

# RATS AND MICE

## in domestic situations

Rodents are the most common mammals in the world, both in numbers and in species. Australia has more than 60 species of native rodents. These natives rarely invade homes but some do cause problems in agriculture. There are also three introduced rodents:

<i>Rattus norvegicus</i>	the sewer or brown rat
<i>Rattus rattus</i>	the roof or black rat
<i>Mus musculus</i>	the house mouse.

It is the introduced rodents that cause problems in urban areas.

These are known as commensal rodents – those that live with or near people and depend on humans for at least part of their food or shelter. They are often attracted to houses for food and shelter as the weather cools in autumn/winter.

Rodents prominent incisor teeth grow continuously. ‘Rodent’ is derived from the Latin ‘rodere’ which means ‘to gnaw’. Gnawing is a natural and necessary survival behaviour of the rat and mouse. Rats and mice enjoy gnawing wires – a potential cause of fires in houses.

Rodents contaminate our environment with their urine and droppings and by spreading disease. Rodents are known to be vectors of over fifty disease organisms including the causes of plague, leptospirosis, murine typhus and food poisoning.

### Rodent species

#### **SEWER RAT**      *Rattus norvegicus*

Originated in Central Asia. Large, aggressive, adaptable and sly.

#### **ROOF RAT**      *Rattus rattus*

A native of the forests of equatorial Southeast Asia. It was the most common rat in urban areas in Europe during the outbreaks of plague.

#### **HOUSE MOUSE**      *Mus musculus*

Believed to have originated in Central Asia. Mice adapted to structures associated with the storage and transport of grain, with their provision of shelter, warmth and food.

	Sewer Rat	Roof Rat	House Mouse
Snout	Blunt	Pointed	Pointed
Ears	Small	Large	Large
Tail / body	Shorter	Longer	Body-length
Droppings	18mm Sausage-like	12mm Pointed	4mm Pointed
Weight (g)	340 – 460	150 - 250	13 – 30
Intake /day (g)	15 – 30	10 - 20	2 – 4
Food preference	Garbage	Fruit, nuts	Grains
Offspring / year	20	20	40 – 60
Gestation (days)	22	23	18 – 21
Litter size	4 – 10	4 – 8	5 – 6
Lifespan (mths)	5 – 12	5 - 18	12 – 24
Home range (m)	8 – 30	8 – 30+	2 – 10

IT IS IMPORTANT TO CORRECTLY IDENTIFY THE SPECIES SO EFFECTIVE CONTROL PROGRAMMES CAN BE DESIGNED TO SUIT THE BEHAVIOUR PATTERNS OF THAT SPECIES.

ACCESS TO FOOD AND SHELTER, POOR HYGIENE, INCORRECT PLACEMENT OF TRAPS AND BAITS AND CHOICE OF INAPPROPRIATE ACTIVE AND FORMULATION OF BAITS WILL RESULT IN A SLOWER OR EVEN INEFFECTIVE CONTROL.

## **CONTROL**

### **INSPECTION**

To determine the species, the extent and severity of the problem, the location of harbourages and areas of activity and appropriate control strategies.

### **HYGIENE**

Mow the lawn, eliminate clutter, debris, rubbish and access to pet food (metal containers and take in at night). Limiting food, water and shelter makes it harder for the rodent to survive and increases the effectiveness of control strategies.

### **PROOFING**

Keep them out! This may be simple or not practical – a mouse can get through a hole the size of the tip of your little finger, a rat requires the size of the tip of your thumb. The main areas of entry are doors, overhanging branches, vents and penetrations for plumbing and electricals.

### **TRAPPING**

There are a variety of traps including curiosity traps, sticky boards and snap traps. The placement of these devices is critical to their success.

### **BAITING**

This is the most common method used by Pest Managers and by the general public – the differences are that Pest Managers know which active ingredients and formulations are most suitable for the situation at hand and they will often integrate other actions listed above, depending on what they find in the inspection.

The baits used in urban areas are anticoagulant rodenticides. These reduce the ability of the blood to clot causing internal hemorrhage. Death occurs from four days after commencement of feeding. Baits must be kept out of reach of children and pets. If a non-target animal feeds on the bait, take the animal and a sample of the bait to a veterinarian. If the animal shows signs of poisoning, the vet will administer an antidote.

## **HELPFUL HINTS**

- Some properties are invaded in autumn every year as rats and mice seek shelter in cooler weather. Others may be invaded when nearby areas are developed. If you are aware of a potential influx, contact your Pest Manager to introduce a programme before the event.
- Pet food is a major attraction for rodents. Ensure that all pet food is never left outside overnight and by storing in metal containers.
- The house should be inspected for potential entry points, concentrating on gaps in the wall, such as weep holes, doors and windows and penetrations for plumbing and electrical services.
- Trim all tree branches away from the house. Remove ivy and trellises from walls.
- Do not store timber or debris adjacent to the house.
- Repair leaky taps and remove other water sources.
- Rodents develop territories and have a social hierarchy. Not all will have equal access to baits. The most dominant and aggressive individuals tend to be the oldest and largest male members of the colony. Treatment programmes must be designed to control the colony, rather than a few individuals.
- An adult house mouse produces 50 to 100 droppings and up to 3,000 micro-droplets of urine per day, a rat about 40 to 50 droppings per day or 15,000 droppings and 15 litres of urine per year.

- Rodents may die in inaccessible places such as wall cavities. Odours from dead mice are seldom a problem but rats, because of their larger body weight may cause a problem. Your Pest Manager may be able to find and remove the carcass or apply odour absorbing products.