**Treatment and Control of Pests**

**Ants**

**Problem**

AntMore than 8000 species are known to man. They have largely defined habits in the way they construct their nests, form their colonies and the way in which they feed.

Most are beneficial scavenging on insect and waste debris. Sometimes, however, they can become a nuisance in buildings when foraging frantically for food and water along scent marked trails.

The most common types are:

* Common Black Ant (or Black Garden Ant)
* Pharaohs Ant

**Lifecycle**

After mating, the males die and the females lose their wings and dig a hole in the soil over winter. Late Spring sees the first eggs being laid with white larvae hatching some three to four weeks later. These are fed on secretions from the queens salivary glands until around three weeks later they pupate. These working ants emerge as adults in less than two weeks. Usually a colony contains just one female. Females in adjoining colonies will fight till death for control of the nest. The workers run the nest, tending the queen and new larvae. They forage for food, extend the nest and clean out excreta.

**Control Measures**

Ants are a nuisance, not a health risk. Ants can be vacuumed up, or in the case of flying ants simply be allowed to fly away through open windows. If you are able to, try using household insecticide sprays available from D.I.Y stores or supermarkets. Read and follow the instructions for use and safety precautions on the label carefully. Ideally insecticide should be applied directly to the nest, however, this is sometimes difficult to find. Insecticide should therefore be applied at entry points to the house such as doors, steps, windows, vents, ducts and drains. Particular attention should be given to cracks and crevices. In this way the ants will carry the insecticide into the nest and eradication follows soon after.

Taking action yourself will be a big help as ants usually occur in the warmer months when the Pest Control Officer is very busy, and rodents, wasps and bees must be given priority.

If all else fails, however, control can be achieved by the Pest Control Officer spraying insecticidal dust or liquid at entry points, or the nest if you have found it.

**Treatment**

AntThe treatment is carried out using an approved insecticide. Further information on the insecticide is available on request.

The use of insecticide is carefully controlled by the Control of Pesticides Regulations 1986.

The Pest Control Officer is fully trained and all necessary measures are taken to comply with the Health and Safety at Work, Etc. Act 1974 and Regulations thereunder.

Instructions will be given at the time of application in relation to safety of the householder and pets.

In some cases more than one application is necessary to ensure control.

### Bees

#### Problem

Besides being attractive, Bumble bees are beneficial to the environment, as they act as pollinators of many fruit trees and other plants. It is very unusual for Bumble bees to sting and in fact they have to be very severely provoked before they will do so. The sting however may be very painful. There is therefore every reason to conserve Bumble bees as they would not normally be troublesome in the house.

In northern Europe there are about ten different species of Bumble bee. But the species which nest most frequently in houses are Bumbus lapitarius and B. hypnorum.

The Honey bee, Apis mellifera, is also commonly found in this country.

#### Life Cycle

Unlike Honey bees, in which the whole colony survives the winter, a Bumble bee colony only lasts for a single season. This means that all the workers die in the Autumn so that only a few young mated queens survive and spend the winter in hibernation. Bumble bees seen in March flying low over the ground are usually these young queens, just emerged from their winter quarters, and are searching for suitable places in which to establish new colonies. Typical sites for building nests include holes in the ground, deserted mouse holes, in between stones in a farm wall, an empty nest box or old birds nests under the eaves of houses may also be used.

Once the queen has selected the site she starts to build her nest. If the space is too small she extends it, up to about the size of a clenched fist, and lines it with dry plants, moss or mouse hair. She builds a couple of small cells out of wax, each about the size of a thimble, one for stores and one to lay eggs in. The larvae which hatch are fed by the queen, who also has to fetch pollen and nectar. When fully grown the larvae pupate and a few days later they emerge as the first worker Bumble bees of the year. They are sometimes very small, simply because the queen has not been able to fetch sufficient food for them, but they now start to help with the building work and with collecting food, while the queen occupies herself more and more with egg laying. Later on in the summer a Bumble bee nest is well established with larvae, cells and stores along side each other. It does not have regular cells and the neat arrangement characteristic of a Honey Bee colony, nor is it so large, having at the most four hundred to five hundred occupants.

#### Control



Like Honey bee swarms, in most situations Bumble bee nests are left untouched. Very occasionally, however, it is necessary to remove a nest and this is achieved by the Pest Control Officer in most cases by use of insecticidal dust. The destruction of the nest is achieved by applying insecticide directly onto the nest or nest entrance. In this way insecticide is carried into the core of the nest and eradication will follow soon after. Honey bee swarms are generally captured and removed to a bee hive.

#### Treatment

The treatment is carried out using an approved insecticide. Further information on the insecticide is available on request.

The use of insecticide is carefully controlled by the Control of Pesticides Regulations 1986. The Pest Control Officer is fully trained and necessary measures are taken to comply with the Health and Safety at Work, Etc. Act 1974 and Regulations thereunder.

Instructions will be given at the time of application in relation to safety of the house holder and pets. In some cases more than one application is necessary to ensure control.

**Fleas**

**Problem**

About 1400 species of fleas have been identified and within Britain there are up to 60 species.

All adult fleas are external parasites of warm blooded animals and birds, and extreme specialisation has resulted in them looking unlike any other group of insects. They are wingless, flattened laterally and vary in colour from greyish through to a dark mahogany. Their mouthparts are adapted to sucking blood from the host animal. The distinct characteristic of adult fleas is the adaptation of the hind legs into very muscular organs capable of projecting the flea a considerable distance.

Fleas most commonly affecting humans:

* The Cat flea
* The Dog flea
* The Human flea.

Of these three the cat flea is by far the most common and is not always confined to cats. Although the female cat flea requires the blood of the cat to lay eggs, it is not adverse to feeding voraciously from humans. Almost invariably cat fleas will attack the lower portions of the leg, especially around the ankles. Frequent flea bites around the waist and abdomen normally indicate human fleas. The bites can give rise to the characteristic dark red spots around the area which remain irritated for one or two days. Unfed fleas can survive for up to four months lying dormant until the vibrations of the host make them active.

**Life Cycle**

The female flea lays fairly large eggs which are oval, white and translucent. Although slightly sticky the eggs almost invariably fall off the host animal and into the bedding area and two or three days later they hatch. White, legless larvae emerge and begin feeding on a variety of materials. The flea larvae shed their skins two or three times over a three to four week period eventually spinning a flimsy, silken cocoon near the feeding area. This may be in the cracks in floorboards in a house, and is often in and amongst the bedding of the host animal.

Depending on the temperature the adult fleas usually start to emerge from the pupae within about a month. However, the adult may remain within the cocoon until a potential host passes by and stimulates its final emergence. This ability to remain dormant in buildings over long periods is the key to their success and has to be taken into consideration when control measures are undertaken.

**Control Measures**

The most effective control measure is a robust vacuuming programme. This should be carried out in conjunction with disinfestation of any affected pets and their bedding. Advice should be sought from the vet.

Human flea infestations can involve a similar treatment with the disinfestation of the person again being the responsibility of the Householder.

Control can be achieved by the Pest Control Officer in most cases by use of insecticide liquid. This is sprayed mainly on the floor area and instructions are given to the householder to refrain from vacuuming, cleaning, etc. for a period of time so that the insecticide has a residual effect. In this way eggs, larvae and adult fleas are soon eradicated.

**Treatment**

The treatment is carried out using an approved insecticide. Further information on the insecticide is available on request.

The use of insecticide is carefully controlled by the Control of Pesticide Regulations 1986.

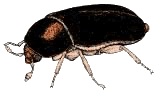
The Pest Control Officer is fully trained and all necessary measures are taken to comply with the Health and Safety at Work, Etc. Act 1974 and Regulations thereunder.

Instructions will be given at the time of application in relation to safety of the householder and pets.

In some cases more than one application is necessary to ensure control.

### Hide Beetles

#### Problem

There are more than 50 species of Dermestes, known collectively as Hide Beetles, and a few of these are common as domestic pests. This is a serious pest in commercial and domestic kitchens, particularly around food cupboards, cookers and refrigerators.

Their appearance is usually associated with food scraps and debris on which they can successfully breed. The adult beetles fly readily, and are attracted to sources of light at night, creating problems in upper floor areas of houses. They are also associated with birds nests in lofts.

#### Lifecycle



The adult beetles range from 5.5 to 12mm in length, are oblong in shape and are densely covered in hairs. Female insects lay eggs on material suitable for food for the larvae, often in cracks and crevices. The larvae are quite distinct - up to 14mm long, dark brown banded with distinctive bristles, known as 'woolly bears'. During the larval stages they actively avoid light and if disturbed feign death by lying still, curling themselves up in the process.

When ready to pupate they may burrow their way into relatively hard substances such as wooden panelling and structural timbers which can cause significant damage.

#### Control Measures

The most important control measure is to thoroughly clean all areas affected by Hide Beetles. All food debris must be removed in and around, food cupboards, cookers, refrigerators and all other areas of the kitchen and affected rooms. All foodstuffs affected must be disposed of. Good hygiene is the way to control these insects. Once this has occurred, the Pest Control Officer should be contacted to apply a suitable insecticidal which will have a long lasting residual effect.

#### Treatment

The treatment is carried out using an approved insecticide. Further information on the insecticide is available on request. The use of insecticide is carefully controlled by the Control of Pesticides Regulations 1986.

The Pest Control Officer is fully trained and all necessary measures are taken to comply with the Health and Safety at Work, Etc. Act 1974 and Regulations thereunder. Instructions will be given at the time of application in relation to safety of the householder and pests.

In some cases more than one application is necessary to ensure control.

**Mice**

**Problem**

MouseIt is not generally appreciated that the common house mouse causes almost as much damage and constitutes as great a health hazard as the rat. A world-wide pest of buildings, it is distinguished from rats by smaller size and from young rats by the larger ears of the mouse, much longer tail and smaller head and feet relative to the body.

The house mouse is grey above, light grey below, normally lives indoors, preferring dry nesting locations. It usually lives at ground level but can climb. Movement in search of food is very limited, nests often occurring within the food stuff itself and frequently made from shredded paper. Cereals are the preferred food.

Mice have the potential to damage and contaminate stored food on a fairly large scale. This contamination is difficult to remove and can result in the rejection of food for human consumption. Mice often destroy much more food than they consume because of their wasteful habit of discarding partially eaten food.

Mice may cause structural damage by gnawing almost anything, although damage caused by mice is much less severe than that found in an infestation of rats.

**Life Cycle**

Mice are much more prolific than rats with a gestation period of about three weeks. The size of litters varies from 6 to 16 and the number of litters average 7 to 8. The period from birth to sexual maturity is 8 to 10 weeks and a mouse normally lives for 6 to 12 months.

The maximum reproductive potential of a pair and their young is about 2,000 in a year.

**Control Measures**

Mice tend not to move far during their lifetime. They can however squeeze through any crack into which a human finger can be inserted. During the Autumn and early Winter, a seasonal migration of field mice can occur from their Summer quarters to the more comfortable surroundings in houses or stores, where adequate warmth and protection from the elements are provided.

It is best to seek professional help in eradicating an infestation of mice as advice will be given on entry points and proofing measures necessary to prevent further entry of the mice.

The Pest Control Officer is equipped with a range of poison baits and traps which provide a variety of treatments suitable for every location.

The most important aspect of control is prevention. It is good practice to keep all properties in good condition and repair all holes or other likely points of entry. Mice tend to live where there is a readily available food supply so it is important to ensure that food is stored properly and that there is good housekeeping within the premises to discourage any infestation and to make the presence of vermin more readily detectable and controllable. Advice on mouse proofing is available on the same basis as treatment.

**Treatment**

MouseTreatment will involve assessing the extent of the problem, laying baits or traps as necessary, checking the uptake of bait regularly and removing material at the end of the treatment. The treatment is carried out using an approved rodenticide.

Further information on the rodenticide is available on request.

Please note:

The use of rodenticide is carefully controlled by the Control of Pesticides Regulations 1986.

The Pest Control Officer is fully trained and all necessary measures are taken to comply with the Health and Safety at Work Etc., Act 1974 and Regulations thereunder.

Instructions will be given at the time of application in relation to the safety of the householder and pets.

In some cases more than one application is necessary to ensure control.

It should be noted on some occasions after treatment a smell may be noticeable from the decomposition of the dead mice. Where possible bodies will be removed. If this is not possible the Pest Control Officer may be able to provide material to deodorise the premises for the short space of time, normally up to a week, when the smell is at its worst. Decomposition of the body is only a temporary matter and the smell soon disappears.

### Rats

#### Problem

RatRats are some of the most serious rodent pests in the world. They can carry life threatening diseases such as the Plague, Leptospirosis (Weils Disease), Salmonellosis, Rat Bite Fever, Lymphocytic Choriomeningitis and Murine typhus. They also carry parasites including Ring Worm, Mites, Nematodes, Tapeworms, Ticks and Fleas. They also have the potential to damage growing crops and stored food on a huge scale.

Not only do they consume food but rats are also responsible for much of the filth, droppings, hairs and urine, found in food stuff. This contamination is often difficult to remove and leads to the rejection of food for human consumption. Rats and mice often destroy much more than they consume because of their wasteful habit of discarding partially eaten food.

They also cause structural damage by gnawing and burrowing. In particular they undermine foundations and destroy the fabric of the building. Structural drain sewers can be damaged by burrowing between joints in the surrounding earth and behind brick sewers. Sometimes this causes or contributes to the collapse of roads and pavements. Almost any commodity is susceptible to gnawing. Lead pipes and even metal sheathed cables can be gnawed through. Rats frequently attack electrical wiring, resulting in electrical failures and fires. The presence of rodents in buildings is highly undesirable.

The rat most commonly found in Britain is the Brown Rat (Rattus norvegicus). The Black Rat (Rattus rattus) is only likely to found in or near Ports.

#### Treatment

Treatment will involve assessing the extent of the problem, laying baits or traps as necessary, checking the uptake of bait regularly and removing material at the end of the treatment. Treatment is free to domestic householders but there is a charge to commercial and industrial premises. The treatment is carried out using an approved rodenticide.

Further information on the rodenticide is available on request.

The use of rodenticide is carefully controlled by the Control of Pesticides Regulations 1986.

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Instructions will be given at the time of application in relation to the safety of the householder and pets.

In some cases more than one application is necessary to ensure control.

It should be noted on some occasions after treatment a smell may be noticeable from the decomposition of the rats bodies. Where possible bodies will be removed. If this is not possible the Pest Control Officer may be able to provide material to deodorise the premises for the short space of time, normally up to a week, when the smell is at its worst. Decomposition of the body is only a temporary matter and the smell soon disappears.

#### Control Measures

The ability of rats to burrow, climb and jump combined with their natural intelligence makes them very difficult to control. It is not normally possible to deal with an infestation without professional help. The Pest Control Officer is equipped with a range of poison baits and traps which provide a variety of treatments.

The most important aspect of control is prevention. Keep all properties in good condition and repair all holes at ground level, make sure external doors fit well and if necessary fit metal panels at the base.

Storing food properly and good house-keeping within premises will discourage rats and ensure any infestation is more easily identified and controlled.

Advice on rodent proofing is available on the same basis as treatment.

#### Life Cycle

A pair of rats have the potential to produce thousands of off-spring in one year. Conditions which suit a rapid population increase are even temperatures, surplus food, adequate water and undisturbed cover for rearing young and escaping from enemies. Under these conditions rats and mice may breed throughout the year. In less favourable conditions rats usually breed in the summer and autumn, becoming sexually mature within twelve weeks of birth. On average they may have four to six litters a year with an average litter of six to eleven rats.

Rats do leave signs of their activity, which help to signal their presence, indicate the size of an infestation and help identify the species. Indications of their presence include sighting, smell, droppings which are on average 12mm long and described as spindle shaped (tapered to a point at one or both ends). Fresh droppings appear soft and shiny but within a few days depending on climatic conditions become hard and dull.

Rats also tend to follow the same route when travelling. These characteristic pathways or trails are likely to be near or under cover. Outdoors the runs of rats can appear as continuous depressions in grass or other low vegetation or eventually as well worn path ways of bare trampled earth. Runs indoors are most easily discovered along regular routes through dusty places when the surfaces will tend to have a clean and shiny appearance. Other signs of infestation include footprints, tail swipes, smears and evidence of burrowing and nests.

Unfortunately, often the first clear evidence of rodents is the discovery of partially eaten, spilled or hoarded food, damaged packaging material and other signs of recent gnawing.

### Wasps

#### Problem

Although Wasps are quite useful insects, helping to control other pests, clearing dead insect debris and cross pollinating plant life in general, they are regarded as pests and a threat to health.

Wasp stings may be unpleasant to most of us, but to some people they can prove fatal. The ability of these social insects to inflict multiple stings means for certain individuals they can kill.

Although 11 species of true wasps are found in Europe, in Scotland the 2 most often found are the Common Wasp and German Wasp.

#### Life Cycle

All wasps over winter as queens, usually hibernating in buildings, underground or in tree cavities. The young queen emerges in Spring, feeding on nectar and sap and begins to construct her new nest from from wasp paper, a mixture that she concocts from chewed wood, plant debris and saliva. Nests are often found in holes in the ground, hollow trees, eaves, attics, or garden sheds. A new nest is always built from scratch. Old nests are never returned to. The queen lays her first batch of eggs within a few days and the larva constructs silk cocoons in which they pupate. 4-6 weeks later, the first worker wasps appear. The workers then take over the ongoing nest construction, enveloping the whole nest in wasp paper which could by now extend to 8 tiers. They also forage for food, ventilate the nest (by vibrating their wings) and nurture and feed the developing wasp larvae. At the end of the summer the queen lays eggs which produce male wasps. By the end of the summer a nest may house over 20,000 wasps. The male wasps fertilise new queens who go on to search for hibernation sites. Nests are then deserted and these can be safely broken up or removed.

**Nests**

If you have found a wasps nest in the spring and it is larger than a football with no live wasps walking on the outside of the nest it is likely that the nest is old one from the previous year. If you wish advice on how to remove the nest or unsure if it is active contact your local [office](http://www.angus.gov.uk/atoz/ecpoffices.cfm) for advice. If you find a golf ball size nest in the spring, watch to see if wasps return to the nest. If it is a new nest it will begin to grow as the wasps build the nest**.**

#### Control

Control can be achieved by the Pest Control Officer in most cases by the use of insecticide dust. The destruction of a nest is achieved by applying insecticide directly onto the nest or at the nest entrance. In this way the insecticide is carried into the core of the nest and eradication follows soon after.

#### Treatment

The treatment is carried out using an approved insecticide. Further information on the insecticide is available on request.

The use of insecticide is carefully controlled by the Control of Pesticide Regulations 1986. The Pest Control Officer is fully trained and all necessary measures are taken to comply with the Health and Safety at Work Etc. Act 1974 and Regulations thereunder.

Instructions will be given at the time of application in relation to safety of the householder and pets.

In some cases more than one application is necessary to ensure control.

### Woodlice

#### Problem

Woodlice or slaters are members of the Crustacea family which also includes crabs, lobsters and shrimps.

There are about 35 species of woodlice in Britain and some of these are of horticultural or agricultural significance, because they eat and damage plants. Some woodlice come indoors, especially during the cooler autumn and winter weather, and of these the most common is the Garden Woodlouse.

Woodlice have to live in damp places to survive. When large numbers of woodlice are seen indoors it may mean that there is a problem with high levels of moisture in the room due to condensation or dampness. In most cases, however, woodlice simply enter houses to seek protection from cold weather, perhaps encouraged by the build up of vegetation outside a house.

Although unsightly, woodlice are harmless.

#### Life Cycle

After mating the female woodlouse commences to produce a variable number of eggs usually up to about 150. These are contained within her body, in a brood pouch, until the young have hatched when they are then released into the environment. The young woodlouse is white and 2mm long. The woodlouse grows through moulting its skin and when fully grown may be 15 mm in length. It also has seven pairs of legs. In Britain it is common for most of the species of woodlice to produce only one generation of offspring per year.

#### Control

Woodlice are harmless. They are best swept up and returned to their normal outside environment. Alternatively a vacuum cleaner should be used to remove them. The best form of control is to stop them getting into the property by repairing holes, gaps or cracks in walls, floors and door frames. Occasionally the weather bar at the base of the door frame should be replaced. The presence of woodlice may be a sign of condensation or some other form of dampness. By resolving this problem the woodlice will eventually disappear. Also to help prevent further entry from the adjacent garden, rubbish and other potential refuges of woodlice should be removed. As a last resort an insecticidal barrier of a residual dust or spray may also help to discourage the presence of woodlice.

#### Treatment

The treatment is carried out using an approved insecticide. Further information on the insecticide is available on request.

The use of insecticide is carefully controlled by the Control of Pesticide Regulations 1986.

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In some cases more than one application is necessary to ensure control.

**Description**

House flies are 1/8 to 1/4 inch long. They are dull grey with four dark stripes on the back

of the thorax (segments right behind the head with legs and wings attached). They have

two wings; the fourth longitudinal wing vein has a sharp upward turn. The head is

dominated by large red-brown compound eyes which are surrounded by a light gold stripe.

Short antennae emerge from the eyes. They have sponging mouth parts. Mature house fly

larvae or maggots are spindle shaped and creamy white. They have dark mouth hooks at

the head end and breathing slits that look like a “wavy W” at the larger round tail end.

House fly larvae are 1/4 to 3/8 inch long when they change to the brown seed-like pupal

stage.

**Biology**

Female house flies lay their eggs singly but in clusters of 75 to 150 eggs in a variety of

moist, rotting, fermenting, organic including animal manure, accumulated grass clippings,

garbage, spilled animal feeds and soil contaminated with any of the above items. A

female may lay more than 500 eggs in a lifetime. The eggs hatch within a day, and the

young larvae burrow into the breeding medium and complete development in three days to

several weeks depending on the temperature and quality of food materials. Larvae

migrate to drier portions of the breeding medium to pupate for three days to four weeks

before emerging as adults. Under optimum conditions, house flies can complete their

entire life cycles in less than seven days.

**Habits**

The adult flies may migrate to uninfested areas up to 20 miles away, but most stay within one or two miles of the breeding site. Adult house flies have a general appetite, feeding on foods ranging from excrement to human food. They feed on liquids but can eat some solid foods by liquefying it with regurgitated digestive tract fluids. During the day, house flies rest less than five feet above the ground and at night they rest above this height. House flies have been associated with many filth-related diseases, and, thus, are a significant health concern.

**Control**

The initial inspection should focus on identification of the fly (adult and/or larva) causing the problem and location of all resting and larval development sites. Because the adults often rest in breeding areas, it is helpful to inspect at night. Sanitation, or source reduction, is the most important step in house fly control because it eliminates larval breeding sites. When successful, it significantly reduces the need for pesticide applications. If trash cans are the problem, property owners should be instructed to empty and clean them at least weekly.

Mechanical control measures include insect-proof garbage containers, self-closing doors, screening, caulking and air curtains. Operating insect light traps indoors and at night is effective in controlling adult flies inside the structure. Sticky traps and other devices are also available to reduce adult fly populations indoors and out.

The treatment is carried out using an approved insecticide. Further information on the insecticide is available on request.

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In some cases more than one application is necessary to ensure control.

Any insecticide applications should be directed at adults because sanitation and removal are the best control measures for larval breeding sites. Products used for fly control include baits, aerosols and residual insecticides.