

Brown Rat



Black Rat



House Mouse



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DESCRIPTION

BROWN RAT "COMMON"/ "SEWER" (*Rattus norvegicus*)

Generally brownish-grey in colour with paler underside. Their tail is shorter than their body and is nearly always darker on top. Their snout is blunt and their ears are small and furry. They are large, robustly built animals with an average weight of 340g. Their life span is on average, between 6 and 12 months and in that time they can have a maximum of 7 litters consisting of 8-12 young. Droppings are blunt spindle shaped, with an average length of 1½-2cm. They are usually found in groups.

The brown rat is a burrowing animal and will live outdoor or indoors and in rural or urban environments. They are frequently sited around landfill sites, railway embankments and sewers. They have very good climbing and swimming skills. All brown rats show a cautious reaction to the new objects. They are omnivores but prefer cereals and have a strong need for water. They rarely venture far from their nest site in search of food (660m in the case of adult males).

BLACK RAT "SHIP" (*Rattus rattus*)

The black rat has a black or dark brown body with a pale sometimes white underside. Their tail is thin and longer than their whole body. Their snout is pointed and their ears large, translucent and furless. They are sleek, graceful animals with an average weight of 300g. Their life span averages between 6 and 12 months and in this time they can have a maximum 6 litters consisting of 6- 10 young. Droppings are pointed sausage shaped with an average is length 1½cm.

The black rat is a non burrowing creature and is rarely found in sewers. They have superior climbing skills. They are omnivorous with a preference for fruit and vegetables. Like the brown rat they are cautious of new objects.

HOUSE MOUSE (*Mus domesticus*)

The mouse is small brownish-grey with a thin tail which is much longer than the whole body. Their snout is pointed and their ears small with fine hairs. They have a small, slender appearance with an average weight of 25g. Their life span is on average between 6 and 12

months and in this time they can have a maximum 7 litters consisting of 5-6 young. Droppings are pointed, thin spindle shaped with an average length of 5mm.

The house mouse rarely burrows and has good climbing skills. Like the brown rat they can be found both indoors and outdoors and in rural or urban environments. They are omnivores with a preference for cereals. Their behaviour is erratic.

SIGNIFICANCE

Rats and mice will readily infest both domestic and commercial premises. Entry can be gained through poor design, construction and maintenance of the building. Stored food may be eaten or contaminated. Packaging, the fabric of the building, fixtures and fittings may be damaged through gnawing and defaecation. Once established with nest and food source both rats and mice will readily breed giving rise to a significant population in a relatively short space of time.

An infestation may be indicative of poor standards of hygiene and housekeeping coupled with a lack of awareness and suitable protective measures.

Rodents may also be involved in the transmission of disease. i.e. Leptospirosis (Weil's disease), Plague, Salmonellosis, Tapeworm and Rabies.



SIGNS OF AN INFESTATION

Evidence of the presence of rats or mice can be established without the sighting of a live animal. Typical signs can be seen both inside and outside of the premises. These include damage to building materials, packaging and food. Tooth marks may be evident which will help to identify the rodent as a rat or mouse. Mice tend to nibble from the centre of a grain compared to rats that often leave half grains or small pieces of debris. Recent gnawing, particularly through wood can be distinguished by the fresh light coloured appearance of the gnawed surface and the presence of small chewed pieces or cuttings in the vicinity. The edges of the gnawed area become darkened in a few days, and small cuttings are soon scattered or swept away.

Holes which may be the entrance to a nest will typically be about 8cm in diameter in the case of rats and 2cm in the case of mice. The holes may appear in the ground or in floors, walls and the base of doors. Black rats and mice generally conceal their nests very well. The Brown rats prefer to live in the ground so their burrows are easy to recognise and relatively easy to find. House mice that live in and around buildings seldom burrow but build nests in places such as cavity walls and attics. The Black rat also lives in concealed locations within and around buildings, but has been known to build large ball shaped nests in trees and dense bushes in rural environments. The age of rat and mouse burrows may be determined by how well worn they appear. Holes in current use are free of dust and cobwebs and may have a slick, beaten down appearance. Footprints may also be evident in dusty environments.

Rodents are creatures of habit and will regularly use the same run. The runs exhibit 'smear' marks as the grease, dirt and natural oils from their fur makes contact with the surfaces. Outdoors these runways appear as clean-swept paths where vegetation has become flattened, about 5-7cm wide. They occur along the outside walls of buildings, in the embankments and under heavy growths of bushes

Droppings also aid in the identification of an infestation. The Brown rat's droppings are the largest and they vary in shape from bluntly rounded ends to spindle shaped in appearance. Black rat droppings are generally smaller and more regular in form, the ends are usually pointed. Mouse droppings are very small and are sometimes confused with cockroach droppings, so be alert to the differences between the two when conducting an inspection. Cockroach droppings are much smaller than mouse droppings and are characterised by blunt, almost squared off ends and ridges.

When droppings are discovered it is important to determine their age as it will indicate whether the infestation is current. Fresh droppings are soft enough to be pressed out of shape and have a glistening moist appearance. The colour varies according to the kind of food eaten, but usually they are black or nearly black. Within a few days, depending on climatic conditions, droppings become dry and hard. Later the surface will become dull, and over an extended period of time they assume a greyish, dusty appearance and may crumble easily.

The most positive proof of any infestation, of course, is to see live rats or mice. However, because rodents are generally nocturnal and secretive in their habits, live animals are seldom seen. Rodents also make various noises which may highlight their presence and location. However, unless the area is very quiet the noises are rarely heard.

Urine stains, hairs or the characteristic odour of rats and mice will be encountered in the case of an infestation. On some surfaces stains show up clearly in normal light, on other surfaces they are revealed by the use of a black light. In heavy infestations a peculiar musty musk/urine odour may be present□

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Rodents require food, water and shelter to survive. Preventative measures should begin with the design, construction and maintenance of the building in addition to good housekeeping. Effective cleaning of all parts of the premises and equipment is essential, together with the storage of food in rodent proof containers. The maintenance of the refuse store in a clean condition and the storage of all refuse in suitable lidded containers is essential. Premises owners should check their property for conditions that are inviting to rodents. i.e. overgrown vegetation. The building exterior should be carefully examined the structural damage, potential harbourage site, poor sanitation and other conditions conducive to rodent activity. Specifically:-

- Open or loosely covered refuse containers
- Overgrown shrubs or vegetation abutting the premises.

- Open or broken windows or screens
- Openings around pipes or conduits
- Poorly fitting doors or windows
- Telephone and electrical lines leading into the home or apartment building
- Cracked or broken concrete on the building foundation
- Piles of wood or debris on the ground around the structure
- Evidence of poor ground care around ponds or landscaping
- Dense foliage or ivy contacting the building
- Pet food & bird feeders
- Harbourage sites under outbuildings

Where an infestation has been established, trapping or a rodenticide will be required to control the infestation. Remedial action on building proofing, cleaning and housekeeping will help to exterminate the infestation.

Rodenticides are poisons that are used to kill rodents. They are generally anti-coagulants which interfere with the body's production of prothrombin which clots blood vessels when damaged. The animals therefore die of internal or external haemorrhaging. Sometimes combination chemicals are used that interfere with the rodent's ability to maintain their body temperature which means that the animals die of hypothermia.

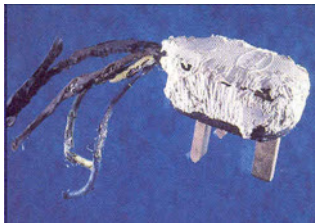
Rodenticides are only effective if they are ingested and therefore they are usually combined with a food that is appealing to the rodents. i.e. cereals and grains. The rodenticides can also be made up into pastes, gels or dusts. Dusts can be spread along runs and will be picked up on the feet and fur of the rodent as it passes. This is then ingested during preening.

It is important to take into account the behaviour characteristics of rodents when laying baits. Locations must be carefully selected with regard to the infestation evidence. Care should be taken to ensure that humans and other animals can not come into contact with the poison bait. And that other food can not become contaminated. This is usually achieved by the use of bait boxes or 'stations'.

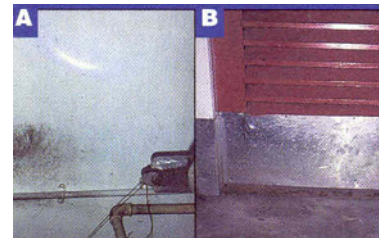
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Female Rat and Young



Gnawing damage



Smear marks on wall