fruits and nuts. They also readily feed on parts of various plants, human food and animal feed. They require water daily but may be able to get enough from high moisture food sources. No one food item works every time as a bait station pre-bait or snap trap lure but here are a few which have worked: oranges, apples, orange slice candy (natural flavor), figs, dates, prunes, walnuts, melon and peanut butter. Also, FirstStrike® by Liphatech is particularly palatable to roof rats, especially compared to mini blocks.

Roof rats prefer to take food back to their nest to eat or cache for later consumption. They may travel 100 to 300 feet in search of food but would much prefer a food source closer to their nest. Determine the route they are using from their nest to their food source and intercept them with appealing options like FirstStrike soft bait.

Make sure to secure rodenticides in bait stations to prevent problems with translocation.

**If you need assistance with a roof rat problem, contact your Liphatech representative. They will be glad to help.**



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