

# Spiders

## Pesticide Safety Technical Note

Number 12

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Spiders belong to Class Arachnida, which also includes scorpions, harvestmen, ticks and mites. They have two main body parts, eight legs, simple eyes, piercing jaws (fangs), and silk spinning organs. Like insects, spiders have an exoskeleton which is shed periodically to allow the spider to grow, a process known as moulting. Spiders are arachnids not insects. Insects have three main body parts, six legs, compound eyes, antennae, and chewing jaws (mandibles).

Male spider - from above

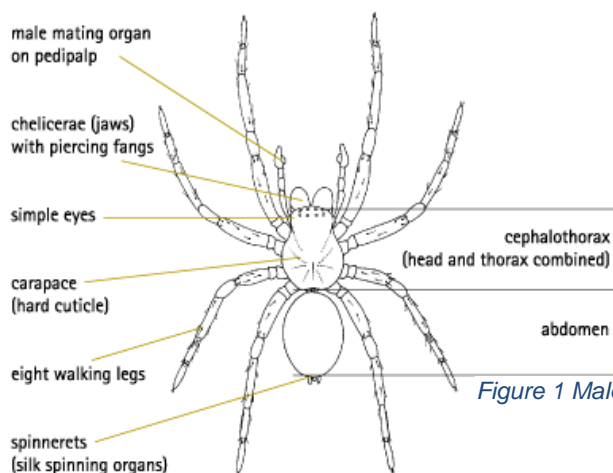


Figure 1 Male spider anatomy

Spiders play an important part in our environment as they are essential to natural ecosystems. Some spider populations are threatened because of habitat destruction but many spiders have adapted to live alongside humans in houses, sheds, and gardens. As they usually feed on insects, they are quite beneficial to humans and very few are harmful.

In Australia there are about 2000 described spider species. Even though most spiders are not aggressive, they may bite in self-defence if frightened, threatened or accidentally touched. Spiders use venom to subdue their prey. Occasionally this venom is used against a human in defence. Spider fangs are often unable to penetrate the human skin. However, some spiders that can, may inflict painful and, in rare cases, dangerous bites.

Venoms consist of a complex mixture of chemicals of biological origin. For humans the venom effects may include interference with blood clotting, breakdown of muscle and tissue, paralysis and effects on the cardiorespiratory system but most commonly consist of only localised pain and swelling.

Venomous spiders in Australia include funnel-web, mouse, redback and white-tailed spiders. Since the introduction of antivenom, there have been no recorded deaths in Australia from a confirmed spider bite.

## First aid

Those at greatest risk from a severe reaction to spider venom include babies, young children, the elderly and people with an existing heart condition. Some people may experience an adverse allergic reaction including anaphylaxis to certain venom and immediate medical treatment is recommended.

[First aid for venomous spider bites](#) depends on the species of spider:

- **Funnel-web and mouse spider first aid**- call 000 for ambulance. Pressure bandage the affected area and immobilise the person. Seek medical attention.
- **Red-back and other spider bite first aid**- wash the bitten area with soap and water. Apply a cold pack to the bitten area for 15 minutes, or longer if pain continues. Seek medical attention

Medical attention should be sought for any suspected funnel web or redback spider bite and for any other bite if symptoms develop or persist. If possible, the spider should be caught for positive identification.

Further information is available on [Australian Red Cross](#) and [St John](#) websites.

## Spider control

Simple measures can be used to limit the number of spiders entering the house. Flyscreens can be fitted to windows, and weather strips or draft excluders will block their entry under doors. Trees and bushes planted away from the house will discourage spiders from making burrows close to and wandering into the house.

It is important to check clothes, which have been left on the floor for spiders. Whilst in the garden, shoes should be worn and when gardening, long trousers and thick gloves are recommended. Insecticide spraying is not recommended for ground-dwelling spiders as it may make them more active, and they may wander into the house. Boiling water may be poured down individual burrows. Spiders are also known to fall into swimming pools and may survive submerged for several hours.

If chemicals are used for the control of spiders, it should be ensured that they are suitable for domestic situation and appropriate for spiders. This information is on the label of the product. Otherwise, a professional pest control operator may be employed if a large number of spiders are present.

# Common spiders

## Redback spider

Redbacks are found all over Australia but are less common in the colder regions. They are often found in backyards.

The females build loose, untidy webs in dry, sheltered sites. The top of the web is funnel-shaped, and this is where the spider hides. In the lower part there are sticky threads used for catching prey. There may also be up to ten round egg sacs suspended within the web.



*Figure 2 Redback Spider*

Redback spiders are black and shiny, with red or orange hourglass marking under the abdomen. Most also have a longitudinal stripe on the upper surface of the abdomen. They have long legs and a large, bulbous abdomen. Females (body: about 10 mm) are significantly larger than males (body: about 4 mm). Females live for two to three years and may produce several thousand offspring during that time. The males live for about six or seven months as they are usually killed by the female during mating.

Due to their proximity to humans, hundreds of bites are reported each year. Only the female's bite is dangerous and may require antivenom. As they are quite small, many of their bites are ineffective. Early symptoms include escalating pain, localised sweating, nausea and vomiting.

## White-tailed spider

White-tailed spiders are found all over Australia. They usually live under bark and logs and in leaf litter, but they often enter houses. These spiders are most active at night when they wander about hunting for other spiders including black house spiders.

White-tailed spiders do not make webs but do make temporary silk retreats for moulting and egg laying. They have disc-shaped egg sacs. White-tailed spiders are grey to black with a cigar-shaped body and a distinct white mark on the tip of the abdomen. The female is about 18 mm long whereas the size of the male is smaller (about 12 mm).

These spiders are not aggressive but inflict a poisonous bite that is painful. Occasionally, local blistering or ulceration occurs, which could be due to a secondary bacterial infection. There is little supporting evidence to link White-tailed spider bites with skin necrosis.

## Funnel-web spider

Funnel-web spiders are found around the east coast and the highlands of Australia (from Queensland to Tasmania) and small regions of South Australia. Most are found on the ground where they build burrows in moist, cool, sheltered areas but some are tree-dwelling.

They are regarded to be the most notorious of the Australian spiders due to their highly toxic and fast-acting venom. However, out of at least 40 species, only the male Sydney funnel-web spiders (*Atrax robustus*) have been responsible for recorded deaths.

Sydney funnel-web spiders are not found in Victoria. The Victorian funnel-web spiders (*Hadronyche modesta* and *Hadronyche meridiana*) are relatives of the Sydney funnel-web spider. However, their venom has been reported to cause only general symptoms such as headaches and nausea.

Spiders commonly mistaken for funnel-webs include trapdoor spiders, mouse spiders and black house spiders.



*Figure 3 Funnel web spider*

The entrance to the burrow of a funnel-web spider has a funnel-like structure with one or two openings. Typically, the vibrations from silk trip-lines which extend across the ground alert the spider to possible danger or prey. Female funnel-web spiders spend most of their life in their burrows, but adult males wander in search of females, particularly during summer and autumn.

Funnel-web spiders have a shiny black head and legs and black to brown abdomen covered in fine hairs. The females are slightly larger (35 mm) than the males (30 mm).

The female produces a pillow-shaped silk egg sac, which she defends vigorously if disturbed. The spiderlings hatch about three weeks later and stay with the mother for a few months. Funnel-webs reach maturity in about two to four years. The females live for ten or more years, whereas the males die six to nine months after maturity.

## Mouse spider



Mouse spiders are widely distributed throughout Australia. The mouse spider lives in burrows in the ground, often near creeks and rivers but is sometimes found in suburban gardens. The burrows are built with double trapdoors, which are set almost at right angles to each other. The females tend to remain in or near their burrows throughout their life whereas the males wander during early winter, especially after rain. They are only rarely aggressive.

*Figure 4 Mouse Spider*

These spiders are squat animals 10-30 mm long with the females being generally larger than the males. Their head area is high and broad with very large, bulbous jaws.

Female redheaded mouse spiders are dark brown to black, and the jaws are sometimes red-tinged. The males have a red head and jaws, and a blue abdomen. The eastern mouse spider's males are black with a bluish white patch on the front of the abdomen.

The female lays eggs within an egg sac that she places into a brood chamber in her burrow. Males reach sexual maturity at about four years and then leave their burrows to find a mate. Their wandering behaviour occurs during the day.

Some reports suggest that mouse spider venom may be very toxic. Fortunately, the bites usually cause only minor effects, but one serious poisoning has been recorded. Until more toxicity data is available the bite should be treated as for a funnel-web spider bite.

## Black house spider

Black house spiders are widely distributed in southern and eastern Australia. These spiders are naturally found in the bark of trees but are common to urban areas and are often called window spiders. Their webs form untidy, lacy silk sheets with a funnel in which the spider sits. The female constructs several white egg sacs, which are secured within the web. In the house, they feed upon insects such as flies and mosquitoes.



*Figure 5 Black house spider*

Black house spiders are robust with black legs and a large abdomen. Their fangs are not obvious, and they are dark brown/black in colour. The females (up to 18 mm) are larger than the males (about 9 mm). The female spider never leaves her web unless forced to. Males, when ready to mate, go in search of females in their webs. The spiders mature during summertime and live for about two years.

Black house spiders are not aggressive and bite infrequently. Their bites can be quite painful with local swelling. Symptoms such as pain, nausea, vomiting, sweating and skin lesions have been recorded in a few cases.

They are sometimes mistaken for funnel-webs because of the funnel in their web. However, their webs are commonly found above ground level whereas true funnel-webs live in burrows in the ground.

## Huntsman spider



Figure 6 Huntsman spider

Huntsman spiders are found living under rocks and loose bark, in crevices, on the ground, and on foliage. They sometimes enter houses or cars. They do not build webs.

Huntsman spiders are very large measuring up to 15 cm across the legs. The females are bigger than the males. They are usually brown or grey in colour and may have banded legs. The two front pairs of their legs are significantly longer than the back two.

The females produce a flat, oval white egg sac. They place it under cover and defend it for about three weeks. Even after the spiderlings emerge from the egg sac their mother stays with them for several weeks. The lifespan of most Huntsman species is about two years or more.

Despite their size and appearance huntsman spiders are generally not aggressive. Their bites usually result only in local pain lasting for a short time and swelling. However, some have caused prolonged pain, inflammation, headache, vomiting and irregular pulse.

## Trapdoor spider

The common name trapdoor spider covers several families of spiders. In urban areas trapdoor spiders control many of the garden pests. Since they are not considered to be dangerous to humans, it is best just to leave them alone.



Figure 7 Trapdoor spider

The Melbourne trapdoor spider is common in our backyards. It is a ground dweller and builds burrows which have no trapdoor. They can be distinguished from funnel-web burrows by the absence of silk triplines around the entrance.

The Melbourne trapdoor spiders are robust, 15-35 mm in body length, light brown to dark brown in colour and covered in fine hairs. Females are larger than males. These spiders tend to be quite timid.

The female lays her eggs in her burrow. Trapdoor spiders have a long-life span, between five to 20 years, and take several years to reach maturity. Once mature the males leave their burrows and go in search of a mate. The females stay in or near their burrows.

Trapdoor spiders are often mistaken for funnel-webs, but their bites are not dangerous. Due to the size of their fangs the bite can be deep and painful with local swelling.

## Wolf spider



Figure 8 Wolf spider

Wolf spiders are found throughout Australia in habitats ranging from dry inland to wet coastal areas. This distribution is aided by their ability to disperse aerially as spiderlings. They live on the ground in leaf litter or burrows and are often found in lawns and gardens. They do not build webs and are often active during the day.

There are many species of wolf spider, ranging in size from about 10-80 mm. Their body colours are typically brown to greyish brown, with various patterns.

Wolf spiders have a distinctive eye pattern of two large eyes at the front with four small eyes in a line beneath them. The other two eyes are set back on the sides of the cephalothorax. The female constructs an egg sac shaped like a ball which she carries around attached to her spinnerets at the end of her abdomen. When the

spiderlings emerge from the egg sac, they are carried around on her back until they are ready to disperse. Wolf spiders live for up to two years.

Wolf spiders are not aggressive but can run very fast when disturbed. Symptoms of their bite are usually minor such as local pain or itchiness. Less commonly, they have caused swelling, dizziness, nausea, and a rapid pulse.

## Daddy long legs spider

Daddy longlegs is a common name used for a group of spiders, but it is also used for a different group of arachnids called harvestmen. Unlike spiders, their bodies do not have a 'waist' and do not produce silk. Daddy longlegs spiders are often found inside houses whereas harvestmen are not.



*Figure 9 Daddy long legs*

Daddy longlegs spiders are commonly found in dark areas. They build tangle webs and eat small insects and other spiders. They are pale brown to cream with long slender legs and relatively small bodies. Females can grow up to 20 mm, and are slightly larger than males, which can grow up to 16 mm).

The bite of a Daddy long legs spider causes only a local reaction if any.

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