

# Lots of Lovely Legs

A selection of recognizable spiders in North America

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# Lots of Lovely Legs

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# Introduction

Hello! This little book is for anyone who is curious about spiders. There are at least 48,000 known species worldwide, and there are 68 families of spiders in North America. We all know that spiders make silk and have a reputation for being bitey. Fortunately, these lovely creatures are a lot more interesting than that, and do not find your fingers & toes delicious. Within these pages you can learn a little bit more about the 8-legged members of the North American outdoors. Spiders have maintained a single body plan (head, butt, 8 legs, usually 8 eyes) for a very long time. To the untrained eye, they might all look the same. However, many of them have stretched this basic shape to various extremes. It is possible to identify a spider without a microscope with a little bit of knowledge about what makes that spider who they are. Hopefully by the end, you'll find spiders as adorable as I do!



## A tiny glossary:

**Cephalothorax:** The “head” of the spider. This is where all of the eyes mouth and legs are located.

**Abdomen:** The “butt” of the spider, where its silk spinning organs, lungs, and food storage are located. The fancy science word is: opisthosoma (o-pis-tho-so-ma)

**Palps:** The tiny ‘legs’ on a spider’s face, used for moving around their food and communicating with mates.

**Chelicerae:** The science word for spider mouthparts, the fangs on their face (che-li- ser-ay).

**Arachnid:** The scientific name for all the creatures who have chelicerae, and 8 jointed legs. Some other Arachnids include ticks, scorpions and daddy-long-legs (Opilliones).

**Invertebrate:** The scientific name for all creatures who lack backbones, many of these creatures have a hardened outer skeleton, and all of them are cold blooded.

## A tiny glossary:

**Species:** These are organism that are all linked by sharing almost all of their features. Their DNA, which is their internal instruction manual for how to look and act, is the same in the important parts of their manual. Organisms of the same species can reproduce with each other, but not with other species. Different species are given different first or last names, and closely related species share their first name.

**Genus:** A name used to group together closely related living things, organisms in a genus are like siblings, not quite alike but from the same family background. A genus name is like a last name, but it comes first when you write it. These names are italicized because it distinguishes them from non-official names for that genus.

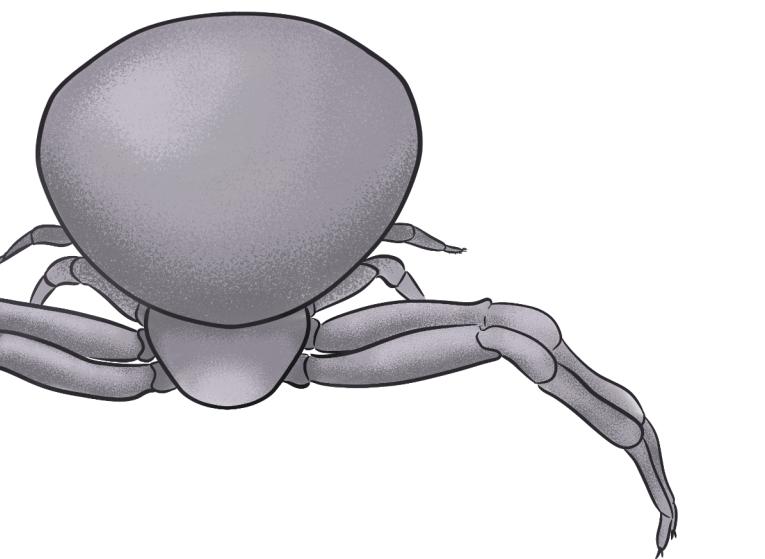
**Family:** A broader organizational group than genus. It is like a really big family reunion held at a convention hall, instead of the dinner table. Different family members might have different last names (genus) but they are all more related to each other than someone else’s extended family. These will be written in bold. These words all end with **-idae**

# Thomisidae - Greetings from the Garden

Meet the patient goldenrod crab spider (*Misumena vatia*). These charming arachnids are very good at hiding. Spiders in the family **Thomisidae** (Tom-is-i-day) live in flowers and leaf litter. Like many spiders, they prefer delivery instead of pickup for meals. The tiniest of Thomisidae are only 1.5mm from head to tip as adults, with the largest measuring 11.30mm.

## How can you recognize a crab spider?

These spiders' first two sets of legs are rotated forward and much longer than the hind legs. Their abdomen is also a large almond that is wider than it is long. Usually, their abdomens are a bit flattened and not exceptionally round. The four eyes in the middle of their face tend to be smaller than the four eyes arranged at the sides of their face. Adult female *Misumena vatia* are among the largest crab spiders in North America.



*Misumena vatia* is a unique representative of Thomisidae. It mimics the colour of flowers to blend into the petals. These spiders can change to match the flower they are sitting on! A few days after moving into their new home, the incredible goldenrod crab spider can transform itself from vibrant yellow to a pale white (Riou & Christidès, 2010). This is made possible by compounds called ommochromes, which allow the spider to wait for their lunch in plain sight. However, it is just as likely that the spider hides under the flower and waits for a pollinator to step on its silk tripwire.

## How can you find a crab spider? Look very carefully!

All members of this family are very, very good at camouflage. If you want to find *Misumena vatia*, you should look at yellow and white flowers. Other crab spiders can be found hiding in leaves or blending into a trunk of a tree. Crab spiders come in browns, oranges, reds and greys.



# Linyphiidae - So Small! So Strange!

Without a careful eye, you may fail to notice one of the weirdest spiders in North America. This lumpy headed dwarf spider is the “splendid money spider” (*Hypselites florens*), and he is no larger than the head of a pin. We aren’t really sure what the lumps on their heads are for, but it may be for communication. Only males have the strange head structures, and each species is different. The family **Linyphiidae** (Lin-e-fee-id-ay) has some of the smallest spiders and the largest diversity! Unlike many invertebrates, they have more representatives in northern temperate zones than in the tropics.

## Knowing if you've got a dwarf spider depends on tiny features

If you have excellent magnification, you can take a closer look at the distance between the top of their chelicerae and their bottom eye-row. A big gap between these facial structures is characteristic of Linyphiidae. But without a magnified view, you can't be sure its an adult dwarf spider and not just an immature of another family.



These little spiders can blow away in a breeze to find a new home. Juveniles point their abdomens skyward, shoot out a silk dragline and get carried away by the wind. Other groups of spiders do use wind transport as babies, but dwarf spiders are the most likely to be found parachuting. Once they've landed, they construct tiny, 3D webs close to the ground. Their diet is usually limited to small creatures, like springtails (a tiny soft bodied ‘proto-insect’ that can fling itself in a random direction).

## Finding these spiders is trickier than other families

Most species spend little time as adults and live in leaf litter. Sometimes you can see their wispy webs near the bases of trees, but the resident is likely well hidden. If you have a large white tarp or sheet, you can collect a pile of leaves and spread them out on the sheet. Then watch carefully, you'll see a lot more than just dwarf spiders, but your best chance to catch one will be by using this strategy. If you think you've got one, dig out a magnifying glass and look very closely! You might be face to face with *Hypselites florens* or another bizarre member of this family. *Hypselites florens* is most frequently found in April and will stand out because of its bright red head.

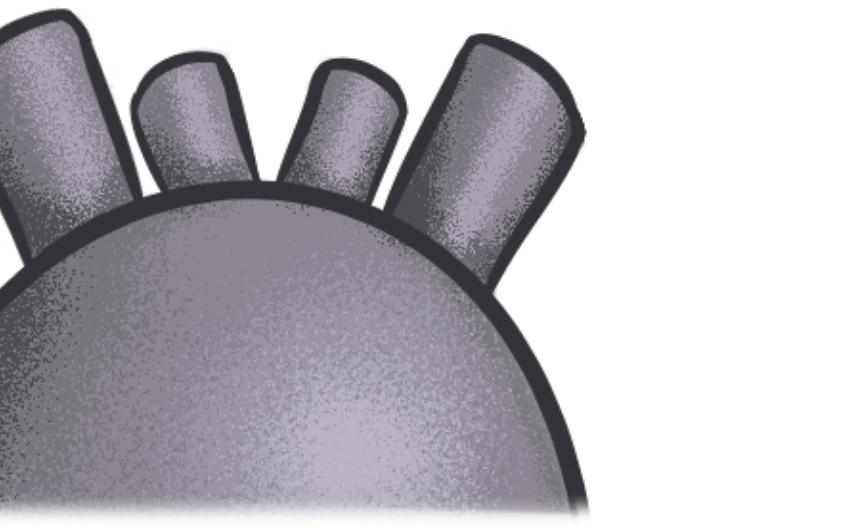


# Gnaphosidae - Shimmering Stealth Operative

This is the shimmering *Micaria pullicaria*, a member of the family **Gnaphosidae** (Nah-foe-si-day). These ground spiders are an exception to the norm in their family. Other ground spiders have dull brown or black abdomens. Members of *Micaria* have scales on their abdomen that make them iridescent in the summer sun. They also don't have the giant tube spinnerets that characterize all their relatives. Why? To better blend in as a fake ant! Instead of looking like other ground spiders, the glossy ant spider forgoes some of its Gnaphosidae traits for a mimicry strategy. This way they can occasionally hunt ants as well as avoid predation by them.

## What does a ground spider look like?

The family Gnaphosidae is characterized by the huge pipe-shaped spinnerets of most of its species. They are wide tubes, with lots of separation between each of the spinneret bases. For most gnaphosids, you can see their spinnerets sticking out the back of their abdomen without any magnification. The bodies of gnaphosids are a bit flattened and low to the ground, which helps them to be stealthy.



Even though it has reduced spinnerets, *Micaria pullicaria* barely looks like an ant from our perspective. White abdominal stripes are thought to trick ants into seeing a three-segmented body instead of the two that a spider has. The spider holds its front legs up like antennae and walks with only 6 legs like an insect. Ants can't see as well as we do, so they might be fooled at a distance. However, when the ants get too close, they can tell the spider doesn't smell quite right. *Micaria pullicaria* is so visually convincing, would-be predators of ants often try to eat them. Fortunately, the spiders are faster than ants and can escape!

## Where do you find these spiders?

On the ground. If you know of a rock covered area or other dry, flattened- grass areas, you have good odds of move quite like a spider, so you've got to look carefully for an oddly shaped ant with weird markings on its abdomen. Without a rocky, dry area, ground spiders are tricky to find, and it is mostly down to luck. Look down while you are walking, and you might spot one. Their dark color and ability to rapidly sprint away makes them ninjas on the dirt. Looking for them in a leaf pile is like searching for a mobile needle in a haystack.

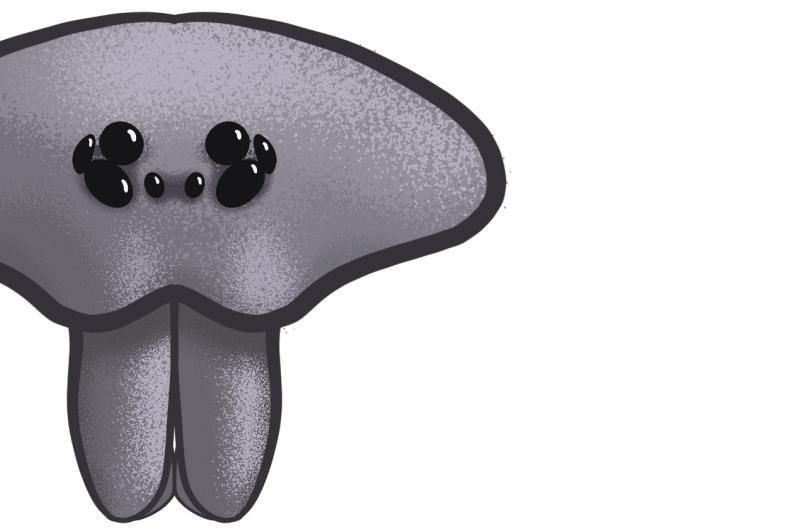


## Pholcidae - Cellar Dwellers

Cellar spiders are versatile web builders that often live in the corners of basements. Instead of always constructing their own web they can pluck at the threads of another spider and lure the unlucky resident to its doom. Hunting spiders is dangerous: Members of family Pholcidae throw silk and keep their distance with their exceptionally long legs. They are also capable of autotomy, which means their legs pop off easily and can be sacrificed if their prey outmaneuvers the pholcid. When a cellar spider feels threatened, it shakes so violently in its web that predators can't focus on the spider. *Pholcus phalangoides* was introduced to North America a century ago and has managed to make many basements its home.

### How can you recognize a cellar spider?

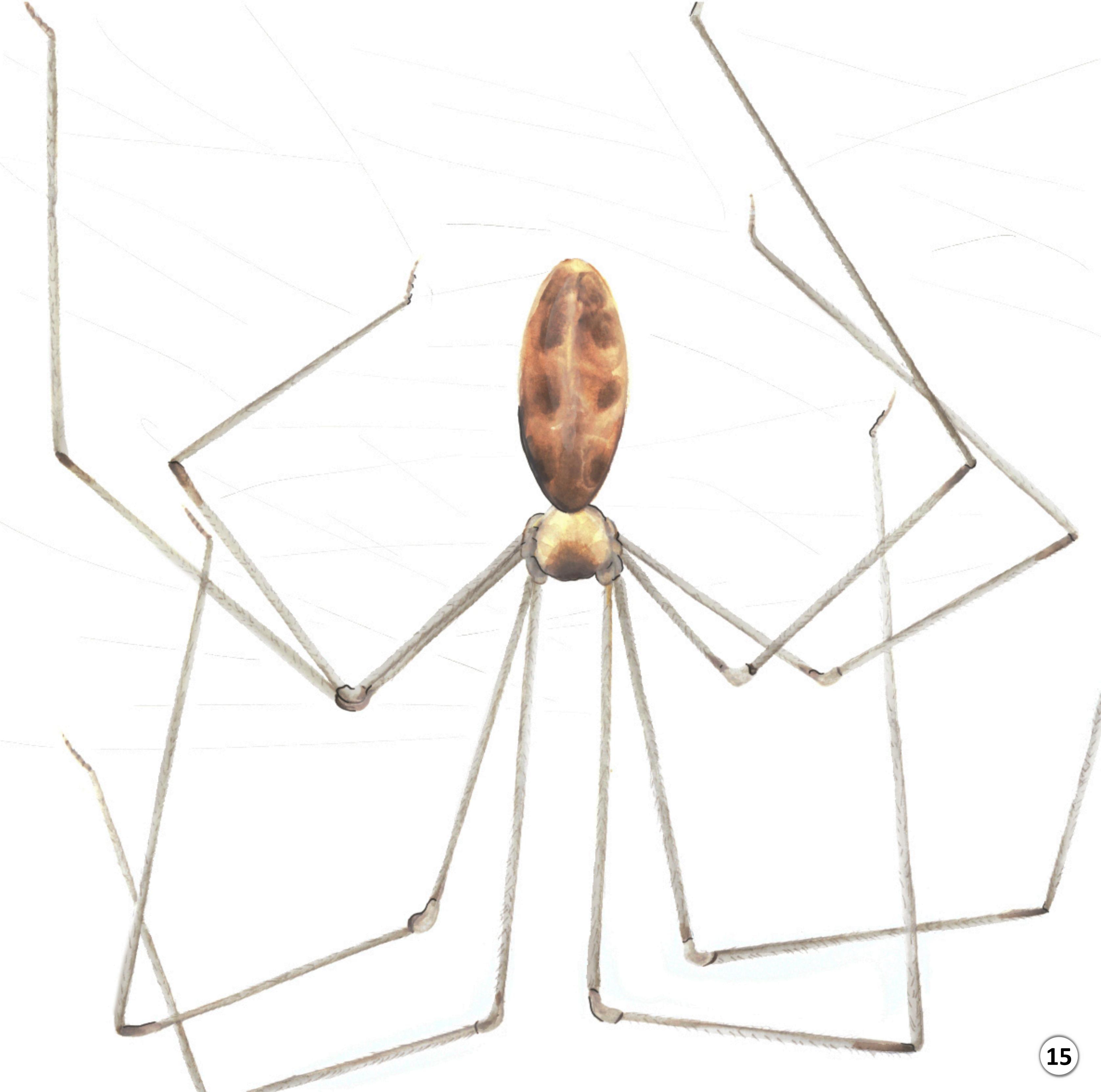
Cellar spiders can be recognized their extremely long and slender legs, as well as the positioning of their eyes. Pholcids have eyes in two clumps on the sides of their head, and may appear to have only 6 eyes, instead of 8. Their extra long legs are tipped with extra long feet, with a bendy section at the end that is unique to this family.



Alongside harvestmen and crane flies, these long-legged creatures are among the many invertebrates commonly called daddy long-legs. Female cellar spiders (Mommy long-legs?) carry an unhatched eggsac in their chelicerae. After hatching, spiderlings will stay close to their mother in her web for a couple of weeks. A pholcid web may look chaotic, but is constructed in a very specific series steps. First the spider builds a dome, then a sheet surface, and finally a retreat near the top of the web. Some pholcids build sticky webs, but *Pholcus phalangoides* does not! But they attach long detection threads to distant surfaces, decorating the base of these threads with sticky silk.

### Where can you discover a cellar spider?

Finding these spiders is more about them finding you. Check the back corners of basements, storage rooms, or cellars. If you're lucky, one of these spiders may have made its home in the top corners of the dark room. Pholcids prefer damp spaces; a basement with a musty aroma is more likely to have a resident cellar spider. This family is originally tropical, so in North America most of them do best indoors.

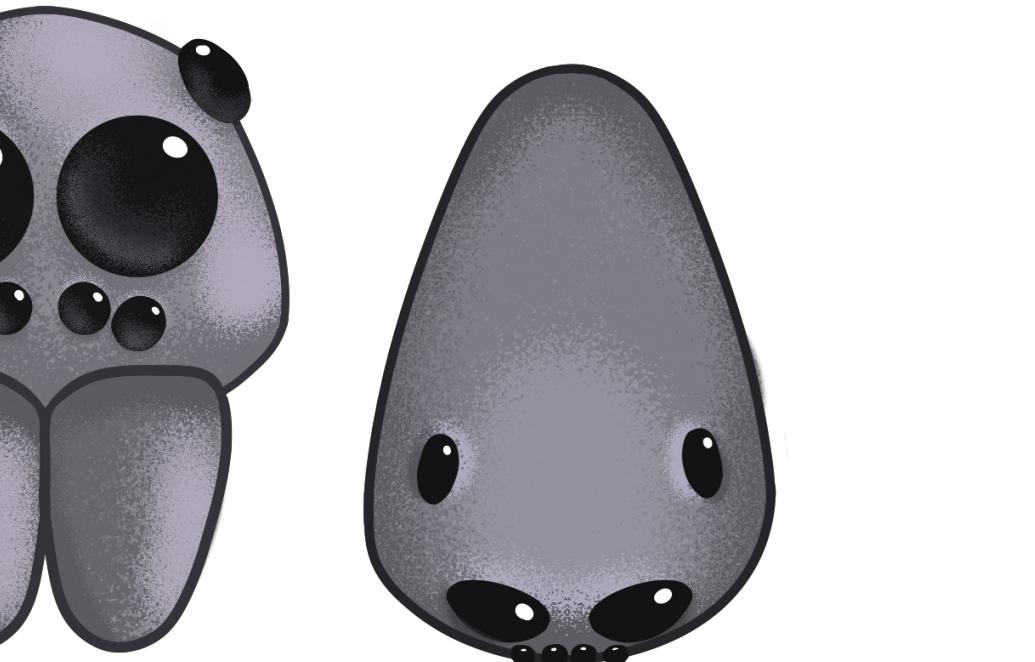


## Lycosidae - An Adventurous Arachnid

If you blink, you might miss it! This is speedy wolf spider. Members of the **Lycosidae** (Lie-co-sid-ay) do not build webs. Instead, they spend their entire lives travelling far and wide. These spiders bolt after their prey with a coordinated flurry of legs when their prey gets too close. Most of the spiders you find on the ground will be wolf spiders. They are usually brown or dark grey. The striped wolf spider, *Pardosa hyperborea*, has dark bands on its head, like two very thick racing stripes!

### Have you managed to catch one of these spiders?

They are distinguished by their tall, dome-shaped head and eye positioning. Wolf spiders have two large eyes in the front, with a straight row of four smaller eyes beneath those and two eyes set further back. These two back-set eyes provide 360 vision, allowing the spider to dodge your capture attempts. If you found a spider with an egg-sac attached to its abdomen, it is a female wolf spider. In the genus *Pardosa*, all members have long slender legs.



The onset of winter is not the end of the journey for *Pardosa hyperborea*. Members of the genus *Pardosa* can survive the harsh Northern winter in leaf litter under the snow. The colder it is, the deeper they bury themselves in the leaves. They are still moving around even in the middle of winter. Once spring arrives, they are ready to roam as early as April. They spend the winter as immatures and can live as long as two years. While *Pardosa* species aren't the largest wolf spiders, they are standouts for their weather-hardiness.

### Where do you look to find wolf spiders?

Everywhere! If you want to find one very quickly, they tend to hide in the shady grass next to buildings. Move some leaves around in a wooded area, and you are likely to find them scattering for new cover. A field of tall grass is a fantastic place to look. If you move the grass and carefully watch the base of the stems, you should be able to catch a glimpse of one.



## Theridiidae - The Falsely Accused

This isn't a black widow! This is *Steatoda borealis*, the False widow spider. They are entirely harmless and don't deserve to be feared. Theridiidae (The-ri-dee-id-ay) is a family of spiders that includes the infamous black widow, but so many of its cousins are unjustly squished. Members of this family are called cobweb spiders because they build messy webs in dark corners of gardens and houses. Species in the genus *Steatoda* are specialized for capturing ants. They look a lot like widows – they even have an hourglass-like marking on the underside of their abdomen. However, they are brown and beige instead of red and black! This critical distinction should help you feel calmer when you encounter a round, dark-coloured spider underneath a piece of wood.

### What makes a member of Theridiidae look the way it should?

The key features of this family are hard to see without a microscope. A large gap between the lower eye row and top of the chelicerae, and the presence of spiky hairs on part of their hind legs, are two of the characters that identify this family. They usually have incredibly round, shiny and hairless abdomens that taper quickly to a point where the spinnerets are located. Many genera have much longer front legs, though this isn't always true.



Many spiders dance or make noise to impress females; members of *Steatoda* create a high-frequency vibration. They have specialized structures for this on the back of their head and the front of their abdomen. When males rub these together, it makes a noise. Instead of physical combat, sometimes males will fight by aggressively squeaking at each other. Spiders don't have ears; they sense vibrations using hairs and tiny slits all over their body. A lot of a spider's world is made of small sensations we might not notice. For example, when you move your hand over a web, you feel a slight breeze, but a spider feels a gust and takes cover.

### Where do you find these spiders?

*Steatoda borealis* can be found under pieces of wood or under large flat rocks. This species is one of the easiest of theridiids to find. Make sure you look carefully at the grooves in wood, they may have tucked themselves in a shadowy area. Cobweb spiders usually build their homes close to the ground and can be found in most environments. Once they've created a house, they'll keep expanding and repairing it so that a wide messy web might have a large theridiid.

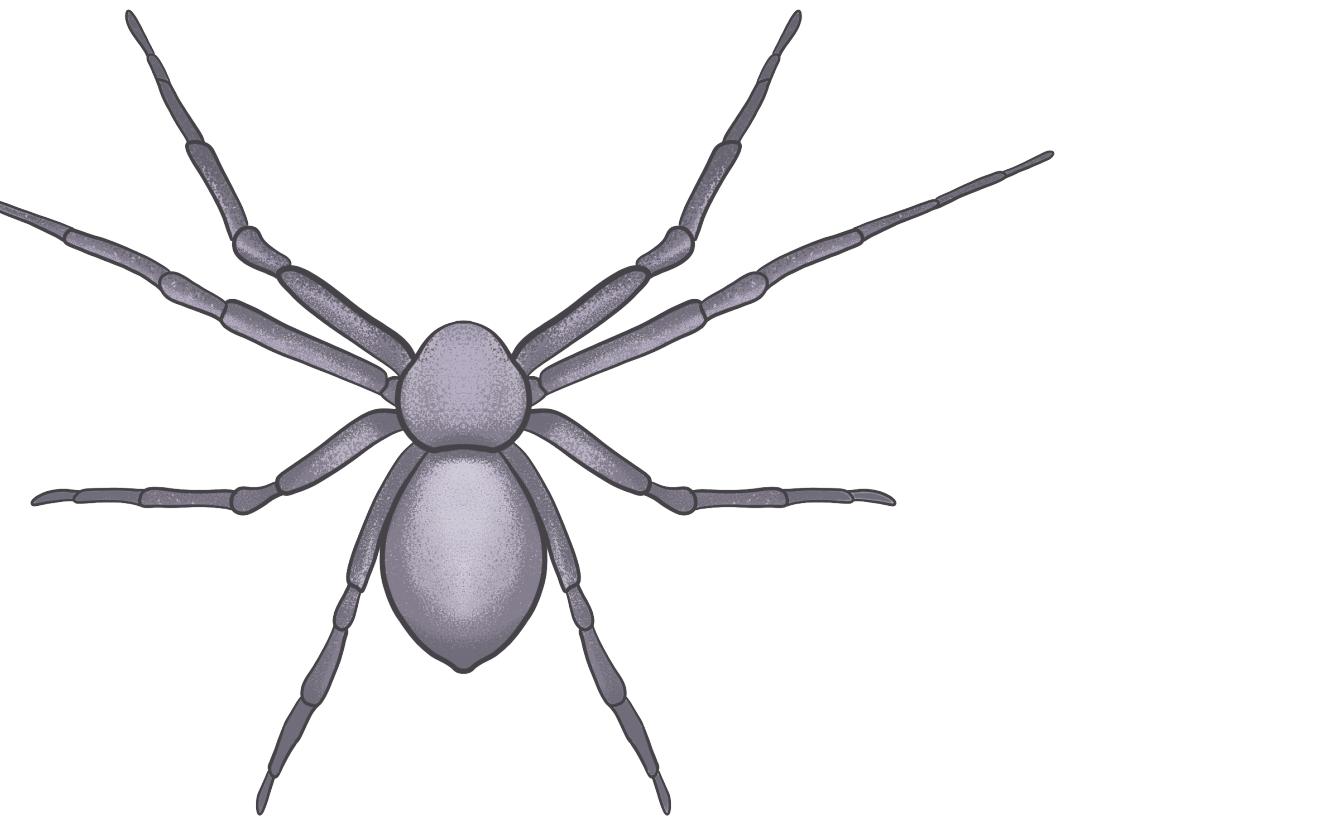


## Philodromidae - Quick Crabs

Philodromids (Fil-o-drom-ids) look like the true crab spiders (Thomisidae), and are called “running” crab spiders because they are more active hunters, choosing to chase down prey that wanders by. So the philodromid *Thanatus formicinus* bears the common name of the “false crab spider”. But they are not closely related. Philodromidae is in fact more related to jumping spiders (Salticidae) than to the true crab spider family.

### How do you recognize a running crab spider?

These spiders have flat bodies and an elongated second pair of legs. Many common running crab spiders are easily identified. *Thanatus* spiders always have a large black heart-mark, while *Tibellus* are long and pale, with a long brown stripe down the middle. And *Ebo*’s second pair of legs are incredibly long compared to the rest of their limbs.



Philodromids mainly hunt on vertical surfaces. They have thick hair on their toes that allows them to climb most things. You’ll often find one of these spiders in your house or in your car. They are polite travel companions, placing themselves in a window corner or a warm spot on your dashboard. Other families of spider hide under your seats, or build a web using the car’s mirrors. If you do find a hitchhiker, be sure to let them out!

### Where do you find these spiders?

The outside walls of houses or close to the ground are good places to look for philodromids. Textured surfaces like wooden siding and stucco are especially appealing. Running crab spiders are often found pressed against tree bark or on bushes.

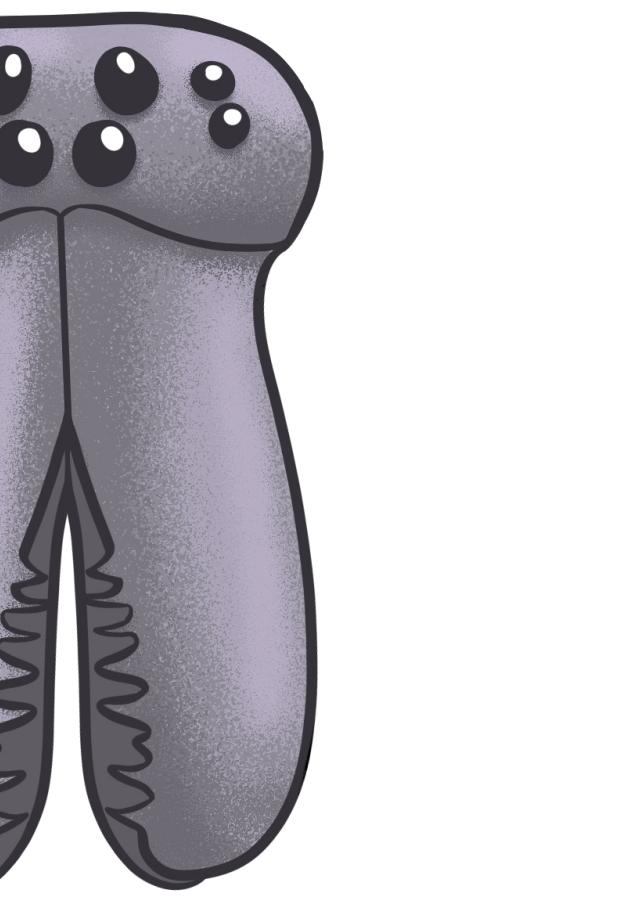


## Tetragnathidae - Four Times the Jaw

These divas are nothing but legs! The long-jawed orb weaver is a slender spider that boasts the most impressive set of chelicerae. Many **Tetragnathidae** (Tet-rag-na-thi-day) members have bodies that are so streamlined they can easily lay flat on a reed or a blade of grass. Male and female *Tetragnatha versicolor* have an unusual difference; their venom composition differs; which may be relevant to communication, as these spiders lock jaws when they mate! Most spiders can drop off their legs to escape danger. Tetragnathids don't do this. Without all 8, their sleek saunter is disrupted, and they simply can't live like that.

### What makes a long jaw spider so elegant?

Everything about *Tetragnatha versicolor* is long! But most importantly, their chelicerae are much longer than most spiders. Spider jaws are made of two parts, the base and the moveable fang that they use to pierce prey. Tetragnathidae members have very long fangs that must be folded back into a groove on the base. Their chelicerae are also covered in spiky teeth, which are set around the groove. Despite the impressive chompers, they won't even try to bite you if you are gentle. Their abdomen of these spiders is generally pale yellow, green, or white. Most members of *Tetragnatha* have very long bodies. Some other genera in this family have a rounder abdomen, so it is best to look for the elongated mouthparts.



## Araneidae - Arachnid Architects

This is the incredible orb weaver. By the end of summer, the cat-faced spider is easily recognized by its two prominent nubs and large abdomen. The family **Araneidae** (A-rain-id-ay) is the one of the most diverse in the world. To suspend themselves in the air, these spiders craft expansive but precise web. While all *Araneus gemmoides* build an orb-web, each spider varies the blueprint to suit the construction site; their surroundings guide their design sensibility. These dedicated engineers even account for the weather because they rebuild their silk structure nightly to keep it in tip-top condition.

### What do these wondrous weavers look like?

Orb weaver spiders vary extensively, but one feature that's consistent throughout the family is an indentation on the back-center of their head. They also are generally known to have a tiny space between the top of their chelicerae and their lower eye row. It is easiest to be confident that you've found an orb weaver if you find one on a vertically constructed web. These spiders only build webs up and down, unlike other families. *Araneus gemmoides* comes in a variety of colors, including yellow, orange, brown, and white. This species of spider is recognizable because of its two pointy outgrowths, the "ears", on its abdomen.



Dimorphism is when females and males are very different sizes, males in the orb weaver family are much smaller than females. The family Araneidae includes some of the most extreme examples. While all spiders inject venom to liquify their food, some of them chew the hard parts of their food as well. Orb weavers will eat most of the insect's hard shell, and then throw away a round bug-nugget that is the unconsumed rest of the insect.

### Where do you find their webs?

Araneids can build webs in most places. Usually, they are tucked away in a hiding place attached to the web, instead of sitting in the centre of the orb. There are two ways to locate a hidden spider. Crouch below the web and look at any possible corners or leaves near its web, you might spot a giant spider tucked into a tiny space. Alternatively, look for an unlucky insect and throw it into the web. You can watch this very articulate spider wrap up its meal and bring it back to its hiding place!

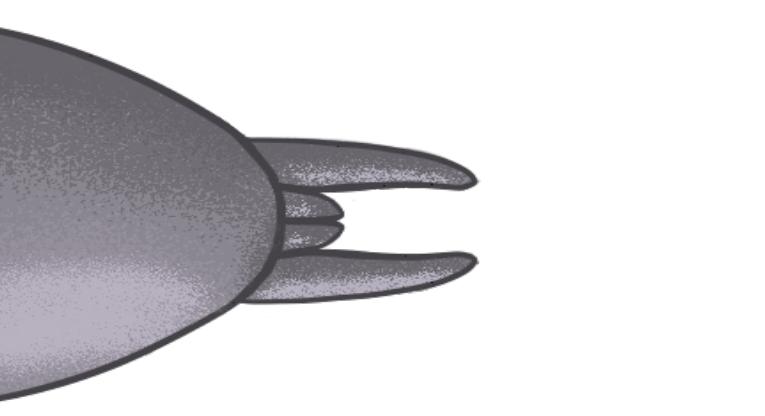


## Agelenidae - Basement Buddies

Have you ever spotted a spider in your basement? It was probably a member of the **Agelenidae** (Ag-a-le-ni-day). These curious spiders will happily move into a comfortable human dwelling and eat other invaders! While they are capable of building funnel webs and capturing prey outdoors, these spiders seem to be found in basements more than any other family. They are unlikely to bite, but if they do, it feels like a sharp pinch. Unless you are allergic, you won't have a severe reaction (and allergies to spiders are very rare). If you aren't sure who you've noticed, always exercise caution, but very few spiders are dangerous. *Tegenaria domestica*, the domestic house spider, is a harmless house guest.

### How do you know you've captured a funnel-web spider?

These spiders have recognizable spinnerets. The outer two are long and slender, sticking out noticeably in many species, and two shorter ones are in the middle. Their spider bodies are always brown and grey. All their legs are very long, and they are swift to disappear back into their hideout.



Usually, the spiders you see wandering around are adult males. Female spiders will craft silk guides to their webs, to help potential mates find their way. Despite their chaotic appearance, agelenid webs are quite tidy and have been shown to reduce microbial growth. Mold would ruin their hard work and basements can be humid. Because the webs are fixed to the ground, insects will wander onto it and get their feet stuck in the disarray. The spider, on the other hand, can easily traverse the chaos and brings an unlucky visitor back to their funnel.

### Where do they live when they aren't living with you?

If you find a web with a tunnel at one corner of it, you've seen one of these spiders' homes. In nature, these spiders will build their webs at the base of trees, in rocky areas, and over grass or moss. These spiders won't leave their tunnels unless they think they have a meal passing through, so you might have to use bait. Early in the morning, dew is sprinkled on these webs, and it's gorgeous! Abandoned basement webs collect dust bunnies instead, which may be less eye-catching but equally noble.



# Clubionidae - Happy Campers

Have you ever noticed little leaf bundles on bushes? A folded over piece of grass? You might have spotted a Clubionid campsite! The family **Clubionidae** (Clue-bee-on-id-ay) is a group of wandering spiders. Many members of this family craft little refuges to sleep in during the day. For a very long time, Sac spiders was the catch-all term for many walking spiders that had a similar look. We now know that the family Clubionidae is much smaller than we thought because we've gotten better at defining what a Clubionid is. Lots of spiders resemble sac spiders; the best way to be sure that you've got a Clubionid is to find it hiding in a leaf burrito. The Canada sac spider (*Clubiona canadensis*) looks very similar to most of the sac spiders.

## What do these happy campers look like?

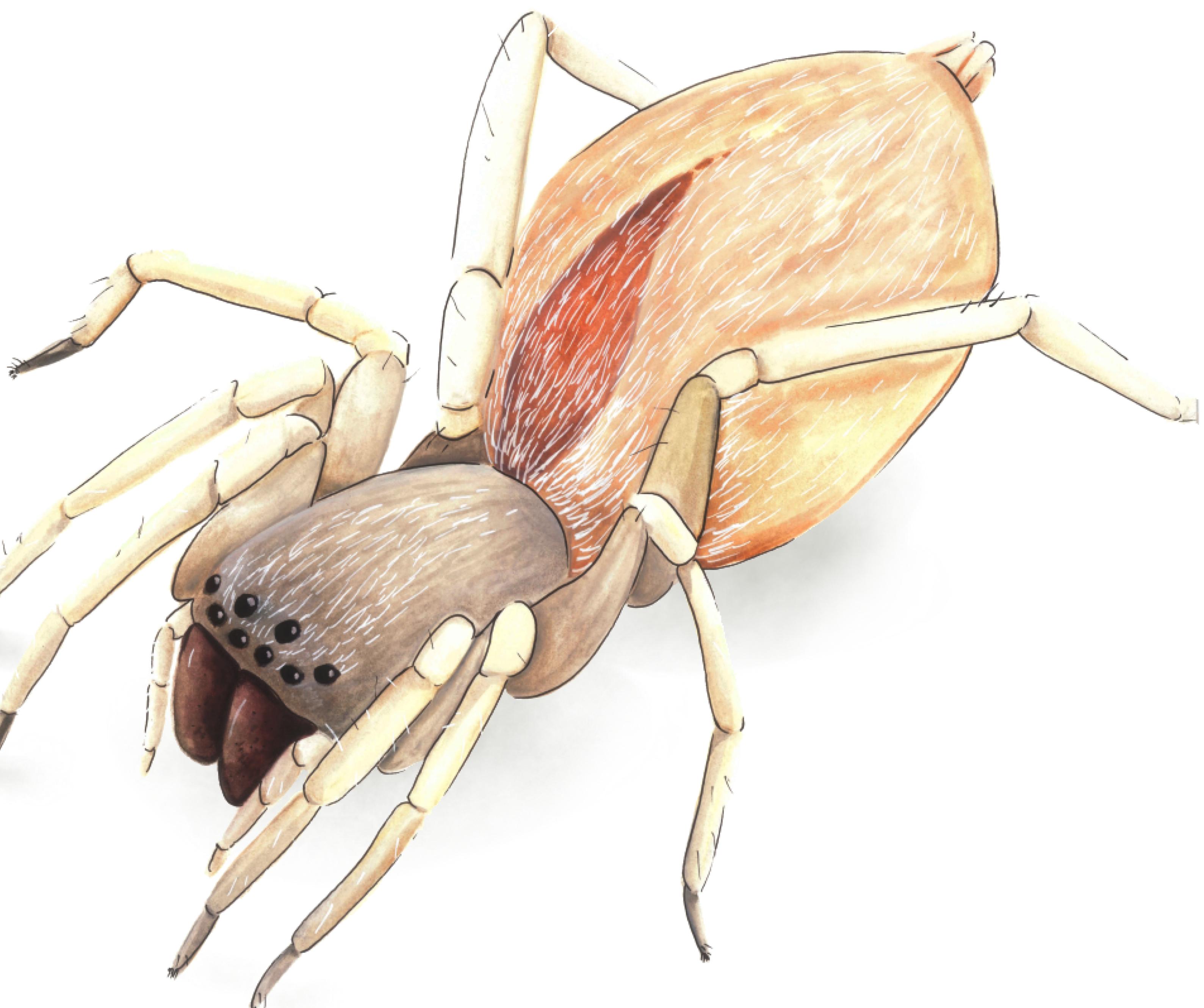
Sac spiders have spinnerets that form a point at the end of an oval-shaped abdomen. They generally have very dark chelicerae, while the rest of their body is quite pale. *Clubiona canadensis* usually has a reddish-brown diamond called a heart mark on its back. This darkened area is precisely on top of the spider's heart. Not all sac spiders have a heart mark, but when they do, it is unmistakable.



These spiders construct hideouts during the day by folding down sections of leaves and sticking them together with silk. Because the spiders must climb vertical surfaces before building their shelter, their feet are very hairy to provide better grip. Different leaves call for different folding methods. Grass requires having the tip pulled down, curled into a loop and then sealed at the edges. A leaf on a willow bush must be folded back and forth to create a triangular capsule, and bigger spiders make bigger capsules.

## How do you locate a campsite?

Find leaves on bushes, not trees, and uncurl them slowly. If you are gentle, the sac spider won't sprint away. You'll probably have to uncurl several leaves before you find a Clubionid, as some of the leaves might contain caterpillars instead. Sac spiders are frequently found in fields. You can walk through tall grass and look for leaves that are folded over. This strategy rarely fails; you should find at least one pale spider nestled carefully into its leaf-sleeping bag.



## Pisauridae - All Terrain Arachnids

The fishing spiders, in the family **Pisauridae** (Pie-sur-id-ay) can go anywhere. These hardy spiders can float on water and sprint across the ground. This is *Dolomedes triton*, the six-spot fishing spider. They are called fishing spiders because they have been known to hunt small fish! Fishing spiders hunt by detecting vibrations in the water the way other spiders use a web.

### How do you recognize a fishing spider?

The easiest way to recognize them is by looking at the eyes. The upper eye-row is much larger than the bottom one. They also have strong legs and stand with a wide stance, which helps them float. The six-spot fishing spider has two bright stripes running down its sides, and 6 little dots on its abdomen. While pisaurids can leave ponds and lakes, if you find a large running spider near water you have probably found a pisaurid. When on water, these spiders move with a powerful push. They gallop across the surface with their forelimbs held out high, ready to push off for the next leap.

Fishing spiders stay on top of the water because they have hairy toes and legs. Even if dunked in the water, these spiders have bodies that repel water with a waxy coating, almost like a surfboard. Some spiders in other families can also walk on water, but they aren't quite as good at it. Like wolf spiders, fishing spider mothers carry around their egg sac until it hatches. The difference is that fishing spiders carry it in their chelicerae, while wolf spiders attach it to the spinnerets.

### Where do you find these critters?

As you might have suspected, these spiders are quite common near large bodies of water. The easiest way to capture a fishing spider is to sweep a net through the reeds on the ponds edge. On rare occasions, you may run into this spider in an area with no nearby water! Despite being small creatures, fishing spiders can travel huge distances over land. They are not strictly limited to the edges of ponds, that's just prime pisaurid property.



# Salticidae - Springy Sweethearts!

This group has the best public image. The members of the family **Salticidae** (Sal-tis-id-ay) are the adorably fuzzy jumping spiders. These spiders wave their arms around and dance to impress mates and intimidate foes. Their terrific vision guides every movement. Many of these spiders are able to tell an insect from another spider of the same species at a distance of ten body lengths. This is impressive in the spider world because many spiders can't see much past their front legs. Because of their exceptional vision, salticids have evolved to have many different colors, patterns, and communication methods. The zebra jumping spider, *Salticus scenicus* is often found quickly spinning around in search of an unlucky fly in urban areas. Jumping spiders are some of the most intelligent hunters of the arachnid world, and many of them have a specific strategy for their preferred lunch.

## What makes Salticidae the cutest family?

These spiders have a giant pair of forward-facing eyes and a boxy head, which appears to give them a curious personality. If you think a spider is looking you in the eyes, it is probably a salticid. The lifestyle of these spiders is mostly made up of by a combination of jumping, stalking, and frequently pausing to consider its surroundings. Zebra jumping spiders are one of the more common jumping spiders, and are distinguished by the white stripes on their abdomen. Most salticids are brown or grey, but some have vibrant reds, oranges, and greens on different parts of their body.

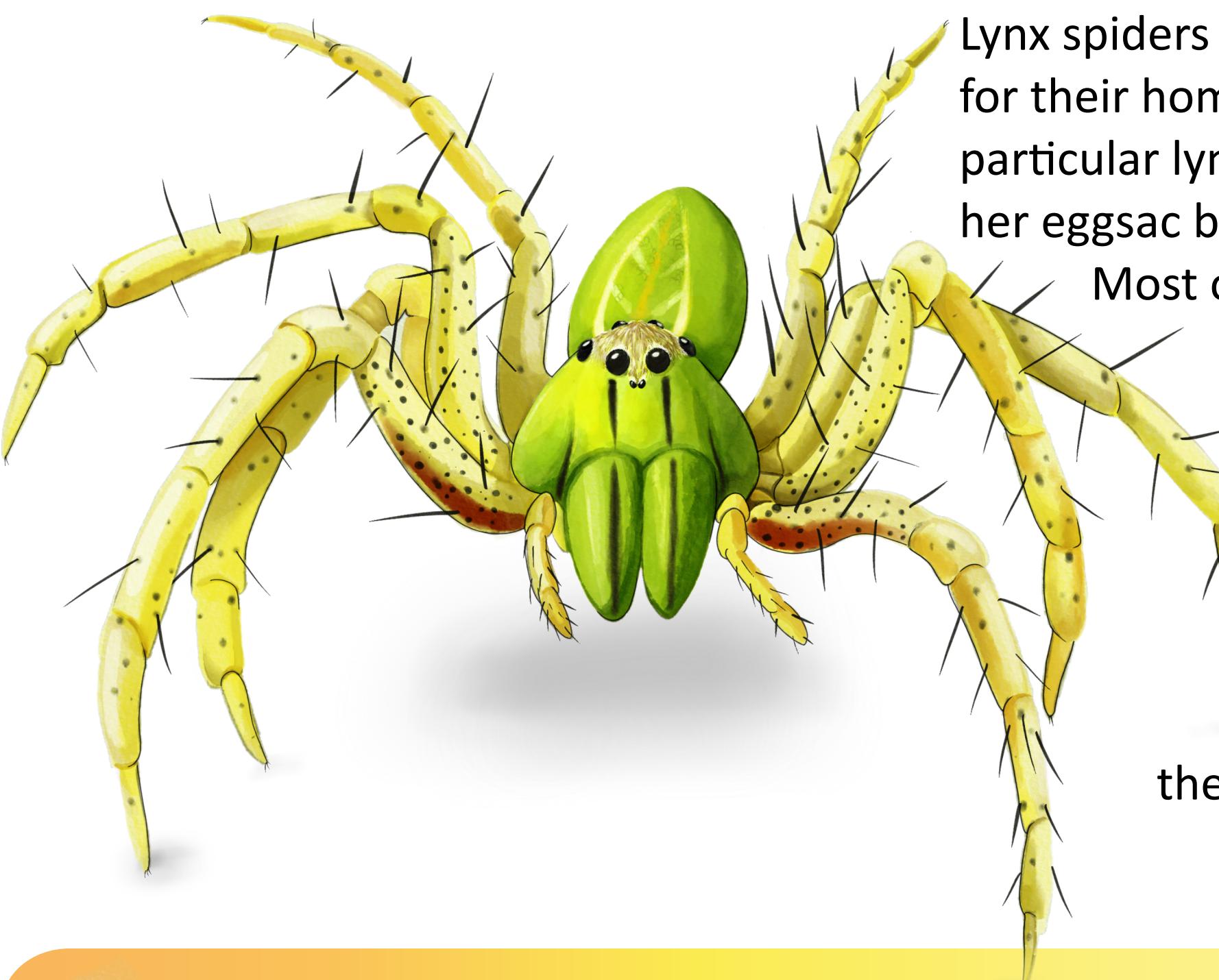
Jumping can be quite risky. A badly planned jump could mean a long and dangerous fall. To avoid disaster, salticids will quickly lay down a silk tether before they leap. Web-building spiders also use silk threads, but they often use it to escape danger. Hunting on entirely vertical surfaces means the spider might grab its prey and then hang from its safety thread while holding its meal.

## Where can you find a jumping spider?

The easiest place to find a zebra jumping spider is on the side of a house during the day, especially if there are lots of plants nearby. Other salticids can be found by sweeping a net through bushes. Usually, jumping spiders spend their time on leafy plants. You can also find them in leaf litter or on tree bark: their incredible mobility means they can go anywhere.



## Oxyopidae - Lynx Spider



Lynx spiders are agile, bush-dwelling ambush hunters. They dress for their homes -- mostly come in greens, yellows and browns. This particular lynx spider is *Peucetia viridans*, who will fiercely defend her eggsac by spitting venom, an uncommon behavior for spiders.

Most of these spiders are cautious and leave immediately when a large creature like a human shows up. When they meet a member of their own species, they aren't aggressive, in fact they may gather in small groups. Most spiders cannot stand their own siblings after two weeks of living with them, let alone want to spend time visiting their cousins.

These spiders can be found on flowering plants, as they feed on pollinators.

## Scytodidae - Spitting Spider



Spiders with a strange hunting style and only six eyes! Their chelicerae contain goo with unique properties - both sticky and venomous at the same time. When an insect gets within their range- 10 - 20 millimetres - they sway swiftly back and forth and spit enough to trap their prey in less than a second! These spiders are tiny, usually 3 - 6 mm long, and they can't see very well. When they find prey, they tap with their long legs to figure out where to aim. When these spiders are young, they work together and share food. This particular spitting spider is *Scytodes thoracica*.

## Corrinidae - Ground Dwelling Sac Spiders



These spiders are speedy ground dwellers. Many resemble their prey of choice: ants. The genus *Castianeira* is widespread throughout North America and comes in many colors. This vibrant orange spider is accurately named the tiger spider (*Castianeira amoena*).

Corrinids tend to have such distinct patterns that you can usually tell which species you spotted without a microscope. When resting, they can build a sleeping sac somewhere near the ground, attached to a rock or a plant stem. These spiders can be found in many places; if you spend enough time looking down, one might zip past.

## Mimetidae - Pirate Spider



Crafty web strumming spiders, mimetids trick orb weavers into getting eaten. Pirate spiders can hunt for web dwelling spiders and have evolved to have extremely specialized venom. If they bite a spider, it freezes immediately. The same venom takes much longer to affect insects. Without somebody else's web to pluck, they can't hunt other spiders. They are best at hunting araneids and theridiids. Even though their prey can be quite large, most members of Mimetidae are small, less than 6mm long.

If you are lucky enough to see one, they have forelimbs with spines that alternate between long and short, which help mimetids hold their lunch. *Ero canionis* is a common species of pirate spider.

Have you found a spider you want to bring home? This section provides some tips for how to capture them and how to keep them as pets.

While many spiders are best left where you found them, some can come live with you temporarily, and others make great long-term pets. Always consider the animal's wellbeing before removing it from its outside home!

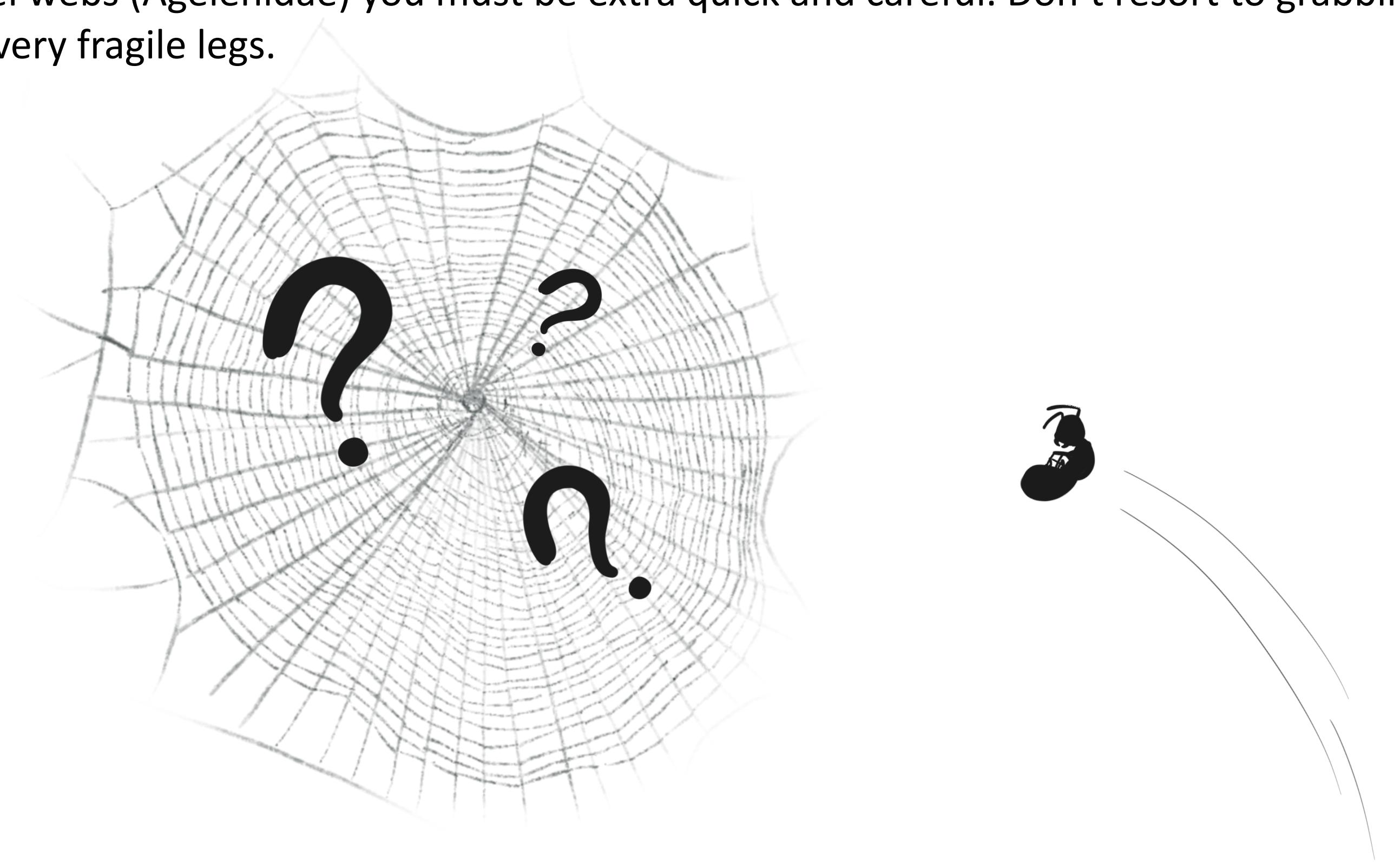


# Collecting: Bringing Spiders Home With All 8 Legs

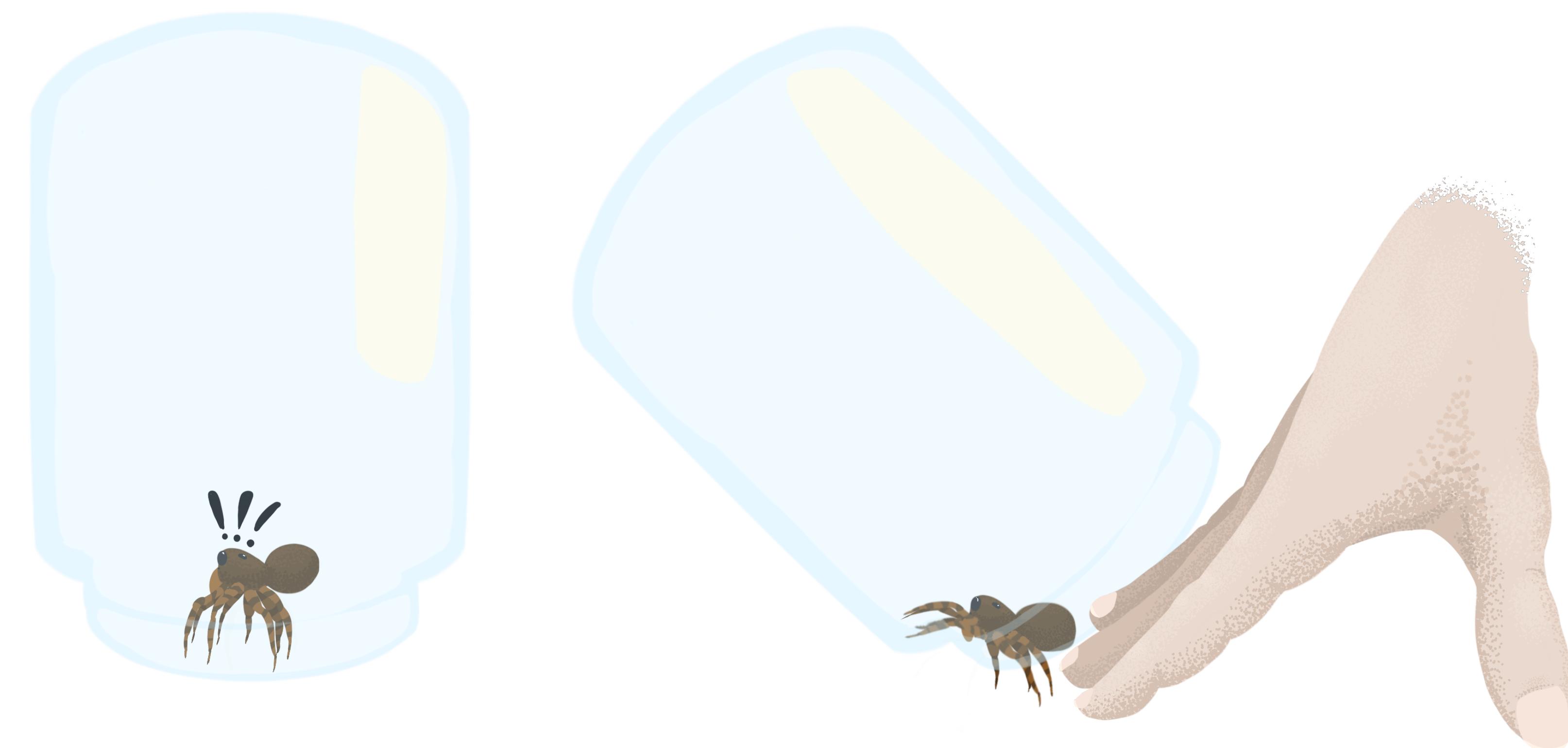
Spiders are very soft. Grabbing a spider with your fingers directly might result in the spider being injured, or you getting pinched by its chelicerae!

Fortunately there are better methods you can employ to avoid injury:

**For web-bound spiders:** Bait! Chances are you've found a web and you can't even see who is living there, or the resident spotted an approaching giant and took refuge. You'll need to bait it to come out, and ants are perfect for this. While they make poor regular food (They are the hot sauce of the spider diet - see page 46), ants are everywhere. Find an unlucky sacrifice and plop it into the web. Have your jar ready, you'll want to try to scoop the whole web. For Funnel webs (Agelenidae) you must be extra quick and careful. Don't resort to grabbing, they have very fragile legs.



**For most wandering spiders:** Plan your approach; just reaching for it doesn't usually work. Directing the spider to run into the container will give you the best odds of not injuring it. Center the container above the spider, then place it gently and wait for it to climb onto the walls. If the spider is on a plant, place the jar below it and give the plant a shake so the spider drops into the container.

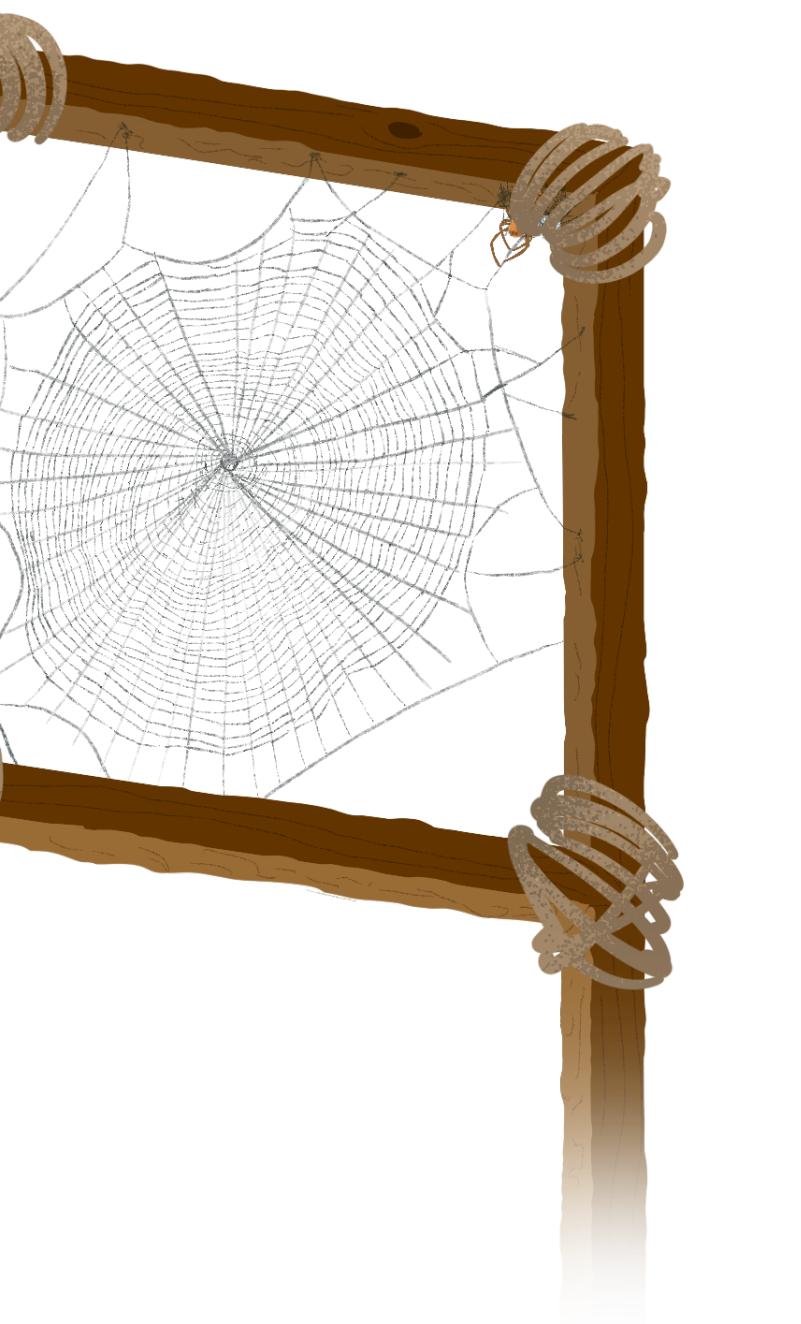


You may need to nudge them onto the jars wall if they don't climb on their own. Spiders tend to move directly away from potential danger, like your finger.

# Collecting: Not all spiders should come home

These groups of spiders should be left in the wild:

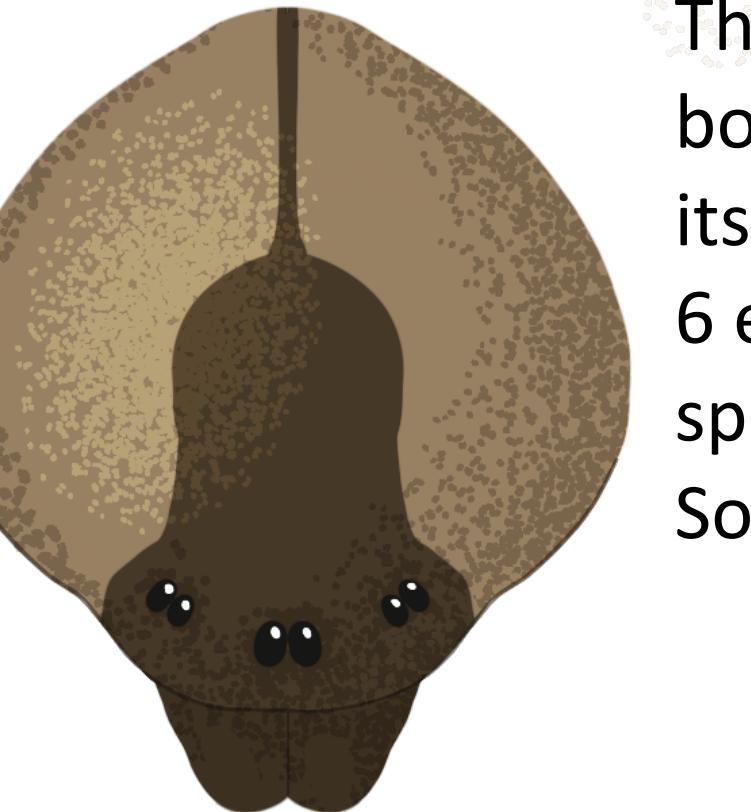
**Araenidae & Tetragnathidae:** These spiders are picky. Without a huge amount space to build their webs, they will sulk in a corner until you release them, or die from stress. At most, you can bring one home and hope it takes a liking to your backyard. You can even construct a wood square and hope an orb weaver finds it suitable.



**Dangerous Spiders:** North American only has two spiders with venom that is dangerous to humans. If you see markings like these, enjoy the spider in its natural environment and don't touch it. They don't want to bite you, it is a last resort and they are both very shy.

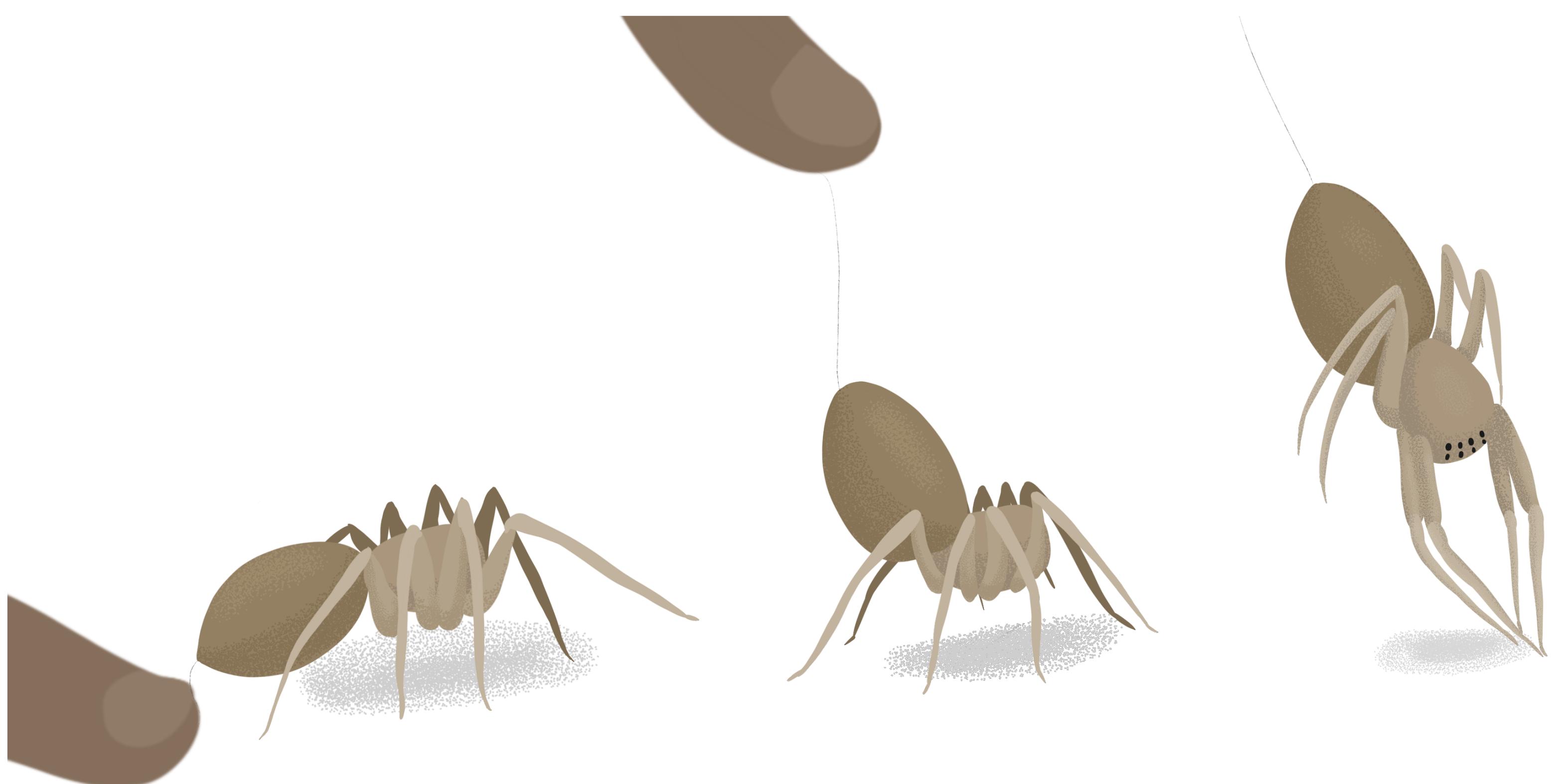


Black widows have the infamous hourglass. If you see a shiny black spider in a messy web, its best to appreciate this spider in its own home.



The brown recluse has a pale body and a violin shape on its head. They also only have 6 eyes! These wandering spiders are found in the South-Eastern part of USA.

**Itsy Bitsy Spiders:** As endearing as these little ones are, they eat even smaller food. They can only be kept if you build a vivarium with a healthy population of springtails and other micro invertebrates. Fruit flies are useful food for juvenile spiders, but it can be risky to maintain a colony in your house. If you are confident in taking on these challenges, these spiders are best captured using their silk-drag lines, or gently nudging them into a container.



Scoop behind where the spider is walking, and carefully lift your finger, many small spiders leave a silk trail as they walk. You can use this method to pick up baby or small spiders without harming them.

## Building Enclosures: 4 Vital Features

Part of the joy of keeping a pet invertebrate is designing their home, but your construction process must include these considerations:

- 1) Don't place it in direct sunlight - you will cook your spider!
- 2) Avoid pesticide exposure - Wood, dirt and leaves from near where you found the spider are probably safe.
- 3) A well ventilated lid is a must - nobody likes stale air. Replacing the lid of your container with a fabric mesh, like cheesecloth, will provide good airflow.
- 4) Include a hiding place for your spider - spiders need privacy to



# Building Enclosures: Know your Spider

If your spider came from the ground (Lycosidae, Gnaphosidae, Corrinidae)... Consider using:

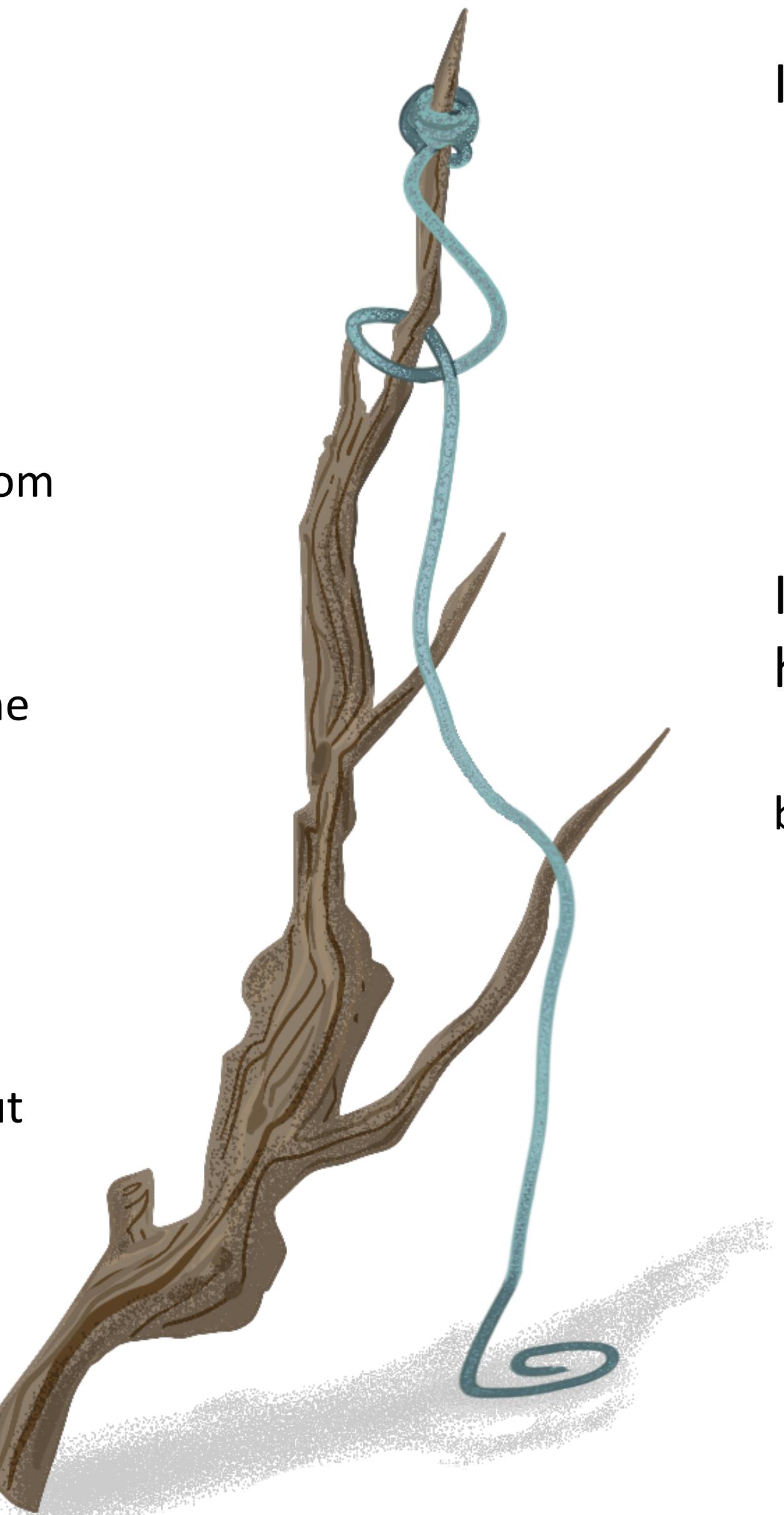
- A wide low container
- Dirt or small rocks for substrate
- Chunks of wood

If your spider came from a tangled web (Theridiidae, Agelenidae)... These supplies are better suited:

- A square container - a container with some height and a wide bottom gives your spider lots of space to build a web
- Sticks and cut up paper towel rolls
- You don't need dirt for these spiders, which makes keeping its home clean easier.

If your spider was found near the water (Pisauridae, some Lycosidae)...

- A wide container with enough room for a plastic cup that's been cut short and filled with water
- Dirt around the plastic cup
- Leaves and sticks



If your spider is a camouflage predator (Thomisidae, Oxyopidae)...

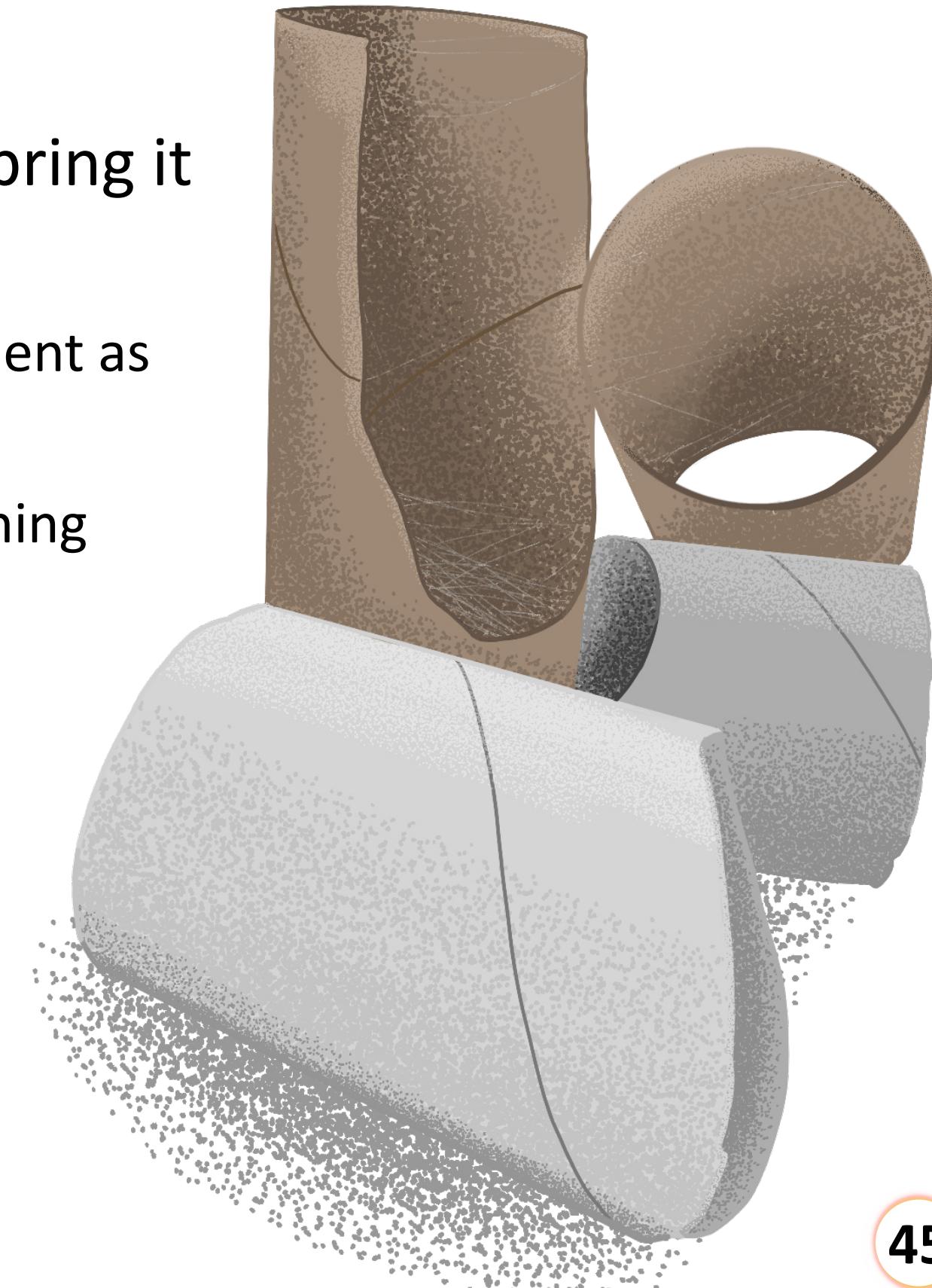
- A tall container - clear glass is best, otherwise you may struggle to spot your stealthy spider.
- Bark, leaves and fake flowers provide fantastic hiding places for these spiders.

If your spider is a climber (Salticidae, Philodromidae)...

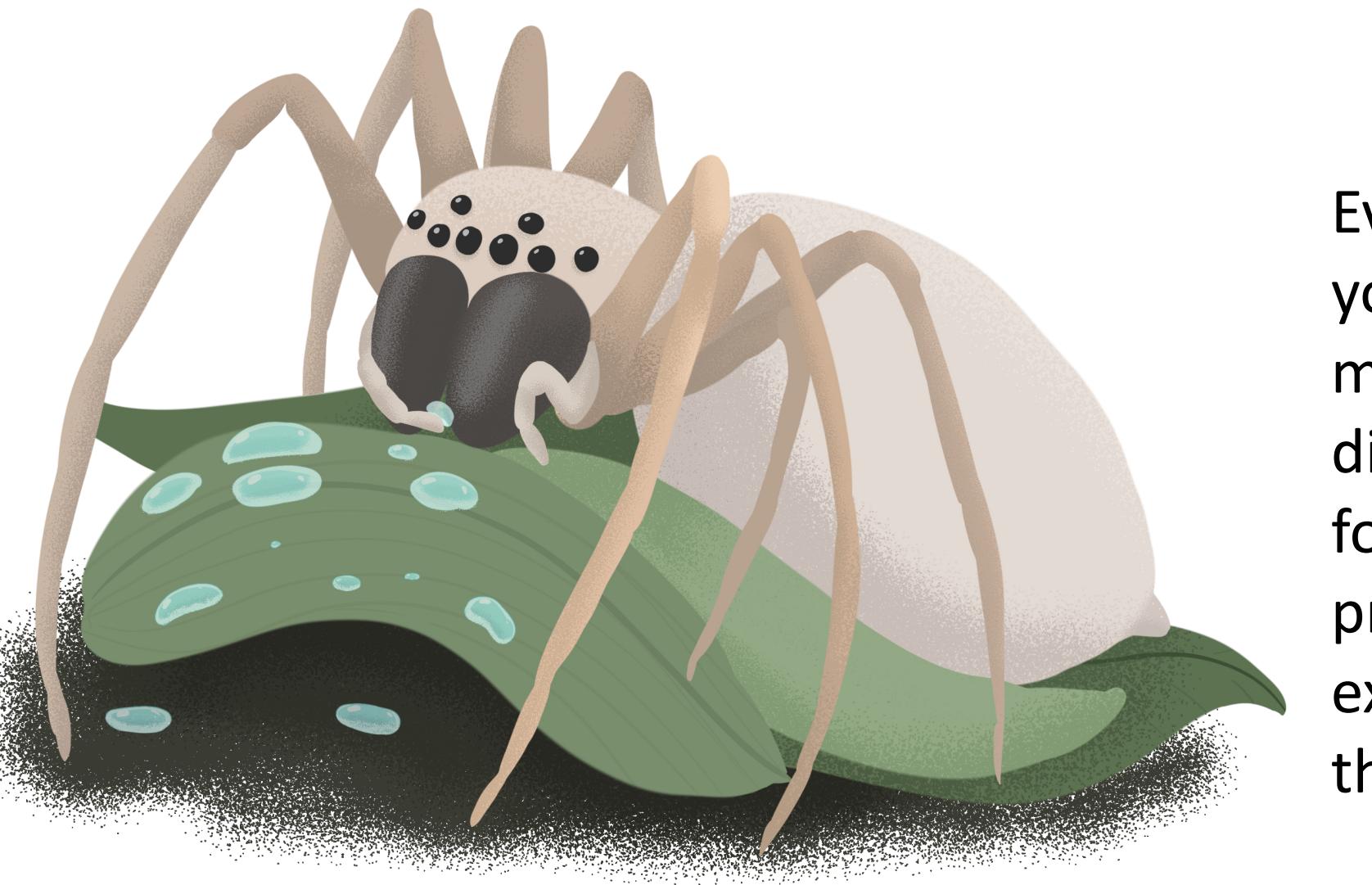
- A tall container - pasta sauce jars are great
- Sticks, strings, paper towel rolls, and bark
- Dried moss works well as a ground surface

If you aren't sure what the spider is, but you still want to bring it home...

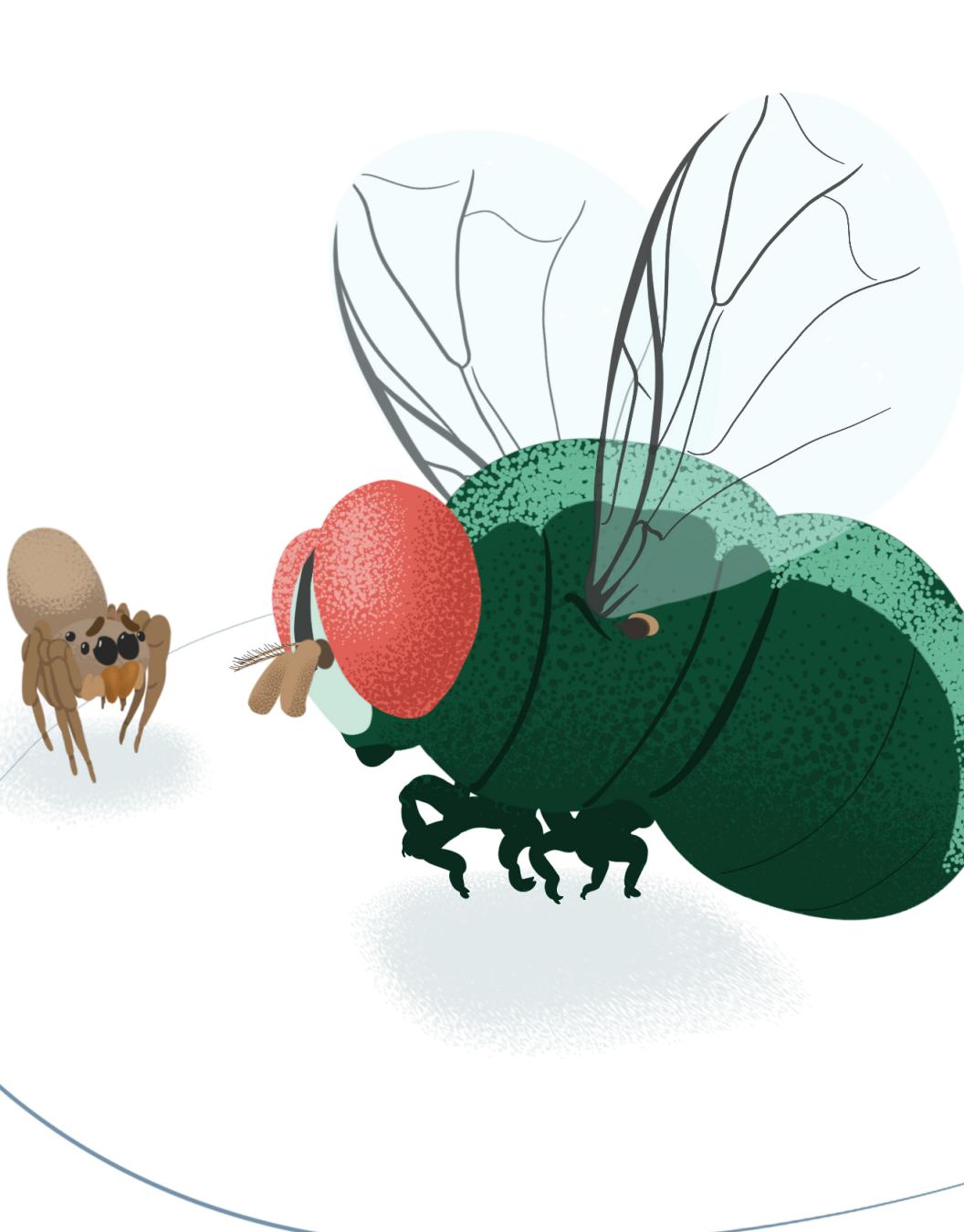
- Examine the surroundings, take notes, and recreate that environment as best you can
- Be prepared to release the spider in a week if it doesn't eat anything



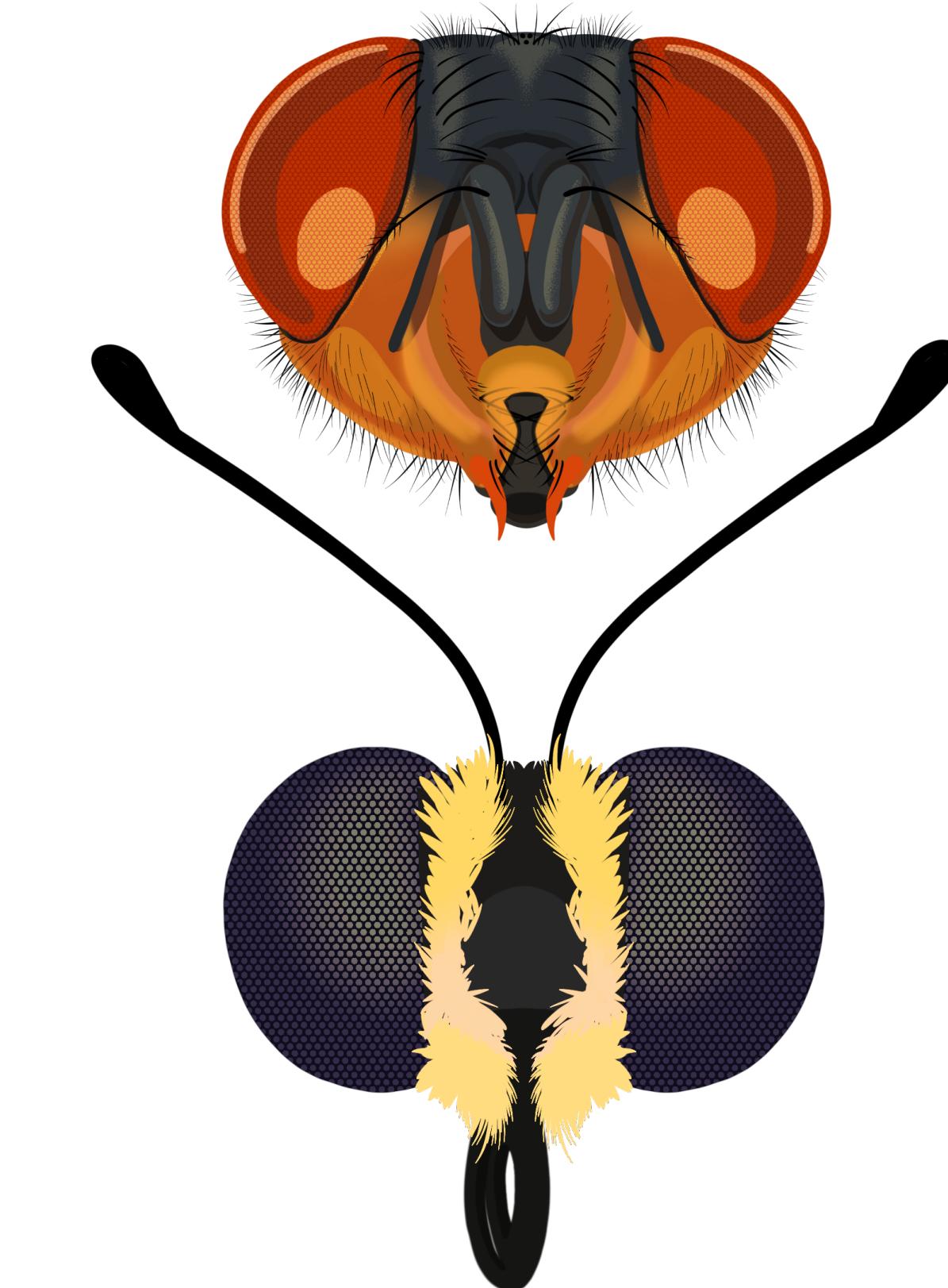
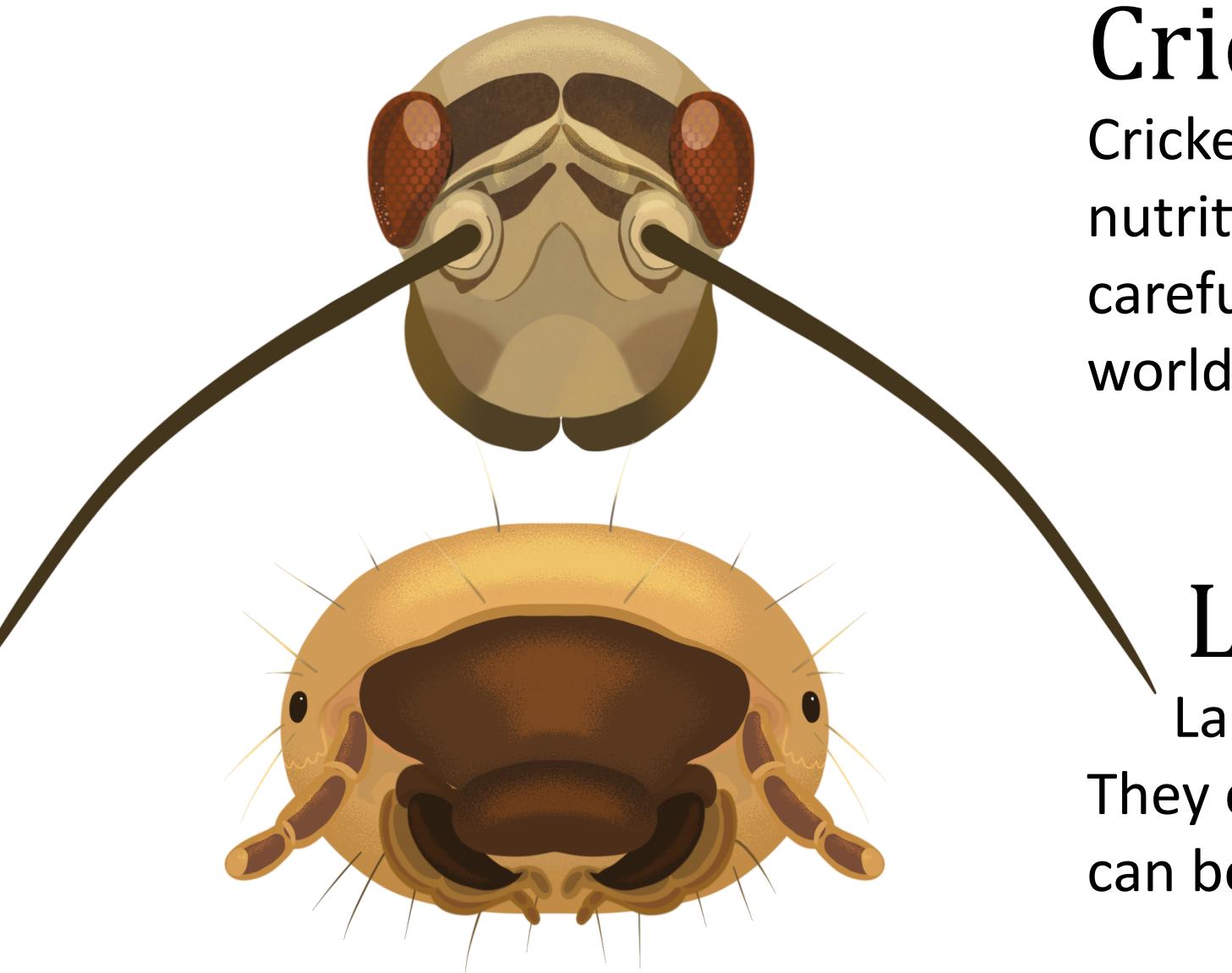
## Food and Water: The Basics



Feeding large spiders is simple. Find something on the menu, make sure it's smaller than the spider. Tiny spiders are very hard to feed and require fruit flies or springtails, these can be tricky to find in large numbers. Offer your spider food every 3-4 days. They might not eat every time (sometimes spiders go weeks without eating!) Don't leave uneaten insects in their homes - it's uncomfortable for the spider to have uninvited guests that won't leave.



Everything needs water! The best way to provide your pet with water is using a fine mist bottle every morning in their container. Avoid spraying them directly - few creatures enjoy a surprise rainfall. If you found your spider near a river or a pond, consider providing a water dish instead of just misting. Be extra careful with small spiders or baby spiders, as they can drown in a water droplet!



## On the Menu: Good food choices for your spider

### Crickets and Grasshoppers

Crickets and grasshoppers are great food choices: They are nutritionally balanced, and you can find crickets in pet stores. Be careful with very small crickets, they are the confetti of the insect world - they tend to get everywhere!

### Larval Insects

Larval insects like mealworms are easy food for your spider. They can be quite fatty though. Provide a varied diet... your spider can become overweight!

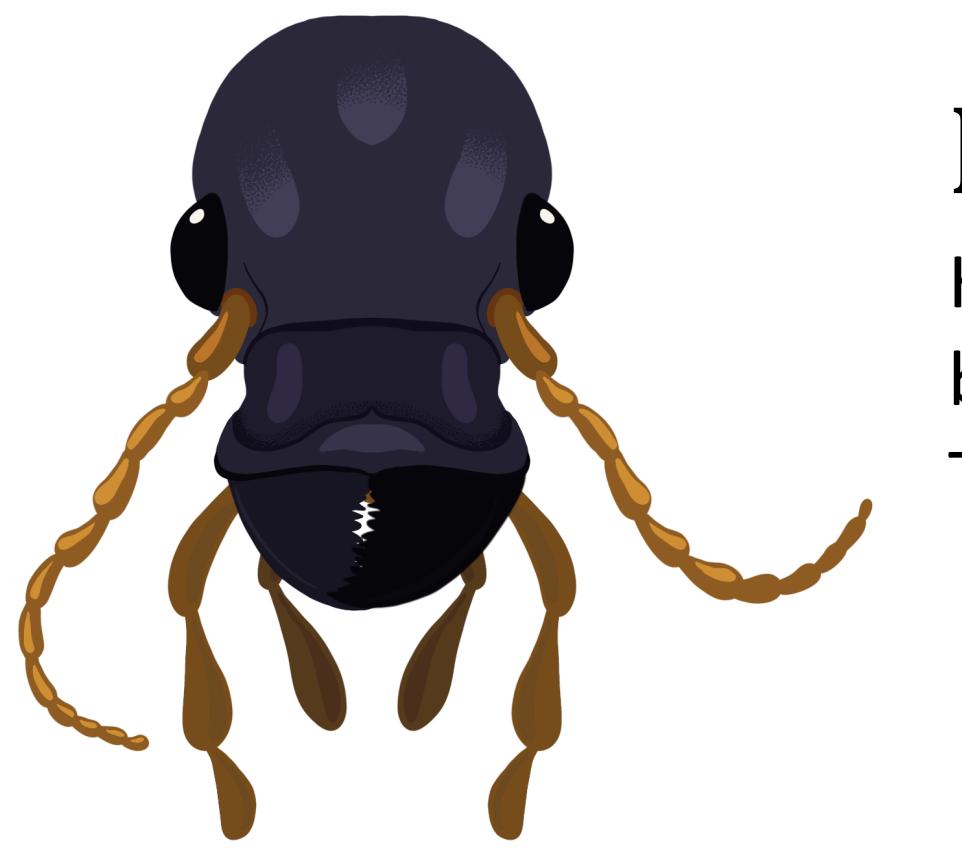
### Flies

A dinner that never disappoints: The fly. Most flies are the perfect food for your spider - just make sure the serving size is smaller than the customer. It is important to check the enclosure after the fly is killed, as some female flies can release maggots after death.

### Moths and Butterflies

While most butterflies are probably too large for your spider, their cousins, the moths, come in a wide variety of sizes. Their flapping wings will catch the attention of a jumping spider and you'll be able to watch incredible hunting behavior.

# Not on the Menu: They can hurt your pet



## Beetles

Hard defensive wing cases and powerful jaws make beetles a scary guest in any invertebrate enclosure. These guys are tough and can easily kill your spider.



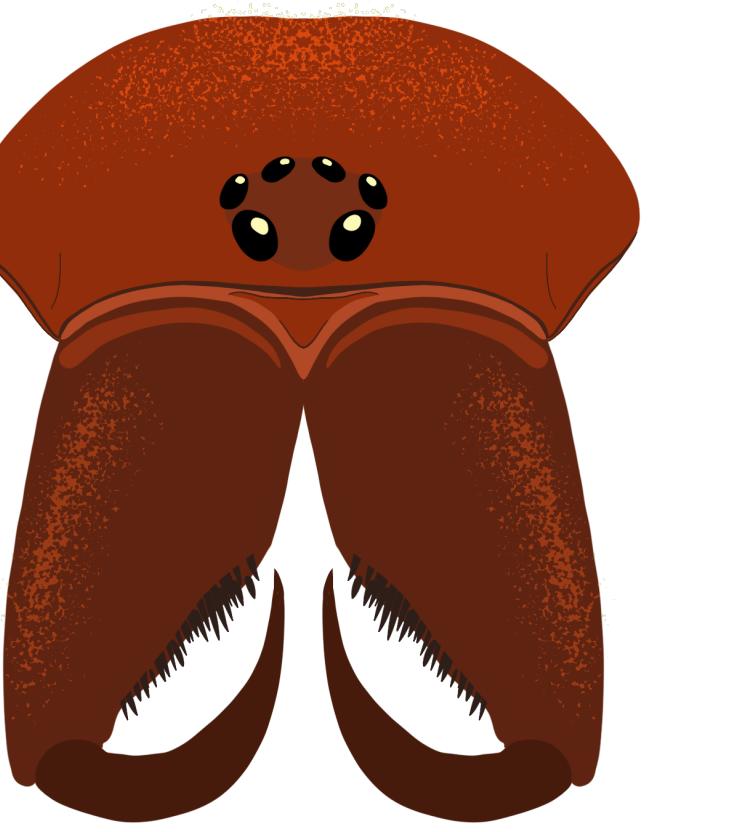
## Ants

While a few spiders do specialize on ants, most of them can't deal with their formic acid-laced bites and stings! In an enclosure, there should only be one creature with potent venom.



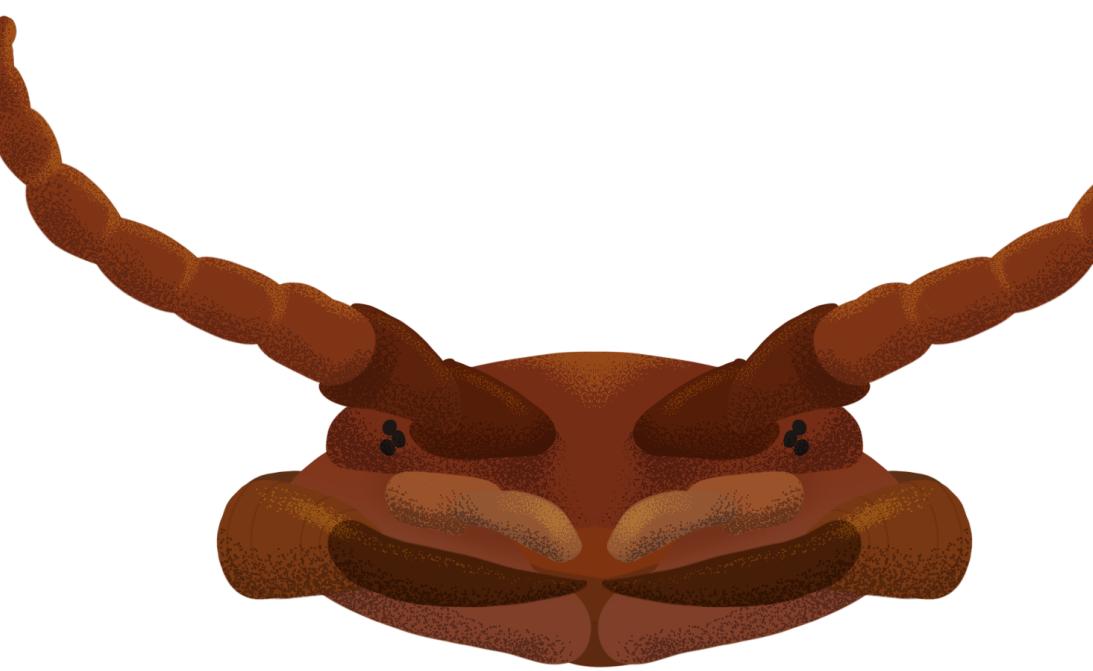
## Bees and Wasps

Wasps and bees have stingers, wings, and strong mouthparts. Some wasps even intentionally hunt down spiders. While you might want revenge on a wasp for crashing your picnic, it is best to keep them away from your spider.



## Spiders

Feeding spiders to spiders is a recipe for dead spiders. Both will bite each other, which will leave you with zero spiders. The spider face shown here is a woodlouse spider; they eat hard bodied isopods! Those chelicerae could do major damage to a soft spider.



## Centipedes

Centipedes are incredibly tough predators. Evolution gave them extra mouthparts by modifying a pair of legs, and that leg-mouth contains venom. In tropical countries, these critters can take down a snake. Your soft spider is no match for this many-legged hunter.

Even though many people think of spiders as the apex predators of the invertebrate world, many creatures are equally threatening. A good rule of thumb when collecting food for your spider is to avoid anything that has strong biting mouthparts. Spiders are delicate compared to many insects.

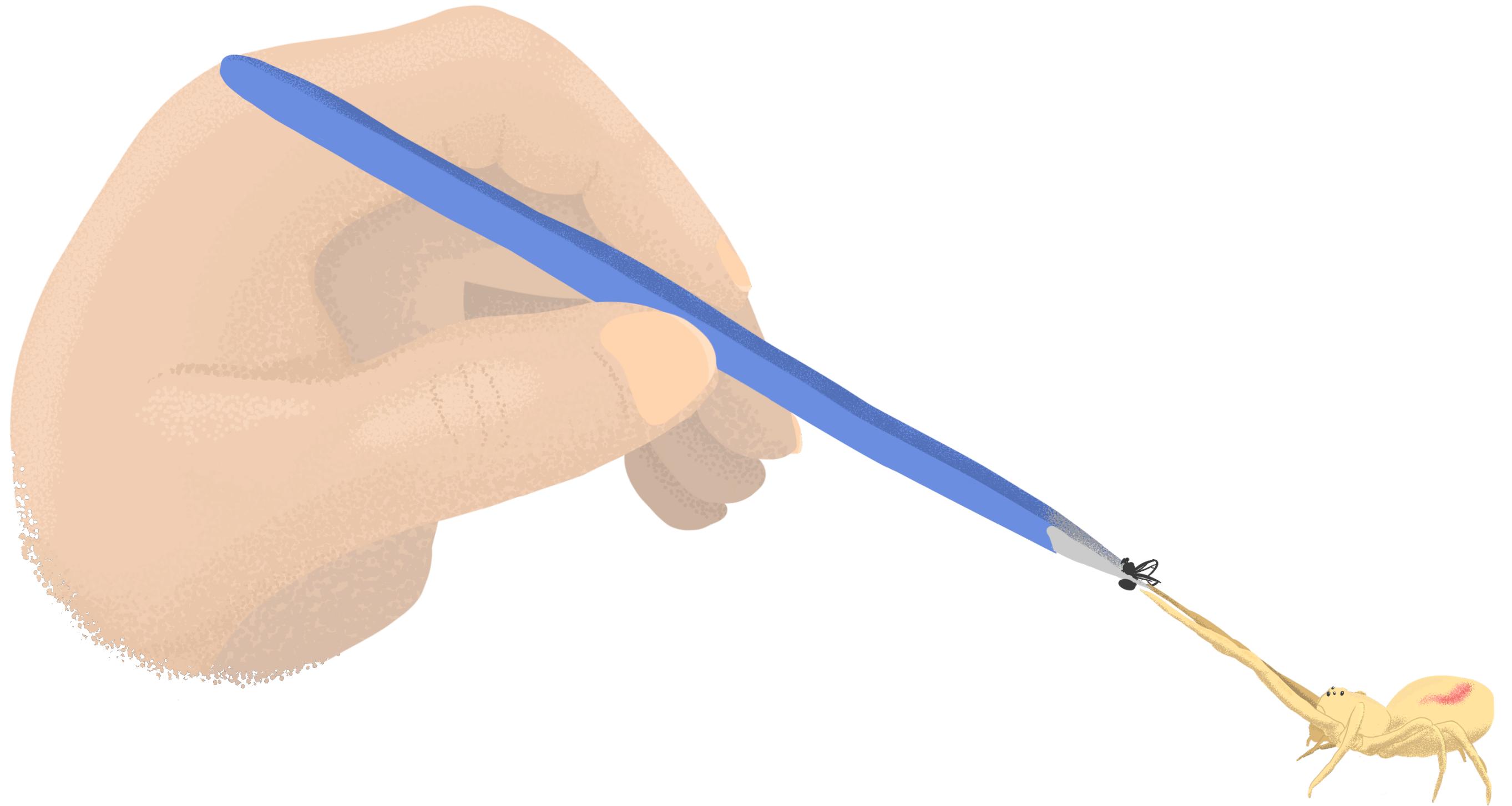
# Taking care of spiders is easy! However...

Spiders can be simple and rewarding pets. But there are few things to remember...

Spiders do not live very long! Some spiders only live a few weeks as adults. You can tell your spider is getting old when it can't climb very well anymore, or it walks much slower. Older spiders might not be interested in food anymore, but you should still try to feed them once a week.

Spiders can be picky eaters! There are many specialized spiders that only eat a few kinds of bugs. If the spider you've captured isn't eating anything after a week in captivity, take it back to its home outside.

Tweezers are very useful when keeping spiders! A pair of tweezers makes it easy to feed your pet.



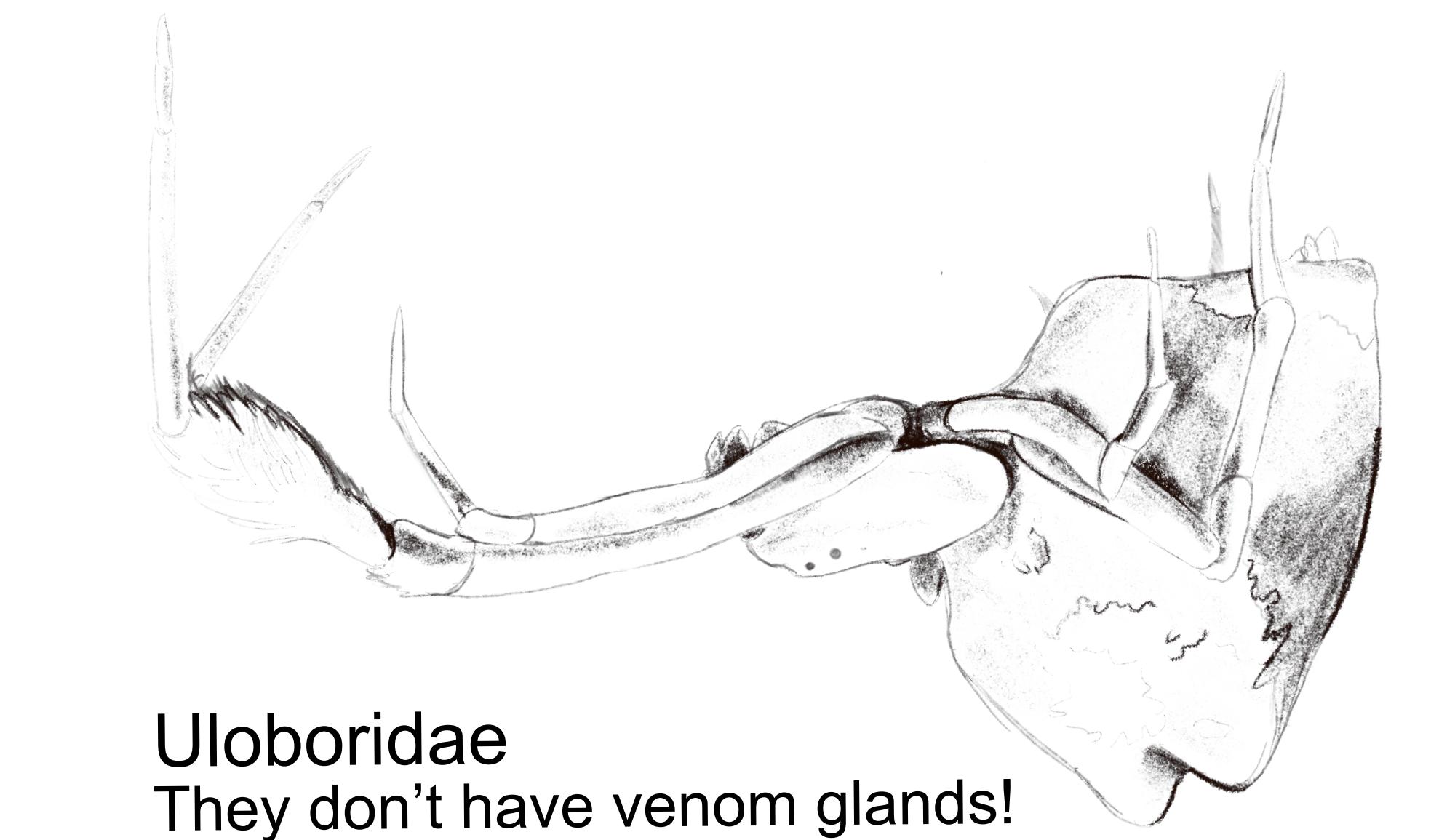
Capturing spiders in the wild is fine... **Sometimes**. If you bring a spider home, and then learn that the spider you have collected is rare, you return it to where you found it. One individual from a rare species can have a big impact on a tiny population because spiders have a lot of babies. All of the species featured in this book are common and can be kept as pets without hurting the population.

Tarantulas and their relatives should *always* be left in the wild. If you want a pet tarantula, find one in a shop. These spiders are very hairy, have thick legs and have large fangs that rotate forward, instead of side to side. Some tarantulas are endangered because people take too many from the wild.

This is a trapdoor spider, from the family Ctenizidae. They are rare to find, and can be aggressive! If you are lucky enough to encounter one, leave it in nature!



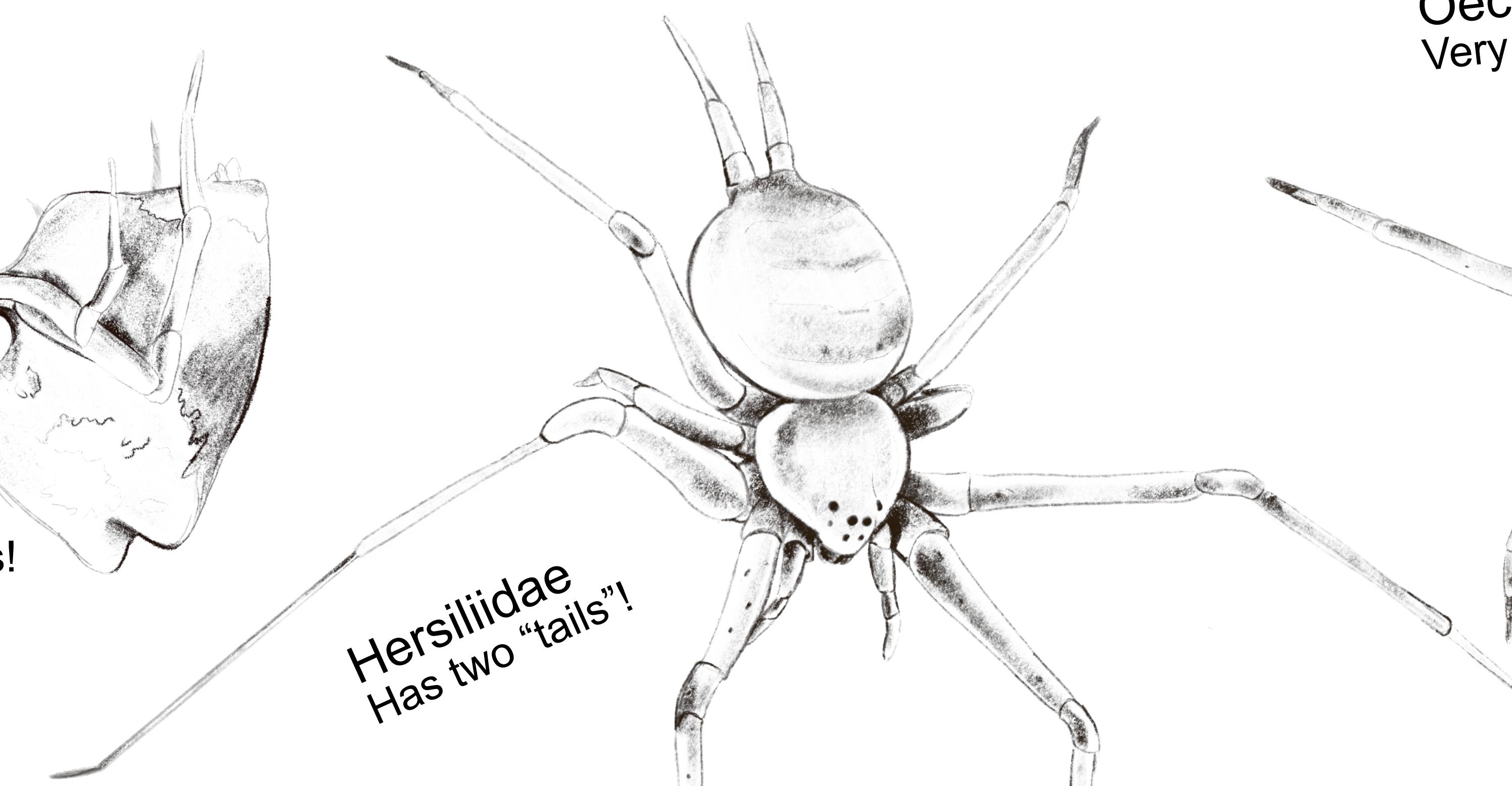
**This book only covers a small handful of the incredible spiders you can find...**



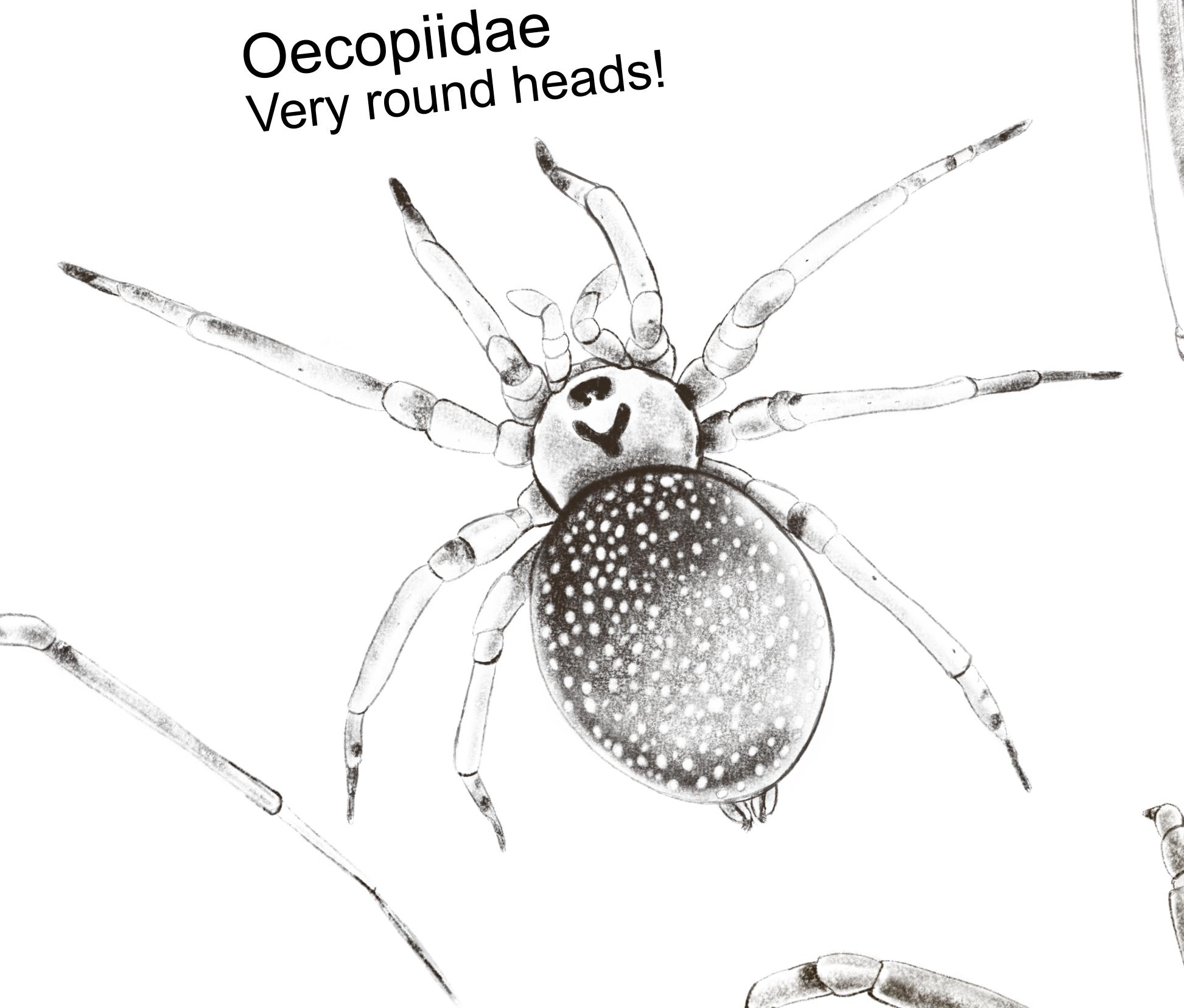
**Uloboridae**  
They don't have venom glands!



**Hahniidae**  
6 spinnerets in a row!



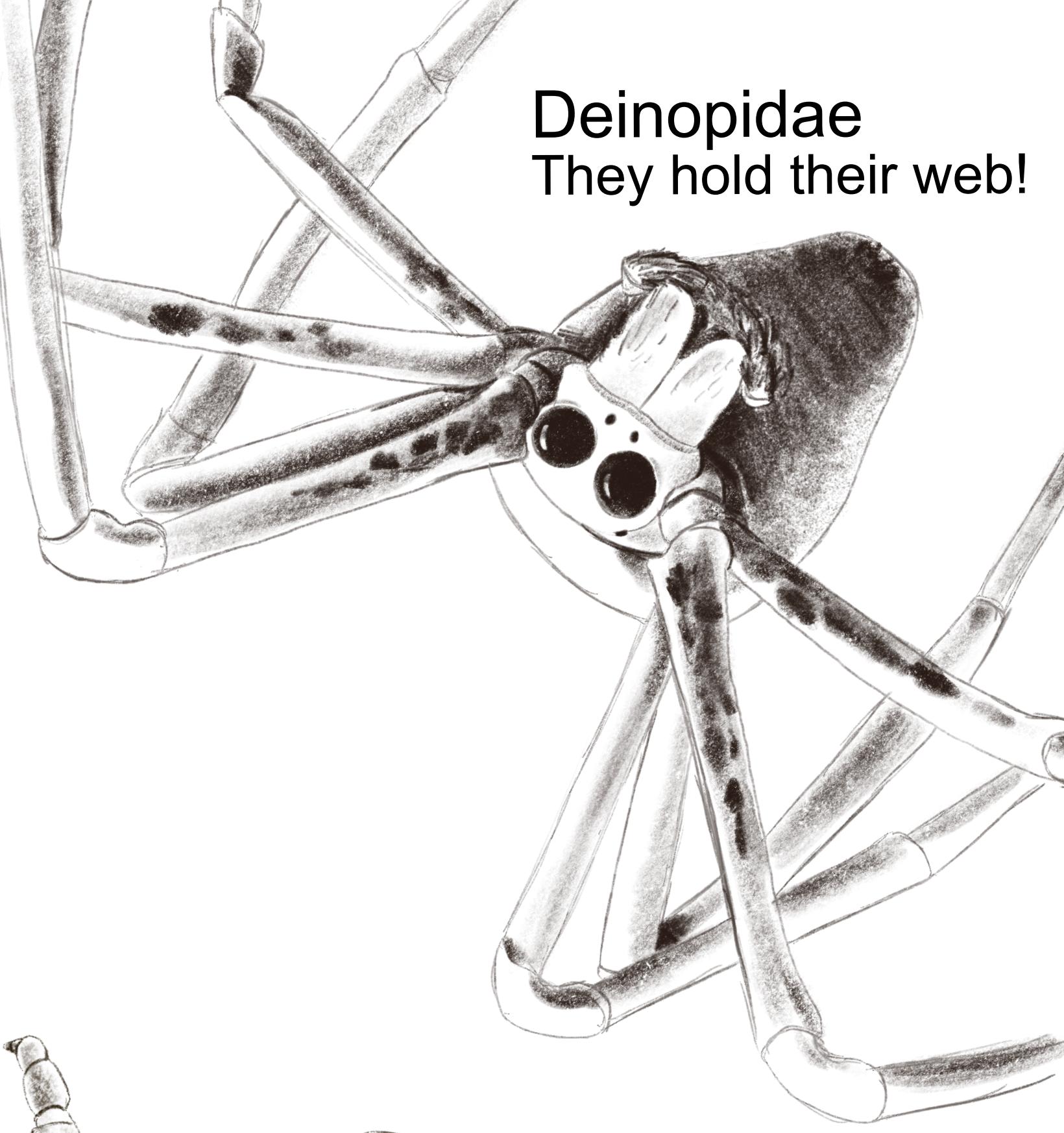
**Hersiliidae**  
Has two "tails"!



**Oecopiidae**  
Very round heads!



**Dysderidae**  
Eats isopods!



**Deinopidae**  
They hold their web!

**There is so much diversity out there!**