

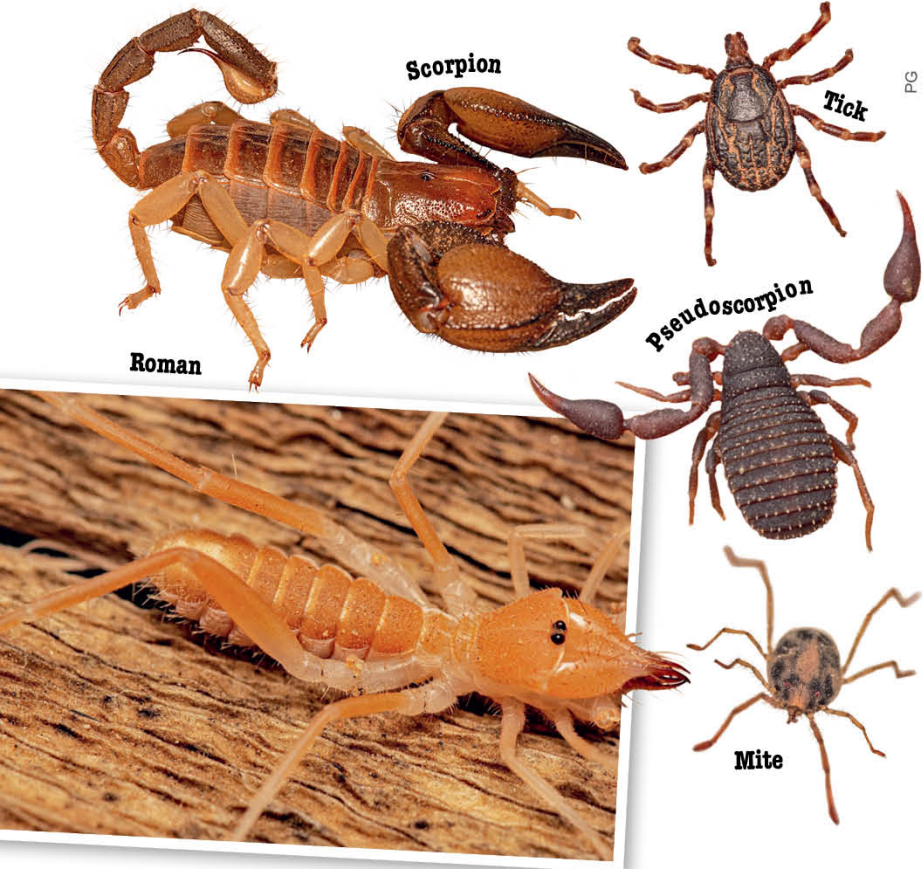
INTRODUCTION

Spiders are **arachnids** – a group of animals that have eight legs and pincer-like mouthparts with fangs. Unlike most other arachnids, spiders produce silk, used to make webs and egg sacs, among many other things. All spiders are predators, with different hunting techniques. Many capture their victims in sticky webs, some ambush or chase their prey, and others spit or throw silk at their target. Almost all spiders use venom to kill their prey. They may use venom to scare off predators too, but they also rely on camouflage, mimicry and other methods to avoid getting spotted in the first place.

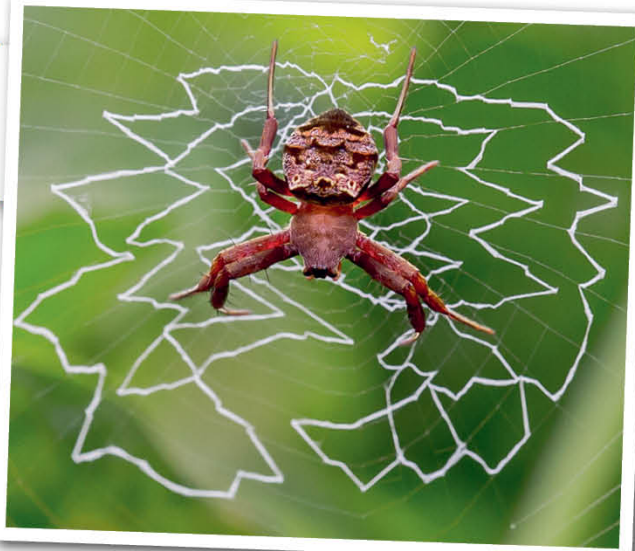
Spiders live in a variety of homes, ranging from webs to underground burrows. Even though all spiders can spin silk, most of them do not spin webs. Instead, they are free-living hunters.

Other arachnids

Of all the arachnids we find in southern Africa, only spiders, pseudoscorpions and scorpions possess venom, and only spiders and pseudoscorpions can spin silk.



Most (but not all) spiders have eight eyes.



EGG SACS

Spiders lay eggs, which they usually protect with silk. This **daddy long legs** is carrying its eggs in a little silk sac.

Spider diversity

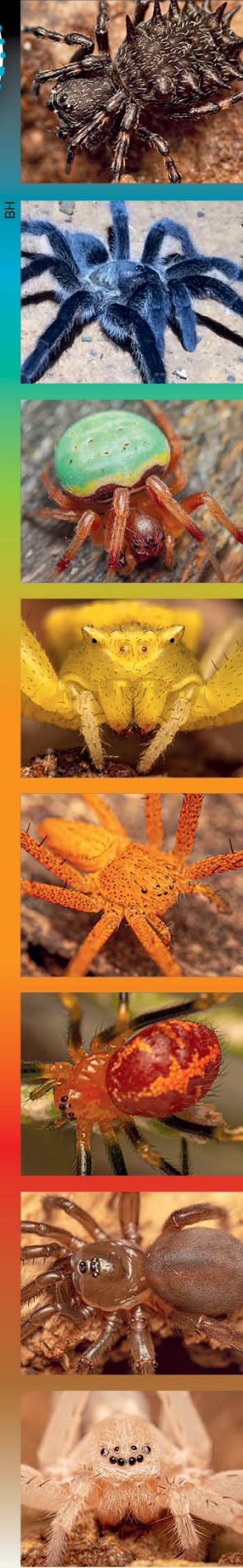
There are approximately 2,500 species of spider in southern Africa, and 74 different spider families. Southern African spiders aren't all large, hairy and brown or black – in fact, they come in many shapes and sizes!

Spiders can be any colour of the rainbow!



BIG OR SMALL?

Most people picture a big hairy tarantula when they think of spiders. In reality, not many species have evolved to be this large, because this would make them easy to spot and prey on. Bigger spiders also require bigger meals, which aren't as abundant as small insects.



WHERE DO SPIDERS LIVE?

Spiders occur in almost every habitat on every continent of the world, except Antarctica. They are everywhere, but can be difficult to spot because they are small and very good at hiding.



Hairy field spiders are found in webs at night, and hide on a nearby surface during the day. Some web dwellers hide on plants or in little silk houses called retreats when they're not on their web.

Plants

Plant dwellers live on bark, grass, leaves and flowers. They often choose to live on plants that resemble them, such as bark spiders that dwell on bark that looks like them, or grass running spiders that look like a piece of grass.

Grass and leaf houses

Spiders such as leaf-curling sac spiders curl up a piece of leaf or grass, close it with silk, and then hide in the hollow. Grass-stitching spiders stitch a few pieces of grass together to create a tube in which to live. Some spiders spin their silk house in the seed heads of field grass and other field plants.



Some retreats require 'needlework' using silk, and range from broad leaves to grass seed heads stitched together.



Bark spider

Most spiders don't live on webs but rather on the ground, under rocks, on plants or underground in burrows and holes.

Burrows

Trapdoor spiders and tarantulas spend most of their life in their burrows. Most trapdoor spiders close the opening of their burrow with a door spun of silk and camouflage it with sand and soil. Six-eyed sand spiders bury themselves under sand to hide from predators but also to ambush prey. Some desert huntsman spiders and wolf spiders also live in burrows when they're not outside hunting.



Wolf spider and egg sac

Tunnels

Tube-web spiders live in a very narrow, long hole, which can be in a wall, rock, tree trunk or even sand.



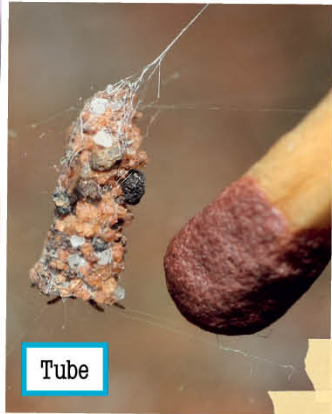
Tunnel in bark

STONE NESTS

Igloo spiders build a tiny 'igloo' on the ground from tiny stones and sand, while **stone-nest spiders** hang a little tube made from stones, sand and pieces of bark above their web.



Igloo



Tube

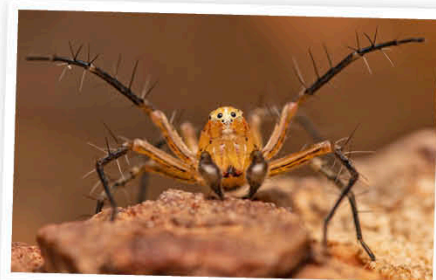
This tube-web spider arranged tiny stones around the entrance of its nest.

PLANT DWELLERS

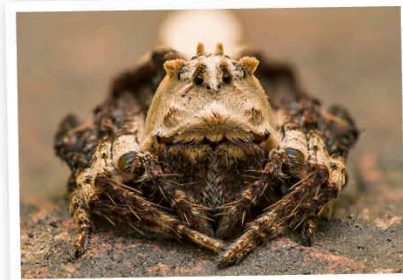
These spiders are found on a variety of plants, from grasses to trees. Some move from branch to branch and from leaf to leaf, hunting for plant-dwelling insects and other critters. Others simply sit and wait on a tree trunk or flower, waiting for prey to come to them.

Lynx spiders

These spiky and scaly spiders come in many different colours, but are mostly green, brown or fawn to match the vegetation. They can be very comical when disturbed as they either hop around frenetically or freeze with their front legs in the air.



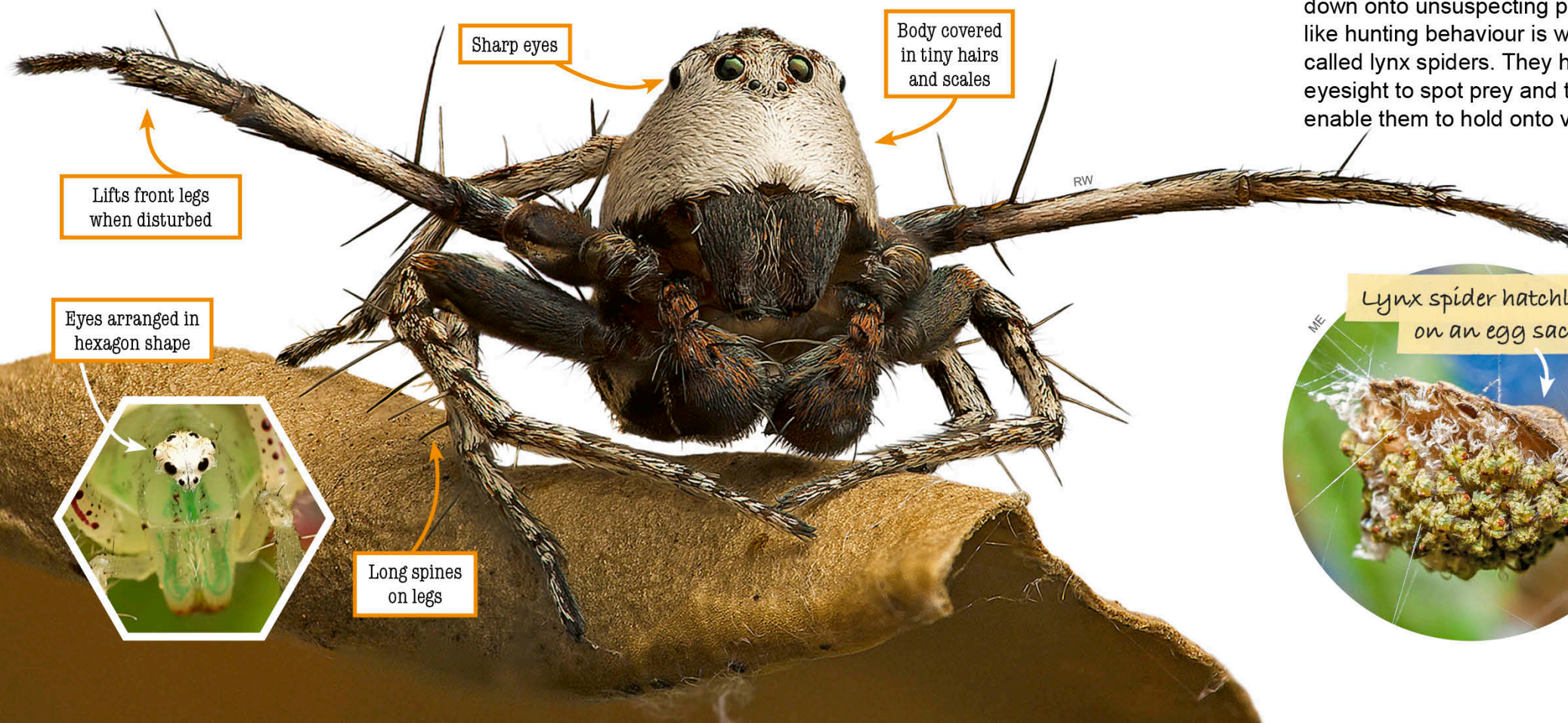
Grass lynx spiders are by far the most common of the lynx spiders.



Crowned lynx spiders usually have spiky hairs on the head, resembling a crown.



Green lynx spiders are colourful. Some have stripes running from their eyes down over their chelicerae.



Habitat

Lynx spiders are found in vegetation throughout southern Africa. Some live in trees, but most are found in low bushes and grass. Green lynx spiders can change their colour after a moult to match the colour of their favourite plant. In drier areas, these spiders are often the same colour as dry grass.

They may look different, but both these spiders are called **green lynx spiders**.



Lifestyle

Lynx spiders eat anything they can overpower. These agile spiders actively hunt and jump at their prey, though at times just sit and wait for a victim to approach. They leap into the air to catch winged insects in flight, and also drop down onto unsuspecting prey. This cat-like hunting behaviour is why they are called lynx spiders. They have excellent eyesight to spot prey and their spiky legs enable them to hold onto victims.

CR



Lynx spiders also hunt other spiders.



Breeding

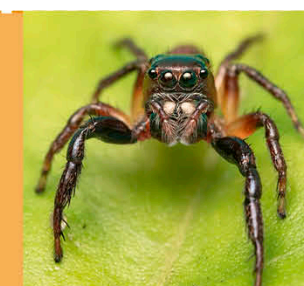
Female lynx spiders stay close to their egg sacs to protect them. Like nursery-web spiders, green lynx spiders hang their egg sacs in a special web where the babies remain until they're old enough to disperse.

Lynx spider hatchlings on an egg sac



Similar spiders

Because they are so agile and jump around, lynx spiders may be mistaken for jumping spiders (right). Up close, however, lynx and jumping spiders look very different.



Jumping spiders

The jumping spider family is the largest spider family in the world, as well as in southern Africa. They are firm favourites among spider lovers because of their huge eyes and puppy-like appearance.



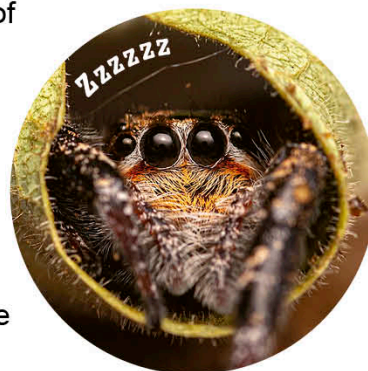
Habitat

Jumping spiders occur throughout southern Africa in almost all habitats, from arid to humid regions. Most of them are plant and grass dwellers, but some prefer the ground, like the ant mimics, which blend in with and prey on ants. Certain ground dwellers live in termite mounds, where they hunt termites.

Lifestyle

They are agile free-living hunters with excellent eyesight. Jumping spiders are also intelligent, and are known to devise different strategies to catch prey.

Jumping spiders may well dream! Researchers discovered that the spiders twitch in their sleep, like humans do when we dream in REM sleep.



What do you think jumping spiders dream about?

DID YOU KNOW?

The world's only vegetarian spider, **Kipling's jumping spider**, is from Central America. It mostly (90% of the time) feeds on protein- and fat-rich nubs on the leaves of acacia trees, but it also eats nectar, and occasionally steals an ant larva.



A BIG FAMILY

About 400 jumping spider species have been recorded in southern Africa, and they come in all shapes, sizes and colours.



Green jumping spider

Females are green, while males are darker. You can see their eyes move inside their semi-transparent head. In fact, these spiders can partially see through their own heads.



Orange jumping spider

The males are orange, while the females are brown. The bottom part of the males' front legs is black, as well as the pedipalps. They have a white 'moustache'.

CB



Big hairy hyllus

In terms of weight, this is the region's biggest jumping spider. Even with the naked eye, you can see its large eyes looking at you. Its entire body is covered in long hairs.



Pom-pom jumping spider

The front legs are big and bushy, making these spiders look like bodybuilders. The fine hairs on their body are iridescent, which makes them appear turquoise, purple and pink.



Long grass jumping spider

The front legs are long and thick. These spiders make sounds by rubbing their legs together. This is how they communicate with potential mates.



Sheepy jumping spider

This woolly little spider has been found close to cottony cushion scale insects, which are also white and woolly, but scientists do not know for sure if they mimic these insects.

Trapdoor spiders

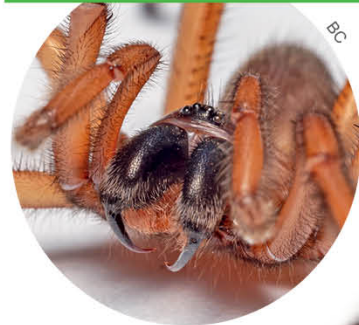
Trapdoor spiders are closely related to baboon spiders and while some are small (about 5mm), others can grow quite big (about 40mm). There are many different types of trapdoor spiders: some close their holes with a cork-like trapdoor, some create a soft silk-lid trapdoor, and others don't have a trapdoor at all, but just an open hole.

Habitat

They are found in different habitats throughout southern Africa, mostly in areas with soft soil or sand. Some are found in open fields, while some prefer to dig their burrows under rocks and logs, and others even make their burrows and trapdoors in the bark of trees.

Trapdoor spiders vary greatly in size and shape. Most of them are brown to black.

Their chelicerae extend forwards and, unlike most spiders, their fangs don't cross



Lifestyle

Since the females stay in their burrows, it is mostly the smaller males that can be seen wandering around, looking for females. Trapdoors are well camouflaged with sand, soil, twigs and leaves. The burrows can be well-hidden, like the one below, built in tree bark.



The spider uses the tiny holes under the cork-lid to close the lid with its fangs



Males often have very long pedipalps that look like an extra pair of legs

Eyes usually grouped in one cluster on top of carapace

Burrows can consist of a single tunnel, or have a few chambers or side tunnels.

DID YOU KNOW?
The oldest spider in the world was a front-eyed trapdoor spider from Australia. She was 43 years old when she died. Sadly, she didn't die of old age, but was killed by a wasp. She lived in the wild, not in captivity. For her to have evaded predators for so long is remarkable!

Scorpion spiders

These spiders are named for their scorpion-like legs and flat body. In other parts of the world they are called flat spiders or flat rock spiders. They range from brown to black.

Habitat

These very flat spiders are often found under potted plants around the house, but also under rocks and on tree bark.

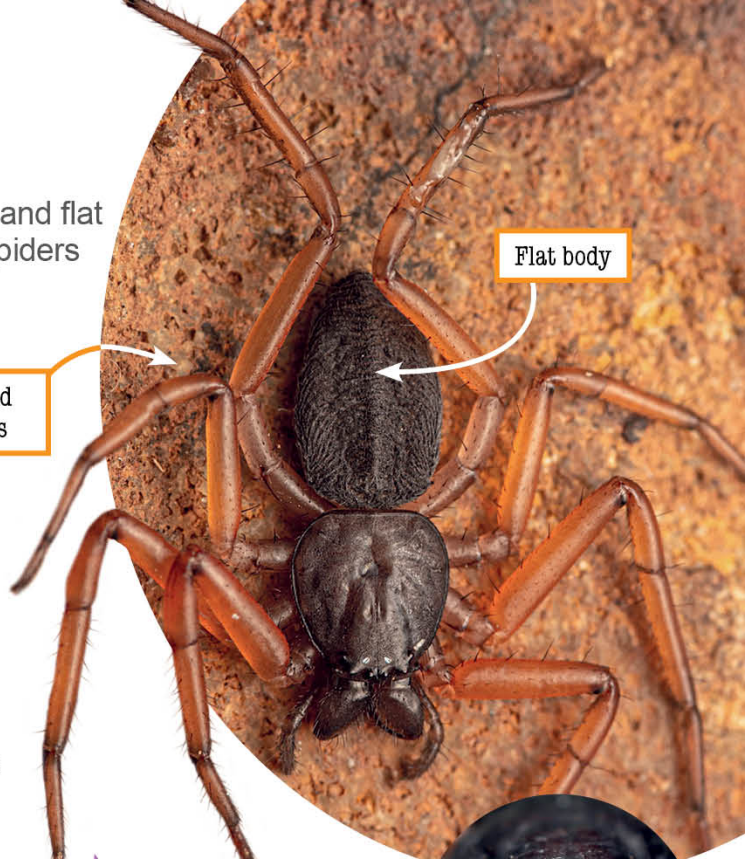


BB

Walter's common scorpion spider, the most common one in the region, has a black body and orange-and-black legs.

Lifestyle

These spiders are fast, and can chase down their prey. Their flat bodies are adapted for hiding in narrow spaces under rocks or bark. Some are ground dwellers, while others are found on trees, and are therefore plant dwellers.



Flat body

Legs bend forwards

Chelicerae extend forwards and spread outwards, with long, curved fangs



SG

Spitting spiders

Spitting spiders have a highly domed carapace and six eyes. They range from white to brown to black and even shades of orange or red.

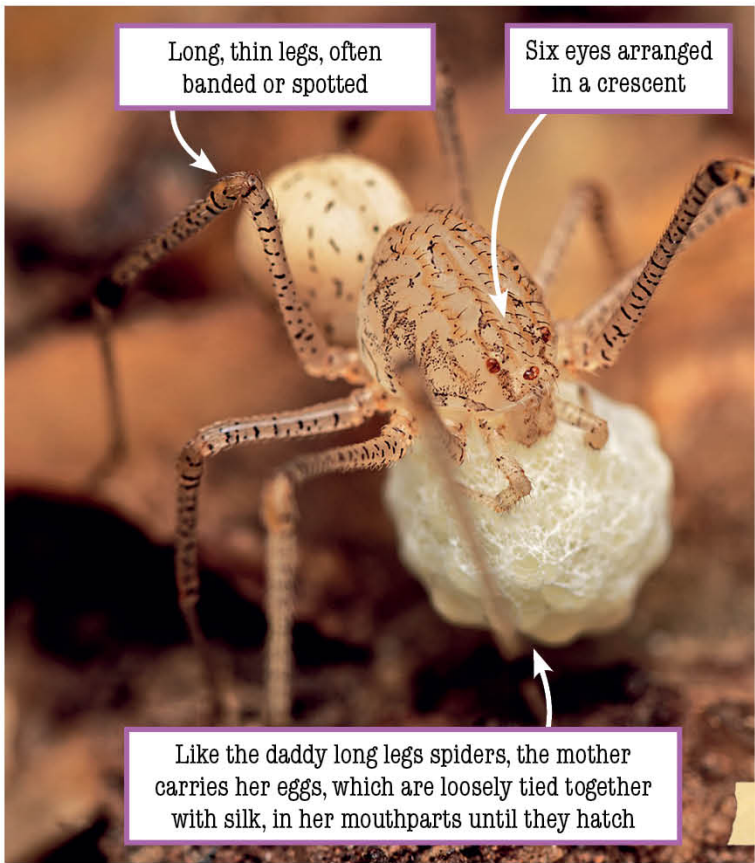
Habitat

They are ground dwellers and prefer living in dark places, like under rocks, rotting wood and leaf litter.

Lifestyle

These unique spiders spit a sticky liquid mixture of silk and venom over their prey. The mixture is created by two glands (one for venom and one for the gluey silk) in the domed carapace. The spit doesn't travel very far (about 1.5cm to 2cm), so the spider must get quite close to its prey. When exposed to air, the spit congeals and the silk in the spit contracts, trapping the prey.

Some spitting spiders live in small groups. If the babies don't disperse after two or three moults, they will start eating one another.



Long, thin legs, often banded or spotted

Six eyes arranged in a crescent

Like the daddy long legs spiders, the mother carries her eggs, which are loosely tied together with silk, in her mouthparts until they hatch

ARMOURED SPIDERS

While most spiders have a soft body that can easily be pierced by a predator, some rely on a rather hard exterior that offers some protection from attackers. A few species even have a form of specialised 'armour'.

Shield-bum trapdoor spiders

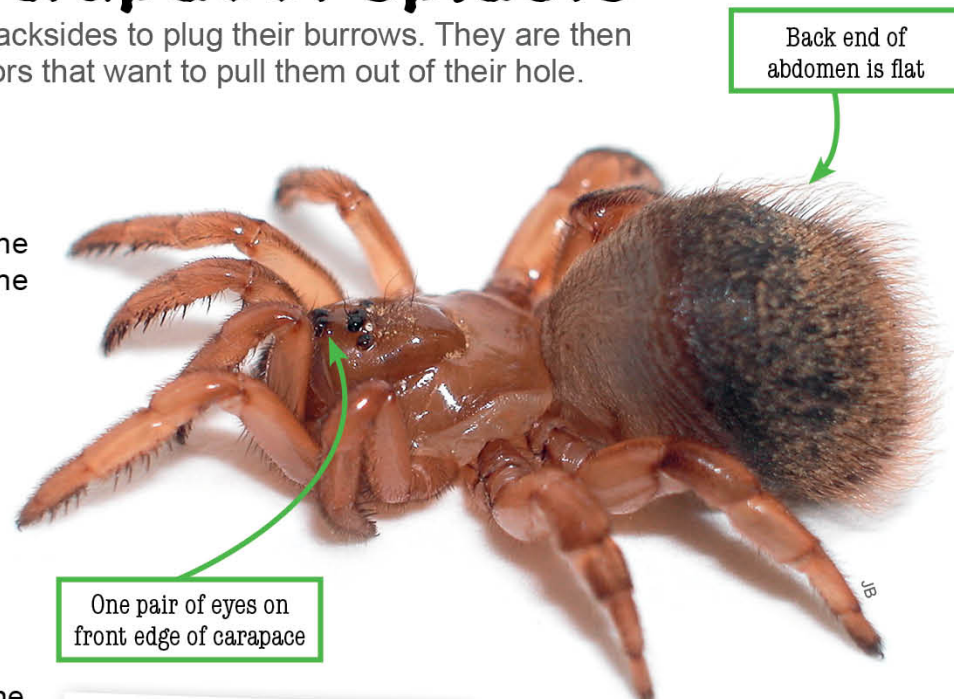
These spiders use their hard backsides to plug their burrows. They are then more protected against predators that want to pull them out of their hole.

Habitat

Most of these tunnel dwellers occur only in South Africa, with one species from Mozambique and one from Botswana.

Lifestyle

The flat backside of these spiders acts as a hard 'cork' that serves as protection inside the burrow. While this 'cork' is mostly used to protect the lower section of the burrow, which branches into one or two other chambers, the spider can also use it to plug the top of the burrow, which is usually covered with only a soft layer of silk.



One pair of eyes on front edge of carapace

These spiders are rare and are threatened by urban development.



DID YOU KNOW?

Another species similar to the shield-bum trapdoor spider (not found in Africa) is the **Chinese hourglass spider**, which uses its shielded bum to plug the entrance to its burrow.



Hedgehog spiders

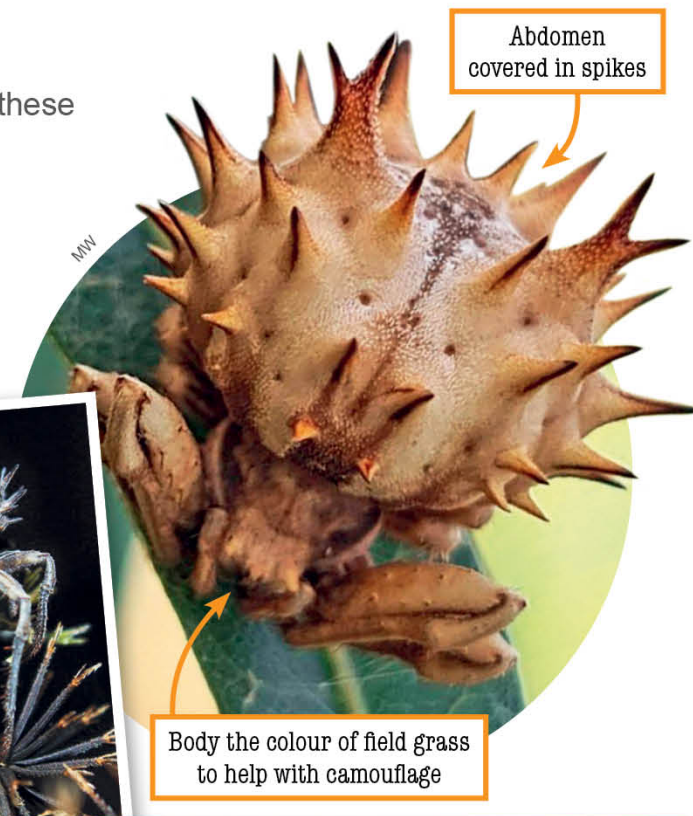
With their spiny abdomens, it's quite obvious why these creatures are called hedgehog spiders!

Habitat

They live in low vegetation, such as field grass, and are mostly found in the eastern half of southern Africa, with one species in Namibia.

Lifestyle

These spiders may mimic the spiky seeds of some grasses, making them difficult to spot. They rest on grass during the day and spin a triangular web between the grass at night. The spiders mostly feed on moths, and like the bolas spiders, also mimic the scent of a female moth to attract male moths.



Body the colour of field grass to help with camouflage

There are only four species of hedgehog spiders recorded, and all of them occur only in Africa.

Kite spiders

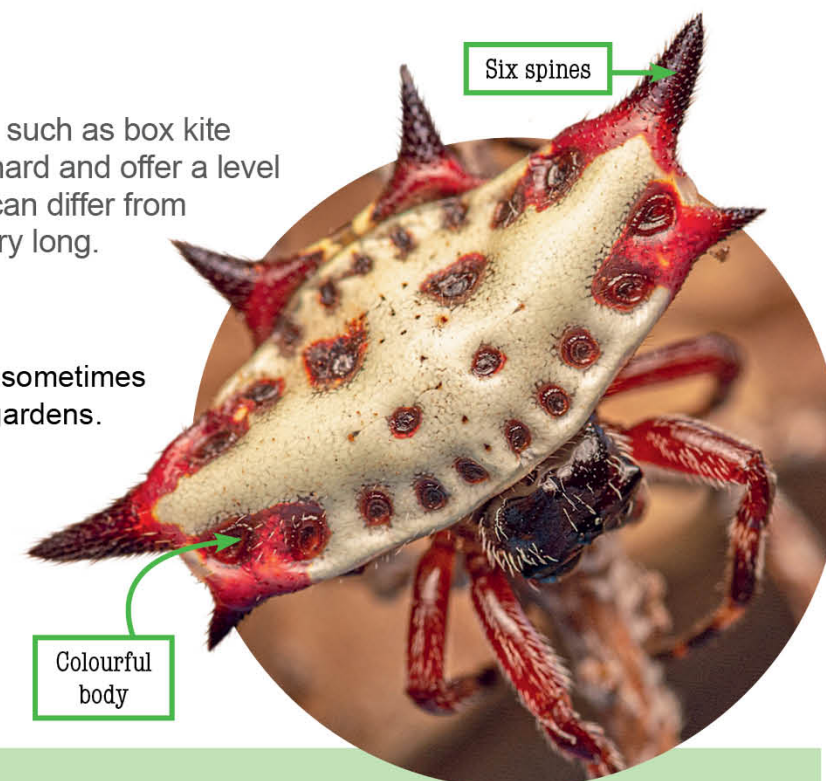
These spiders and their close relatives, such as box kite spiders, have six spines that are quite hard and offer a level of protection. The length of the spines can differ from species to species, with some being very long.

Habitat

They spin orb webs between plants, and sometimes in trees. They are common in suburban gardens.

Lifestyle

Kite spiders are found in the middle of their webs during the day. Smaller prey are usually eaten immediately, while larger victims are wrapped in silk before being carried to the centre of the web.



Six spines

Colourful body

DID YOU KNOW?

Some of these spiders are colourful, which likely serves an **aposematic** purpose, warning predators that it is poisonous or not very tasty. Some animals that aren't poisonous or foul-tasting may also use bright colours to fool predators into leaving them alone.

MASTERS OF DISGUISE

Many spiders blend seamlessly into the background to avoid detection, not only by humans but also by predators. While some adopt the same colour as their environment, others resemble an element in their surroundings, such as bark or grass. They are all called cryptic spiders.

Bark spiders

Bark spiders are a type of orb web spider that spins very large and highly visible orb webs. The spider itself, however, is very difficult to spot when it hides on bark during the day.

Habitat

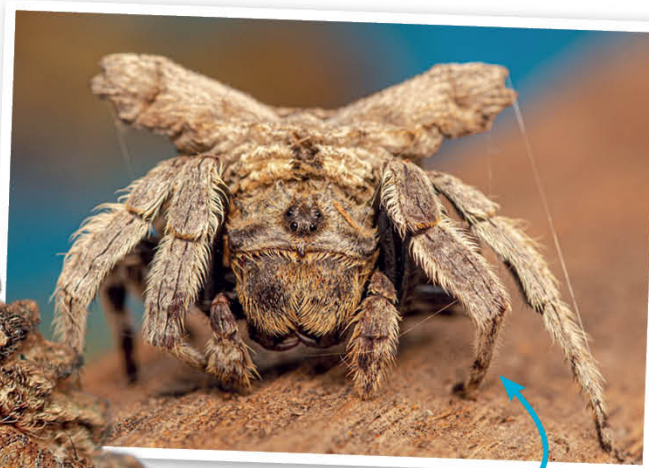
Since they rely on bark for camouflage, these spiders mostly build their webs in trees. They are widespread in southern Africa, but less common in the arid interior and western parts.

Thorny protuberances on body, resembling the bark of a tree

Body has wrinkly and leathery appearance

Lifestyle

Most bark spiders destroy their web at dawn, leaving a bridge line (see opposite) from which to reconstruct the web at night. During the day, they hide in trees, with their legs flat on the surface next to their bodies so that they look like a twig or piece of bark.



Stout, hairy legs



DID YOU KNOW?

The spider that spins the largest web in the world is Darwin's bark spider, found in Madagascar. Its webs are about 2m wide, with **bridge lines** as long as 25m.

A **bridge line** is a horizontal line of silk that the spider uses as a starting point to build its orb web, and is created by spraying many strands of silk from the spinnerets, which then drift on the wind, until they catch onto something else, like a tree on the other side of a stream.



As you can guess from their rather awkward appearance, bark spiders are rather slow on the ground. They are quite fast in a web, however.

They lay their eggs flat on the surface of a branch or the leaves of a plant.

WHO'S WHO?

Bark spiders have thorny protuberances on their body. The shape and length of these 'horns' vary not only between species, but also among the same species. For example, these three bark spiders are probably the same species:

