Smell a rat? Why roof infestations must be taken seriously

Dirty, dusty and disgusted. Is that how you feel after an unplanned, unexpected and unwanted climb up into the ceiling to fix a TV cable, mend some wiring, or adjust the geyser?

Article provided by Diederik van ’t Hof, founder of Roof Rats. All images courtesy of Roof Rats.

The roof space above our heads is a long-forgotten, often ignored and mostly neglected ‘extra’ for the house or office. After we’ve – reluctantly – sorted out the immediate problem, the hatch gets closed again and we’re happy to forget about the dust, rat droppings and general mess that might be developing up there.

What we need to remember, though, is that a roof space, or roof cavity, is also the ideal home environment for a wide variety of non-rent-paying creatures. Warm, dark and quiet, it offers a low risk of encountering predators. You can comfortably add to this the very good chance that food will be available nearby in rubbish bins and bird feeders, or on bird tables and compost heaps. To top that, water will likely be freely available from pet bowls, swimming pools, water features and leaking taps. And what is the net result? A man-made heaven for rats, bats, birds and even feral cats. An ideal environment for them in which to live, prosper and multiply. And let’s not forget the unwanted insects that survive and multiply by feeding on the mess created.

RATTED OUT

Rats can be the creatures of nightmares. Cute cartoon characters belie their role as ravenous, disease-carrying predators. Rats eat just about anything. They can survive on birdseed, leftover food in dustbins, and dog food. They will readily enter homes to eat out of the pantry, or steal food left out in the kitchen.

There are 67 described species of rat, which actually means the species belonging to the superfamily Muroidea. This encompasses the rodents we generally refer to as rats and mice. We commonly use the two different terms to signify the animal’s size, rather than being based on actual physical differences. “True rats” are members of the genus Rattus, of which the most significant to humans are the black rat, Rattus rattus, and the brown rat, Rattus norvegicus. Many members of other rodent genera and families are also referred to as rats and share many characteristics with true rats.
The brown rat is also known as the Norway rat, house rat, grey rat, barn rat, and wharf rat. It is the best known, and larger than the black rat. Black rats are also called roof rats and ship rats. Whatever you choose to call them, they are a nuisance, a pest, and present a real danger in the home and workplace. Generally, when we refer to rats or a rat infestation, we are referring to these two species interchangeably.

Rats are actually incredible creatures. They’ve found the ideal partners in life…humans! Humans aided and abetted the spread of rats across the entire globe by taking rats aboard as shipmates during the age of exploration, so that now rats are found wherever people have settled. So successfully has the rat colonized their preferred parts of the human landscape that, for New York City, estimates are that rats outnumber people by a ratio of 4:1, with some estimates as high as 12:1.

THE RAMPANT RODENT

A rat infestation in the roof is usually heralded by the sound of something galloping across the ceiling at 2am, waking the family. A very bad infestation can be likened to the sound of the Springbok rugby team holding a match practice in the ceiling.

Rats head up to the roof space for several reasons – they get warmth from geysers and hot water pipes, and they gain shelter and protection from predators. Occupancy of the roof leaves quite a serious legacy, though, especially if the home owner attempts a DIY solution by poisoning the rats. There will be mountains of rat droppings as well as old decaying rat corpses and skeletons left behind. In addition, rats urinate every few seconds in order to leave scent trails and territorial markers designed to warn off potential competitors. All these leftovers – droppings, bones and hair – in addition to the normal dust that accumulates in the roof space over the years, make for a serious health hazard. Everything eventually crumbles to dust, and that dust will gradually find its way into the living space of the house. Should you neglect to clean out your roof space, you will, in effect, be breathing in the old rat dropping particles and other unhygienic elements as the debris filters down into the living space through light fittings and other gaps in the ceiling.

BIRDS OF A FEATHER...

Birds pose similar issues in the roof space. Mostly, they will be there to nest. In Gauteng, the three bird types most commonly associated with this behaviour are the pigeon (both feral pigeons and speckled pigeons), the house sparrow, and the common mynah. Cape Town has an extra issue with the common starling. The only indigenous species in this list is the speckled pigeon, with the others all being introduced, or alien, species. However, when it comes to town, the speckled pigeon becomes an immigrant of sorts: Originally a mountain biome species, it now finds the perfect artificial habitat in those man-made mountains called buildings.
Pigeons will nest in the same place year after year. Each year the nest will enlarge as additional nesting material is added to the growing pile. Pigeons are also notoriously messy. They don’t remove the faecal sacs (the nestlings’ excrement) from the nest area, as do most other bird species. The nest forms a mass of sticks, grass and faeces, growing yearly. To date, the biggest nest Roof Rats has removed contained a massive 12.5kg of nesting material. The nest was in a roof area where some light could enter, so in addition to the normal mess, fungi and cockroaches had also found a home amid the nesting material. Cases like these pose a serious risk of falling through the ceiling, and it can get even worse – Roof Rats has seen nests constructed on top of old nests built on a foundation, if that word can be used, of dead birds!

**THE BIRD’S-EYE VIEW**

In general, all bird nests will contain some unpleasantries, while most will harbour bird lice. You can expect to find the adult roosting area in the general vicinity of the nest – these roosts also lead to a fair amount of mess when adult birds spend their nights perched on a beam.

**RIGHT OFF THE BAT**

Bats pose their own unique issues. A protected species in South Africa, it is illegal to kill or harm bats in any way. Actually, they are incredibly worthwhile to have around your house, as they eat thousands of insects each night and help keep the area insect-free. But, there’s a downside: The build-up of bat guano in the roof is a definite health risk.

**A MATTER OF HEALTH AND SAFETY**

When pests invade the roof area, you suffer the ever-present risk of physical damage. Rats chew wires and cables, bird mess stains ceiling boards, and if a big colony of birds or bats assumes long-term residential status, the ceiling can actually collapse under the weight of the mess created. But, more seriously, it is clear that the infestation of any animal in the ceiling area poses a health risk.

Although this is, thankfully, extremely rare, old faeces and animal mess can cause diseases in humans. There are few recorded cases in South Africa, and the actual infection would normally only occur in persons with already weakened immune systems. The three diseases most generally associated with pigeon droppings are:

- **Histoplasmosis**—also associated with bat droppings, this is basically a fungal infection in the lungs caused by breathing in the spores produced by the fungi living on the faeces.
- **Cryptococcosis**— found in the droppings of birds, mainly pigeons, known to cause meningitis.
- **Psittacosis**—also termed “parrot fever,” it is a bacterial disease that can infect the lungs. This is rare. The disease is spread between birds through their droppings and old feathers, and is transmitted to humans by direct contact or inhalation. Most cases are, however, restricted to people in direct contact with pet birds or working in the poultry industry.

Rats are responsible for spreading a huge list of diseases. The most infamous outbreak of a rat-borne disease is the Black Death in Europe, which killed an estimated 150 million people in the mid-1300s. Diseases spread by rats are passed on to humans in a variety of ways:

- **Murine typhus and “The Plague”** — spread by the fleas living on rats.
- **Rat-bite fever** — spread by direct contact with rat droppings and urine.
- **Leptospirosis** — comes to you courtesy of rat urine in water.

Whichever disease you choose, whichever vector is in your area, having rats close by and in the roof is not good!
GATHERING DUST

Another often overlooked problem in the roof is the general build-up of dust. A roof is porous. When tiles don’t fit together in completely airtight fashion, or cemented walls and bricks don’t precisely meet up with the roof trusses, the wind will waft sand, dust and leaves into the roof. Without cleaning, and left indefinitely or for a prolonged period of time, what will that roof area look like? Consider years and years’ worth of continual dust build-up, then add old building rubble, old geyser still full of water, whatever the plumber or electrician has left behind, and whatever the previous owners decided to store up there, and you’ll get the pretty grim picture.

CHANGING THE RAT RACE

The only real way of dealing with an infestation of rats, bats or birds in the roof is to remove or relocate them. But relocation will only work if the animals are then excluded from the roof. Bats have been known to return to a roost from more than 600km away after a relocation exercise. And we all know the abilities of pigeons to come home...

Rat or bird exclusion is normally a one-day job involving a skilled team of trained personnel. It entails blocking up the access holes, probably removing a large number of the roof tiles to get to these points, and then blocking with a variety of materials before finally relaying the tiles. IBR sheeting and corrugated iron roofs can also be handled, but then the problem of re-waterproofing the roof needs to be addressed.

The only way to deal with a bat infestation is to chase them out and block their access. This is an extremely long and complicated process that will entail multiple visits to the property, since bats are for the most part both migratory and territorial animals. In reality, bats usually get chased out on the first visit, and they fly off to relocate. The work gets done at the property, but after a few days the bats come back. They find a new way inside. Somewhere they will discover a small hole, perhaps as small as a 50c piece, and re-enter the roost. The experienced Roof Rats team finds that it takes up to six or seven visits to successfully exclude a bat colony from a property. Therefore, if the bats are not an irritation, and there is no health hazard, Roof Rats’ advice is actually to leave well enough alone and just enjoy watching them clean up the insect population in the garden.

The only way to deal with the dust and mess in the roof is to clean it out. An average property involving about 250m² will produce more than 30kg of dust and droppings. And that doesn’t include the old wires, pipes and other junk. Old geyser and tired insulation are another concern. Very old insulation material will eventually disintegrate into fluff and powder, or break apart. This adds to dust in the roof, and along with the normal wind-borne dust and the droppings it can cause all sorts of problems below, meaning inside the living or working area. Insulation can be cleaned and disinfected, but only if it is still in reasonable condition. Should it be breaking apart, the only solution is to remove it and have a new installation done. It makes no sense to lay thousands of rands’ worth of new insulation over a dirty, foul-smelling old mess. The most effective way to deal with an old and dirty roof area is to vacuum it out. A good vacuum will remove all the dust and droppings. Proper sanitizing treatment can also get rid of any lingering smells and germs, and help create a healthier environment overall in the house.

THE BOTTOM LINE

When it comes to the roof cavity, it’s the forgotten part of the house or building, the part that you don’t want to think about – the horrible, messy, dirty, spider and rat-infested area. But when it comes to the effects of neglecting that obscure part of the building, you’d be well-advised to invest in a good cleanout, an effective animal exclusion solution, and a disinfectant treatment. And when it comes down to your health, nothing can be more important.

To contact Diederik van ‘t Hof or learn more about Roof Rats’ services, call (011) 057-7020, send an e-mail to info@roofrats.co.za or visit www.roofrats.co.za.