

Spiders in the Northern Sydney region

Helen Smith



Arbanitis trapdoor
spider under a step,
Mount Colah



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So what is a spider?

- Phylum Arthropoda: animals with jointed exoskeletons, e.g. beetles, crabs, millipedes, spiders (name literally means 'jointed legs').
- Class Arachnida: eight legs plus other appendages, one or two body parts.



Cercophonius squama
(Australian Museum)

The arachnid groups found locally:

- Scorpions (Scorpionida) are the oldest extant arachnid group, dating back to the start of the Silurian period, c. 435 MYA.
- Acari: ticks and mites.  Acari
(Australian
Museum)
- Opiliones: harvestmen (confusingly, these are known as daddy long-legs in some parts of the world).
- Pseudoscorpiones.  Pseudoscorpion
(Australian
Museum)
- Order Araneae: two body parts, eight legs, two pedipalps, silk from spinnerets, e.g. funnel web spider, garden orb spider.



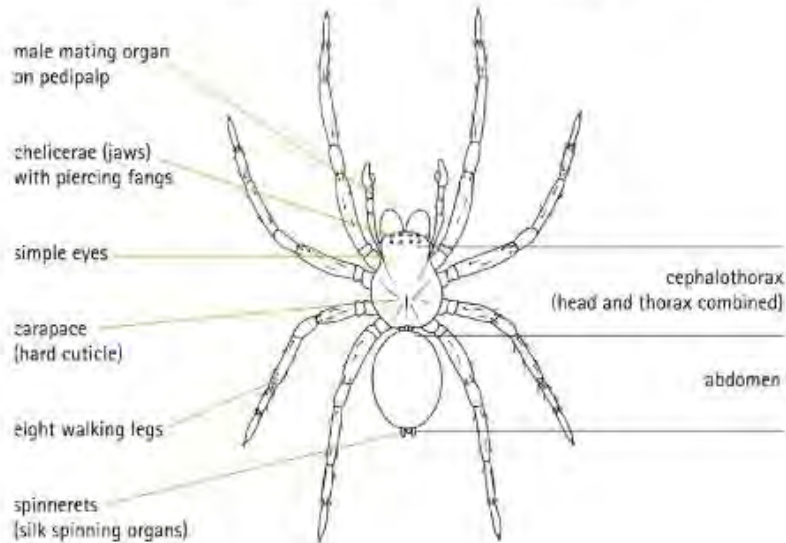
Opilione or harvestman



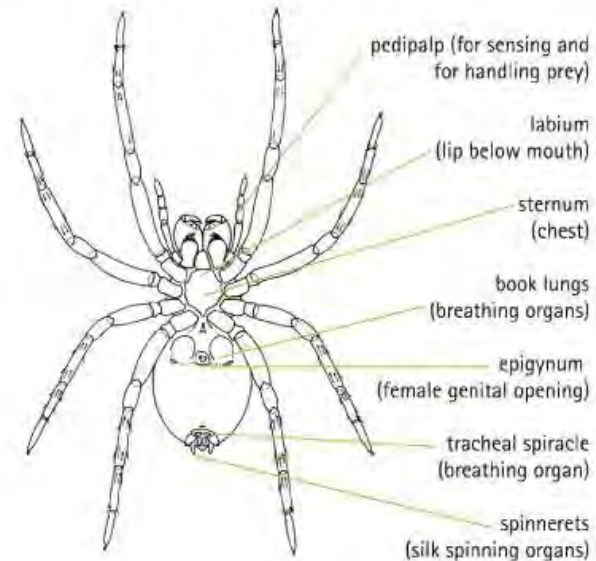
Hadronyche cerberea ♀ (M. Gray)

Spider anatomy and Identification

Male spider - from above



Female spider - from below



- Juvenile spiders often not identifiable to species, sometimes not to family.
- Male spiders have swollen pedipalp (mating organ) with structure on underside.
- Female spiders usually have genitalia (epigynum) visible on underside of abdomen.
- Eye pattern often helpful.
- Spider location and activity often useful clue for identification, e.g. in web (note web structure); running on ground; in burrow.

Spider biology

- Life history: egg – larva – nymph – spiderling (emergence stage) – juvenile – adult; moult to reach next stage and may pass through several juvenile moults.
- Sexually dimorphic to a lesser or greater degree; typically, males have different proportions to females – longer legs and smaller lighter bodies aids mobility for locating females.
- Most spiders are generalist predators but may discriminate on size, threat, chemical defences, movement.
- Spiders may have structural requirements for their homes and many have specific microhabitat requirements for one or more parts of the life cycle.
- Silk is made and used by all spiders; e.g. for prey capture and wrapping, travel, homes such as burrows and retreats, pheromone trails and a covering for egg sacs.



Mygalomorphs

Identification:

- Two pairs of book lungs.
- Large, powerful chelicerae with stabbing fangs (fangs paraxial).
- Paired sigillae (muscle attachment points) on sternum.
- Pedipalps long and leg-like.



Mygalomorph ♂ ventral view (M. Gray)

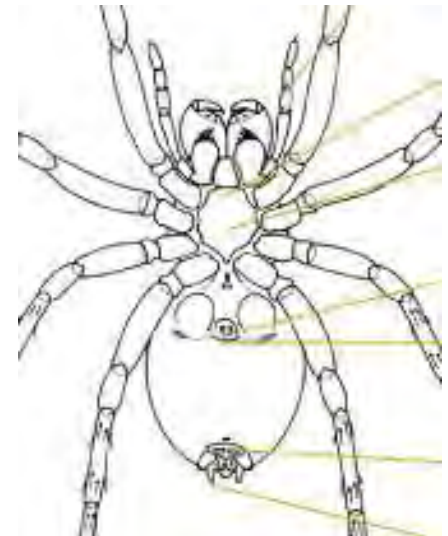
Araneomorphs

Identification:

- Usually one pair of book lungs.
- Chelicerae with opposing fangs (fangs diaxial).
- Sternum smooth or with protrusions (no sigillae).
- Pedipalps short in females, sometimes extremely complex in males.



Araneomorph female ventral view (H. Smith)



Spider families present in northern Sydney (= 55, Feb 2026)

Mygalomorphs

Actinopodidae
Atracidae
Hexathelidae
Idiopidae
Pycnothelidae

Araneomorphs

Amaurobiidae
Anapidae
Araneidae
Arkyidae
Cheiracanthiidae
Clubionidae
Corinnidae
Ctenidae
Cyatholipidae
Cycloctenidae
Deinopidae
Desidae
Dolomedidae
Filistatidae

Gnaphosidae
Gradungulidae
Hahniidae
Hersiliidae
Lamponidae
Linyphiidae
Lycosidae
Malkaridae
Mimetidae
Miturgidae
Mysmenidae
Nicodamidae
(Oecobiidae)
Oonopidae
Orsolobidae
Oxyopidae
Philodromidae
(Pholcidae)
Pisauridae
Salticidae
(Scytodidae)
Segestriidae

Selenopidae
Sparassidae
Stiphidiidae
Symphytognathidae
Tetrablemmidae
Tetragnathidae
Theridiidae
Theridiosomatidae
Thomisidae
Toxopidae
Trachycosmidae
Trochanteriidae
Uloboridae
Zodariidae

World: 139 families (although this is somewhat subject to discussion).

World: 53,714 described species (at 27/2/26); estimates vary for total fauna up to maybe 250,000 spp.

Australia: 4,251 described species in 80 families (at 23/10/2025), estimated 8,500 – 20,000 species.

Mygalomorphs

Habitat and biology:

- Australian mygalomorphs are burrow-dwellers – in ground, rocks or trees. Line burrow with silk, some make a trapdoor.
- Most mygalomorph species have limited dispersal abilities c.f. many araneomorphs.
- Spiderlings may live in the mother's burrow for some time until they disperse to establish their own burrows.
- Juveniles take several years to mature.

Mature males:

- cease moulting and live a year or so;
- wander at the appropriate mating season in search of females.

Mature females:

- are usually sedentary – hunt from entrance to burrow;
- can continue to moult and can live for many years (maybe 30);
- need to mate after every moult as entire cuticle is shed, including genital tracts;
- construct a silken egg case within the burrow.



Sydney Funnel Web burrow (above); trapdoors on burrows (below) (M. Gray)

Actinopodidae: mouse spiders. Terminal section of spinnerets short conical; labium much longer than wide; eye group wide. *Missulena bradleyi* is local species. Only known Australian mygalomorphs to disperse by ballooning. Venom potentially dangerous, treat as for FWS.



Missulena bradleyi ♂ left, ♀ right (M. Gray)

Idiopidae: brown trapdoor spiders. Terminal section of spinnerets short conical; labium about as wide as long, or wider, without cusps; eyes grouped. Golden hairs on carapace. Males usually have modified leg 1. Burrows with or without trapdoor, often in more open situations than Sydney FWS. Several species, all similar appearance in genus *Arbanitis*; other genera less commonly seen.



Arbanitis sp. ♂ left, ♀ right (M. Gray)

Atracidae: funnel web spiders.

Terminal section of longest spinnerets long and finger-like; eyes grouped; labium about as wide as long, or wider, with cuspules. Two or three species occur locally. *Atrax* spp. (inc. Sydney FWS) burrow in ground usually under rocks, logs etc. Male, note pointed spur leg 2. *Hadronyche cerberea* (Southern tree FWS) burrows in trees, either in rot holes or in deep bark (e.g. some *Melaleuca*). Note leg 2 modified but no spur. Female FWS below – see carapace in profile to identify genus, *Atrax* low, *Hadronyche* higher. Other atracid species are found in Dural area, Central Coast and Blue Mountains. Female FWS can live 20 years. All bites potentially dangerous, but male SFWS far more venomous to humans than female. FWS do not jump but can be surprisingly agile.



Atrax sp. ♂ above, ♀ top right; *Hadronyche cerberea* ♀ right (M. Gray)



Hadronyche cerberea. ♂ above; burrow entrances in tree right (M. Gray)



Identifying funnel web spiders from trapdoor spiders



Males of *Arbanitis* sp. (left), *Atrax* sp. (centre), *Hadronyche cerberea* (right) (M. Gray)

- Trapdoor spiders: brown, hairy, **golden hairs on carapace**, males with large 'boxing glove' palps and modified **leg 1** (arrow).
- FWS blackish, legs sparsely haired, **carapace glossy**, males with thin palps and modified **leg 2** (arrow).



Burrow of *Arbanitis* sp. (H. Smith)

← Trapdoor spider burrow: often in an open situation; no triplines.

FWS burrow: → usually in sheltered situation; often with radiating triplines.



Burrow of *Atrax* sp. (M. Gray)

Araneomorphs

Compared to Mygalomorphs, Araneomorphs are much more varied in morphology, behaviour and in details of life history.

Habitat and biology:

- Great diversity of foraging strategies and range of habitat utilisation.
- Greater specialisation of silk types c.f. mygalomorphs.
- Usually no further complete moults once adult in either sex.
- Life cycles can be short (several generations in one year) or long, taking one to several years to become adult then some may survive several years.
- Males are sometimes dwarf (or females giants) or males can be as big as females.
- Small spiders can disperse by ballooning – used by spiderlings of many groups and adults of some, e.g. money spiders (Linyphiidae).



From top: *Leucauge* sp. (H. Smith);
Heteropoda sp. and *Nyssus albomaculatus* (W. Grimm)

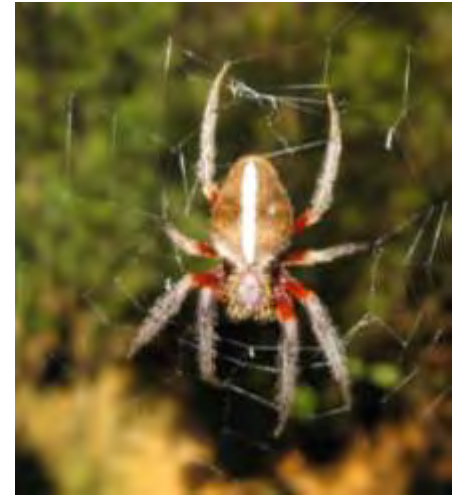
Web makers

Several kinds of silk used for catching surface of webs.

Sticky silk is used by many orb weaving spiders and related groups, such as Theridiidae (inc. redback).



Sticky silk strands with glue droplets (M. Gray)



Argiope keyserlingi ♀ (left) and *Hortophora transmarina* ♀ (W. Grimm)

Araneidae: orb weaving spiders. Orb web with spiral of sticky silk. Many araneids recycle silk proteins by ingesting the old web. *Argiope keyserlingi* (St Andrews cross spider) is distinctively banded and commonly seen by day; *Hortophora transmarina* (garden orb spider) often hides away to one side of the web through the day. Two unrelated species of leaf curling spiders mature at different times: *Leviana dimidiatus* in early summer, *Phonognatha graeffei* in late summer and autumn; they have different web architecture.



Phonognatha graeffei web (D. Hain), ♀ (inset, M. Gray)



Leviana dimidiatus ♀ (H. Smith)

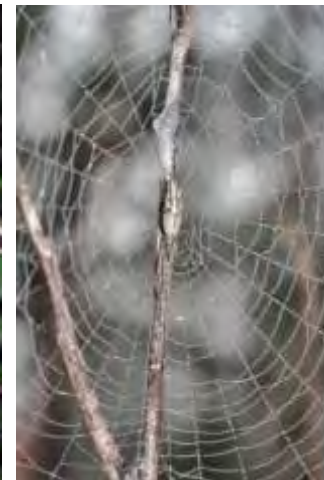
(web makers)

Nephilinae: golden orb weavers. Web structure (and colour) is diagnostic for the genus. Two common species in Sydney, *Trichonephila plumipes* is most common near the coast and in moister areas. Separate the species by the front leg banding – dark femur ending in a yellow stripe in *T. plumipes*, light femur then dark stripe in *T. edulis*. The smaller males are often seen

In the female's web. Even smaller kleptoparasitic spiders (*Argyrodes* spp.) are also frequent residents.

Tetragnathidae. *Tetragnatha*, (long-jawed spiders) have an elongate body and legs; male (and sometimes female) chelicerae are elongate and modified. May be camouflaged in web, spiders lie outstretched, resembling a piece of bark in the web, or lie along a dead twig. *Tetragnatha demissa* is a common small species favouring dead twigs, other species are commonly seen in webs over water or other damp habitats. *Leucauge* sp. (silver orb spider) makes a sloping web in bushes and over low vegetation.

Trichonephila web (below, H. Smith); ♂ ♀ (right, M. Gray)



Tetragnatha spp. (left and centre); *Leucauge* sp. (right) (H. Smith)

(web makers)

Theridiidae: comb-footed spiders. Tangle webs and gum-footed webs (e.g. *Latrodectus hasseltii*, the redback) are characteristic of the family, sometimes with a sheet (*Parasteatoda mundula*) and often with a silk retreat. Many unnamed genera and species in Australia – one of the last major families needing extensive revision. *Cryptachaea gigantipes*, common under rock overhangs and picnic tables, was often confused with an introduced species. Many species are tiny.



Latrodectus hasseltii ♀ (above) ♂ (right) (M. Gray); remains of meals in redback web (H. Smith)



Parasteatoda mundula, web (left, H. Smith), ♀ (above, M. Gray)



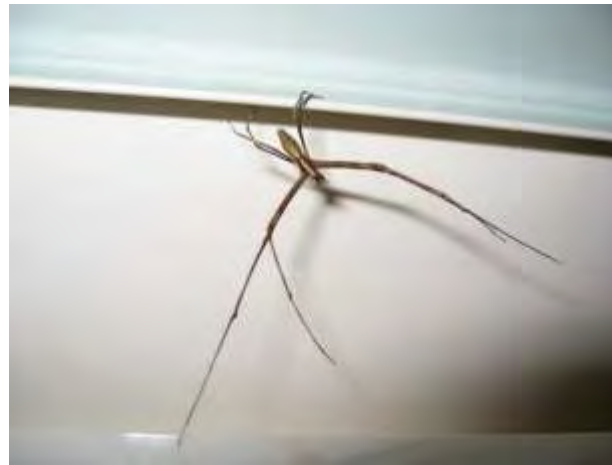
Tangle web of *Theridion theridioides* (left), *Cryptachaea gigantipes* ♀ (centre), *Theridion* sp. (right) (H. Smith)

(web makers)

Cribellate silk is formed from many fine strands combed to fluff up and catches by entangling; cribellate webs usually have a bluish tinge.



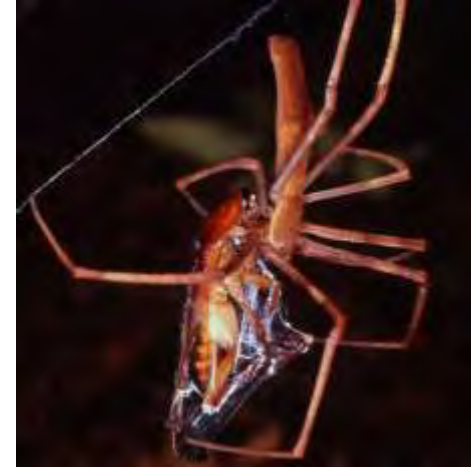
Cribellate
silk strand
(M. Gray)



Menneus sp. ♂ (above) ♀ right (W. Grimm)



Deinopidae: net casting spiders. Huge forward-facing eyes characterise *Asianopis*, the most frequently seen. *Menneus*, the only other genus in the family, lacks such enlarged eyes. The deinopid net-like web is made from stretchy cribellate silk. Spiders hunt suspended from a frame of lines, holding the web ready above a marked spot. When potential prey crosses the mark, the spider swoops and envelops the prey.



Asianopis subrufa ♀ (left, W. Grimm), close up of eyes (centre, M. Gray), with prey (right, D. Hain)

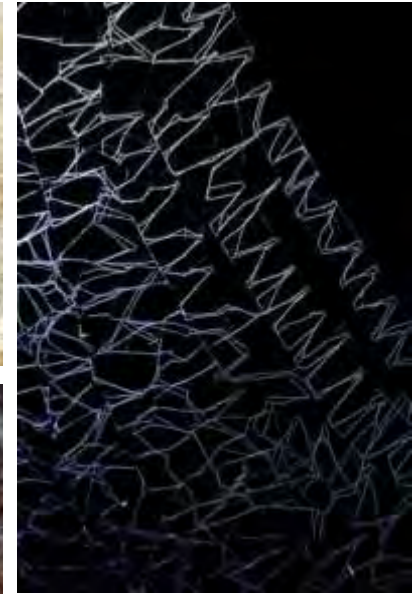


Asianopis web,
hung up for later
use (H. Smith)

(web makers)

Desidae: lace web spiders. Most commonly seen are the black house spider, *Badumna insignis* and its sister species, *B. longinqua*. Prey can be caught at any time but web maintenance is at night, when spiders can be seen 'combing' the new silk. Lace webs are made from cribellate silk; the pattern degenerates to a messy tangle in the old parts of the web but the zig-zag structure can usually be seen in new or rebuilt areas.

Uloboridae: cribellate orb weaving spiders. Uloboridae is the only local family to have lost venom glands. Webs often include decorations; webs are not recycled and can become very tatty. *Philoponella* is a common genus; webs may be aggregated.



Badumna insignis ♂ (above left, M. Gray); typical lace web structure (above, M. Gray); *Badumna* web on bark (left, H. Smith)



Philoponella spp. webs and spiders (H. Smith)



Hunters on foliage

Arkyidae: Arkys are sit and wait hunters that do not make webs. For some spiders relying on camouflage, variation is the key to survival. The spiders in the top two rows are probably all the same species, *Arkys curtulus*, the bird dropping spider. Some other *Arkys* spp. also resemble bird dung and also vary in colour; *Arkys lancearius*, triangular spider, hides beneath leaves by day but is more active at night.

Clubionidae and Cheiracanthidae: sac spiders. *Clubiona* and *Cheiracanthium* species use silk retreats under bark or in curled leaves; spiders are more active at night. Eyes are spaced evenly across the anterior carapace.



Arkys curtulus ♀♀ (top row H. Smith, second row W. Grimm)



Arkys lancearius (left) and *A. alatus* (right) (W. Grimm)



Clubionid eye pattern, anterior view

Clubiona sp. ♀
(M. Gray)

(hunters on foliage)

Oxyopidae: lynx spiders. Spiny legs and distinctive eye pattern; can move rapidly by jumping and running. Hunt on leaves and flowers and can be very common.



Oxyopes spp. Eyes (left, anterior view and above), in hunting posture (right) (W. Grimm); *O. elegans* (far right, M. Gray)



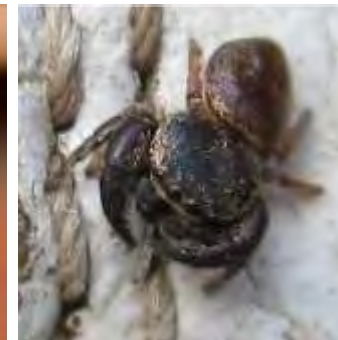
Salticidae: jumping spiders. Distinctive eye pattern with large, forward facing eyes that can focus and traverse. Often sexually dimorphic, can be difficult to match males and females. Active diurnal hunters, most hide at night in a silk retreat; some hang head down on a silk line from a twig.



Salticid eye pattern, anterior view



Helpis minitabunda ♂ (left) *Ligonipes* sp. above (both J. Otto); *Ligonipes retreat* (right, H. Smith)



Maratus rainbowi ♂ (left, J. Otto)
Simaethula sp. ?♂, above (W. Grimm)

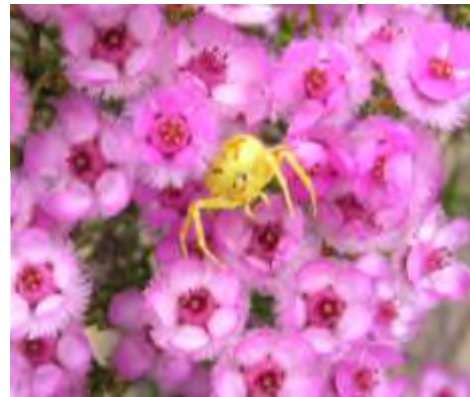
(hunters on foliage)
Hunters on bark and
rocks

Thomisidae: crab
spiders/flower spiders.
Legs 1 and 2 longest,
distinctive stance.

Thomisids are sit-in-wait
predators, sometimes
seen feeding on relatively
large prey items such as
butterflies. Prey is pierced
but not crushed or
wrapped in silk, so the
discarded corpse may
look intact. Some species
are able to change colour
according to environment.
Insect eyes sensitive in
UV range, spider colour
may be attractive to prey
despite being obvious to
human eyes.



Tharrhalea evanida ♀ (left), *Sidymella* spp. ?j (centre) (W. Grimm), with prey (right) (H. Smith)



Thomisus sp.
(left), *Tmarus*
cineraceus (right)
(W. Grimm)



Stephanopis spp.
(J. Otto)



(hunters on bark and rocks)

Lamponidae: white-tailed spiders, *Lampona* spp. sometimes enter houses in search of prey; natural habitat is rough or loose bark on trees, and rock crevices. Prey on other spiders, especially black house spiders, *Badumna*. *Lampona* bite can cause a localised reaction but no evidence was found for damaging necrotic infections, sometimes attributed to these spiders.

Sparassidae: huntsman spiders. Several genera locally. Eyes spread across anterior carapace; flattened appearance. Mostly nocturnal, may be seen on beams or behind outdoor items by day. Preyed on by orange spider wasp, *Cryptocheilus bicolor* (Pompilidae); comatose spiders are dragged to a nest burrow by female wasp. Female huntsmen guard their cushion-shaped egg sacs until spiderlings emerge and moult. Loose bark, rock crevices and large leaf bases are typical habitats.



Lampona murina ♀ (above); *Holconia immanis* ♂ (above right). *Neosparassus* sp. ♀ (right) (All M. Gray).

Orange spider wasp with *Isopeda* (below left), *Heteropoda* sp. ♀ (below right) (all W. Grimm).



Hunters on the ground

Corinnidae: swift or sun spiders. Fast moving and sun-loving, *Nyssus coloripes* and *N. albomaculata* most common. Colour pattern distinctive, yellow front legs of the former distinguish between the two species. Some other less noticeable species are ant mimics. *Nyssus* dash around in open areas or weave through leaf litter.

Lycosidae: wolf spiders. Characteristic eye arrangement. Larger wolf spider species are nocturnal, some smaller species are diurnal. Females most noticeable as they carry their whiteish egg sac attached to the spinnerets. Later, females carry spiderlings on their backs. Many wolf spiders use burrows, some construct extremely well camouflaged trapdoors.



Nyssus coloripes ♂
(above), *N.*
albomaculata ♀ (above
right) (W. Grimm).



Lycosid eye
pattern, anterior
view



Tasmanicosa sp. (right, M. Gray);
Venatrix sp. ♀ with spiderlings on
board (centre far right) (J. Otto);
Hoggicosa sp. ♀ with eye shine
(below far right, not a Sydney
species, © J. Frazier)

Spiders in houses

These common house spiders are introduced species. Some native species also thrive in the conditions we create in and around our homes.

Pholcidae: daddy long legs (*Pholcus phalangioides*) – strength of venom is a myth, they are great little pest controllers.

Scytodidae: spitting spider (*Scytodes univittata*). Creep around at night. A mix of venom and “glue” is squirted from fangs to entangle prey.

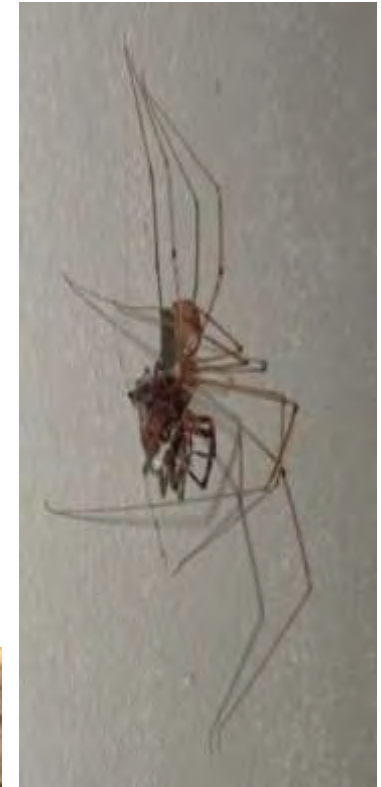
Oecobiidae: wall spider (*Oecobius navus*). Tiny but useful as they probably eat book lice.

Theridiidae: cupboard spiders, *Steatoda grossa*, *S. capensis*. Relatives of the redback and often mistaken for it – check the underside for red “hourglass” mark of redback. Cupboard spider bite can be quite painful but they are not aggressive.

Oecobius navus (middle left) (© Ken Schneider CC-BY-NC);
Steatoda grossa (bottom) (Ryan Kaldari PD).



Scytodes univittata ♀ with *Pholcus* as prey (top); *Pholcus phalangioides* with spider prey (middle right) (both H. Smith)



Thank you for listening and thanks also to the Australian Museum and photographers: Mike Gray*, Wendy Grimm, David Hain*, Jurgen Otto (<https://flickr.com/people/59431731@N05/>), J. Frazier, Ken Schneider ([CC BY-NC](#)), Ryan Kaldari (Public Domain).

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Some Spider Resources

Internet:

- www.arachne.org.au: photographs and information; arranged by family.
- World Spider Catalog: <http://www.wsc.nmbe.ch/>: the list of accepted species names and references that is followed by most spider researchers.
- iNaturalist: <https://www.inaturalist.org/home>. Upload your photo and image recognition is fairly good now once a locality is entered.
- APS Walks and Talks, [Spiders of Ku-ring-gai Wildflower Garden](#): <https://austplants.com.au/Walks-&-Talks-Resources>

Books:

- **A guide to the SPIDERS of Australia** Volker, W. Framenau, Barbara C. Baehr and Paul Zborowski, New Holland Press 2014, updated edition 2025.
- **A field guide to SPIDERS of Australia** Robert Whyte and Greg Anderson, CSIRO Publishing 2017.



