



#### **Pest Guide Book**



#### Ants

For most people ants only become a problem when they enter buildings in search of food and water or when they build their nests in buildings or gardens.

Ants can be attracted to a wide range of foods with different species having preferences for sugars, proteins, fats and oils. During extended dry periods they will also search for water.

In many species once an individual has found a desirable item it will return to the nest and recruit nest mates to help gather the food. This can result in large numbers of ants rapidly appearing around an item, sometimes with long trails of ants between the nest and the item of interest.

Some ants will build nests in walls and foundations, indoor potted plants, and small spaces between fittings and walls. In nearly all cases, the ants are using pre-existing spaces or taking advantage of existing deterioration. Ants generally do not cause structural damage to buildings. A few species will occasionally attack electrical wiring for unknown reasons, and in these situations extensive damage can occur.

Outdoors, nesting can result in soil being deposited on gardens, around pots and between tiles and brickwork resulting in a mess but little damage. However, some species can form nests with large numbers of chambers just below the soil surface causing the soil to become soft and uneven.

Undermining of retaining walls and interference with drainage systems is also possible. Some seed harvesting ant species can be a nuisance when attempting to grow plants by direct sowing of seeds.

Ants are **some**times confused with the unrelated Termites (Order Isoptera) partly because the latter have the common name 'white ants'. Termites have the ability to digest cellulose and will eat wood, which sometimes results in damage to wooden structures Ants that are found in wood do not cause damage but are using pre-existing cavities.



### **Bull Ants**

Bull ants have a fearsome reputation, and deservedly so. They are large with long, straight, powerful jaws and a potent venom-loaded sting. They attack intruders of any size that come too close to their nest.

Bull ants also have well-developed vision and will follow or even chase an intruder a good distance from the nest. Usually the sight of large aggressive ants streaming out of the nest is enough to prompt a hasty retreat. If not, the Bull ants deliver painful stings by gripping the intruder with their mandibles (jaws), curling their abdomen to reveal the sting and injecting the victim with venom. Often multiple stings are delivered.

Many species of bull ants have bright red or orange colours on the head or abdomen. They collect nectar and other plant juices, as well as animal prey, which are carried back to the nest. Nests are usually underground and often have hidden or small entrances. The nests can extend several meters below the ground.

There are about 90 species of bull ants in Australia with diverse behaviours and life cycles. Some of the smaller species are known as jumper ants after their habit of aggressively jumping toward intruders. Several species have no colony workers. Instead, a raiding queen invades the nest of another species, kills the resident queen and takes over the colony. Nine bull ant species have been recorded in Sydney, but there may be more as yet undiscovered.

Distribution: Bull Ants are found in Sydney and through out Australia

**Habitat:** Bull Ants are found in Urban areas, forests and woodland, Mainly found in areas were the soil is dry. Bull Ants can deliver a very painful sting and can be very aggressive, medical attention should be sought

Size: Bull Ant workers 8-10 mm long.





### Honey Bee

Our Pest Control Technicians can organize for the bee swarms to be collected by Beekeepers in Sydney were there given a safe bee hive to live in and to insure that the bees are looked after well and do not become a pest in Sydney.

Honey Bees were introduced by European settlers this was because Honey Bees would ensure a good supply of honey. Naturally a few bees escaped and they are now wild throughout most of Australia's southern States.

Bees play an important role as pollinators of crops and wild flowers. But some wild flowers have suffered from the presence of Honey Bees.

**Appearance:** Honey bees are a black with yellow strip on there back there about 1.3-1.6 cm in length.

**Habit:** Honey Bees defend their nest or hives aggressively. If a bee is driven to sting, the action is fatal as it rips out the bee's lower abdomen. The sting, with venom gland pumping, is left in the victim. When A bee hive is full the Queen produces another Queen and see leaves the bee nest with 1000's of worker bees to establish a new hive this is when you see bees swarming .The swarming bees gather around the new Queen until a suitable nesting place is found .This is when they could become a pest and establish a hive in wall cavities or trees close to homes.

Diet: Honey Bees eat honey that they produce an outer sweet foods that they may find. eg.sugar

**Reproduction:** The Queen Honey Bee is the one that lays the eggs she is said to lay 2000 eggs a day to keep the bee hive strong.

**Other:** Honey Bee stings cause intense local pain and swelling, and a severe allergic reaction may occur in some people. This reaction can include difficulty in breathing and even collapse.



#### **Common Bee**

The Common Blue-banded Bee is a regular visitor to Sydney gardens. It stands out because of the blue bands across its black abdomen and because of its darting, hovering flight pattern. The Common bee seems to like lavender and are attracted to blue objects, including clothing.

Distribution: The common Bee is found through out most of Australia but not known in Tasmania or the Northern Territory.

Habitat: The Common Blue-banded Bees are quite different to the Honey bee. Instead of living in a big hive with thousands of bees it builds a solitary nest, but often close to one another. It prefers soft sandstone to burrow in, and areas of this type of rock can become riddled with bee tunnels. It also li<mark>ke</mark>s mud-brick houses and often burrows into the mortar in old buildings.

Cells at the end of the tunnel contain an egg with a pollen/nectar mixture for the emerging larva. The Common bee is found in urban areas, forests and woodlands, through out Sydney tivebullali

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Sting: Unknown.



#### **Bed Bugs**

Bed bugs probably got there name with the close association with human beds where there often found hiding during the daylight hours. At night bed bugs come out to feed and are attracted to body heat.

The bite of a bed bug is normally painless; however, about 80% of the population will develop an allergic type reaction to the bite. The bed bug bit my cause general swelling that extends beyond the area of the bite leaving no red spot at the bite point.

**Appearance:** Bed bugs are flat, reddish-brown, and some what oval and flat and about 5-6mm long or the size of an apple seed. Swollen and reddish after a blood meal, and may have a creamy colour before a feed.

**Habit:** Bed bugs are often found hiding in cracks and crevices including mattress seams, sheets, furniture, behind baseboards, electrical outlet plates and picture frames. Often found in hotels, where they can travel from room to room and in visitors' luggage.

**Diet:** Bed bugs preferably feed on human blood but they can also make use of other hosts such as bats, poultry and other birds.

**Reproduction:** Female bed bugs deposit their eggs into cracks and crevices or on rough surfaces. The female bed bug lay one to five eggs a day, and may lay 200 to 500 eggs in her lifetime. Under ideal conditions, the egg to adult cycle takes about 21 days Nymphs go through 5 moults and require a blood feed before each moult. In the absence of blood meals, nymph have been known to survive for 2 years.



#### **Blow Flies**

The Blow Fly, are a large family of flies known for there infesting animal carcasses. Blow flies are found worldwide; found nearly every place inhabited by people.

The name blow fly comes from the bloated condition of the rotting animal carcasses that their larvae, known as maggots, infest. The most frequent species found under these conditions is the common blow fly. Adult blow flies feed primarily on flower nectar, plant sap, and other sugary materials.

Distribution: The Blow fly is found in Sydney and throughout Australia.

**Habitat:** Adult Blow Flies are attracted to meat or living flesh and, like many blowflies, they lay maggots rather than eggs. This means their full life cycle can sometimes be completed within seven days. Found in Urban areas, semi-arid environments, forests and woodlands.

**Appearance:** Blow flies are slightly larger than true house flies, and the bodies of many are metallic blue or green in colour. Blow flies range in length from 7 to 16 mm they have large bodies and wide heads.



#### **Beetles**

Beetles are extremely diverse and are one of the most successful groups of animals in the world. There are eight times as many beetle species as there are fish, amphibian, reptile, bird and mammal species put together.

The huge number of beetle species demonstrates their ability to live in almost any environment. Their front wings (called elytra) are hard sheaths that protect the beetles' hind wings and cover the breathing pores. This enables beetles to control their body temperature and retain water. Beetles also have diverse mouth parts, and they eat anything from hardwood to the ooze from rotting fungi.

#### **Beetle facts:**

- Beetles are Over one-quarter of all known species of animals are beetles.
- There are over 350,000 different known beetle species worldwide and new species are being discovered all the time.
- Some1,500 species of Beetles may occur in the Sydney region.
- Of the 30,000 species of beetles that may occur in Australia, only 20,000 are scientifically described.
- Beetles eat other insects, fruit, fungi, dead animal and plant material, and wood.
- Many species of Beetles live in the nests of other animals.



**Carpet Beetles** 

The Australian Carpet Beetle is a native member of a small but significant group of beetles (family Dermistidae) that frequently invade homes and whose larvae feed on carpets and similar fabrics. These beetles are a major pest in museums as they attack dried animal skins.

The adult beetles eat flowers and live mostly outdoors. As a result, treatment indoors is ineffective in the long term because the adult beetles easily re-enter and infest buildings.

The larvae are small hairy grubs whose hairs break off when handled and can cause allergic reactions in some people. Before we introduced household goods into their diet, carpet beetle larvae naturally fed on spider webs, dried animal skins or other dried protein material.

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Distribution: Throughout Australia.

Habitat: Urban areas, forests and woodlands.

Status: Fairly common

Size: 2-3 mm long.





#### **Black Cricket**

The Black Field Cricket is the most common cricket in Australia and is often found in suburban yards of Sydney. The Black Field Cricket is generally heard rather than seen. Underneath the wing covers are modified wings. They are so modified that the cricket cannot fly. Instead it scrambles and hops about in long grass. The bristles on their legs help them to grip the long grass to scurry away from predators.

The Black Field Cricket has a complex song. It is able to amplify its call to sound as if it is coming from somewhere else. Like other crickets, singing occurs at night, and the sound is produced by the male rubbing his wings together.

Distribution: The Back Field Cricket is found throughout Sydney.

**Habitat:** During the day, it hides in vegetation or cracks in the soil and at night it emerges to feed on decaying plant material and insect remains Crickets are eaten by Birds, mice, frogs, possums and many other creatures. They are an important creature in the food chain mainly found in Urban areas and forests. The Black Field Cricket has a life span of only a few months and during this time the female lays about 2,000 eggs.

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Appearance: It is jet black small wings and bristles on there legs its about 2-4 cm in length.



#### **Mole Cricket**

Mole crickets are probably the best known cricket and most commonly encountered crickets in Sydney.

Crickets always call at dusk or during the night, whereas grasshoppers call during the day. Mole crickets mostly call when it is wet or when rain threatens, and calling can be induced by watering the lawn in the afternoon. Both male and female mole crickets call and some crickets can produce about 200 pulses of sound per second.

**Distribution:** The mole cricket is mainly found in Sydney New South Wales.

**Habitat:** When the Male Mole Cricket starts calling it use the burrows to amplify their calls by positioning themselves at the entrance and facing inwards. It seems that females are able to determine, from the sound produced, whether the males are calling from a damp or dry site. The Female Mole Cricket's are more attracted to males calling from damp burrow, where they prefer to deposit their eggs. Unlike many crickets, the female mole crickets show some degree of maternal care and remain in the burrow guarding the eggs and protecting the nymphs. The Mole cricket is mainly found in Urban areas, back yards and grassy woodlands.

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Appearance: Mole crickets are brown and have characteristic shovel-like fore legs, especially adapted to digging burrows they are about 3-4 cm long.



#### American Cockroach

The American cockroach is the largest of the house-infesting roaches. They are most commonly found in restaurants, grocery stores, bakeries, breweries, pet shops and other establishments where food is prepared or stored.

They are often found in damp sewers and basements, in heating ducts under hospitals, and on the first floors of buildings. American cockroach can be transported into homes and apartments in boxes from infested establishments. Roaches can foul food, damage wallpaper, books and clothing, and produce an unpleasant odour. Some home owners are allergic to roaches, and the pests can contaminate food with certain bacterial diseases that result in food poisoning, dysentery, or diarrhoea. Cockroaches can cause childhood asthma.

**Identification:** Adult American cockroaches are reddish-brown to dark brown (except for a tan or light yellow band around the shield behind the head), about 1-1/2 to 2-inches long, and have wings capable of flight. Males and females are about the same size. The wings are about the same length as the body (abdomen) in the females and longer in the males, extending slightly beyond the abdomen. Females have a broader abdomen, while the males have both cerci (pair of appendages at the end of the abdomen) and styli (short, slender, finger like process). Nymphs are wingless, uniformly brown coloured, and run very fast. Egg capsules are mahogany brown and about 1/3-inch long.

**Life Cycle and Habits:** American cockroach females deposit their eggs in bean-shaped cases in sheltered areas on or near the floor, usually close to a food source. Egg capsules protrude from the body for a few hours to four days. One egg capsule is formed each week until 6 to 14 have been produced. Each case contains up to 16 white or yellowish-white eggs. Eggs hatch between 5 to 7 weeks, first into whitish-brown nymphs, later turning more reddish-brown.

Development to adult averages about 15 months, varying between 9-1/2 to 20 months. Adults live almost 15 months. These roaches are found in dark, moist areas, especially in sewers, steam heat tunnels, boiler rooms, around bathtubs and clothes hampers, and around plumbing, feeding on decaying organic matter. Many are attracted to fermenting liquid (bread saturated with beer).





#### Australian Cockroach

The Australian Cockroach has yellow markings on the thorax and streaks on the base of its wings. This separates this species from the similar American Cockroach.

The Australian cockroach averages around 30mm to 35mm in size. Their antennae are slightly larger than their body size. Their heads are protected under the pronotum. Despite their tough body, the Australian cockroach is quite flexible and able to bend which is one contributing factor to allow it to fit through small spaces.

It takes approximately one year from an egg to an adult cockroach. Female cockroaches lay eggs in an otheca (egg sac). There are approximately 24 eggs per otheca, and about threequarters of the eggs hatch.

Habitat: Although named the Australian Cockroach, this species actually originated in Asia. This particular species of cockroach is found world-wide.

The Australian cockroaches prefer warmer climates, and usually tend to stay outdoors. In cooler climates or during winter months, they may seek shelter indoors, in roofs, wall cavities and sub floors.

Diet: The Australian Cockroach feeds on just about anything, however they reportedly feed on plants more than other cockroach species

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The Brown banded cockroaches about 9mm to 14 mm long. It's Wings have two brownishyellow bands. The males fore wings completely cover the body, while those of the female seldom reach the tip of the abdomen.

The forewings are reddish brown, with pale areas at the base and in the middle. The body colour varies: the dark midsection often has a pale area in the centre.

**Habit:** The Brown Banded cockroach are nocturnal and also can fly. They may be found throughout any structure, but prefer dry, warm areas, high locations and inside furniture.

**Diet:** The Brown banded cockroach feed on all kinds of foods in kitchens. They often eat the glues of book bindings, wallpaper paste, and the adhesives on the backs of stamps and gummed labels.

**Reproduction:** The Female cockroach carries egg capsule for 24 to 36 hours, then attaches it underneath or on the side of a protected surface. One Capsule contain an average of 18 eggs. Nymphs reach maturity in an average of 161 days. Adults live up to 10 months.

**Other:** The Brown Banded cockroach is sometimes confused with the German cockroach. Often hides egg capsules in furniture. Not as dependent on moisture as other species.

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#### German Cockroach

The German cockroach, which is known to originally came from Africa, is the smallest of the pest cockroach species, with adult German cockroaches reaching a maximum size of 1.5 cm. The German cockroach is the hardest pest cockroach to get rid of and is the most hated cockroach species in Sydney.

It is also the most sociable of the cockroaches and is often found in large groups, especially around warm areas like water heaters.

Appearance: German cockroaches Adults are Up to 1.5 cm long light brown in colour and nymphs are 0.2 to 1 cm long

Habit: German cockroaches can be found all over your home but is probably most common in the kitchen, frequently inside cupboards, drawers and electrical appliances, Hot water Heaters, Dish washers, food-storage areas and restaurants. They are also widespread in the galleys and storerooms of ships and jetliners. In warmer climates they are found outdoors, living under houses, in trash piles,

**Diet:** The German Cockroach eats almost anything but prefers starchy foods e.g.. potatoes, rice and cereals but have been known to live off cardboard and paper.

**Reproduction:** The female German cockroach can carry an egg capsule containing 30 to 60 cockroaches in it which can be found attached to the end of her abdomen. When the egg capsule is ready to hatch the female attaches the capsule in a warm dark corner where the young can emerge safely. One female German cockroach can lay an egg capsule every six weeks in the right conditions



**Appearance:** The Smokey brown cockroach is a dark brown to mahogany colour and up to 1/2-inch long. Adults are just over an inch in length. Both males and females are good fliers and attracted to lights.

**Habit:** The smokey brown cockroach prefers to live in, moist, dark, and warm areas. These areas can be tree holes, loose mulch, vines, ivy, and woodpiles or roof space and wall cavities with moisture problems. This cockroach loses moisture more often than other species so it needs to stay somewhere with moisture readily available.

**Diet:** The smokey brown cockroach are Scavenger's eating almost anything, but normally feeds on plant material.

**Reproduction:** After a day of having the cockroach egg capsule formed, the female smokey brown cockroach drops the sticky otheca to a surface or object near food and water. The female smokey brown cockroach will produce an average of 10 egg capsules, each containing about 20 eggs. Egg capsules hatch in 24 to 70 days.

Females reach maturity in 320 days and produce an average of seven capsules. Adults can live up to 200 days



#### Fleas

Fleas are not only a nuisance to humans and their pets but can cause medical problems such as dermatitis, secondary skin irritations and in extreme causes Anaemia. Adult fleas develop inside a papal cocoon and remain in limbo until a blood source is near preferring cats and dogs because of the higher body temperate compared to humans.

When fleas bite humans they cause an itchy reaction and sometimes bites may become infected.

**Appearance:** Adult fleas are about 1.5 to 4.0mm long, brownish or dark reddish-brown, wingless, hard-bodied (difficult to crush between fingers), have three pairs of legs (hind legs enlarged enabling jumping) and are flattened vertically or side to side .

**Habit:** Fleas can be found in your pets immediate environment especially their favourite resting and sleeping area. Fleas are excellent jumpers, leaping vertically up to 17.5cm and horizontally about 32.5cm.

**Diet:** Adult fleas cannot survive or lay eggs without a blood meal, but may live from two months to one year without feeding.

flea larvae pass through three larval stages and take a week to several months to develop. Their food consists of digested blood from adult flea faces, dead skin, hair, feathers, and other organic debris. (Larvae do not suck blood.)

**Reproduction:** Adults fleas are known to live from 2 months to a year without a blood feed ,they also reproduce with amazing speed in one month 10 females in the right conditions can generate a population of over 267,000 of offspring.



#### **House Flies**

House flies are the most common flies found in homes all over the world, not only is it a nuisance, but flies also carries disease-causing organisms, which it picks up from garbage and sewage.

Adult flies lay eggs in horse, cow, pig, dog, poultry and human manure, garbage or decaying meat.

They can readily breed in fresh and wet garbage but not in scattered, dry garbage. The adult female fly is ready to lay eggs in 2 days after emergence and continues to lay eggs for about one month. Adult flies usually live only 15 to 25 days but may live longer in cooler climates.

**Habitat:** The House fly lays many hundreds of eggs and their larvae (maggots) develop in organic material. As many as 868 fly pupa can develop from 1 ounce of manure. As adults flies are attracted to all foods.

Appearance: The house fly is black with see through wings and about 5-8 mm long.



## **Drain Flies**

**Appearance:** Drain flies in Sydney are about 2mm long with a light gray or tan body and lighter-coloured wings. The body and the wings are covered with long hairs, giving the fly a fuzzy appearance. When Drain flies are at rest, the wings are folded over the body in a characteristic roof-like manner.

**Habit:** When Drain flies found there way In homes, adults are mainly found in the bathroom, kitchen or basement walls were there is moisture to help with there reproduction. Drain flies are more active at night, drain flies do not bite but are annoying when there is a lot of them in the same area.

**Diet:** Drain flies are known to feed on Organic matter and sewage.

**Reproduction:** The drain flies eggs are laid in irregular masses almost anywhere decomposing organic materials are found. Under favourable conditions, the flies can go through one generation in as little as one week. Two to three weeks is more typical.



#### **Fruit Flies**

**Appearance:** Adult fruit flies are about 1cm long, have red eyes and a tan thorax. The abdomen is black on top, gray underneath.

**Habit:** Adult fruit are strong fliers and have been known to travel many kilometres within a 24-hour period. Fruit flies Populations tend to build during the summer months, becoming very abundant at harvest time. Indoors Fruit flies are frequently active at all times of the year. Adult Fruit flies are found flying around drains and moist areas.

**Diet:** Fruit flies feed on ripened fruit and vegetables. Fermenting products.

**Reproduction:** Fruit fly Larvae develop in moist areas where organic material and standing water are present. The entire life cycle lasts 25 days or more depending on the environmental conditions and the availability of food.



#### Mosquitoes

Mosquitoes are one of the most annoying pest leaving a itchy bite to remind you it is only the female mosquitoes that seeks hosts out for their blood, which they need in order to reproduce.

Female mosquitoes can lay about 200 eggs on any water surface-even small areas such as the bottom trays of a pot plant. Most Mosquito species produce egg 'rafts' where many eggs are laid together, floating until they hatch after 2 to 3 days.

Although they live in water, the larvae known as 'wrigglers' breathe air and come equipped with their own snorkelling equipment. Attached to their abdomen is a siphon, which they use when they come to the surface to breathe. Female Mosquitoes live for about a 1 month while males often live for only a 1 week.

**Habitat:** Female mosquitoes are attracted to hosts through a combination of different thing that come from the host. The things that can attract a mosquito can include carbon dioxide, body odours, air movement or heat. Upon locating a suitable host, the female mosquitoes will then inject a small amount of saliva containing chemicals which prevent the host's blood from clotting. After the female mosquito has finished taking blood it will find a resting place to digest her meal and develop eggs before flying off to deposit them in a suitable habitat e.g. water.

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Size: Mosquitoes are black or grey thin body and about 4-6 mm with thin wings



#### **House Mice**

**Appearance:** Mice or The House mouse is small and slender, 3 to 4 inches long, with large ears, small eyes and pointed nose. Light brown or light gray. Droppings are round-shaped.

**Habit:** Mice tend to nests within structures and burrows. Establish a "territory" near food sources that are generally 10 to 30 feet from nest. Inquisitive, but very wary, and are excellent climbers.

**Diet:** Mice have a diet of a variety of foods, such as seeds, grains and nuts requiring only about 1/10 ounce of food each day, and can live without access to fresh water as long as their solid food is fairly moist.

**Reproduction:** The House Mouse has a very prolific reproductive system breeding year round and having as many as eight litters annually. Female mice can start having their litters at the age of one and a half to two months. Life expectancy for a wild mouse is no more than one year.

**Other:** Mice can carry a wide variety of diseases transmissible to humans. A very real problem with the infestation of mice is the hantavirus which has been a threat in the arid south western part of the country. Another major concern is salmonellas which is transmitted by mice and is a concern in food storage and preparation areas.

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#### **Norway Rat**

The Norway rat is the largest of the common rodents in Australia, with its distribution restricted to human coastal settlements. The Norway Rat is often found in warehouses, shipping ports, large urban settlements and more than any other rodent species it has adapted to utilize human foods and wastes.

**Appearance:** The Norway rat is a dark Brown or Grey, heavy-bodied, 180mm-255mm long, with small eyes and ears and blunt nose. Tail is shorter than head and body and is thick. Its fur is shaggy. The Norway rats droppings are capsule-shaped. Occasionally, The Norway rat sometimes might be albino and pure black in colour.

**Habit:** The Norway rat tends to nests in underground burrows, from which they enter buildings in search of food. They are very poor climbers however they can reach elevated areas if the correct structures are present, tends to remain in hiding during the day.

**Diet:** The Roof rat is Omnivorous, but shows a preference for grains, fruits, nuts and vegetables.

**Reproduction:** The Norway rat reaches sexual maturity in two months and can breed any month of the year. Litter may number from eight to twelve. Females can have four to seven litters per year. Adults live as long as one year.

**Other:** The Norway rat or rats and mice in general can carry a wide variety of diseases transmissible to humans. Also another major concern is the amount of damage they can cause to buildings and homes.



#### Roof Rat

The Roof rat is one of the three introduced common rodents in Australia and is believed to have arrived with the first fleet. The Roof rat spices is now spread over very much of the coast line, inhabiting urban, agricultural, commercial and industrial environments.

**Appearance:** Roof rats are variable and range from Black or brown, head and body is 165mm-205mm long, with a long tail 185mm -245mm, large ears and eyes, and a pointed nose. Body is smaller and sleeker than Norway rat. Fur is smooth.

**Habit:** The roof rat is a very agile climber nests inside roofs and under buildings, or in piles of rubbish or wood. Although common above ground, roof rats are exceptional burrowers and can create extensive shallow burrow systems around wall orchards, and river banks .Often can be found in the upper parts of structures, and can squeeze through openings only 1/2-inch wide.

**Diet:** The Roof rat is Omnivorous, but shows a preference for grains, fruits, nuts and vegetables.

**Reproduction:** Roof rats are said or known to be sexually mature at four months, producing four to six litters per year that consist of four to eight young each and lives up to one year.

**Other:** Roof rats are a Carrier of many serious diseases including salmonella and leptospirosis and are notorious for spreading the flea responsible for carrying the bubonic plague, killing thousands throughout Europe in 1665.



#### Silverfish

Silverfish are active at night and hide during the day. When objects are moved where they are hiding, they dart out and seek new hiding places. The silverfish lives and develops in damp, cool places (prefers 75 to 95 percent relative humidity), often in the basement, bathroom and kitchen.

Large numbers may be found in new buildings where the walls are still damp from plaster and green lumber .

**Identification:** The silverfish adult is about 1.5cm long with a uniform silvery or pearl-gray in colour, Silverfish have flat, elongated bodies 1/3 to 3/4 inch long and broad near the head, tapering toward the rear-somewhat "carrot" shaped. These fragile, wingless insects are covered with scales and have two long, slender antennae at the head and three long, antennae-like appendages at the rear.

These three appendages, one directed straight back and the other two curving outward, plus the two antennae, are nearly as long as the body.

Life Cycle and Habits: Silverfish eat a wide variety of foods, including glue, wallpaper paste, bookbinding's, paper, photographs, starch in clothing, cotton, linen, rayon fabrics, wheat flour, cereals, dried meats, leather and even dead insects. Silverfish often live in damp, cool places such as basements and laundry rooms. Sometimes, they are found in a bathtub, sink or washbasin, unable to climb out.

Silverfish females may lay over 100 eggs during a lifetime. Eggs are laid singly or two to three at a time in small groups, hatching in three to six weeks.

Silverfish may reach maturity in three to twenty-four months. These insects normally hitchhike into the home in food, furniture, old books, papers and old starched clothing. Unlike other insects, they continue to malt after becoming adults.



#### Red-back Spider

The Red-back Spider is found all over Australia in open bush land, but is especially common in urban areas. Red-back spiders prefer inhabited areas, and because it often builds its web in places like bins, sheds or outhouses, the Red-back Spider frequently comes into contact with humans, especially during the summer months.

The Red-back spider although not aggressive, over 600 bites occur each year in Australiaoften when the spider is accidentally pressed against with the hand when cleaning, or lifting material containing a web. Bites are always from females as the male is much smaller and has jaws that are unable to penetrate human skin.

The venom is highly toxic to humans but effective anti venom is widely available and no deaths have occurred since its development. As a member of the 'widow' group of spiders, the Red back Spider is also famous for the male's suicidal tendencies. After mating, he spins around so that his abdomen is against the female's fangs, effectively sacrificing himself to her. She mauls him, usually fatally, and eats him. If he escapes, he does so severely injured and returns to mate again-this time to certain death.

**HABIT:** Red-backs spiders are mainly found nesting low to the ground in urban areas around pot plant, rocks, stairs, fence lines, forests and woodl ands. Feeding on insects small lizards and even small mice have been known to fall victim to them.

**SIZE:** Female, red-back spiders are 1.0cm to 1.4 cm body length, dark black with red stripe on abdomen. Male red-back spiders are 2-3 mm body length brown with white or red markings.

**BITE:** Red-back bites can cause serious illness and have been fatal as the venom attacks the central nervous system of the victim. Symptoms include severe pain, sweating, muscular weakness, nausea and vomiting, However medical attention should be sought as soon as possible.



The Sydney Funnel-webs spider is probably the most notorious of all spiders with a fearsome reputation. The Sydney Funnel-webs spider shows aggressive behaviour, lifting its body back and showing off their impressive fangs. The male funnel-web spider also have a habit of wandering into backyards and falling into swimming pools.

Funnel-web spiders sometimes enter and become trapped in houses. The Funnel-web is also known to have one of the most toxic venoms (to humans) of any spider. However, it is not true that all funnel-web bites are life-threatening-the venom of juvenile and female Sydney Funnel-web Spiders is much less toxic. A number of other spiders are often mistaken as funnel-webs, including mouse spiders, trapdoor spiders and even Black House Spiders.

**DISTRIBUTION:** The Sydney funnel web spider is found South of the Hunter River to the Illawarra region, west to the Blue Mountains, and along the coast line New South Wales

**HABIT:** The Funnel-web spider makes burrow's in sheltered sites under logs and rocks where they can find a cool, moist and humid climate There nest are often found around trees, sub floor of homes and rocky areas and bush areas. Funnel-webs tend to rush out of their burrow when potential prey, such as beetles, cockroaches, small lizards or snails, walk across fine web lines that the spider has placed outside of its burrow. They then go back to their burrow to eat their meal.

**APPEARANCE:** The Sydney Funnel-webs are shiny, dark brown to black spiders with large fangs and finger-like spinnerets at the end of their abdomen. Males have a large mating spur projecting from the middle of their second pair of legs. The male funnel web spider leaves it's burrow and wanders around in summer and autumn to find females and mate they are about 1.5-3.5 cm body length.

**BITE:** Funnel-web bites are dangerous and first aid should be given immediately the victim should be taken to hospital and given anti venom if necessary.





#### Eastern Mouse Spider

Mouse spiders were named by early European settlers because of the size and shape of their burrow. The Eastern Mouse Spider is often mistaken for the Sydney Funnel-web Spider. The differences are that the Eastern Mouse Spider has even larger fangs than the Sydney Funnel-web, a bulbous head and eyes that are wide apart. It also bites in a diagonal downward motion rather than vertically downwards.

**Distribution:** Eastern Mouse Spiders are common in South-eastern Australia but are rarely seen.

Habitat: The burrows of the Eastern Mouse Spider have a trapdoor, and are usually built in damp areas and are used as protection against predators.

Appearance: The female Eastern Mouse Spider has a black shiny body with large fangs and is 1.0cm to 3.0cm in Body length.

The male Eastern Mouse spider has a similar appearance to the female but is a little bit smaller and is mainly found around on cool nights looking for females.

**Bite:** Mouse spiders have a powerful bite and their venom is potentially as toxic as that of funnel-web spiders. In serious cases funnel-web spider anti venom has been used successfully. Apply first aid as for funnel-web spider bites and seek medical attention. If possible, collect the spider for identification.





## **Wolf Spider**

Wolf spiders are robust, agile, fast-moving ground hunters that chase down or ambush prey. They have large eyes with which they locate their prey. Their characteristic eye formation is four large eyes arranged in a square on top of the head with four smaller eyes in a row at the front. There are over 130 species of wolf spiders in Australia.

The best time to see wolf spiders is at night when they are searching for prey. Use a torch to spot the greenish yellow reflection from their large eyes.

Habitat: Most wolf spiders live in leaf litter or in burrows in fairly open ground. Burrows of the Grey Wolf Spider have a circular trap door that is often left open when the spider is out hunting. Female wolf spiders carry their egg sac behind them, attached to the spinnerets on the abdomen. When the eggs hatch, the spider lings hitch a ride on the mother's back, clinging onto special knobbed hairs.

Appearance: The Garden Wolf Spider is large and strongly patterned in grey, brown and white with a black underside. Its about 1.5cm-2.2 cm in body length.

Bite: Not known to be dangerous

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#### White Tailed Spider

White-tailed spiders are found all over Australia. It ranges from northern Queensland to Victoria. They should be treated carefully although they are not aggressive.

Distribution: The White tailed spider is found on the Eastern side of Australia.

**Habitat:** The White-tailed Spider is usually found under rocks and bark and logs, where it is an active, nocturnal hunter. It builds no web of its own but will approach those made by other spiders, feeling at the outside of the web. This web disturbance lures the prey spider from its retreat onto the web, where it is stalked and bitten by the White tailed spider. The White-tailed Spider is often seen in older houses and sheds, whose cracks and crevices, as well as the plentiful supply of insects and spiders, make them good places to hunting.

**Appearance:** White-tailed spiders are easily recognized by their long black or greyish body and white marking at the tip of the abdomen they are about 1.0cm-1.5 cm in length.

**Bite:** White tailed spider bites are moderately common. Bites may cause usually mild with initial pain followed by the development of an itchy lump at the wound site. Much less commonly, swelling and skin discoloration of the bitten area may occur, occasionally leading to local ulceration. An investigation of over 100 verified bites did not find a single case of ulceration. If bitten, catch the spider for identification and seek medical advice.

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#### effective building & pest control Brown Trapdoor Spider

Unlike funnel-web spider burrows, the burrows of the Sydney Brown Trapdoor Spider have no silk trip-lines extending out from the rim and they are found in more open ground.

It is not dangerously venomous and looks quite different from the shiny brown-black appearance of funnel-web spiders, with which, being similar in size, it is often confused.

Male trapdoor spiders have a small mating spur halfway along the first pair of legs, another difference from funnel-webs. The Sydney Brown Trapdoor Spider can occur in large numbers in urban and bushland areas. It plays an important role in controlling.

Distribution: The trap door spider is found around Sydney.

**Habitat:** The Sydney Brown Trapdoor Spider lives in silk-lined burrows which are found in lawns, gardens and bush land trough out Sydney, Trapping ground-dwelling insects and other arthropods such as beetles, cockroaches, crickets, slaters, spiders and even moths that stray too near the burrow entrance.

**Appearance:** The spider's brown body has a dusty look about it, with golden brown hairs and greyish bars on the abdomen1.5-3.0 cm body length.

**Bite:** Although often mistaken for funnel-web spiders, the bite of a trapdoor spider is not as dangerous, but may be painful and cause some local swelling. Apply a cold pack to relieve pain and seek medical attention if symptoms persist.





## Rufus Netcasting Spider

Net-casting spiders are commonly seen on shrubs in gardens and bushland around Sydney. they have to be one of the most interesting spiders known in the garden.

**Habitat:** The way Net Casting spider's catch there prey is amazing. At night the spider build's a small rectangular sized web, made with wool-like, silk threads. They then carefully aim a few small splodges of droppings, which are a bright white colour, onto the surface just below them, such as a leaf or branch.

They use these spots as a prey-sensing system. The net-casters then hang's head-down holding the corners of their snare-web in their front legs. When they see a wandering insect pass over the white target spots, they lunge downwards with the snare and entangle the victim in it. The spiders then wrap extra silk around their struggling catch and bite it, injecting poison and digestive enzymes. Net-casting spiders catch beetles, ants, crickets, spiders and even moths in flight.

**Appearance:** This spider has a rather stick-like appearance. The females are a light rusty brown colour, but the stick-like males are Grey with a dark brown stripe along the body which is 1.5-2.5 cm in length. Like most spiders they have eight eyes, but two of them are extremely large and peer out from the head like searchlights. These eyes give the spiders excellent night vision.

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Bite: Unknown



#### Daddy Long-Legs Spider

The Daddy Long-legs Spider belongs to a group known as the tangle-web spiders, of which there are 12 Australian species.

There is a persistent belief that the Daddy Long-legs Spider has the most toxic venom of all spiders. However, there is no scientific evidence to back this up. Its tiny fangs are incapable of piercing human skin.

The myth probably grew from observations that the Daddy Long-legs Spider will kill and eat a Red back Spider.

**Distribution:** The Daddy long leg spider is found throughout Australia.

**Habitat:** The Daddy long legs spider builds irregular webs in sheltered areas, often in and around human habitation including houses, garages and sheds. It feeds on insects and other spiders.

**Appearance:** The Daddy long legs spider is Grey with a thin body and of course long thin legs. It grows to the Body length of up to 9mm.

est contro

Bite: Unknown



#### Garden Orb Weaving Spider

The garden orb-weavers are a common spider found in in garden through out Sydney they are a large group of spiders with over 100 known species in Australia. When food is plentiful these spiders will release large prey rather than risk a fight that may damage their web.

**Habitat:** The Garden Orb Weaving Spider makes a wheel-shaped web with openings between trees and shrubs where insects are likely to fly. When an insect flies into the web, the spider senses the vibration, rushes out from the web centre and rapidly wraps the victim in silk, rotating it with its shorter middle legs.

When the prey is secure the orb-weaver administers a bite and sits back to allow the deadly venom to do its job. Once all movement has stopped, the spider takes the meal to the centre of the web and eats it or hangs it up for later.

Appearance: The Garden Orb-weaver's are a reddish brown or a grey spider and about 1.0-2.5 cm body length.

**Bite:** Garden orb-weaving spiders are reluctant to bite. If they do, symptoms may include mild pain with possible numbress and swelling and occasionally nausea and dizziness. Seek medical attention.

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#### St Andrew's Cross Spider

The St Andrew's spider is a fairly common spider that's found in Sydney gardens, the St Andrew's Cross Spider can be recognized by its distinctive web with zigzag bands of silk woven into the shape of a diagonal cross. These zigzag bands of silk strengthen the web and also reflect ultraviolet light, which attracts insects.

**Distribution:** The St Andrew's cross spider is found Throughout eastern Australia.

**Habitat:** The St Andrew's spider web can be found built in shrubs or long grass where it can catch moths grasshoppers and a range of small insects.

Appearance: Female's are a silvery with yellow ,red and black band's across there abdomen and can be up to 1.5 cm in body length, male 5 mm. Males are much smaller in size and are reddish brown in colour

**Bite:** Like all orb-weavers, St Andrew's Cross Spiders are reluctant to bite. If they do, symptoms may include mild pain with possible numbness and swelling and occasionally nausea and dizziness. Seek medical attention if symptoms persist.





## Common Huntsman Spider

Most Sydney spiders are familiar with the Huntsman Spider because of its habit of entering houses. The size and speed of huntsman spiders have given these spiders an undeservedly bad reputation. On entering houses they eat many of the insects that are potentially more of a nuisance to us than the spiders themselves. But they do look imposing, especially when found in a car.

It is always best to leave car doors and windows closed at night as cars are tempting places for a active huntsman. They can be encouraged to leave a car by parking it in full sunlight.

**Appearance:** It is large, long-legged and hairy and up to 15 cm in size, and can move quickly. Its flat body is designed for living under loose bark where it spins its egg sac and hides from predators during the day.

**Habitat:** It can often be seen at night on tree trunks with its legs spread out and facing downwards, looking for insects.

Bite: Huntsman spider Bites are rare and usually only result in local swelling and transient pain, how ever Seek medical attention should be sort.

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#### European Wasps

The European Wasp was first found in Australia in 1959 in Tasmania. By 1978 they were also known in Victoria, South Australia, New South Wales and Western Australia area. As the name suggests, the wasp originated in Europe and is also a native of North Africa and Asia.

European wasp nests, and are now firmly established in the Sydney and Unlike the paper wasp the European wasps nest are made out of chewed wood fibre, can be found in ceilings, wall cavities, logs, tree trunks and soil. Nests vary dramatically in size from 5cm to 1 meter in diameter; they are grey, usually oval shaped.

Unlike bees, European wasps can sting repeatedly and are easily aroused and hostile. They are more aggressive in the warmer months .The sting can cause severe allergic reactions in some people and an asthma condition may develop.

**Distribution:** The European wasp is found throughout Australia, except in tropical regions.

**Habitat:** European wasp Colonies are started by a single fertilized queen, which lays an egg in a number of cells in the nest. These hatch into grub-like larvae and are tended by the queen for a number of weeks.

They become the first batch of workers that take over nest construction and rearing of the larvae while the queen concentrates on laying eggs. The nest grows throughout the summer until a batch of males and new queens are hatched in the autumn.

These mate and fly off to start new nests. In Europe the nest then disintegrates, but in Australia's warm climate the nest can continue to grow over a number of seasons. This results in giant and potentially dangerous nests of over 100,000 wasps. urban areas, woodlands and forests.

**Appearance:** The worker European wasp is about the same size as a Honey bee but half black, arrow shaped markings and bands on his stocky, relatively smooth, lemon-yellow body. The European wasp also has antennae's about half the length of its body.1.2-1.6 cm.



#### **Killer Wasps**

Cicada-killer wasps are sometimes mistaken for hornets because of their impressive size. However, there are no hornets in Australia.

Appearance: The Cicada-Killer wasp looks like a wasp but is about 4cm long

Habit: The cicada-Killer wasp is usually found in urban areas, forests and woodlands.

**Diet:** Cicada-killer wasps hunt in the trees for cicadas, which feed on sap using their piercing mouth parts. Sometimes the cicada-killer wasp returns to the exact spot where it captured its prey to feed on the sap that now leaks from the hole made in the tree by the cicada.

**Reproduction:** Cicada-killer wasp's hunt in the trees for cicadas, once found, the wasp quickly stings and paralyses its victim. The heavy burden is then flown or dragged to the wasp's underground nest where an egg is laid on it. Having provided its unhatched larva with fresh food, the wasp then seals the nest.

**Sting:** Cicada-killer wasps are large and have a potentially painful sting. However they are not aggressive and are very unlikely use their venom on humans unless extremely provoked. The best advice is to leave them alone. An ice pack may be used to relieve the pain of the sting. If there is evidence of an allergic reaction, medical attention should be sought.

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#### Mud-dauber Wasps

The Mud-dauber Wasp is one of the more commonly encountered wasps in Sydney. This wasp is named for the nests that are made from mud collected by the females. Mud is rolled into a ball, carried to the nest and moulded into place with the wasp's mandibles.

It is usually seen feeding on flower nectar but occasionally found flying with a spider held in its jaws, destined to be fed to larvae in a mud nest. The adults are often seen collecting water and mud for their nests, which they commonly construct in protected areas of houses, buildings and rock overhangs.

**Habitat:** After the mud-dauber wasp completes the mud nest the female then captures several insects or spiders to fill the cells. Prey are stung and paralysed before being placed in the nest. A single egg is deposited on the prey within each cell, and the cell sealed with mud.

After the wasp has finished a series of cells, she departs and does not return. The larvae that hatch from the eggs feed on the prey items left by the adult wasp. New adult wasps emerge to start the process over again Likes to nest in Urban areas, forests and woodlands, the mud nests are found around sheltered areas, window frames, door frames etc.

Size: The mud-dauber wasp mainly black with a slender body Up to 3 cm in length.

Sting: The Mud-dauber Wasp can deliver painful stings, but attacks are rare. An ice pack may be used to relieve the pain of the sting. If there is evidence of an allergic reaction, medical attention should be sought



#### Paper Wasps

Most of Australia's and Sydney's wasps live solitary lives, hunting and feeding alone. A few wasps, such as the paper wasps, are social and live in colonies and some times mistaken for bees. The paper wasp's nest is a series of cells shaped like an inverted cone made from saliva mixed with wood fragments.

When the wasps nest dries the mixture is quite paper-like, and gives these wasps their name. A lone female paper wasps starts nest construction and lays eggs into the first cells. When they hatch she feeds the larvae on partially chewed-up caterpillars. These larvae grow into female wasps that help with nest construction and lay their own eggs.

They may comp<mark>et</mark>e to become the dominant egg-layer of the colony by eating each others eggs. In the autumn, unfertilized eggs hatch into male wasps that die soon after mating with females, which fly off to start new nests.

**Appearance:** Paper wasp's are about 1cm to 2.5 cm long, slender, narrow waist with long legs and reddish-orange to dark brown or black in colour. There have black and yellow markings on the abdomen (rear body part).

**Habit:** Paper wasps are social insects, living in colonies containing workers, queens and males. Colonies are annual with only inseminated queens over wintering. Queen wasps emerge during the warm days of early October to early May. They select a nest site and build a small paper nest in which eggs are laid, One egg is laid in each cell, the wasps nests are mainly found on the sunny side of the house.

**Sting:** Paper wasps can deliver painful stings, but are not as aggressive as European Wasps. Paper wasps normally attack humans if their nests are disturbed.







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